

ORAL HISTORY TRANSCRIPT

Lieutenant General Thomas H. Miller, Jr.
U.S. Marine Corps (Retired)



Benis M. Frank
Dr. Fred H. Allison
Interviewers

HISTORY DIVISION
Marine Corps University
Quantico, Va.

2006




UNITED STATES MARINE CORPS
MARINE CORPS UNIVERSITY
HISTORY DIVISION
3079 MOREELL AVE
QUANTICO, VA 22134

FOREWARD

This volume is the transcribed oral history of Lieutenant General Thomas H. Miller, Jr., U.S. Marine Corps (Retired). It is the result of an 11-session interview conducted by Benis M. Frank and Dr. Fred H. Allison on behalf of the Marine Corps Oral History Program. This transcript is the work of many individuals, most importantly Lieutenant General Miller, who committed many hours of his personal time to complete this project. History Division personnel provided critical assistance. This included the support and encouragement of the director, deputy director and chief historian, professional wisdom and observations of Division historians, research assistance by the Reference Branch, design and illustration of the transcript by W. Stephen Hill of the Editing and Design Section and editing, proofing and indexing work by Oral History interns, Kirsten Arnold, Mary Dail, and Emily Mushen.

The Oral History Program is one facet of the Marine Corps historical collection effort. Oral history provides primary source material to augment the official documentary records. Oral history is essentially spoken history, the oral account of eyewitness observations, impressions, opinions and perspectives recorded in the course of an interview conducted by a historian employing historical methodology. The final product is a bound transcript, containing historically valuable personal narratives relating to noteworthy professional experiences and observations of distinguished Marines.

While Lieutenant General Miller has reviewed and made minor amendments to the transcript, the reader is asked to bear in mind that they are reading a transcript of the spoken word, rather than the written word. Copies of this transcript are archived in the Marine Corps Oral History Collection, Quantico, VA, the Naval Institute, Annapolis, MD, the Naval Historical Center, at the Washington Navy Yard, Washington, DC, the University of Texas Archives, Austin, TX, the U.S. Air Force Historical Research Agency, Maxwell AFB, AL, and the U.S. Army's Center of Military History, Ft. McNair, Washington, DC.


Richard D. Camp
Colonel, USMC (Ret)
Acting Director



LIEUTENANT GENERAL THOMAS H. MILLER, JR., USMC
(RETIRED)

General Miller was the first American to fly the Marine Corps' new AV-8A jet, capable of vertical takeoff and landing. He also made his mark in aviation history by setting the 500 kilometer closed course world speed record at 1,216.78 miles per hour in an F4H-1 (F4B) aircraft at Edwards Air Force Base, California, on September 5, 1960.

General Miller was born June 3, 1923 in San Antonio, Texas. He graduated from George West (Texas) High School in 1939, and attended Schreiner Institute, Kerrville, Texas, and the University of Texas, prior to enlisting in the U.S. Naval Reserve, June 1942. Through subsequent promotions, he attained the rank of Seaman 2d Class and later became an aviation cadet in the V-5 Program. He underwent flight training at the Naval Air Station, Corpus Christi, Texas, and was commissioned a Marine second lieutenant and designated a Naval Aviator in March 1943. He integrated into the regular Marine Corps in January 1946.

General Miller received operational flight training at Cherry Point, North Carolina, and Camp Kearney, California, prior to reporting to El Centro, California in June 1943 for duty as a pilot with Marine Observation Squadron 155, later re-designated Marine Fighter Squadron 155. He was promoted to first lieutenant in September 1943, and deployed with the squadron to the Pacific in February 1944 to participate in combat operations, first from Midway Island and later in the Gilbert and Marshall Islands. He was promoted to captain in July 1944.

Returning to the United States in January 1945, General Miller became Assistant S-3 Officer, 9th Marine Aircraft Wing, Cherry Point, and later served as S-3 Officer of Marine Aircraft Group 91, also at Cherry Point. From December 1945 until October 1946, he served as a projects officer and pilot at the Naval Air Test Center, Patuxent River, Maryland.

General Miller completed the Aviation Technical Course, Marine Corps Schools, Quantico, VA, in May 1947 and was ordered to Marine Corps Air Station, Ewa, Hawaii, as Assistant Base Operations and Maintenance Officer. He remained there until June 1949, when he was transferred to Corpus Christi as an instructor at the Naval Air Advanced Training Command. He was reassigned in June 1951, to Quantico, as an instructor of the Aviation Technical Course. He was promoted to major in June 1952.

General Miller participated in combat operations in Korea with Marine Attack Squadron 323, 1st Marine Aircraft Wing, serving as the S-3 Officer, and later, as Executive Officer. In May 1953, he was reassigned to the Joint Operations Center, also in Korea, as the Marine G-2 Officer and Air Targets Officer.

He returned to the United States in January 1954, and was assigned to Marine Corps Air Station El Toro, California, as Special Services Officer, until June 1955, when he was reassigned as executive officer, Marine Attack Squadron 224. Also while in Marine Attack Squadron 224 he was assigned as Officer in Charge of a fleet evaluation team of the A-4D-1 and its introduction in the Marine Corps air arsenal.

General Miller attended the Naval War College, Newport, Rhode Island, from July 1957 to June 1958, and upon graduation, was ordered to the Bureau of Naval Weapons, Washington, DC, as a research and development projects officer of the F4B Weapons System. He studied at the University of Maryland during this period and was promoted to lieutenant colonel in July 1959.

From August 1961 to June 1962, General Miller attended the Amphibious Warfare School, Senior Course, at Quantico, and upon completion, was transferred to the 3d Marine Aircraft Wing, El Toro, serving as Commanding Officer, Marine Fighter/Attack Squadron 513.

He arrived in Japan in June 1964, as Executive Officer, Marine Aircraft Group 11, 1st Marine Aircraft Wing. This unit was deployed to the Republic of Vietnam in May 1965. He was promoted to colonel in July 1965, and attended the Army War College, Carlisle Barracks, Pennsylvania, completing the course in June 1966. He was ordered to Headquarters Marine Corps, Washington, DC, and served as Head, Air Weapons Systems Branch, Office of the Deputy Chief of Staff for Air. Following his promotion to brigadier general in August 1969, he was reassigned as the Deputy Assistant Chief of Staff, G-3.

General Miller was ordered to the Republic of Vietnam in December 1969, where he served as Assistant Chief of Staff, G-3, and later as Chief of Staff, III Marine Amphibious Force. He returned to the United States in January 1971, and was assigned as Assistant Wing Commander, 2d Marine Aircraft Wing, Cherry Point. Following his advancement to major general in August 1972, he became Commanding General of the Wing, remaining in that billet until July 1974, when he was assigned as Deputy Commander and Chief of Staff, Fleet Marine Force, Pacific, in Hawaii. In April 1975, he assumed duties as Commanding General, FMFPAC and in August 1975 became Deputy Chief of Staff for Aviation, Headquarters Marine Corps, Washington, DC. He was promoted to lieutenant general January 1, 1976 and retired July 1, 1979.

General Miller's personal decorations and awards include the Legion of Merit with Combat "V" and one gold star, the Distinguished Flying Cross with three gold stars, the Air Medal with two silver stars and four bronze stars, the Presidential Unit Citation, the Navy Unit Commendation with one bronze star, the American Campaign Medal, the Asiatic-Pacific Campaign Medal with two stars, the World War II Victory Medal, the National Defense Service Medal, the Korean Service Medal with two bronze stars, the Armed Forces Expeditionary Medal, the Vietnam Service Medal, the Korean Presidential Unit Citation, the Republic of Vietnam Cross of Gallantry with Palm, the United Nations Medal, and the Republic of Vietnam Campaign Medal.

Lieutenant General Miller and his wife, the former Ida Mai Giddings of Sommerville, Texas, have two daughters, Jacqueline Mai and Jo Ann.

MARINE CORPS ORAL HISTORY PROGRAM

Interviewee: Lieutenant General Thomas H. Miller, USMC, Retired
Interviewer: Mr. Benis M. Frank
Major Frank Batha, Duty Aviaary
Date: 16 December 1982
Place: Marine Corps Historical Center, Washington Navy Yard

Session I

Begin Tape 1/I, Side A

Frank: I think we'll start at the beginning, General. Tell me a little bit about your family. Of course you are a Texas native, and you were born where?

Miller: I was born in San Antonio in 1923, and lived in a small town about 80 miles south of San Antonio called George West, Texas, named after a man that had a large ranch there, West Ranch just north of the King Ranch. I spent my years there until I was 15. I graduated from high school, and then went to Schreiner Institute for one year of military school and freshman year in college. Then I went to the University of Texas for my sophomore and junior year, at which time December 7th came along, and so I left the University in May of 1942 to join the service.

I signed up as a Seaman Second in what was known as a V-5 Naval Aviation Training program. Later we were converted to aviation cadets.

I commenced my training in August of 1942 at the naval air station in Dallas. I took my primary training there for three months, and then reported to Corpus Christi, and completed my training there in the last of February, and then graduated on the 1st of March in 1943.

Frank: Commissioned as a Marine?

Miller: About half way through the training, John Glenn and I developed a close friendship, and we walked back one evening and looked at the bulletin board and it said (about 50 names), the following cadets have qualifications that would permit them to join the Marine

Corps if they so liked. If they were interested, they were to proceed to the cadet regiment headquarters at 7:00 p.m. that evening for a briefing on the Marine Corps, if they had any questions.

We really didn't have anything to do that evening, although we had both indicated that our main objective was to become carrier pilots, naval aviators, but we thought that we would go down and listen to these Marines talk about what Marine aviation was like.

So we proceeded to the meeting and the opening remarks were made by the lieutenant colonel at that time, in charge of the cadet regiment.

Frank: Who was that?

Miller: Who later became [Lieutenant] General [Richard C.] Mangrum. Then he turned it over to a young captain who was a ground officer, a fantastic speaker, who had been on Guadalcanal. By the time we left that evening, we had signed up.

Frank: What were the special qualifications that you had?

Miller: You had to have a cutting score within both your academic and flying grades that were considered in the top 10 percent before the Marine Corps would consider you qualified to go into the Marine Corps. In each class they would list those people, whether they had given an indication or not, they listed all of them.

With that cutting score, it was up to the individual to volunteer. If your name was not on the list, that was an indication that you would not be accepted into the Marine Corps if you applied. There might have been some exceptions, but I was not aware of that.

Frank: Tell me a little, just to get the nuts and bolts. I would like to know what K- rations consisted of. What did pre-flight training consist of?

Miller: Well, I can't give you any indication of what pre-flight was, because at the time I went in and signed up, on my birthday, June 3, 1942. I was sworn in, in Dallas, Texas. I was asked at the time, because I had about three and a half years of college, because I had

gone steadily in college three regular winter sessions. Then since I was working in Austin in order to stay in school, I stayed in summer school. So I had about three and a half years of education at that time.

People who had two years of college and less, it was decided that they would go to pre-flight. I was asked whether I wanted to go to pre-flight. Being kind of paranoid on the aspect of being able to fly, and that was my first love was to get to flying as quick as could -
-

Frank: You were always interested in flying?

Miller: Yes, even from a small boy, I guess partly because my mother was always scared to death of flying, and she would never let me fly. What flying I did, I did secretly behind her back. My father knew about it.

Of course at my age at the time I came in, I was 19 when I was sworn in. I was still below the age, and it required both my parents' signature for me to join the aviation side. She had always said that if I had to go war, and I wanted to go as an aviator, then she would not prevent me, but she would rather I wouldn't. She finally gave in after much pressure on the part of me.

So for that reason my interest was always -- as a small boy I built a lot of models and flew model airplanes. I was primarily interested in electronics. I was an amateur radio operator. I had gotten my amateur radio license well back when I finished high school. I was kind of mechanically oriented, yet I was studying to be a lawyer.

Frank: Oh, really?

Miller: I was in law school at the University of Texas at the time that came along, but I wanted to fly, so that's the reason I went in before I was drafted, because I didn't want to take a chance of getting caught in the Army, and I wanted flight training. So I left before my number came up to be drafted. That's the reason I left school in the summer at the regular end of the winter session, and went to Dallas and was sworn in on the 3rd of June, and was called to report to NAS Dallas directly to E base [elimination-based training].

At that time we had about three or four Navy chiefs that gave me the impression that they had been through Marine recruit depot training, because they ran the whole training program that we had pretty much like DIs run the recruit depot today. In fact, they even wore campaign hats, which always marveled me as a chief walking around with a Marine campaign hat on.

They would get us up at 5:00 o'clock in the morning and you would stand at attention in front of your bunk. They would come down and make their inspections. Then we would go out in our shorts out into the field in front of the big glaring light trucks and do calisthenics for about a hour. Then we would come back in and shower and had about 15 minutes to dress and march off to chow. The whole thing was pretty much a march, and everything by the numbers.

It was very highly controlled and disciplined, much different than flight school is today of course. Although they do some of that today, it's not with the rigidity which we did it in those days.

Of course we were in a very high tempo at the time, because the loss of both the Navy and Marine Corps in aviators was pretty high at that stage of World War II. I had been in Dallas about three weeks when they finally scrubbed all overnight liberty. We used to have Saturday night out. You would get off about noon on Saturday and you didn't have to be back in 'til 8:00 p.m. Sunday evening.

That was scrubbed, and we had to be back in by 10:30 p.m. on Saturday night. We started flying on Sundays. There was allowances made for those that wanted to attend church. Then you could get off about noon again on Sunday, unless you had to fly Sunday afternoon. Then you had to be back in by 10:00 p.m. Sunday night.

That went that way almost all the way the rest of the training. After three months at Dallas, we reported to Corpus Christi. Theoretically we were supposed to have finished our primary flight training at Dallas, but because of the facilities available, we didn't get night flying at Dallas.

So when we left there, we were sent to Corpus Christi and they sent us out to Rod Field, where the so-called completed primary flight training by making us do our night work, and we did some formation flying, more advanced than we had had to up to that point in time.

Upon completion there, then we entered what was known as basic flight training, which was primarily instrument flying. The instrument phase was performed -- well, we went to some basic flying first in a bigger airplane. We started out flying N3Ns at Dallas in primary, which was an airplane made by the Navy.

Frank: Is that the Noisy Nan they used to call it?

Miller: Well, yes, I guess that's the one. We had an NP1, but after my third flight it was becoming so dangerous, and so many instructors and students had been killed in it, they finally after my third flight, they pulled them all over to the side of the field and parked them, and we never flew the NP1s again. I soloed in an N3N.

After we finished soloing, we converted ourselves to the N2S, which was a Stearman. It was a real banty rooster-type airplane. It was a real acrobatic airplane, and really a fine airplane. A fun airplane to fly.

We went to Corpus and we finished our night flying, and we did that mostly in N3Ns again. Then we started in what was known as the SNV, or we called it affectionately as the Vultee 'Vibrator'. It was an all-metal, two cockpit with a covered glass canopy, with fixed landing gear. It was known in the Air Force as a BT-13. We called it the SNV.

We flew that for about a month, through the syllabus, depending upon how fast you went through, and how available [you were] if you didn't have any sicknesses such as colds and things, and you flew steadily. If you were trying to go fast through the syllabus, you could make a lot more time than the fellow that was just willing to sit and take it when he was scheduled.

Some of us were kind of gung-ho types, and we always hung around the flight office. Anytime there was an extra flight we could get, we took it. So we completed that in record time, and then I went on to the instrument training, where we flew in the back seat of the SNV with a hood over us. That took about another month and a half to get through that syllabus, but again, you could go through those things a lot faster if you were motivated to stand around any spare time in the flight office and see if you could pick up an extra hop.

Frank: Did you find any of this training at any phase of it difficult? Anything that you had more trouble with than the other?

Miller: No, I guess to me it was so much fun, and I was so highly motivated that every new phase was just a real challenge and a lot of fun to find out what it was. I never received any downs. Actually in primary I finished in two and a half months instead of three months, and they let me go on two weeks leave to go down home while I waited for the rest of my class to finish. I was just anxious to get through and get my wings and get out in the fleet.

Frank: Were you still in sailor's uniform?

Miller: No, we changed. When we came in, even as Seaman Seconds, they put us in khaki with field scarfs, and they were called field scarfs even in the Navy at that time. They didn't call them ties. We wore just a little anchor on the thing, but we were still Seaman Second.

Frank: Is this a black tie or khaki tie?

Miller: Khaki.

Frank: The old squared off bottom one?

Miller: It was the old cotton rag was really what it was. Of course they had pretty well shaved our heads. We were very closely cropped almost again, not as tight as boot camp. But as I said, they treated us pretty much like we were in boot camp there. We had the calisthenics and we had to run. Then we were in the courses that we had. I can't think of the name of it right now.

Frank: Orientation course?

Miller: No, the obstacle course.

Frank: Oh, obstacle course, yes.

Miller: We had to run the obstacle course twice a day, in the morning, and then in the afternoon; sometime in the afternoon. So they were pretty intent. People that went to pre-flight of course had a much more accelerated physical fitness. In fact, when we were in flight training, after we had been there for a while, the first class that reported -- I was in class what they call 8A, which was the eighth class in 1942. If they got two classes within a certain time frame they called them 8A and 8B.

I was in 8A. When 8B came in, all the people had been through pre-flight. They had been at Penn State, and they were a bunch of Yankees. Of course there was quite a lot of jibbing and so forth, because here they are deep in the heart of Texas. Practically all the people in our classes were nearly all Texans. So you can imagine the jibbing back and forth.

The thing that always amazed us is they had the slang word of "Jesus Christ." So in the night, as soon as Taps and all the lights went out, everything would be pretty quiet and somebody would say, "Hey, did you hear them Jesus Christ boys?" Pretty soon we had a pillow fight going, and usually we the guys that slept on the end, for the duty officer -- we would get enough forewarning, and everything would be quiet as a mouse when he stepped in and the lights came on. It was a lot of fun.

These fellows were in far better physical fitness than we were, but they found that an unusually large number of them had difficulty flying, because their physical fitness. They were really muscle men, as we called them. In fact, we nicknamed them sometimes muscle men, which they didn't like.

First, they were Pennsylvania Dutch. They were big, heavy set guys. Then they had been in this very strenuous athletic pre-flight training, so they really were muscle men, but they were really too tense to fly. They couldn't relax well, and they had an awful lot of trouble, I think which later led to the fact that they reduced some of the emphasis that they put on pilots and physical fitness, just to try to keep them from being so tight muscle-wise, because they found that that was detrimental to relax, because when you fly you want to be flexible and loose and relaxed and at ease.

Frank: Did John Glenn come down from the Penn State group, or is he down with you already?

Miller: No, John went through primary flight training I believe at Olathe, Kansas, so I didn't meet John until we were at Corpus. My roommate that I had in Corpus, my first roommate was a fellow that had come down from Olathe, Kansas, and had been a roommate of John's at Olathe. Consequently, Glenn would come over to see my roommate, and that's how we met.

We kind of struck it off right in the beginning, because he was basically an only child; so was I. The kind of parental training that we had both received was pretty much the same. We had fathers that wielded a pretty good size stick, and kept us pretty well in line. One that made us go to church every Sunday and Sunday school. Almost everything we did, we had quite a lot in common, and we just immediately became close friends.

Frank: What was he like in those days?

Miller: Well, he was a very aggressive young fellow. Very professional at everything he did. Maybe a better word is perfectionist. Everything he did was going to be right. That seemed to be John's main objective. In fact, he was almost a leader from the time he got down there. He was one of the cadet regiment officers. He was soon selected. They went through the groups.

When you first got there, well you would be selected as a platoon officer or company officer or something, and wore a special designator showing that you were a cadet officer. John went on up very high in this respect the whole time he was down there, but sometimes he was not always easy to get to know, because he was so quiet and so intent at being right and being perfect at everything he did.

I think a lot of this has certainly carried through, and is still a characteristic he has today as a U.S. Senator. He is probably as hard a working Senator as there is on the whole Capitol Hill. Now he is extremely smart. I won't say that he is as well educated as some of the Senators over there, but what he may be short from an educational standpoint, he makes

up in additional professionalism and motivation and effort to make up for any shortcoming which he might have.

Of course I think by the very nature of that he has become -- has a better understanding of all aspects of successful life. He doesn't have tunnel vision in any particular area, as being a specialist in any one thing. He can attack most any problem he is confronted with, and he will do as good a job as anyone that has probably spent a heck of a lot time in a formal education in that area.

An example of course was later on in his life when he went to test pilot school. In his college training he had had little more than college algebra. You were really supposed to have had trigonometry and analytics and geometries of various levels in order to really go to test pilot school, and John didn't have any of that as a background.

He said to me he thought he was going to bust out several times, but I really never gave much thought to that, because knowing John, if he didn't get it the first time, he would stay up all night until he got it, and he came through. He's kind of a self-educated man.

[Interruption in taping.]

Frank: We were talking about John Glenn. You were talking about --

Miller: His professionalism.

Frank: Professionalism and stick-to-it-iveness.

Miller: John was pretty much that way all through flight training.

Frank: Well, your careers pretty much intertwined, as you were telling me before, so as he comes into the scene, because we talked for the potential here to have it on the record.

Tell me about Corpus Christi.

Miller: As I said, I reported to Corpus Christi in late October I believe it was in 1942, and went through the completion of basic training or primary training, and then into basic, which took conventional flying, and the other half of basic was instrument flying.

By that time, John and I had become very good friends. We both discussed what we were going to request as far as advanced flight training. Of course with the war on, both of us being pulled out of college, we didn't know what our motivation was going to be. We didn't know how long the war would last, and people that went overseas, if you asked when would you be coming home, they would say, "the duration." As long as the war lasts, you might just stay overseas the whole time.

Frank: You hadn't thought about making it a regular career yet?

Miller: Well, that's what we were planning at that time, as to what we would do, what kind of flight training should we take, and try to emphasize, if we decided we wanted to come back and stay in civil aviation and make that an occupation. We both were very intent on becoming we'll say fighter pilots, fighter aircraft, where we actually felt on a combat equal with the enemy, where we fought him under the same terms.

Frank: More glamorous do you think?

Miller: I don't know whether you would call it glamorous. It's the kind of flying that I think that people that truly love to fly [prefer], is that you fly an airplane that can do everything. In other words, you don't have to worry about pulling the wings off of it. You don't have to worry about carrying other people in it. It is just you, and you can fly the airplane, and it is faster. It is kind of an unrestricted flying.

Plus the fact that a fighter pilot felt that he won or lost based on his own skill, whereas an attack pilot a lot of times is hit from enemy fire, and has little control of knowing when the enemy is going to hit him. He is kind of a victim of luck. Whereas the fighter pilot, if he is fighting another airplane in the air, it is his skill over the enemy's skill.

So there is a tendency, most people, at least 50 or 60 percent of them preferred to go to fighters for that reason, because they felt they fought on an equal term with the enemy. Whether they survived or not was dependent on their own skill and professionalism.

Anyway, that looked like a very inviting type of training, but recognizing that it's kind of like the infantry today; there isn't much of a demand in civil life for a guy that's an infantryman. Well, in those days there wasn't a lot for a guy that was a fighter pilot in civil life. Civil aviation was primarily concerned with things like Pan American Airways and the mail runs and that.

So we elected to control our emotions and give up asking in advance for fighter training. We asked for multi-engine training, and because the ability to fly all over the world anywhere depended upon your ability to be able to navigate, and the only people that got worldwide-type navigation training were the people that flew flying boats. We called them P-boats, patrol boats.

Of course that also gave you training at flying a big airplane. It gave you training in flying under all kinds of weather conditions. It gave you the chance to fly an airplane both from land and from sea. It taught you celestial navigation, which nobody else got.

So both John and I elected to put in for P-boats. So we went through flight training in the old PBY, and our objective is as soon as we got out and got to the Marine Corps, we had heard some rumors, scuttlebutt as we always called it in those days, that the Marine Corps was getting the Havoc Bomber [A-20], which was a low altitude kind of a fighter bomber that worked right on the ground and strafed, and did a lot of close support for ground troops and so forth.

That looked like that fit in pretty well with our multi-engine training, since that was a multi-engine airplane. So we decided that that was the first thing that we would try to get. We had heard that Cherry Point, which was a brand new base that had just opened up on the East Coast, and there were a lot of rumors about what was being taught there.

So we were both delighted when we found our order were cut to Cherry Point, North Carolina. We took the P-boat training and went through all of that with the intention of converting to something of much more than a patrol airplane type of flying if we went to war.

We probably still had number one, the idea to be a fighter pilot. Both of us were sent and got to Cherry Point. John married his wife Annie en route. Although I was engaged at the time, my wife was in college (my wife-to-be) in Topeka, Kansas. She was a life long sweetheart of mine, just like his. Her grandmother had been my first Sunday school teacher.

So when we reported to Cherry Point, John and Annie came in, and his folks had given him a car, a little old Chevrolet car. I reported in of course there as a bachelor. We were assigned to an outfit called OTS-8. It was commanded at that time by -- I believe he was a colonel at that time, Colonel Karl [S.] Day.

Frank: He was a colonel.

Miller: In that time frame, '43?

Frank: Yes, sir.

Miller: Okay, well he was the commanding officer then of OTS-8. There was about somewhere between 55 and 70 second lieutenants had reported in to OTS-8 in a period of less than a month. They were just overwhelmed with second lieutenants. Of course instead of A-20 Havoc bombers, they had PBJs or B-25s and twin engine Beechcrafts for training, both the bomber and the transport version.

But being a second lieutenant in those days, there wasn't a chance to get any flying. They were just stymied. We were so far down the bottleneck that we were falling off the page.

There was a Captain Wade there, he was about 45 or 50 years old. He was kind of our den dad. He handled us morning, noon and night practically. That guy could out run all of us, and out last us. He would take us all out through the boondocks and we did more forced marches and stuff all over the place.

After about six weeks there, word came down from Washington that they were going to break up all these lieutenants. There wasn't any way OTS-8 was ever going to train them. We were told that if we put in for what we wanted, that most likely you could get it, for whatever kind of flying.

They had several F4F fighter squadrons there on the field. They had some Brewster Buffalos F2As squadrons on the field. They had one squadron I believe of SB2As, which was a Brewster dive bomber. We even had an SB2U squadron I believe, on the field.

One of the squadrons was expecting its Corsairs [F4U] any time. They were one of the first squadrons in the Marine Corps to get the Corsair. I'm not sure, but John L. Smith I believe was going to be the squadron commander.

Anyway, Glenn and I immediately put in for fighters, and they told us you have a very good possibility of getting them. Well, we waited about a week and then when orders came in, our orders came in transferring us to California to a R4D transport squadron.

Well, we were a little upset at that, but we figured as a second lieutenant we were pretty green, and better that we keep our mouths shut and just kind of wait and see what happens.

So we started across country. As I traveled -- of course John and Annie drove by his home. All we got was proceed and travel time to get to the West Coast. There was no leave in between. John and Annie drove, whereas I got on a train and went through Topeka, Kansas. While I was there, I married my wife on proceed time. We had a big church wedding surprising enough. It was put together pretty fast, then I went on to California.

We were stationed then at what is known as Miramar today, was Camp Kearny.

Frank: Kearny Mesa.

Miller: Well, Kearny Mesa and Miramar was synonymous with purely the tent living area. Camp Kearny was known as the air field. Today that is Miramar. Kearny Mesa was the tent village that was to the north of where Miramar airfield is today.

Anyway, we reported in and were assigned to this R4D squadron. It was 352. I forget whether it was VMJ or VMR-352. The squadron commander was a man by the name of Major [Edmund L.] Zonne. I was fortunate in that one of my old acquaintances, who was a preacher's son in my hometown was a first lieutenant in the Marine Corps, a fellow by the name of Rylander. He was a qualified commander for the R4Ds. When I got there both Glenn and I and the rest of us that came in there, we were having trouble getting four [flight]

hours a month to even get paid. We were so far down the pole we couldn't even ride as co-pilot hardly.

But fortunately, Rylander took me under his wing, and every time he had to go out, he would take me along as his co-pilot, so I got my four hours. I don't know how Glenn finally got all his, but he was having trouble getting his flight pay for a while, because you didn't get your pay unless you flew four hours a month.

We were pretty dissatisfied. By considerable finagling and some of it largely to Glenn's ability to sell himself, and I worked on it too, we finally talked -- there was one fighter squadron on the field--at the time it was known as VMO-155. It was half fighter airplanes and half photo F4Fs. It had F4F-7s, which the whole wing was a fuel tank, and it had no guns in it, it had cameras in it. The other half of the airplanes was regular fighters.

We finally convinced the skipper, who was a fellow by the name of Major [John] Pete Haines; John and I met him and pleaded and got him to request the group commander, who at that time was Lieutenant Colonel Dean C. Roberts, to let us transfer. Unbeknownst to me, I had gone in to see Major Zonne for permission to go up and talk to Col Roberts about the transfer, but Glenn hadn't.

Well, when Zonne heard that Glenn had been up talking to the group commander without asking his permission, he was miffed. So he came out and he canceled the orders for us to transfer over. We had it all locked in. Everything was smoothed over, but Zonne got so mad that he canceled. There were four of us that were trying to get transferred over; a fellow by the name of Jarvis, and another by the name of Knauth, who had known Glenn for a long time, and was my roommate in Corpus Christi and Glenn and myself.

We had this whole thing, and Zonne got mad, and he called Dean C. Roberts, and they scrubbed all the orders. So finally Glenn went in, and I went in and we apologized to Zonne that there had been a misunderstanding, and that we were kind of green lieutenants, and would he please forgive us, and might we go back to see Colonel Roberts and see if he would consider accepting us again, and letting us transfer?

Major Haines said he would be glad to have us, even though we had not flown SNJs at that time, which was a kind of a prerequisite for being a fighter pilot, but Haines said he would take us.

So we went back up and we were able to convince Roberts to let us transfer. So the four of us transferred over to the VMO-155.

Batha: You did get training in the flying boats. Where was that at, Corpus?

Miller: Corpus Christi. About 115 hours of flying time, of which about 10-12 hours were actual combat flights looking for submarines in the Gulf. We actually flew combat missions as students at Corpus Christi. Our over water nav flights were tied in to the overall submarine search units in the Gulf of Mexico. They used the amphibian airplanes more than they did because of the ease of loading the depth charges on them. They could load them on land a lot easier than they could put the depth charges.

I flew one mission on purely seaplane version of it. We had the PBY2 and 3 and the PBY5A, which was an amphibian that had the folding gear that we landed. Most of our flights were flown, and the combat missions were flown on the amphibious versions, where we took off on land and landed on land.

I flew two patrols, and one patrol I got roused out of bed at about 11:00 p.m. They had a ship off of Galveston that got torpedoed and we scrambled and went over there, so we actually flew some combat missions as students in flight school in patrol boats.

Batha: What was the organization called that handled the PBY training?

Miller: They were Training Squadron 18A and 18B. They were the two patrol squadrons. Training squadron 17 was a single engine Kingfisher flying [boat] -- they were seaplanes, but they were single engine. Thirteen was the instrument squadron. Fourteen and 15 were the fighter squadrons there were located over at Kingsville. Beeville had not been built at that time.

Batha: These were all Navy squadrons, as opposed to Marine squadrons?

Miller: Oh, yes, it was the training command.

Frank: That squadron that you joined out on the West Coast was VMJ-352.

Miller: Okay. They changed the nomenclature so many times from VMR to VMJ and I guess that's right. I was thinking it was 352, but if it was 353, and then we transferred on into VMO-155. We hadn't been in 155 a week -- as you know, housing was very difficult to find. My poor wife, we lived in the Grand Hotel there for a week. I thought I was going bankrupt because we couldn't find a place to live.

My wife walking the streets every day, finally found an apartment on Sixth Avenue just across from the zoo there, a beauty. The only trouble was we had to pay six month's rent in advance to get into it, and \$257 I think was six month's rent in advance. Gosh, I had to go back and I mortgaged myself up again clear up to the hilt with my bank, trying to raise the money to get in there.

We just got in, were just getting settled, got the transfer to 155, and then 155 gets order to El Centro. Here I am sitting with six months of living quarters in San Diego. I thought the world was coming to an end. But the owner of the apartment said if they could rent the apartment right away, that we would get our money back.

Frank: Were you able to?

Miller: Yeah. We went on. Of course we were shy and bashful for a while until we finally got our money back there. We found it was difficult in El Centro finding a spot, but not as difficult as San Diego.

Of course my wife and I did not have a car, so we were doing everything either by taxi or walking, and you didn't do much taxiing. The Glenns of course had a car, and they helped an awful lot. Annie helped Ida Mae a lot, helping her find a place. We lived in a hotel there for about a week, maybe a couple of weeks until we finally found a place.

We found a fairly good place, and so did the Glenns, so we got pretty well settled down there. Of course El Centro was terribly hot. People couldn't imagine it could be so hot. The first time I went into El Centro I was flying in an R4D with this fellow Rylander. When we landed, I reached up and pulled the window back -- I was flying co-pilot -- I stuck

my arm out on the side, and I thought there was something wrong with the engine it was so hot out there. So I didn't say too much. I just shut the window.

When we stopped and parked and walked back through the airplane and jumped down on the ground, I literally thought I jumped into a fire. That is the hottest I think I have ever been. I had never been in that much of a desert before. It was about 115 in the shade. Fortunately it was dry, but it really hits you. It will almost take your breath. Then when we found out we were being transferred over there, I just thought we had gone to the end of the world.

But 155 got over there and got settled, and we flew. Glenn and I and this fellow Jarvis and Knauth had to fly 55 hours in an SNJ before we were considered qualified to convert over to the Wildcats, F4Fs. Well, it didn't take us too long, because we flew every chance we had. Every time the schedules officer would let us fly, we were out in the SNJ flying all over the place, so it didn't take us long.

Then we started flying the F4Fs. It wasn't long until pretty soon John and I were tops in the gunnery scores in the squadron. One time he would win, and the next time I would win. So we had a real hot competitive time. For some reason the skipper took a good liking to us, and he was a pretty good shooter himself, and so we had an awful good time there with the squadron. There was a lot of good, hot competition.

Our XO at the time when we first got there was a fellow by the name of Ben Hargraves, who I just got a letter from here recently, who is now retired from working with Boeing. There was a small fellow by the name of Chris Irwin, not Slim Irwin, and a fellow by the name of Reynolds, Drifty Reynolds, and another fellow by the name of Frank Hoffecker.

This squadron that we joined, by the way, had come back from Samoa.

End Tape 1/I, Side A

Begin Tape 1/I, Side B

Miller: VMO-155 had flown SBC4s in Samoa, and of course had come back and converted into this VMO or observation squadron, but it was considered a fighter-observation squadron, so they had fighters that could protect their observation airplanes. The observation airplanes were also fighters. So it's kind of like our RF squadrons today.

Frank: You were assistant communications officer. Of course your ham operator background, that must have helped a lot.

Miller: Yes, and in fact it helped a tremendous amount, because a problem that I have always found in the Marine Corps [is that] our electronic communications people, the people that handled the radios have been specifically trained for various pieces of equipment, and have been really not very well trained on basic theory.

In other words, if they had to improvise, they couldn't. They didn't know how to improvise. As an example, and one of the reasons that I got assigned to this job, we had a set, I believe it was called an RUGF set. It was a big old transmitter, and we used it to talk to Pendleton a lot to set up certain flights where we would go over and work with the ground forces.

They set one up and we set one up. They would sit out there, and I would go out there every once in a while-- just with my interest in radio. Boy you would hear them scream at each other, and holding their headphones trying to hear what the other side was saying. It's less than 200 miles to over there. I just couldn't understand why they would have that much trouble with a ham radio. That's a piece of cake, you know.

So I made some comment to the skipper one day. I said, "It's a shame. Ham operators would just have no problem with that. We could talk loud and clear." He said, "Well, is there anything you can do out there to change it?" I said, "Well, I could, but I don't know about changing Navy equipment, you know." He said, "Well, if you changed it, could you put it back like it was if we had to turn it in?" I said, "Sure." He said, "Go to it."

So I went out and after a day of working on the gear out there and putting all the radiomen at my disposition. I put up a new antenna. I designed the antenna myself for it. Then the next morning when we called in, they said, "What did you all do? You're loud and clear over here." But, we were still having trouble hearing them.

Gen "Howlin Mad" Smith had the 4th Division I believe it was at that time at Pendleton. Their communicator was a colonel by the name of Vandegrift. He sent word to my skipper, he said, "Send that fellow Miller over here, and have him fix up our gear." So I got in an F4F and flew over there and spent the day with them, and we did the same

modification to their radio, and from then on we talked just like we're sitting here in the room.

Of course I did when we got ready to leave, and we had to turn this gear in, because we were picking up new gear, and then I had to spend about a half a day putting our gear all back. I never did know what happened to the 4th Division's gear. Their average communicators wouldn't have known what I had done, but it was just a matter of coupling the transmitter to the antenna properly.

Batha: "Howlin Mad" Smith had amphibious forces Pacific Fleet. It was Harry Schmidt who had the 4th Division then.

Miller: Was that in 1943?

Batha: Yes, sir, because --

Miller: Smith took the Division to the Marshall Islands.

Batha: He was Commanding General, Northern Troops and Landing Force, which was the level higher.

Miller: He was training the division at that time for the attack on the Marshall Islands at Pendleton.

Batha: He was the level above the division commander.

Miller: Because we were working with his office because they wanted air support. About half the time we played as Japanese airplanes, just to give them ability to defend themselves from the ground. Then we provided our own airplanes as friendly airplanes, and we provided both sides.

We needed to communicate every day. That's what really prompted it. They wanted to request air or when they wanted us home stationed and this type of thing.

Well, that's what got me started in the communications area. Almost the entire time I was in the squadron, I was the -- I guess they called it radio officer in those days, rather than communications. By that very fact, I was put on the so-called crypto team and stood watches at El Centro at that time. There were about five or six officers on the base. During the off hours we rotated on standing watch, and every once in a while I would get a call, and they would say we've got a message; you'll have to come in.

So then we would go out and undo the safe, and get the decipher machines we had , [the ones] with the wheels. We would set the thing up and give it to the enlisted guy, and let him type the message. By that nature, I got tied up to some with communications, but for the most part mine was more technical on the radio side.

Frank: You were there at El Centro until February of 1944.

Miller: We were moved out at that time. Our squadron was sent to Hawaii first, just like all squadrons rotated through Hawaii. I can still remember meeting my first general that I can recall ever meeting was General [William Oscar] Brice. He was affectionately known as "Old Whiskey Nose" Brice.

Frank: Oscar Brice.

Miller: Yeah, Oscar T., I believe it was.

Frank: William O.

Miller: William Oscar Brice. I can remember meeting him. Then there was another general, General Rowell.

Frank: He was the senior aviator.

Miller: He was the senior aviator there at the time, and I met him in the officer's club one night. Boy, that was really something.

Anyway, we stayed in Hawaii for about two or three weeks, and then our squadron rotated to Midway, which was kind of the duty squadron. As the squadrons had passed through, each one of them would do their turn on Midway, protecting the sub base out there.

It was actually a good tour, because they rotated the SBD squadrons out there too, but they put them over on what they called Eastern Island. We were on Sand Island. We were the only fighter squadron there.

They had a good radar out there, and they had a Navy PV squadron out there. The PV was a hell of a fine airplane. It was very fast, multi-engine. They did 800 and 900-mile submarine patrols all out west of Midway. Since Midway was the largest submarine base and the jumping off spot for our submarines, they were always very afraid that the Japanese might try to attack Midway again, so that's the reason they kept a fighter squadron out there.

Frank: Of course the Battle of Midway had already taken place.

Miller: Oh, yeah, the Battle of Midway had already taken place, but the Japanese knew that nearly all of our submarines were coming out of Midway. Our patrols flying out there consisted of getting up every morning at about 4-4:30 a.m. and getting on our gear, and four airplanes would take off and would fly overhead in a combat air patrol. All the rest of the airplanes were in flying commission, sitting in bunkers. They had a pilot in it with all this gear, ready to go and strapped in. If they had to scramble, we could get off. We did that at dawn and dusk.

During the day we didn't keep an airborne alert, but we kept eight airplanes sitting down on the ready line, with four airplanes on five minute scramble, and then they had to be airborne within five minutes that they got the warning, with four more airplanes on a 15 minute back-up. Then all the rest of the airplanes had to be capable of being launched in one hour.

Batha: If the radar was so good, why did they have the CAP for the morning and evening time periods?

Miller: Mainly because they felt that way they could -- if they sighted the enemy, they could reach him first. They didn't have to go through the time to have him scramble and climb out to get to him, and he could meet them farther away. They suspected that the highest probability of attack would come at dusk or dawn.

That was fairly consistent all the way through the Pacific in those days, because we did the same thing even when we went to the Marshall Islands after we left there. There we kept two airplanes in the air, and four airborne at dawn and dusk, with all the rest of them on standby.

Frank: It was the same at Okinawa too.

Miller: Yeah. But we flew quite a lot out on Midway, and it was there that Glenn and I had our first exposure to submarines. We met some of the submarine officers there, and there was one officer by the name of Lt Eastman who was the torpedo officer on the U.S.S. Barb.

While we were there, we had two SBDs that we used for instrument training. The submarine officer would come down and say -- Eastman came down and he said, "I'm the torpedo officer on the Barb. I'd never seen a submarine from the air." He said, "I sure would like to get a flight so I could see a submarine from the air."

There was a 60-mile square south of Midway that was no attack zone. If we saw a submarine anywhere else, we did not even have to have permission to fire. It was automatic, you attacked, which I always thought was kind of tough, because those poor guys coming back in off those submarine patrols, and some of those enlisted boys hadn't even seen the light of day for three months.

When they would get close to Midway, the submarine commanders would let some of the guys come up, but by rights if we found one 50 miles due west of Midway, we weren't supposed to ask any questions. We were supposed to attack it.

Once they got in the 60-mile square south of Midway, which was a training area then you didn't attack anything in that area. We knew that one or two times there were a couple of Japanese subs in there, we were not allowed to attack them, because we were in too much danger of hitting our own.

Frank: Were there any mistakes made?

Miller: Not while I was there, no. But I think one of our planes started to attack one, but the submarine dove before he could get to it and got under the water. But I don't remember the exact details of it.

Eastman came over and asked, and Glenn and I took him on a couple of flights. He would get in the back seat of the SBD. On the day that they were getting ready to go out, he came down and flew one day. The next day was going to be what they called their shake down cruise, and then the following day they would leave on a 90-day war patrol.

On the day that they were flying, the Barb -- the commanding officers changed, and a commander Gene Flucky took over the command of the Barb. He was the guy that later got the Congressional Medal of Honor for slipping up into the harbor and sinking a carrier as it slid down the ways into the water for the first time.

Flucky took command and was the skipper the day that Glenn and I went out on the Barb to observe the shake down cruise. Those boats were limited I think it was to 400 feet in depth. They had 16 new crewmembers, and one of the tests that they always ran when they took on a new crew was a depth charge attack.

So you would go out and a boat would come along, and they would drop a depth charge close to you. They had had trouble with some of the guys going berserk in a boat when they were attacked by depth charges. We got a real shake up in that thing with a depth charge.

Then they had to fire some torpedoes at ships and make some runs. They measured their accuracy the best that could. Then we had to make a test dive to 400 feet to see how the boat stood up. I can never forget, I never saw a boat that had so many leaks in it in my life. There was a stream of water as big as my wrist coming in around the periscope. You could look down the gangway on I believe it was the starboard side of the submarine, which was a hallway almost all the way down the length of the submarine, you could look down the hallway and there must have been 15 or 20 spurts as big as my finger of water coming through when we were down at 400 feet.

I didn't know. I said, "How long can we stay down here? We're taking on a lot of water." Nobody else seemed concerned, so we didn't get too concerned.

I remember they had some of the best apple pie I have ever eaten, on that ship for lunch.

Then they let Glenn and I go up on the deck on a practice general quarters. They normally kept eight enlisted men on topside, the officer of the deck and a boatswain. So there were ten men on deck. Then they sounded general quarters, ten people had to go down through that hatch.

When they hit the button for the general quarters, they opened the flood gates and started diving. You had less than a minute to get ten people down through that hatch. I can well remember that the boatswain was the last guy down, and I don't know whether Glenn and I--I guess we were right in front of the officer of the deck, and then the boatswain followed him. We jumped out of the way as we got in. There was still about a two inch gap in the cover when the water hit it, and a big flood of water came down the hatch, with the boatswain up there cranking it down you know.

It always left an impression on me of the submarine service, of how guys sometimes might get left on topside. In those days they didn't go back for them. They didn't surface for them either. So it was Katie bar the door. If you didn't get in under conditions like we were, of course they would; they would have surfaced, but in combat they would have never surfaced.

Frank: When you mentioned the Barb at the beginning, I think the skipper of the Barb--it may have been another one--won the Medal of Honor. The submarine was attacked and told them to take it down and left him up there. He was wounded.

Miller: It might have been later on. Flucky was not, because he lived for many, many years. Flucky also was one of the guys that got the Congressional Medal of Honor.

Frank: Right.

Miller: But Gene Flucky I don't know whether he is dead today or not, but he lived well past World War II.

Now the Barb, as I understand it, did have two very, very highly successful tours, but Flucky was the first one to my knowledge, and the next one--I remember something to the effect of what you mentioned, but I didn't tie that in with Flucky. I don't know exactly what it was that Flucky got the Congressional Medal of Honor. I have known, but my memory has slipped me on that.

That was the day, if you go back in the records, I can go back to the first day that Flucky had command of the Barb was the day Glenn and I rode on the shake down, because I can remember that. It was a great day. I can remember reading later on when we were in the Marshalls about the Barb doing all this, and Capt Flucky is awarded the Congressional Medal of Honor with all the crew and all that. It really puffed out our chest after being with that crew.

I never did find out what happened to Eastman.. I lost track of him. He was an Academy boy, a hell of a nice fellow. I never did find out what ever happened to him.

Frank: So you were on Midway for?

Miller: For about three months.

Frank: Three months. Went back to Ewa, June 4.

Miller: Right, went back to Ewa.

Frank: And went aboard a carrier I believe.

Miller: Went aboard--I forget what the carrier was.

Frank: Makin Island

Miller: Makin Island that's right. The ship--I don't know whether it was an AKA or something--took the first echelon of our squadron on out to Majuro. Our echelon stayed on

the Makin Island. We were picking up our new FG1Ds [Corsairs]. It was the first 1Ds to hit the Pacific.

Glenn and I and about 12-15 other pilots were held back to do the test flying on the airplanes, getting them ready and getting them aboard ship and ready to leave. So we left about a week after everybody else left.

Then we went on out. When we pulled into Majuro--I don't remember the exact day--but we sailed into the lagoon there, and anchored the Makin Island. I can remember it was about 8:00 a.m. They put us on the catapult and they catapulted us off that Makin Island with it hanging on the anchor.

The speed, the catapult as I recall was 90 feet long. You went from 0 to 95 knots in 90 feet. I remember, that was one of the strongest boots I ever had in the air. You are sitting in the cockpit, and you salute and you grab the thing, and the next thing you know it's just bang, and you are almost unconscious. Then you come off the end, you are flying.

It could have been done a lot easier if we had been headed into the wind you know, and had some wind on the deck. We had maybe 2 or 3 knots of wind, just enough to make the ship turn into the wind. But we flew all our airplanes off and landed at Majuro. From there is where we started our combat operations with striking the Marshall Islands that were held by the Japanese.

Frank: Let me ask you just two questions, if I may, sir.

Miller: Sure.

Frank: Number one, how did you feel about carrier flying? Did you like it? I remember Old [Ford O.] "Tex" Rogers saying he hated flying from a carrier like poison.

Miller: No, I think I always felt it was kind of a challenge. It required a little more precision flying, but it was a kind of a game. It's just like what makes a race driver a race driver. I think the kind of flying was a challenge, how good a carrier pilot could you be?

The fact that it took a little more effort, and a little more precision I think was the challenge of it, and I enjoyed that challenge. I think that was the same way with Glenn.

Every chance we got, we always seemed to do something that was going to challenge us. At that age and ignorant as you are at that age, you are pretty much a bull in a china closet you know, and you couldn't see anything was ever going to happen to you; it was always somebody else it was going to happen to.

Frank: That was the general attitude, even among the ground people.

Miller: Yeah.

Frank: The other question is, when you got a new type of aircraft in the squadron, what was the procedure for accepting it and training in it and so on? Someone had to know how to run it.

Miller: Of course we had converted from F4Fs back in El Centro to the early F4U-1 which was known as the "Bird Cage" F4U, and it had a low tail wheel. It was the one that was kind of dangerous to fly. It had tremendous torque, and if you tried to land it like a normal Navy landing, where you land three points or tail first, you had to reach the three point position, or the tail first landing, right at the [right] second, because the left wing would usually stall before the right wing would do.

The stall would occur before you really reached the three-point attitude. So what you were doing is you were stalling and moving to the three point attitude just as the left wing stalled. You had to be right on the deck to keep the left wing from beating you to the ground.

So in the earlier days we forestalled trying to land it in the three-point position, which we had always done in F4Fs, in fact the rule was there hit the tail first, because an airplane never bounced if you bring it in and you hit the tail.

When it goes like that, you are on the ground for good. If you come in and you hit wheels first, then it bounces and you get a gallop. More people get in trouble with porpoise and you get out of control in a porpoise and crash. The only way to do it is to hit tail first.

In the Corsair we just couldn't do it. It was too dangerous. A lot of guys invariably would start to porpoise, because before they could get the tail down, the left wing would

stall. The main wing would stall, so then the left wheel would hit first, and you so would not only get a punching bag punch, but it would be unsymmetrical, because the left wheel would hit first, and it would be going up. Then the right wheel would hit, and then it would be going up, and then about that time the tail wheel would hit.

So it was kind of hard to hold your orientation through all this gyration, and invariably the nose would come down pointed off the runway in some way, and the guy would hit the brake too much one way or the other, and pretty soon ground loops were famous in the Corsair. If you ran off the runway, certainly at El Centro you were in sand. The minute you went off, you flipped over on your back.

We had a lot of guys, particularly the little guys had more trouble, because the rudder pedals in the Corsair--the Corsair had a big cockpit--the rudder pedals, if you pulled them back so that the little pilots could reach them, then the amount of throw that he had was such that if he gave full right rudder, the left pedal came back so far that he couldn't help but put in left brake on the top of the brake pedal.

Unconsciously he's trying to go to the right, but at the same time he is putting the left brake on, which is making him go that way. So we had a lot of the little guys had an awful lot of trouble ground looping and going over on their backs, because they unconsciously put in the opposite brake when they didn't know they were going to.

To go back to your question as to what we did, of course we went through quite a training session of briefings and talking with pilots that had flown, and we filled out a questionnaire on the airplane, the systems. What does your oil pressure read? What does your temperature engine read? What speed do you do this at? It's like all the questionnaires on airplanes even to today, just a lot less formal in those days.

Then generally an experienced pilot would go out with you and kind of stand along side the cockpit and explain this and that and how it flew. That was kind a check out.

When we converted from the Corsairs we flew to Midway, to the Corsairs at Hawaii, the 1Ds, there was very little change. So from a pilot and cockpit standpoint there was no required checkout difference. In fact, the cockpit was still essentially the same.

We had a feature on that airplane that allowed us to put our wheels down and use them as dive brakes. You did that by sliding the landing gear lever over and going into

another slot, and that would put just the main gear [down]. The tail wheel would stay up, and then you could dive straight down and you wouldn't get too fast.

The other was that you had three manual release handles for three racks on the airplane, whereas the airplane had only had one rack up until that point in time for bomb racks.

So it was little changes like that. Since both Glenn and myself had been in what we called in those days the engineering department of the squadron, the radio officer was a subordinate of the engineering officer, but we had both early been certified as so-called test pilots.

In those days when you put a new engine on the airplane, you had to take it out and fly it around the field for eight hours. Well, Glenn and I invariably would come out, and we were known as time hogs, and every time that an airplane needed running time, well, we would come out on our day off and fly engine time hops. We always called them "engine time."

The only thing you had to do was you had to stay within gliding distance of the field, so if the engine quit, you could get in. So because we had done a lot of that back in El Centro in the squadron all the time, we were always kind of called the engineering test pilots of the squadron. It was mainly because we were time hogs, and we would just do anything to fly.

So that is why we wound up in the group that stayed back and did most of the test flying on the airplanes before we accepted the airplane from the people that were transferring them to us.

Frank: Was it the FJ1 that had trouble with the oleo strut that it collapsed, one of the reasons that it was not too successful initially on carriers?

Miller: You mean FM1 or the 4U?

Frank: The F4U1.

Miller: Oh, F4U1? The trouble with the strut was that it had too much bounce to it. That's why it tended to cause the 'porpoising' to start. If you dropped in let's say 6 to 12 inches, when the gear hit and the strut hit, it was like hitting a punching bag. It really bounced you. They finally changed the metering mechanism in the strut to take that kind of thing out.

At the same time, they also went over on the right side, on the right wing and they put a spoiler on the leading edge of the wing which would cause that wing to quit flying at the speed that the left wing was quitting flying, because it had the extra torque on it. So when you got a stall, then it was a smooth stall. It was a straight-ahead stall, rather than a whipping left.

Then they came along and raised the tail wheel. They put an extension about eight inches on the tail wheel, so when the tail wheel was on the ground it was eight inches higher than it had been before. This enabled us then to start landing the airplane like a Navy airplane, and we could come and we could either land three points, or invariably just before you touched down you would jerk all the way back and the tail would hit, and you could hit tail first like we wanted to. That's of course what you did on board ship.

It was that landing characteristic in the early days, that was one of the reasons the Navy just couldn't handle the airplane on the ship, because they were having too many crashes, trying to get the tail down and at the same time the left wing stalling and turning with torque. So the Navy didn't use it.

When we finally got the raised tail wheel, the double spoiler-- the spoiler on the right wing, and the raised cockpit, we got rid of that big bird cage that you sit down in here kind of looking at through a tube, and they raised you up and put glass all around you where you could have much better visibility. You still couldn't see anything directly in front of you.

Frank: The fuselages.

Miller: Yes, the old nose sitting up high. Once you leveled off in straight away flight you could see all right. But once they got those changes, then the Navy went back and put several squadrons aboard ship, and they were very successful.

Frank: Now I had heard that one of the problems in the earlier Corsairs was that the oleo strut would collapse.

Miller: The collapse feature I was more attuned to in the F4F than I was in the others, because the oleo in the struts of the Wildcat were so soft that if you would get in a crosswind landing, and say the wind was from your starboard side, and it got under your right wing, the airplane would just almost tilt over to the left until the left wing would drag on the ground.

To the pilot, that also gave him a sensation that he was turning to the left, because left wing goes down means he's going around like this. So invariably once that started, well, pilots got so in that case they would really hit the old left brake when they were really going straight ahead. Doing that would immediately wind up the other way, and by hitting brake to go into it, they would go into it so fast that they did what was called a ground loop, and they would go off the runway. Invariably if the sides of the runway were soft at all, the airplane would flip over upside down.

Frank: To correct these, the pilot had to have good split second reaction time, did he not?

Miller: Well, the main thing really turned out was to teach a pilot in landing an F4F was to pick out some spot in front of the airplane, even if it was a cloud in the distance or something. When he landed, watch that. Don't pay any attention to what the wings are doing. Just keep the airplane pointed at that. It kept you from overreacting to something you shouldn't.

There were times that it was so bad, our squadron flew up to Mojave from El Centro one time on a navigation hop, and the cross wind was so bad up there that when we got to the end of the runway, we couldn't taxi because the wind got under the wing, and it kept one wing tipped on the ground.

So the airfield people sent Marines out to climb up on the wings, and they put a Marine out on each wing, sitting on the wing, and then we could taxi in okay. But there wasn't any way we could taxi in without some assistance in a high crosswind. The oleos were so soft and would just collapse completely.

We also had a problem with the landing gear on the F4F. It was run by bicycle chain to a crank in the cockpit. You had to crank it up. You had a little lever over here, through each way. When you would take off, particularly if you were trying to fly formation on a guy and you were taking off, and the poor wing man. He is sitting there to fly formation in the wing, and he has got his hand on the throttle and hand on the stick and now how does he get his landing gear up and still stay in formation?

Well, you think you had your throttle pretty well set. You reach over and take the stick, and then reach down and flip the lever that would unlock the gear, and then you would crank it up. Then when you got it up, you had to turn loose the stick back over here, and flip the switch back to lock it again.

In the meantime you are trying to fly formation on the other guy, so we all got pretty skilled at putting the stick between our knees and steering the stick like this, even though our feet were sitting there on the rudder when we are getting this landing gear latched. It really kept you busy.

Batha: Did you have built in trim tabs for the F4? I've never seen one.

Miller: Well, they are just regular wheels.

Batha: They weren't good enough to set up to give you straight and level, with a real quick spin on them?

Miller: You could trim it pretty well. The only trouble is, as you pull up your gear, the trim changes. You haven't got four hands. You can't hold the throttle, the stick, prime the gear and trim the airplane. So you had to trim, and then when you started winding the gear, well, the trim changed. So you just had to give up with something. A lot of times you would be flying in a skid with--if you were getting in too close, maybe you had your left wing down, and to keep from sliding into the guy, well, you've got right rudder on, which is holding you like this.

So you got pretty good with just holding yourself in formation with the rudder while you are getting the doggone landing gear up. Today, it's kind of like everybody is so

worried about the pilot load on an airplane pilot and the cockpit. Shoot, nobody ever considered we were overworked at that time, but we did it. It probably made better pilots out of us for the future, because they would work our tail off flying these planes.

Finally in El Centro, when we were flying F4Fs, we had to quit flying in the middle of the day because every time we would land, we would blow out a tire it was so hot. So we quit flying at 10:00 a.m. and then we wouldn't take off until 5:00 p.m. We would generally fly until 10:00 p.m. and then we would be back.

The people that fly late would not fly in the morning again--the early hops in the morning. But then we started flying at 5:00 a.m. up until 10:00 a.m. So we got the same amount of flight time, but we had to quit during the heat of the day, because 1:00 p.m. or 2:00 p.m. at El Centro you could cook an egg on the sidewalk, it was so hot.

But we converted in September of 1943, September 17. It was a Sunday morning. I flew my first Corsair. I can remember that was quite a sensation. Later on, before we left there, Charles Lindbergh came through. I'm not sure what date it was. It was sometime in October-November-December of 1943, he came through there with a new raised tail wheel, raised cockpit, new spoiler, new oleo strut airplane.

Glenn and I were still second lieutenants. We walked down to the tower where the airplane was parked, and he was down there talking to some of our majors. Glenn and I stood around and listened to them for a little bit. Finally, I don't know if it was Glenn or myself, one of us got nerve enough to say, "Colonel Lindbergh, is there a possibility that a couple of us could fly your airplane?"

He said, "Sure." We really didn't expect it. He said, "When do you want to fly?" "Sure, if your CO says that you qualify." Well, our CO was standing there talking to him. He said, "Yeah, they can fly."

So John and I both went out and each of us flew a hop in Lindbergh's airplane. Of course I was in heaven with the raised cockpit, raised tail wheel, all the brand new kind of airplane. That was really a sensation.

Lindbergh never really flew with us in the Pacific. He visited us for about a half a day one time out there, but he flew with some of our sister squadrons. We were on Kwajalein, not with our group. We were never with group headquarters. Our group was always located somewhere else. We were kind of a squadron all alone.

The other squadrons at that time were all up at Roi-Namur at the group headquarters. We started out at Majuro, and then later moved up to Kwajalein. We started there and I finally left the squadron at Kwajalein and came home.

Frank: Kwajalein, you went in November of 1944. You arrived in July at Majuro. Most of your operations were strafing and escort missions over--

Miller: Yes, we were bombing. We were dropping a lot of bombs.

Frank: Maloelap?

Miller: Maloelap, Wotje, Mille, Nauru. We made two trips to Nauru. That way, we flew down to Tarawa and then it was a 400-mile flight from Tarawa to Nauru. We used one belly tank and two 1,000-pound bombs. We took off from Tarawa and it took us 5 hours to go over there and back.

We always put a buck in the pot every time we took off on those missions. The pilot that came back and used the least amount of fuel to fill up his airplane won the pot. Our skipper was very, very conscious of fuel conservation, because so many pilots had gotten lost and run out of fuel in the Pacific out there in the Marshall area, in particular in the Gilberts.

Another thing, we always flew on the deck, rather than trying to climb over thunderstorms and cloud build-ups.

Batha: Yes, sir, that brings up a point. One of the major weaknesses of the original pilot training out of Cherry Point was lack of proper training for the kind of combat you had to do in the Pacific. Perhaps even over water flight navigation was I think a deficiency. Did you get that in California as a sort of a remedial training? Did the word get back that pilots weren't getting the right training?

Miller: Yes, we did a lot of cross-countries. I guess our advantage in 155 came from the fact that Maj Pete Haines, our skipper and all the more senior guys that had come back from

Samoa, had been dive-bomber pilots, which primarily navigated long distances for their bombing missions. They were experts with a plotting board.

I don't know whether you are familiar with plotting boards, but they generally slid in underneath the instrument panel. When you wanted them, you just slid them out on top, and they just formed a table above your stick. It had a big rotating dish, plus an E6B computer over on the side. You had places where you wrote in pencil, heading, true heading, magnetic heading, ground speed, estimated ground speed, ETRs and point A, point B, point C. You plotted it and put as much on there ahead of time.

Maj Haines and all his people were so adamant that we had to learn plotting board navigation. We did a lot of flying off the coast of California using plotting boards. We had to proceed to a point. Of course one of the senior officers would fly along in the back—'tail-end Charlie', and he would navigate along with us to be sure to see how close we went to what we were supposed to be doing.

I think we had a better than fair education than most of the fighter squadrons that went out. It was kind of the happy-go-lucky fighter squadrons where their skippers had been F4F pilots on Guadalcanal and probably had shot down a lot of Zeros and things, they were kind of a hell bent for election crowd, and they really didn't get all tied up in all this navigation business.

It really worked out well for us, because our kind of missions that we flew in the Marshalls and the Gilberts, we invariably had an hour or two hours of flying before we ever got close to the target. In some of the weather we had to do some weaving around out in the ocean. We had to be able to navigate and know where we were.

Was VMF-422 the squadron that was lost?

Frank: That's the one that was lost. I was just about to ask you about that one.

Miller: I always was aghast as I read some of the history of that thing, that they didn't strike me as knowing a damn thing about navigation, and they didn't really make any effort to plan their flight, or know what they were going to do. As I said, we watched the other squadrons before and while we were out there, their operational losses rather than combat losses.

Most of their operational losses were connected with weather flying. They would be caught between some fronts, and invariably they tried to fly over it or through it. Well, if they got through it, which most of them got through it all right--the Corsair would take a hell of a beating as far as being able to fly--some of them obviously got disoriented.

End Tape 1/I, Side B

Begin Tape 2/I, Side A

Miller: We always went down underneath. The skipper always said at least you can stay on course. No matter how hard it is raining, you can still see out to the side. If you are trying to weave your way through the thunderheads, pretty soon you lose track of how many course changes and how many degrees and how long you went on that heading. Whereas if you are on the deck, you don't vary your heading, you just plow straight on, because you can still see the water.

We didn't have any mountains out there, no obstacles to fly. All our navigation stuff was low frequency. It was purely a beam receiver. All you knew was that you were in a quadrant. If you were in an A quadrant, you could hear it.

We had what was known as ZB out there, and that was a line of sight stuff, but we never really used it that much. We didn't think that it was all that successful, and the fact that we stayed low, it didn't help us that much. But the low frequency would tell you in what sector you were in. If you were in the right sector, that you should be getting an A or N signal. You would just fly it until you got an on course signal, and then you would make a 90-degree turn right or left.

Well, if you were crossing the right leg and you made a 90-degree turn, and you flew a minute--actually, you would fly through the leg, and as soon as you got the other signal, you would do a 90-degree turn left. If you didn't fly back into the leg of course, then you knew we were on the other one. So then you knew where you were, and then you knew which was to turn to get back into the quadrant you wanted to do.

Well, it was always surprising to me, but it seemed that too few people recognized that, and this is the reason I think the other squadron [got] lost (to my knowledge, we never lost a single pilot getting lost in our squadron, we never had one run out of fuel), it was because our squadron commander was just adamant on fuel consumption.

As I said, to help motivate us, every once in a while he would say let's all put up a buck. I remember the last trip I made to Nauru from Tarawa I won the pot. For 5 hours I burned 257 gallons of fuel. Boy, that's some fuel consumption of 50 gallons an hour for an R2800, but it could do it. The prop turned over at 1175 RPM and ran about 35 inches of manifold pressure and blower.

Frank: I noticed that you were made radar officer. When did radar come into the squadron?

Miller: Well, I don't know really. Radar was considered--we didn't have any radar on our airplanes. They spoke of ZB at one time of being radar, when it really is not radar. I remember having that title. I don't really recall just why, because we didn't have any radar in the squadron, except that we worked with radar control stations. I guess it was to work out our air control with the radar station.

It may have been that on the T/O [table of organization] that came out of Headquarters, where they gave the name, the nomenclature, the billet designation that it was designated radio/radar officer. In squadrons that had radar, that was the guy that would do that. If you didn't have it, you still carried that title. I, for the life of me, was never in a squadron in World War II that had any radar in it.

Frank: These runs you were making, they were nominally milk runs, were they not? You had no air-to-air contact with enemy aircraft.

Miller: No. Of course we were all braced for it, but we couldn't find any Japanese airplanes in the air. The first time we went to Nauru there were three airplanes taxiing out trying to take off, but one was a Betty I know that we blew up before he could get off the ground.

In the Marshalls, when we were at Majuro one night about somewhere about midnight, 1:00 a.m. I know the skipper came over and woke Glenn and I up and said, "Come on, we're going down to Jaluit. They think they've got an enemy airplane on the radar down there.

Gosh, we took off about 1:30 a.m. from Majuro and flew down to Jaluit. Before we got there, we got right down on the deck so they wouldn't know we were coming. There

were four of us. The skipper and his wingman went one way, and John and I went the other way, and we went around the atoll. We couldn't find any enemy airplanes down there. After we got through, we attacked the hangars and some of the facilities down there, but we never did find an airplane.

Most of our missions there were bombing missions to prevent the Japanese from building those islands back up, because we had pretty well destroyed their airfields, but they were continuing to bring food and ammunition in by submarine, and supplying them. The idea was to keep them down.

So we would basically fly two attack missions per day, and then we would come back. The next day our flight flew the CAP, the combat air patrol. We had the CO's flight and the XO's flight; the squadron was split in half.

One day the CO's flight would take the strike missions, and the XO's flight would handle the combat air patrol, and then we would flip-flop the next day. We would basically fly one or two--generally two--combat missions on the day that we were up for that. As I say, Mille was closest at 50 miles.

Our first mission was on Maloelap, and Glenn's wingman was killed on that mission. He was hit.

Frank: Anti-aircraft fire?

Miller: Anti-aircraft fire. We never knew to what extent. He just flew into the water. It wasn't because we were making a dangerously low pull out or anything. He just never, ever pulled out of his dive. We were getting quite a bit of anti-aircraft fire.

That was a pretty good blow, because that was our first combat mission. It really shook John up I know, because Monty Goodman was his name, and he was a Jewish boy. His folks ran a furniture store in Harrisburg, Pennsylvania. We kept in contact with them for years.

But Monty bit the dust on that. Glenn picked up another wingman, a fellow by the name of Taylor. My wingman was named Powers, and we nicknamed him Tyrone of course. So we always flew that way.

I finally rotated back to the States in December. My son was born after we left. He was born in March. We had left in February, and he was born in March. I had not received any unusual word, and then in either late November or the first part of December I got three letters one day. I was opening them by the postmark, and the Red Cross had never said one word to me.

I opened one letter and it said, well, the son was ill and the wife was taking him to the hospital and she had just mailed it. The second letter said he was in the hospital and had had to have an operation, but seemed to be doing well. The third letter, he had just died from pneumonia. They didn't have penicillin in the civilian hospital, and he had developed pneumonia from the operation. The operation had been successful.

So my skipper, Pete Haines, called up I believe it was Cpl Ralph Rotey, our group commander. He had MAG-31 on Roi-Namur at the time. In fact, he sent me up. He said, "You get in the SBD and go up and see Col Rotey." So I went up and I took my three letters, because Red Cross had not confirmed it or done anything.

I went up and talked to him. I was not asking any special consideration, but he recommended that I should go on back, because the squadron was going to rotate back in about another month anyway. So I went home about a month earlier than everybody else.

Frank: Where was your wife at this time, with her parents?

Miller: Her parents in Topeka, Kansas.

Frank: You had met her when?

Miller: Two and three years old respectively. As I said, her grandmother was my first Sunday school teacher.

Frank: That's right, you said that.

Miller: She used to come to visit her grandmother, her mother did, well, she would always bring her. My mother and my Sunday school teacher were very close friends. So we would

always go out to visit them. My mother would go out to visit my wife's mother. Of course I would go out. She and I would wind up playing outside together. They've even got pictures of us playing together.

We really never ever got serious. As she got older, in the high school days, she would come down, and my folks would always say, "now son, why don't you take the car and go out and take Miss Lee's granddaughter for a little Sunday drive or something, because I'm sure she is lonely out there on the farm."

Well, I would do anything to drive a car, but I still wasn't all excited about going out there, because she was about a foot taller than I was. I was a kind of a small kid all through high school. But what my mom and dad said, I jumped and I did. So I used to go out there.

Then when I was at the University of Texas I came home one weekend, and I was going to hitchhike back. In those days I hitchhiked back. I was going to hitchhike back, because I had some work I needed to do. My folks convinced me to stay for church. They said they would drive me about 30 miles up the road, where two roads came together, and it would make it easier if I would stay for church, so I agreed.

I walked in the church and one of the first thing I saw was this lovely doll sitting over there. I nudged my dad and said, "Who's that?" That's Miss Lee's granddaughter. Don't you know, the girl you would go out with every once in a while."

I couldn't believe it. By that time I was taller than she was. I guess it was love at first sight or something.

Frank: Did your folks have a farm? Did your dad have a farm?

Miller: Yes, we had a farm. At the time it was about a 200-acre farm. About half of it was in cultivation. I learned to drive a car at about 6 years old, and I used to plow a lot on the farm on a tractor. So I did a lot of the plowing in those days out there, but my dad basically farmed it or hired somebody to. He was a small town attorney. At one time he had been the county judge of the county, but had stayed in private law practice.

I worked out there mostly in the summertime. Then I had an uncle that ran a machine shop. I always kind of liked that a lot, so I learned to weld and run lathes and milling machines and things like that. I worked in the summers for my spending money.

My dad and I had gone into business together, trying to buy land down there. That was my savings accounts in those days.

Frank: When you were on the island, what was it like, pretty boring living? Have to find a lot of things to keep busy while you were doing these runs?

Miller: Well, when we were on Majuro?

Frank: Yes, sir.

Miller: Yes, Majuro was a pretty desolate place, however, it was prettier than most of the other islands, because there had not been a major battle on Majuro. When the US forces came in and took Majuro for the first time, the Japanese didn't have any forces on it, and we got it. On the other hand on Kwajalein there was hardly a palm tree standing. If there were, it was where some Navy gun fire had just clipped it off. There were just stubs sticking up all over the place.

But Majuro was a pretty island, with a lot of palm trees. The natives were very friendly there. We had some Seabees there that had been down in New Guinea and down in the real South Pacific that had been brought back up there. They had been away from the States a long time.

I remember when the USO shows came through, Bob Hope and Jerry Colonna and Patsy Thomas and Frances Langford came through there, I'll tell you, that was the funniest thing I had ever seen. It just made those Seabees--they were just like animals. They were just almost totally uncontrollable. They had to keep a big, heavy guard at the stage to keep those suckers back, since several of them were trying to climb over the stage as it was, toward those gals.

It's amazing, the hardships that during World War II were considered necessary. There were a lot of psychological problems. I guess I have a tendency to look at all the strains and the pressures that people so-called underwent, and Vietnam was such a trying war and all this. It's a different atmosphere. The men in World War II experienced equally a hardship, and nobody ever babied them around like this.

The veterans of Vietnam think that they done something that was far more than anybody in this country had ever done, and that is not true. Gee, some of those Army guys that fought in Italy and places like that, and the Marines that fought in the South Pacific in World War II, why Vietnam was a candy case compared to it.

Frank: Well, as a World War II veteran, having made [inaudible] in Okinawa and later in Korea, the difference would be--and John Chaisson I think put this in a nutshell--World War II, you would hit an island. Tarawa was 76 hours. Peleliu was a little longer. Okinawa was 81 or 82 days, and some of these other islands. Then you go back to a rear area that is relatively safe.

The problem with Vietnam, at least for the people who were up front, it was a 24 hour a day, 7 day a week, 360 degree type of war.

Miller: Plus it was a hide and seek war, instead of a front line war.

Frank: That's right, except for the 3d Division up at the DMZ.

Miller: That would not have had to have been that way if the politicians would have kept their nose out of it and let the military go in there and finish the thing off. You wouldn't have played a hide and seek war. You would have gone back to where the supplies started, and you would have killed all the supplies. So then you wouldn't have had anybody out here playing hide and seek, because he would have starved to death. But you can't tell a politician that.

I was just going to say, that's when we went to El Centro. [looking at a picture]

Frank: Oh, really? We were all young in those day. Lovely. Very nice. That's when you had hair.

Miller: Yes, that's when I had hair.

Frank: That was a great picture.

Miller: That was taken shortly after we were married, and we lived in El Centro. In fact, that picture was taken and developed in El Centro in 1943.

Frank: So you got back. You had two months leave practically.

Miller: As I came back, as I recall, the fifth day of December--no I take it back. I arrived on Christmas Day. I flew on the airplane from Hawaii in. I guess it was the 26th, because I got on a plane--no, let's see, I had to go down to Miramar and check in on the 26th. I got down there and got checked in on the evening of the 26th and then that night I left. I landed in El Paso the morning of the 27th, and by about noon I landed in San Antonio, Texas, the 27th of December.

Then I didn't report back in--I reported back in to Cherry Point, so in those days they gave us 30 days leave, travel and proceed. By the time you put that together, that's almost two months. So it gave us a good chance finally to kind of recover. I was very concerned about the wife, because she kind of felt--couldn't help but feeling that it was her fault.

She was the sole one there. It wasn't. There wasn't anything she could have done about it, but she carried the full mental strain of losing the son, and it was her first child, so it was pretty damn tough. Then of course that magnified when we lost a 19-year old son later, that made it terribly rough on her, but she had held up well under it.

Frank: Your first assignment was operations officer, MAG-91.

Miller: My first assignment was into 912. I went into VMF-912. It was a Corsair outfit.

Frank: Nine fourteen.

Miller: Nine fourteen, that's right. There were four squadrons in the group, 912, 913, 914--no 911, 912, 913, 914.

Frank: It was the 9th Wing, and of course the 9th Wing at Cherry Point was a training wing.

Miller: That's correct. At the time I reported into MAG-91, the skipper of it was [Joseph N.] "Jumpin' Joe" Renner.

Frank: Oh, yes.

Miller: And Stubby O'Neal was the XO. S.B. O'Neal I believe it is, but he was nicknamed Stubby. He was scared to fly. He was always padding his logbook to get his flight time in. Joe Renner caught him one time, and boy, he put his nose into it, and he made him fly steadily for about a month, and made him go back and do all that flying, everything that had been put in his book. The only thing that was different was it was a different date.

He took his logbook, and then he pulled out all the master logs, and found out where the airplane hadn't even flown when he had it in his log book. He worked that up and he threw that on the table, and he said, "You make every one of those flights good." He made that guy go out and fly every one of them.

Frank: Did he ever get over his fright?

Miller: I don't think so. He didn't last very much longer. After the war ended, well, he was gone pretty fast.

Frank: Did you find that to be the case, that many of the people who did get their wings, did have this fear?

Miller: Oh, less than 10 percent. I think most of the pilots were pretty gung-ho. There were a lot of them, the world war flying, as soon as there was no motivation to do the things for their country under combat, they lost interest pretty quick in flying.

Frank: That's interesting. I think once you learn how to fly, it's like riding a bicycle in that you would love to do it and try to get as much flight time as possible.

Miller: Well, that's the way it is with me, but I have no way of relating to these people that don't. I don't want to seem caustic toward them, but I couldn't understand people, in fact like this Col O'Neal. I didn't mind them paying his flight time, but I'm sure it was illegal and it was falsification of the records.

He had flown in combat. I don't know how good. We had some guys that went through World War II and managed to get through squadron tours and were absolutely as yellow as the day is long, but they managed to do it without--first, we didn't have time to run a bunch of courts martial and things in those days, and all they did is just had a guy like that; give him some job to do that it didn't require that [flying].

But I never understood it and never made an attempt to understand it, because I was just so much the other way. I can understand that a lot of people just don't like to fly, period.

Frank: How did you look upon people like John Smith, whom I assume you knew as early heroes?

Miller: Oh, sure. When I was in Corpus Christi, I believe it was at Cudahay Field in Basic; John L. Smith had just been awarded the Congressional Medal of Honor I believe it was. Maybe he hadn't gotten the award yet, but he had just returned from the South Pacific where he had 19 kills. He stood in the gymnasium down there and talked to all us students at the field there for at least two hours. They just won't let him shut up, every question, you know.

He told how it was, and then stood there and answered questions. Of course John L. Smith was always to me such an impressive--he really looked the part of a Marine aviator. He was mean looking with a scar on his face.

Frank: Slit eyes.

Miller: Yeah, slit eyes.

Then of course out of Joe Foss's squadron, while we were in El Centro, Bill Freeman joined us.

Frank: Oh, yeah, I know Bill.

Miller: Bill of course, I guess was an ace himself, five or six airplanes [shot down]. He and Joe Foss had been together, so one or two times I flew with Bill up to Santa Barbara, where Joe Foss was organizing another squadron to go back overseas. So I had an opportunity to get to know Joe Foss. Of course these were the big guns in those days.

Frank: Bill Freeman, a fellow Texan.

Miller: Yup.

Frank: Of course it seemed--just to change the subject for a second--it was in Congress that John Smith met the end that he met.

Miller: I don't know whether these records should contain--I think John L. Smith's problem was that his stature, he was a colonel here in Headquarters Marine Corps, and everybody just assumed he was a shoe-in for general officer. He was a pretty blunt fellow, and as a colonel he violated some basic principles of no matter how big you get, your bosses are still your bosses. He tended to call some general officers by their first names. He was pretty blunt.

I was not sure about some of these things. Some of this was second hand, but he was almost to point several times of being rude to people, because he was so curt and strong principled. That kind of snuck up on him, and he got passed over the first time.

So most of the hearsay goes that he was so upset about being passed over, he really never got over that. Of course the person that gets passed over, and then is unable to maintain his emotions and maintain a decent posture, he sure as hell isn't going to make it the second time. Had he maintained a good attitude, there isn't any question he would have made it. It was these kinds of things.

I always hated to see it, because I always thought that John L. Smith would have made a fantastic general officer. It was a shame that he had to let that kind of thing go to his head. I don't know the history, but he was certainly one of our heroes. The guy could fly.

In an unusual way, most of the fliers in the earlier days that got a lot of kills were not the smoothest fliers, were really not the best fliers. I suppose Marion Carl probably qualifies as one of the better pilots all round. Of course Marion got quite a few airplanes himself.

The guys that really got the big records, many times most of their people claimed that they were pretty danged selfish about it. They never would let their wingmen have a chance, and they went at it, and they took advantage of every opportunity to get as many kills as they wanted.

And that they were snap-shooters. In other words, they didn't attempt to fly the airplane smoothly. They would jerk and jump and snap shoot, and were naturally good let's say skeet shooters. Of course that's one reason it used to be a requirement for all aviators to fire skeet, because they figured so much of [that] is relative motion shooting.

Skeet shooting is all relative motion, so in the fighter days if you were shooting at an airplane with .50 caliber or 20 millimeter, you had to really motion aim, and the guy that kind of had it natural was good at it; guys like John L. Smith, Carl, all that crowd.

Frank: Boyington(?).

Miller: Boyington. They were good you might say snap-shooters. They were good skeet shooter type people, and they were in positions of leadership where they were out in front. The wingman in those days, his sole responsibility was to protect the leader. He is not to be the one to go get the thing, so when they were the attacking, the wingman, all he is doing is sitting there weaving behind the guy to be sure that nobody gets on his tail while he is after something.

It's like everything else, it's the luck of being at the right place at the right time. I think it required much greater skill as we progressed into the jet age, and people like Jack Bolt, John Glenn and the guys that got MiG kills in Korea were in some respects much more highly skilled, because the flying of the airplane to its nth degree of performance was much more important than it was in the days of the Corsair and the Wildcat, because it was a kind of a bull in a china closet approach at that time.

One skill that we had that out-performed the Japanese, who had in some respects, a better airplane for it, was that we worked as a team. We had a flight leader and we had a

wingman to protect him. The Japanese in most [cases flew] as individual pilots, and they didn't fly in pairs. When they attacked they just scattered like a covey of quail, everybody going in their own direction.

So consequently, we won out. That also came true in the Korean war. Of course Glenn can give you a much better description of that than I can, because he got in the MiG battles. Again, when I went out, because I had so much Corsair time, I had nearly 2,000 hours in Corsair, so when I went out there, [they] were hurting for regulars in MAG-12, and so I got sent to MAG-12.

I didn't fight it too much. It was flying Corsairs again. I didn't fight it, because a fellow by the name of Don Garry, who I knew, who was quite senior to me, was in one of the jet squadrons as a major, and I was a major. He was the navigation officer in the squadron. They had 25 majors in the squadron.

I went out and immediately walked into the squadron and was [made] the S3, the operations officer. Well, I was really more willing to be operations officer of a Corsair squadron than I wanted to be a navigation officer of even a jet squadron. It was hurting me, because I wasn't getting any jet time.

I was the fifth Marine to ever fly a jet airplane when I was at Pax River. Surprising enough, in those days you couldn't fly a jet unless you had 15 or 20 hours of jet time. I had a heck of a time getting--when I left Pax River--of getting assigned for jet training. I was trained as a jet pilot to go to Korea.

The only way I got it was a fellow by the name of Barney McShane, who was a lieutenant colonel at the time, and was my monitor in headquarters, [he] had known that I had been at Pax River and that I was in the testing, and had flown jets. We flew two types of jets over there. We flew the FR-1, which was a combination prop and jet, and the YP-59, which was the first jet that was ever built in the United States.

I had flown both of those, but Joe Renner at the time was G3 of the 2nd Marine Aircraft Wing by that time at Cherry Point. Their rule was that you couldn't refresh in jets unless you had 40 hours in jets. Well, in all my test work I only had about 10 or 12 hours. That was all my jet time. I flew some 27 different kinds of airplanes in a year that I was at Pax River, but I couldn't get in.

Well, finally, Barney McShane gave me an MOS of "jet pilot" on my orders, and sent me to Cherry Point, and of course jet refresher. When Joe Renner, who I had worked for before, he always liked me, and he always called me "Tex" because I was from Texas. I went to pay my respects to him, and what are you doing up here, Tex? I said, "I've come down to refresh."

"Well, what are you refreshing?" I said, "Well, I been ordered to jet refresher." "You have? Where have you been flying jets?" I said at Patuxent. "How many hours have you got?" I had 12 or 15. "No way." I said, "Well, Colonel, all I know is, Headquarters Marine Corps, [put it on] my orders."

He got so mad. He picked up the phone, and he called Headquarters. Apparently he got Barney McShane on the phone and started chewing him out, you know. Barney said, "Well, now just wait a minute, Colonel. Wait a minute. I'll get the general and let him talk to you." Joe said, "No, no, I don't want to talk to him." Col McShane told him nobody can change that but the general.

Frank: That's the time when the Division of Aviation was doing its own personnel assignments. You brought up an interesting point about the phasing of experience, relating your experience of going out to Corsairs in Korea. The guys who were the hot shot pilots and trained for war in the thirties, by the time war came, they were too senior. So what you had was a brand new, fresh group of people, or relatively fresh, say pre-war by a couple of years, who were the fliers who rapidly became the squadron commanders and the group commanders in World War II.

Miller: Many of those fellows had six and seven squadrons as squadron commanders, captains as squadron commanders. In all the squadrons [the commanders] were either captains or majors in World War II. Group commanders were lieutenant colonels.

Frank: The same phasing?

Miller: As they went up, the rank of the squadron commander changed to lieutenant colonel. By the time they made lieutenant colonel--and then as majors they maybe had had

three or four squadrons as a major--by the time they got to lieutenant colonel they had changed the squadron CO's rank to lieutenant colonel, so they had three or four more squadrons.

In fact, one of my group COs, Bob Connelly--I was [his] XO in MAG-11 at Atsugi Japan, and I used to talk about "my squadron," and he would make fun of me. That's not your squadron. I said, "It's my squadron, just like all eight of those squadrons you commanded were yours." He had eight squadrons as a commander, as CO of a squadron.

The war had a tremendous impact on the level of command and the years of experience. It was amazing. I felt I went up very fast. I was a second lieutenant about seven months, was a first lieutenant, then in about nine months I made captain. I made captain in summer of 1944 in the Marshall Islands, Majuro. The linear list was coming up for promotions once a month.

It was ironical, because I was just a few numbers senior to Glenn, and I made captain in July I believe it was of 1944. Glenn didn't make captain until a year later.

Frank: Oh, really?

Miller: They stopped that month with promotions. Well, what had brought it on, we had had so many losses of naval aviators, Marine aviators, Guadalcanal and all that, the loss rate had been so high that to fill this vacuum they kept promoting into these skills that they had lost, to the ranks that they had lost.

About July of 1944 is when we finally caught up with it and the losses stabilized. That's why they quit putting out a list every month. [Then] it was once a quarter; I don't know, but I know that it was almost a year later before Glenn ever pinned on his captain's bars.

Frank: Well, what had happened in that time in 1944, the Marine Corps had a surplus of aviators, and a surplus of squadrons. They hadn't really changed the orientation from the Marines who were down in the South Pacific in the milk runs from Bougainville hitting with bombs and so on, to the Central Pacific operations I think.

It was quite a hump, as you are well aware in the post-World War II period where a lot of people had to lose their flight orders and take up another--

Miller: Well, in 1947, you see they readjusted the linear list.

Frank: In 1947 it was, right.

Miller: Now as I say, I made captain in July of 1944. I forget what month it was in 1947, but it was about August or September, they came back and I was put back, after three years of being a captain, put back to first lieutenant. I stayed a first lieutenant for about 11 months before they got all the paper work done. Then they put us back up to captain. I lost 7 days of pay out of that whole 11 months. So I got a big hunk of back pay.

My only problem was it hit me at a bad time, because that's when I had the little bout with what they thought was ulcers. It may have been partially, because I was under some strain of having lost the child, and then I was headed to China, and my wife was pregnant again, and I was leaving again right before she delivered. So things were in kind of turmoil.

Then my old World War II skipper, Pete Haines, had pulled me off the China detail. He was the operations officer at Ewa air station in 1947. I know I went over to call on him that night as we were passing through. We were going to leave two days later to go onto China. He wanted to know would I object if he interceded and went over to see if he could get me off the draft and come over to be one of his assistants.

At that time, a senior officer like him, he ought to know better, and I said, sure. I always enjoyed working for him. I had a great respect for Pete Haines. And he was successful. Well, my wife was sitting in California, and then we got her over there. I sent her over, and I couldn't find a place to put her, and I had to live in a hotel for two and a half months.

I was going broke, and at the time I went in and they put me in the hospital because of this, and I couldn't get my flight pay, and I had been sent back to first lieutenant. The world was coming to an end. I was running out of money, and things got pretty tough.

But like anything else, destiny, fate comes out someday in the end. We finally caught up about a year later and paid most of our bills when they paid me my back pay.

Batha: Sir, which unit were you going to go to China with?

Miller: There is no way of knowing.

Batha: You just went as a personnel draft?

Miller: Yes, you see in those days Headquarters assigned the Air, FMFPAC. Then the G1 at Air, FMFPAC decided the next level down. The next level decided the next level down. This is still a way that I think the Marine Corps is run. I don't like the idea of Headquarters Marine Corps doing all this assigning right down practically to where you go. I think that's a bad way to run it. If you are going to give the commanding general of Fleet Marine Force Pacific the right to run FMFPAC, he shouldn't have some staff officer in Headquarters Marine Corps deciding where the people that are assigned to him should go.

I have always felt this way, but we became kind of followers of the bigger services. The big services went this what I call inhuman route that you just handle by numbers. Headquarters Marine Corps assigns you to what you want to go to.

All I knew is that I had orders to the command, and I don't even recall now what the command was called. I think it was Gen McKittrick who had that command out there.

Frank: First Wing in China, flying out of Peking and Tsingtao.

Miller: Glenn was in 218. I rather assumed that because we had corresponded, that there was a possibility that Glenn was trying to pull some strings out there to get me assigned to 218 when I got out. As it was, I was cut off and stopped in Hawaii, and stayed a two-year tour there.

Frank: We're kind of anticipating ourselves here. We've still got to deal with Cherry Point.

Miller: Don't let me keep you. I'll try to get back. I'll be glad to go on for a little while longer.

Frank: Okay, fine.

Miller: I'd like to beat the traffic before it gets too big.

Frank: We probably could end right here.

Miller: Well, let's go on.

Frank: You were assistant group operations officer of MAG-91. This was purely a training set up?

Miller: Yes. I was pulled out of 914. A Capt Lindsey was the assistant to Maj Benjy Moore, who was the S3 for Joe Renner's group. Lindsey had finagled his way to be transferred to 911, which was going to be the first F7F base squadron. Well, he had to have a replacement, so I got pulled over to be Lindsey's replacement, which was assistant S3. Benjy Moore was the S3.

I had been there about two or three months when Benjy Moore suddenly got orders to China. The only other majors to take Benjy Moore's place were the squadron commanders. None of the squadron commanders wanted to give up having a squadron command to come over to be the group S3. They were really tugging. Renner couldn't get any one of them to volunteer for it.

So he called me up one day and he said, "Tex, think you could handle that S3 job if I just left you down there?" I said, "Colonel, with your backing, I'm sure we would get along fine. Don't worry about it." So I became the group S3 as a captain, because the majors didn't want the job. I never really didn't have any job.

I stayed there until orders came in for me to rotate me back overseas. That's when Renner said, "Tex, you can't do that to your wife." She was expecting. This was our second child. He knew that we had lost our first child, and I had never seen it, and now she is pregnant and she is about to deliver. He said, "You can't go back overseas. We're going to do something with you. We can't let you get on that draft."

So they called headquarters. He said, "How would you like to go up to Patuxent River for about three months on TAD? That will give you at least three more months in country." I said, "Colonel, that sounds fine to me. I love it at Pax River."

Glenn had been sent to Pax River.

End Tape 2/I, Side A

Begin Tape 2/I, Side B

Miller: Glenn had been sent to Pax River after he returned from overseas. I think he went to El Toro, but he didn't stay long, and then he came back to Pax River as a pilot. They were flying 24 hours a day there. They were flying 3 eight-hour shifts. They needed just pilots to go out and fly.

We went to 'service test'. Service test was a thing you put 400 hours on an airplane in 3 months. Boy, it was just grueling flying. It was good flying.

So when they called and said how would you like to go up to Patuxent for three months, well, I had talked to Glenn, and he thought the duty was grand up there. He was being sent to Cherry Point. I said fine. So they gave me orders to Pax River.

Well, I went up there supposedly for three months. Chick Quilter, Col Quilter was the senior Marine up there at that time, and he was there for a while, and then Jack Cram came along and relieved him. But at the end of every three months the senior Marine up there would head up to Washington and they would get my three months temporary duty extended. I stayed there almost a year on a TAD.

Frank: Did you have quarters there?

Miller: No, we found a summer home that was on what they call Tall Timbers, Maryland, right on the Potomac River, where it's about five to seven miles wide, down near Piney Point, right on the tip. There was a former Marine that was with the Internal Revenue up here that handled the industry Internal Revenue division who owned this summer home down there, and he rented it to me for \$65 a month.

It had three boats with it, and just a hell of a fine man. I wound up flying mostly at night on my project, because I wound up on the F7F, the Tigercat.

Frank: That was the night fighter. Was it the twin engine?

Miller: Twin engine.

Frank: I remember seeing them out in China when I was there.

Miller: I flew primarily at first on the F8F, the Bearcat, then, because down in MAG-11 when I was the Group 3, we had a squadron of F7s. We kept one F7 in headquarters for the group commander and all of us to fly, so I had flown quite a lot of time in the F7F. We got this special project, problems with the thing losing exhaust stacks. So I was over the project. Even as a temporary I was given the project as a project officer, which was kind of unusual.

So I became a project officer. So they used that as one of the reasons why they couldn't let me leave and I just went on and on and on as a project officer. So I wound up flying. In a sense, the other pilots for the most part were just like truck drivers or taxi drivers. They just flew on any project they were assigned to, to go fly an airplane for so many hours.

They gave you a card, and it told you what power to use. You would run full power for 10 minutes, and then you would cut back to normal rated power for 20 minutes, and that kind of thing.

But since most of the pilots that flew the F7 didn't have that much experience in them, and I could do my paper work just as well on the night shift as I could on the day, so I did all my flying at night. I flew generally from 12:00 a.m. until 8:00 a.m. Once in a while I would shift to the 8:00 p.m. to midnight shift.

While I was there though I had the opportunity as I said, to fly everything there, because in those days we didn't have any such thing as an NATOPS [Naval Air Training and Operational Procedure Standardization]. If you wanted to fly some guy's project, you would just say, hey Joe, how about me flying your airplane tomorrow, and they would say, fine, take my hop or take somebody else's hop. It was up to you to find out how this airplane worked.

I can remember when I first flew the YP59 [Airacomet], a fellow by the name of Bob Clark, who later became the skipper of the Blue Angels, had the project. I walked in and I said, "Bob, how about me flying the YP59 tomorrow?" "Sure, take my hop tomorrow morning at 10:00 a.m." I said, "Do you have any kind of handbook or anything?" He said, "Well, we don't have much. Let me see."

He pulled open a drawer, and he pulled out about 25 or 30 typewritten pages that had obviously been used many, many times and they weren't even stapled together or anything. He said, "This is about all I've got. You can take that. When you get ready to go, I'll go out and help you start it." So that's the kind of check-outs--you know and all that stuff.

I went on up to Pax River and stayed there. From there I was ordered to the Marine Corps Air Technical School as a student at Quantico, which was pretty much in line in what we had done in service test, because even though we were pilots, and even as a project officer you normally think that you wouldn't have time to do that, but we worked right with the mechanics on our airplane.

Gosh, I pulled spark plugs until I was black and blue in the face, sitting around on airplanes. We did probably a third of the work on the airplane. Normally, you had two airplanes in a project, so you could keep them going steadily, because if one was down, you were flying the other one. So we did an awful lot of maintenance on airplanes.

With that kind of a background, Headquarters Marine Corps decided apparently that we were good candidates for the Marine Corps Air Technical School at Quantico, which would teach us to be aircraft maintenance officers. There was a guy I was with at Pax River that became a lifelong friend, a fellow by the name of Walt Redmond.

Walt retired. He was the director of operations at El Toro, and was primarily involved with the White House and Nixon and all that. Walt was one of those rare birds that came in as a PFC through boot camp, worked himself up to corporal and sergeant. He finally got flight training. He came all the way out and finally made colonel and retired after over 30 years of service.

Walt and I were at Pax River together flying, and then we both were sent to Marine Corps Air Technical School as students. It was from there that I went to Korea. I was sent down to Edenton, North Carolina three months TAD to refresh, and that's when I got in trouble with Renner about my orders.

I went through jet refresher. I refreshed with Al Hollar's squadron, [VMF] 224. We were kind of bad news for them. They didn't like to see us. They thought they were headed for the Mediterranean and they just couldn't understand why they had to piddle around with a bunch of refresher students that were going to Korea at that time. We finally squeezed enough flight time out of it to get pretty well qualified.

Frank: Go back to Pax River and test pilot. Most people have the impression that you're up there, you've got a new plane. You're putting in a power dive. You're trying to break the sound barrier and all this sort of stuff from the movie of the same name.

Miller: Well, if you understand the rules of the military services, military pilots are not permitted for the most part, to perform maneuvers in aircraft for the first time. That is a part of what they pay contractor test pilots to do. They require test pilots to meet certain performance data points on the airplane before they will let military pilots fly.

What the people at Patuxent are basically doing is verifying to the satisfaction of the military that the contractor pilots' data and the information that the contractor said that the airplane will do and will perform.

So he does wind up doing some of these things. Now my tour there was in service test. Service test, at the time I was there, were five test units: flight test, tactical test, service test, electronics test, and ordnance test. The airplanes went through these five test units, each new airplane.

The flight test people were concerned primarily with flight handling, flying from a pure performance standpoint to specifications. Tactical test was kind of the verifying what it could do from a tactics situation, and performance against how it would perform against enemy airplanes. They even developed the kind of tactics that you would use with it.

Service test was primarily concerned with reliability and maintainability. Consequently, a lot of the pilots in service test were not necessarily school-trained test pilots. Of course at that day and time we didn't have a test pilot school. They were the most experienced aviators that they could find in the fleet that had a lot of flight time of various natures. People that they felt that had performed satisfactorily, that could fly, and could convert to different airplanes and this kind of thing.

Electronics test of course was measuring everything that had to do with electrical system in the airplane, to the radios and the communication and the navigation equipment. Whether the wires shorted when you changed things.

And armament test of course was firing the guns, and did the guns work. Did the bomb racks work? Were the bombs that they gave us the right kind of bombs? What kind of a co-efficient of drag did the bomb have, and that kind of thing.

Now while I was there, there was a Commnder Sherby, who was down at flight test, and was an aeronautical engineer, and was quite concerned because the Navy had no test pilot school to teach its people to be test pilots. So he started with a test pilot school under the Naval Air Test Center's admiral, Adm Hannigan, I believe his name was at that time, he started a school for test pilots.

It started out first with him going around during the week on certain days to these five test units. Guys would take off from their project work and come in and sit down for a couple of hours and listen to Sherby teach air dynamics.

So if you had a hot project and you just couldn't make it, you just didn't go, but those of us now that are still considered a part of the Test Pilot Association, the Navy Test Pilot Program, are known as the Class O.

Class O was when it was finally formalized into about a three-month school that they required people to attend, but it still was a kind of an informal thing. It didn't have a name. You went through this thing, and that is called Class O.

When it finally was formalized to the first class, well now they are numbered, Class 1, 2, 3, 4, all the way up. So if you hear of the test pilot group, I know Marion Carl and Jack Cram--there are not many of us left around. Al Holler I believe was in that group. Al Holler is just about on his last legs. I saw him in New Orleans, and he is dying of cancer.

Frank: That's where I saw him.

Miller: He's walking around with a cane. He was really dressed up, but his wife really had to take care of him. It's really kind of a shame. Al was joked through the years, because he never would let anybody look at his logbook. He was very jealous of it, yet he always

claimed he had flown a lot, but nobody could ever verify it. He was a very aggressive guy and did like to fly.

I think I've got a *Naval Aviation News* down at the house that has a list of all the first jet pilots in it. I forget what Marine was the first one. Marion Carl was--I don't believe he was the first one. It might have been a fellow by the name of Coleman. Cram I think was also third or fourth. I was number five of the Marines, the fifth Marine to ever fly a jet aircraft.

Batha: Where did General Leslie Brown fit in?

Miller: Les didn't come along into the jet program until some time later. He was into it in the Korean War. This was how we wound up on the Korean thing, with who was in jets and who wasn't. The first jet training squadron was at El Toro, Test Unit 1 or Training Unit 1; I forget the nomenclature of the squadron.

They had T-bird, Lockheeds. Those people were given jet training, who had never had any previous jet flying. They formed really the first squadron, which eventually wound up as [VMF] 311 and [VMF] 115. Those were people that had received their training through that formal [school]--somewhere in that thing is where Les Brown got into it, because he also got exchange duty with the Air Force somewhere in there. I have forgotten now. Les was one of the first Marines to fly combat in a jet airplane.

Batha: I think we listed him as the first to fly in combat.

Miller: Right, fly in combat.

Frank: When you were at Pax River, was the F7F the only project you worked on?

Miller: No, of course we did a lot of assisting. The F7F was my project. I was responsible for it. I flew as a pilot on a number of other projects. The first was the F8F, the Bearcat. The F7F, the F2G, which was the Corsair with the corn cob engine in it, the big Corsair. They only built nine of them.

I flew the BT2D, which is the A1 today. It was the AD5 or later the AD, but it was known as the BT2D in those days. I flew the XBTC, XBT2C, the YP59, the FR1. I could get my logbook and get all of them. I even flew the PB4Y2, which was a four-engine plane. I had flown some as a co-pilot in it, and they needed a pilot one-day, and they wanted to know if I would take it. I said, "If you send that good chief flight engineer along with me, I'll take it."

So we went out for about four and a half hours. But I've got my logbooks out here, and I can list all those for you. I have really never gone back and counted how many different kinds of airplanes.

Frank: I've got here: BT2D, F2G, G2F, BT2D, PB4Y, YP59, FR1.

Miller: BT2D?

Frank: BT2D.

Miller: Well, it should be BT2D also. It was gull wing, tricycle landing gear. It looked a little bit like a Corsair, except it was tricycle and gull wing, but it was a bomber. The cockpit was so big that the seat traveled sideways on a slide, so when you were landing aboard ship, you slid the seat over to the left so you could see down the side as you came around the left turn to land on the carrier. When you were in normal flight, well you slid back, and it stopped in the middle. It was a big, wide cockpit.

I took one of those down to Cherry Point one time to check on my pay record. I flew down and parked it. I went over to the pay record and came back, and I couldn't get within 50 feet of the airplane, there were so many people. They had never seen an airplane like that. It was really something. It was really kind of one of our dogs. We had almost finished all of our projects on it. Well, the Navy never bought it anymore. We just kind of used it as a catch all for flying here and there.

Frank: I heard that you were qualified in more aircraft than any other Marine aviator at one time. Is that possible?

Miller: I guess it could be. You know I never really took out after it. I probably have flown as many different kinds. What makes that possible is because I was in that business early. Today, for instance at Pax River, you would be lucky to fly two, maybe three airplanes at the most. In those days, we had so many different types. World War II was on, and boy we were pumping all kinds. They were going through there fast. Nobody gave a damn whether you could fly it or not. If you wanted to go fly it, you could go fly it.

The very fact that you had been assigned to Paxtent was you were qualified to do anything, which was kind of like a blank check. So I really wanted to fly a lot, and a lot of different aircraft, which I thoroughly enjoyed. Variety is the spice of life, and I really flew everything I could get into.

Frank: Including bombers, multi-engines?

Miller: Including everything. And all the way through, later on even when I left Patuxent, every time I would get somewhere--I know the first time I ever checked out in a PBJ or a B25 was down at Cherry Point. I did that through Colonel Rote at the time. He wanted to fly the F7F. When I was the group operations officer, the S3, I asked Col Renner, I said, "Col Rote sure would like to fly that. I would like to fly the B25, and he has got a B25. Is it okay with you if I let him fly the F7F and I'll go on the B25?" "Sure, anything you can work is all right with me."

Of course that's one of the reasons-- in flight time today--the guys that are going to have a lot of hours are going to be the transport guys. You won't find many people that-- although I have flown a lot of transport, you still won't find anybody hardly today other than transport [pilots] that has flown as much time as I have, because in those days the reciprocals, you flew longer.

You beefed up a trip to go somewhere and it took a hell of a lot more hours. You hop in a jet today, you go across the United States in five hours. Well if you took a Corsair, it would take you 15-20 hours. You just get a lot more time.

The old R5D (C54) Marine pilots, those guys got hundreds of hours more than the 707 pilot will get today, because gosh he is almost like a fighter used to be yesterday. So you don't get the opportunity to get large amounts of hours.

Even more restricted is the numbers of different kinds of airplanes. First, there are not that many different kinds, and today with the cost that is involved, the regulations, whether it be either in civilian or military, are so stiff as far as qualifications, you just don't have time.

Most people look at a person who is trying to fly three or four different kinds of airplanes as really being dangerous, because he gets mixed up from one to the other. So it's an altogether different ballgame. I have had people who may have looked it up that said that they think I have probably flown more different types of airplanes than most.

Frank: I count about 70 here.

Miller: That's about right. I don't think they are all on there. Some of the later ones, I don't know whether they got in. Is the C9 and I guess the T39 is in there? How about the YF17?

Frank: They are not in alphabetical order.

Miller: I'm sure the YF17 is probably on there. I flew that six months before I retired. I retired too quick to get into the F18, because the F18 hadn't been built.

Frank: T39 is the last one they have done here.

Miller: Do you have a C9?

Frank: No, sir, I don't see it.

Batha: Did you ever get a chance to fly the F15?

Miller: No, I didn't fly the F15. I would have done it. The one I was really working on with the Air Force was the SR71. I had it all set to go fly it, but Tom Stafford, who was my counterpart in the Air Force, up and retired ahead of schedule, and he was setting it up for me to out to Mt. Home, Idaho and fly it. I really wanted to fly it. That's the one burning desire, airplane.

The other burning one, which I got to fly was the Concord.

Frank: Oh, did you get a chance to fly that? Where?

Miller: I flew it in Bristol. I went over to Farnbough the year they gave me the John Curtis Award over there, and Rolls Royce let me fly it there.

Frank: Does that nose go up and down? It's articulated?

Miller: It's got two positions, and you've got a lever in the cockpit. On take off they leave it down, and then just as soon as they get airborne, they bring it up a notch. The way down is for the visibility, and because of the angle you are sitting in. Once you get in flight, well, you bring it up to the second one, which still doesn't cover up your near windshield. As you do most of your climb out and it tends to hold the nose pretty much into the main windstream, because you are still climbing at an angle.

Then when you get above .8--I forget the exact number now--about .8, .85 mach number, they raise it on up, because it really cuts down on the noise. It makes a hell of a racket when it is down.

Then of course you have got to get off the coast before you can accelerate, because of the sonic boom. But it flies an awful lot like a Phantom; just a big Phantom is all. It is easy to fly. It's a fantastically easy airplane to fly. You set the air speed. You dial in what air speed you want to fly at, and if you are coming in for a landing, you calculate your weight. Your flight engineer will do that for you. He looks at your fuel gauges and he tells you what your weight, then you look on a graph and it tells you the air speed you should be.

They didn't have an angle of attack indicator, but it will tell you what air speed you should be. They later put it in. You dial in. In my case it was 165 knots to the final. You

just dial in 165. You don't touch the throttle. The throttle sits there and works back and forth. You fly the flight path that you want to land at, and the automatic throttle maintains the speed you want.

Batha: That's the same approach of a [F]106 I think, 165.

Miller: It seems a little fast to me, because Phantoms, if you were real heavy coming back in, well you would hold 150, 155, somewhere in that vicinity. The Phantoms we had were light, 135, 140. So doesn't seem bad at all.

Concord is such an easy airplane to fly. If people ever got accustomed to traveling on it, they would never travel any other way. It's the only way to go to Europe. Good God, they flew my wife and I over and back on a Concord to get this award. Three hours and 25 minutes to London from Dulles. There is no such thing as jet lag. They serve you one meal, and it takes them that long to serve the meal. It is seven courses. They are picking up the dessert dishes as they are telling you fasten your safety belt, we're getting ready to start our let down.

Frank: That's the only way to go.

Miller: You fly so high. The thing that is still, with my wife, is she felt like she was an astronaut, because you look out the window, and the old earth is round underneath you. That was the one thing that impressed her more than anything, was the height, because we were flying at 68 and 70 thousand. The old earth is real round at that altitude. The only time I have seen it rounder was I did some flights in my squadron that I been pretty well acquainted with it, because I was involved in some of the tests of the record setting runs that we did in the early days on the Phantom. Some Navy friends of mine were doing the altitude run. I did the speed run on 500 kilometers.

So after I got the squadron, I went out a couple of times with my pressure suit on, and I made a high run and made it to about 90,000 and back you know. Boy, it gets dark up there, and you talk about the old earth, really, it's round up there.

It's kind of an eerie feeling. I'm sure you get used to it, as the astronauts do. But even on a bright, sunlight day, the higher you get, the darker it gets. The sun is shining, but it's dark all around it. There is no reflection. There is nothing to reflect the light. If you look down toward the earth, everything then is kind of milky. It's the reflection of the light against the molecules of humidity and air, and the reflection from the earth. The higher you get, the darker you get.

In the cockpit, it's dark inside the cockpit, except that which is directly in the direct ray of the sun. If you move over into a shadow, it is dark. It is kind of an unusual feeling.

Batha: What is the altitude there to be a qualified astronaut? Isn't it under 95,000?

Miller: No, I don't think so. I think it's higher than that.

Batha: There are Air Force test pilots that of course never went up in rockets.

Frank: We're getting a little away from the field. I think probably this is a good point to end, just before we'll talk about your maintenance course at Quantico next time.

Thank you very much.

End of Session I

PAGE INTENTIONALLY LEFT BLANK

Session II

Interviewee: Lieutenant General Thomas H. Miller, USMC, Retired
Interviewer: Mr. Benis M. Frank
Date: 22 January 1986
Place: Marine Corps Historical Center, Washington Navy Yard

Tape 1 has technical difficulties.

Begin Tape 2/II, Side A

Frank: The perception of the senior Marine aviation was [that he was almost a] Deputy CNO. He was very close in bed with naval aviation, and there was a lack of trust. The feeling that the Marine aviator would want to get in the wild, blue yonder. We have gotten away from that mission of support. It was difficult I think. It created some schisms; a schism between air and ground which existed for a long period of time.

Miller: I guess that time existed really when I was a junior officer. I saw more of the results of that interplay as a junior officer, rather than knowing the cause for it. So I had always felt that there were a couple or three things that caused the animosity that existed between the air and ground side.

First, which I didn't consider all bad; I think it's a professional jealousy, a pride of the one that you are in. I don't think that's all bad, because that means you're trying to be the best there is, and that is the way I had always looked at being a Marine aviator. I didn't think it was a better title either as an aviator or as a military man than to be a Marine, than to be a Marine aviator. So that just depicted the damned best there was. The other that was always were a couple of other administrative type things that tended to throw a wrench between us. One of course was the old flight pay.

Frank: Flight pay.

Miller: Which was a thorn in the side of a lot of people. If you pinned them down to the statistical business approach, what we made in flight pay was an insurance additional cost

that had to be carried. Another was in dollars spent would have been [for] family disruption because of loss of the head of the household.

They couldn't argue against it, but it just was a thorn in their side. I think that had a lot to do with some of the attitudes that the ground had toward the aviators. Again, the aviator had a tendency to feel that the ground looked down on him as a sub-Marine, not a full fledged Marine, and that it got to the point of beyond just plain competitive professionalism to a point that it would get [to] name calling at times.

I felt that in my earlier days as a captain. However, I have to say that my combat experience World War II and Korea and throughout Vietnam--four times I went to combat--my feeling was more all Marine officers were kind of like Boy Scout leaders among scouts. All those young Marines were like a troop of Boy Scouts.

Having been involved in the Scout program, I looked at each one of them with the same affection and feeling as I would my own son. Consequently, as a teen in the Marine Corps, the idea is to protect this young guy in doing a job that is a damn dangerous job when he is in combat. When you are in combat it is if not more dangerous than the flying side; it's equal to it. The only trouble is that flying danger tended to be level in peacetime, as well as in combat. It got a little tougher in combat.

So that pay business that carried through in time of war really is what finally brought on the combat pay. On top of it was the sense to bring that up a little bit more. I think really and truly a lot of it was good, to the effect that professional jealousy; it drove each side to try to prove to the other that they were the better Marine. There is nothing wrong with that.

Frank: No.

Miller: As long as you keep the thing in the proper perspective as to the total entity of a team. So I played football both in high school, college and in the Marine Corps. I played two years when I was Hawaii. I always looked at the Marine Corps as a football team. You've got your aviator or passing team, and you've got your tackles and your guards, and that the ground support, and they both support each other.

When you start back biting between you, you destroy the efficiency of the truly coordinated team that the Marine Corps must be, because they are fighting on a total

different concept on land warfare than anything the Army ever could. To this day, this is one of the most misunderstood aspects.

The Marine Corps is a fast moving, highly mobile, light if you want to call it, force. Now I don't consider it so light, because at most any time we can bring as much, if not more firepower on, with the combination of the air/ground team. We can bring more firepower on an enemy target than the Army can with all its artillery.

So the people speak of us as being light. It's our ground element that is relatively light, but with the combination of the air and ground. My thing is that we have the most potential force that there [is].

We fight a spot war. For instance in Korea we held lines. It was a very uncharacteristic mission for the Marine Corps, except the ones on landing. The rest of the war over there was very uncharacteristic of the mission of the Marine Corps.

The Marine Corps strikes and either builds up and expands and strikes again. The Army starts out with a big, long line and they just gradually rumble forward. The airplane requirements to support the two types of fighting are totally different. The people today still want to many times use for instance, the same kind of helicopters that the Army uses, because they buy so many. It is cheaper if we could just buy a few of the Army's.

But for instance, their helicopters are not interested in speed, because if it goes faster than a truck or a tank, it is too fast for them, because they move in a mass. The Marine Corps moves rapidly. It has to get in with a small force, get planted, and then get supported once it is there as an element of surprise. You can't do that using the kind of vehicles the Army uses. So this has been a terrible misconception.

Frank: Can we get a picture of us? We're putting out a new guide to the Center. We want to get the oral history interview. Can you get it from over there.

Miller: I don't know if you can get the wide angle or not. Do you want me to move over by you?

[Interruption in interview.]

Frank: We were talking about the schism, the problems, the conflicts between air and ground. John Chaisson, when he was PP&O [Plans, Policies and Operations at Headquarters, U.S. Marine Corps] gave a talk to the Ladies' Historical Advisory Committee, talking about various aspects, talking about funding. He said that the cost of aviation for the Marine Corps had come to the point where it exceeded everything else.

Miller: It well exceeds everything else.

Frank: That is going to create a real problem, and he wasn't quite sure how it was going to be handled. I guess that still exists, does it not? Even with the Blue Dollars.

Miller: I have high regard for Gen Chaisson, but that is a fairly characteristic understanding that is represented by most of our ground people in the Marine Corps. I want to coin that, because I don't think Gen Wilson even understood that until about his last two years as Commandant. Unfortunately, most of our Commandants don't understand that until the last maybe, year of being a Commandant.

To compare the cost of aviation to the cost of running the Marine Corps is like trying to compare apples and oranges. The reason I say that is there are many things in an automobile that cost a good proportion of the amount of the total cost, but let me put it in the way that I think is timely.

I believe Gen Wilson began to understand what you have talked about time and time again. The Marine Corps shouldn't compare the excess within itself of its particular forces for this reason, aviation is provided, support is provided to the Marines fortunately by Marines. Now if you took that money and you still give the Marine the air support, if you let Navy aviation do it, or you let the Air Force do it, the Navy air--and I say the word "Navy air," not naval air, but Navy Air to differentiate between Marine air and Navy air as the total of naval aviation.

Navy air and Air Force air are not funded today to support the Marine on the ground. That funding for aviation is in the Marine airplane, the Marine side of naval aviation.

Now if you say it's too expensive for the Marine Corps, then what you are saying is take that money from the Marine Corps and give it to Navy air or US Air Force, because it is

still going to take the same amount of money to provide the kind of support that the Marine on the ground wants. It is going to cost just the same.

So you are not de-sizing the Marine Corps of any dollars, because aviation costs get higher and higher and higher because Navy air is getting higher and higher. Air Force air is getting higher and higher, not relatively speaking to our total economy, because we are not even spending that portion of our national product for defense that we spent back even in earlier days. Even after World War II we spent a higher ratio of our national asset for defense than we are even today.

So the misconception that, it is getting too expensive for the Marine Corps, are you saying then--my question would be to those like Gen Chaisson--are you saying then that it is too expensive to give the Marine on the ground air support?

Frank: You're not going to take it away from them.

Miller: So then do you want to funnel the money to the Navy or to the Air Force that is now currently being put into the Marine aviation? So you know it is dangerous, because I don't think the Navy really wants the job. The Air Force would give its eye teeth to get rid of Marine aviation, because it will take the Marine back-up support away from the Navy, and it would give them the bucks that is currently in Marine aviation to put in their aviation justifying that we require this additional more of airplanes and equipment to support the Marine, that we are not funded for now.

So unfortunately, our ground generals--you couldn't expect them to, because I don't think that they have been in the environment to understand this--that when they argue that way, they are really slitting their own throat, because then the Marine Corps would be in the same position that Army is today.

You talk to the Army, and they will tell you [behind] a closed door, where it is not made public, that they can't get the Air Force to support them like they want to be. They are jealous of Marines because they have their own air, and they control it; that is, the Marine Corps controls its air.

So that is why I say--that's kind of a long-winded explanation, but that is why it's very dangerous to openly say that Marine air costs more than ground. Now I'm not currently

enough in the cost of all of this, but I would generally think that in the overall cost of the Marine Corps of air and ground, I don't think that you will find that air is any more expensive than ground. Let me tell you why.

The most expensive thing that the Marine Corps has is people. When you take the cost of people, the numbers, those that stay in, through retirement, and you program all those costs of manpower costs, throughout the cost of manpower for a given number of years, I think you are going to find that that total cost, plus weapon systems cost on the ground side will more than equal even the manpower and the cost of weapon systems in aviation. You have to crank in that total cost of a much bigger manpower base than aviation has on the ground side.

Frank: The problem then is not on the Marine Corps side, but on the side of Congress, who perceives this expense, and they are the ones who are going to have to fund it somehow.

Miller: Well, you see I have been in so many hearings on this is the reason I feel like I know it probably as well as anyone. Sen. [Barry] Goldwater was hammering on "four air forces." It said it is absurd this country has four air forces. And while as a very prominent member on the Cannon Subcommittee, the Tac Air Subcommittee and the Senate Armed Services Committee, he held a two-day hearing on four air forces, why?

The witnesses were Gen Hickman of the Air Force, Gen Depeau (?) of the Army, Adm Bill Houser of the Navy and myself for the Marine Corps. We were hammered at by the Senators on that subcommittee and their staff, for two solid days about four air forces.

Again, there was a slur on the part of Goldwater, who was speaking strictly of the fourth air force one. He was a very great Senator, but he is still oriented Air Force. He was hammering away at two of the services. He was hammering at the Marine aviation, and he was hammering at Army aviation.

First he said, Army's got more airplanes than the Air Force, or any other service. Here the Marine Corps, relatively a small ground force, and it has got more aviation for its small force than anybody. Why should it have that?

So we go into the nuts and bolts of the give and take of this whole thing. He was going on it as cost effective again. That damn term; I wish McNamara had never got into that. Everybody looks at it, what does it cost and what do you get?

The thing that finally convinced him--he didn't realize this either--under the questioning I was asked, why Marine air? I said, "Well, are you going to deny air support to Marines?" Oh, no, no. "Well," I said, "Hasn't our history shown that we have applied that air force to the requirements of the Marines that require, certainly in the earliest stages, a maximum amount of air support. As soon as that maximum amount is not required, we have always made Marine air available to assist any other service." He admitted that.

Does the Air Force have enough right now? If you did away with the budget for Marine air, can the Air Force support it? Gen. Hickman says, "we can't support them." We are only funded right now to support the Army requirements.

Well, how about Navy? You've got all those carriers and all those airplanes. Sir, with our mission, we are not currently funded to support those individual missions that are going to have to be flown for support of Marines. Now if you want us to do it, we'll be glad to do it, just give us the money.

So that means you take the money from the Marine pocket, and give it either to the Air Force or the Navy or split it. You don't have a damn thing, and there isn't any more aviation force in the world that is as accessible as the Marine Corps. They admitted that in the hearing.

I point out to Sen. Goldwater, I said, Senator, you name a place, a mission or a requirement that we have the airplanes to perform, at land, at sea, anywhere you want us to go, and we can go there, get there quicker and be set up to do it quicker than any other service. Now do you want to take that away from the total national capability? Are you going to give the Air Force a new mission, because they've got to have Navy carrier trained pilots in the Air Force? Are you going to split the mission?

Remember, Title 10 of the law in the Congress sets up how the Marine Corps is run. It says uni-service. That means that a single service, not divisible. So whatever the Congress gave us, you can't take apart.

Then you go in, and the Congress says that it's the only service that is specified in law how many divisions you will have. It says three regular divisions and one reserve. It

also says you will have three air wings to support those three divisions, and you will have one reserve air wing to support the reserve division. That's in law, uni-service.

Now to change that, that takes an act of Congress and approval by the President to change it. So when you consider those aspects, then I think that you will find that the Marine Corps is fortunate that the Congress had seen fit to establish them as a uni-service. That it has seen fit to give them the total amount of the wherewithal, the weapons to do a job in the broadest spectrum of any military force in the world.

It is small enough that the Marine Corps and the country shouldn't ever lose this capability. Every fighting outfit the world over is jealous of the US Marines just because of that.

Frank: Really?

Miller: Marines in England, they've got about five or six observer helicopters, the Navy helicopter squadrons. The Dutch Marines, they don't have anything like this. The Korean Marines, they don't have anything like this. The Thai Marines, nothing like this. There is no fighting outfit in the world that has an air and ground, combined capability that the US Marines have, and with the support of the Navy, air, ground and sea.

Frank: I think that pretty well answers it.

Miller: I'm sorry that I never really had an opportunity that Gen Chaisson fully recognized-- because he was truly a great general and a great friend.

Frank: Very good. I think this is a good place to stop. In our next session we will begin with the Naval War College. I'll get in touch with you when I get back in March.

Okay, General, thank you very much, sir.

End of Session II

Session III

Interviewee: Lieutenant General Thomas H. Miller

Interviewer: Mr. Benis Frank

Date: 19 June 1986

Place: Marine Corps Historical Center , Washington Navy Yard

Begin Tape 1/III, Side A

Miller: Of course, General McCutcheon sat on the board the year I was selected, I had to assume he did and then I later, when he became, got his third star and went to III MAF and relieved General [Herman] Nickerson, [Jr.] I was his chief of staff of III MAF and, of course, was with him most of his last months of active participation because when he came home, he was in the hospital ship, I know, when I was about ready to come home and he had been in and out of the hospital ship fairly often and consequently with him gone out of the office it put me in a kind of a tenuous position because I was a brigadier at the time and we had, of course, the Division commander, General Chuck Widdecke and General Al Armstrong was the Wing Commander. And I forget at that time who had ADC [assistant division commander (?)] but I was senior to him. But the two major commanders were both senior to me as the chief of staff, yet McCutcheon's off at the hospital ship and I was trying to run the staff at III MAF.

But McCutcheon made it so easy for me because I would visit him, oh, at least once or twice a day, and let him know what was going on because he was very upset that he couldn't be, but he, I tried to get him to delay my return to the States. My rotation time was coming up. General Bill Joslyn was being sent in to be my replacement. And I told him, you know, why didn't he just hold me some extra months and between Bill Joslyn and I, we could be sure that everything was being taken care of because it would be kind of hard on Bill to move in there as a chief of staff without any background and him in the hospital ship. And he just wouldn't hear of it.

In fact, he pulled, I guess Al Armstrong was senior to Widdecke or something, he pulled Armstrong up on a temporary basis while he was on the hospital ship [noise interference] III MAF [unintelligible] active in G-3 but I begged him to let me stay while he was incapacitated. [Unintelligible] I guess the doctors at that time, they [unintelligible] it was probably hopeless at that point because a month after I came back, he came back --

Frank: And then he died --

Miller: Very quickly thereafter. So he was such a great man and so highly respected by people who just had a very short amount of contact with him.

Frank: Oh, yes, he probably would have been the first aviation Commandant.

Miller: Could have been, I think was the only one because, I think the number one prerequisite for an aviator Commandant is that all the ground people have to agree.

Frank: Oh, sure.

Miller: Any time that an aviator goes in there who is not totally supported by the ground, it'd be a disaster.

Frank: Oh, yes, and I think almost the reverse is true for a ground Marine going in if he doesn't have the support of the aviation community.

Miller: Yes, well, I think that's true.

Frank: Maybe not as much but --

Miller: Yes, we've suffered through, the aviation side has suffered through some unreasonably biased Commandants. We were fortunate in some of the period of times to have some supremely strong admirals interested in aviation and in one case, and I was trying to recall who was the Commandant -- it may have been Shepherd -- that they were on the verge of doing away with the aviation side of the Marine Corps and the Chief of Naval Operations had a real battle -- and you may know more about this from history -- the Chief of Naval Operations took on the Commandant and just told him he couldn't and reminded of Title X which says that the Congress says there will be an aviation wing. And I don't want

to unfairly say Shepherd because I don't recall but it seems to me it was in that time frame. I was not involved in it in any way so I shouldn't even be talking about it.

Frank: I wasn't aware of that.

Miller: I've seen some of the correspondence that flowed back and forth between the Commandant and the Chief of Naval Operations. Of course the DCNO Air was doing most of the staff work for the CNO so the way I saw it, of course, was through my job as deputy DCNO Air or Marine Air. I saw a lot of this background correspondence and only because of that was I aware that this had ever transpired.

Frank: Is all this correspondence up in the office of the DCS Air, do you think, stashed away somewhere?

Miller: Most of the correspondence I saw on this was over in DCNO Air's office. And there was some of it in the DCS Air's office but most of it was, and where I really came onto it was by verbal, the aviation general, General [Christian F.] Schilt was right in the middle of it.

Frank: I spoke to Schilt but when I saw Schilt he was in the twilight of his mind. He was --

Miller: [General Vernon E.] Megee would, is Megee still sharp of mind?

Frank: Yes, but I've done Megee.

Miller: Have you? And that never came out?

Frank: It may have. It's been so long ago that I can't really --

Miller: Megee is about the last one I know, I was trying to think of the living aviation generals that would be, [Louis B.] Robertshaw might know of it but it was really more back,

well, General Toby Munn, of course, was well aware of it. General [Richard] Mangrum was well aware of it.

Frank: They're both gone.

Miller: They're all gone.

Frank: Do you think Robertshaw's a good candidate for an interview?

Miller: Robertshaw is getting to be, I'd have to go back and look at the names on the DCS Air side of the house, he's getting to be one of the people who I think are still sharp enough mind-wise to be able to relate some of the history.

Robertshaw was kind of an unusual person, a Naval Academy graduate.

Frank: Yes, big football player.

Miller: Very highly thought of in the Navy side. Certain factions within the Marine Corps, it was extremely high. On the other hand there were some factions in the Marine Corps that did not think highly of him. But he went, well, you know, he was Manpower. He was one of the aviators that made three stars and was Deputy Chief of Staff for Manpower.

Frank: That's right. He was up there.

Miller: So he would probably be a good candidate. And he's not far. He's at Annapolis.

Frank: Get me out of the office.

Miller: Yes, that's a good environment to go over there. But I imagine he could lend a lot, Al Armstrong knows a fair amount of it because he was aide to the CNO. I don't know whether-- have you done any work with him?

Frank: I did, we did interview Al Armstrong about Vietnam for the helicopter histories and helicopter operations. But I should get Al Armstrong about his whole career.

Miller: You should because --

Frank: And he's got a good, sharp mind.

Miller: Sharp? Oh, Al is plenty sharp and he's moving to California, you know, next year.

Frank: Well, I'll get him while he's here.

Miller: And, of course as you know, he's on the nominating committee of the --

Frank: Foundation, right.

Miller: So he should be readily available. He is breaking in, I think, Jack Grace, Col Jack Grace, is going to take over his job with the construction company that he has been, Al's been president of.

Frank: Amana, I think --

Miller: Yes, Amana Builders and you ought to get Al because of his job as aide, Marine aide to the Chief of Naval Operations. He would, could give you some very different insights that you're not going to find in anything written because of his sitting in with the CNO. And he, I guess it was Burke, must have been Arleigh Burke that he was Marine aide to.

Frank: Once I had Arleigh Burke in here with Sam --

Miller: But, you wouldn't get the Marine tinge to it that you'd get from Al.

Frank: No, but I had Arleigh in here with Don Decker and Sam Shaw to talk about his relationship with the Marine Corps and --

Miller: Fortunately Burke is a very strong supporter of the Marine Corps and always has been.

Frank: Oh, yes, a great guy.

Miller: Fabulous guy. You know I can't, at the age that he and his wife are and the social work that they do. I don't think I ever go to any of the big functions that, boy, he and his wife are there.

Frank: He's slowing down now though.

Miller: Well, he ought to. He'll burn his fuse out if he still tries to go too fast. Just like Chief Justice Burger. I think that was a smart move on his part.

Frank: He sounded very tired in that interview. Did you watch it last night?

Miller: Yes. Well, I really, you know, I think, I had a lot of guys that asked me how did I handle DCS-Air for four years. My only answer was that I had been in Washington two times before that and I learned how to pace myself here. I guess some things just couldn't worry me. And I didn't feel that I was going to go any further for a couple of reasons. I've always been one who probably said more vocally what I thought, but I lived based on anybody knowing which side of the fence I'm on, and I'm not going to change that even if that isn't the thing to do politically. Sorry, it's just the way it's going to be.

Frank: I can't see any other way of doing it.

Miller: Yes, [unintelligible]. It's, I was extremely delighted to stay my last four years and to work with Lou Wilson who I had come to know for the first time as a brigadier when he

was legislative liaison and I was a colonel. And Lou, of course, was always a very strong ground [Marine officer?], he'd seen a lot of combat in World War II --

Frank: Pardon me for a second --

Miller: I didn't realize we were taping --

Frank: Yes, what you were saying and of course, I'll put in now that we were talking initially about Gen Keith McCutcheon. And I will put my intro. This is tape Session III with General Miller and the date of the interview is 18 June. It's being conducted at the Marine Corps Historical Center. And we kind of anticipated ourselves but we were thinking about what we will talk about later when you did get up to that.

We are going to begin when you were a student at the Naval War College, and you went there in August of '57. And you were, I guess, a lieutenant colonel or major --

Miller: No, a major.

Frank: Major, okay. Now, you must have been a senior major because I don't think they were taking many majors.

Miller: Now the Navy War College had three courses there. They had Command and Staff which was kind of comparable to our MAIS [Marine Air-Infantry School] or Junior School, and then they had Warfare I which was senior commanders, or commanders I will say. A few of them were senior; most of them were in the middle. Then they had Warfare II which was their senior course which were all captains and a few very senior commanders.

Well, I went to Command and Staff. However, as time progressed I completed the Command and Staff course at Navy War College, did a tour in Washington and then I went to Senior School. And then after I went to Senior School I went to the Army War College as you will see on the record. So it was kind of an unusual thing. But I was a major.

Frank: I don't have the, you have Senior School and the MAG 15, I don't have --

Miller: Army War College was '65-'66.

Frank: Ah, yes, okay, fine. All right, good. All right. So we have the other things. Tell me about Naval War College days and your appraisal of it.

Miller: I found the Naval War College very refreshing in that it dealt at a level which surprised me. I figured that even the Command and Staff course was going to be heavily involved with tactical Navy operations and it really turned out to more of a study of international relations, almost tactical and strategic use of Naval forces. In other words, a much higher level than I had expected to come from Command [and Staff].

I was drawing some relationship by hearsay from people that had been through even Junior School and Senior School and whereas the Marine Corps was dwelling very much on unit tactics, units of, Senior School was working on regiment and division tactical operations.

Frank: Pardon me. They're not catching the phone.

[Brief interruption.]

Miller: Whereas the Navy War College dwells a lot on international law, in particular law of the sea, relations of nations with one another. We got into some operational problems such as underway replenishment requirements which had such a tremendous impact on the use of naval power that I considered it more than a tactical but almost a strategic learning process of what goes in to the operation of fleets. The interrelationship of naval forces of totally different characters; anti-submarine, anti-air, surface ship bombardment, this type of thing and found that there's really about four navies. And it was there that I began to realize that there really were four navies.

You had the submarine Navy. You had the destroyer Navy. You had the battleship Navy and you had the carrier Navy. And stacked on top of all this was the logistic side of the Navy. So there really were about five parts. But the parochialism were more centered around aviators.

It was obvious, where it really came to light was in the so-called ready room of the Navy War College. In the morning for breakfast or for coffee you would find all the aviators sitting over at the tables over here. You'd find the big ship, the cruiser and battleship boys all over here. You'd find the destroyer people all sitting over here and the submariners sitting over there. And that's when you began to realize the scope of naval operations is so much greater. It certainly equals the Army and Air Force combined in the scope of operational forces.

Frank: Well, I think the history of the Navy and naval officers, just by the very nature of naval operations, it's more internationally --

Miller: Well, then you add the Marines and then you add the land warfare thing on top of it, which includes air. Plus air over ground and over sea. So you really have, I think a distinct advantage as a military person. You get a much broader perspective of the use of military forces through the naval side than you do the other, particularly being a Marine where you get the Army view of things. Of course, I was, as I said, fortunate enough to go on and go through the Army War College as the top level school that I went to and it made me, even at that late a date it made me recognize how important the training I got at Command and Staff School at Navy War College, begin to come higher in value to me by what I learned in the schools later.

Frank: Going to schools such as this also permitted you to make acquaintances, meet people with whom you were going to deal with later on as you all became more senior.

Miller: I think that that is, you know, almost 50 percent of the value.

Frank: I think National War College, of course, is on a much higher level.

Miller: That's the same level as the Army War College.

Frank: Yes.

Miller: It's the same level, really, also, as the top school in Naval War College. They're all at the same level. There's National, Industrial, Navy War College, Army War College and Air Force College and those five are the five top senior schools.

Frank: Command and Staff College at Leavenworth is not considered on that level?

Miller: No, it is on the same level of Senior School at Quantico. It's also the same level of Command and Staff is at the Navy. I don't know, it's also at the same level as Armed Forces Staff College at Quantico. That's at a level below --

Frank: Norfolk.

Miller: Yes. There's only five senior ones and that's the ones I named; National, Industrial, Army, Navy and Air Force and that's the five top level schools. And once you've been to those, where my assignment was unique because I've never found anyone else in the Marine Corps that got this much schooling. It was probably because of somebody looking out after me in assignments because although I had the college credits for a degree, I was never in a position to have the residency requirement to get the degree. So they really fed me to the educational side of the military education program. So, if you are going backwards, I had top-level school as the Army War College as the very top and the statistics are still the greatest number of Marine generals today have been graduated from the Army War College. More so than the National or any of the other which is kind of unusual. I don't know that it has any significance but --

The two that were kind of doubled was the fact of going to Command and Staff at Navy War College and to Senior School. And to my knowledge there's been no one that went through the three. Now there have been some that went to what we used to call Junior School, Junior School and Senior School. There may have been some, not everybody in those days even got Junior School. And in some cases some of them didn't get Senior School. They skipped from Junior School and then rank-wise when they went to school they went to the National War College or something like that.

But I was one of the few that I've ever found and when I usually relate my background somebody says, boy, they must have worked you over education-wise. And I say, well, it was fine. I just finally decided though that if I ever had to write another thesis, because we had so much written work to do -- we had two papers in Command and Staff at the Naval War College that we had to produce; two 10,000 word pieces -- and then Senior School you could either write a paper, kind of a thesis-type of paper or you could do a staff study. I did a staff study for my written requirement.

And then the Army required a huge thesis-type paper. After I finished all that, you know, and I still didn't have an undergraduate or a degree from a college I said, you know, I am not sure I will ever go back to college just to get the degree because I've been worked over in the education program enough. If I can't make it on my own, I'll just quit.

Frank: What did you write your papers on at Naval War College?

Miller: Navy War College, the first paper I wrote was, let's see, one of them I wrote on the Hungarian Communist Revolution. The other one was just a paper on Communism, Communism and its thrust towards supremacy. That was my first one and the second one was the Hungarian situation.

Frank: That's right. You had the Hungarian Revolution at the time.

Miller: It was fairly close in time. It's been very valuable to me through the years, and I guess because of it I have looked at people like Senator [J. William] Fulbright, who was making his niche on Capitol Hill on all the things he was talking about, made me really believe that the Senator didn't know a hell of a lot about what he was talking about. It didn't delve into the depth of Communism, Marxism, Leninism and, of course, the first paper had to go into such depth into those Communist philosophies and doctrines that I find even to this day there are very few people that fully know the real Lenin and Marxist doctrine of Communism and how it has been maintained rigidly. And the Soviet Union has not deviated from it. And we could, if people would study Marx and Lenin and their philosophy you know what they're going to do. You don't ever, of course the American

public, they're so far away from ever, that kind of knowledge that they'll never and they just, because people that talk about Communism they are branded as people that are just, everything is wrong is placed --

Frank: They parrot it. Your next assignment-- I would say concluding Naval War College that it was a valuable year for you.

Miller: Oh, extremely.

Frank: Almost a sabbatical in a sense. Did it give you a different perspective of the Marine Corps?

Miller: Yes. Of course, it showed me very clearly where the Marine Corps fit in to naval forces and the importance of the Marine Corps. And I watched my Navy brothers take on a different perspective and a better understanding of what the Marine Corps was which was a good feeling for me. We had some Army people in the class, too, so following Navy War College and, of course, I came down here. I was originally slated to go on the JCS staff but for some reason, I don't know who changed my orders, whether it was Robertshaw or McCutcheon. Robertshaw was, no, wait a minute--as I came out of Navy War College, that was '58, yes, I came here. I came and was assigned to BUAER [Bureau of Aeronautics, Miller actually went to the Bureau of Naval Weapons].

Frank: Well, at that time was Division of Aviation doing its own personnel assignments still?

Miller: Pretty much because the majority of our assignments were based largely on technical experience or if you want to call it technical, aviation experience, and therefore it was very close coordination between the so-called Personnel Division of Headquarters -- that's what it was known as in the old days; it wasn't Manpower -- Personnel, they had action officers in Personnel that did all the assignment of aviation. [Bernard] Barney

McShane, for instance, who retired as a colonel, lives in the local area, he for a number of years was the aviation assignment officer of majors and up through lieutenant colonel.

Although the Personnel Division did it, all aviation assignments of majors and above individually were coordinated with a different chief of staff for air. The captains and below were coordinated with a staff section in aviation mainly because you had to have people that were familiar with the requirements of the jobs from an aviation standpoint versus the capabilities of the people that do, so, but I was sent down to BUAER and was first assigned to a logistics side.

See, my background had been, up until this point, the logistics side of aviation first as a test pilot in the early days at Patuxent River, then going back and going through the maintenance officer's school in my early career. And there was seldom anyone that really got past major that had had a maintenance background, and probably may have had something to do with me being passed over from major to lieutenant colonel.

Frank: Oh, you were?

Miller: It was a fairly large group of people and it really was at the beginning of the hump of World War II, a period, I was right at the front end of the hump but the hump lasted over year groups of about three years where we were taking in a large number of pilots during World War II --

Frank: Oh, yes, right.

Miller: -- and that is how the air and ground, I mean the air people got well ahead of the people on the ground in promotions. Then, of course, in 1947 the Marine Corps stopped everything and they put all the aviators back to comparable and fitted it in with the ground side of things.

Frank: And they stopped training aviators there for awhile.

Miller: Yes, yes, because they had a surplus of them after World War II in [unintelligible].

Frank: How'd you feel about the pass-over? Were you devastated?

Miller: I would say the first month I thought the world had come to an end for me.

Frank: You'd had a successful career up to that point, good assignments.

Miller: What I discovered is first the Marine Corps system of promotion, and this is after a year or two, works as fine as I know of any human system that we can put into operation because it might fail for some reason -- you can't say failure -- but the way the facts fall into place and the human element involved, that's the reason a man is really not considered passed-over until he's had his second one. Therefore I found that most of the inequities that [unintelligible] have been corrected on the second. If I guy gets a second pass-over, I've known a few that got even the second pass-over and then eventually came along, anyway, I was just devastated. But my philosophy had been, speak softly, don't get involved in controversy and do a good job at what you're doing. I found that even though I had done that, my fitness reports had, I couldn't have written them any better if I'd written them myself, but I was not known. Nobody even knew me.

And the people that sat on my boards were fine aviators, people like George Dooley, John L. Smith, Thrash, not Thrash, Barron(?). They did not know me at all and they sat on the board the year I was passed over. They didn't know me personally.

However, when I was passed over the Deputy Chief of Staff for Air was General [Toby] Munn at the time who did know me. He called me in and expressed his total shock and he assured me to keep on going like I'd been going, that he was sure that it would be, the record would be set right, and it was.

Frank: I guess you wouldn't have been human if you didn't compare yourself to those people who had been selected in aviation.

Miller: Oh, yes. I think that had a lot to do with my change in, the change in my approach to the Marine Corps, may it be good or bad, because I knew of one contemporary who was

known by everybody as nothing but a playboy; not much of a Marine but a hell of a good golfer and he always played golf with the generals. But as far as his use in the business side of the Marine Corps he was totally useless and it was a big joke to everybody. He made it. That, of course, came as a great blow to me.

I found that as much as your own ability was your actions to set yourself out by doing something that got people's attention as to who you were. And in some cases, which turned out to be successful, they were guys that were troublemakers or guys that were hell raisers. Let's say, they got drunk as a first lieutenant and tore up a bar somewhere but they were known. And they gave them credit for growing up so by the time they were coming up for major to lieutenant colonel people knew them and they had good records other than being just a kind of a hell raiser as a junior officer.

And that's one reason I've always been very liberal toward the young lieutenant that gets himself in some fairly serious trouble; sometimes those people mature even better than the other people.

But, from this, and I also found out, realized the human aspect in the board because through kind of a question I found out in those days the board didn't have all the fancy devices they have today to go through records so the only person that really saw your record was the guy that the record was passed out to brief. And I found out that I was briefed by a ground colonel that just was openly adamant against aviators. And he wasn't about to brief my case strong if he had somebody on the ground-side he wanted to make [it].

And I never held a grudge against him for that because I think that's very human. I would have said, you know, if it was close then I would say, but by seeing some of those who made it like the one I referred to, the other, who was an aviator, that was a golfer, that wasn't worth his weight in salt, that's where it hurt.

And the other deal that hurt was that I thought that my career was dead because it embarrassed me in front of my staff NCOs that I'd known, my enlisted people that had known me, other service people.

But I think what brought me out of that was the fact that, some of it, my contemporaries that were also passed over became extremely bitter and very vocal. It was almost nauseating to go to any kind of a social event, particularly where some of these guys

were boozing it up pretty heavily, and when they'd get some under their belt then they became very caustic toward the Marine Corps.

And I decided then if I wasn't man enough to take this on without letting it affect me then I really wasn't the person that should have been promoted to begin with. So, I kind of drove the other way. But I did learn that I had been, I had to make myself known to somebody. Not that I was trying to run around and brown nose people but that they had to know who I was.

Later on, of course, true, really without this particularly in mind, but more from the desire to fly -- which I was a, I'm a great flying lover, still am, never change, and my love for it in the Marine Corps and what it can do for the man on the ground is my drive in the Marine Corps; not for the love of aviation in the Marine Corps but for the love of the total Marine Corps -- I had an opportunity to fly a speed record. You know, it was a difference of night and day. After I flew that speed record which to me was not all that, I didn't think it required quite the superior airmanship that it was given credit for, but suddenly everybody knew me and guys were slapping me on the back and saying, how you doing, Tom? And hell, six months before they didn't even know who I was.

I guess I can say of any one thing that made me become known, and that verified what I found out when I got passed over that even though my fitness reports really didn't change, that it was being known for something. And that went on through my whole career, not on any really particular, I wasn't striving to set any big name for myself, I just, I guess I enjoyed a better reputation than [unintelligible]. I felt I could [unintelligible.]

Frank: Several things come to mind. Number 1, the fact that you knew who briefed your case and how he briefed it indicated that you had a friend on the board who spoke to you later about the situation.

Miller: Yes, I suppose. They didn't illegally divulge anything from the board. They didn't say who by name and I never knew who the individual was. I was told that it was a ground colonel that had briefed my case. Well, of course, it was seven to three on the board. That opens, I mean, that kept the confidentiality where it should be.

It was given to me more in the, by two or three different people, but more as, I think, in a kind of a guidance as to how I should pattern my career after that, to whether I could do anything for it. I had so much help from what I considered very high ranking people, people like General Munn, General [Arthur F.] Binney, I presume maybe even General Robertshaw, people who did know me and were surprised because they were aware of my capabilities and performance. I had as much combat time as most [unintelligible] aviators, had more flight time than most of the people. I was shy in direct relationships with the ground but because I had been in the maintenance side of the house I had apparently picked up that usual problem, and I think that still exists somewhat today, that people who come up through the maintenance side of the house don't get equal and fair treatment in promotions as they do from the so-called, the operations side. That is changing considerably, but I think all those things went into it, went into the pass-over. Looking back on it I think it was a message that served me well.

Frank: At one time in the Corps in the early days, of course, pre-World War II period, the Marine Corps was so small that an officer sitting on a selection board either would know the individual he was considering for selection or served with him or would know the reporting seniors and could make an evaluation. I think we've gotten away from that. Is that true or is it --

Miller: Well, you have to compare that. Of all the military services the Marine Corps still has more of the capability than any other service because of its size. Certainly we, with 200,000 people in the Marine Corps are close to [that], we still have a greater degree of personal knowledge or once-removed information. For instance, I never sat on a board of a case that I was presenting that I didn't do some leg work outside, if I didn't know the person individually, to find people who knew, had known through long association or considerable association with that person, be it the ground or air.

Frank: You can do that?

Miller: Oh, sure, sure. Board members are, they don't have to divulge that they are going to be the case briefer but they can say, "Say, Ben, I don't know Colonel Kompf over here very well. He's coming up for general. It looks like he has an interesting case. Do you know him?" And let him relate to it. You never stop with one person. You go to two or three.

And I think that [unintelligible] on the board, the brown side of the house has a much greater scope with seven people. Among those seven people, certainly in the majors and up was always going to be one to two or maybe three, and maybe even more than that who know the guy individually and know his reputation.

The aviator on the other hand is, not so much because of the vote swing, but because of the scope of the knowledge of only three people on the board, suffered because those three people on the board have a much more difficult time knowing from a personal thing and so its up to the aviator on the board to do an awful lot of this on aviators that he does not know.

Of course the way the boards operate today I don't feel that I would have ever been passed over because today with the so-called microfiche where every board member looks at every man's jacket, his fitness report and it isn't one guy looking at it and briefing it, it is everybody taking the microfiche and systematically going down through each individual's record.

Frank: They do? I wasn't aware of that.

Miller: Oh, yes, yes, and that is the thing, at least majors and above. I did not have the opportunity to ever sit on a captain's board and a first lieutenant's board but majors --

End Tape 1/III; Side A

Begin Tape 1/III; Side B

Frank: Apparently your experience in that first pass-over kind of shaped your philosophy as to your performance when sitting on selection boards, that you had to look at a larger picture than the guy who was briefing your case apparently did.

Miller: Well, I think it made me much more aware of the inequities that can enter into boards and it forced me to be very careful in my own decision process as to where an individual who was up for promotion, where he sat with the total group rather than the parochialism.

I do not know, I suppose if I knew, let's say, an aviator -- and let's take it up to the general officer selection like brigadier's board -- if I knew an aviator colonel and even though I did not know the ground colonel if you put their records side by side they were just even as they can be, because of my own personal knowledge of the aviation colonel I would probably, if I were forced to select between the two, I would take the aviator because I am more readily willing to put my reputation behind the selection of the aviator because I know him.

I think the same is true that if I had not known the aviator and had known the ground colonel, I think I would parochially have voted for the ground colonel because, again, I want to vote for a known substance rather than something that I do not know personally.

I have always tried more than anything in the world to, although I was an avid aviator, I think it is so important that aviation and ground are made a team and together and that we show as little parochialism in positions where you can be parochial about it. We have those unknown capabilities or those unknown traits of where we think what is best for the Marine Corps based on our own experience sometimes leads you to the parochial position.

Frank: Oh, yes.

Miller: But that is human and that is why the system works the way it does, which I think it does work very well. But I think it had a great change in my whole philosophy of the Marine Corps in that you had to make yourself known. You cannot sit quietly and do a great job and get any recognition. So, as they say, sometimes if you do not rattle your own chain once in a while you will be phased out--doing a great job but nobody knows anything about it.

Frank: It has been my impression, correct me if I am wrong, that the most difficult selection board to sit on is colonels to brigadier general.

Miller: Oh, yes, there is no question about it because, in my opinion, 75 to 80 percent of all colonels, in my opinion, Marine colonels, would make good brigadier generals.

Unfortunately, it is a, more of a prestige than anything else of being selected for general officer. And it is also one of the greatest blows in pride to a lot of very fine officers when they do not make general officer. And it was just kind of fate that led them to not make it.

And it is, becomes the first most difficult promotion, the hardest promotion to make because the odds are so small. I forget, some of the figures, as I recall, 17 percent selection. That is the lowest selection percentage that you get on any rank. And it is kind of a separation wall and I guess it kind of generates what we call in the civilian community, 'the old boy club.'

That is why you find general officer's becoming reasonably parochial as general officers as a group. They have made that major step over in rank and, of course, you know, we all tend to develop our friendships and everything with those who we have things in common with.

The other side of the packet is that I have always tried to remember that my association and personal and social relations with those colonels that never made it should not show any change at all just because I made general and they did not. I think that would be so obvious and would be very shortsighted.

Frank: There is a real problem here and I do not know what the answer is. I am sure this has been mulled over many, many times by many people for many years. That you have this high quality group of people who have really reached the apex of their careers when they reach colonel and here they are at an early age in their mid-fifties or early fifties.

Miller: Well, actually in their late forties.

Frank: Late forties.

Miller: Because 50 is the age that you, it gets more difficult to make general officer if you are going to be over 50.

Frank: Okay, but this period where they are of the most value to the organization, to the institution, and yet they are given a couple of more years to remain on active duty. What a sheer waste. And I know there must have been studies how to keep the system flowing because, geez, if you retain the colonels, you know, retain them until they reach 62, then the whole hump, the whole system is --

Miller: You would have such a bow wave that the second lieutenant would never get there.

Frank: Would never get there and, of course --

Miller: He would be 60 years old and he would be a captain, and that is what happened in the early days in the Corps.

Frank: Before the selection system.

Miller: Yes.

Frank: Where only a vacancy -- so what is the answer to that?

Miller: I do not think you want to change it. And, in fact, you have to look at the good side of it. Having sat before a couple of Congressional committees that got, dwelled on this, they drilled me on the thing. I sat before one of the budget committees which was the first time that a budget committee when it was established within the House of Representatives, they were not to speak or to hold hearings with military people. The budget committee was to guide the budget, the administrative handling of the budget within the Congress and they were not necessarily to go down into the ranks of the DOD.

But they held hearings and I was involved in one that got into the so-called, 'pyramiding of manpower skills' and [unintelligible]. The reason I got involved with it was

because of the technical skills that senior master sergeants and colonels and people like that have and it is such a valuable amount of experience, Congressmen were really taken off who did not have a realization and an understanding of the program and why it is established that way.

The good part about this is that it keeps younger minds, more aggressive minds. It keeps us from getting channeled into old and fixed ways of doing things. It places a challenge on a young man to equal his seniors, which in the Marine Corps has always been really the foundation of the motivation of Marines. He is more concerned with his reputation or his duty to his fellow Marine than he is to life. And consequently the failure of supporting his fellow Marine is the worst thing that can happen to a Marine.

Therefore the movement of this kind of experience out, I do not really think hurts the system. There is enough talent and depth. Some people, I guess it is in the general officer field, you have [unintelligible] enough of those people through the general officer field that it maintains the experience level to maintain that while you can rotate the people.

Some colonels as you well know, because a colonel, as a general rule, serves over 30 years, 30 years, and general officers are generally 35 or 36 years. I served 37 purely because I was asked to stay one more year before I retired.

Frank: Is there any way of preserving, setting aside this group of people by? For instance, one of the criticisms of the services has been that they have gone out to the beltway bandits, these think tanks where they have within their own means, within their own people the means to provide this type of advice. Can you set them aside? Can you make a special corps, an advance research group or something? But then the problem is it would upset the personnel picture.

Miller: Well, I understand what you are saying because the negative side of it is partly what they talk about in the JCS where they want to create a special JCS staff, a purple-suited experienced military officer. The danger of that thing is that group becomes so terribly powerful.

My experience in the NATO environment while I was NATO Amphibious Landing Force Commander, and dealing with some of the other services, one that comes to mind real

quickly is the Turkish general staff. And I have seen lieutenant colonels that wore the insignia of the general staff, which was a little red lapel, who carried more weight than a general officer of the line.

Frank: German general staff is --

Miller: Yes, that is dangerous and it is one thing that we have to be, and that is the reason that I would be adamant against anything that the Congress would do to create a JCS purple-suited staff.

Frank: That is what the reformers are looking for.

Miller: Oh, yes, they are trying, but they do not understand the dangers, that thing can happen because all you have to do is look around at the nations that have had it and look at the disasters that can --

Frank: Tell me, please, what you did for three years in the BUWEPS or BUAER [1958]?

Miller: Okay, I started out in BUAER (Bureau of Aeronautics) because I had previously been in the maintenance and so-called logistics side. The first job I was given in BUAER was allowances of materials for squadrons, and, of course, it was not just for the Marine Corps. It was Navy squadrons as well as Marine squadrons.

[Brief interruption.]

While I had that job that wrote the books that said how much each unit was allowed as a part of its TBA (Table of Basic Allowance). That lasted for about ten months and then because of my test pilot background Headquarters Marine Corps felt I would be more useful if I were put into an office that was dealing more with weapons systems and aircraft.

Glenn, John Glenn at that time had been on the Crusader desk. He had been a test pilot and he came to BUAER and was the, what we called the class desk for the F8U Crusader. When he got selected to become an astronaut they moved me over to fill his billet in that same office.

Now, I did not go on the F8U because of the gap of Glenn, when Glenn left [to] the astronaut program they immediately put a Naval officer to cover it, somebody that had been there and had been working as an assistant to him. When I went into the office I went on the F4H1 program, which turned out to be the F4 program. And I went in at a time that its program, its class desk officer was going to be leaving in about four or five months and that also at a time that they had decided that the F4 was going to be the airplane that the Marine Corps and the Navy were both going to be very, very interested in. They decided to double up the program class desk officer. I moved over into the so-called class desk arena and went then onto the technical development, what we call a research and development and design officer. The short name was class desk.

And I was put on the F4H1 for two reasons. The class desk who was currently there, a commander, was leaving and they had also decided they wanted both a Navy and a Marine on it. So that is when I moved into it.

[Tape continuity interruption.]

Frank: Talking about BUAER and you were talking about John Glenn being transferred and you took over.

Miller: And I went on the Phantom instead of the Crusader, yes.

Frank: What were some of the things that you would do? Supervise the production and --

Miller: No, it was primarily the technical design of the airplane. In other words, performance,--that we were going to get the kind of performance, that the instrument layout in the cockpit was appropriate. The size of the cockpit for the person, and me being a big person, for instance, I got a small Navy guy that was a very small size and we went out to St. Louis and we would work with the engineers until we got the cockpit where it was satisfactory to him and for me.

Frank: Well, I will tell you what, for the record, this would be, I think, it is interesting to me and I think, what is the chronology of the development of an --

Miller: Of an aircraft?

Frank: Of an aircraft.

Miller: Well, generally, it derives, in the olden days the contractor, the manufacturer, would come in with a proposal, early designs and saying, I can provide you an airplane that will do thus and so in performance and here is what it basically looks like. And then they would talk mission requirements, what kind of mission would it perform and what would it replace or where does it fit in the overall mission of Naval aviation?

Then it would kind of be an evolutionary process from that as to whether it was finally accepted for a project. We would build generally two or three of them. We would check to see that it did have the potential that the contractor said it would and from there we would go into the further development and the continuing development up until the point after we had inspected it, that the Board of Inspectional Survey at Patuxent River with test pilots would then decide whether to go into production to provide it for the fleet.

Frank: Who puts the up-front money?

Miller: Oh, the U.S. government does. Now, some of the contractors put large amounts of their own funds into the initial phases. In other words, to bring the proposal to the Navy Department and say we have an airplane that we can provide, it will do such. All that preliminary work, many times, was a gamble on the part of the contractor to say here is a product we can build for you. All the work of engineering that goes into that type work, which is considerable, they put up, the up-front money to bring it up to that point. And then if they were able to sell it from that point in time, then, the government starts paying the bill.

After then, in my case on the Phantom, I came on the project shortly after the airplane had flown. It had flown, the decision was pending as to whether we were going to buy the F4H1 or the F8U3, very competitive environment between LTV, [unintelligible] and McDonnell Douglas of St. Louis and the decision was finally made to go with the McDonnell bird rather than the advanced Crusader system.

At the time I came onto the program the F4H1 was a funded program and was going. Then the thing was to monitor its development as it went through the development process. Engineering, we would fly them, we would find problems. What do you fix? What don't you fix? Have you done thus and so to meet the spec? Show me.

So it was an evolutionary process that in the olden days, at the time that the F4H was built, the airplane in about a three-year time frame, one was built and first flew in May of 1958 and believe it or not, the first one went into the fleet in December of 1960.

Frank: In two years which is a very short time.

Miller: Today that period of time comes closer to between seven and ten years.

Frank: I was going to ask you that--from the initial concept to off the production line.

Miller: The initial concept in the Phantom, which really started out as an attack airplane, it was started out as an AH1 to fill the vacuum. McDonnell had built an airplane called an F-3H and it was a lemon and the Marine Corps never bought it. The Navy bought some.

But then the A4, it was just beginning and they didn't know how it was going to turn out and they were looking for, the Navy was looking for an airplane to deliver nuclear weapons. And they designed the, Rockwell, North American came in with the A3J which was an attack airplane. McDonnell came in with the AH1.

Well, it so happened at the time that we were becoming concerned with the Russian high altitude bomber.

Frank: The Badger?

Miller: Yes, and we didn't have an airplane that could even get up to it.

Frank: Oh, really?

Miller: So we were deeply concerned. We had the Skyray the old Douglas batwing airplane was the only airplane that could even get up to it. The rest of our fighters didn't have even an afterburner in those days and were useless above 40,000 feet. You just couldn't get them much above it. At least the Skyray, the F4D, later called the F6A under the McNamara terminology, was purchased as an interim airplane until we could develop a better fighter. By the time that McDonnell got the proposal of AH1 in and was pushing it, the Navy said, you know, really our emphasis right now is our concern about the Badger and the high altitude flying bomber and we do not have a fighter. And McDonnell says, well, you know, we can make this a fighter. Because of its potential that it has it will fit well into that; so actually the project slid over from AH1 to F4H1, the same airplane.

Frank: What kind of heights are we talking about?

Miller: Well we are talking an airplane that can zoom, we'll say, can fire a missile at something at 70,000 feet. So the airplane changed but it first flew, and it flew as the F4H1.

They had initially, were going to put rather small engines in it as an attack airplane. When it was determined that it was going to be a fighter and the speed was going to become a very important part of its [unintelligible] they were able to pick up the J79 which was a bigger engine, it had been developed for the Air Force, a very, very efficient engine.

Reliability was down some but since it was a multi-engine airplane they figured that the reliability of the engine would be not that critical because if you lost an engine you still had an engine to get home on. And so, as it turned out, the engine, over a period of time, the Navy's development of the engine, improving of it, made it one of the more reliable engines that has ever been in existence and one of the most efficient from a weight standpoint versus the thrust.

Anyway, the airplane then was accepted for the development phase and we carried it through the development phase. It went through the development phase quite satisfactorily proving that it could do, and, in fact, there was an article that I wrote in the Naval Aviation Museum Foundation magazine which told the story of my speed records in it which in the lead-up to it I explained how the Phantom became involved in all the records it set.

Frank: Do you remember what issue this was?

Miller: It was in the Fall 1985 issue.

Frank: Oh, it is a recent issue?

Miller: Yes, fairly recent, the early part of this year (1985).

Frank: All right.

Miller: Essentially saying that when we were shocked when the Russians put the Sputnik up, we suddenly found out how behind we were. Therefore in an attempt to try to recover our pride and our prestige as the leading aeronautical nation of the world we started looking around to see what we could do to boost that prestige again. Admiral Pirie who was the DCNO for Aviation recognized the potential of the Phantom. [In] recognizing that the Phantom had an opportunity to do this, then emphasized that the Navy would go after these records and show the potential that we could set these records. We started out with, first was a record for altitude. The pilot who started out, was Admiral [Donald D.] Engen, but he had to drop out of it because he got his first command billet, what we call deep selected for command.

Then Commander Larry Flint stepped in and carried on and set a record. Then I flew the next record which was the 500 kilometer closed course record.

Frank: When was that?

Miller: That was in 1960. And we bumped the record by over 400 knots better than the old record so it was significant. And that held up for about seven years before the Russians took it back. But then Commander [John] Davis set the 100-kilometer record. A Marine by the name of R.B. Robinson, a lieutenant colonel, set the straight-away speed record at something like 1,600 mph and that is the fastest speed record and I don't know how long that one lasted.

I have a book that has all nine records that the Phantom set here. There were three of us, three Marines involved in the records. I set the 500; R.B. Robinson set the 15 kilometers high-speed record and Lieutenant Colonel William McGraw set a time to climb, so many minutes to a certain altitude record.

But that is why the Phantom really came to its own, because I think from a military aspect it probably holds more world records than any other airplane ever built.

Frank: You raised a point, you were talking about change, you know, or adding things. Hasn't that been one of the problems, one of the criticisms that has been made in the cost of aircraft, the fact that you want to decorate it like a Christmas tree, that some people want it to do everything except cook and make love?

Miller: Yes, that is a problem and what the developer is faced with, or the man that's responsible for providing to our military personnel a weapon's system that will be superior to the enemy, you have people that constantly work on the superiority aspect. In the last 15 years, maybe you'd even say 20 years because if you look at aviation today, I look at my own time in aviation, there has been more development in aviation in my lifetime than any other person I can think of in lifetime span. I am not the only one but I mean people of my time because aviation has gone from just a little bit ahead of the Wright Brothers all the way up to where it is today, to space travel.

Military tactical aviation during that period of time was spurred or pushed on by World War II -- that is what caused the biggest advance, World War II -- and then the nuclear bomb created a thing because we needed aircraft that could transport and operate under the spread of forces where you could not let forces holed up together where a nuclear bomb could wipe out the whole bunch. And that is where the helicopter came into the Marine Corps.

Frank: Right, vertical envelopment.

Miller: Vertical envelopment because you, no longer could you think of ships standing off the coast and a bunch of boats going in because one nuclear bomb would wipe the whole thing out. So aviation became of age during that period of time.

Now to go back to the problem is that the people here in Washington, who are people that come from the field and the fleet in to develop these things, are constantly working to maintain what technology can provide, a step up on the enemy with its capability. So as you develop an airplane, as you go along, and in particular today it is even much worse; back in the days of the Phantom where we developed the Phantom in a period of three to four years, today we are talking about ten and twelve years. Well look how much technology improves over that span versus the --

Frank: Constant change over the period of time and you adjust.

Miller: And, you know, we have had a real revolution in the last five to ten years in solid-state electronics technology. It has been tremendous. The space program has brought it on because of lightweight requirements. The transistor development has just brought us into a whole complete world. Such thing as the tape recorder you've got there. My gosh, 20 years ago that thing would be as big as this desk.

Frank: Oh, sure, yes.

Miller: And the reliability. You know, it just works and works and works. It doesn't break. So you can't turn down that kind of progress. So the guy that is developing the weapons systems today, from the time he starts out with the thing, with technology, by the time he gets to the point where it's in the fleet, he has had such a change of technology he cannot afford to sit there and not put these improvements in it. So that's what he is faced with-- and the stretched out development theory.

And that's what Mr. McNamara and his group of cost analysts failed to recognize, that the system that they destroyed was, [its] big plus factor was that in all this time that you are fiddling around as to whether you are going to get the most for the buck and you're

trying to make decisions, technology is passing you by and consequently to stay up with it, well, you just keep adding costs and adding costs and adding costs.

If we'd have been allowed to continue the decision process that we'd had before where we didn't have big think tanks of people who are really, most of them, retired military people, you spoke of that earlier, but you use the talent that is, the military people that are on active duty to make a decision without pinning them to the wall on every detail of the reason for the decision.

You pay dearly for that in time if you try to go over here and let some outfit study it. And they study and they study and they charge you big hunks of money. In the meantime you got a bunch of engineers sitting in an aircraft plant that are sitting there and they work a day and then they wait for a decision for three days, then they work a day. Well, you are still paying them four days of pay. So three days is totally useless pay.

And that's what we're still doing to this day because these aircraft companies, they can't sit around and hire these engineers one day and fire them the next. You got to pay them. And if you're going to have any kind of talent they've got to. So the whole thing is still very distorted, because that was part of the process of the Packard Commission that the President, was recently put into commission to try to get a handle on what we did to ourselves between the early 60's and we'll say, today.

And, in my opinion, I think if we'd go back and start doing things the way we did in the 1960's without all this fancy cost analysis business, we were doing a hell of a lot better job then than we are today as far as what [noise interference] we're doing.

Frank: You referred to the plane as a weapon's system. I assume that by that you mean it's an integrated package, it's not merely a platform upon which a weapon system's installed.

Miller: Right, see the platform, the reason I referred to it as a system is because it singularly, either the systems within it or with its ground support mechanism, airfields, aircraft carriers, command and control communications, no weapons system can be addressed as a single system.

You can talk about the airplane. First, you can even break the airplane down because the Air Force has used the philosophy to get programs started that you build an airplane and

you build an engine so it doesn't cost too much. And then when they get it all built and get the program approved, then they start adding all the fancy stuff.

Frank: That is where the money --

Miller: But if you put it all, enfold it as a total system to begin with Congress will never approve it because it costs too much. But the McNamara concept was to bring all these weapons systems into a weapon system program and that is what drug out the decision because when the price is way up here everybody says, oh, let's look at that, that costs too much. So they sit around and spin their wheels for six, eight, ten months and finally make a decision on one part of it. Then you go down the pike and certain development is done and you've got to make a decision again.

Frank: Well, I think also, what was it, the F-14, he wanted to impose upon both the Army, the Air Force and the --

Miller: The F-111.

Frank: The F-111?

Miller: Called the TFX. He wanted to build one airplane and then make all the services use it. The trouble was, again --

Frank: Good idea.

Miller: Oh, it's idealistic but unrealistic because of the different environments. And unfortunately, because of his civilian knowledge and no military background and the people that he had advising him, such as Harold Brown, [who] had no military background either, did not understand Naval air operations versus Air Force. So they designed the airplane basically from the very beginning for the Air Force. Well, the Air Force doesn't want any more weight on the airplane than it can possibly get by with. Also, the Navy doesn't either

but there are certain things that if you are going to land an airplane on an aircraft carrier there is a certain amount of strength that has to be built into the airplane to survive them. Plus the engine, you can't use the same engine on an Air Force airplane as you use on the Navy. You pay a lot more for a Navy engine because the Navy engine has to breathe salt air and its corrosion. Therefore that engine in the Navy has to be treated for the salt air environment. The Air Force, they don't want to pay two and three times for an engine that is used in the Navy. The Air Force CH-53 helicopter, when they bought them, which are Marine helicopters, they had Navy engines in them and the Air Force said we can save millions of dollars if we put an Air Force engine in them. Well, they did. They bought the cheaper engine. When they went to the Cambodian operation, or not Cambodia, the Mayaguez Incident, they put Air Force CH-53s on an aircraft carrier and when they came off, every engine had to be overhauled. First, they took the blade fold out of these helicopters so they couldn't take the helicopter below deck. So they all sat up on the flight deck and the engines were all so corroded after two weeks at sea that they all had to be overhauled. And the extensive overhaul on all those engines to those airplanes was very costly. But that's the difference.

Well, McNamara didn't realize it. He designed the TFX for the Air Force and then says, Navy, you use it. Well, then they had to get a different contractor instead of General Dynamics who was building it for the Air Force, they had to get Grumman to go in with them and help redesign it and, well, the basic design was so bad to try to design around it to make it work on a carrier, that it added so much weight to it then. Because if you design that capability in from the beginning you can shed a lot of that weight, but it was so bad that the Navy could never operate it aboard ship. Well, it was costing the Navy a million dollars a day as long as McNamara made the Navy accept it. Well, Congress finally cut him off and threw the program out for the Navy much to his dislike. But Harold Brown is as much to blame for that problem as McNamara because he was the guy who wouldn't listen to the Navy people.

Frank: Well, it is not the place to do any conjecture. Just can't understand the mentality of those people.

Miller: Well, Senator Goldwater put it in some very eloquent terms when, I was in the hearings at the time on the F-18 and he related, he came as a witness before the Senate Appropriations Committee concerning the F-18 and he said, we certainly went down in history of the greatest mistake we've ever made when we built the TFX. And he said, when some of the Senators on the Appropriations Committee said, then why can't we design one airplane for both services, and he was relating the background of the TFX and F-111, and he said, God help us, let's don't ever make that kind of mistake again.

And I can remember Senator Goldwater was a strong supporter of the TFX and the F-111 which from the Air Force standpoint it wasn't half bad except even the modifications they had to put into it to accommodate the Navy, there were some accommodations that they never could get rid of, they were [unintelligible] in the airplane and it hurt it for the Air Force use and vice versa for the Navy, you really couldn't ever really use [them]. The F-111 never did turn out to be a very good airplane.

Frank: So that's out in the scrap heap out in, what's that, the graveyard --

Miller: That's about it. Of course they used them in the Libyan raids, you know, from England. But again, the airplane from a mission capability, except for its speed, it doesn't hold a candle to the Navy/Marine Corps A-6 as an all-weather attack airplane. The all-weather attack capability in the A-6 is twice as good as what is in the F-111 today and it's the only thing the Air Force has got as an all-weather bomber. You know, it just was a disaster from the beginning.

Frank: I imagine you could go on about the use of the F-111 in the attack on Libya and flying from England.

Miller: Well, I think the main decision for that was a political one --

Frank: Oh, absolutely.

Miller: And it was more to show the support of England for the United States than anything else.

Frank: Rather than a multi-service --

Miller: I think the multi-service had a factor in it but I think the President's decision, and this is purely my own conjecture because I don't have any [unintelligible] but I think it was weighted more to show the support because he had had so little help from the European nations and that England was the only one that came through and he wanted to highlight this to the world and [unintelligible] fact [unintelligible] England. It was tough on Margaret Thatcher but, I'll tell you, she's a fine lady and she's going to go for principle and she hung there and history will show her as a great leader, I think, in England. She's not afraid of a fight and she's not afraid of adversity within her own country. She's got a great feel for England.

Frank: Well, now, for the three years that you were at BUAER then you worked on that one plane.

Miller: The first year I was in supply [logistics]. I was on it about two years. I went there in '58. In '59 I went on the project and I stayed on that project until the summer of '61 when I went to senior school.

Frank: What about the economy of the use of manpower in such cases where here you accumulated a two-year knowledge of something and then you are cut off?

Miller: Well, I was not cut off and I think this is, the Marine Corps has consistently utilized [unintelligible] people first. We have to carry our load in the development of our aircraft. In other words, we have to pay the piper for our share of the work. We still don't pay the full share because the Navy pays the bill and we don't get a bill separate for the airplanes. Like Navy Laboratories that do all the work for all naval weapons systems. They do work

on Marine systems just like they're Navy and they don't send the Marine Corps a bill for them. That's one of the areas that the Marine Corps has a big plus --

End Tape 1/III, Side B

Begin Tape 2/III, Side A

Frank: This is tape 2, Session III with General Miller.

Miller: I believe it was General Greene that said that you get more bang for the buck. It was either General Shoup or General Greene, and I can't remember exactly which one, used to use the phrase that you get more bang for the buck in the Marine Corps, talking about the defense dollar, for what you got in defense capability. And one of the reasons we can say that is because we don't have to pay the full bill for Marine aviation. If we were paying the total bill the Marine Corps would be a pretty expensive outfit. On the other hand, it is a unique, small, special mission type of service which covers the full spectrum practically of military conflict so there would be discussion as to, you know, is it cost effective or not, but for that reason, you know, we get a lot of service out of the Navy [unintelligible].

Frank: That's an interesting point. I'd like to take it up with you a bit in the future because I remember, [he] made a point and I would like to maybe discuss, you might think about it, a real great conservative, he was, I guess, chief of staff for Navy, he had PP&O at that time, that the cost of Marine aviation was becoming real, he didn't say excessive, but very expensive.

Miller: Who said this?

Frank: John Chaisson.

Miller: Yes, I remember Chaisson. I would, you know, my opinion of General Chaisson is he was certainly one of the great Marines, however, unfortunately General Chaisson didn't have a complete understanding of how Marine aviation system was funded and operated. Plus he lacked knowledge and understanding of what the cost of aviation for the U.S. forces.

I will use an example, and I believe it was one in a meeting where I believe he was in where he was suggesting, you know, that why didn't we give a certain Marine aviation mission to the Navy, why didn't we let the Navy do it for us?

We at that time in our budget were getting so many dollars from the Congress to fulfill Title X requirements for Marine aviation. Well, he was suggesting we give part of that mission, and it was pointed out to him, and he admitted his lack of understanding, was that if the Marine Corps gave that away, then the Marine Corps in this particular instance -- and I don't remember the exact figures -- would lose, some 3,000 Marines would be shifted over and become sailors. The Marines would lose control of those airplanes because they would then be run by an admiral rather than a Marine general and [close air] support. His ground forces, Marine on the ground, would get less support because you would have to ask some other service to provide it for them. And that really what you had is you had a block of dollars, let's say, \$20 million that you would take away from the Marine Corps and give it to the Navy. So what were you accomplishing?

Well, he recognized that he hadn't considered that aspect of it. Many of our ground generals, and I think ones that because of their background and their careers have never been, by the time they get to be a general officer, they have never been in an environment where they understand the costing of aviation, regardless of what service its in, and how its supported. And they even know less about how we are supported by the Navy and part of our bill is paid by the Navy. And consequently there is a tendency to be, to look at it in a narrow view in comparing the cost of aviation to that of the ground force.

The ground force costs are predominately manpower, the cost of the manpower. Manpower, unfortunately, is the highest cost of anything. It costs far more than the weapons system costs because you have retirement and the whole bag. But when you look at the Marine ground weapons system you are talking about a rifle, so small in cost you can't hardly find it in the DOD files.

Even when you're talking about a million dollar tank today, the M1, we're talking about \$1.7 million now for a tank. That's, you know, it's mind boggling to people that never thought a tank would be over a million bucks. Well, we don't think anything now of an airplane being \$20 million apiece.

So there's a tendency to think little and you suddenly see here is aviation power and it costs \$200 million and yet you can fund the entire Marine Corps on half of that. For instance, my fuel bill with the 2d Marine Aircraft Wing ran over a \$1.5 million a day. The Division didn't spend a million dollars for its whole, everyday [unintelligible] operation in three months.

And, of course, so when people with the narrow understanding, you know, if you want it, you got to pay it. And if you don't want it, you have to pay somebody else to do it.

Frank: You're going to have to pay for it regardless.

Miller: You're going to have to pay for it one way or the other. So, and this is a problem, and it's always difficult to tell, certainly a Commandant, that, I'm sorry, Mr. Commandant, but you don't understand the problem. That's kind of hard to tell a four star that he doesn't understand the problem of Marine aviation, but most of them don't. I will say that General Wilson probably became more attuned to it after his first year as Commandant than any Commandant I know of. He learned faster.

And it's not that the aviators are trying to be parochial but a Marine is a Marine and if he's a Marine aviator he's doing his best to be the best Marine or the best aviator of any military service. And I think that I can say truthfully that the Marine aviators I know are more interested in the service that they provide for the Marine on the ground than any other aviation force.

The other aviation forces are more enamored with the accomplishment of the pure air mission. Whereas ours, the Marine aviation is more in being the fullback or the strong right end of a team. And if you don't have the team, then neither one of them are worth a tinker's dam.

Frank: Yes. Again a tangential question, did the initial conflict between (in aviation) [over] the number of helicopter frames and conventional type aircraft frames, that's all over and done with now? There's no conflict within the Marine aviation community as to the number of fighter and attack and all other aircraft versus the number of helicopter frames?

Miller: No, I don't think that there is and that hasn't been for a long time. There's a natural tendency here in Washington when you're fighting over the bucks for one side to pull against the other. Basically, aviation's requirements, as I know them, even before I became the Deputy Chief of Staff to Air was very much a balanced requirement as to fulfilling the mission that was required. And both sides took cuts.

The parochialism, of course, as you become the Deputy Chief of Staff for Air, or in my job there as a colonel as the head of Air Weapons Systems Requirements, my responsibility was not divided. I was equally charged with the responsibility of providing the helicopters as well as the fixed wing. I had to look at the requirements of both. And if you tend to look at it one-sidedly and if you have been brought up in the helicopter community, fortunately I started back and was a test pilot in [unintelligible], I was one of the earlier helicopter pilots, too. Although I never was in a tactical helicopter, I was in the test business and I recognize the importance of the helicopter to the Marine Corps, so I found myself, what I felt, was very balanced as to what had to go to, because there were certain missions that the helicopter was the only flying machine that could handle it.

There is a tendency for the fighters [pilots], and this really comes at an early rank -- and it's not all bad --

Frank: Competition.

Miller: It's pride and competitiveness. And the fighter pilot thinks he's the most important and he thinks he's the best. Well, we have enjoyed much different than even, the Air Force may have developed it but, again, they're such a big service that you don't have, we are in so much better case than the Navy has ever been because our helicopter pilots no longer consider themselves as --

Frank: Second class.

Miller: Second class, and, in fact, if a fighter pilot shows up in the bar [unintelligible], he'll almost get drummed out because these helicopter guys say, we're, in the Marine Corps we're the best. And that's good. You have to have that esprit even down to your own skills.

But I think that the Marine Corps, looking back over it I am very proud of it. I think they're the most balanced aviation outfit.

Unfortunately naval aviation, Navy aviation -- I have to be careful because we are both naval aviation -- but Navy aviation is still extremely heavily loaded on the carrier side. Their helicopter people still are almost considered second-class citizens and the poor guy that drives the P-3 ASW (anti-submarine warfare) airplane, he's about third class down. So they've got a --

Frank: Well, look at this new movie that just came out on the --

Miller: Oh, yes, Top Gun.

Frank: Top Gun.

Miller: Oh, boy, you can tell, these fighter guys, they think that's the greatest movie that's ever been.

Frank: Oh, yes, I talked to, one of the guys that was in the movie talked to our Rotary Club who was an instructor there and was, flew in the black thing and he was talking about it. But, you know, it's interesting to dwell on this, different aspects, different occupations. Think of the Army Air Corps, the top, the supremo in the Army Air Corps was the bomber pre-war. I mean, the fighter pilot was nothing.

Miller: Then World War II came along and then the fighter guy suddenly went to the top because the bombers couldn't do anything unless the fighter was there with him. So, you know, it vacillates around, but I think what I see today, and the way you look at it is, you go down to Pensacola and you look at the young man that's coming into aviation. They have a lot of preconceived ideas as to which is best and which way they want to go.

The thing that makes me feel good is that we've got as many folks reporting to Pensacola wanting to be helicopter people as we do that want to be the F-18 pilot or the Harrier pilot, or even we've got many that want to fly in the transport, because years ago the

transport was the slow, monotonous job. With the C-130s, when they came along and you put in-flight refueling, you gave them jet engines, you gave them high performance compared to what they had been, then they became a bigger and more proud community.

As I look across the board today, you even have the parochialism within the helicopter community. You have the fighter or Cobras and then you have the troop carrier, CH-46 and then you have the heavy lift guy.

Frank: 53 guy.

Miller: I think that kind of esprit is what drives perfection and pride. We have a big difference, even in the fixed wing community, between the fighter guy and the Harrier guy, you know, and the all-weather attack A-6, the photo and electronic warfare mission and the competitiveness within.

And it's gotten so to the point now that the helicopter and the fixed wingers don't fight much. They just both agree that they're the best. But you still have that competitive pride within that particular community.

I think it's extremely good and as I look at it from the past, comparatively speaking, the Marine Corps just couldn't be in better condition than it is today.

Frank: When you left BUAER were you ready to go? Had you had three full years of, I'm sure, long days, a lot of --

Miller: A lot of travel.

Frank: A lot of travel.

Miller: Used to spend every other week in St. Louis at the plant. I learned a tremendous amount in that and I learned both politically, because we were called up to Capitol Hill for the first time to be as a backup witness or to even go into some of the subcommittees and answer questions, technical questions. The politics between the Navy and Marine Corps, the funding, the green dollar, the blue dollar and the blue-green dollar as we talk about it,

you've got dollars, like Marine Corps R&D dollars are chopped out of the original grant from the Congress and moved over to green dollars. The pay, the subsistence and supporting of manpower is the green dollar contributed by Congress. So you've got two kinds there.

Then you come along with aviation and you've got the blue-green dollar. It's got a blue tinge to it but it's justified on a green requirement and the Navy pays the bill because Congress tells them to pay the bill. That's the part that so many of our ground people don't understand, because it is kind of complex and there are far less civilians, and that's one of the reasons that so many civilians today don't even know anything about the aviation side of the Marine Corps.

Frank: I think this may be a good time to start, but talking about the blue/green dollar, I wanted, we are going to talk about Senior School and when we get into the period of General Greene's commandancy, when General Greene got control of some blue dollar money for fuel, it just came to mind. I think it was the --

Miller: Bases, he took over the airfields.

Frank: Okay, and we can talk about that, but we can go on to Senior School. I'm in no rush.

Miller: It's up to you. My time is yours.

[Tape interruption.]

Frank: Talking about a very busy three years at BUAER and on to Senior School in August of 1961. Of course, you'd been by this time, you got picked up the next year for lieutenant colonel.

Miller: Yes, I was picked up immediately the next year and in very short order, except for probably 15 or 20 aviators, I really didn't lose much in rank on the miss. And, of course, as I look back on it, most of the guys that got ahead of me on that particular pass-over didn't stay very long so they were all gone. So, in reality, I didn't lose any as far as rank or seniority was concerned. That was of little importance anyway, but I am just saying that

over a period of time, other than the shock that it gave me as to my own manner of operation within the Marine Corps, which probably turned out to be a plus for me in the end, that was, it was more of a learning curve for me than detrimental.

Frank: Pardon me, Ross, you were in before --

[Tape interruption.]

Major: Nice seeing you, General.

Miller: Nice to have met you, Major. Good luck to you.

Major: Thank you, Sir.

Frank: About this time in your career, or maybe earlier, were the airlines beckoning you? You know, you had to make a decision --

Miller: I made my decision earlier and probably was [unintelligible]. My wife's uncle was, at about the end of World War II, was the chief personnel officer at United Airlines.

Frank: Oh, well you had a --

Miller: So, you know, from a feeling of having some preferential treatment for entering, I was, at the time, had come back from World War II, I put in for a regular commission in the Pacific while I was out there.

Frank: I remember.

Miller: Glenn and I both put in at the same time for this. And then I came back and I was at Patuxent River as a test pilot when I got my acceptance as a regular commission. Before I signed that I had been going through all kinds of ramifications, did I want to get out of the Corps? I had been an amateur radio operator. I gave consideration to going into the Federal

Communications Commission or the CAA, which is now the FAA, Civilian Aviation Authority then, and the airlines. Those were my three.

I figured I, because, again, I didn't have the college degree, although I had all my business administration and I was going into law. In fact, I was in law when the war came about. Essentially I had a degree in intelligence of business administration. I just didn't have the sheepskin for it. And I was trying to decide what my career was going to be.

I investigated and I found that the top non-political job in both the CAA and the FCC were making very little more than I was making as a captain. And, you know, why quit as a captain and go into those jobs with a reduced salary and then work for another 15 to 16 years to get up to the salary I was already getting then? That was the money side of it.

Plus, I had enjoyed the Marine Corps. I like the camaraderie, the integrity, and I stress the word, integrity, that you get in the Marine Corps versus what you find in the civilian community.

And then I wrote my uncle about what he would recommend. He had been in the Army Air Corps and had gotten out. And he wrote back to me and he said, Tom, if you like - if you thoroughly like military aviation, and if you like aviation as much as you expressed in your letter, he said, my advice to you is that you will not like commercial aviation, airline flying. He says, it is a very regimented type of flying. People tell you what speeds you will fly. They will tell you how to fly the airplane. But if you like to fly the airplane independently, making your own decisions, then you won't like commercial aviation. So, I made my decision then and when I signed my papers to go active duty I committed myself at that time to a career in the Marine Corps, as long as the Marine Corps would continue to have me.

I figured that if I could definitely make major then I was guaranteed a retirement and at that time I was a captain and had, let's see, I had about five years of service. So, if, I figured I could get a guarantee of 20 years of service, that, at least, I would be flexible enough to then make another decision as to what my career would be. So I never even had, and I agree, looking back on it, he certainly guided me well because I don't think in my early days as a young aviator that I would have been happy flying for a commercial airline.

As you get older and you reach the stage of 45 and 50, and from a family separation, from the amount of cash or bucks you get paid and the kind of retirement system they have, believe me, it's very, very inviting.

Frank: Oh, I'm sure it must be.

Miller: Family separation is the big incentive.

Frank: Quantico, Senior School, was that a good year?

Miller: Good year, extremely good year. It probably, in some sense, from an educational standpoint it seemed at the time kind of a step backwards whereas part of going to the Command and Staff School at Naval War College where we dealt a little more in international relations, when we went to Senior School we started talking about tank battalions and infantry regiments and things like this. That was good, certainly for me as an aviator because it did bring me back more to the Marine Corps itself.

Frank: You'd been out of the Marine Corps for four years.

Miller: Essentially, yes.

Frank: 1957 to 1961.

Miller: And that did have a, you know, with the leveling process or rounding out process of it. I think, again, it developed friendships even within the Marine ground side of the house because up until that point I think I knew far more Navy aviators than I did Marine ground. So, by that nature it was good. It didn't seem overly sophisticated to me, the complexity of ground tactics compared with the complexity of air tactics. It didn't seem that that was, it took a great [unintelligible] to learn it. I'm sure that I would be questioned seriously as to whether I would be fit to [unintelligible] and run a ground outfit because of that short type of learning period. And I recognize that.

But that was a good year for me. And to go back to an earlier question you made about my term with the Navy and BUAER, the Marine Corps has utilized my experience on the Phantom then by making me one of the first squadron commanders of the Phantom when we left Senior School. And the Marine Corps does this quite regularly. People that are in the development phase of a weapons system then leave and go out and serve as commanding officers of units [unintelligible] weapons system.

Frank: You were S-3 after Senior School, [unintelligible] 15(?) for about four or five months and then took over VMF (AW)-513.

Miller: That's correct. And I formed it. It was the first Marine Corps Phantom squadron that accepted flight school graduates. They came right out of flight school. Brand new second lieutenants that came in to fly the Phantom. I was asked by the commanding general out there did I have to form a squadron of prima donnas or could I, using the word, prima donna to say only experienced pilots for the Phantom, or could I take second lieutenants coming out of flight school, recognizing we always have a problem when we start out with a new weapons system. Particularly in those days because the training type airplanes were so far below the, required such, less skill compared to the actual tactical airplanes that we were always concerned about shoving a new flight school graduate into an airplane like that.

I agreed. I told him that I could if they would let me build my syllabus in the Skyray. When I took over the squadron all it had was F-6As, the Douglas Skyray. It was a squadron that had returned from Japan. And I said, at that time each squadron had a certain flight syllabus of things you had to do to qualify in that airplane, and I said, if you'll let me throw that syllabus out the window and let me write my own syllabus on the Skyray to train these people, to get them ready to fly the Phantom, I can take these second lieutenants.

And they gave me that. General [Frederick E.] Leek and General [Marion L.] Dawson, I was trying to think, one other, anyway, the cooperation that they gave me in doing that enabled me to take, more than half of my pilots were brand new second lieutenants out of flight school and I was the third squadron of Phantoms, the second West Coast squadron.

Frank: That was a real gamble, though wasn't it, taking --

Miller: Yes, it was [unintelligible] but it proved its worth and we went over the hump without any problem. And I think our performance equaled any of the other three squadrons. The only two pilots that were lost in the Phantom, the only two crewmembers, I should say, because it was a pilot and the NFO, the only crew that we lost were not killed in the Phantom. They were killed riding in a C-130 when it crashed in Hong Kong. They were on a rest leave from Vietnam.

But a Colonel Stewart took 513 from me and took it over. I became [the commanding officer] went overseas and loved it. I became the group executive officer of MAG-11 at Atsugi and my old squadron came and reported in to that group when it came overseas. So I essentially was still with the squadron and naturally followed them very closely because I knew all the enlisted people in it. I knew all the pilots. And Bill McGraw, who was a close friend of mine, had the first East Coast squadron, he was the first man in the squadron to go into Vietnam. But they were essentially mostly people with, Keith Smith was a member of that squadron. They were more experienced personnel than in 513. The 513, you know, from a job performance and you can look at the fatality rate, accidents --

[Noise interference.]

Frank: Tell me again, for the record. I am sure there is material but, you know, people will be interested in reading this, what is a syllabus, what kind of syllabus did you have for this brand new flight school graduates, second lieutenants, coming into an operational squadron? How would you break them in. You don't, a guy doesn't sit there in the cockpit, look around at the instruments and kind of figure and then bring the hood [canopy?] down and --

Miller: It's the kind of flying and ground training that you utilize if they were going to go to war in the F-6A, the Douglas, the old airplane, then you would use a syllabus that was projecting, for instance, weapons delivery like bombs on the target, shooting another airplane down in the air. You would go into that phase along with the others.

There was no point in spending time doing that with the Skyray because the whole concept of both ground weapons delivery and air weapons delivery were so different in the

Phantom that it would have been a waste of time to do that on the Skyray and then try to repeat it. My request centered primarily around learning to fly a relatively high performance airplane. Now the Skyray was a considerably higher performance airplane than what they had flown in flight school. So they had their hands full in their first flying. They were flying a bigger, bigger engine, faster airplane. My emphasis was to teach them to fly the airplane that was heavier, faster.

I insisted on instrument flying because as an all-weather fighter squadron --

Frank: You had to know instruments.

Miller: -- you had to know, and you shouldn't be worried about flying in bad weather. So I concentrated on flying the airplane, teaching them to fly the carrier approach, like they were landing on a carrier. I made my pilots fly that Skyray, fly as if they were landing on an aircraft carrier every time, even though they were landing at El Toro. And I made them shoot instrument approaches even when the weather was beautiful.

And if they didn't shoot a good approach they had to wave off, like it was bad, where they were going to go to another field and refuel the [unintelligible] and turn back, just to emphasize to them the importance in their [unintelligible] of what they were going to have to do when they got to the Phantom.

Rather than wasting the total balance time of fuel and time, of concentrating on other aspects of training until we got the Phantom, the first thing I wanted to do was to be able to transition from the heavy airplane of the Skyray to the Phantom which was even a bigger airplane. And not trying to get into such things as weapons delivery and all this kind of thing until they had done that. So that worked out from that case so much better and with less cost of fuel and cost of time for training.

Frank: Well, a guy gets out of flight school. He's coming to the Skyray. He sits in the cockpit. Is it that different to, it's like driving a car, I mean, you can go from --

Miller: No, it's not like that.

Frank: No, but I'm saying in the case of driving a car, if you know how to drive a stick shift or you go from --

Miller: It is considerably more complicated than that in the fact that the systems that run the airplane, the things that make the wheels go up and down, the system, the electrical system, you can --

Frank: Oxygen system.

Miller: Oxygen system, you've got so many systems internally within the airplane, communications system, and you have to prepare a pilot how to operate that thing under various states of failure of equipment. So you constantly, the first thing you do is you send him to a ground school which usually lasts anywhere from ten days to two weeks on the whole airplane. He sits on the ground and they explain and they have charts and they have models that work in the classroom of how the flaps go up and down and how the brakes work --

Frank: Who has made those models, the aircraft company or does the Navy model --

Miller: Well, it is sponsored by the Technical Training Center which was in Orlando, Florida, and they put the final stamp of approval. They work, of course, from our Systems Command here but they're the trainers. You have maintenance trainers. You have flight trainers. You have the weapons systems trainers. You've got all kinds of trainers because of the many aspects that you have to go through. But for flying, every pilot goes through anywhere, when he is going to fly a new airplane in the Navy and Marine Corps he has anywhere from two weeks to a month before he can ever set foot inside the airplane itself, even to go out and sit in it. He's got to spend that time in the classroom going over so he knows the system over and over and over.

Then you start in on the most elementary part of the flight training aspect. Now we even have flight trainers which the guy goes out and flies a simulator. And believe me, the flight simulators today are so good that the guy is much more competent when he goes out

on his first flight in an airplane than we used to be, because we used to, first flight in an airplane we hadn't flown anything even like it and we were flying something totally different. So, there's been a tremendous jump in the technology and the improvement of science of flight training.

Frank: Jets, I understand, are easier to fly than a propeller driven aircraft.

Miller: I think they're easier in the sense of the air dynamics smoothness of the jet engines, the flight control systems. The problem you had with jets is that first there is a longer delay in --

Frank: Response?

Miller: -- power or response. The airplane, because it's designed to fly very fast, in some cases is not all that responsive in the landing pattern. But probably the thing that counts more is time that you have to make a decision because you're going so much faster, and the other is the limitations that you have in fuel for a jet engine and time. And your flights have to be planned to a much closer nth degree.

If you're going out and doing certain things you've got an hour and thirty-three minutes of fuel to get back to the field and land in a good, safe condition. If you're going out and you're going to do a different kind, if you're going air to air, for instance, you can go out for a good, two-hour flight. If you're going for air to ground you can only make it for an hour and twenty-three minutes or something and then you've got to be back because the fuel usage is so much higher when you're low.

So every flight has got its own parameters and that's why the planning is so much more important. And with the cost of a jet airplane today, from one extreme to the other, in World War II an airplane was carried on the books as two dollars; one dollar for the engine and one dollar for the aircraft. And nobody ever talked about the total cost. A Corsair, I can remember, cost about \$200,000 in World War II. Our top fighter today probably costs on the order of \$20 million to \$25 million apiece.

So, when you train people to go out with the asset of that value, it pays you to spend a million bucks to train him to fly that thing because he can, in one fell swoop he can cost you. So you don't have that much room for a mistake.

Frank: Okay, great. Senior course, anything outstanding during the course of the year outside of meeting your ground contemporaries and learning --

Miller: For me, the ground side of the tactics. It brought me into the ground tactical side which gave me a better understanding of ground maneuvers, which, by the way, after I became a general officer I became almost as much a ground commander as I was an aviation commander. From a landing force commander, two operations in NATO, [noise interference] I did not find a difficulty, as anyone who had his own staff and so forth, to take on the pure ground decisions as well as the aviation decisions. I think you have to give credit to the training that you got at Senior School and places like that.

Frank: I think, again, it was a good opportunity for you to meet your ground contemporaries with whom you hadn't --

Miller: Well, it was, it was one of my finer years. There's no question about that.

Frank: Then you went out to El Toro.

Miller: I took over that squadron and built that squadron.

Frank: November to June, 1963 when you were XO of the MAG for a month.

Miller: No, longer than that.

Frank: MAG-15, July, 1963 --

Miller: Oh, I was moved up for XO of MAG-15 for about a month --

Frank: Yes, and then you went back --

Miller: And then I went overseas.

Frank: It was re-designated as VMFA, I think.

Miller: Let's see, when did we re-designate, we re-designated the VMFA when we got the Phantoms.

Frank: I see, about July of 1963.

Miller: We were carried with the Fords, as we always call them, the F-6A Skyray. We were carried as VMF parenthesis AW 513. When we got the Phantoms we changed the VMFA--

Frank: An attack.

Miller: And, in fact, I got the flag when we changed 513 to VMFA. We ordered the flag and we purchased the flag. When 513, I was the second wing commander, when 513 changed its designation from VMFA to VMA, back to attack when it went to the Harrier -- it was the first Harrier squadron.

Frank: In 1972/1973?

Miller: Right, and the people gave me the flag. Now, they can't legally give me the flag because the flag is the property of the Marine Corps but I've been kind of the custodian of it and it has a lot of history and I am going to write it up and then I will turn it back over to the museum. Because that flag was used, by happenstance, was the last Marine flag in Vietnam. I was, at the time, was the deputy to General Wilson when [noise interference].

The last Marines in Vietnam were about eight Marines, eight or nine Marines up at Da Nang. General [Frank C.] Lang, who was J-3 of CINCPAC, had been on a trip out there

and one of the staff sergeants came up to him and said, General, do you know if there's anyway you can get us a Marine Corps flag. He said, we have put together a little party for the Marine Corps birthday, on November, 10, 1974, and he said, the ambassador has been invited and accepted, but we don't have a Marine Corps flag.

Well, General Lang came back to Hawaii and he called me and he said, Tom, is there any way you can get those Marines out there in Vietnam a flag for their Marine Corps birthday party? Well, I had the office staff check around and see if we had any spare Marine Corps flags. Well, heavens no, every unit was using its Marine Corps flag on November 10th. Then it dawned on me I had hanging in my study down in my quarters the 513 Marine Corps flag that they had given me when I had been the Second Wing commander.

So, I called Frank up and I said, Frank, I don't know if this will fill the bill but it's the only thing I can offer you. And I said, I have a flag that I'm kind of the custodian of, and if I can be assured I'll get it back --

End Tape 2/III, Side A

Begin Tape 2/III, Side B

Miller: Okay, once they assured me that I'd get it back, it was sent out to them. They used it for the ceremony that the ambassador came, in Da Nang, in November of 1974. And to my knowledge there was no other Marine flag in Vietnam at that time. And it was sent back to me. And I think that is a kind of unusual thing that I want to write it up and [unintelligible] when I turn it over to the museum.

Frank: I think, maybe, this is a good point to stop, and we'll talk about VMF 513 overseas. Let's see, July of 1963 you took it over.

Miller: I didn't take it, Stewart took it over in 1963. I went over and became MAG 11 XO.

Frank: May, 1964.

Miller: That's right, 1964.

Frank: So, you had it, you had it until April of 1964.

Miller: I had it until April of 1964.

Frank: All right. Well, then this is a good place to stop.

End Tape 2/III, Side B

End Session III

Session IV

Interviewee: Lieutenant General Thomas H. Miller, USMC (Ret)

Interviewer: Mr. Benis Frank

Date: 1 July 1986

Place: Marine Corps Historical Center, Washington Navy Yard

Begin Tape 1/IV, Side A

Frank: Session IV, Tape 1, Side 1 with General Miller. The date is 1 July. And I want to go back to the Senior course for a couple of seconds. Three things. Number 1, nature of the curriculum, what was the thought, what was the emphasis? You know, the pre-World War II period had a certain emphasis, then there was the post Korea period, it had a certain emphasis, and I want to get a feeling of what the emphasis on the doctrine was at that time.

Secondly, talk about some of your classmates who [unintelligible] came home. And also, there is something that I haven't been able to pick up in the post-World War II period, or the post-Korean War period as much as I can get from the pre-World War II period, the outstanding instructors. People who were dynamic, who were highly professional and who later made a mark for themselves in the Marine Corps. It seems to me that there is an attitude amongst a lot of people that, well, there has been a dichotomy in the thinking. Some people think, "Oh, cripes, I've got to go to Senior School!" Other people at other times in the Marine Corps, it was a necessity and they saw it as a ticket punching thing for promotion. And also there's been the attitude, "Oh, they're keeping me here for three years to teach--I'm done for!" In others, teaching was a very important factor. So, I want you to address that briefly if you can.

Miller: Okay, well, the main thrust that I got from Senior School and probably my opinion is spawned by my attitude of going to school; first, being primarily an aviator and not going through Basic School, nor going to MAIS (Marine Air-Infantry School), it was no longer Junior School, I had had neither of those, I looked upon it as an opportunity to broaden my career considerably in what I considered "ground thinking". I found that the course placed emphasis on ground maneuvers, division and regimental level. This, to some extent was a kind of a step down after having attended the Command and Staff course at Navy War

College where we discussed international affairs, communism. We wrote a couple of papers in the Navy War College and then to come back and go back down to the size of a division and regiment was a little bit unexpected.

On the other hand, it did me a lot of good because it gave me an opportunity to see how the ground Marine officer thought, what was important in his mind. Naturally some of those things spawned [changed?] my opinion as an aviator, how I felt professionally in my part of Marine aviator-- how I could better serve the Marine ground. I think it probably influenced a lot of my actions thereafter.

We had, the senior member of our class was a lieutenant colonel by the name of Nelson, affectionately known as Most Nelson, Swede Nelson. He was an artilleryman as I recall, but a very strong leader and Swede, in fact, used to give some of the instructors a rather bad time because he thought that they got off on trivialities. When that would happen and they would get laboring on some, what he considered, rather insignificant aspect, making a big deal, he'd just reach in and pull out his newspaper and open it up and put his feet on his desk and rear back and start reading the newspaper. Of course, that agitated the instructors some but I think it got a message across to some of them that they had to keep their level of instruction higher.

We had an officer I was always impressed with, and I'm trying to recall his [name] Wyckoff?

Frank: Oh, yes, Don Wyckoff.

Miller: Don Wyckoff was an instructor and I had a great deal of respect for Don and I learned a great deal from his courses of instruction. The officer in charge of Senior School at that time was a Colonel [Edwin C.] Godbold.

Frank: "Greg" Godbold.

Miller: He was a kind of an unusual man and I don't really mean it in a derogatory sense, but I don't think he led the class like he should. And it was a kind of a joke that he never showed up in any of the classes. It got so some of our more bold students would, I

remember one, there had been a big fire in a school out in Chicago and they clipped out the picture from the newspaper with the school burning and they put it on the bulletin board right outside of Godbold's office and then put a comment on it that said, "Reckon he'll come out now?" And, you know, pretty sharp criticism mounted and I considered it to some degree disrespectful even though he wasn't [disrespected]. He loved to stand on the stage and talk to the crowd but he never would come into the classroom. And I think that kind of hurt things. Of course, it tended to bring the class maybe more together in the sense that it was pretty generally agreed.

We had some very fine students in there. The only one that I remember other than myself that went on to general officer promotion was Jay Hubbard, another aviator. There were many that went on to be colonels and, of course, the law of averages or the chances of making general was so slim that it in no way reflected upon their abilities as Marines and certainly Marine colonels, any of them.

Ben, I really enjoyed Senior School. I thought the camaraderie that we had there was extremely good. Let's see, I was trying to think of the general that was in the building at the time, a big, tall, blonde. I remember he had been passed over as a colonel but was picked up the next time around. Boy, my memory is slipping, but he was certainly a fine individual.

He was unusual because he would come in the classrooms and sit down with us and talk with us and the students really liked him. He was the chief of staff, I believe, at that time, even as a brigadier, of the educational center.

Frank: Probably [Loren W.] Torgerson. Godbold was a POW in World War II.

Miller: Well, now, there were two Godbolds and I'm not sure which was which.

Frank: This was the one because Godbold was from Texas.

Miller: Yes, I think they were both from Texas. They were brothers. I didn't recall that this one was the one that had been a POW. I thought it was the other one.

Frank: This might have been Edwin.

Miller: Yes, it was kind of a round face with a little balding on top. The part that upset me about it and it came up in regards to the Glenn orbital flight that was coming up. John Glenn being just like my brother, he and I had started out in flight school together and our families had been raised side by side. He and I lived together all during World War II in the Pacific together. And when it came up, we had always agreed that if one or the other of us got killed the other one would be sure his family would be taken care of properly.

Well, when it came time for John to make his orbit I had promised John that I would stay with Annie that day of the flight to be sure that if there was an explosion or if something catastrophic happened that I would be there to console her and do what I could to help her --

Frank: Did John anticipate this possibility? Of course, the explosion we had of the Challenger in January, I guess it was --

Miller: Today with all the journalists getting involved who don't understand things, it's kind of like Wolf's book, *The Right Stuff*. The reason Wolf is a good writer is he can put these things naturally to the public. They are kind of overwhelmed that people will place their neck on the line, so to speak, when they know the averages are pretty poor.

All the astronauts, I don't think that there was probably an astronaut in the group that didn't think his possibility of survival of the program was 50 percent. I think most aviators in the early days considered that that was a very dangerous sport. That was the reason they even paid you extra to go into it. But that wasn't the thing. It's the thing that you did what you loved to do and the challenge that it presented. Glenn, particularly in the early days when we had had such catastrophic pad explosions with our rockets, that we couldn't get them off the pad, we couldn't even get a Sputnik in the air to even compete with the Russians. That's the reason every flight was watched by the public so much because there just seems to be a burning desire of people to see explosions and wrecks and things. That's the reason movies, in my opinion, today show so many automobiles

Frank: Violence.

Miller: Yes, it's a violence thing. So, what press that there was in those days, played it up as a very, very dangerous thing. The shuttle had gone so successful through the years, and the whole space program had been such a success that everybody got the feeling it was like getting on Eastern Airlines. It's not going to be that way for the next quarter of a century. We're just not that far down the pike. Anyway, John had asked me to stay with Annie just for any such happening. I knew technically much more about the rocket. So I had told John that I would be with Annie. When it came time, of course, he had had a number of abortive attempts for it to go, so I waited as late as I could to try to determine when the flight was going to go, before I went in to see Colonel Godbold to see if it was possible that I could miss school so that I could be with her on the day of the launch. And, of course, there was every indication that school was going to stop class at the time the actual launch took place so everybody could see it on television.

And I went in and he turned me down. He wouldn't let me off. He said, oh, your curriculum is far too important. And I found that just, you know, inconceivable that he could be that small and so I finally had to go to the general. And he said, by all means, there wouldn't be any question about it. And he called down to Godbold and asked if I could go talk to the general about it and he said sure. So I didn't go around Godbold without his permission, so I really didn't have any problem with it. So when the President, the White House called, President Kennedy wanted me to be the aide, his aide to look after the Glenn and the Castor [Annie's family] during all the events that followed up that thing, I asked again for the time off to do that and Godbold refused me again.

And I only mention this for the fact that, you know, some people become, and I think to his credit he saw the curriculum and the discipline then within the class as just one of the most important things there was to a career of an officer. He just was not going to let anything interrupt that. I feel there are some things that have to take the place over that kind of thing. And it was approved. I went on, I had to go, in fact when the White House called, they said would I be the aide, Kennedy aide, and I said, well, do you know about how long [unintelligible]. Well, you'll probably be away about two weeks.

Well, I could see at that very instance that I was probably going to get a negative from Godbold because he wasn't going to let anybody be gone for two weeks from that class

because we'd had some snow days and, boy, he really raked people over the coals that didn't get in or didn't make a strong effort, in his mind, to get in for them. But, as it turned out I went on the thing as the President's aide. I just asked the White House would they please clear it with the Commandant and, of course, the Headquarters called down and it was all cleared.

Frank: Let's talk about that. We haven't talked about that.

Miller: Oh, being the aide. Well, that came about, of course, because on the morning of the launch I had gotten up reasonably early and we tried to launch five different times, and I went over and it was a cold, February day, drizzling rain, miserable, and I went over and built a fire in the Glenn's house. Annie and the two children and her mother and father and two people from Life Magazine, Loudon Wainwright and a fellow by the name of Pierre who was the photographer, and they were the only people in the house, contrary to what you saw in the Right Stuff.

Frank: Was there a big press crush outside?

Miller: Oh, yes. There were seven television trailers out in front on the curb, cameras, you know, beaming in on the house. In the yard, there were probably 50 to 75 people milling around, the technicians and the cameras. People like, well Walter Cronkite was there, Peter Hackas (sp).

Frank: Arrogant?

Miller: No, no, no, they weren't. In fact, I thought that the press and the people that were there were extremely respectful. Our yards took a hell of a beating because they were all over the grass and everything. But it was a miserable day and there were women reporters and newspapers of all kinds were there. Finally the Arlington police came in and put ropes around our yards just to keep them from tearing up the grass.

Frank: Did you live close by?

Miller: Next door.

Frank: Oh, did you live next door?

Miller: Yes, we built our homes side by side when we came here as majors. But it was, I had gone over and built a fire and set up three separate television sets so we could get ABC, NBC and CBS. And I didn't even see Annie when I went in. It was about 6:00 a.m. and built a fire and set up the television sets. And as I was coming back out, I guess it was somewhere between 7:00 a.m. and 8:00 a.m. Of course, the whole country was getting geared up because the launch was going to be fairly early, they wanted full daylight for his recovery because he was going to only be up for about four and a half to five hours.

And, as I was coming back across the yard one of the ABC people stopped me and he said, we're on live television and I wonder if you would mind helping me a little bit. Obviously he'd been given some time that he had to fill in and he was standing there talking out in the front yard with his microphone. And so I went over and he said, the first thing he said to me was "Well, I see you've been over in the Glenn's house, I presume checking on Mrs. Glenn and so forth." And I said, yes, I've been building a fire and setting up the television sets.

And he said, well, how did Mrs. Glenn sleep last night. And, you know, without thinking I said, I really don't know. It was kind of a personal question and I took it as a kind of personal affront that he would ask me that. I said, well, I'm sorry, I really couldn't tell you. I didn't spend the night with her. And this just embarrassed the hell out of him. He just turned all colors. We ended the tv cast and he said thank you and I left. And some of the people from our church saw it and they really got a bang out of it.

But, my wife, Ida Mae and I were back and forth between the two houses. We allowed our three children to stay at home and they were, the way the houses were built the children always went in and out in the back doors because their part of the house was down below at a lower level. And so with our three at home with Dave and Lynn, they were, all five of them were in and out of the house a lot.

But when the flight actually launched my wife and I, LtCol Les Brown and his wife Jeannie, and the Castors and the Glenn children, and our children, and the two reporters from Life Magazine, were the only people present in the room when the actual launch took place. It was totally different from the way it was shown in the *Right Stuff*, you know. They had astronaut's wives all over Annie and all this stuff. I wondered why that they didn't do it right. It would have been --

Frank: Just as dramatic.

Miller: Yes, anyway the flight went off, as you know, well. Annie was not overly tense. There was no question she was tense --

Frank: She lived through this with him as a --

Miller: Test pilot, sure, and they'd lived at Patuxent River where they did this kind of stuff almost daily. John had taken a special effort to teach and train her and the children on details of the flight. They had been to the Cape many times to walk through the whole thing, and in the capsule and so they really were well educated.

Frank: The *Right Stuff* and the movie, I didn't see the movie, really have no desire to, but I read the *Right Stuff*. And, of course, they made John out to be such an all-American, nice, nice, prissy type of guy as opposed to the fighter jocks like Alan Shepard [Jr.] and these other characters. And I think that is really exaggerated.

Miller: I think they exaggerated it some, however, John was about as straight laced a person, without making a big show of it. He didn't push it. And John was a trickster. He had lots of fun, did a lot of things. You know, when he was in China, for instance, a bunch were at a dance late one night in the Army Club in Tsingtao. None of the Marines had any families there but all the Army is out there dancing, and they were dancing "Good Night Sweetheart" as the last piece. And these Marines had been sitting there eating this Chinese candy that had marbles in the middle of it. They put the marbles in some Marine's hat on

the table. He had about a half a hat full of these little marbles. John reaches up while they're dancing this last piece and rolls all these marbles out on the dance floor. I mean, he wasn't a lily white but he was not a guy that --

Frank: Hard drinking--.

Miller: No. He didn't have that attitude. He was not a great woman chaser of any kind. He loved being around women as well, but he was not a Sir Walter Raleigh running around trying to sleep with every one of them, you know--he just wasn't that kind of person. And, that was contrary to three or four, and I don't mean to infer that all of them were that way, but three or four lived an altogether total different type of life. Live it up for today, you know, because tomorrow I may be dead.

Frank: Fighter jock mentality, living up to the fighter jock reputation.

Miller: Yes, but John was probably as much of a fighter jock as any of them there but he did it with a different kind of motivation and his was driven by professional excellence, a desire for perfection.

But the movie played that a little bit too hard, I think. Some of the scenes regarding the arguments that, of course, Al Shepard and John got into were factual and John's attitude was primarily that the program was bigger than the astronauts, it meant more to this nation. That once they had been honored by being selected as the seven people most likely to fly for their country in this area, he didn't think that the personal whims and fancies of the individual had any right to take a chance of destroying this possibility.

There was a great deal of pressure within NASA at that time to send monkeys instead of humans-- or remote control vehicles. And that still goes, as you know, the struggle you hear even today. But it was very strong then and because they felt that the success of the program was so tenuous as far as a safety aspect, that you shouldn't put man in there. Well, if the astronauts went out and got themselves in a big publicity stunt and so forth, it was Glenn's feeling, and several of the others, that this would wreck the manned space program and it would go back to monkeys and remote vehicles. And that's why

Glenn injected himself, he was the oldest, he had more flight experience than any of the others. You might say generally more mature. I'm sure that Al Shepard would question it as to whether John was more mature than he was. Al was certainly the next. Al was a very brilliant guy, very sharp. He was flamboyant not for show, it came natural to him. In some cases Al Shepard is reasonably quiet. His social activities are basically very, very private. He doesn't have his intimate social functions in public or anything like that. And it's been very interesting.

I still work with Al Shepard a lot on the Mercury Seven Foundation, which I am the chairman of the executive board. Al has changed, in my opinion a much more mature man than he was even in those days. And again, a very, very brilliant guy, smart, likeable, everybody likes him. Louise, his wife, is a charming lady.

Frank: Who was the astronaut that divorced. His wife's name was Rene.

Miller: Scott Carpenter. She had a show here on television and then --

Frank: Entertainment Tonight show, she was on.

Miller: And then she's recently -- well, not recently -- I don't know now it's probably been ten years, married a man over in this local area, a man that builds large buildings by the name of Les Schiller. In fact, he just built a Ramada Inn in Annapolis.

But Rene was really the live wire of all the wives, a pleasure to be around because she kept everything in a spirit of, loose, it didn't get to bawling and worried and clanked up on the whole thing. And she helped keep the other wives to do that. I had to believe that. A lot of them called her a flighty blonde and all that kind of thing but there was much more to it than that. And I think she was a great asset.

On the other hand they made the movie and in that story Wolf played Annie up as almost a deaf mute because of her stuttering and that was very, very unfair.

Frank: That's was the picture you had of her, portrayed a very refined, shy person.

Miller: They really played it up terribly in the movie. The movie was so bad to the whole wives, they didn't show anything of the wives and I thought that was terrible. They didn't play Rene up at all. They didn't play Louise Shepard. They didn't, Betty Grissom, they had some very, very charming wives that could well have added a great deal to the movie.

Frank: Well, that's Hollywood.

Miller: Yes, it was a shame. But anyway, after the shot, gee, I suppose it was the next day, I had gone back to school. I didn't want to agitate Colonel Godbold any more than I probably already had, and I was down there and I was called out of class for a call from the White House. Well, I knew that Colonel Godbold immediately knew that I'd been called by the White House so apparently that day after the flight, President Kennedy had seen me going back and forth. As we went back and forth to our house to tend to things in their house, my wife and I had opened our house because of the weather, built a big fire in the fireplace, I got a big, 55-cup coffee maker at one of the Safeways and we invited all of them to come into our living room and our house.

Frank: The reporters.

Miller: Yes. Anyway, the President had seen me going back and forth and my wife, Ida Mae, also because we were interviewed, oh, six or seven times each during the day going back and forth, keeping the fire going and the televisions were set up so that they could all see the shot at the house. And we had a telephone with a long wire on it so they could use the telephone.

Frank: Were they grateful for this?

Miller: Very much so, very much. The Washington Press Club sent us one of the most beautiful coffee urns you've ever seen and it said, had a big label on it that said something to the effect, "The warm hospitality and hot coffee of the Millers warmed the heart of the Washington Press Club while John Glenn orbited"; or something. Very, very nice and we

still cherish that. And they were very, very considerate. I had certainly no problem with them.

But President Kennedy apparently had seen us through the interviews, that we'd had some sort of relationship with John and it was obvious that I probably knew John's folks and Annie's folks better than anybody around. So, he got the idea that he wanted someone [to be an aide for them], because he invited as his personal guest both families and their children to go down to Florida, to be there when John came back. So, at that time Brigadier General Godfrey McCue (?)--

Frank: Oh, yes, that was the Air Force general who was a friend of Jackie's.

Miller: And he was a kind of go-between to the President. In fact, he was the one that called me down at Senior School and said the President would like for me to be his aide for the family. They had already talked to Mrs. Glenn and that she thought it would be an outstanding idea.

Again, we went through the ramifications of getting loose from Senior School and that was when I just said, well, check with the Commandant of the Marine Corps, I'd appreciate it if you'd just have him direct me to do that, and that I would be honored. So that's how I wound up being the President's aide.

My direction was, from the President, was to go get John's mother and father who were up in New Concord, Ohio, and to bring them down here to depart from Andrews about 1:00 in the afternoon to go to Cape Canaveral. The President's father was quite ill at that time at West Palm Beach so he was going to go down and stay a day or two with him while everything was shaping up for the ceremonies of John's return.

Vice President Johnson, of course, came down and took a small jet and went to Grand Turk and picked John up and brought him back. And, of course, we were all there at the time. But I got John's mother and father in Zanesville airport. I took one of the President's airplanes and picked them up and brought them to Andrews.

It was there that I first met President Kennedy when I introduced the family to him. And so --

Frank: This is pretty heady stuff.

Miller: Oh, yes. It was for a lowly lieutenant colonel, I can tell you. But, President Kennedy was the kind of person that was extremely warmhearted. It was difficult for me to imagine him as a hardened politician anywhere near like the Vice President was, who, of course, had been in the Senate for a long time and was quite a bit different.

Anyway on the flight down I was sitting across the aisle from Mrs. Glenn and the two children, her mother and father, and John's mother and dad, the President came back into the back portion and was squatting down in the aisle on his knees talking to Mrs. Glenn. She was there sitting in the seat. And as I was sitting across the aisle and there was an extra seat there, I said, "Mr. President, why don't you have a seat there." And he raised up and sat down. Well, he talked to her for 15, 20 minutes.

Then he turned over to me and said, Col Miller, I understand you've been with the Phantom program, that was the F-4 Program at that time. He said, I've got a big decision I'm going to have to make. Tell me what you think of that airplane.

And I was aware that this decision was coming up because it was a struggle between Republic for the Air Force purchase of the airplane, (certain factions in the Air Force and New York wanted the Republic to sell F-105s), and some of the people in the Air Force wanted to buy the Navy F-4. And he was going to have to make that decision. Well that meant New York/Long Island would lose out on the contract and St. Louis would gain. So, he's got so much pressure politically on him, he said, of course, I want to make sure that I make the right decision which is best for the country. That's what he said to me.

And he said, tell me about the Phantom. Well, I went through a reasonably short description and then kind of let him lead more into it as long as he wanted to stretch. But it was during that conversation that, I guess, I was thoroughly impressed by a President that was warmhearted, who was very interested and listened intently as to what you were saying. He didn't act what I expected a President to be, kind of stiff and tough and this type of thing.

And we carried on a conversation. I don't say that I ever forgot that he was President, but it was such an easy conversation with him. And I was very, and I always have, ever since, very impressed with Jack Kennedy. I think that some of his advisors, and

maybe even his brother carried maybe the tougher side of the Presidency, but he added that bit of human aspect.

Anyway we went on down and when we landed in West Palm he got off the airplane but he called me up into his part of the airplane and said, now, Tom -- he'd already started calling me by my first name -- he said, "Now, we've got the other Air Force 1 airplane over here, and he says, that's your airplane. And I've instructed the crew to respond to your requirements and if you, you look after the older folks and if they get ill or they feel they want to go home, you do as you see fit. And that airplane will respond to your wishes."

And then he said, he took out just a little card, it didn't have President on it or anything on it but, and he just wrote a little note and he said, stick that in your billfold and if you need any help, call me at that number. And I said, well, Mr. President, certainly I will [unintelligible] with General McCue if anything(?) and I'll certainly not bother you unless it's extremely important. If I go to take the old folks away or something, I'll notify you immediately before I do it.

And that was fine. That's his thoughtfulness, you know, the whole thing.

Then we stayed down there and Vice President Johnson, of course, flew out and picked up Glenn and then we took all the folks down to Patrick Air Force Base and that's where Vice President Johnson and the airplane came in with John. And that was, of course, where Annie and the two kids and the two families, older folks, the four older folks, first saw John after he came back.

And Vice President Johnson was just the most considerate guy you've ever seen because he drew everybody away from the press and everything was trying to crowd in and he said, "Now, you all, all back up. We're not going to do anything till Col Glenn has a chance to talk to his family." We started what had not really been planned as a big parade, but was, the drive in the car from Patrick Air Force up to Cape Canaveral which was about 15 to 18 miles.

But we started in a motorcade because, it was obvious the crowds, geez, the place was just jammed and I'll tell you, I don't know that I've ever been in any more emotional position than that drive up to Cape Canaveral because people just lined the roads and some were laughing and hollering and shouting, you know. Others were crying like babies. It was really something.

I was in the car with John's mother and dad. Of course Annie and the two kids were with John in the car with the Vice President, all open cars and all sitting up. And then Annie's mother and dad were just behind in another car and it was during all this activity that, when we decided to go to New York, that I knew that there wasn't going to be any way that I could handle both of the older folk's families. That's when I went to Godfrey McCue and I asked him if he would mind asking the President if we brought one other person in as an aide. And that's when Les Brown was made one of the aides also. And his primary job, then, was to look after Dr. and Mrs. Castor, which were Annie's mother and father. And Dr. Castor had to be in a wheelchair in order to get around. He was kind of slow and had Parkinson's disease. And at the pace that we moved in this kind of crowd and because of the security and Secret Service requirements we had to go fast. That's when we finally convinced him, much to his objection, of getting into a wheelchair. But Les took the wheelchair.

The day that we were coming back up with the President to Washington, we boarded the plane with the President at Cape Canaveral and on the way back up, of course, John would have been made aware that he was going to speak before the joint Houses of Congress. He was trying to put together a few thoughts as to what he was going to say.

And we were sitting there talking about what he was going to say and he was going to try, kind of trying it on me for size and that's when he came up with an idea. He said, "you reckon that the President would mind if he used Caroline." The day we left at Florida to go back to Washington, Jackie Kennedy came aboard the airplane just before we were to leave and brought Caroline. And we were all standing back in the press section of the airplane and some of the press were around and friendly and everybody was standing there in the aisle.

As Jackie came forth, John was standing next to the President, and as they came up the President leaned over and kissed Jackie and then said, "Caroline, I would like for you meet the man that's just been fired off into space and has come back, Colonel John Glenn." And John bent over and shook her hand and she kind of looked in a bewildered manner and looked up at her daddy and said, "But, Daddy, where's the monkey?"

And, of course, this just brought the house down. Well, John's thought was that he would like to tell that story in front of the joint Houses of Congress. So we decided in

discussing, I said to him, you know, I'm sure the President would be delighted to have you use it but if you feel more comfortable, why don't you just go up and tell him that's what you would like to do and see if he has any objections.

He did, he went up and talked to the President. The President was delighted. Of course he used it in the speech. We got back here and, of course, my wife had stayed at home and was trying to take care of the Glenn house because mailbags were coming in. The living room was-- you couldn't hardly get in the living room because of the mailbags. Everybody was bringing food. Gosh, their deep freeze was running over. We even had to take some to our deep freeze. People sent sides of beef --

End Tape 1/IV, Side A

Begin Tape 1/IV, Side B

Miller: As I said, the out thrust of gifts and letters was just overwhelming. And poor Ida Mae, she'd been stuck there with the telephones ringing for days, you know, while we were down in Florida.

Frank: Did NASA give you any assistance or the Marines, any Marine volunteers?

Miller: Some, she was able to get in touch with some of the NASA people, some had come out there at their own direction and took some of the mailbags back down to NASA because there just wasn't any place in the Glenn house you could store it. And things were naturally in a turmoil, the Glenns leaving to go to Florida and everything so she was trying to keep all that straight.

And then all this food and stuff was coming in and she was having a heck of a time where to put it. Fortunately she knew some of the people that ran the meat markets and the grocery stores and she talked to them and they really, made out, they took care of a lot of it.

But, we got back here and then, all the celebrations in Washington were going at a mile a minute. There was just no peace. There was this arrangement and that arrangement and all this was going on.

And then the Vice President invited Ida Mae and I to the Congress for the speech even though I had had to go as the President's aide to take care of the older folks, always included Ida Mae. And then we were invited to the reception at the State Department which

followed, the new part of the State Department had just been opened and it was in a beautiful setting.

And that's where he and Mr. [James E.] Webb, who was the head of NASA, gave a luncheon for all the big wheels in town, the ambassadors and everyone. And it was there that I renewed my relationship with the Vice President because I had met the Vice President Lyndon Johnson, when he became the administrative assistant to the Texas Congressman, Dick Kleburg, who brought him up to Washington.

Mr. Kleburg and my father were very close. He had married a King [King Ranch] wife and he lived at the King Ranch a lot, between there and Washington. And he had to come through my hometown to get to San Antonio and, of course, he and my dad were so close that he always stopped to see my dad going and coming. And I was called in one day to meet a very close friend of Mr. Dick's, as Dick Kleburg was known, and they introduced me to young Lyndon Johnson who was a big, tall, young, real young guy. And I was about, I would say, 14 years old, I suppose, at that time.

I had an unusual opportunity to remind him of this in a men's room at the reception. I happened to wind up in there with the Vice President at this reception and I reminded him who I was. And he remembered that immediately. And he just couldn't believe, of course I was big and tall at that time and he slapped me on the back and from then on I was Tom to him and it became kind of embarrassing because at times when there was a lot of high rank around he would bring me into the thing as a kind of a nobody. So he never forgot that, no matter where we were.

Then I rode on the plane with he and the Glenns to New York when they had the big parade up there and, of course, Les and I, and again, my wife and Janie Brown stayed home and tried to keep the houses from falling apart. The sightseers kept the road almost blocked with cars. It was just a constant stream of cars in front of the houses and some people would get out and walk up to the windows and try to peer in the windows of the house. The Arlington police had their hands full and it was really something.

But then we got to New York and, of course, we went everywhere in New York at 60 miles an hour with about 150 motorcycles all around even through the city. It was kind of a joke because Lynn Glenn, she was a small, young girl at the time, she counted that we went through something like 62 red lights at better than 60 miles an hour.

It was, then we left and went to New Concord and went to another big, huge parade there and then finally came home to Arlington and settled down for all the work. That was kind of the routine of it.

Frank: NASA, it seemed to me, played down the service connection of its astronauts.

Miller: Yes, they intentionally did that because there was a major thrust at that time in our space program, and I had to assume that that was the President's, to try to take it out of the military, keep it out of the military aspect of the use of space, and the astronauts never were in uniform. They continued to use their rank with their name, but they wanted to play up the civilianization use of space rather than military.

Frank: That must have been onerous for John, who was a dedicated Marine, and for these --

Miller: Well, I think they all understood President Kennedy. Again, as I indicated, he was a very, very thoughtful person from a very human aspect, and he met with the astronauts on several occasions. I think even more so than he, the NASA officials. However, I know that the President had great faith in Webb, who ran NASA, and Webb was generally involved in most of the meetings. But the President had discussions with the astronauts in private an awful lot and explained to them the various pros and cons of why the program was being that way. And there was never any animosity that I ever heard expressed by any of them because I got to know all seven of them.

I had known the Navy ones and John extremely [well] except for Scott Carpenter. I had not known Scott Carpenter. But Wally Schirra and Al Shepard I had already known because of my dealing with the Phantom at Patuxent as a test pilot. And, of course, I knew in the early days what John was doing. He was sworn to secrecy about what he was involved in. Once he was put in the program, he initially went on the program not as a candidate astronaut, he went because there was, in the 120 people that started out for selection there was not a single Marine and the Commandant of the Marine Corps was really upset. And in some of the discussions it finally was decided that the Marine Corps could provide an observer of the elimination program. Of course everything was so secret at that

time and this wasn't even out, the public didn't even know there was going to be a space program at all. And so it was kept very close.

Well, Glenn was able to wrangle himself as being named because he was a test pilot and he knew many of these fellows. And he had a friend over in Headquarters Marine Corps that had been his boss at Patuxent River when he was down there who was in charge of this kind of thing at Headquarters. And he was made the observer to go with NASA.

And then in typical Glenn form and perfection and so forth, he convinced the NASA officials the best way for him to observe the program was to participate in it like he were a candidate. Well, as time evolved and going through all the tests, it suddenly came out that Glenn and one other were at the top of the list in performance. And I don't recall exactly, but it was sometime about the time the list had been narrowed down to the last 24 or 25 astronauts that here's Glenn, just an observer, and he's performing better than all but one. Well, it turned out the other one, I think, was Al Shepard, and they were right at the top of all their grades and performance and everything.

And John's magnetic personality was very attractive and so NASA, even though John didn't have a college degree at that time, which was a requirement, agreed to waiver that and went to Headquarters and because they were already kind of in trouble with the Commandant and they were trying to make peace, they were asked and Glenn was asked to come in as a candidate. And that's how he got in.

Frank: You never got involved yourself?

Miller: I, the height limit at that time was 5 foot 11 inches.

Frank: You're what, 6 feet, 2 inches?

Miller: I was 6' 2 ½" so there wasn't any way I could. Now Glenn, he sometimes denies this but I remember well that he was listed as a straight 6 foot. But he used to make all kinds of efforts to try to shrink that one inch even when he was an observer because I think in the back of his mind he was going to find some way to get into that program. And he's

denied it but his kids have verified that he used to walk around the house at night with a big bunch of books on his head trying to --

[Telephone interruption.]

Frank: During all of this in the back of everybody's mind, what about if the unthinkable had happened? What happened if the thing went out of control, remained in orbit? A lot of people are concerned, how do astronauts go to the bathroom, a lot of the other personal things, the normal functions. As a matter of fact, when they televised the first man on the moon I almost anticipated seeing someone coming out, you know, this type of thing. You don't know.

What would they do, just cut off communications or remain in communications with him until he died?

Miller: Well, you know, that almost took place in Glenn's flight.

Frank: These are [unintelligible] contingencies that they had --

Miller: Sure, they had backups and you may recall, about the third orbit, completion of the third orbit of Glenn's, they had a warning light that came on in Houston that indicated that the heat shield on the capsule was loose, that the interlock had opened. And they were concerned. On top of the heat shield was a retrorocket pack and, of course, the capsule is spinning like water in a bucket that you're swinging around with centrifugal force. The capsule was spinning and that was what kept the gravity from pulling it back to Earth, because of its speed and its distance out.

To bring the capsule back they had to slow the speed of the capsule down. Well, this retrorocket was a big rocket pack about three or four foot in diameter that was strapped on the outside of the heat shield which would fire rockets which would slow the capsule down.

Well, these straps went around and hooked around and held the retrorocket tightly against the heat shield. So, when the heat shield was indicated by warning light that it was

loose, the only thing that was holding the heat shield on was this rocket pack that was strapped onto it.

Well, normally if everything had gone right, they would have fired the retro pack, slowed the thing down and then released the rocket pack and let it get out of the way. Well, the decision was made that they didn't want to gamble. They thought it was probably, a microswitch was improperly operating and really that the thing was [fine], John didn't have any indication that there was anything wrong but they had it down on their panel.

So the decision was made, even though in all their wind tunnel tests and everything, that they had done with the rocket pack on, that they were going to leave the rocket pack on, knowing well that once they started into the transition that the rocket pack would burn up just like a shooting star burning up. But they didn't know how much effect it would have on the trajectory except that John could manually fly any changing of attitude because that rocket pack was on there. He could do it through the thrusters.

And that decision was made to leave the rocket pack on. I can remember some very anguished moments when we were talking about it because if the heat shield had fallen off, well, of course, Glenn would have never returned. He'd have burned up on his return. And that became known to Annie before he reentered. And naturally she was tense but Annie's a very strong disciplinarian and she just kind of sat quietly and watched with a very tight fist and hope and, I know, a lot of praying went on.

Frank: Did she have direct communications with Colonel --

Miller: No, she could have. I was trying to recall. I don't recall her talking to him in space while he was orbiting.

Frank: No, direct communications with Houston Control?

Miller: Let's see, well, she was in direct communication, I believe the control at that time was at Cape Canaveral.

Frank: Yes, Cape Canaveral.

Miller: Because Houston hadn't come into the picture at that time. And, yes they called her rather than her calling them. She had a number she could call but knowing Annie she wasn't going to call them. She knew, she had all the faith in them that they were doing everything that they humanly thought possible. They did, as I recall--I think we got a call from them explaining, in a little more detail, this thing. But there was all the consideration in the world for her well-being and understanding of this thing. But that's the kind of thing, and as John will tell you, and obviously by his comments on the radio, which have been recorded, he didn't seem terribly frightened. He agreed with them on the decision to leave the rocket pack on.

So the fear of that type of thing was very close because we'd had so many failures on the pad and that people would have expected. Now, if it had blown up, he had lost his life, there's no question but what those in the space program who were arguing for more monkeys and more automated robots and things like that, would have been much more powerful in being able to swing to their side. And it would have set the space program back considerably because most of the plans had been for manned space.

Frank: Let's take it to recent times on the Challenger. Some one in the chain of things made a decision. Now he's got to, he or they have to live with the decision for the rest of their life, that they cost them, by their decision -- right or as wrong as it may have been or as right as they thought it was -- caused the death of --

Miller: Sure, but that's no different than a battalion commander leading his troops in battle. There he's got far more lives than seven people. I think people that deal in these realms of discoveries and advancements in science know that all they can humanly do is decided the best that they believe possible. I don't think that there's anyone that has made those decisions -- even though the press is trying to stir it up and call people negligent and everything -- I don't think in my mind, if I were one of those, I wouldn't have any problem living with that because at the time and based on the facts and the circumstances I knew, I still would make the decision in the manner which I thought was best to make.

Frank: Would you do that as a squadron commander?

Miller: Sure, sure. The thing I think the public fails to recognize, and it's not brought out in the press about all this, is that on every flight of every missile that has ever gone up with a man in it, and even those without men, there is always a heavy percentage -- and I say heavy percentage, up as maybe a third -- of the engineers (who don't have the total responsibility of the program but only see that portion of the program which they deal with), who recommend against launch. And I'll bet you that in all the 20 some odd shuttle flights prior to that, there was always a group recommending not launch.

Frank: For various reasons.

Miller: Oh, yes. So --

Frank: You got to have them, too.

Miller: Oh, yes, there's no question, but that's the reason you have the guys at the top, to make the overall judgment. There is no way I can fault those people that agreed to launch the shuttle, even though they'd had the cold weather, and considering all aspects, the law of averages was on their side. Because look how many flights we've put up. So, that's a kind of a thing that's easy for people who don't have responsibility for the launch and the progress of the whole program to sit back and bite from hindsight.

Frank: I think John Glenn's comment is classic, as he patted the Mercury and said, just think that it was built by the lowest bidder. And, I mean --

Miller: Fortunately, it wasn't. And NASA caught hell for that.

Frank: Did they?

Miller: Yes, from the GAO, and McDonnell Douglas. As I recall, they were not the lowest bidder, or McDonnell, I should say.

Frank: Caught hell for not going to the lowest bidder?

Miller: That's right. And, of course, it's just like the decision to launch. The decision that they made worked right, so suddenly it was forgotten, all the strain of responsibility for making the decision. In this one case of the shuttle disaster their decision was wrong and they're trying to make a federal case out of it. And they're going to destroy NASA and they're going to hurt the United States and the program because the Soviet Union today is going in leaps and bounds ahead of us while we're sitting here --

Frank: Well, I think the American public has become jaundiced, sort of ho, hum, another launch.

Miller: Oh, that's true, that's true. We've become a victim of the press. They mold our opinions.

Frank: And of our own successes. Just one other tangential question and we'll get off and get back to, I'm appalled at the failures that we've had in the sense that my, god, there's millions and millions of tax payer's dollars that have just gone up in flame without being insured or anything else. Or maybe the corporations that have gone into it are paying for the payloads or insurance, whatever --

Miller: Well, they're heavily insured. Lloyds of London has, of course, made tremendous money on the space program. There's all kinds of insurance programs on the shuttle flights and the equipment aboard and this kind of thing. The insurance companies don't, purposely don't want a lot of publicity about how much they're making when the flight goes successfully. And, when you consider the numbers of successful versus the number of unsuccessful, the insurance companies have made millions. But they've also borne the risk. So that's what they get paid for, they're paid for taking the risk. In the early days, of course,

the government was its own insurer because it was cheaper for them to pay the insurance part than it was to pay the premium on many flights. And at some stage, and I don't know where it was, there was a move toward picking up external insurance on some of these things.

Frank: All right, just to complete the story, how much further were you involved with John Glenn and this thing? You went back to Senior School but --

Miller: Yes, I was constantly being called on to make a speech at this Kiwanis Club or this Lions Club on the background. We were constantly caught up in the social circles, such as like Gridiron Club. Les Brown and I were continually invited to things of that nature.

The Secretary of the Navy had a dinner for the Glenn family and we were generally considered part of the family. Goodness, people were extremely nice to Ida Mae and I and to Les and Jeanie Brown, because in New York when we were up there, Les and I stayed in uniform. There was no objection -- we were not a part of NASA -- we were the President's aides. And we determined, Les and I, that one way we were going to get the Marine Corps involved in this thing was by us, a couple of Marines, running around in their blues in New York. Of course New York was just hilarious with joy and everybody in great, free spirit, and Les and I couldn't buy anything. Every place we went, we'd eat and we'd go to pay the check, and [someone would say] "you're with Colonel Glenn, space and NASA here, aren't you?" "Yes, [we replied] we're the President's aides." The check was on the house.

We were staying in our blues so much that our shirts that we always wore under the blouse, we went in to buy a couple of spare ones, because we just didn't have time to even get the one we had clean, and they were given to us on the house. They wouldn't take our money.

We'd go into a hotel to eat, in the Waldorf, and we couldn't pay for a thing. At the UN, you know, all the foreign countries in there, Secretaries and everything -- I still have a book that kind of shows Glenn's trip through there -- and gosh, the hand-outs, the warmth that came from the reception of this whole thing-- I don't know that it'll ever repeat itself. This was the free world's first entry into space, in particular, orbiting. I think in that two or

three weeks time I probably laughed and cried more than I ever have in my life. It was really impressive.

Frank: Of course, the Kennedy's latched on to John. [They] put him in a camp, I mean made him part of the circle. He was one of the favorites. Was it at this time that he started getting the idea of politics and perhaps became more of a Democrat than he would have been as a military officer?

Miller: I think that's probably a true statement. This really started by the President's pouring out his feelings of what John had done for this country. And the President was so grateful for this that he took him into his family, a very close knit family, the Hyannis Port --

Frank: They went up to Hyannis Port?

Miller: Yes, they had pictures of John skiing with Jackie and all this, and from that developed a relationship between Bobby Kennedy and John. To some extent Bobby Kennedy and John were more alike in that they were perfectionists in whatever they did. In the case of Bobby Kennedy, he was a politician and a lawyer and so forth. And Glenn was attracted to Bobby as a young, smart, very, very smart guy. He was also attracted to the President but I think Bobby spent much more time in talking with him and I think it was Bobby's influence more than any. They had a situation in Ohio that the Democrats wanted to get control over and they thought here was an opportunity that Glenn could really do the Democratic Party a great --

Frank: Did, the Marine Corps, after awhile, become concerned that it was losing grip and losing hold of John Glenn.

Miller: Oh, they recognized they lost control of him the minute he orbited.

Frank: The minute he orbited. And, of course, General Shoup was Commandant at that time. I remember when John Glenn came to Headquarters it was a big deal.

Miller: Yes, I went with him. In fact, we had lunch with General Shoup. After I set the speed record, and this, I guess, this was before John actually orbited, but General Shoup was totally behind the space program. The Marine Corps, you know, they used Glenn as much as they could for publicity. Consistent with the NASA policy of playing down the military side and the Marine Corps used considerable discretion to not overstep their bounds in this area. But it was like, just like Les and I did, by us staying in uniform we added Marine emphasis, of the Marine Corps to Glenn.

Frank: Did you wear “poggy ropes”?

Miller: Hum?

Frank: Did you wear aiguillettes?

Miller: No, no, we did not. No, we didn’t, we were special aides and we really, I don’t know whether we even considered it but there was nothing that was said. And again, I think it was to de-emphasize the military. We were generally with the folks, herding Glenn’s older folks, so we were just aides and assistants to them. It wasn’t in the sense so much that the public knew that the President had asked us to be his aide to take care of the old folks. Now whether we were considered as an official aide or whether we were doing a job as a military man directed by the Commander-in-Chief, it really didn’t make any difference.

Frank: But you were on the list and the White House staff knew who you were and what [unintelligible].

Miller: Yes, and, in fact, in New York we had to, even in uniform we had to put on our Secret Service buttons. In those days you had a little round button. As I recall there were five colors and we were told at what time a day and what color we would wear and for how long. The million watchdogs in the New York thing of course, was the Secret Service, more so than the New York cops and the New York security people. The New York security

people had also been briefed on the Secret Service and who they were and they always identified them by the proper color of button at the proper time of day. And we were never, Les and I were never stopped once by anybody with our buttons on, you know. We just went everywhere.

Frank: Did the NASA PR-types ever become onerous?

Miller: Did they ever become what?

Frank: Onerous.

Miller: No, in fact, this thing caught them, in my opinion, rather flatfooted in the fact that no one expected the kind of reaction that followed this thing. It was so overwhelming and so much bigger than anyone had ever [thought]. I think that NASA lost control under those conditions. It was after this thing was over I recognized that they themselves had lost control and it was much more than they expected, when they asked either Les or I, or both of us, I forget now, would we consider giving up our Marine Corps career and coming into the space program as personnel [officers] and tending to astronauts.

And, of course, neither of us wanted that. My comment was I wasn't going to become a nursemaid to a bunch of astronauts and their families or that kind of thing. My career was in the Marine Corps and being a flyer and wanting to do things. If I couldn't be an astronaut myself I didn't want anything to do with it.

But, we were offered very fine jobs, my gosh. And as it turned out, when Deke Slayton had his problem with his heart, which was purely Air Force fear because of Gus Grissom's so-called failure. And I say so-called because no one will ever know whether it was Gus's excitement and lack of control that caused it or whether it was truly an accident and there was no way he --

Frank: Capsule --

Miller: Losing the capsule. The Air Force was so touchy because Gus Grissom was Air Force and this guy that failed was an Air Force guy. I mean, everything went great with Shepard. Everything went [well] with Glenn and all, so they were extremely touchy about the health, the qualities of the Air Force people. And it was really the Air Force people that, to my understanding, that pulled Deke Slayton out of the program because of this, NASA didn't disqualify him.

Frank: One further question. Now, I lost my train of thought on that. But you kept getting called in, and you finished up and went back to Senior School.

Miller: Yes, and more from an historical standpoint -- when they couldn't get Glenn to speak because of his tremendous schedule, then I would be called. And it wasn't long after that in 1962, see his flight was in 1962 in February and I completed Senior School in late May and June of 1962 and then I received orders to the West Coast.

And Glenn moved from Arlington, Virginia to Houston and Les Brown moved to California. We, all three of us, see, lived side by side there. I was in the middle and Brown was on one side and Glenn was on the other. And so we all kind of parted ways about six months later. In some respect that reduced the amount of-- if we'd stayed in town, god, it would have been horrendous because just the short period of time afterwards, you know, I must have spoken to 25 or 30 gatherings of church groups and school children and this type of thing.

Where they couldn't get Glenn, because I had been seen so much on television I was associated-- all the press, because we had opened up our house, they had gotten to know our whole background and AP and UP carried the story, all down through Texas. We were always getting clippings from our relatives all over Texas, whether it was the Millers or astronauts or the Glenns.

Frank: I hope you've got scrapbooks of --

Miller: Oh, we've got nearly all of it, yes. It's piled up. It's not too well organized but it's there.

Frank: I'd like, if I could go on the record now, I'd like to get John Glenn on tape for the program and from his Marine Corps career and so on. And if you can arrange it --

Miller: Well, we might. I think it, it would have to come certainly after November. He's in the middle of an election right now in Ohio. His time really isn't his own because his campaign committee in Ohio is running it and they're trying to steal every minute that they can get him out of Washington up there. And, I think that his pace will slow down if, and I certainly don't have any fear that he'll be reelected, once he's reelected, which, in my opinion will be his last term in the Senate, it'll take him up to his about seventy-one or seventy-two years old and I, he still definitely wants to get out --

Frank: You're seventy-one --

Miller: I'm sixty-- I'm about a year and a half younger than John. I am sixty-three now and Glenn --

Frank: Will be seventy-one.

Miller: That's right, when he finishes six years. You see Glenn is, he's coming up, but he's sixty-four and I was trying to recall when his birthday was, but then you add six years to that and you'll find that he'll be over seventy when he has his last year.

Now, in his last six years of the Senate there's a possibility that you can take your gear and probably go to his office and get, you know, from time to time get some time with -
-

Frank: I could go over to his house or something.

Miller: He generally likes to keep that away from his house. Yes, he keeps that private. And, of course, they live out far enough that he can do that. But I'll certainly do everything I can to help you.

Frank: I wish you would. I think it is important to the program. We'd go ahead but, you know, I'm looking at our outline here and I don't remember us discussing the [unintelligible] of Corpus Christi for the two years. Did we?

Miller: No, not that I recall.

Frank: That period there, yes. Nor do I remember much about our discussing operations in Korea. Did we miss that?

Miller: I guess so. We tend to kind of branch off into other aspects and that's kind of my fault.

Frank: Well, it's my fault, too, but it's targets of opportunity. We had you down at Pax River and I think we may have missed, and I can see why, I can see why, but you went to the, because when we were talking about Senior School I was thinking you hadn't gone to any other Marine Corps school but you did, you went to that Marine Corps Air Technical School [MCATS] Maintenance course at Quantico which was --

Miller: And, of course, I went to Command and Staff at the Navy War College before I went to Senior School.

Frank: Right, but I was talking about Marine Corps schools. Well, let's backtrack and then we'll fit it in because you are recalling stuff great. You had been at Pax River TAD and you were MAG 11, MAG 22 March to August of 1946 and March to May of 1946 you were TAD to the school at Quantico.

Miller: Well, let me quickly retrace it. I came back from World War II in the Pacific and went to Cherry Point and assigned to MAG 91.

Frank: Right, which was a training --

Miller: And I first went into a squadron of VMF-914. There were four squadrons in the group: 911, 912, 913 and 914. I was in 914 for awhile and then was moved up. Joe Renner had the group at that time and I was pulled out of the squadron and made assistant S-3 of the Group. And then Benjy Moore, who had been the S-3 of the Group, got orders to China. Renner couldn't get any of his squadron commanders to give up their squadrons and be the S-3 so he asked me as a captain. He said, can you handle the S-3 job? And I said, Colonel, with your backing I can run anything in this Group. So, he left me as the Group S-3.

Frank: He was a special type, Joe --

Miller: He really was. He's really a true Marine. I'll tell you. He's a fantastic leader. He had a low flashpoint in temper but that was part of his positiveness from leading.

Anyway, I kept that job. My wife and I had lost our first child while I was overseas and I never got a chance to see him. She was pregnant again and was coming up for delivery the following year and I suddenly got orders to go back overseas again. Renner didn't think that was right, that I should have an opportunity to be with my wife when the second one was delivered because we had lost the first one and she had been at home and had lost it because we couldn't get penicillin at that time. He had developed pneumonia and died and I never saw him. And she carried the full weight of the responsibility.

Now she held up under that, it didn't affect her mentally; she was strong enough. But he felt very sorry for me and he didn't want to see me go back overseas before the second child was born. So, he asked me, he said, you know, what would you like to do? And, I said, well, you know, Glenn had gone at that time, had gone up to Patuxent River as a test pilot to fly some of the new airplanes that were coming out, whether they'd perform. He asked me at the time what I'd like to do. He could pull a string to help me stay in the states, at least until this child was born.

And I said, how about getting me a tour up at Pax River as one of the pilots, kind of like the Marines that we sent up there for three months on TAD just to fly the airplane. And we thought that three months would handle it okay and I'd be ready to go.

Well, he did and I was sent to Pax River on a three month TAD. At the end of that three months I was extended another three months and at the end of that another three months and I stayed there almost a year.

Of course we had the child, really before I left Cherry Point and everything worked out great. But I went up there and spent that time. And then I went over to Marine Corps Technical School and went through the engineering course as a student. And then I was headed for China. The war had ended and I headed for China.

Glenn had already gone out to China and I was headed out that way but our old CO of World War II squadron was in Hawaii as the Base Operation's Officer with the Station. When I came through, he had missed Glenn because Glenn didn't stop in to see him or somehow missed him. As I went through he asked me if I'd be willing to let him try to pull me off the China draft and keep me there to work for him again.

Frank: [Comment is unintelligible.]

Miller: And that was kind of the thing, and, of course, I wasn't anxious at leaving my family again for another overseas tour --

Frank: Although families could go out to China shortly -- no?

Miller: No, they didn't allow the Marines' families in China. They did allow them to go to Guam when they got kicked out of China. Then they brought the families. Annie Glenn and her two children joined John on Guam.

Frank: I thought they did go out to China.

Miller: No.

Frank: Not for very long.

Miller: Well, I think the [Brigadier] General's staff, [W.L.] McKittrick as I recall, and some of his staff, had their families out there but the fighter squadron's families were not with them. It's kind of like we do today where we rotate the squadron without families for six months and --

End Tape 1/IV, Side B

Begin Tape 2/IV, Side A

Frank: This is Tape 2, Side 1, General Miller.

Miller: I was pulled off the draft and stayed in Hawaii and worked for [John] Pete Haines, who was our skipper. He was the S-3. And also General, well, Colonel [Frank C.] Croft was the base CO and [Frederick] "Ev" Leek was his XO. During this tour I played football for two years for the Marine Corps. And we had another child born out there so we wound up with three children.

And I came back to, I was headed back to Quantico, I believe, or Washington, one or the other, and my father died while I was on leave. He was an attorney and had a lot of papers, and I was an only child. My mother really needed help in trying to get rid of all these office files that belonged to a lot of other people. So I wired Headquarters and requested a change of orders to Corpus Christi because that was only 60 miles from my home, and that would enable me then to help my mother to finally get my dad's estate in order.

That was approved. And Glenn was also at Corpus Christi at this time. He came back from China and went to Corpus Christi. So that's where we were again together as a family.

While at Corpus Christi, I was an instructor in, what we called advanced training in Corsairs. Six months before my time would have been up for a two-year tour. They needed instructors over at a Navy school--all-weather flight, which was a post-graduate school of instrument flying. And my grades had been pretty high when I went through it as a student and so the training command were looking to what their assets were and they were picking people that were instructors. Both Glenn and I got pulled back to be instructors in the Navy school, all-weather flight school, and we did the last six-month tour there.

And then at that time, then I went back up to Quantico, and so did Glenn. Glenn went on the staff of the Marine Corps schools there, when General [Franklin A.] Hart, I think it was, had it, Ridgley(?), Riesley(?) and all that group. And I went to MCATS, the Marine Corps Air Technical School. I had gone through as a student, but I went there as an instructor.

The Korean conflict was going on and when my tour ended there I was going over to Korea. They sent me to Cherry Point for a refresher before going to Korea.

Frank: Let's go back for a couple of questions. What was it like instructing students in advanced Corsairs?

Miller: I think that was probably one of the finest jobs, seeing what extra effort would do in training students. I thoroughly enjoyed training the students. I felt the responsibility of it pretty highly because these young fellows were flying Corsairs which was a big airplane for them. They had only flown the SNJ which was a small, single-engine trainer, and they were graduating in to the Corsair. And it was the first-line fighter at that time and it was used in the training command.

Frank: Well, yes, but you had dual seats in that.

Miller: No, no.

Frank: Oh, they went by themselves.

Miller: They went by themselves.

Frank: Tell me about flying a Corsair.

Miller: Well, a Corsair --

Frank: We may have gotten this earlier when we were talking about World War II, but again, that's several years ago we started.

Miller: Well, the Corsair was such a fine airplane which, of course, was why it was so popular. It was extremely popular with the Marine Corps because they got it early in the game. The Navy had not had very good success with putting it aboard ship. And it had some characteristics in the early days that made it extremely dangerous to try to put it aboard ship. A good pilot could fly it aboard without any problem but for the average pilot it could become very dangerous.

Frank: It strikes me in mind of research that the oleo strut would collapse. I guess that was on the tail.

Miller: Yes, that was. The old F4U used to have that problem where the strut would collapse. But the Corsair was great when it was in the air. When it was flying there just wasn't a fighter in the world that could beat it. And, of course, that kind of thing was what really made fighter pilots fighter pilots. Boy, they had great confidence in the airplane and they just felt they could do anything with it.

Through an evolutionary process the Marines corrected most of those problems aerodynamically in the Corsair. And, of course, then the Navy began to get interested because they started putting some Marines back on carrier. They had two Navy squadrons that went back to Corsairs aboard ship. And down in the South Pacific, I think one of them [Corsair squadron] was commanded by Commander [Tom] Blackburn. Boy, they just ate up the Zeros much more so than the F6F [Hellcat].

Frank: The Wildcat.

Miller: No, the Hellcat. It was the follow-on version for the Wildcat. It was a great airplane but it just wouldn't hold a candle to a Corsair. But it was great for shipboard work and that's why Grumman built thousands of them and the Navy used them and shot down many, many Japanese airplanes.

The Corsair, had it been in the same environment, would have considerably exceeded the ability of the Hellcat in combat with the Zero. But the Marine Corps really made the Corsair what it was, and then as years went by, just like when we started Korea, the Corsair was still the leading airplane on the aircraft carrier.

Frank: There must have been a tremendous sense of exhilaration to fly those things.

Miller: Well, you know, it was a speedy, it was a fast, in those days it was fast. It could zoom climb. It could turn. We used to get in dog fights with Air Force planes like a P-38 and a P-47 and the P-51 and boy, just a mediocre pilot, an average pilot in a Corsair was just way out ahead of those guys. And that's why everybody loved them.

Then we used it so much in World War II in the air-to-ground environment as a bomber. And there again, it was very difficult to shoot down. It would take a lot of hits without being hurt. It was very protective of the pilot because you had the big engine quite a ways out in front of you. You had the wings there to kind of protect the pilot. It really became a favorite of pilots because it gave them confidence.

Then I flew them again in Korea and, in fact, even though I went out as a jet replacement I went into a squadron that was about 75 percent Reserves. They needed some active duty people that had a lot of Corsair time. I was assigned as the executive officer of a Corsair squadron in Korea and flew Corsairs through most of the combat, although I did fly some jet combat missions later.

Frank: Just talking about aircraft for a second, I guess getting off on a tangent. P-38s to my mind always looked like a deadly airplane and yet it was a death trap, not a death trap but it wasn't as successful as its reputation gave it to be.

Miller: Well, I think the P-38 was designed for primarily a European environment. It was a very fast airplane. It was not as good a turning airplane as the Corsair, we could always out turn them. But the P-38 could zoom away from us. We couldn't catch them. They were gone. If you could ever get them slowed down, or if you get them up above 20,000 ft. With a Corsair, the superchargers in the Corsair worked better than the superchargers from P-38s.

I always wanted to fly a P-38. I thought it would have been a great airplane. And it was obviously a great airplane with the right pilot because Major [Richard] Bong who broke all the records for airplanes shot down, got all of his Japanese kills in the P-38 and it was a great airplane.

The old P-47 of the Air Force, which was known as The Jug, wasn't worth a tinker's dam below 25,000 feet, but boy, when you got it up in high altitude it had such a fine supercharger on the engine that it would out perform almost everything that the Germans had until later on. The later model P-51s, they came in with the same kind of supercharger –

Frank: The Thunderbolt?

Miller: No, the Thunderbolt was a jet later, F-84 [he means the Thunderchief].

Frank: Oh, I thought the 51 was the Thunderbolt.

Miller: No. The P-51 was a Mustang. But the P-51 later became the real top airplane the Air Force had but it had to go through several steps of modification. The main one and best one was the supercharger part that made the airplane, and initially it was only good in low altitude, but after they got the supercharger fixed on it then it became also a high altitude fighter and it had the best performance.

Frank: It had legs, too.

Miller: Yes, in fact, when they wanted real long legs they built a special P-51, I forget the nomenclature of it now, anyway they built two P-51 fuselages on one wing and it was a long-range bird that was to be escorts for the B-29. And it was built and used. So I think what speaks for it, aerodynamically it was a very, very fine airplane.

Frank: They used P-51s on Okinawa to mount the first air raids against Kyushu from Okinawa.

Miller: That's true. And, of course, the Korean Air Force flew a lot of 51s, South Korean.

Frank: Let's talk about other aircraft. The AD was a powerful plane, it seems to me. Or at least carried a tremendous load of ordnance.

Miller: Well, I flew some of the early tests of the AD at Patuxent River. When I first flew it, it was known as the XBT2D. And then it, they took the X off finally when it got past a certain stage and was the BT2D. Douglas had built an airplane prior to it that looked a little more like a Corsair, known as the BTD, and I flew it at Pax River, but it was aerodynamically not as clean and didn't have quite the performance and the Navy never bought them in sufficient numbers to put them in squadrons. They had about eight or nine of them.

I know I flew one down to Cherry Point one time to check on my pay record from Pax River while I was down there and gosh, it really caused a stir because nobody had ever seen anything that looked like it and I could hardly get back in the airplane to leave because people were crawling all over the airplane, you know, looking at it.

But the BT2D was a fine airplane. Unfortunately it had a very poor engine. It had a Wright engine that had made a name for itself in the civilian transport community. It was a good engine for that, in a way. It was also the engine that was put on the B-29. It was not very successful even in the B-29 but once they were committed they had to make it work.

This was the Wright 3350 engine and this engine was the thing that really hurt the AD as it was later changed to AD, and then later, of course, when McNamara dictated what we call it the A-1. But the AD was a fine airplane except for the engine. The engine was more suited to transport type flying than it was to a pilot who one moment he's got full throttle and the next minute he's pulling the power off to slow down. And he's trying to stay in formation in combat and it was not a very good airplane for that.

Frank: The criticism was made that we sold all of them to the French and when we went into Vietnam we could have used this type of aircraft.

Miller: Yes, I've heard that. Of course, a lot of that came from the ground side of the Marine Corps. The ground side of the Marine Corps has always been extremely supportive of an airplane that they developed confidence in that did a good job in close air support. And at that time there was, the question about the jet airplane, would it be a good close air support airplane because it went too fast.

Frank: It couldn't remain on station.

Miller: That's a very simplistic look at it and was really not the case. A good pilot in a jet can bomb much more accurately than a bomber in a reciprocating airplane because there is so much trim change in the airplane in a reciprocating [engine aircraft] because you've got torque from a big engine. And if you're towing a lot of power, the airplane wants to go left.

When you get in a high-speed dive, because the tail is actually put on crooked just to take care of this, the airplane wants to go right. And so as you come up into a roll into a dive, you slow and the engine is pulling it left. But as you speed up coming down in the dive you're constantly sitting there changing the tabs. And not only that, but the airplane keeps changing speed rather rapidly, getting faster and faster.

Now, the jet has the same problem as far as getting faster and faster but they had speed brakes and you could put big speed brakes out and you could pretty well stabilize your speed so that you were not increasing speed. You'd go up to about 270 knots and then it would just sit at 270 knots coming downhill. But the jet did not have the torque problem of the engine so you didn't have any trimming. You could roll in and put your sight on the target in a jet and you could just hold it there as steady as a rock. And you could bomb very well. Anyway, the ground side of the Marine Corps were not in favor of using jets. They wanted big bomb carriers and they wanted what they thought was better for close air support.

Most of the aviators were much more inclined to want to go with the jets because they knew they could hit the target better. They felt a lot safer in the jet because its faster and it could get the hell out of an area much quicker.

The problem that we had of staying on station was more in where they based the airplane from than the airplane itself. If you would have based the Corsair and the AD at the

same place you based the jet, their time on station would have been the same. But they made the jet guys fly all the way from southern Korea, K-3, 250 miles before they ever got to the front. Well, by the time they got up there they only had about 30 minutes that they could stay on station and then they had to head for home.

The Corsairs and the ADs were at K- 6. But anyway, we were only 35 miles from the front lines. Well, hell, we could go up and sit on the front lines for an hour and a half, circling, waiting for targets and things like that. So, had the jets been where we were they could have been up there and stayed an hour and a half, too, but they had to use their fuel to get to the front lines.

Frank: What was the basis for that decision?

Miller: I really don't know. K-18 was over on the east coast and they were mostly reciprocating aircraft. The Koreans had P-51s there. The Navy was operating in and out, and that's where the Marines had originally gone. As they began to open up bases on the west coast, we moved into K-6 [Poin Tek] with our reciprocators. And, of course, at that time the jets had not entered the program so all the bases up close to the front lines were already loaded with MAG-12 ADs and Corsairs and F-7Fs at K-8. Those were loaded and there wasn't any room for the jets. And because of time they felt that if something had to be a long ways from the front, that in an element of time, we could take off at the same time at K-6 that they took off at K-3 and they could get to the front at the same time we did.

Frank: Because they were fast.

Miller: They were fast. They cruised at nearly 400, you see, where we were cruising at 180-200. They were more than twice as fast. So, I guess that that was more the thinking of time to get there.

Frank: You were in Korea for --

Miller: I was there for a year. I was caught in between the ten-month rotation and the fourteen-month rotation and I stayed a year.

Frank: I was out at FMFPAC in early 1950-1951 I met an air officer by the name of Hewitt [Roy R.], Dick Hewitt, who General Shepherd (?) sent over because this JOC [joint operations center-the U.S. Air Force and Army command and control set-up] problem arose. It was the forerunner of the problem we had in Vietnam on the use of Marine air assets. You went over to 5th Air Force in May of 1953, had it been pretty well settled by that time or was there still a problem?

Miller: No, in fact the Air Force let General [Vernon E.] Megee dictate the way he wanted Marine air to operate. I don't know whether that was because of the personal relationship that General Megee and General [Glen O.] Barcus, who had 5th Air Force at that time at Seoul, were just good, close personal friends. But we never had really any problem in the control of Marine air.

Frank: Did General Megee want to --

Miller: Single management?

Frank: Yes.

Miller: Well, that came out of the Vietnam conflict.

Frank: Right, but the forerunner was --

Miller: Yes, the Air Force believed particularly in the joint arena, ever since the JCS has been organized, and we've had joint command and so forth, that once Marine air comes ashore, the Air Force believes that it should go under the overall air commander. The Marine Corps believes it stay [with the Marine Corps] because its Marine Corps and in Title X there's a reference to the Marine Corps as being a uni-service which means indivisible.

Which means that air cannot be taken away from its ground forces, that that air is provided specifically for those ground forces and that no commander has the right to take Marine air and put it with Navy and Air Force air and run it all under one command for air. And that has been our big struggle.

That did not come about from an argumentative, contested situation as I saw it in Korea. There was no question that 5th Air Force at Seoul called all the shots on running the air war in Korea. But, they cooperated to the extent that any time the Marine ground forces called for air, Marine air was always sent first. And we were well located to support the Division, only 30 miles from the Division front. We could get there quickly.

But we developed a reputation, Marine air did, that all the Army units and all the Korean units wanted [it], and the British wanted Marine air for their close air support. So we were kind of strapped at just going all the time.

But, as far as 5th Air Force was concerned, Marine ground always got priority on Marine air. But the Air Force did schedule, when I first got out there the Air Force was actually sending the frag [order] down scheduling Marine air.

In other words, like you keep so many airplanes on strip alert for five-minute scramble and another backup of 15 minutes, another re-scramble. And then you had interdiction flights. Well, the Air Force controlled all the interdiction schedules, interdiction targeting. They just told us how many to put on strip alert and those came through the emergency channel.

When General Megee got there and got control and worked with General Barcus, we set up an office in Seoul at JOC Headquarters that was run by Marines and they wrote the Marine schedule. It came out as a 5th Air Force schedule but the Marines were writing it themselves. I know because I later went up and was a part of that staff.

But even before then General Megee set up the wing headquarters at K-3 to control Marine air in the doctrinal manner and he made great progress at doing it. He set up, in the intelligence section of the G-2, he set up a target information branch. I know because I think I was the first one to establish the branch and worked it over, I went down to the wing after I completed my 106 missions and set up this targeting branch.

And right next to it we had the G-3 planning branch, just two offices next to each other, just walk through the door. They did the fragging and I did the targeting and our

targeting information came from spy reports, friendly force reports, pilot observations, the whole nine yards. We put it together and formed our targets.

Then we coordinated that with the Marines up in Seoul at JOC Headquarters. And we would send up to them our schedule as we wrote it, fragged it, targets and everything. They would clear it before they ever went to the briefing at 10:00 in the morning for the next day's operation, before they briefed all the generals that was all cleared through the staff and everything and coordinated so that there was really no problem. But General Megee started us working then like we work today as a wing or as the air element of the air/ground team.

We really had very little problem up there. We got everything we ever asked for. I later went up there and worked on the targeting thing.

Frank: 5th Air Force?

Miller: At 5th Air Force Headquarters, and I coordinated, I was then coordinating the targets the Wing was sending up that [they] wanted to hit and I would see if the Air Force had targeted those and what kind of information they had on such and such targets. And then I would get with the schedules group and we'd sit down and we'd put the frag together and then it would go out to all the units. And even though it came out under a 5th Air Force frag, it was written by Marines for Marines.

Frank: It worked out pretty well.

Miller: It worked out super. When General [Samuel E.] Anderson relieved General Barcus it never changed. In fact, they were so good to us that when I requested to go down and fly the F-86 in my spare time, they cleared it and I went down and flew 86s at K-13 south of Seoul. They were really a good bunch of people.

Frank: Then you came back to El Toro in November of 1953.

Miller: That's right, and I went on the station staff. That happened, kind of a mistake. My son at that time had an eye problem, what we called an alternating cross and we had him

under treatment of a physician to correct the alternating cross. And they were eventually going to operate and clip the thing. This was in Long Beach and we were at the wrong time to be moving.

So I sent a message to Headquarters and requested that my orders be to the Marine Corps Air Station at El Toro. It was my immaturity, I should have said on the FMF [staff] rather than the base, but they gave me exactly what I asked for.

They sent me to the station and when I stepped in there they didn't have any jobs that I really wanted. And they offered me three, I can't remember, they offered me the O Club officer. They offered me one another job and the Special Services officer. And I finally decided that Special Services officer was the better of the three and accepted that one. And I must say, in a year and a half time, I probably learned more about business management as Special Services officer and I consider it one of the better experiences I had, although not very career enhancing.

Frank: No.

Miller: And, in fact, I think it's that job that probably caused me to be one that got passed over from major to lieutenant colonel which was corrected almost immediately the next year. But I learned a lot.

Frank: And you did get assigned to VMA-224 while you were there.

Miller: That's right. Well, by hook and crook I got out of the job, it was supposed to be a two-year job and I got out of it about six months early and got [assigned] XO of 224. We were flying at that time F-9Fs. I stayed as XO under three COs; Colonel Bob Foxworth, [Francis] Kenned Coss and Sam Richards. I stayed in and brought in the A-4 program. VMA-224 was the first A-4 squadron in the Marine Corps.

And I came back because I was the only pilot in the group that had ever had any swept wing experience and that was the big thing in those days. They considered a swept wing airplane flew differently than a straight wing, like a Cougar F-9F. And because of my F-86 time that I'd flown in Korea and my previous Pax River experience, I was sent back to

the East Coast on a program that had been started called FIP, for Fleet Introduction Program of a new airplane system.

I went back to Patuxent where they had an East Coast contingency of Marines and Navy and a West Coast Navy and Marine team of squadrons that were going to be the first squadrons to receive that airplane in the fleet. And we took, Major Nate Peevey, our S-3 officer in the squadron and 30 enlisted men and we went back to the East Coast and operated with the East Coast Marines, the West Coast Navy and East Coast Navy into a big outfit where they brought in nine A-4D1s and we learned to fly them and taught our men to repair them. Then I flew the first one back to El Toro. We managed to latch on to one of those nine airplanes. So we were one of the first outfits in Naval aviation to get them in a fleet squadron.

Frank: Did you fly that nonstop?

Miller: No, I stopped twice. Stopped at Dayton primarily because of a thunderstorm that I couldn't get over or around without running myself too short because St. Louis was also in a thunderstorm condition. And I wasn't going to take a chance at busting one up by running out of fuel. So I ran it to Dayton and spent the night and then went into St. Louis the next morning and refueled.

I spent the night [in St. Louis] because they wanted me to arrive in El Toro at 10:00 in the morning and I flew from St. Louis to El Toro nonstop. They had the band and this was the first arrival of the first A-4D1. I still have some pictures. General [Marion L.] Dawson was the wing commander and he met me and we've got pictures of him coming down the ladder. It was a great day for the Marine Corps to get the first A-4D1.

Frank: We talked about the war, BUAER, Senior School, [unintelligible]. CO VMF(AW)-513 and next thing we talked of going to MAG-11 where you became XO.

Miller: Yes.

Frank: And MAG-11 was in --

Miller: Atsugi, Japan.

Frank: Atsugi, okay. Was that an accompanied tour?

Miller: No. I never had but one accompanied tour overseas and that was in Hawaii.

Frank: Atsugi in May, 1964--what did MAG 11 have at that time?

Miller: It had one F-4 squadron. Well, when I got there they hadn't gotten that one yet. They had three F-8U squadrons, two Crusader squadrons and shortly thereafter [VMFA] 531, which was the first East Coast Phantom squadron -- well, I take that back, [VMFA] 314 got the first F-4s just about the time that I got there. Bob Barber flew as the skipper of 314 from the West Coast, which was the first Marine Corps squadron. It reported to Atsugi just about the same time I did.

I had been forced to give up command of 513 because I was coming up for promotion, or passed over for colonel, and they wouldn't let me take the squadron over in either case. They didn't want me as a passed over squadron commander and they weren't going to let the squadron be commanded by a colonel. And so they had to do something with me. And I was fortunate. In those days you were lucky if you could keep a squadron a year and I had already had 513 almost, a year and a half.

So the decision was made that I would go to the wing overseas and be the XO of MAG 11 where those squadrons would be coming to. And then if I made colonel that would be no problem because it would be awhile before I'd get it and I'd be rotated back to the States by the time I made it anyway. And if I'd have been passed over it really wouldn't have hurt much to be a passed over lieutenant colonel as XO.

So, as it worked out I went to MAG 11. By the time I got there Art Moran was the skipper. And 314 had just gotten there. They were the squadron next to us at El Toro that was the first squadron to go over.

The F-8U squadrons then began to drop off the line. Eventually 531 from Cherry Point came out and then following that came 513, my old squadron. And then following

that 542 came. So we wound up with four Phantom squadrons out there. We finally sent 312 home which was the last Crusader squadron.

And then, of course, 314, the first F-4 squadron, rotated back to the States just as the Vietnam was beginning to fight, so they didn't go to Vietnam. The second squadron that arrived which was Bill McGraw's 531, was the first Phantom squadron of all services to go into Vietnam. And they flew in, there were some rather interesting details, if you want to get into it, of the moving of that squadron.

Frank: Yes, please. Where'd they go into? Da Nang?

Miller: They went into Da Nang.

Frank: Monkey Mountain --

Miller: No, to the actual Air Force field. The Air Force had F-104s there. They didn't have any Phantoms. General [Victor] Krulak had come out from Hawaii on several occasions, I mean Japan, at MAG 11. He came there and spent three days with us briefing him on the Phantom. He wanted our Phantoms to go in because they provided not only air defense but they were also good bombers. And that was better than taking an A-4 in because the A-4 didn't have a fighter capability.

And he came there and we gave him the same briefing three times, exact same briefing three times. And believe me, I have never known a man that, if you hadn't known it you would have been sure he was a pilot. When he finished he knew everything about that airplane and he could answer any kind of question. We grilled him and grilled him about the hydraulics systems, about this and that, and here's a three-star general getting this.

Then he went down to Westmoreland and convinced Westmoreland that the Marine Phantoms should be moved into Da Nang. This was in March of 1963, 1964 --

Frank: Well, no, it would be March, 1965. May, 1964 you became XO MAG 11. You were XO for, so it had to be March --

Miller: You're right, March of 1965 because we went into Da Nang, the Marines went in early 1965, March of 1965, and that's when Krulak was talking [about] sending our own air in to support our own ground forces. And he wanted to send the Phantom so he came to MAG 11 for these briefings and then went down and briefed Westmoreland. And I went down as a backup for him, for anything he needed. And I'll tell you, he was as smooth as anything I've ever seen. And he just literally convinced Westmoreland beyond any shadow of a doubt.

And the Air Force was very much against this. They didn't want our Phantoms in there. But Westmoreland made the decision.

Then when the time came, they hadn't made up their mind the exact time that we were going to move in so we came back and we were put on DEFCON 3 which was one-hour notice that you had to be ready to move. And we sat on that for about a week. And boy, that's a very tense situation. Nobody can go outside the base. Nobody can --

Frank: It is irritating.

Miller: Yes, so finally Bob Connelly, the group commander's birthday was coming up and I called the chief of staff of the wing, Tom O'Conner, and I said, Tom, is there anything you can do for us to get us off of DEFCON 3 for a little while because the group would like to give the group skipper a party and we don't want to be on an hour's scramble after that party. So he called back in a couple hours and said, yes, we've gotten clearance. We'll drop you down to 4, which is like four hours.

So we had the party that night and needless to say, things were pretty damn quiet the next morning. And I was in the office about 8:00 and the skipper, of course, had been wined and dined and toasted and given the protocol for his birthday. Things were so quiet and at about 10:00 there was a call and it was Tom O'Conner and he said, Tom, you're scrambling in two hours. He said the 130s are on their way.

I didn't know how in the hell I was going to get the group moving at that speed because I had to go and wake the skipper up and try to get him up to let him know that we were moving. The skipper of 531, Bill McGraw, I had to get him up and tell him you got about two hours to be on the line, airplane checked and ready to go.

It was no problem on the enlisted side because they had not been partying. And we got the word to all our engineering chiefs and everything, and everything was well taken care of. The airplanes were ready and we were packed and everything was set. It was just kind of the condition with everybody. So, needless to say, there were a hell of a lot of cold showers taken real quickly that morning and lots of coffee consumed and at 12:31, as I recall, Bill McGraw took off for Vietnam. And Paul Fontana was the wing commander. He had been given orders to get his squadron there as quickly as possible.

Frank: How long a flight was it from Atsugi to --

Miller: About a four hour flight.

Frank: Nonstop?

Miller: Nonstop four hours. If you had to stop you could add a couple more hours onto it and that would be six. They said quickly as possible, so General Fontana ordered tankers to Okinawa and the first six airplanes which Bill McGraw led, the squadron commander, took off and tanked over Okinawa. He never landed and went on into Da Nang.

About the time they were tanking the stuff really hit the fan. The politicians and ambassadors got into the thing and suddenly the Marine Corps has just launched an attack or a movement of aircraft to a belligerent nation from a non-belligerent nation violating international law. That is, Japan had no gripe with Vietnam and here our planes had taken off from Japan soil and were landing in Vietnam. This meaning then that Japan supported Vietnam and that was not the case. So, boy, we went into a panic and we put a hold on all the tanking. And we had to land the rest of the people at Cubi Point, P.I. refuel them on the ground and then go into Vietnam.

But it smoothed over okay and there was never much more said because there were only six airplanes that did that. But they were there in just a little over four hours and they flew a combat flight before the day was over. Most of the bombs that had been carried into Da Nang for Marines had been carried in by Marine R-4Ds, the old DC-3s. So there wasn't

a whole lot of aviation ammunition there. Now the Air Force was cooperative and let us have some when we first got there. I moved into Danang as CO MAG 11 (Forward).

End Tape 2/IV, Side A

Begin Tape 2/IV, Side B

Miller: I stayed in DaNang for about two and a half to three months because I was due to rotate back and I had orders for the Army War College. So Bob Connelly then, who had the group up at Atsugi, moved the entire group out of Atsugi and brought it to Da Nang.

And I rotated back to the U.S.. I had been selected for colonel. I came back through Washington and on a Sunday morning General Robertshaw came in and promoted me so that when I checked into the Army War College I'd be a colonel. It worked out extremely well. And then that's when I went to Army War College.

Frank: So you were only in Vietnam for about three months the first tour.

Miller: That's correct. Now I had been down there several times on planning trips and had flown some missions while I was XO, MAG 11, which had to do with the contingency plans for movement into Southeast Asia.

Frank: It was even less than three months.

Miller: Yes, about that period of time. But that one really cost me from a career standpoint because General McCutcheon was moving down at that time to relieve General Fontana of the wing. General McCutcheon was very aware that I had been CO MAG 11 forward. He came back here and became Deputy Chief of Staff, Air [DCS/Air] and I graduated from the Army War College and I came down to work for him in DCS/AIR. About a year and a half afterwards General [Marion] Carl called me from the 2d Wing and said, Tom, if you can get down here I can give you a group.

So I went to General McCutcheon and asked him if there was any possibility of me getting out of Headquarters Marine Corps a little early because General Carl had offered me

a group if I could get down there. McCutcheon in his cold stare looked at me and he said, you've had your group. My two months of group commander, MAG 11 Forward he always chalked up as my group command.

Well, a lot of people would like to have group command under combat, that's true, but two months is kind of short. So I never really got to command a group any longer than that two months. Of course it was in combat, and I did it as a lieutenant colonel rather than a colonel. So I wasn't ever sure how much that was going to impact me. Fortunately General McCutcheon sat on my promotion board to brigadier general so I guess it all [worked out].

Frank: All evened out, yes. We could go into the Army War College here, if you'd like.

Miller: It's up to you.

Frank: Why don't we do that and finish up this session.

Miller: Okay. I came back from Vietnam and my family had been in California and we moved across, and, as I said, when we visited, General Robertshaw who was DCS/Air and two things, when you came through Hawaii you debriefed with the FMFPAC Headquarters and then we came on to Washington and generally all of us who were lieutenant colonel or above came through Headquarters to see if there was anything that they wanted to question us about that was going on in the Pacific.

So I went through some briefings on a Saturday but General Robertshaw was out of town, no, I take it back, he was in a all-night session of something that, I forget what it was, but he had slept on the couch Friday night and he had gone home to get some rest because he had stayed all night at Headquarters. But he said that he would come back in on Sunday morning and promote me because [unintelligible]. So I got all my briefings on Saturday before reporting to Carlisle and then Sunday morning he came in and promoted me and then I reported Monday morning to Carlisle.

Carlisle is another very, very enjoyable and, I think, probably more than I really realized, an important part of my career. The Army War College was an extremely high

level and we didn't deal in divisions; we dealt much more in strategy than any kind of tactics. And it was an appropriate jump from the Command and Staff from Navy War College to the senior level of education.

Our class was a rather unique class, we were split about equal, in thirds. The top two-thirds of the class were colonels. The bottom third of the class were lieutenant colonels, as far as rank was concerned. I was right in the middle, of course, by being just freshly promoted to colonel. So it was a very ideal situation.

We had a total of six Marines, students, and two Marines on the staff.

Frank: Who were they?

Miller: [Stanley E.] Titterrud was one and Bergorn. No, wait a minute, Bergorn was at Navy War College. The other guy I can see, red-headed freckle-face. Later went to Pendleton. He's dead now. He died from some disease. Anyway they were really top notch. Both he and Titterrud really took care of us and looked after us. We were part of the Navy group there and they had Air Force, Navy, Marine and Army students.

They had, as I recall, about 110 or 120 students. Some interesting people that were in the class: Al Haig was a lieutenant colonel classmate, and a guy by the name of Bob Rowe who was also a lieutenant colonel. In my opinion, Bob Rowe and Al Haig were the two smartest Army people there, just stood out. There wasn't any question.

Frank: Was Al Haig a spring butt?

Miller: No, Al was, I think he recognized his position. He had been in Vietnam as a brigade commander, I guess.

Frank: So you weren't the only one to have Vietnam experience?

Miller: No. I was the only Marine with Vietnam experience. There were several Army that had been there.

Frank: Did your wife remain back?

Miller: No, she went to Carlisle, too. My wife has always been one who went regardless. Our children's education and everything was always second to us remaining together as a family. We believed that that was more important than being sure that they sat with mother and went to school in a very peaceful environment.

I still believe that that's the way it should, I think it upsets more families to separate. It doesn't hurt the kids, they learn to become flexible in life if they're moved around from school to school. I look back at my own and I think they're much better today because they went to different schools here and there. They got kind of shuffled around but it enabled them to understand the problems of life later, it's like that anyway. Bob Rowe was an interesting person. As I say, he was about the same rank as Al Haig and of the same quality. Bob Rowe had been in the Green Berets and, as you may recall later, Bob Rowe went back to Vietnam as a colonel after he completed War College. He became head of the Green Berets. And that's when he got cross-ways with Abrams in the double agent thing and they eliminated some of the so-called double agents that were discovered and it all got blamed on him because of some lack of coordination. I'm not sure whether they could definitely prove that it was, apparently they did prove that it was Bob Rowe's fault but I think there was always a lot of animosity that existed between the MACV [Military Assistance Command Vietnam] staff and the Green Berets because they were a different group of people. The Green Berets were considered the elite of the Army. The guys sitting on Abrams staff in Saigon thought they were the big guys and they were calling the shots. So, in my opinion, they were the kind of guys that knife throw, and you know, Rowe was played up in the newspaper and *Life* Magazine and he was court martialed. And I've always said, that knowing him and seeing him, both he and Al Haig together at the Army War College, that if they had changed places and Haig had gone and Rowe had gone where Haig did here to Washington to Kissinger's staff, then it would have been Al Haig that would have got the court martial and kicked out and Bob Rowe would have been Secretary of State [unintelligible] because they were almost twins in their abilities and smarts. We had nine so-called courses, through the year and almost every student had an opportunity to be the class head of this course. As class head you have a deputy head just in case you get pulled

out or you have to make a trip. Well, it was kind of ironic that Al Haig was my deputy when I had the class head and then Al Haig became the class head on the number nine course, which was our last course, and again I think the last chairman of the class was picked by the staff to head up, the number nine course, it was the biggest, and I was picked as Al Haig's deputy.

So we kind of flip-flopped and so I got to know Al quite well and had a high regard for his ability. He had unlimited memory, control of himself and it was always impressive. Somebody asked me who did I think was one of the most impressive people in the United States and this was before he became Secretary of State, and I said that I thought Al Haig, because, I guess, in a defensive way when Nixon had all his problems with Watergate, the one guy in the White House, who was an Army officer, and as a military man held that thing together. And never was he ever charged with any improper action like all the rest.

And Al in the last few days of Nixon was really running the country because Nixon was beside himself and Al was chief of staff, at that time, of the White House. And I think Al would have done extremely well. I was delighted to see him get Secretary of State but I knew that he was in trouble the minute he got it because in this man's country, politics rules the roost. And, of course, Al had not been a politician. He had not given huge sums of money to the Republican party. He had made it solely on his own ability and performance and he was selected as Secretary of State. And the minute you do you take a man from outside the political arena and put him in a top position that means that everybody who thinks they should have been there --

Frank: Snipers.

Miller: And that's what happened. They just sniped Al Haig to death.

Frank: Well, also, he misspoke.

Miller: His greatest failure, in my opinion, was he was a military man and a military man is always taught that when things are confused, somebody has to take control. And, of course, Al had already been CINCEUR and he knew international politics and he was deeply

concerned about what the thoughts would be in other countries of what was happening in the United States with the President shot, the Vice President out of town and by all legal rights, as long as Bush and the President either one are alive, the Speaker of the House doesn't come into it. He only comes in, when there is no succession, he is the succession.

But on the President's executive staff, the Staff Secretary rates right behind the Vice President. Well, with the President gone, Al's problem was his use of words. And he was having a little physical problems with, you know, the heart. He was having leg cramps and lots of stuff because, as you know, he later had a vein replacement and all.

But he had rushed up to this room in front of the press. He was deeply concerned that the international world would feel that there was nobody at the helm and looking at it from a nuclear, strategic defense and everything, somebody needed to say that somebody had control in Washington. He just used the wrong words.

Frank: I'm in control.

Miller: I'm in control. Well, there is no military man that can ever make such a statement and survive it in Washington, even if he's right, because Eisenhower was the only guy that could go back in later years, who had the total popular support and could do that. That one thing killed Al Haig.

Frank: Well, I've seen him on tv when he was giving testimony up in Congress and his choice of words, his syntax and everything --

Miller: He's too strong for many of the civilians but you can look back on things and how things developed. He hasn't missed any of it. He called the Panama Canal giveaway with Carter. He called it right on and he said, you know, we're going to wind up using troops down there and you look what we're going to be doing. In another couple years we're going to have to put troops in there to keep Nicaragua and Panama -- Al has a tremendous understanding. It's his strong military training, he's too strong.

Frank: I think also his Catholic upbringing and his college --

Miller: May be.

Frank: I don't think he was West Point, was he?

Miller: Yes, he was.

Frank: But he had a strong, Jesuitical training before he went to West Point then and has remained, I think, is still a Catholic, and I think the rigidity there. Have you kept in touch with him?

Miller: Only to see him and speak to him when I see him in political gatherings.

Frank: Not socially?

Miller: No, no. In fact, you know, he stepped way out of my circle when he was Secretary of State. Every once in a while if he was at something and I'd been sitting down and he'd look at me and give me a wink, you know. But I didn't consider myself in that same realm, nor did I really want to be in it. Because I think Al would, still enjoys the thought that he might make President. But I think he's realistic to know that he hasn't got a chance at doing it. However, I was surprised, in some of the recent polls he still polled a lot higher than some of the people in Congress. I still think he's one of the better brains we've got in the country as far as understanding international politics. He understands the European community far better than most of the people we've got even in the Defense Department and State Department today.

Frank: You know, you brought up an interesting point, in fact, that when he went up to become Secretary of State he moved out of your circle, and I think when we get to the point where you are DCS/Air, we will talk about the social stratification and the social life in D.C. We tend to think of the Commandant as the head of our Corps but he's small peanuts when it comes to being on the level with the politicians and the Secretaries.

Miller: It is a variable position, really, and depends on the individual. And I think that fortunately, and in one or two cases, unfortunately, our Commandant has generally stood in a higher position than most of the other service heads just by the fact that it's Marine Corps. Lou Wilson, of course, had his Congressional Medal of Honor and was extremely well liked and well known on Capitol Hill. Then you had Bob Barrow who was extremely popular on Capitol Hill, was well known. It was [Senator John] Stennis and [Senator Russell B.] Long, of Louisiana, who, it was pretty obvious, had planted both Wilson and Barrow, in that order.

[General P.X.] Kelley, in my opinion, is very strong, [although] he hurt himself over the Lebanon, Beirut thing, initially. He was a little too immature and he stuck up too much for the Marines when he should have been harder on failure. I go back to my experience with a guy like [Herman] Nickerson. Nickerson, if he'd been Commandant, that colonel in Beirut would have been fired before he could have even gotten home for supper that night. He was unmerciful. Well, I think Krulak was a lot this way. Boy, when they found some guy that they considered.... I think that, Tim Geraghty was the colonel there too long. He was in an odd position that people don't understand of where the Commandant fits, he is not a tactical commander. He's in the logistic line, but the President put him in a very odd position by sending him as the head of the service over there to investigate the services, which went around the JCS and it put him in a very untenable position. And unfortunately, in my opinion, they thought he was too loyal by not calling the Marines that did a poor job and were not prepared.

Frank: There were about six general officers that would have been fired.

Miller: Oh, there's no question.

Frank: Including yourself. I just finished writing, and, as a matter of fact, I'm preparing a history of the [unintelligible] Marines in Lebanon for the review. The Commandant's reviewed it and it's going over to DOD for review. And, of course, I [unintelligible] but I feel very, I have some very hard feelings and strong opinions. And I think the Marines were put in an extremely [unintelligible] position and from the very beginning it was a presence

mission. I think [Robert] McFarland ought to have been court martial-ed, you know, and I think it's only proper that the President took the blame for himself because he's the one that insisted ---

Miller: Yes, he insisted on --

Frank: But you had [Gen Al] Gray, you had John Miller, you had Bob Barrow, you had P.X. Kelley that went out twice, had Mick Trainor, you had Dave Twomey and you can't tell me that with all that combat experience that one of them didn't take [Colonel] Tim J. Geraghty aside and say, Tim, I know that your mission is presence and everything but I think you ought to put a [unintelligible] or something. You mean to say that one of them didn't. And then McFarland ordered Gary(?) Dorr(?), the naval gunfire support of the RAF, the whole thing crumbled. That's my --

Miller: I think you're correct, very much so. There was a lot --

Frank: I was over there twice. I lived with them, when Jim Meade was there when [Colonel] Tim Geraghty came in. And I lived out in the field again for the first time, using piss tubes and eating MREs, and it was a great experience and I saw the situation. Presence, you know, I thought it was absolutely proper that they put the Marines in that DOT building. The way things had gone if they'd stayed in tents they would have been shot. The grounds were crawling --

Miller: No question and you can protect that building.

Frank: That's it. But no one was killed up to that time as long as they had been in the building, for nearly the year that they'd been there.

Miller: But you know, hindsight makes, you can see now. But, I think that the colonel had an untenable position and all the people that were responsible, the main ones, of course,

were the in the chain of command, which Rogers, Motten(?), all the way up the line and around. They were the ones that were number one at fault.

Frank: Rogers never went there, CINCEUR, never went there.

Miller: That's probably what saved him.

Frank: And part of the explanation was that they were so sensitive about criticizing or pinging on the Marines that, you know, for instance the MAU or the BLTs holding the regimental position, when they went in they couldn't even take the high ground because it would give the appearance of protecting the MLR which the Israelis were using. I am very emotional on this and I know P.X. is.

Miller: But that's what hurt him on Capitol Hill because he stuck up for the colonel --

Frank: Probably sunk him --

Miller: Yes, I think he probably would have stood a very good chance of being the next Chairman had that not happened. However, I think in the long run, I've talked to Bob Barrow several times about the possibility of he being Chairman, and Bob told me he didn't think it was the right time yet for a Marine to be Chairman because we had not been a full member on the JCS that long. That occurred during the Wilson thing and I was present and very much involved in that one, and that we were pressing it and it looked like we were pressing too hard if we were struggling for the Chairmanship. So Barrow, had he felt otherwise, might have got it himself because he left in great favor with the Reagan Administration. And could have been, and, in fact, he's on the Intelligence Committee over there, you know.

Kelley suffered under the same problem that Al Haig did. He used improper language in front of Congress and you cannot do that.

Frank: He was tired. He was emotional. And even though it was a friend of the Marine Corps and a former Marine that asked the questions, P.X. just chomped him and this people up there don't take that lightly.

Miller: No, you cannot not. You just absolutely cannot, I learned this as a lieutenant colonel. I used to watch old Admiral Bob Pirie and they used to just eat him up. Well, I knew how he was when he wasn't in front of Congress and he was a strong leader and nobody gave him a bunch of crap. But I have seen his blood pressure just go clear to the boiling point but never break over. He never once would lose his temper when he was testifying on Capitol Hill and I just didn't understand how he could do that. I could tell his face was getting redder and redder but never once did he let that emotion creep through because he knew he couldn't win. And if there was any one thing I learned in four years of testimony and almost four years before that as backup witness, is that you really cannot let your emotions come through in Congress. I don't care who you are, because most of us feel in some respects kind of like a general one time told me, someone had said he should go back home after he became Commandant and run for Congress. And he said, are you out of your mind, I've been a second lieutenant.

Those guys in the Congress, in the House of Representatives, may be second lieutenants, but when you're over in their city you better treat them just like they were the President because you can't win. And it only takes one or two and it doesn't take a big, massive vote to kill it.

Frank: And there's a lot of back slapping and backstage politicking and trading horses.

Miller: They trade votes over there like it was money. And so one guy, if he's got something that the others want, boy, he can get an awful lot for it. If he wants to sink a guy like Kelley or [unintelligible], he can do it because he says, you go with me on this and I'll vote with you [unintelligible]. It's really a lesson in human psychology to live on Capitol Hill and watch it.

Frank: I am reminded a good number of times, living in Washington and watching Congress, watching the politicians, I am reminded of Woodrow Wilson's comment about the Huerta regime in Mexico, familiarity breeds contempt. At which point I think this is a good place to stop.

Miller: You get emotional.

End Tape 2/IV, Side B

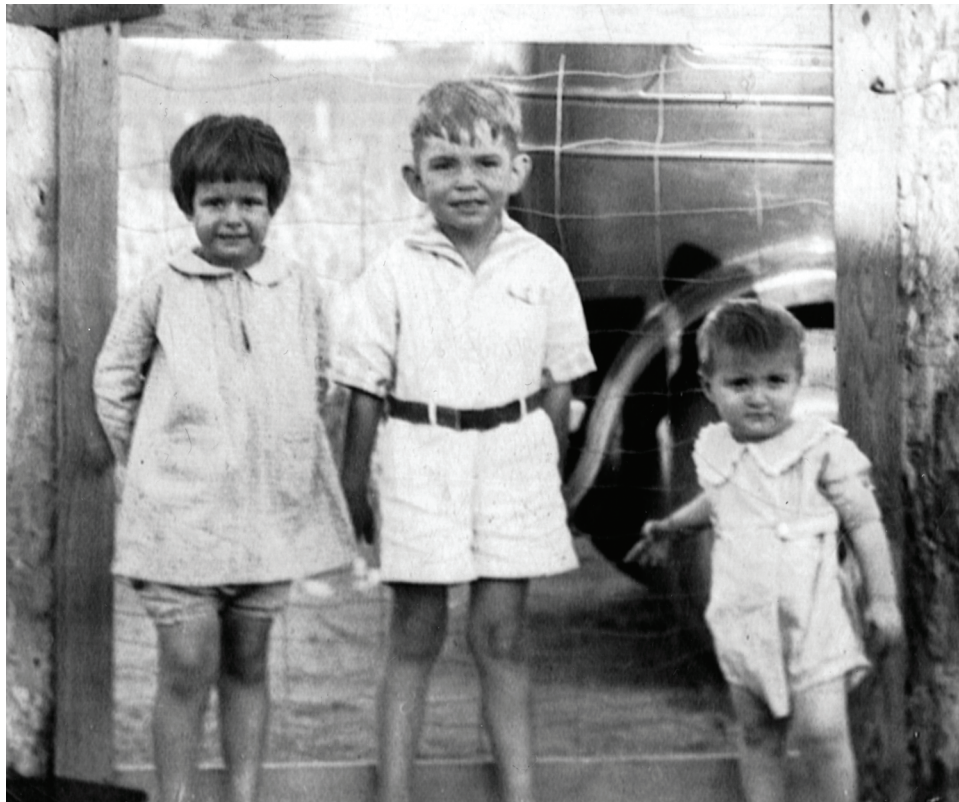
End Session IV



Pilots from VMF-155 switch out alert-crews, on Midway Island, 1944. Miller is in jeep's passenger seat.

Lieutenants John Glenn (left) and Miller; life long friends, in their Marshall Island Quonset hut, 1944.





Friends from the beginning—Thomas Miller (center), at age five, with his future wife Ida Mai (Giddings), age four, on her grandmother's farm outside of George West, Texas, 1928. Ida Mai's younger brother Jimmie is on the right.

First Lieutenant Miller, in a F4U Corsair, on Majuro Island in the Marshalls Islands, 1944.





Major General Vernon Megee, Commanding General, First Marine Aircraft Wing, presents, Major Miller with Distinguished Flying Cross, at K-3 airfield, South Korea, 1953.

VMF-323 pilots pose in Korea, left to right, Captain Ray Pineo, Major Miller, Captain Jerry Coleman, the New York Yankee all-star infielder who had been recalled to active duty, and Lieutenant Ivan Watts.

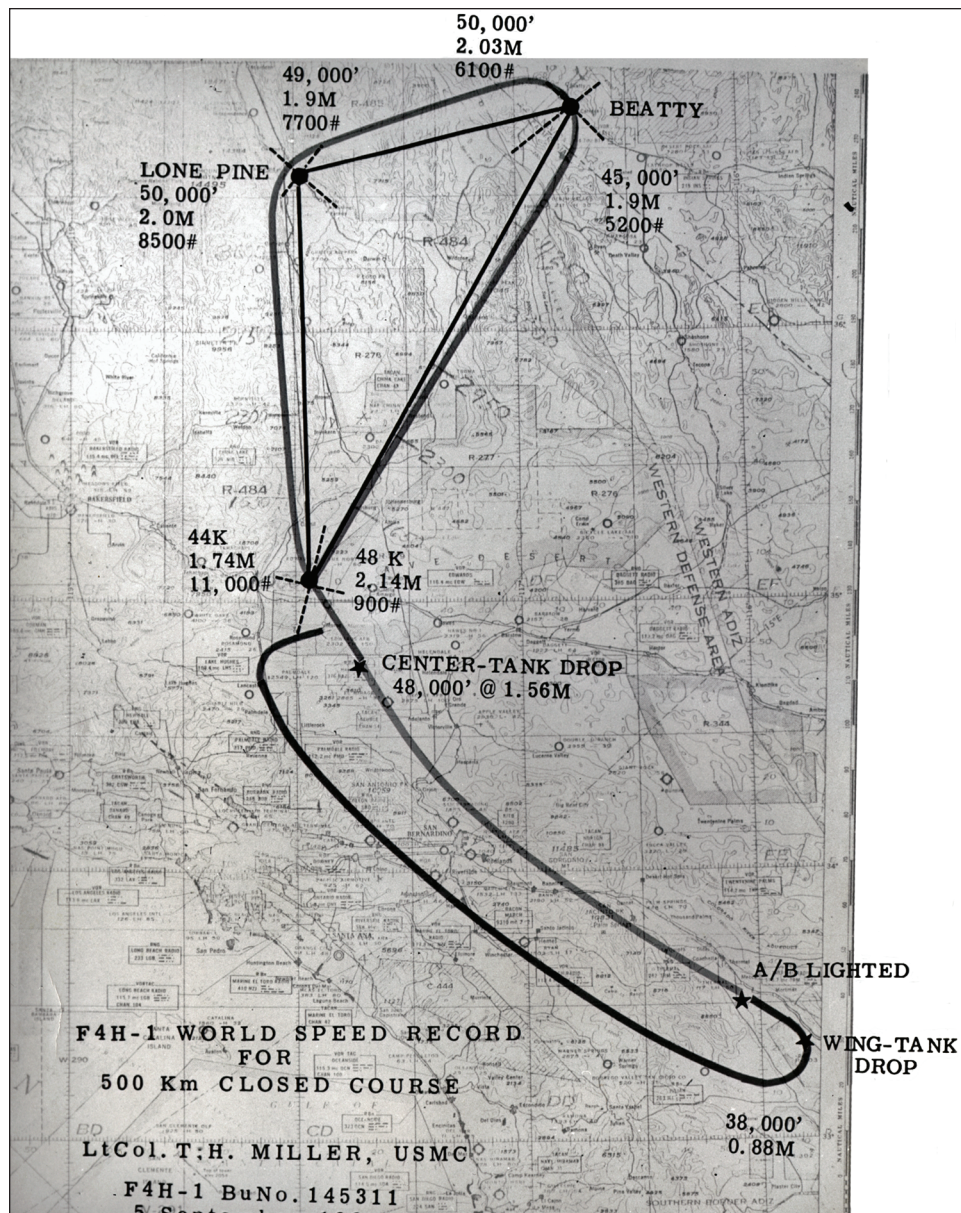




Major Miller delivers the first A-4D-1 to the Marine Corps (VMA-224) at El Toro, California, on 27 September 1956.

Lieutenant Colonel Miller poses on a F4H-1 Phantom II just prior to setting the world speed record in the Phantom, 5 September 1960.

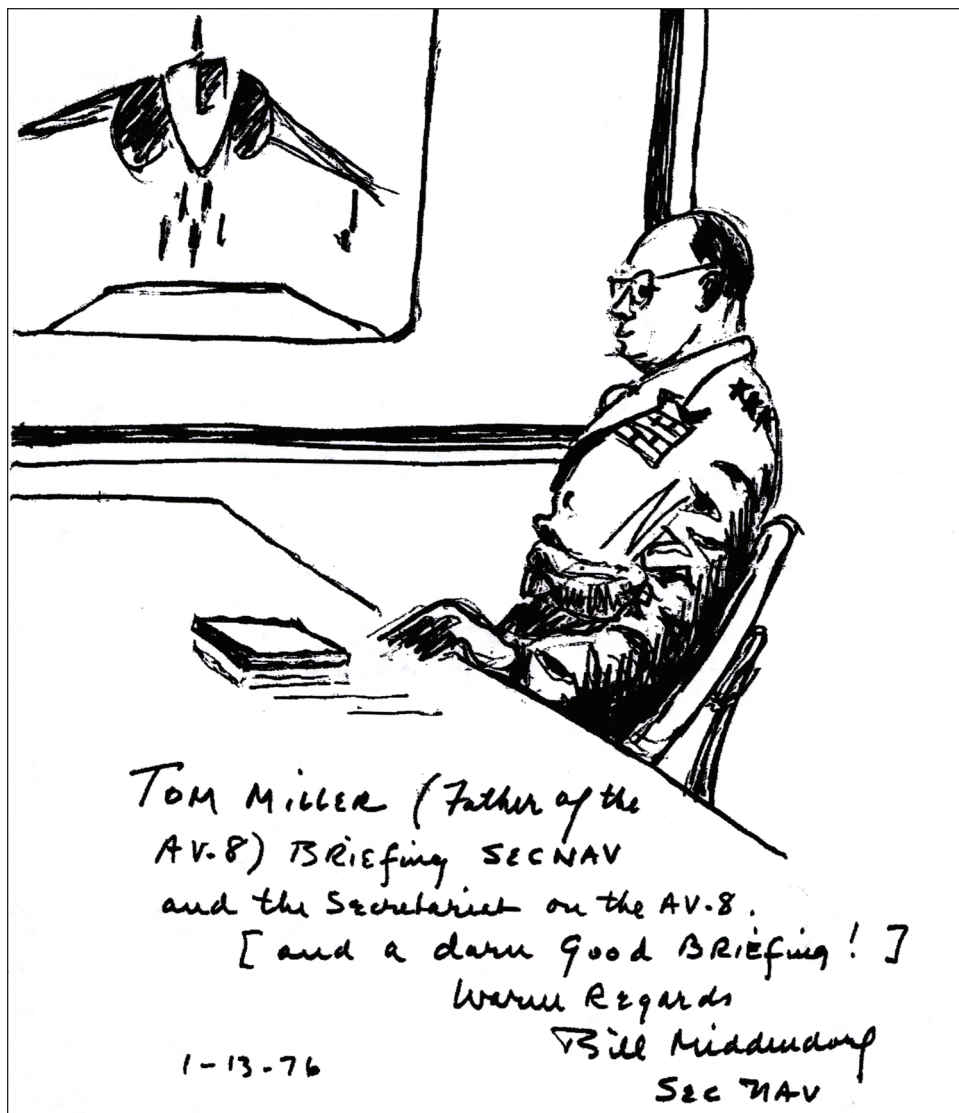




Map depicting course flown by Lieutenant Colonel Miller in which he set the world speed record in the F4H-1, 5 September 1960.

Colonel Miller, right, in England on the occasion of his first flight in the Harrier in 1968. With him are John Farley, left, the chief test pilot and the Harrier's designer, Dr. John Fozard.





Impromptu sketch done by Secretary of the Navy William Mitterdorf as Lieutenant General Miller briefs him on the AV-8 Harrier in the Pentagon.

Lieutenant General Miller, at the podium, speaks at the roll out of the AH-1T (Marine Corps version) 'Cobra' helicopter, during the 1977 Marine Corps Aviation Association convention in Dallas, Texas.





Former Deputy Chiefs of Staff, Marine Aviation, at the 1984 Marine Corps Aviation Association Convention, Washington, D.C. from left to right are Lieutenant General William H. Fitch, Major General Alan J. Armstrong, Lieutenant General Keith Smith, and Lieutenant General Miller.

Lieutenant Colonel Miller poses with his family in 1964 at El Toro, California, from left to right, Jacqueline, Donald, Ida Mai, LtCol Miller and Jo Ann.



Session V

Interviewee: Lieutenant General Thomas H. Miller, USMC

Interviewer: Mr. Benis M. Frank

Date: 18 August 1986

Place: Unknown

Begin Tape 1/V, Side A

Frank: As I recall, you had finished the Army War College. I am sure we talked about that.

Miller: Yes. I was slated to go to the JCS staff but my orders were changed and I was brought in to the DCS Air office as the air weapons systems requirements officer [in 1966].

Frank: And Gen McCutcheon was then Director of Aviation.

Miller: Gen Robertshaw was just leaving and Gen McCutcheon was coming in. Gen Al Armstrong was operating at the time I came in, he was the deputy and had it for a short period of time before Gen McCutcheon got here. Then Gen McCutcheon arrived and we started then getting down to what his policies and thoughts were.

Frank: Did you tell me, and I don't recall whether you told me or Al Armstrong told me, that it was time for Gen Robertshaw to leave. He just did not have a good rapport with his Navy peers, that there were difficulties in dealing with Navy aviation matters.

Miller: No, I don't know that it was me, because I didn't know enough, I was not there long enough to know [about] Gen Robertshaw's relationships with the Navy. Of course, being a Naval Academy graduate, Gen Robertshaw certainly had all the experience and background to be able to deal appropriately with the Navy officers of the Academy, particularly in his own level because Gen Robertshaw went on from that position of DCS Air. I forget where he went after that, he came back to Headquarters and picked up the third star and became head of manpower.

I would say just as a general remark, in those years [ca. 1965-1970] the aviation

budget was extremely tight, it was difficult to maintain the most compatible relationships with the people in the Navy in Op Nav because of the constant struggle over the few dollars. Of course, I experienced the same problem but it was rather well recognized that there was always kind of a struggle between OP-05 himself and Deputy Chief of Staff for Marine air who was also on the Op Nav staff as OP-05-M. It was unlike any other staff officer on the Com Nav staff.

The head of Marine aviation is also the head of Marine aviation on the CNO staff so you occupy a position on both staffs. That puts you in a very hotly contested budget environment and one that I was later thrust in very strongly. At that time we were only getting about three percent of the total dollars given to Naval aviation and, of course, you can imagine that that was not enough to keep us running at all, of course, there was some adversarial relationships that came into being because of our being kind of shafted in the budget side of the house. It wouldn't be surprising that Gen Robertshaw probably got at odds with these Navy types because I think all of us did. I don't know of a DCS Air that didn't have some adversarial relationships with the PPM of the Navy.

Because the Navy always had a tendency to believe that because Marine aviation is a part of Naval aviation and they hold the purse strings on it and they tend to feel that they can decide what weapons we will use and that they will tell us how many we can have and all that kind of stuff. We don't agree with that at all because the Congress in Title X specifically says and authorizes Marine aviation and specifies that we will build and construct Marine aviation so that it provides air support for the ground Marine. It gives the Marine Corps some very explicit instructions and the Navy sometimes has attempted to bypass that and decide based on their desires what Marine air should have. So, again, that is a controversial point and it varies through the years depending upon the personalities.

So basically it will be the OP-05. Fortunately, for the Marine Corps, over the last five to six years there has been an extremely (every since Admiral Dutch Shultz came in as OP-05), we have had naval officers in the naval aviation spot on the Op Nav staff that have been very fair to Marine aviation.

It was fortunate to have the very first part of my tour with a Vice Admiral Bill Hauser who was extremely fair and made no attempt to tell the Marine Corps what to do. On the other hand, Admiral Fox Turner, who took over OP-5, was not extremely

knowledgeable and experienced in the problems that naval aviation had. He had been a fleet commander and had a broad experience in the fleet but as far as understanding the operation of OP-05 and the relationship of it with the Deputy Chief of Staff for Aviation in the Marine Corps, there was a lack of understanding. He basically became kind of a slave to some of his own staff of Navy captains who generally always kind of have an adversarial relationship with Marines, going to put the Marines in their place.

So there was some very difficult and harsh periods while I was Deputy Chief of Staff for Air [1975-1979]. Just as an example, they decided the Marines were going to have to give up the A-6s, which is the all-weather air support airplane. They decided on their own that they were going to take all the Marine A-6s. Of course, the Commandant wasn't about to let that happen. He was extremely upset when he found this out and so expressed his views directly to the CNO. That was very quickly rectified because the CNO knew good and well even if he wanted to, he couldn't take the Marine A-6s.

But that is an example and there were five or six of these particular areas where, when they had to take budget cuts, the Navy decided how they wanted to take the budget cuts and we didn't agree with it. One instance is they decided that they were going to take budget cuts and they were going to take it by cutting out the number of airplanes that they had in A-6 squadrons for the fleet.

Of course, the carrier squadrons of the Navy are unique in that they sometime fluctuate in the number of airplanes that they can support because of the limited space that they have aboard carriers that causes them to kind of dictate, in a changing world, what they are going to be. They decided they were going to take a couple of A-6s per squadron. They decided that we were going to take a cut in A-6s and that this was one way to cut the budget down and we didn't agree with that.

We had some training airplanes that we said we would let go in our training squadrons before we would let go of fleet airplanes because we needed every [one]. We only had 12 airplanes in each A-6 squadron and to drop to 10 would have seriously hurt us because we had five squadrons of A-6s at that time and dropping the Marine Corps by that many A-6s would be disastrous for us. We agreed to give up F-4s.

Well, they tried to force us to give up A-6s and we went to the Secretary of Defense with our fight to say that we were going to give up F-4s in place of A-6s. They were very

upset at us because we wouldn't go along with them and the Secretary of Defense recognized how tight we were and that we were not trying to get out of taking the cut but that the cut was really hurting us. So when it got up to the Secretary of Defense, he replaced the F-4 training airplanes that we had. We didn't intend a cut at all in the A-6s or the F-4s because he put our F-4s back in. This really upset the Navy because they took their bite in A-6s. We didn't have to take an A-6 bite and we got our F-4s given back to us and that made them mad.

Frank: Well, this situation has been classic with respect to Marine Corps and Naval aviation. Since we came under Naval aviation going way back in the 1930s and earlier, we had to take, the cry was we took the Navy cast-off in planes and it was only through a fluke that we got the 'Corsair' which we made something out of, et cetera, et cetera, et cetera. And another thing, Gen Krulak, sort of an aphorism, I suppose, but very valid, in time of peace you fight for a piece of the defense budget and in time of war you fight for a mission and I think that is probably true.

Further, the relationship, the Marine Corps under I guess it is General Order Five, establishes the relationship of the commandant vis a vis CNO with respect to Secretary of the Navy. The aviation bit gets out of it so where the CNO really has nothing to say too much about the governing of the Marine Corps in general, he does have in aviation.

Miller: He has got hold of the aviation budget.

Frank: Green dollar, blue dollar business.

Miller: That's right. He controls all of aviation, all Naval aviation's budget. There is a term that is used that if it were used carefully and appropriately would very easily explain the relationship but too many people kind of take it for granted and don't really realize what they are saying. Naval aviation, the word naval aviation talks of all maritime air power, even including the Coast Guard.

Now, of course you know the Coast Guard is under the Department of Interior.

Frank: Transportation now. It used to be under Department of Treasury and then went under . . .

Miller: I thought it was Department of Interior but anyway, they are not under . . .

Frank: Elizabeth Dole was here for the change of command of commandant assignments.

Miller: I don't think it comes under her but in any case, they are in some respects even more disconnected than we are but they, too, in turn, get their funding for their airplanes a little different than we. They fund their airplanes but their people are trained by the Navy. And naval aviation is made up of Navy, N-A-V-Y air, Marine Corps air and Coast Guard air. That is maritime air or better known as naval aviation.

Many times, when people refer to naval aviation, they use it as specifically Navy and if people were much more careful in what they were saying when they are talking about aviation in the Navy, they should say Navy aviation or Marine Corps aviation or, of course, Coast Guard aviation but the all-collective term of training and supplying that really comes under the total title of naval aviation.

Frank: I want to talk about Gen McCutcheon. Let's talk about his personality, how he operated.

Miller: When I came out of the Army War College in 1966, my association with Gen McCutcheon had been when he was a colonel and brigadier in the Deputy Chief of Staff for Air's office. I had had an opportunity to observe him many times when he was the commanding officer of the HMX squadron and the President's pilot and this type of thing in Quantico and when he did many of the lectures to not only schools people but our visiting civilian people that came to Quantico every year to get indoctrinated into vertical assault as developed by the Development Center. Many people considered him kind of the father of the vertical development concept.

He was an unusual person in that the depth of his knowledge, his outstanding speaking and verbal communications ability, very impressive from an intelligence

standpoint, a master's in aeronautical engineering, I believe, from MIT. The first time I knew him was as a lieutenant colonel and then, of course, he later was a colonel and I became a little closer associated with him in later years through Marion Carl.

I had been at Patuxent as a test pilot and Marion Carl and I were down there at the same time as test pilots. Associating with Carl socially brought me more intimately involved with McCutcheon. Gen McCutcheon was always very friendly toward me. I felt very comfortable around him and felt that he had a good feeling for aviation in general.

I don't know what part he played in my orders, when I came out of the Army War College. I was slated to go initially to the Joint Staff for duty. Sometime just a few days before I left Carlisle Company for Washington, I was notified my orders had been changed; I was coming to Deputy Chief of Staff for Air's office. I had also learned that Gen McCutcheon was coming and relieving Gen Robertshaw.

When I came down, of course, I reported and took over one of the branches. There were basically five branches under the Deputy Chief of Staff for Air's office and one was Aviation Programs. The other, which I came in and headed up was known as Air Weapons Systems Requirements, more of a technical nature in the performance of airplanes. That was the one that I was put in charge of. We had the Logistics Section, the Manpower Section and the Air Control Section; so there were five.

Frank: Aviation take control of personnel?

Miller: Aviation personnel-- although that has been modified several times, at one time it was totally in Manpower and it got so screwed up that they put it back in aviation. It stayed and today I think that the responsibilities have been pretty well divided between aviation and manpower. There is a good relationship between Manpower and Aviation on this because of the special skill training it would require. An unusually large number of staff people up in Manpower to be able to handle it. Whereas people that can do several other jobs and manpower in aviation can handle it more effectively and efficiently in there. There has been a relationship worked out. In the earlier days it was kind of an adversarial relationship between, I think, . . .

Frank: Do your own slating and everything else there?

Miller: Yes, yes. They did. Today, they have aviation monitors in Manpower but those aviation monitors who issue the orders and so forth, work with the Manpower section of Aviation to come to a mutual agreement on who should go into those spots because of their particular aviation skills. That has not been a problem. In fact, that was pretty well cleared up even before I got there and we, I think, improved it as time went on because I also asked that I have a ground colonel be brought into Aviation to make him give them a thorough understanding.

There was always a kind of a feeling in Headquarters that those guys down in Aviation, they are pulling some kind of shenanigan all the time. We felt it was better to bring some of the ground people into aviation and let them understand what their own responsibilities were.

But in any case, Gen McCutcheon did probably more to bring the Aviation Department into a very cohesive, well organized, smoothly operating [relationship] with the rest of Headquarters. He was very highly respected by all in Headquarters and I think Gen Al Armstrong did an awful lot for that, too, because he was his Deputy.

Frank: I am just finishing up the . . .

Miller: Yes, you told me that you had finished with him.

Frank: I remember seeing Gen McCutcheon around Headquarters in those days, and he looked I won't say haunted but driven and very intense.

Miller: Well, he was an unusual, in physical features, he was a small man. His eyes were well set in his head which sometime gave the appearance that he was tired and drawn. I don't think that was the case. He was a very deep thinker. There was not a lot of open humor and flamboyance to him. He was not an actor in any way.

Frank: Very businesslike.

Miller: Very businesslike, very much to the point. What a lot of people didn't recognize, he had an extremely interesting dry sense of humor. Just to give you an example, you would think he was a very straight, typical military appearance. He was extremely businesslike and a lot of times sat very quietly when there was big conversations going and just kind of listened and didn't say much. But one day I walked down, he had a habit of coming by my office and he ate in the cafeteria rather than the general's mess most of the time.

Frank: Yes, that is where I used to see him.

Miller: And he would come by my office and he would stick his head in and he says, "Miller, let's go to lunch." I found that this was an opportunity for me to go sit with him and have lunch and we could discuss things that were important to me to try to find out how he felt about certain things.

Frank: It was Miller, not Tom.

Miller: Well, he would say "Tom" usually if we were in a meeting but if he would come in where there were other officers around, he would stick his head in and say, "Come on, Miller, let's go to lunch." That was a little more formal than Tom.

He was always very informal with me but very businesslike. At a party, it was always Tom or something like that.

But this one day, just to give you an example of how he enjoyed life, we got in this cafeteria line and there was this little old lady about 75 years old had gotten to the cash register and we were standing behind her. She was trying to fiddle around in her purse trying to get money to pay for what she had on her tray and she was down in this purse, and he was standing right behind her. He eased up to her and set his chin on her shoulder and says, "You got enough in there for me?"

This was truly out of character. Gen McCutcheon is very businesslike. He didn't know the lady from Adam. But the fact he walked up and put his chin on her shoulder and looking down in her purse over her shoulder, saying, "You got enough in there for me." She

looked up and smiled and says, "I think I can make it."

And then once in a while there would be a certain joke that he would hear that he would take and tell that joke many times. So underneath this very businesslike form was a very soft hearted, very human individual which always struck me because I think to be a good Marine, particularly a senior officer, you must never lose sight of the human aspects and what makes people work. McCutcheon certainly knew how to get the most, when it was business, he was business, cold hearted, yet he knew when to throw in the humor and lighten everybody and keep everybody from getting all tensed up.

Another characteristic he had which I tried to emulate all through my career was his ability to let those who work for him alone and let them do their own thing; let them be. He never once did he ever tell me basically a program that he wanted. Once in a while then through his conversation he would infer that certain things should be done, not that he didn't give orders for things he wanted to be done, but when it came to new ideas and new things, he would generally, through his conversation, he would generate enough thought that it caused the individual themselves to come up with the idea. This trait, I think, is unusual among men. We all know that people work better if they think they came up with the idea and they have been given the go-ahead to go.

Never once in all my dealing as a colonel there did he even tell me never to go over to Capitol Hill. I would use these luncheons when he would come by -- most of the other people didn't want to eat with him because they didn't like to eat that fast because he would just zip down and run through the line and eat and was back in the office -- but I found it gave me that unusual opportunity to tell him--I, early in my years, adopted a principle of not asking my senior what I should do but to tell him what I wanted to do (in sufficient time) and if he didn't like it, that he could stop me.

I used that to tell McCutcheon what I was going to do, like when I told him I wanted to buy an armed helicopter like the Cobra that the Army had. I thought we ought to buy some Cobras, instead of keep putting guns on Hueys and transport helicopters. I thought we ought to have a gunship that was specifically designed for the job and not this kind of halfway position that we were doing and putting all kinds of guns on Hueys. He would generally say, "Go ahead, charge."

Frank: That is an interesting point because I remember early in his incumbency, Gen Greene was opposed to Army helicopters. Do you remember that? And they got behind it and the arguments that went on.

Miller: The Marine Corps was generally always opposed to Army helicopters because Army helicopters were not specifically designed for the amphibious mission. Gen Walt, no disrespect to him, but when he came back from Vietnam, he had operated so much with the Army up there, he was convinced that the Huey was such a great airplane for particularly for the infantry force, that he just couldn't understand why the Marine Corps should be buying big 46es and not buying more Hueys. He found the Huey was, in the Army because if they needed a large number of troops, they would just bring in a large number of helicopters.

That works fine on land but that doesn't work very well on a ship because you can only get so many of them on a ship and they don't carry enough. We couldn't run our amphibious mission requirements with a Huey. Gen Greene understood this, and we never had any real problem with him and, in fact, he understood it to the fact that he didn't want us using Army helicopters and was kind of adamant against it.

Gen Krulak was, to some extent, that same type of boss. Gen Krulak was very specific when he didn't want guns put on transport helicopters. I think we wanted to put some side gunners on when they were going into these zones that could keep the Viet Cong from firing on them while they were landing. Gen Krulak just, boy, he was adamant they weren't going to put any guns on those transports because he said, "I would rather have two more Marines on there than those guns. Let them shoot out the windows or something with their own guns but don't load them down with all the weight of these machine guns on the transport helicopters."

Of course, some of that philosophy has changed through the years, not a great deal, and I happen to be still one of the proponents that I think Gen Krulak is basically right. In modern warfare, we are going to have to put some air to air weapons on them purely for defensive work but they will be very light as a general rule.

Frank: Fire suppression weapons.

Miller: Yes, fire suppression, what they call a Martin 19, it is about a 40-millimeter grenade launcher type of thing. It is a kind of a hand grenade that can be fired in and around where the landing zone is to cut down any opposition that might be [there].

But Gen McCutcheon, when I went into him and asked him if I could pursue a program to get some Army Cobras in because we needed them right then (we didn't have time to wait through a big, long development program), he said, "Fine. Charge." And I went to work like mad to try to get the Cobras. That is why we bought 30 Cobras from the Army and then we immediately sent them out to change the engine in them to put a twin engine in rather than a single. Of course, from that then, we also took that same engine package and put it on our Hueys, which was our command and control ships.

Frank: How long did a conversion like that take?

Miller: To go from a single engine to a two-engine?

Frank: Yes, sir.

Miller: Take, in the neighborhood of two to three years.

Frank: Was it that long a transition to get them from the time they said go to buy? It wasn't something they could do . . .

Miller: We could do it a little faster in Vietnam. For instance, we could buy Cobras from the Army in one year because the Cobra were on the production line and all they had to do was up the production a little bit or get the Army to let us have some of theirs. [We] would take theirs because when you buy airplanes, because of the tooling up cost and the training of the people that build them and all, the aircraft is much cheaper if you can buy them in great quantities each month rather than string them out in threes and fours for a long period of time. That long period of time really costs you paying that workforce and everything when you string that over time.

It is much better to bring in a third more workers than to pump the production line up

from, say, 6 to 12. The airplane cost goes down markedly when you can produce 12 instead of 6 per month and when you get up to even in the higher numbers, it even drops more sharply. That is why most all the people in the aviation and procurement business in the Department of Defense are trying to get Congress to quit squeezing the budget so much that we can't do a buy-out much quicker.

Frank: Nickel and dime it.

Miller: Yes, they nickel and dime it and it spreads it over so many years that we wind up paying a hell of a lot more for the airplane.

Frank: How long does it take to build a Cobra, for instance?

Miller: They can build a Cobra, if the production line is going, from the time they put it on, about three months.

Frank: Three months to take it and outfit it.

Miller: From the time that they start doing the first, putting the first metal in the jigs until it comes out the end door. So today where without Vietnam, it takes about three years. If something is already in production and you decide you want to buy it, it takes three years before you get the first one even if you don't have any opposition either within the Department of Defense or up on Capitol Hill because it takes one year to get the program in and to get it in the budget. It takes a year for the budget to get approved and then it takes a year after it is approved to get the money to pay for it.

That is the highest priority you can get under peacetime. In Vietnam, where the Army had the Cobras going, all we had to do was get the money. We just went in for enough money to buy Cobras. Because of the urgency of Vietnam, it was approved and it took us about a year to start getting Cobras.

Frank: First, where you are talking about a new model plane-- a concept design to finished

[product].

Miller: Ten years.

Frank: Ten years.

Miller: And that has gotten longer and longer and longer.

Frank: Changes to into it.

Miller: Well, it is not the building of it so much, as the management team and the procedures that are used, the so-called watchdog procedures, that cause this. This is not building it. You can still build them just about as fast as they used to build them. The problem is the Secretary of Defense's office, for instance, has grown from some 450 people to over 20,000, and you have got probably six times as many Assistant Secretaries of Defense today than you had in the earlier days.

When we built the Phantom, the airplane was first flown in 1958 and the first one went into the fleet in December of 1960. That is 2.5 years from the first flight until it went into the service. Today, the F-18 first flight on the YF-17 was back in about 1976 or 1977 and they didn't get the first wing in the service until 1983 or 1984. But because you have got all this management crowd in the Pentagon that argue over whether it is the way to go or not and they sit there and they argued for months and months and months and in the meantime you are paying all these engineers in the manufacturing process and industry. You can't lay the blame on industry.

If they are to build the thing, they have to have the engineers that were in the design and building of it to be there to supervise it during the production. What you do is you drag those people out and you hire them for 5, 8, 10 years. Look how much it costs just to pay their salaries and these are high paid engineers. You have got to keep the top professionals in this country in the business. That is why airplanes cost so much today because they drag it out. If they would give a flag officer, much like they did Admiral Red Rayburn, give him the total responsibility and give him the money that he says he requires to do it, he could do

this thing in three years for any of the biggest, the fanciest weapons systems we got practically.

Frank: But, of course, one of the things in dragging it out is you go along, new technology, new concepts [comes in].

Miller: That is another thing that costs you because you get something built, get it started and then somebody comes in with something new and they say, "Oh, well, we have got to take advantage of that new." So they tear out the old-- costs you money. Go through the development and the testing on the new gear to be sure it passed all the specifications and then put it in and there you have lost three or four years because of maybe the fire control system or something new came along. So when you drag it along, you have more of this new technology that creeps up on you whereas if you could build it quickly with the present technology, it is going to cost you less and you are going to come out with a good machine and you will be through. It will cost you less and then you can turn around and build the next machine in the next phase that is totally different.

That is what the Russians do and they are very successful at it. They keep improving on their design. They carry designs forward for years but they build and click, they don't fiddle around. They make a decision quickly to do it and they build it and in three to four years they have got it and then by the time it gets there, you have got enough new technology that it is worth going back. Then in the meantime they go on the drawing board and they put the thing on the drawing board. Then when they are ready to go, boom, they crank it out and that is why you have all the MIGs and the numbers, MIG-17, start out with MIG-15, MIG-17, MIG-19, MIG-21. They are all evolutionary developments of the original airplane.

Frank: What happens at the end when the aircraft you developed is obsolete when it is built.

Miller: Well, that is a damn good question. That is the problem we keep. Many of us keep arguing today that the detailed management that we get from people outside the technical people that have to design it and build it, when you get all the civilians in the

Department of Defense (which is necessary, civilian controlled), but you have got so many of them. They are not aeronautical engineers, they don't even have experience in flying the machines but they have what they call management expertise. The F-18 is a very, very good example. When I returned to Washington in 1975, the big argument at that time was building the F-18. The Marine Corps had been in the F-14 program but, again, because politics and costing and everything had gotten into the F-14, the Navy cut a third of the program, trying to save money. They cut out the attack capability of the airplane and that is one of the reasons the Marine Corps didn't want it. The Marine Corps doesn't want an airplane that cannot be used both as a fighter and an attack airplane. Gen Wilson, even before I got back here, made the decision that the Marine Corps didn't want the F-14 because we cannot afford the manpower effort for a single-mission airplane, a fighter.

Frank: F-14 or F-18?

Miller: F-14. Our F-4s are getting older by the year and most of them at that time are 12, 15 years old and we were going to run out of fighters if we don't have the F-14, what is going to replace it? So we were in a pretty tight situation. Well, part of the Navy was trying to build the F-18, particularly a large group in the Department of Defense were trying to build the F-18. The Marine Corps needed an airplane and so they hung their hat on the F-18 because they weren't going to take the F-14 and the F-18 would be both a fighter and an attack airplane. I can remember I hadn't been back in town two months until I was up in front of Congressional subcommittees testifying on the F-18.

Sitting in the hearings is a colonel from the Russian embassy listening to everything that was being said. Much of the information, which had been printed in unclassified magazines and publication of its performance and how fast it would go and what the return rate and all this-- although it was published in that, it had not been verified by official data. Many of the Senators and the Congressmen assume that when it has been printed in a magazine like that that it is not classified information any more. And, of course, even though it is printed, it hasn't been verified from an authoritative source. We don't want to do that because everything is printed in this country and the Russian doesn't know what is truth from fiction.

So we tried to get the committees to go into closed session so we could get rid of this colonel and the public information but they would stand on the thing of well, this information was in the magazine, why do you claim it is classified? We would generally answer, "Well, we didn't put the stuff in the magazine and we don't know that that is right" but many times they wouldn't go in.

The Russians anyway sat in those hearings and by the time we got the F-18 built, they already had an airplane to compete with it. The small areas which we can maintain enough classification and security on the data is the so-called high tech side of it. Technology that we have in the bird that gives us the edge, even though the airplane can be countered by another airplane that can go the speeds and turns and things like that, the technology in the airplane is superior to that of the Russians.

We are getting to the point in this day that we are not that far superior and this is the problem that Secretary [Caspar] Weinberger is being faced with, with technology is becoming an equal between the U.S. and Soviet Union. This is because we have not been spending the money on what we call basic research and the United States has fallen way behind in that and that is really what the strategic defense initiatives of the President or "Star Wars," which is a major effort in what I would call basic research. It is something the United States needs to have done for years because once we got out of the war in Vietnam-- when wars come along you are really pushing to find weapons systems that the enemy doesn't know anything about and he doesn't have time to counter them by the time you get them on the front line--but the longer we have stayed in peacetime, we cut the budget. We cut that kind of budget out because it doesn't show us anything that you could put your hand in. On the other hand, with the Russians sitting in Afghanistan, they are essentially in kind of a Vietnam conflict for themselves. They are doing one hell of a lot of advanced research at improving their systems and so forth while we are sitting here dead in the water and that is one of the big problems we face today.

Frank: Getting back to Gen McCutcheon, about his relationships with the rest of the Marine Corps, the ground side, I think it was pretty well accepted, kind of accepted had he not died, he very well could have been the first aviation Commandant we would have had.

Miller: There were some indications of that because I think basically the ground side of the house recognized Gen McCutcheon's capability as certainly capable of being a very outstanding commandant; so that is possible. No one would ever know there is generally a basic feeling throughout the Marine Corps, predominantly on the ground side, that an aviator shouldn't be Commandant. On the other hand, I think all the ground people are saying, "Well, you know, I don't think you should say that an aviator shouldn't be Commandant. It depends more on the individual. Their feeling is that most aviation generals don't have the experience on the ground side and since the Marine Corps is predominantly a ground force, then the aviator is really not qualified to be Commandant.

I think in the case of Gen McCutcheon, they recognized that he was smart enough and knew enough about it and had enough close cooperation in operations with the ground that they recognized that wouldn't have affected his being Commandant.

He also had the brigade. He was one of the first brigade commanders.

Frank: That is right.

Miller: In Hawaii.

Frank: You were in the Division of Aviation for three years. You headed up the weapons system for that three-year period.

Miller: For Gen McCutcheon. The weapons systems requirements division.

Frank: Before you were selected for BG [brigadier general].

Miller: Yes.

Frank: What were some of the major events (of course, we were fully involved in Vietnam, I am sure you had to support the requirements of aviation out there) in terms of long range planning, too, post-Vietnam and so on.

Miller: Of course, Marine aviation is, I would like to think, is evolutionary in its change.

Frank: Yes.

Miller: We cannot afford to go leap out into wild blue yonder projects because we have got to be able to fight the war of today, today. What we have is what we have got and we can't ever allow ourselves to get off into some wild blue yonder projects which take a significant manpower which we have very little to operate on. What we have to do is we have to do any kind of test in development, basically with the forces that fight the war. That is not all bad because that means that you have got the guys that know how to fight, designing and thinking of the new systems and the improvements that you need.

During my period in there (Gen McCutcheon having come back from Vietnam), I had been over there at the time. I had taken Marine Air Group 11 into Vietnam. I had been the XO at Atsugi and because of my fairly short period of time remaining when Vietnam started, I was sent down to take the advanced elements of MAG 11 into Da Nang. Gen Bob Connelly who was colonel at that time was the skipper of MAG 11 and remained at Atsugi with the rear echelon.

So I went to Vietnam and we put VM CJ and VMFA-531, the F-4 squadron and the air control units all under MAG-11 in Da Nang. I was the CO of MAG-11 in Da Nang at the, we called it CO-MAG forward, until I was returned to Atsugi and Gen Connelly went down.

Frank: We are talking about the things that went on during this period in support of Vietnam. Major programs.

Miller: Well, as I remember in kind of the order the issues came up, was first, the need for an armed helicopter other than a Huey with guns tied on the side. Every time there was a requirement to haul a lot of VIPs around Vietnam, then we had to pool the Hueys that we used for gunships, we had to take the guns off them so they could carry passengers. Our Medevacs then didn't have gunships to go along with the Medevac because we had too few airplanes. So that is when I went to Gen McCutcheon and asked permission to see if we

couldn't buy some Army Cobras and he said, "Get on with it."

So we went to work and we bought the first 30 Cobras from the Army and then immediately set out to improving the Cobra to what we felt was the kind of machine that the Marine Corps really needed. The Cobra we got from the Army had a mini-gun turret with a 40-millimeter grenade launcher and a combined turret was its armament. It had a couple of racks on the pylons that fired some 2.75 rockets but the mini-gun and the rocket launcher didn't have enough range to be dueling with even a rifle on the ground. So it was far from being an optimum weapons system.

So we set about and got a new gun built by General Electric. It is the three-barrel 20-millimeter gattling gun that we have on the Cobra today. It has turned out to be a fantastic gun but it was built primarily for the Marine Corps for that Cobra. Then we were trying to find a twin engine package to put in it because in a ground fire environment you need the twin engine package as well as for operations over water and off the ships. This took us some time because there was no such engine package currently in production.

Continental came up with a very fine twin engine package for us. The few number of engines that we were going to buy, they wanted to write off all their costs in the first buy. Well, this was going to run the cost of the engine up so high that there wasn't any way [we could afford it] and I begged the Continental people to spread it out. Once the twin engine package got started, I tried to convince them, there was going to be plenty of demand for it and then they could write off their cost easily. But they wouldn't do it.

Finally, Canada had the same kind of a requirement for power plant reliability and they decided to twin up a single engine or an engine that they had a lot of time on called a T-76. They put it together in a combining gearbox with two of them.

Frank: Built by whom?

Miller: By Pratt and Whitney of Canada. We had to pay something like a million and a half or two million bucks, that's all it cost us to get the engine qualified to meet military specs; 150-hour qualification tests on the engine and we were able to get that package. We, in a way, kind of slipped it into the supplemental budget because during the Vietnam War, we came up generally about halfway through the budget cycle each year with a flurry of

supplementals to add to the budget because of unplanned requirements in combat. We were called over to the Pentagon to bring what we felt were projects that needed to go in the supplemental budget and I asked the Assistant Secretary of Defense if we might put in the twin engine requirement for our Cobras. He said certainly.

Well, unfortunately we didn't have a chance, because this was a rush-rush, we didn't have a chance to run this through the Secretary of the Navy to get his approval. So this we met one day and the thing went to Congress the next day, that is how fast it operated in those days and they put the money in for us to buy these twin engine things from Pratt and Whitney of Canada.

Of course, when that hit the Congress, the lobbyist for Lycoming that built the engine that was in the Army Cobra caught it and they started raising a big stink about it. The next thing the Secretary of the Navy wanted to know what the hell this twin engine package that we had put in the budget was when he hadn't approved it. So Gen Chapman was a little upset at us because we had bypassed the normal system.

Well, we didn't intentionally do it. We didn't have any way of doing it otherwise. So we were forced to do a study and we started working on the study on Friday morning and we worked steadily through Sunday night and presented the study to the Secretary of the Navy on Monday that he finally bought. But I can still remember Gen Chapman's notation on the Secretary's approval of our study which justified it, saying we may have gotten what we wanted but this is no way to do it the next time.

That was what came down to Gen McCutcheon. But that was probably one of our number one priorities, getting an armed helicopter that could do the job for the Marines.

The next big project that came along was our electronic warfare airplane which we had originally been in with the Navy on--the EA-6A program. There were 12 EA-6As built, more or less as a kind of a development project for an electronic warfare airplane of which the Marine Corps had been the service with the greatest background and had the greatest interest in. We even had electronic warfare airplanes in Korea and we recognized the importance of that machine and were involved.

However, Dr. Gene Fubini convinced the Secretary of Defense that the EA-6As wouldn't work so the Secretary of Defense canceled the rest of the program and they gave the Marines those 12 airplanes.

Frank: That is why Jerry Fink, the man who tested out [unintelligible] before going to the VMCF-1, I guess it was.

Miller: No, those were photo [aircraft] well, Jerry Fink might have had something to do with it. I was not aware of his involvement in it at the time. Of course, my involvement came-- we had the only 12 and they had proved so very successful in Vietnam. We were still using the old EF-10 which was the F-3D night fighter that had been converted to an electronic warfare airplane in Vietnam. There still wasn't any ejection seat and the airplane didn't go fast enough to even keep the windmills on the 'jammers' running. You had to run downhill to get enough speed.

I had flown an electronic warfare mission in Vietnam before I came back and was well aware of the shortcomings of the EF-10 so we set about to try to get more EAs. The Navy had seen our success and so had the Air Force. The Navy convinced the Secretary of Defense that they needed to go ahead and further develop the EAs no matter what Dr. Fubini had said.

Frank: Who was this guy, Fubini?

Miller: Yes, he has been one of the foremost technical advisors to the Secretary of Defense for many, many years. He still is. In fact, I just got through serving with him again. He generally is a very, very capable, smart and intelligent in military weapons systems but in this case he was just way out in left field. We later proved that he was wrong and the Navy convinced the Secretary of Defense he was wrong and they were designing a new [aircraft], the EA-6B. Instead of a two-place airplane it was a four-place airplane.

Frank: Exactly what does it do?

Miller: It is an electronic attack airplane. It collects intelligence. Any kind of a radio frequency emission that you put on the air, whether it be for communications or for radar, it can analyze it and tell you what kind of a signal it is, what kind of equipment basically, how

it works, and it can tell you from which direction it is coming. It has transmitters on the airplane which can be beamed at radars, for instance, that essentially puts the radar out of commission.

It doesn't destroy it but while it is looking, the radar can't see you. It jams it. In my opinion, right at this time, it is probably the most important airplane in the entire Navy and Marine Corps fleet. They are very, very expensive, almost \$50 million apiece. We are very fortunate. We have some of the best technology of any of the services in the Marine Corps in this area.

Anyway, we went in to buy some more EA-6As, which was a two-seat version. But the Navy opposed this because they were afraid it was going to upset their program. It was trying to build a new EA-6B with four people in it. We said we couldn't wait for that because we were fighting in Vietnam and we had people who were flying airplanes that didn't even have an ejection seat and didn't have much of a capability, even though

End Tape 1/V, Side A

Begin Tape 1/V, Side A

we were supporting most of the Navy flights over North Vietnam with our airplanes. But they were afraid that we would go into Congress and upset the EA-6B if we asked for some EA-6As.

Mr. Russ Murray who was the Assistant Secretary of Defense for Systems Analysis, which was Dr. [Alain C.] Enthoeven at that time, Mr. Russ Murray was adamantly against us getting any more EA-6As.

Frank: You had a lot of trouble with him.

Miller: Yes, later on with the Harrier also. In any case, the Secretary of Defense who was McNamara at the time (but his position was more or less dictated by Russ Murray and Dr. Enthoeven), they [SecDef] would not approve our request. Well, when we got to Congress, the Congress asked us what it was that we had put in for that the Secretary of Defense had canceled. We told them the EA-6A. We needed 15 more EA-6As. He said, "Well, aren't

you developing an EA-6B?" And we said, "Yes, but that is 10 years away and we can't wait now because we are fighting in Vietnam today."

We pointed out how many sorties we were flying for the Air Force and how many sorties we were flying for the Navy since we had the only airplane that was effective. The Congress recognized the importance of it and they put \$106 million in the budget. They also made a statement in there for 15 EA-6As for the Marine Corps only and underlined only in the bill.

So when it came back, Russ Murray and his shop said, "Well, Congress may approve it but the Secretary of Defense is not going to let you have it." Mendel Rivers who was the House Armed Services Committee chairman and his people over there knew that that is what the Secretary of Defense had said. Mendel Rivers wrote a letter to the Secretary of Defense and told him if he didn't turn loose that money, that he shouldn't come to the Congress and ask for any electronic warfare money again until that was released.

Well, we got the money released immediately. We got the 15 EA-6As and that is what enabled us to survive in the electronic warfare community until finally the EA-6B came along.

Frank: Who made it?

Miller: Grumman. And, of course, today, the EA-6B is what it is today because of the experience that we had with the EA-6A in Vietnam. It was the only airplane that the B-52s would accept to help defend them because they were getting shot at by the SAMs. We were called back into Vietnam even after Marines had all left Vietnam. We had to send our EA-6As back into Vietnam to support the B-52s and some of the Navy strikes in the latter part of the war.

Frank: Probably the most highly sophisticated piece of --

Miller: It is the most sophisticated weapons system we have. But it is also one of the most important because it is the only weapons system, ground or air, that can neutralize the enemy's electronic capability to shoot down airplanes or shoot missiles even at ground

targets. It can so jam their electronic systems. That is why I say that it is the most important airplane that the Navy and Marine Corps have.

The Air Force, of course, were so sick of buying Navy-developed airplanes, they bought so many Phantoms, F-4s, that when we mentioned the effect, they also bought the A-3D, which was eventually made for the Navy as electronic warfare plane. The Air Force bought some of those known as EB-66 as an electronic warfare plane. So here the Air Force continued, was buying Navy airplanes in order to fill their mission.

We tried to get the Air Force to go along with buying the EA-6B because it had a capability far in excess of anything they had. Their pride got the best of them and so instead, they wanted to develop their own airplane so they developed the EF-111. They claimed they needed more performance than the EA-6B. That is questionable but the F-111 today is the only thing the Air Force has got. In my opinion, it doesn't have enough manpower in it to do the job. They try to do [it] through automation because they only have one electronic countermeasures operator aboard and the other one is a pilot.

The Marine Corps and the Navy have the pilot, plus a com expert. That is the guy that jams and listens to the communications radios and then it has two operators to locate, analyze and jam radar signals for missiles and it takes those three guys 100 percent of their time to do that.

Anyway, the Air Force would not purchase the EA-6B. [Instead they] developed [the] very expensive EF-111 and that is what they have today.

Frank: Did we lose many of them?

Miller: To my knowledge, we haven't lost any EF-111s. We lost, I think, a couple of EA-6As. My memory is kind of slim on that. Generally, you did not have to put them in an environment where they were subjected to the SAM. Their advantage was that they were a tactical airplane, too. They were not a big airplane that stood off and [did] what we call stand-off jam it. They were able to proceed right in with the attacking airplanes and jam it.

They have been very, very successful in the EA-6B today. In my opinion, it is the finest airplane in the world, and it can fly right along with the attack airplanes. It is not a huge, big airplane.

That was the number two project. And then as a result of the twin engine portion of the Cobra, we were able to eventually bring the twin engine package that we put in the Cobra into the Huey and that is where, as a result we finally developed the UH-1N airplane. Of course at that time we were looking at the F-14 and it was going to be a fighter and an attack airplane. It was the swing-wing airplane. It looked like a very, very promising aircraft and we were pretty much on board in that airplane.

We had some difficulties with the Navy on it because they were more prone to want it purely as a fighter and not so much as an attack. Probably the fourth big project in those years was the, what was the light attack airplane going to be in the future. We had A-4s, the Navy had A-4s, but the chance for an LTV [aircraft] had come in with the old Crusader modified to be an A-7. We would have gladly gone along with the Navy on the A-7 except that the engine that they put in the airplane was very deficient in many ways. It didn't have enough thrust for the size and weight of the airplane and the airplane was not compatible with our SATS environment for expeditionary purposes.

So there was a large argument between Gen McCutcheon and Adm Tom Connelly who was the head of Naval aviation at this time. A big argument ensued and due to the fact that the Marines didn't want the A-7 and he was mad because naturally the Navy wants us to come along with their programs because the additional buy in airplanes makes the price of them go down and Adm Connelly was very upset at us because of this and, in fact, the argument got so much in the open that the Undersecretary of the Navy, Mr. Beard, called Gen McCutcheon and Adm Connelly together privately in his office to discuss this difference that we were, Gen McCutcheon took me along as a backup for him since he had a very broad understanding of aviation but he did not have much of a feel for fixed wing aviation. He was a helicopter pilot.

I can remember the argument that started that day and Mr. Beard asked Gen McCutcheon why it was the Marine Corps didn't want the A-7 and in very typical fashion, Gen McCutcheon very short, to the point, itemized about seven reasons, bang, bang, bang, bang, why the Marine Corps couldn't accept the A-7. I can remember Adm Connelly, as much as I liked Adm Connelly, he really made him mad. He just turned all kinds of colors and because he was so mad because we wouldn't take the A-7.

The Undersecretary supported our position and we did not buy the A-7. Mainly it

came down to the fact that the engine did not have enough thrust to get the airplane off with any kind of a bomb load from a SATs strip and it had a wonderful capability of being able to go a long ways with a fairly good bomb load but it needed a 7,000 or 8,000 foot runway or it needed a catapult the size that you had on the carriers. Well, our catapults in our SATs was not near as good as the catapults on the ships. There wasn't any way we could limit ourselves by having to catapult everything off the SATs.

So we stayed with the A-4 and as a part of the agreement was that we would be allowed to upgrade the engine in the A-4 as our improved light attack. As it turned out, most of the Navy people in the light attack squadrons at that time would have much preferred to have gotten what we got as we got the A-4-M which was a really, a fine airplane and it proved it so in Vietnam.

Frank: Who made that?

Miller: Douglas. And it was a small airplane and it also fit with our philosophy on survivability in the ground, close air support environment.

Studies that we had done at Johnsville in Pennsylvania had shown from all our Korean and South Vietnam experience that there was three major characteristics of an airplane that allowed it to survive. First was speed. Number two is its maneuverability and third its size.

It needed to be small, it needed to be fast and extremely, highly maneuverable or what we say in test pilot terms, roll rate, the ability to change direction, turn rate, roll rate. The A-4 fits that, and it proved it in Vietnam. More A-4s were hit and returned to fly again than any other airplane in Vietnam.

Frank: Was that the Intruder?

Miller: No, that is the Skyhawk. It is the one that now the Harrier has taken the place of and will be removed.

But anyway, that program came up and it was a major change from what naval aviation or Navy aviation went with the A-7, and we stayed with the A-4. I think history has

proven that we were right in our decision on that one.

The next one was we attempted to improve our tanker capability. The KC-130 has been a fantastic airplane for the Marine Corps, both as a tanker and as a transport in the amphibious environment. But its ability as a tanker is fairly limited and has some very severe limitations for tanking jet airplanes, attack airplanes and fighters. Its speed is very slow and its ability to go to altitude is limited. It can only operate in the 20,000 to 25,000 foot or from 25,000 foot down. It can't carry any kind of a fuel load much above 25,000.

Fighter and jet engines operating in the 20,000 and 25,000 foot range are very inefficient and they are burning a lot of fuel. So when you [C-130s] are down, you have to come down from your normal cruising altitude. For instance, if you are where you need in-flight refueling it is generally for long flights so you cruise at the most efficient altitude and that is basically around 30,000, 35,000, 40,000 feet. Well, a 130 can't even get up there so you have to come down to get your fuel and then you have to fly back up. The amount of time coming down and going back up, in particular the climb back up when the airplane is heavy, you use up so much of the new fuel, that it is not very efficient and this is particularly true as it applies to the F-4 and the A-6. They have to slow down so much behind the tanker tube that in some cases to fill an F-4 with all its external tanks on it, the 130 has to dive while it is tanking the airplane in order to have enough speed so that the F-4 can even keep flying. It would fall off the hook [refueling basket], it is so slow.

So it is very similar. We were trying to correct this, and we did some studies that proved that the C-141 of the Air Force was the ideal airplane for us. It was a jet transport. It can perform on just about the same length of runways that the C-130 could. The only problem was that its wingspread was a little wider, so it meant you had to clear trees back a little farther in order to operate and that was kind of actually that would be purely an amphibious field and he would only have limited times that you would really need to operate a 141 out of that kind of an environment.

We reached an agreement with the Air Force that they were going to give us 15 or 16, I forget just exactly which, C-141s. We were going to modify them and put tanking capability on them. But then when the Congress primarily led by Senator Proxmire canceled the Air Force's buy of C-5s from 120 down to about 92 (as best my memory serves me), the Air Force had to come to us and say they could no longer agree to give us any of those

because we can't handle our mission without those C-5s. We would have to keep the 141s in order to make up that difference so even after they had signed and all agreed and everything looked like we were going to get the C-141s like tomorrow, it got scrubbed because of this. A terrible mistake, and a terrible, in my opinion, disaster for the Marine Corps because we have since, even to this day, are still operating with 130s as our tanker.

Probably we don't do quite as much tanking today, certainly as we did in the Vietnam days, and subsequently when we were flying the airplanes 'transpac-ing' [crossing the Pacific]. Of course, today we are beginning to use the Air Force tankers a lot more than we used to. We did not want to rely on Air Force tankers because there was a major conflict going on. It was obvious that the Marine Corps would be the last on the priority list to get tanking from the Air Force tankers when they are trying to get their planes to Europe or areas. We needed to support Marine ground forces. We needed our own capability to be able to go to anywhere in the world. It wasn't that we were not trying to use Air Force tankers but we knew from experience we wouldn't get the tankers when we needed them and that was one of the reasons.

We did not prove successful in that program. All the other programs, I think through Gen McCutcheon's efforts, the final project, of course, came around as a result of the Harrier.

Frank: One question before you get away from the tanker. We call it the KC-130 because we wanted to give it a Marine Corps designation.

Miller: Well, it is a tanker, the Air Force calls it the KC-130 also. K is tanker, C is cargo. So it is a tanker cargo airplane, you can use it either as a cargo or tanker and that is why the designation KC. Air Force uses that, too. It is a standard Department of Defense designation.

The other major project, of course, and there has been so much written about it but it had to do with the Harrier.

Frank: And you were intimately involved with that.

Miller: I was intimately involved because again it fell in the Air Weapons Systems Requirements division that had the prime responsibility of looking after the technical weapons system requirements to support the Marine Corps now and in the future. Of course our Marine Corps's initial efforts to develop the helicopter having been so successful through its initial use in combat in Korea led the Marine Corps to come up with the requirement which said that we wanted all our aircraft to have the VSTOL capability that the helicopter has when and if the technology permits it without degrading its other capabilities.

The Marine Corps since the middle 1950s has been looking for fighter and attack airplanes that could take off like a helicopter. This country has been very inept at being able to develop this. They either developed the control that was too complicated and all the test airplanes crashed and has been very unsuccessful. The British have made the best progress in the Project 1147, which was the first designation. It did not have a name but it was, you might say, the first of the Harriers purely in a test airplane. It also flew in 1958 for the first time.

A couple of years later it went through tripartite trials with an improved version known as Kestrel and although our pilots didn't fly in the Kestrel program, we were very cognizant of performance data. We had sought out and gotten its performance capability and we did not accept that because it had not developed far enough that it could replace anything we had.

About the time I got there, my R&D officer, I had in my branch, I had fighter attack branch and I had the helicopter branch and I had a transport branch and I had a VMCJ-EA-6 photo electronic warfare and an R&D [branch]. I had five sub-staff officers. My R&D officer who was a major, John Metzko, came to me one day and said as a result of the tripartite trials, which proved that the Kestrel needed some more power and needed some improvements, that the British aerospace people, who at that time were Hawker Siddeley, had gone ahead in that direction [getting more power], and in cooperation with Will Drawerson and developed an engine with exceptional improvement and thrust.

There was a new airplane called the Harrier that looked pretty promising. In fact, he got a film, and he showed me the film and I in turn agreed with him. We got Gen McCutcheon down and we showed him the film and he says, "I think it's time we do something. This looks pretty good." And one of my officers and myself, because of another

program that we had in trying to find a replacement for the old DC-3 or the R-4D, had been looking at a British airplane that showed promise, we got invited to the Farnborough Air Show by the Hawker Siddeley people.

When Gen McCutcheon and finally the Commandant saw the briefing, too, he said, "I think we need to investigate this more in depth." We reminded Gen McCutcheon, I did, that Bud Baker and myself had been invited to go to the Farnborough. We didn't think that we had asked but we had been turned down on going, on this particular invite, but now that the Harrier possibilities came up, this was a good opportunity for us to go over to England. While we were at Farnborough, we could go look the Harrier over and possibly since both Bud and I had been test pilots at Pax River, maybe we could get an opportunity to fly the airplane.

At first the Commandant Gen Chapman said, "Well, why can't Gen Johnson look into it instead of sending two additional officers to look into it?" (BGen William Gentry Johnson was Gen McCutcheon's deputy brigadier and was going to represent the Commandant in England). Well, I went down and talked to Gen McCutcheon and I said, "I don't have anything against Gen Johnson but Gen Johnson doesn't have the technical background. Most of his experience was in helicopters anyway and this is a high performance airplane. He is not a test pilot and certainly they are not going to let him fly the airplane."

We finally convinced both he and the Commandant that we should go and, if possible, fly the airplane. We worked with the British embassy and through a Royal Navy captain that was in the embassy at that time, John Glendenning, we put in our request to be given the opportunity, while we were over there, to fly the Harrier.

We had to be very careful because this other project that I mentioned that Bud Baker and I had gotten involved in had come out in an *Aviation Week* [magazine] that the Marine Corps was going to buy a British transport, really upset Chairman Rivers. All we had done is ask some prices and how do we go about to buy it. But *Aviation Week* came out and said we were going to buy one from the British and that made Rivers mad as hell. He wrote the Commandant of the Marine Corps a letter that really chewed him out for even thinking that he was going to be buying anything without at least coming and talking to the chairman.

So we didn't want the press to get hold of this thing and take it out of context. So we

went underground on the thing and we didn't let anybody know what we were going over there to do. The British were sworn to secrecy that they would not know that we were going to be flying. Consequently, the Air Force really had the project officers in the embassy in England but we didn't want the Air Force to know it because they would blow our cover that we were over there. First they didn't want us monkeying around with the airplane that they had Congress.

So we went over primarily, strictly, almost as civilians to look at the airplane and after considerable effort, the British finally agreed to let us fly the airplane while we were over there. Bud Baker and I each got ten flights in the airplane which was far more than we expected to get. The British kind of apologized because they couldn't get us more. That was about three times what we thought we would get so we thanked them and accepted.

But after we flew it, Bud and I both were convinced, beyond any shadow of a doubt, that it was really the airplane for the Marine Corps. It was ideally suited for what we needed: to come and provide the support, come to the assistance to the Marine on the ground and provide that support he needs quickly.

We came back and actually briefed Gen McCutcheon on it and then on up to the Commandant. That is when Gen Chapman said, he asked me, he said, "Tom, isn't that the airplane that we Marines have been looking for a long time?"

I said, "Yes."

And he said, "Don't you think we ought to get started to getting some?"

I said, "I think that would be a very, very wise move."

And he said, "Okay, let's get going. I want it in the budget." The budget was now already being printed in the Department of Defense to go to the Congress. This was in October 1968.

So we started immediately trying to get the budget modified and that is when Mr. Russ Murray and Dr. Enthoeven again came nose to nose with us. Russ Murray didn't believe in it at all. He was successful in not letting us put it in the budget but through Gen Chapman's efforts in the Department of Defense, we did get the Secretary to agree to let us try to put it in an early supplemental since the Vietnam War was still on.

The supplementals were still going in and we were going to add it as a supplemental as soon as we had an opportunity. The systems analysts were saying you couldn't go in with

it because you don't have all this paper completed. So needless to say we worked night and day for a couple of months putting all the requirement together.

In the meantime, I served on the President's Scientific Advisory Group at the White House on aircraft procurement and there were a number of people over there who were great believers in the Marine Corps and constantly held the Marine Corps up as an example to the other services. When they found out that we had been over and flown the airplane, they immediately wanted a brief on it themselves. We actually [briefed them] because Gen Chapman consented to let us go over there and brief them, even before we had briefed him, because they were in session. I had been called by my chairman over there and said, "We want to hear about it. We are in session today, could you come over today at noon and brief us?"

I said, "I haven't briefed the Commandant yet so I can't go. The only way I can do it is if you can get the Commandant to approve us to go brief you before I brief him. Then I will, but not without the Commandant's approval."

I ran off quickly and told Gen McCutcheon and he called the Commandant and told him what was coming through. As it turned out, Gen McCutcheon apparently, and Gen Chapman had enough faith in Bud and I that he let us go on over there and brief them [Scientific Advisory Group]. As a result, we got the full support of the President's Scientific Advisory Group. They were totally behind us when we showed them what we had found and what we had determined was the capabilities of the airplane.

So when I came back, briefed the Commandant, we were given this go-ahead to get going. Well, the fight then started in Department of Defense with the systems analysis people, Dr. Enthoeven and Russ Murray doing everything they could to kill it and initially Dr. Foster. Johnny Foster who was the head of DDR and E [director, defense research and engineering] was basically against the idea, too, but some of the people from the President's Scientific Advisory Committee, a lot of the Ph.D.s that were aeronautical engineers and everything, got hold of Foster and twisted his arm and made him aware of some of the things.

Dr. Foster flip flopped and became our supporter. So here was Foster in opposition to Enthoeven on McNamara's staff.

Frank: DDR and E stands for what?

Miller: Director of Defense Research and Engineering. He is the number one R&D man for the Secretary of Defense. So at least we had a staff member on McNamara's staff that was shooting for us. The Secretary of the Navy was not all that much of assistance because he was such a yes-man for the Secretary of Defense. He kind of flowed and ebbed with the tide to be sure that he was going to do everything that the Secretary of Defense [wanted].

Fortunately, Adm Connelly was the head of naval aviation and he supported our efforts. One of the few admirals who did but as a result of Dr. Foster and the President's Scientific Advisory Committee at the White House, there was an arrangement made with Mr. McNamara, Secretary of Defense, that the Marine Corps would buy 12 and we would pay for them by canceling 17 F-4s, brand new F-4s that we were going to buy from St. Louis. We would take that \$58 million and buy 12 Harriers. I tell you, this was one of the most controversial fights and we had so many enemies. We had some awful good friends that stood behind us when the controversy was very heated and it is just kind of amazing.

I think the thing that finally turned the tide was American industry supported it. Because when Bud and I had gotten back after the briefing, as soon as we had given our briefing with the Commandant, we sat down with Gen McCutcheon and discussed that it would be very prudent for us to go to American industry, aircraft industry people, and brief them on what we had found out.

So we immediately set out and we went to Grumman and we told Grumman what we found and explained what the Harrier was and how it worked and what we found. And we asked their support, that if they were asked, would they please say that they believed that the Marine Corps should buy some of them.

We went to Douglas, we went to LTV in Dallas and the one most important of all was McDonnell. The reason McDonnell was so important was because we canceled the purchase of 17 F-4s built in St. Louis in order to get the money to buy from an overseas source.

Frank: McDonnell eventually began building Harriers.

Miller: Well, this was part of our thesis and our whole program. We thought at the time that the Harrier was going to replace the A-4 which was built by Douglas, [the] Douglas which eventually was bought by McDonnell and that Douglas would get the job eventually that produced the Harrier.

As it turned out, after the decision was made that we got them and all, McDonnell considered it so important a program that they wouldn't let Douglas have it and they brought it to St. Louis under McDonnell and that is why McDonnell has it today.

But in any case, we got the approval to buy the first 12 and we paid for it. We took a lot of heck over on Capitol Hill. Sen. [Stuart] Symington was in the Senate Armed Services Committee at the time and he literally exploded when he found out that we were going to take money that would normally have been spent in St. Louis and send it to England. Bud Baker and I had gone and briefed Mr. McDonnell and all his people at McDonnell, who I had known quite well because I had been on the development program on the Phantom. We had asked Mr. McDonnell that should the thing come to push and shove, would they please support us. And, in fact, would they please write the Commandant a letter and tell him that they supported us.

When Sen. Symington took after me on the Senate Armed Services Committee because we were going to spend money that would normally have gone to St. Louis and send it to England, I asked him, before he formed a final opinion, would he please discuss the issue with Mr. McDonnell in St. Louis.

He agreed to do that. That was the last opposition we ever had from Sen. Symington. So I had to believe that Mr. McDonnell did a good job in telling him why it was important for the United States to get started in VSTOL operations through this round.

Another very important person that should be on the record because it is not very well known, was that there were several aircraft industries in this country that had built experimental VSTOL airplanes. Northrop was one. I know Mr. Tom Jones has been the president of Northrup and he was a very close friend of Chairman Rivers of the House Armed Services Committee and we had briefed Northrop also on what we had found in the Harrier and they were extremely interested. They had a project known as XV-5-A which was two big fans in the wing but we had a Marine actually a young captain, Larson, that eventually worked for me in Washington, that had flown that airplane but during one of the

tests a cable they had tied underneath the airplane somehow got caught in one of the fans and the airplanes crashed. The pilot was killed and the airplane destroyed.

But Mr. Tom Jones met one day with Chairman Rivers here in Washington and had lunch with him. We had finally gotten the message through to Chairman Rivers that for the Marine Corps, this was a great airplane and the Marine Corps really needed it. He had not seen it in England at the Farnborough show that we attended and he didn't know we were there. The Harrier made such an impression since we made sure that Hawker Siddeley briefed Mendel Rivers in detail on the Harrier, not saying that the Marines were over looking at it at all. He was so impressed with the airplane that he came back and he happened to make comments to some of his staff when he got back.

He said, "You know, that airplane really looks like an airplane the Marines would want." Of course, we had kind of put the words in the British mouths, tying it into the Marine mission in a very smooth way so that we let him think he had that idea when he came back here. So the next thing, we received an opportunity to go over and brief Mendel Rivers on our flight on the airplane. I told him that we were interested, and knew that he had expressed an interest, and we wanted to let him know what we were planning. From then on we had his full support which was altogether opposite of what had happened on the transport that we had been trying to get but he had not been told. It got to him in the wrong wording.

Rivers had lunch with Mr. Tom Jones here in Washington and Mr. Rivers asked Tom Jones, did he think that the Congress ought to let the Marines have this airplane even though it was purchased in England because of the apparent desirability of the Marine Corps mission? Mr. Jones said, "Well, Mr. Rivers, we can certainly build an airplane like that in this country but it is going to take anywhere from 5 to 10 years." And he says, "I really think that the best way to get this going is to go ahead and let the Marines buy this airplane."

Of course, Mendel Rivers had a great deal of confidence in Mr. Tom Jones. I think this is rather obvious as to what kind of man he is because he was president and chairman of Northrop for so long I don't know how many years, 15 or 20 years. I think that probably, as much as any, [he] was a big turning factor in that and Mr. McDonnell and the others who wrote the Commandant letters that said they supported him. We were able to supply these letters to members of Congress and to the Secretary of Defense when we started the battle to

try and get the airplane.

I think that was a [most] positive factor in us getting the airplane, even over the objection of people like Enthoeven and Russ Murray in the systems analysis.

Frank: What expertise do these people have in systems analysis? They are strictly numbers people. They have no concept of tactics.

Miller: You see, Russ Murray considered himself an engineer, an expert in aerodynamics because he had worked for Grumman at one time. He did have an aeronautical engineers degree but even when he was working for Grumman, he was shuffling numbers more than technical design. He was looking at performance data and cost for performance but as was said by Mr. Rivers himself about an analyst of this type, the problem with an analyst of that nature is that he knows the cost of everything and the value of nothing.

So it was very hard to express in a quantifiable manner how much value it was. Only those of us in the military that have been in combat and been under the strains of trying to provide the kind of support that the young men on the ground need, it is hard to try and tie a dollar value to that that will fit into the computer analysis of which is the cheapest way to go. But there are so many heroes, as I would class them, in the struggle for the Marine Corps to get the Harrier that it is wrong to single out any one person as being the person that did it.

Unfortunately, I think in some respects just because I happen to be one of the first pilots to fly, and because it was in my area of responsibility, I got far more credit for it than I was due. I couldn't have done it without people like Gen McCutcheon and the Commandant who was solidly behind it, the people in the President's Scientific Advisory Committee and Dr. Foster. We had all kinds of people here in Washington that kept saying, "I tell you, if the Marines say they need it, give it to them."

It is that kind of support for the Marine Corps. We had people in Congress that believed so much in the Marine Corps because we have never led them astray on our systems and when we have asked for something, we justified the use for it. As I said, the final credit I think goes to our own American industry, and in particular in this case McDonnell who was willing to give up without raising any lobbying opposition. They were

willing to give up \$58 million out of the St. Louis work force to send to England to buy the airplane and in my opinion, that shows the true interest of the military industrial complex and the safety of this country and it only strengthens what I have seen all my life in this regard. There were several other projects, I doubt if you would call them major in the Marine Corps at the time but that was while I was a colonel.

Frank: This might be a good place to stop for today. What was it like to fly the Harrier?

Miller: Well, in conventional flight, it was essentially the same as an A-4 Skyhawk. It is a small airplane, very highly maneuverable, very fast, in the ground environment, low level, low altitude environment.

Frank: Had you flown helicopters before this?

Miller: Yes.

Frank: So the vertical take-off that it had was not unusual for you.

Miller: It wasn't unusual to me except that vertical flight in a helicopter is totally different than vertical flight in a high performance fixed wing airplane. Vertical flight in a helicopter is a slow process by comparison. The very nature of the vertical lift being provided by a jet engine and the high thrust per pound of weight is so tremendous in the Harrier that it does everything in split seconds whereas the helicopter is in several seconds. The helicopter is a much safer airplane in the so-called hover and vertical landing thing.

Now, the new AV-8B that is developed now has taken out some of that extreme difficulty that gave some of the pilots a very difficult time in the Harrier in the early days, because if things went wrong, it went wrong so fast that you couldn't recover from it. You really had to be way out in front of it. You have got to be thinking all the time what it could do to you if you did something wrong.

It is defined in technical terms: "high workload for a pilot." That means he is just as busy as he can be flying and then he has got to be thinking way out in front. If the airplane

ever gets ahead of him, he has lost the game.

Whereas, the helicopter, that is not to say that the helicopter isn't sometimes difficult to fly but the helicopter takes a lot longer for things to happen and it is much more tolerant of human error than the Harrier. Of course, as we seek to design any airplane, we seek to design them that way so that they are very tolerant of differences in pilot skill because we have to build our system so that the average pilot can fly them safely and perform the mission satisfactorily. That is why the AV-8B today is such a success because American industry and initiative have improved the airplane and it is going to be a tremendous success. There is just no question. It has already proven that.

But I think that very well covers it. After I came back into that office as the head, we had several other projects that came along and one is the Osprey and I will go into that later. I will give you the history, it might be well that we know the Osprey history. You might want to put that down because not too many people know what happened and how the Marine Corps got involved in it.

Frank: Very good. Okay, good session.

End Session V

Session VI

Interviewee: Lieutenant General Thomas H. Miller, USMC, Retired
Interviewer: Mr. Benis M. Frank
Date: 18 March 1987
Place: Marine Corps Historical Center, Washington Navy Yard

Begin Tape 1/I, Side A

Frank: This is side one, tape one, session six with Gen Miller.

Reviewing the last interview session which was August 1986, we pretty much covered your tour at Headquarters working in the Division of Aviation, and you mentioned the various projects that you did there. I don't recall, well, you got selected for BG [brigadier general] and had your stars on for a brief period of time, you were deputy assistant to chief of staff G-3 there.

Miller: That is correct.

Frank: I guess those were the days, the declining days of the importance of G-3 and Headquarters staff agency set up.

MILLER: Yes, it came about from a reorganization into the so-called Operations and Training Division.

The G-3, of course, was the part of the organization that is familiar to every division or wing. Headquarters had, up until that point in time, had been pretty much organized along the general staff section or organization. It finally became readily apparent that Headquarters Marine Corps had to organize itself more for the Washington mission rather than from a tactical mission, [and for the] joint arena and consequently they separated out Plans and Programs from the G-3. They separated certain weapons system requirements things that were normally in G-3 and were placed in other divisions such as I&L [Installation and Logistics] and the training mission, which was part of operations and training in the G-3, they set up a totally separate division to be able to better coordinate that.

I served as the deputy to [MajGen] Cliff Drake, probably one of the last G-3s. I left Headquarters before the G-3 section was done away with. MajGen Cliff Drake was the G-3 at the time, he was, by his own nature, very vitally interested in training aspects of it and actually stayed in the field an awful lot. I suddenly wound up as the G-3 arguing with the rest of the staff and presenting positions to the Commandant on issues of how many tanks we had and how many LVTs and what artillery pieces were matched. So it was kind of a baptism under fire for me in an area in which I didn't consider myself much of an expert in but I had to learn quickly because Gen Drake was gone and Gen [Leonard F.] Chapman, [Jr.] would call and want information.

But we had a good G-3 staff and they gave me tremendous support and I never really felt real uncomfortable because Gen Chapman was one of the finest Commandants that I could remember in my time and he certainly was very considerate of things that I presented from the ground side of the house.

Frank: One of the things that I never understood completely and I have never done a complete study of the Headquarters reorganization. I remember what had been before, it became a general staff set-up under Gen [Lemuel] Shepherd's commandancy, when he had General [Gerald] Thomas, both of them had pushed for it, and both were products of the Army's Command and General Staff College at Ft. Leavenworth.

Miller: And products of World War II where general staff sections, where it all worked in combat.

Frank: But under the reorganization, I could never understand why Policy Analysis was done away with. This was a very important function at Headquarters. They had some of the best and brightest that had been assigned there and they were the ones who kept their finger on the Marine Corps's institutional memory of its proper role within the Naval establishment and the doctrine and everything else.

Miller: It became a central area and it was not done away with. It was put in P and P, Plans and Policies. It was given a whole division itself and it was felt that plans had to conform

with policy and, staffing policy requirements had to be very closely coordinated with plans. What it really separated out was it took the training side and the operational side and set it aside but left Plans and Policies. And then they later included Programs into this which it was a kind of a necessity for the environment here, but Policy has not been done away with and, in fact, if anything it has been more emphasized because you see Policy is so much of a requirement in the JCS arena.

What is a Marine Corps policy on thus and so and why do they go to the JCS with position papers on our policies and positions? So it was put in the DESOPS (?) side of the joint arena side of the Headquarters Marine Corps and all the bright guys moves over into that section and that is where they sit today. So it is --

Frank: So it is still a function.

Miller: Very much so, in fact, it has got a three-star in charge of it now where before it was a major general, well it had a colonel the head of Policy for a while. But it has gone on up but the three star not only serves as the head of that but he also sits as the JCS member whenever the Commandant can't be there, which gives him an unusually strong position as far as Headquarters Marine Corps is concerned. He is the guy that essentially makes policy and presents it to the Commandant for his final approval.

Of course, as we all know, on many occasions in Washington, even as low down as majors are quite often required to make a decision outside of Headquarters on what is the Commandant's position on such and such and by the very nature of that, the DESOPS many times stated position before he even had an opportunity to go with the Commandant. He had to take a position and it has proved very successful. Works well.

Frank: Of course, it is going to be interesting to see how this is going to work under the reorganization of DOD.

Miller: Yes. I am very biased in this. I think that was the most terrible mistake that they ever made. Congress is fiddling around the thing that they don't understand and never will and they usually take positions from people in the military who happen to be influential to

various members of Congress. In the one case, was Gen [David C.] Jones's [USAF] impact on Senator [Barry] Goldwater. He convinced Senator Goldwater, who was the powerhouse, about the shortcomings of the current JCS system.

Unfortunately, in my opinion, I don't think Senator Goldwater got a balanced opinion. He didn't draw from enough sources. For instance, he never met and discussed things one on one in long discussions with people like Gen Lindintzer [phonetic], for instance. Some of our very, very successful chairmen, instead he just took the word of Dave Jones and kind of marched off and --

Frank: An Air Force general.

Miller: Air Force. And of course a lot of the Army people jumped on the band wagon behind Jones.

Frank: One point I made before you get into that, you were saying you didn't think Congress understood it all, and the impression I get from reading the papers and all, that Congress went ahead and enacted it because this was a gift to retiring Senator Goldwater.

Miller: Absolutely, and the bipartisan effort that Senator Goldwater was smart enough to bring Senator [Sam] Nunn in who was a Democrat who was very anxious to have his name up in front because someday he wants to be President. He wanted to be tied with this so-called major overhaul of the Defense Department which is always a big publicity act for the nation's news media because they love the Defense Department as a whipping boy and they know they are going to get their name on the skyline. This would help Senator Nunn become nationally known and Senator Goldwater was smart enough to bring him into the web because he would come in.

They isolated the other Senators even from their committee and a lot of the study that the committee did in investigating the requirements, but one of the things that brought this whole thing, (and, this, of course, are just my own views), but one of the things that brought this on was when Gen [Louis H.] Wilson, [Jr.] was Commandant, as you know, up until about halfway through his term as Commandant, the Commandant of the Marine Corps was not a

full-fledged member of the Joint Chiefs of Staff. This, although the Commandant was present, to my knowledge at every JCS meeting, the law was written that the Commandant became a member on matters that affected the Marine Corps.

Well, when you talk about the military establishment of the United States, it is almost impossible to talk about one service without impacting on another so we were kind of out of date in the law at that time. I believe it was Senator [Dewey F.] Bartlett from Oklahoma was discussing this aspect one day with Gen Wilson at a time when Gen Wilson was particularly miffed because he had been the only member of the JCS that was in town when a JCS meeting was convened. He was the only regular member in town.

Who was to operate as chairman? Instead of having Gen Wilson be the acting chairman, they gave the Vice-CNO the chair as the chairman acting as chairman of JCS. Well, you can't blame the Commandant for being terribly upset that he wasn't enough of a member of the JCS that they moved the vice-head of the service up in front of him and made him Chairman. It was just inappropriate.

Well, when Senator Bartlett heard about this, I believe it was Senator Bartlett, he was very upset about it and he made up his own mind he was going to correct it. And so they wrote it in and attached it to another bill that was going through. It was supposed to go through Senator [John C.] Stennis' committee but the way it was put in, it was almost put in the bill as the bill went to the floor and it didn't go through committee. It was kind of interesting how it happened on the floor was it, as I understand it, it came on the floor and when Senator Stennis got up to comment from his committee's standpoint, he said, of course, this had not been properly handled, it had not come to his committee and he talked about a minute or two about the inappropriateness of the manner in which it was handled.

And then he flip-flopped and he immediately started that this was something that was badly needed and has been badly needed for a long time and he talked six or seven minutes in support of it. Of course, it was obvious that Senator Stennis definitely wanted the Commandant to be a member so that thing went through.

Well, it went through so fast that the Army and the Air Force were not in a position, and even the Navy but I don't want to address, I don't know enough about the so-called internal feelings of the Navy except they were a little apprehensive. On the other hand, they were glad to have another member that was going to be a full member from the naval side.

But the Army and the Air Force were caught with their pants around their ankles and the only way that they could do anything about it would immediately put them in such a position of trying to fight it openly, that was the only way they could have fought it. They would have shown their true colors, even to the public if they had come out screaming about it, so the thing slipped through and it went through.

That is one of the things that Dave Jones got trapped with and he was miffed about it and it meant that every time that he tried to go to President Carter with a decision from the JCS he couldn't get there without him having to break the tie. The Chief of Staff of the Army and Chief of Staff of the Air Force on one side and the Commandant and CNO on the other so they were locked and this always put the Chairman in the position of the Chairman having to make a decision and invariably the Navy position, the Navy-Marine position was a very strong position generally in opposition to the Army and the Air Force. So that was part of his frustration.

I don't say it is all or anything but that had a great deal to do with it and the Army and the Air Force will always try to do the German general staff pyramid type of operation where you have one man advising the President. I think history is going to show that that was a very bad move that came in. We did get some very good language in the bill concerning dissenting opinions of heads of service. Any head of service that is not supportive of the JCS position, prepares a paper that has to go clear to the President and if time does not permit the preparation of a position paper to go forward, the Chairman has to, by law, take that dissenting member with him to the White House to see the President and that is about the only real protection.

Other than that, you have a Chairman and now you have a vice-Chairman which is in between the other members of the JCS and the Chairman, which isolates the JCS members and they will not ever sit as Chairman again like they do now in a rotating basis. I think it is very bad and I think only time will prove it.

Plus they have given a lot of administrative duties to the CINCs which they don't have time to do and all they are going to do is just be caught up in the Washington bureaucracy and they don't have the time. All it is going to do is build a bigger staff in each CINC.

Frank: Your tour [beginning December 1969] as Assistant Chief of Staff, G-3 was about four months, then you got orders to go out and become the G-3 of III MAF and chief of staff, I guess Gen Cushman was CG III MAF at the time.

Miller: No, Gen [Herman] Nickerson [Jr.].

Frank: Oh, Gen Nickerson. What was the situation out there at the time you got out there?

Miller: Well, we were in a kind of a stalemate situation because the North Vietnamese had agreed to come to the bargaining table if we would stop bombing and so everything was just kind of in a hold, and they were trying to see what the negotiators could do. That in no way inferred that there was not a lot of military activity because there continued an unconventional war, there was an awful lot of VC activity, and the continual destruction of the province government within the South Vietnam. The VC were murdering the governmental people in the provinces all the way down to the village level regularly. Our effort had to be doubled and tripled and quadrupled in an effort to try to save the lives of the foundation of the South Vietnamese government, all the way from the village on the way up to the province.

So our activities--we had numerous large operations. Generally, when I first got there, General [Edwin B.] Wheeler had the Division [1st Marine Division]. The other division [3d Marine Division] was just on the way of moving out, but the activity-- we were being spread pretty thin because the President had decided to phase down some. The Wing [1st Marine Aircraft Wing] had been really in a very tough situation of trying to serve two divisions with a command structure that normally is set up to work hand and glove with a division commander. It pitted the aviation commanders with the problem-- the wing commander was torn between, "where does the support go?" It finally got so bad that appropriately the III MAF commander says I will designate who gets what and instead of the division.

Normally we think of that the division commander goes to the wing commander and says I want this kind of support and the wing commander gives him all the support he has got, but when the wing commander is limited in assets and two division commanders come

at him and says I want this and the other one says I want that but there are not enough assets for both of them. Then whichever way the air wing commander goes, he is mouse-trapped because the guy who doesn't get what he wants is mad.

The thing got so bad at a time that it was finally moved over into the III MAF and I think it was finally settled down. But it caused a lot of hard relationships between flag levels even, way down. The wing commander I know, I believe it was Gen [Louis B.] Robertshaw, moved his deputy up north and set up an alternate wing CP up there to operate kind of like a second wing. Again, he was still operating with a single set of assets under his command. So if he didn't give Gen [Ralph H.] Spanjer and I think it was Gen Spanjer was the one that set that up.

Frank: I think it was.

Miller: And if he didn't give Gen Spanjer enough assets and Gen Ray Davis would be mad up there because he didn't get one of them because Robertshaw had his other assets down with the First Division.

Frank: Had 'single management', at this time it had been in effect for a couple years.

Miller: No, not that long. It had only been about a year. I was in Washington when MACV [Military Assistance Command-Vietnam] came out with a single manager plan and, of course, we spent about two months here in Washington fighting it in the JCS.

Frank: Gen [Keith B.] McCutcheon was very much a part of that.

Miller: Yes, I was his back-up on this and went with him to most of the JCS meetings.

Frank: I think probably if you want to back track and talk about it from the Washington point of view.

Miller: Of course, the Marine Corps's position was fairly simple in the fact that by law the Marine Corps is what is known as a 'uniservice'. That means a service that is indivisible.

This was in Title X law. It was put in there specifically to prevent the bigger services from coming in and taking parts of the Marine Corps away from it because the Marine Corps had been structured as a strong military unit cohesively all together. If you start breaking it apart piece by piece by organization, then you destroy its strength even though it is small. It can be small, but as long as it has all its parts, it is very powerful. So many Army people don't understand that our division with the air wing is far more capable than any Army division.

So the problem that we had in the JCS is that it was more one of education of the other members of the JCS. A lot of the members of JCS learned more about the Marine Corps than they had ever known about the Marine Corps and in order to more or less keep peace, the Secretary of Defense, because the decision went to the Secretary of Defense, it was a split position out of the JCS.

Frank: There had been a fight out in the Pacific between [Gen William W.] Momyer [USAF] who --

Miller: Momyer and [Gen Lew] Walt I guess.

Frank: And Gen [Wallace M.] Greene, [Jr.] got involved, went up to [Gen William C.] Westmoreland, [USA], and [who] was kind of wishy-washy, they went up to CINCPAC who supported the Marine Corps. [Adm John C.] McCain supported the Marine Corps and then there was a reversal on that but in the meanwhile it was being discussed.

Miller: They finally went directly to the Secretary of Defense for a decision. The military was so balanced that they couldn't get a decision on it. So it went to the Secretary of Defense and he watered [down] to the point that he said in extreme emergencies the joint commander has the authority to pull what forces that work under him. So that literally said that in extreme emergencies, the joint commander could violate what the Congress said, about uniservice. But that as soon as the emergency is over, it had to go back. That was the

best wording that the Commandant, Gen Chapman and Gen McCutcheon and the CNO, Tom Moore, I guess at that time, were able to get.

Consequently, when I went out there as the G-3, having been working for Gen McCutcheon just before I made brigadier, then Gen Drake and working for Gen Chapman, one of the first jobs I was given when I got out there or actually when I left here, Gen McCutcheon says one of the first things I want you to do is to get rid of that single manager thing, because the emergency is now over but MACV has not come out with a directive yet which removes it, so let's get the directive written.

So as soon as I got out there, I got a hold of LtCol Bob Talbert who was on the MACV staff and who was the coordinator and liaison for the Wing on the MACV staff and I told Bob to get started putting together a MACV directive which was what we called, rewrite of 95-4, MACV 95-4.

They rewrote it, we put in some words which we played right back to the Air Force, words that they had used in the single manager program but they had failed to define them properly. We put them in and defined them and one was the two words called 'mission direction' that said that the Marine Corps will always accept mission direction.

Now, what mission direction is, and we defined it: tell us the target you want destroyed, when you want it destroyed and the degree of destruction that you want but don't tell us what kind of airplane, don't tell us what airplane or what ordnance to use. That is our job and we will do it, you just tell us what mission you want us to accomplish and we'll accomplish it. But you don't schedule our airplanes, we'll schedule it and do it.

That thing, that directive, believe it or not-- Mommyer had gone by this time-- and that slid right through MACV and it came right on up, and it slid right through and we got it put into effect and it worked. So in about three or four months after I got out there, we had that thing put to bed and it was primarily through the efforts of LtCol Bob Talbert and, of course, Gen McCutcheon came on out later but we actually got it done while Gen Nickerson was CG III MAF.

Frank: Well, now, I haven't gone into it so I can't speak from any position of knowledge. Gen McCutcheon wrote an article for *Naval Institute Review*, *Naval Review*, giving the history of this, and it seems to me his conclusion was that single management violated the

doctrine of close air support and the inherent desire of the Marine Corps to maintain its own air and to use its own air to deploy it properly, that single management did not work all that badly to get to the detriment of the Marine Corps. The gloom and doom that was anticipated did not --

Miller: Well, that was characteristic of Gen McCutcheon who generally looked on the positive side of things rather than being negative and of course is certainly one of the characteristics that made him the great man he was. His point, and I talked to him many times about this, his point was that the single manager concept was put into effect by MACV but you still had the same people in MACV and in the 1st Wing, still running the coordination between Air Force and Marine air. And that things didn't change that much because of the personalities of the people, of the lower ranking people, where that they all operated very much in sync with each other. They got along, there was no problem in coordination. They always got whatever support they wanted.

If the Marines, the Marine ground needed air, we were given the priority to [provide it] and they would back off. On the other hand, Marine air was efficient enough that it could fly two or three missions while some of the Air Force units would only fly one. So we just flew more sorties and we did both. So from a can-do attitude, the Marines accomplished it without any serious derogatory effect on the Marine ground forces.

And that is what he was saying is that Marine air has the flexibility to wind up the spring a little tighter and give enough extra missions. Now, in some cases we might have been flying a pilot maybe more missions than they should fly in one day but it wasn't a steady dose. Just as Gen Wilson said when he was CG FMFPAC during the early days of the Cambodian things, the Air Force came and said, Mr. CINCPAC we have got to take those airplanes out of flying because our pilots are tired and the CINC looked at Gen Wilson and he said how about the Marines? Gen Wilson just made a very blunt, straightforward statement. He said, "Marine pilots don't get tired." It was very blunt.

We know from our past experience that the ideal peacetime level of flying endurance is a certain figure but when you are under a combat situation, the human body accepts this with the additional flow of adrenalin and he could continue to operate under serious situations at considerably more than normal. That is what I think the Air Force was trying to

bring it back into normal. But who could think that you would put helicopters and airplanes on the ground because the pilot had flown two hops a day and that is all he was supposed to fly if somebody was in bad need of the thing? That is absurd.

Frank: The ground component would never accept that.

Miller: No. The ground would do the same way as we did. The ground has, they get tired, they don't get tired either when they are in combat. They do what is required. All Gen Wilson was letting the Air Force know, that our air force was like our ground, it doesn't get tired.

But Gen McCutcheon's view is quite true. The main thing we wanted to do, the system was working when we got out of the under single manager plan and it was working pretty much as it always had worked, even before single manager came in. The only reason we wanted to get that 95-4 modified away from single manager thing was to keep from setting a long time precedence.

Frank: Absolutely.

Miller: And when the emergency according to the Secretary of Defense's decision for extreme emergency situations, you could violate the so-called uniservice requirement to the Marine Corps but when the emergency was over, it should revert.

Well, of course, the Air Force under people like Gen Momyer, they weren't interested in seeing it ever revert. They wanted to keep the thing on the book. Well, for that very reason, we didn't want it to be on the books but accept quality emergency existed.

Frank: The exact opposite.

Miller: We go through this same struggle today, hasn't changed a bit in the European theater. On the use of Marine aircraft in the joint arena, and over in Europe it, not only joint arena but it is in the combined arena, too, where you have countries as well as all the services. So we have dropped our guard sometimes a little bit further than I would have

liked to have seen us, not that we wouldn't do the job. I just constantly feared the setting of a precedent if we came down to a position where we were really in trouble we might have a real fight at a very bad time.

Frank: You are absolutely right. Briefings I have heard on the role of the Marine Corps in NATO, is a constant effort to take away Marine air. Bring it down south, bring it down to the middle....

Miller: Well, we have, surprisingly enough, and many people think of Marine air as being rather small outfit and not being very large but it is probably one of the most complete aviation forces in the world because of the kinds of weapons systems we have. We have as fine a fighter as you can have in the world. We have as fine attack airplanes as you can have, we have as fine as electronic warfare. In fact, we have got by far the best and we have developed for this country the tactical electronic warfare airplane. We certainly have to say with the help of the Navy because the Navy develops our airplanes but it has been mostly Marine Corps pressure and Marine Corps expertise that developed the EA [6 aircraft]. On top of all this, we have got all the helicopters and we were essentially the first to develop the use of helicopters in military operations.

We have been basically the forerunner on almost everything except what the Army considers knap of the earth flying. We don't like to think that that is anything unusual. We flew knap of the earth when required but we didn't think it was so specialized that you had to come out and make a special name for it. We flew low when we had to fly low and we flew high when we had to fly high.

But it is the scope of our aviation wing that gives the Marine Corps the uniqueness and the Air Force is readily aware of it and that is the reason they jealously want to control it because it gives them a spectrum of capability which they don't even have except most of their electronic warfare airplanes are big planes and you can't send them into a little common area. The flexibility of being able to operate in a rough environment or to go now and worry about other things later, our expeditionary ability exceeds anything the Air Force has got. It is just a little professional jealousy.

Frank: What was the situation when you got out to III MAF?

Miller: Well, --

Frank: And how were you employed, what did you do?

Miller: Well, I was, of course, as the G-3, was responsible primarily for all the operations that the Marine forces out there and for the very close coordination with the Vietnamese forces. Under III MAF at that time was two Army divisions, the Americal [23d Infantry] division and the airborne, the 101st.

Frank: You have already commented, I think when we started, on our 1969 volume, I think at the very beginning you said --

Miller: We had the XXIV Corps and XXIV Corps was under III MAF. Under XXIV Corps was the Fifth Cavalry Brigade--the two Army divisions. They operated as a corps underneath III MAF and so we had general, three star, Mel Zais was the commander when I got out there. Gen Ed Wheeler had the Marine division and Gen [William G. "Gay"] Thrash had the wing. LtGen Laum was the Vietnamese commander for I Corps area, the I-Corps commander. It was a very compatible group. I never worked with any finer division than the Americal division and Gen [Lloyd B.] Ramsey [USA] was the general most of the time I was out there. As the III MAF G-3, of course, I was constantly in discussion with he and his G-3, XXIV Corps, Mel Zais, and the 101st. I couldn't have asked for a finer group of people at all to work with. Gen Nickerson, was an unusual person because, of course, he had had the division out there and then he had been out there so much that he could speak Vietnamese and as his G-3 I went with him everywhere and he would go out and talk with the province and village chiefs and find out what their little idiosyncracies, little requirements--they needed a bridge built here and they needed a military unit to protect what they built, and this type of thing. He could go out and he had a knack of getting along with the Vietnamese because he spoke their language. It was always difficult for me because I could not understand Vietnamese so I would always have to go back after we had been

there. He would always say to me, "Did you get, that Tom? Get that down. Let's take care of this." There wasn't any way I could have told, because it practically decided in Vietnamese. So I would always have to get in the helicopter and get my Vietnamese translator and go back out there and sit down and talk with them through the translator as to what had been agreed to.

I would go back and then I would confirm with Gen Nickerson that this is for sure what he wanted and I would constantly kept myself out of hot water by having to double treat this but it was an interesting operation. We had our CAP teams, Marine Corps CAP teams, Civil Action Patrols. The Army had their civil action people, too, similar. Not quite as detailed as we did but it was a very, very interesting tour. Gen [Leo J.] Dulacki had moved up to be the chief of staff when I moved in and relieved him as G-3 and then, of course, when he went home, then I moved up and became chief of staff.

We did, during my tenure, went through the shift from III MAF being the senior US command to XXIV Corps being the Army run unit. There were some real heartburns in that shift of responsibility. We were about to shift the commander of III MAF at the time, Gen Nickerson was coming due to come home before long. I think he envisioned that III MAF would just disintegrate when he left.

I knew well enough by the discussions with Gen Chapman when I was the deputy G-3 that that was not the case and that is why he sent Gen McCutcheon out and gave him a third star to relieve Nickerson—to be a very strong one, to be III MAF as an aviator because he knew that there was going to be a tendency for the Army to want to take our helicopters and the Air Force to want to take our air again. And Gen McCutcheon, having fought this single manager program was the ideal man to go out there at the time when XXIV Corps became our boss rather than our subordinate.

But the organization was being put together before Gen McCutcheon got out there, and I think I already put that on tape where the general--we were briefing Gen [Creighton W.] Abrams [USA] and we had finally convinced Gen Nickerson that III MAF was not going to disappear and that Gen McCutcheon would be III MAF commander. The wing and the division would remain under the III MAF commander, not go separately. Whereas Mel Zais had assumed that when he became XXIV Corps, the senior commander in I Corps, that he was going to take the Wing even under his control and the Division under his control

separately. He didn't see a commander sitting between him and the Wing and the Division.

This became a very hot issue. We had finally convinced Gen Nickerson who had initially approved that plan which was written by an Army brigadier who was the G-5, and I found out and I about exploded and I went to Gen Dulacki and I told him, Gen Nickerson better take another look at this one because I know Gen Chapman does not agree with that position. So we went in and Gen Dulacki let me go in and talk to Gen Nickerson and convinced him that that wasn't the way that the Division and the Wing were not going to be parceled out separately.

And then when we briefed Gen Abrams, it kind of caught Gen Zais by surprise and he raised the point and immediately. Nickerson apparently had to backtrack a little bit on what he had kind of led Zais to believe that he was going to get them separately and Nickerson just said, well, the Commandant according to our doctrine, we always have a single commander for all ground and air and that is the way it is going to be.

Well, Zais started arguing and finally I can remember Gen Abrams sitting there with his cigar against the wall just kind of listening and not entering into much conversation, listening to these two guys going back and forth at each other and finally he said, "I don't think we need any more discussion on this. We are not going to get into the problems we got back in Washington. We are going to work together and we are not going to violate the Marine Corps's doctrine. So that is the way it will be, Mel." That was the decision and it continued to work fine. We didn't --

Frank: Zais was a pretty good friend of the Marine Corps wasn't he?

Miller: Yes, he and Nickerson were very good friends and I think Gen Nickerson, because of his close association just thought here is a good old boy, he let him have the Division separately and he can let him have the Wing and so forth. It may have come from the fact that this is, but it might also be that Gen Nickerson didn't fully understand the depth of the uniservice battle that we were fighting back here in Washington and what a precedent could be set by any deviation from it.

And when he was here, he was mostly in Manpower anyway so he was really not involved in that kind of thing. Gen Nickerson was as fine a combat commander as I would

see. He was meaner than an acre of snakes at times and he had little time for people that were not capable of producing quickly and boy, he fired people quickly. He and Gen Krulak remind me a lot of each other because they just didn't waste any time. They just said pack your bag, that's it. There wasn't any great personal feeling about it. It was just the fact that they are not doing the job.

Frank: In his perception. I heard of a couple of instances at that time from a lower level from a different perspective and the impression was that Gen "Nick" was kind of unfair.

Miller: Was kind of what?

Frank: Unfair.

Miller: Well, I suppose any commander who is a strong leader and after he has heard all the facts, he makes a decision there is one way to go, for the guy that the decision went against, he would say he is unfair. I think you heard me say what a young black sergeant told Gen McCutcheon one day after his team leader of this CAP team had been killed. Gen McCutcheon went out to see him and got a hell of a good briefing from him, he was kind of worried because here is this young black sergeant head of this CAP team. When he got ready to leave, he commented what a fine job he had done, and he asked the sergeant, "Do you have anything else you would like to say?"

And the sergeant says, "One more thing, sir. Things shore am different when you's the boss."

So you can always find people who find fault with their leaders. But I challenge any one of them to not go through the same thing when he is the leader. He is going to find people that say he is unfair, he didn't do a good job and so forth. I think we all are victims of our own weaknesses and we all have them. I think when you put them all together, I don't think you could have found a better commander and you needed a top commander in those days because the kind of war we were fighting was a war of nerves. We were sitting on a keg of dynamite all the time at which any time we dropped our guard we would get blown up.

I can remember down in the 7th Marines, one of the battalion commanders was very derelict in getting his night patrols out and his watches properly and they were kind of sitting there lollygagging and they got overrun by the VC one night.

I tell you, he fired the hell out of that battalion commander so fast, well, some people say that is hip shooting. It wasn't any thing. It is the old saying that Harry Truman says. When you are the boss, the buck stops here. Well, the battalion commander, the buck stopped right at him and in a war situation you haven't got time to give that guy another chance or fiddling around. He screwed it up, out! Let's get a man in there we know.

I think he was criticized a lot of times. He had a violent temper if there was only any one thing that used to bother me so was that he had such a terribly short fuse on his temper and he was violent. I think at some time it colored the kind of advice he got from his staff because most people were scared to death of a guy that was a tirade like that.

Fortunately, I had a little baptism under fire here in Washington by working for an admiral that was like that before I ever went out there, Admiral Pirie, Bob Pirie, and he was a lot the same way.

Frank: When did you work for him?

Miller: It was when I was in Naval Air Systems or BuWeps [Bureau of Weapons] as a lieutenant colonel. I was the F-4 program manager on the F-4 program. I had to brief Admiral Peery very often. I had always heard kind of a joke around, was he had Navy captains for breakfast every morning. He would just eat them alive.

But I always observed two or three captains and I could tell he had great respect for and I tried to observe what kind of an approach they took with the admiral and their approach was don't melt under fire. Stand up and hold your ground and if you are in the right position, you have every right until he tells you to shut up to argue your position. I watched one of the captains, I saw Admiral Peery yell at him, just chewing him up and the captain finally hit his hand on the desk, you can imagine a captain hitting his hand on the desk and he said, "Admiral, wait a minute. Let me just give you some more facts before you take me apart." And the old admiral sat back and he gave him the facts and hell, they walked out with the admiral's arm around him.

It wasn't being disrespectful but being stern with the admiral and we are all, to some extent, that way, particularly when you have the pressures that people, the decisions they have got to make and things that come in that seem to be in opposition to the way things should be running smoothly and things that tend to upset. It upsets you and you get short fused.

That helped me a lot as a lieutenant colonel working with Admiral Peery. Then when I went to work for Gen Nickerson, I just made up my mind to treat him the same way. He would take after me about something and I would say, "Wait a minute, general, this is what happened and let me just go at it and I will give you the details and if I am wrong, then I deserve all the tongue lashing I get. Maybe you want to fire me but here is what I did." And I suddenly found that I got his respect for that kind of thing because he didn't like a yes man any more than I did.

I admire commanders that are that way. I think they ought be tough because you are dealing with men's lives and you cannot stand a lot of disorganization or the lack of ability for people to work together. You have to be tough.

Frank: Yes, but you know, that goes a long way. You take a look at the, in your career, time in the Marine Corps--Gen Nick had a reputation for a short fuse and short tempered but you take a look at some of the other guys who were as successful and as good commanders as he. If you looked at an O.P. Smith or you looked at an Ormond Simpson, and you look at people like them who --

Miller: That did the same thing in a much lower key.

Frank: In a much lower key and probably got as much if not more.

Miller: I don't really suppose that you would know, of course, Ormond Simpson had the Division under Nickerson, and so did McCutcheon. McCutcheon was a very smooth guy. He would never, I could tell when he was mad because I could see the fire in his eyes but he never lost his cool and as I said earlier, I said the only fault that I could ever find with Gen Nickerson was the fact that he had such a terrible short fuse. But on the other hand, if you

look across the board, what the end results, you can't argue with the end result. It can be done easier and a lot easier on people, that is fine but we not all have that capability.

Frank: It was a management technique of his and it probably --

Miller: I can think of some other people that were in that same position that I would be willing to take that short fuse comparing the success of what they did. So I think the end result is what you have to look at and you can't look because we all are gifted with those shortcomings in lots of areas but it was always kind of a marvel to me because I remember the Masonic Lodge. Gen Nickerson is a very strong member of the Masonic Lodge which is a very Christian organization believes in Christian principles. I used to say I wonder how he found in the scriptures justification for losing his temper so bad.

Yet, he was as soft hearted a guy as you could find, but he felt such tremendous responsibility of the lives of those young boys out there. When I say boys, those youngsters that were Marines that are in the dirt and suffering under poor leadership, boy...

Frank: No question about it. I am just talking about management techniques and command techniques.

Miller: Somewhere in that line of command, you have got to have some tough guy.

Frank: Oh, absolutely.

Miller: I much prefer to see it where either the executive officer or the chief of staff is the snake in the grass, he is the bastard, and the CO is the cool, calm collected, loved, fatherly type guy. In a combat situation that is sometimes difficult to do because the chief of staff is shuffling papers and running the staff, where out in the field—you know Gen Krulak, I don't know how they would feel about it but I always kind of looked at Gen Krulak and Gen Nickerson as a lot alike. They both had short fuses.

Gen Krulak wasn't quite as loud and boisterous as Gen Nickerson was.

Frank: He was sharp, he had a tongue like --

Miller: Well, so was Nickerson. They were both tough guys. Gen Chapman you might say, I don't know how Gen Chapman would have been under a combat situation. He was so smooth and such a gentleman, ideally suited for the Washington environment. Sometimes I thought, as a lieutenant colonel and a colonel I thought maybe a little too soft. Gen Wilson was one that I always admired because I liked his briary attitude when somebody crossed him, particularly in the upper ranks because he had some run-ins with the Secretary of the Navy and he didn't give an inch and there are not too many Commandants that are willing to stand face to face with the Secretary of the Navy.

Frank: Except at that time, he had the support of Senator Stennis had the support and you know if you have got that kind of support, you don't have to cow tow to another political animal.

Miller: And then Wilson came in under one administration and ran into another one and this made him the lame duck you might say.

Frank: Getting back to stuff, anticipating stuff, you came in on, Nickerson reviewed the III MAF. Nickerson had relieved [LtGen Robert E.] Cushman [Jr.] and [BGen Earl E.] Anderson. There was a lot of turmoil.

Miller: Anderson was just leaving as Nickerson's chief of staff when I got out there. And [MajGen George S.] Bowman [Jr.] was the deputy, George Bowman was the deputy, Anderson was chief of staff.

Frank: George Bowman was an aviator, wasn't he?

Miller: Yes.

Frank: Was there much fallout, did you see anything from this anticipating what was going to happen later on?

Miller: With Anderson? No, because I think that was, I was not there, of course, when Gen Cushman was there and the relationship of Anderson and Cushman was I think was the, at the very centerfold of the later problem and, of course, I think Gen Cushman's leaving the Corps with CIA

End Tape 1/VI, Side A

Frank: This is side one, tape two, session six with Gen Miller.

Miller: He, of course, became Commandant after he had left the Corps literally and was put back in as a favoritism for his work as the aide to Nixon and that, of course, caused some difficulty with Marines, seeing a man that had been away from the Corps. He put Gen Cushman in a very difficult spot, too, because, and I could certainly tell you now that the Marine Corps changes so rapidly that it is very difficult for a person to leave the Corps and stay gone two or three years and then come back and be expected to lead it.

So I always felt that Gen Cushman had an almost insoluble problem and he started out with a lot of people against him because that is the way he got in it. And in an effort to overcome this, he relied very heavily on E.E. Anderson because Gen Anderson had been his chief of staff, apparently by Gen Cushman's feelings in Vietnam, Gen Anderson was a good chief of staff and I would say that Gen Anderson probably was a good chief of staff because he was that kind of person. He had a memory like an elephant. He was an administrator. On the other hand, I didn't think Gen Anderson was the kind of person that made a good battlefield commander.

Frank: How was he thought of in the aviation community as an aviator?

Miller: Well, he is not much of an aviator. That is, unfortunately, aviators are so parochial that a guy is no good if he can't fly. He had the VMO squadron in Korea, for instance, but he never flew close air support missions and fighters. I don't know enough of his

background in World War II to know what he did but I knew him, he was one of my bosses when I was in the Marine Corps Air Technical School. He was the head of operations for the school and I don't think he ever flew an airplane. I never saw him fly an airplane. The only time I can say that he must have been flying was when he flew some of the VMO missions in Korea.

But consequently it was very hard for Gen Anderson to get the respect of the flying aviators but I think more than anything else, Gen Anderson tried to play things, being a lawyer, he brought a little bit too much of the lawyer profession into the thing and he played things a little too close to the edge in what is legal to do, to accomplish certain things. I think many of us knew that he did things that if you took him to a court martial or you took him to a legal decision, he is okay but we felt ethically he was being wrong and I think all of that built up inside.

I think he had a vision, and I want to qualify this, as I think, from some things I heard first hand and hearsay that he was, he had a feeling that no aviator would ever be Commandant except almost by accident at the right time, the right opportunity and I think he became so engrossed in the idea and that he for the first time had the opportunity to be the first aviator Commandant because he had Gen Cushman's support for it and he had the Secretary of the Navy's support for it and --

Frank: J. William Mittendorf.

Miller: Yes, and he had a lot of support from certain members over on Capitol Hill. And in my opinion he would have been Commandant if he had not have pulled some little bitty trivial things that upset the apple cart and they caused him to be investigated how he had improperly, I can't say illegally because I don't know the law that well, but what was considered improperly sitting on promotion boards as senior member. He always scheduled himself as a senior member of the Reserve board so that he could promote certain people that were on Capitol Hill that were Reserves and get them up to general so it gave him strength over on Capitol Hill.

These kinds of things I think caught up with him. I always classed Gen Anderson as a person like McNamara, he had such a genius of a mind but he didn't know how to cry. I

don't know whether I make my point clear, but he didn't understand human feelings of the people that served under him or with him enough that what he did, how it hurt them, but a fantastic genius mind. There is no question. He is sharp as a tack.

Frank: As a general officer, you went through several changes of Commandants. Were you solicited like the College of Cardinals for whom amongst your peers you would like to see as Commandant?

Miller: Oh, sure.

Frank: Which was standard?

Miller: That was kind of standard. Even before I became a general officer myself, I knew that that was the case. I can remember Gen McCutcheon getting a letter from Gen Chapman asking who he thought would make a good Commandant. It was very personal and private. Nobody saw it, Gen Chapman sent it to the officer and the officer sent it direct. Nobody opened it, nobody else read it. Not even the Assistant Commandant, nobody, not even the administrative aide. Nobody saw the answers. I know in the case of Gen Chapman. In the instance of Gen Cushman, I think that is where the thing broke down and I think that was the thing that was the kiss of death to Gen Anderson. I think he would have made it if he hadn't have fiddled with that thing.

Frank: Shakespeare expressed it well. His reach extending beyond his grasp or something.

Miller: Yes, he was just trying to cover all the loose ends and if he had just let nature take its course, it would have ridden through because with the Commandant and the Secretary of the Navy on your side, there is not a hell of a lot you have to do. You just be quiet and keep your nose clean. It is interesting what is going to happen in this next one.

Frank: I have been hearing retired generals talking about this and he happened to mention innocently. He said to me, it looks like the same thing is going on in this one.

Miller: Oh, no, I don't think so. The fact that it is a former naval aviator is the Assistant Commandant, I don't think, Tom Morgan is not in any form or fashion pulling any kind of undercover.

Frank: No, no, I didn't mean that. Well, the point was I remember when it came up, this was at the beginning of the year in which, January as a matter of fact. I sat at the table with him and he was talking about (off mike - inaudible).

Miller: No, I was a colonel in Headquarters working for Gen McCutcheon and Gen Wilson was the legislative liaison for the Commandant. And, of course, one of the things that made him very effective in many ways on Capitol Hill is, of course, he was the holder of the Congressional Medal of Honor which is a very unique position. Not only that, but Senator Stennis had been his acting godfather there, was with him the day the President presented him the Medal of Honor. But Gen Wilson had the ability to know how Congress operates and know how far you could go with very strong words and leadership qualities and where exerted with too much enthusiasm turned around and [could] bite you.

On the other hand, he is a very strong leader, and as a Commandant, as I said, I just think it was just a tremendous gift of fate that he became Commandant when he did because we needed that kind of leadership. Good, strong, positive leadership and one who could exert that positive leadership in the front of Congress and knew just how far he could go in front of Congress and because he was already highly respected for his smoothness and his skill with members of Congress and well known, Bob Barrow was a great Commandant but Bob Barrow didn't have the tickets that Lou Wilson did so if you would have reversed it, I don't think Bob would have been as good a Commandant.

Bob Barrow came along after Wilson got the thing turned around which required support from Capitol Hill and was able to make it a lot better because of his own smoothness and skill which was particularly good. Had we had somebody with a more military rapport with the Congress, too stiff, too strong, taking the chest out leadership role without taking the subordinate role to Congress, I don't think we would have progressed like we have and I think that is largely the responsible for the Marine Corps [being] in as good a shape today as

I can ever remember it in time being. It has got good people, it's had good Commandants, and, as I see now-- no matter who is selected for the next Commandant, it really takes more than four years to bring the, any bureaucracy, which you have to say the Marine Corps is a bureaucracy, but it would take more than one Commandant to destroy its position now.

I think that it is in such fine shape-- it is always important that we get a good Commandant and I don't think that, I think we have got enough selection that the cards will come out. We will see, but I have to go back again and praise Gen Wilson for what I saw him do. He turned the thinking in the Marine Corps around almost 180 degrees. Quality over quantity of Marines for one thing. His famous quote, I don't care if we go down to one Marine, he will be a good one.

When he was forecast with numbers, when Senator Nunn hit him and said, I am going to take Marines away from you. He said, "I deserve to have them taken away from me if they are not good Marines and as far as I am concerned, when I am Commandant, we may go down to one Marine but he will be a good one." And that was his attitude.

That was not the general feeling in the Marine Corps. We were all so conscious about numbers and being sure that we kept the numbers up and this kind of thing. The business of having to determine what makes a good Marine and he gave hours and hours of thought and discussion to this problem and came up with the idea that the high school education is the only measure available to the Marine Corps to determine that the probability is high, that a young man will make a successful Marine.

Frank: Plus a certain amount of discipline.

Miller: That's right and that has proven itself and the whole Defense Department operates on it today. All the other services have gone to the same thing. They have followed. The Air Force didn't have to follow it so much because of their technical, high number of technical billets they had to have that the guy couldn't pass the technical school to do the job, they couldn't take him so they were kind of forced by the technical field. We in Marine aviation were to some extent this way but it caused animosity in the Marine Corps because aviation Marines had so much better discipline rates than everything on the ground side of the house.

It was a job being an aviation man, I was always aware of it. I really didn't know how to try to correct it. I talked as the wing commander to a number of corporals and sergeants and sergeant majors at the division. I went down there once in a while when I was wing commander, just talked to their lower people and explained. It wasn't that we were trying to say that aviation has got all the good Marines, that is not the case.

But what changed that was Gen Wilson's recognition that the high school graduate will do a good job wherever he is and when the ground side of the house got started getting high school graduates, their disciplinary thing dropped clear off and it really turned the Corps around. And he had other things -- he recognized the family, the Marine family as being essential to a Marine, enlisted or officer. Our policy about moving people in and out of quarters where we always, a guy gets orders overseas and they kick his family off the base. Of all times that the family needs the support of the Marine Corps to help her get along and raise the children and keep them in the environment and keep the facilities working is when the old man is gone.

He totally reversed that whole thing. When a man goes overseas, his wife stays in quarters and that is the way it should have been. It was such a simple thing really. Then I will have to admit we had a little trouble convincing him that unit rotation was the most important thing for Marines being a cohesive unit that was built on pride and spirit and that our rotational, individual rotational system was killing pride and spirit within the individual unit. They were just shuffled through units, just happened to be a number, so to speak.

He had, again, some preconceived ideas that we had a hard time turning him around on but he got turned around on it and he is proud today that the Marine Corps uses the unit rotation and I think it has been the real savior of the Marine Corps. The sizing of some of our units and our aviation unit was a tough one to turn around and I tried to start it where we started breaking down our bigger squadrons and making smaller squadrons but more squadrons, so that when we went aboard ship with a battalion like in a MAU deployment, we used to take about half the squadron and send it to the Med. The other half stayed back at Camp LeJeune and was fraught with, in many cases, Marines without a home because their skipper was overseas and they were shuffled into places and they just were kind of the dregs and the reason they didn't get to go was because they were not the good, best team.

So what we did is we tore those squadrons down and many more squadrons, all the same size that goes with the battalion. So whenever the battalion went, the whole squadron went and that changed a lot but it was perceived by some people on the ground side that the aviation was trying to get more Marines or trying to get more squadrons. That was not the idea. It was to size the squadron to the ground unit that it had to support, and, fortunately, that went into effect and has worked well.

All these changes were really kind of started under Gen Wilson's guidance and he really turned around and I have to say that I think Barrow and [Gen] PX [Kelley] have done a good job. It is hard to know how well PX has done because in all my time, I can't think of a Secretary of the Navy that would be any more difficult to operate under than John Lehman. A brilliant guy, no question, a real hip shooter but you don't cross this guy and if he picks up the wrong idea on you, you are dead in the water. You are through by the very nature that some of our gents that were considered for promotion on up into the three-star bracket and some of those that would have stayed on longer in the Marine Corps, but they got axed by Lehman.

A perfect example was the admiral at Miramar that got axed and as Admiral Moorer was saying in his comment. He says, I wonder if the Secretary of the Navy thinks that an admiral signs all the requisition chits that go through supply. There was no reason in the world for Lehman to have fired Tom Cassidy. There wasn't any way in the world Tom Cassidy had anything to do with the pricing of certain items in the supply system. It was very difficult for even the base commander, the captain.

Now, the base supply officer, he is another guy. That is what he is there for now. But to think that the Secretary of the Navy would reach in there and sweep and just take the whole thing, that is, well, put yourself in as Commandant and try to work under that kind of a situation. You really got to be very sharp and I have to give PX credit. I think he has done a fabulous job with John Lehman as Secretary of the Navy. In fact, I think PX has fared better than the CNOs have with Lehman.

I often think in time of history, how successful President Roosevelt would have been if he had to live in today's environment of television and press and world situations and so forth? No question, I think Roosevelt is probably one of the greatest men we ever had but I

don't know how good a President he would be in this. So it is kind of hard to compare people.

Frank: I don't think you can compare them, but we have kind of gotten away from III MAF and I know you have been on the trail on that. We probably ought to finish up this session. You have already commented on the 1969 time because I think before we started you spent some time with the author on that and I don't know that there is much more except your personal reminiscences of what the tour out there was like, the situation was like when you left in 1970.

Miller: Yes, you mean my first tour in Vietnam in 1969 or in --

Frank: Well, December of 1969 to December of 1970, that was second tour.

Miller: That was my second tour.

Frank: Well, when you had your chief of staff of III MAF.

Miller: Yes, it was mostly 1970. I got there in December and stayed through until December. It was, I don't have much more I can add to it. It was probably one of the most educational tours of duty I had because as an aviator I found myself little involved, very little in aviation. It was an interesting job because I knew the aviation side well enough that I didn't have to go to the wing and fiddle with that. I could look at the statistics and I knew what they were doing. I applied myself mostly to the ground side because I was, I guess as an aviator I have always been very sensitive that aviation was doing a good job and that the ground guy thought the Marine aviator was his best buddy.

So I was in a position where I wanted to be sure that the ground people, [know] what the ground people were saying about their support and were they getting the kind of support they rated. Of course, not only the aviation support but all the rest of the support that they got. In there, it was interesting to work in the combined arena with the Vietnamese and the Koreans. It was a very, very interesting tour for me.

I guess it ended on a kind of a sad note with Gen McCutcheon's health failing so fast.

Frank: He came out there when you were there.

Miller: Yes, he came out about halfway through my tour and relieved Gen Nickerson and shortly thereafter or maybe it was about the same time that Nickerson left, that XXIV Corps took over and McCutcheon was III MAF under XXIV Corps. So McCutcheon had about six months out there when his health just kept failing and he kept having to go to the hospital more and more and more and more in the hospital ship which was there in the harbor. So it was very sad to see that happening. There were some fairly sporty days with him in the hospital and we ran the daily brief, III MAF daily brief even after he was at the hospital we went in because it gave the division commander and the wing commander and the Korean commander and all their staffs an opportunity to get together in the daily brief at III MAF. We moved over to Red Beach and we fortunately had made up a very well-designed briefing room and joint command type of thing. I know I would leave the briefings almost daily and fly out to the hospital ship and go over to let Gen McCutcheon know everything that was going on so he could tell me whether it was fit with the way he wanted things done.

Gen [Charles F.] Widdecke was the division commander at that time, Gen Al Armstrong was the wing commander. Gen Lee was the Korean commander and Gen [James W.] Sutherland [USA] was the XXIV Corps commander. It was a very interesting tour and some of our problems probably centered more around the, with the Navy as [much] as anybody else because the Commandant had made his decision that we were going to backload everything that, maybe it is an exaggeration but anything that cost 10 cents was going back and we were having a hard time getting the Navy ships. When their tour ended, when the day came to the end of their tour and they were to chop back to Pearl, they wanted to leave, they wanted to go and we had agreements all the way up the line through CINCPAC fleet that all these ships would come through Da Nang on the way home for us to load any spare space to put stuff on. And we had some very serious problems from time to time with those ships coming in, spending one day and leaving.

We had, at the time we had a Marine Reserve aviator by the name of Al Wood. He and Ken McLennan, Ken was a colonel, the G-4 at the time, and Al was his deputy and Ken

got sent home and Al Wood wound up as the G-4 but Al had been a driving force about getting all our stuff aboard ship and getting it back to the states and on several, at least one occasion I remember he is on board the ship *Argon* as the captain pulls the lines and shoves off and Al Wood kept telling him, but captain, you can't leave, the agreement is not, we have agreed between the Navy fleet commander that you will load until you are full. The captain would leave anyway and in one case we had to fly a helicopter out and take him off the ship at sea to get him home.

Well, needless to say, that Navy commander I don't think ever made another promotion because it was about three of them that bit the dust out there for this haughty attitude of wanting to leave and not giving us time. We got that basically corrected but we were off-loading, I mean, on-loading stuff and taking almost everything back which paid off in the long run. It certainly held up well for our frugality in all of our operations.

Frank: The supply discipline.

Miller: And then the withdrawal of tactical units. We were going through some terrible times of mixmastering tactical units again which emphasized the importance of unit rotation. I guess it was one of the reasons I was so strong in trying to convince Gen Wilson of unit rotation because I had seen what happened out there when we would come in and we were supposed to pull a battalion. Say, it was the 2nd battalion, 5th Marines and it was supposed to be pulled back to Okinawa or go home. Well, instead of pulling the 2nd battalion and sending it home, the personnel "manglers" as we always called them, got in there and they looked at their rotation date and this guy, they would look at one guy and say, "Oh, you have only been out here three months. Well, you stay. The other guy is seven months. You go."

Then what do you do with those people? Well, you reach in to some outfit by name that is not going home and you shuffle all the people that have got to stay longer in it and put all the old timers into the outfit going home. You just didn't have any combat capability at all in those units and the mixmastering, we got in some very bad situations there with some of the trouble raisers and even had guys shooting each other and this type of thing.

Some of the race situation got created in some of these things in an environment that we should, all that really added fuel to the fire that helped us convince Gen Wilson that unit

rotation is the only way we could ever go and when you pull a unit, you take everybody with it. When you send it home, no matter how long they have been in it, you take them home with it.

But we went through those growing pains of pulling those units out of the country and at the same time we were kind of fighting the--

End Tape 2/VI, Side B

End Session VI

Session VII

Interviewee: Lieutenant General Thomas H. Miller, USMC, Retired

Interviewer: Mr. Benis M. Frank

Date: 25 February 1988

Place: Marine Corps Historical Center, Washington Navy Yard, Washington, D.C.

Begin Tape 1, Side A

Frank: This is side one, tape one, session seven with Gen Miller. The date of this interview is 25 February 1988 and you just heard the end of the last session which was incomplete and I ask you now to complete that.

Miller: Well, that was a very turbulent period that we were all going through. Of course, as occurs in units in combat, they are put into a kind of a stand-down condition because of political/police negotiations and the uncertainty of what is going to be tomorrow, whether you are going to fight a war or whether you're going to sit there and watch the movies, and wait for the politicians to make up their mind what will go. Military people who are in a high tempo type of operation and then suddenly put into an environment like this is one of the most serious problems that any commander leader must contend with.

I remember it so well in the Vietnam war because although the enemy, the Viet Cong, North Vietnamese hadn't let up at all, we were forced into a more or less a no-action status with at the same time having to try to protect ourselves from things-- it was most frustrating and we were withdrawing troops from areas that as soon as we withdrew our troops, the Viet Cong or the North Vietnamese moved into, we were not permitted to go back in and drive them out, first, mainly because we were sending troops home and we didn't have enough troops to hold what we did have. I think it was at that time that I began to see that Vietnam was going to, that we were going to totally fail in Vietnam because there was just no will in this country to do anything about it even though we had gone out on the limb and said we were going to do something about it, we tucked our tails and kind of ran and this had a terrible impact on young men and always will, those that fought in the war to this day had been hurt mentally because of the manner and attitudes of the politicians and leaders back here in the country.

Frank: We now, 1969-1970, I think we are still, it is a year since we did it, what you will have to do when you get the transcript is to look at it and see if you recollect anything else because I think it is hard for us to go back to that period. G-3 and chief of staff III MAF, what we want to do now is go on to your tour as assistant wing commander of the 2d MAW for a three month period and I guess actually from January 1971 to June of 1974, you were down at Cherry Point so you went from assistant wing commander 2nd MAW to CG 8th MAB [Marine Amphibious Brigade] which was a collateral duty I guess to the command of the wing and then CG of the 6th MAB so why don't we talk about period.

Miller: When I came back from Vietnam, --

Frank: You got picked up, when did you pick up?

Miller: I came back, I was a brigadier in Vietnam, I made brigadier in 1969 and then of course spent all of 1970 out there first as G-3 of III MAF for the first six months and last six months I went up to chief of staff.

Frank: Who had the MAF at that time?

Miller: Nickerson.

Frank: Okay.

Miller: "Herman the German" Nickerson was CG. When I came in, I relieved Leo Dulaki who was G-3 and because I had been working very hard, I was told that there was a good possibility when I left Washington by Gen Chapman that I might be the assistant division commander and that is where I really wanted to go. The deputy division commander should be an aviator and the deputy wing commander ought to be a ground general. I believe this is the best way to integrate our real leadership at the top.

Frank: This concept had occurred earlier on. Hadn't the Marine Corps been trying to do that before?

Miller: Well, they did some exchange billets but they never got it up at the top. There was always a tendency for people to start at the bottom and try to work up instead of start at the top and coming down.

Frank: [Frederick E.] Ev Leek, for instance.

Miller: He didn't, Ev Leek had a division in peacetime at Pendleton. So did George Bowman who had a division. The law will not permit you to put a ground general in charge of the wing. This has been one of the problems of putting a deputy in there because of fleeting up. If something happens to the wing commander, you have got to get some aviator in there real quick to replace him because of the law.

Frank: The law states that specifically?

Miller: The law states that aviation units must be commanded by aviators. I worked up, when I tried to get this philosophy going when Wilson was Commandant and I was head of Marine air, I got this concept going and knowing that one of the grinding sore points on the ground side was that they could not succeed to command of the wing because of the law.

I went to the JAG and Headquarters I forget who it was at the time, and asked them to work up some legal language that we could get the law changed because I had reason to believe that some of the Congressmen and Senators I had talked to, that they would assist me in getting the law changed so that for periods of short duration, three, four, five months, that a ground general could succeed, particularly in the case where the wing commander was either indisposed or was ordered out for some reason. There was no reason why the deputy, even though he was a ground officer [could not do this], because the MAF commander can be a ground or air and that is an aviation unit.

What they are concerned is where you have direct command of airplanes they feel that you have to be an aviator now that the law has been changed so that the flight officer can also fall into that category so you can have a NFO commanding the wing today.

Frank: They had to do that for career FOs, morale amongst the NFOs.

Miller: And for squadron command so we have had, in fact, my NFO was the first squadron commander, Ron Krop. Anyway, I went and got the language all taken, just about had Gen Wilson convinced to do this throughout the Marine Corps was to make all the deputy division commanders brigadier aviators and all the wing deputies brigadier ground but then Gen [Samuel] Jaskilka, the ACMC kind of shot me down. He didn't think that was a good idea. His thesis was how do you train a good division commander if you don't have him operate as an assistant division commander.

My argument to that was from what my experience has shown, you get that, you learn to be a division commander or a wing commander more by being a chief of staff of the division or wing than you do by being the deputy because as a deputy you are just kind of a flunky waiting for something unusual to happen and you are kind of sitting aside, you have got a lot of time, you can get out, see a lot of things, you can catch mistakes and things but at the same time you are not in a position of direct command and it was ideal in my opinion for the switch. I was never able to swing that. I thought about going to Gray and suggesting that he try that now. I truly think that this will get rid of some of the animosity that is really brought on by competitiveness between air and ground.

For a long time aviators didn't feel that the ground accepted them as Marines. Well, from the time I came in as an aviator, I didn't want to be a Navy aviator, I didn't want to be an Air Force aviator. I wanted to be a Marine aviator because the Marines indicated that this is the best of all and I wasn't interested in the ground side but I wanted to be the best damn aviator in the business and that meant Marine aviator.

I think that is all blown over now. I don't think that near the animosity exists, and it is not all bad. It is a part that keeps us sharp. The aviator is not going to let the ground guy catch him depicting the image of a lousy Marine and vice versa but I still think that I use it often as an example in the assistant division and assistant wing commander. When I had 2d

Wing, my deputy was Andy O'Donnell. I am trying to think, Bob Barrow had the division for a while and [Herbert L.] Beckington. Somebody else was his deputy. Fred Haynes had the division and Bowman was his deputy but when we worked together as a team, the division and wing, my aviators would go down there with a joint program, a combined effort down there, and I seldom got much feedback to my level as to how good a job the guy did in the eyes of the ground guy and I am sure the same was true if my aviators thought that the guys on the ground screwed things up, the word never got to the division commander because nobody was going to rat.

Now, if I had had a ground deputy wing commander who talked and was accepted within the ground community of the division to go down to Camp LeJeune, and talk about the problems of certain operations, they wouldn't hesitate at all to tell him that the damn aviators that came here screwed up or it could be vice versa. If I had had an aviator deputy division commander, he wouldn't hesitate one minute to call me and say, "General, the damn aviators look terrible down here." But if he was a ground deputy division or the division command at all, he is not going to call me and tell me that my troops just look like hell so I think it is the only way to so-called break the barrier and I still believe this very, very strongly.

In the 1974, I believe you are referring to the 1974-1975 time frame, wasn't it?

Frank: No, no, 1971 to 1974.

Miller: Oh, that's right, as the BG. George Axtell had the wing and Gen Axtell is a very sharp person. He has a mind that thinks so much faster than he can talk and consequently sometimes his talking can't stay up with his mind but he is a brilliant person.

It was quite a challenge to me to be his deputy. He was very fair to me, permitted me to run pretty much unimpeded throughout the wing, and when I found things that I thought should be corrected, I didn't have to go to him to correct it. I just directed that they be corrected. I always kept him apprised of what I had done but he never once slowed me down.

The only problem that I had with Gen Axtell was, Gen Axtell was a great believer in mixing with the young officers. He had a son that was in a squadron down at Beaufort and

about every other weekend he would go to Beaufort just to let the groups down, we had two air groups there, to let them know that he was also their commanding general as well as the outfits at Cherry Point. It also gave him a chance to be with his son and his family.

Frank: Is that Greg?

Miller: Yes. This was hard on Greg. I don't know, I never heard Greg complain about it and I guess he wouldn't but you could imagine the strain of here is a lieutenant in the squadron and his dad is wing commander. An awful lot of pressure on the young lad. The others, I think his peers accepted it probably as well if not better than Greg did. But the problem that Gen Axtell looked to, he would have a tendency to go into the bar when he was down there in order to mix with the guys, to hear what was bubbling up. And they would invariably, there was always some loud, outspoken lieutenants or captains that had very idealistic ideas and opinions, some of them are good but the far majority of them are things that there is good reason why you don't do them.

But they would fill him full of stuff and then he would come back and he would jump all over the staff because certain things were being done.

Frank: Unit commanders couldn't have appreciated that too much.

Miller: No. So it was tough and I think he mellowed as time went on. He suddenly realized that he was getting led down by the primrose path by some of these youngsters. It is very like this character that was, that worked for Senator Gary Hart and Bill Lind. He used to do the same thing and he used to, except that he didn't have enough common sense, enough practical experience of his own to know whether these guys were filling him full of a bunch of stuff and that is what made him terribly dangerous plus the fact Gary Hart believed in everything he said or did.

Frank: What was going on when you were back at Cherry Point in this period? What was going on? What was the wing doing? What were the commitments? Of course, the MABs I guess you had major operations in the Med or up in Norway.

Miller: The 2d Division and 2d Wing are probably, without a doubt, the two busiest outfits in the entire Marine Corps. A lot of people don't know this. The people in the Pacific and having been in both, I would have to say because of in the Pacific you have two divisions and two wings and you are spread and this type of thing, east of the Mississippi River you have got one division and one wing. You have always got stateside operations, exercises and joint operations with the Army and Air Force. We keep the MAU in the Mediterranean. You keep a ready MAU for the Caribbean, every other year you have a big NATO exercise and, in fact, it got to the point it became every year.

And you were just meeting yourself coming and going all the time. It was a rough thing and it still is today. People just don't understand how much turbulence there is. I say that when I say turbulence, it is turbulence to a man and his family even though he is stateside based, if he is in a squadron every 60 to 90 days, he is gone for two to three weeks on deployment somewhere.

So it was a terribly busy thing. The NATO exercises, it was the, when I arrived back in December of 1970, I actually got down to Cherry Point in January of 1971, I already had waiting for me my new job besides being the assistant wing commander I was the brigadier commander for the next operation NATO exercise. It was to be in Turkey so, and it was to be about, it was to go in about five to six months from the time I got back there. We had to do all the planning, put the whole brigade together and then sail over there, do the operation.

Prior to going over there for the operation, we had to fly over there for planning with the Royal Marines, the Greek Marines, the Spanish Marines, the Italian Marines and not to mention the work that we had to do with the Turks, which were mixed up with Greeks. It was a very complex operation. We were landing in Turkey and we had Greeks in our force and the Turks didn't want that. We weren't supposed to let a Greek touch foot on Turkey.

So it was a pretty hefty planning operation and I worked on that for six or seven months plus in between times trying to be the deputy wing commander, flew to Europe two times before we left for the operations. We took the USS *Mount Whitney* which was the first time the command ship had ever left the United States. It was brand new at that time and we sailed it to the Mediterranean. Then it would arrive and we were greeted by two

Russian cruisers and a destroyer that stayed with us almost constantly for the whole operation.

A very good operation. I had talked to Gen Chapman about the concepts that I had proposed and he added fuel to the fire by saying he would strongly support it. I was a great believer in night operations. I recognized in my opinion that daytime fighting is becoming so dangerous because of the accuracy of some of our weapons that modern warfare is going to be fought mostly at night. That is the only time.

It so happened that Gray, now our Commandant, was one of my battalion commanders in the ground force side of the brigade. [Lemuel C.] "Bo" Shepherd [III] who is a former Commandant's son, was my regimental commander or the ground commander for the operation. Al Gray's battalion was in the MAU, in the Mediterranean at the time and I took another battalion from Camp Lejeune with me when I went over on the USS *Guadalcanal*. We took two ships from here, the *Guadalcanal* and the *Mount Whitney* and we tied up with all the rest, I forget what the other helicopter carrier was. We wound up with two helicopter carriers and the third one was the British. So we had three helicopter carriers. It was a big operation.

And we had a good operation but we made our major landing at 2:00 in the morning, some 16 clicks inland. We put seven companies ashore. Al Gray was one of the guys who got put ashore at 2:00 in the morning. I really thought I was going to have a rebellion on my hands when I briefed all the, I went around, as soon as we got to the Mediterranean, got all our force together, got all the commanders together and briefed them on the concept of operation. When I told them we were going to do all of this at night, I think they thought I was completely out of my mind.

And the Royal Marines commander, Brigadier Pat Ovens, was a little worried about this but he was the kind of guy that he was willing to try anything. He was positive about it. Of course, the Royal Marine helicopters are flown by Navy pilots, not by Marine pilots. They were just adamant that they didn't think they could perform this kind of thing. I finally told Pat Ovens, I said Pat, if you don't want to work the night landing, then don't do it. We will use your forces for a ground assault, cross the beach. We are going to put part of our people across the beach because we had to show, had to demonstrate an operation to all the

VIP of NATO. We had some 125 or 130 flag officers down there watching and civilians, [the] prime minister at that time, the head of Turkey was there and --

Frank: All this in the middle of the night.

Miller: Well, we had to do it again in the morning so that these people could see it. So, we had to run a dual operation so I said, Pat, we could use your forces and part of your Marines but the majority of my forces have already landed at 2:00 in the morning.

As it turned out, pride got the best of them. They couldn't see the U.S. Marines landing at night with them coming across the beach so they landed at night, too, and it worked out fantastic. In fact, there wasn't any question. We just ended the war almost before it got started because the Turkish adversary force had no idea we were going to land at night and we went in there and when they woke up the next morning, our Marines were all sitting on the high ground behind them and they were trapped on the beach and then you had the amphibious wave coming across the beach so you just had a pincer just closing them in.

So we stopped the problem long enough to let them out so we could re-start. And we did that two or three times and we did another, the airborne, Army airborne came in and they made a parachute drop, big parachute drop, about 40 miles up. And they got in trouble almost immediately. They didn't have enough supplies to stay there any length of time and we had to make a breakthrough to get to them to save them and we put together another night operation. We went to the rescue about 4:00 in the morning, totally successful. We were on the ground, in total control when light came.

If you hear Al Gray say today which I am sure you have already heard him say that we are going to do lots of night operations, he became a believer in that operation. That is when he recognized the value of night operations.

Frank: Matter of fact, he has said that.

Miller: Yes. When he took the change of command, he called attention to the night operations. And then we did the same thing next year, in 1971, in Norway. Actually I was

still a brigadier but George Axtell got selected to move up to FMFLANT. And I was supposed to, I had been named to take the wing as a brigadier and about the same time, Beckington, who was assistant division commander, was going to run the operation in Norway the next year. That is the way it rotated between the wing command, deputy wing and deputy division and just about this time, that is when Cushman pulled Anderson out of FMFLANT and brought him to be the assistant commandant.

Anderson, who had worked with Beckington a lot, pulled Beckington to Washington and within just a few months jumped him from brigadier to three stars.

Frank: Startled a lot of people?

Miller: It sure did. But then I got a call from Gen Anderson and also from Gen Cushman which said Tom, even though you are taking the wing, you had a very successful operation in Turkey last year and we have got to have Beckington up here. We are going to have to ask you to take, to fill in Beckington's job and take the operation in Norway.

I really didn't want to do it. When the Commandant and Assistant Commandant say yes, you salute and say, "Aye, aye, sir!" and march on. They said that they had ordered Andy O'Donnell back early from Thailand.

Frank: The "Rose Garden."

Miller: Right; to be my deputy. So Andy came back early, lost some leave in order to get there and get his feet n the ground before I had to leave and I had, in the meantime also, I hadn't had the wing more than a couple, three months when...

End Tape 1/VII, Side A

... as a major general so when I went to Norway I went with two stars on rather than one which was also another reason I think that they kind of thought they wanted me over there because I was senior to Beckington so at that particular time and because we were going to be involved with Norwegian forces, and they wanted me senior to the Norwegian general.

So I had to jump in the saddle real quick and fly over to Oslo, Bergen, Bartfos, and Trondheim and go through all our planning of which Beckington had started out. I revised the tactical plan again to another night operation and this time even a little bit more bold, 1:00 in the morning at 100 miles out we launched the first wave of CH-53 helicopters. I didn't take any [CH] 46 helicopters. I felt in the terrain, the weather, in Norway, that I wanted aviators that were more capable of handling bad weather.

For some reason, 46 pilots were, had flown so much VFR or by control of their flight totally by their own visual reference to the ground, they were not near as good an instrument group of people as the CH-53 people were-- plus the CH-53 was fast. And you could put it in just about the same space that you could put the 46 in. When I made the request, Axtell was my commander, he said if that is what you want, do it. So I didn't take any 46s with me. Took only 53s and we did the same thing. We launched from the carrier at about 120 miles out and we put four companies, about 4:00 in the morning, four companies were on the beach already. Same thing. We caught the Norwegian adversary force flat on their butt.

The interesting thing about this, John Warner was then the Secretary of the Navy and he was with me that night when we launched the flight. He was duly impressed. We had a good operation. He spent about three days with me over there. And it really went well. We pulled another night operation on them just like we did in Turkey and when we recovered the 82nd Airborne, this time we mouse-trapped a very large Norwegian force. I took the 53s and moved a whole battalion in about 40 minutes from 40 miles south and the Norwegians just had no way of knowing that we had that much movement capability. I took this battalion and moved it from down near Bordefa and I moved it up just south of Trondheim and the Royal Marines did an unusual one.

They got in the rubber boats with motors. The cruiser took them up within about 20 miles of where they launched them. This was all in the middle of the night. They left around 2200 in their rubber boats with motor boat motors on them and they had about 20 miles to cover and they got in to within about two or three miles of the beach and they shut the motors off and rowed in and they were on the beach, all set, all in their positions. We were on the hills from where the Norwegian force was in supposedly on the beach and at first light the Royal Marines rose up in front of them and they were just about to take them

on when our guys came over behind them. It just really proves that the night operation is really the way to go.

So then I came on back. We did one of the first while we were there. We had been in our air control units. We had finally gotten some equipment and some time on the satellite. We were doing satellite communications, both from voice communications and we had perfected our air control so that we had our lash-up in the tech center at Cherry Point. Gen O'Donnell went out there and we had the big, four-foot screen and we put out air picture from up on top of our mountain of our radar over at Norway and he could sit at Cherry Point and watch real time air operations. That had never been done. We did that in 1971.

It really was, also I talked to O'Donnell and I talked to Fred Haynes. With a guy standing next to me with the satellite NAV package and the antenna up above his head that was on his satellite station, standing there with a hand microphone and talked to both Fred Haynes and O'Donnell in Cherry Point and Camp LeJeune from a backpack, all by the satellite. That was the first time that ever happened.

Frank: It is like "Red Storm Rising."

Miller: Yes, and then suddenly some people got around and they thought maybe the Commandant back in Washington would like to have the wing bring its equipment to Washington so we could give a picture to them. We quickly quieted the whole damn deal because if there is anything we didn't want was the generals in Washington running the war because of this information.

So that was kind of quieted down. It almost came back to haunt us in the Vietnam-Saigon evacuation. All the communication was satellite and the commander in Saigon [was] talking with the Secretary of Defense in Washington and Secretary of Defense is asking all kinds of stupid questions. The commander out there didn't have time to do his business.

Frank: We will talk about that when we get to that point. I have got some notes here that we discussed the last time that we are going to get to, the *Mayaguez*, Eagle Pull Frequent

Wind, social stratification, Wilson and JCS involvement and Wilson retirement. But we are still here.

Miller: When I got back from the Norway operation, of course, and I was finally able to settle down and start working the wing, it was at that time that we started receiving some of our first AV-8As, production AV-8As and we organized a squadron of VMA- 513 at Beaufort, South Carolina.

Frank: Harvey Bradshaw had that, didn't he?

Miller: No, Bud Baker.

Frank: I thought Harvey was the first.

Miller: No. Bud Baker was the first one in command. He was, along with me, we were the first two to fly the Harrier.

Frank: That's right, you two went over to England.

Miller: We went to England in 1968.

Frank: Yes, we talked about that.

Miller: But Bud had been, you see, after that, he went to England, spent about a year and a half over there while we were getting our planes and production and so forth and then came back and took the squadron when it was formed.

Frank: Did you, talking about AV-8, recently I saw some heavy criticism of the Marine Corps about the AV-8 not being able to do the job it is supposed to do.

Miller: That came from the same guy that has fought us all these years that is now sitting as a consultant or deputy counsel to Les Aspin in the House Armed Services Committee. He is the same guy that used to be systems analysis for Harold Brown in the Carter Administration that canceled it every year. It is the same old crap and, in fact, we almost lost our production this year but we were able to hold onto it.

Frank: What is this guy's name?

Miller: Russ Murray. And as long as he stays anywhere in the government, we will have trouble because he has got a personal vendetta now against us. We have made him look so stupid so many times that he's out to kill it, he'll do anything to kill it.

We were apparently busy in the wing with the changing of the attack mission over to the Harriers. Our rotation for our squadrons was pretty heavy not only rotation for the training exercise we were going to 29 Palms, we were going to Roosevelt Roads and we had lots of in-flight refueling, doing a lot of the training right there within the area. We had three big time exercises with the Air Force, one of those each year. I was trying to recall, they had a real something "dancer" and then they changed that. They didn't like it, it sounded too feminine. So they changed it to "High Heels." We were always in one of these problems [operations or exercises]. Then we had the cold weather training up in New York and out in California so it was keeping us pretty busy.

I stayed there fortunately as the wing commander until May of 1974 so I was very fortunate to have gotten back there so I was the deputy for about 11 months and then I kept the wing itself for about two and a half years as wing commander. I think I held the wing longer than any commander has ever had the wing. It was very fortunate.

Of course, I had learned a long time ago to stay out of Washington so I only came to Washington when I was called to come to Washington and they left me alone. I was kind of surprised that I was able to keep the wing that long but I think they just had too many things to worry about.

Frank: The Commandant at this time was Cushman.

Miller: Cushman, right.

Frank: Do you have any problems with Gen Anderson?

Miller: No, I never knew where I stood with Gen Anderson. I had known Gen Anderson for a long time. When he was lieutenant colonel, I was, let's see I guess I was a captain and a major. Down at MCATS when he was at the Marine Corps Technical School at Quantico. I was on the staff there for a while when he was behind the wheel. I had never served in any unit with him because I was not a helicopter pilot. He had gone mostly to the helicopters.

Frank: So he was a late aviator.

Miller: And I don't know, there was a lot of things I can't explain even to this day as to how they happened because I was never a real close buddy of Gen Anderson's but I made two stars. When he was sitting on the board, when one of his helicopter proteges didn't make promotion and I never figured that one out.

Frank: Despite the fact that this was supposed to have influenced the selection board to the degree that he is alleged.

Miller: I think that it would be very difficult in a court of law to ever prove that. He was smart enough, being a lawyer that he would play it pretty close to the line but I think he would know where to quit. It did catch up with him apparently and when they were selecting the Commandant to replace Cushman--but that is a whole other story.

Frank: I have gotten bits and pieces from outsiders and insiders and it is not a happy period for the Marine Corps. Apparently there were quite a cabal, a raid against him of both ground and aviation. Aviators perhaps were the most --

Miller: The aviators didn't feel he was truly an aviator. Aviators are probably the hardest on their own group. I think one of the tough problems that Gen Morgan had was the fact that

he was a former aviator and surprising to me, there were about 50 percent of the aviators didn't want him to be Assistant Commandant. A very brilliant guy, probably far more Washington charisma. That is one of the reasons that JCS stuck with him, when Gen Kelley stuck with him, he had the pulse of Washington, he had the leadership. His problem was that he didn't have any combat. The only time he had an opportunity to be in combat, that is when he turned his wings in, in Vietnam.

And aviators are just as rigid as the ground side is. They don't want anyone coming in there that hasn't had a lot of combat. So it is any aviator that goes into a position in the Marine Corps probably invariably undergoes more scrutiny from his aviator buddies than the ground side.

Frank: I think in my knowledge, in my period of time, only two aviators who, one thought he was going to be Commandant and never made it. That was Jerry Jerome and the other one who probably would have been most acceptable by everybody but unfortunately died, was Keith McCutcheon, who would have been, I am sure, from all I hear, fully accepted by both the ground and the aviation and fully qualified.

Miller: I think that is true. I think Keith McCutcheon is the only one who had ever made it but I think I can say with a great deal of honesty that you discuss priorities in the Marine Corps with aviators, the priority of having an aviator Commandant is a low priority. It is one of those things that yes, we would be very proud to have an aviator be the Commandant of the Marine Corps but on the other hand, there are so many other things that are held off.

Frank: Not going to fall on a sword. Well, is it because the other things are important or a realization that it is not realistic to expect that an aviator is going to be?

Miller: I would have to go back to my own feeling and I believe it is felt at least the people that I guess are the ones I agree with, we want for the Marine Corps what is good for the Marine Corps. The only way I would ever want an aviator to be Commandant is that the ground would want him as bad as the aviator does. I would never want to see an aviator put

in there just a so-called symbol because invariably if something went wrong, then there would be a real black eye to the whole situation.

On the other hand, of the aviators I know we could have had equally successful Commandants from the aviation community, I don't think the fact that a guy flies an airplane is going to have a hell of a lot to do with whether is a good Commandant or not.

Frank: Who were some of the people that you thought would --

Miller: Well, it is kind of hard to name then because not many of them ever got much more than three stars. You had Bob Hayes, you had [John "Toby"] Munn, [Vernon] Megee, [Jerry] Jerome I didn't know well enough.

Frank: Certainly Roy Geiger.

Miller: Well, again, Roy Geiger was a come-lately aviator.

Frank: Oh, no.

Miller: Oh, yes.

Frank: Roy Geiger was an aviator in World War I.

Miller: I know, but he was ground a long time before he became an aviator. He was in the military for some time because he became. That is the term I use.

Frank: He wasn't raised in aviation.

Miller: That is right. But no, Geiger certainly, we are going back a little before my time. I think Keith McCutcheon would have been a good Commandant. I think you could pick most any of the three star aviators, [Hugh M.] Elwood, Baron, Thrash. They would have been different but they would have been good Commandants. They were good

commanders, they were good leaders of men, they ran administratively--“Gay” Thrash ran a good outfit.

So I don't, I say when they aviator becomes a Commandant it must be because the ground wanted to and it is not, on the other hand, I am adamant that if the Commandant is ground, the Assistant Commandant ought to be an aviator. I say that for two reasons. One, we espouse the name air-ground team. And that term ricochets all the way down through the ranks of enlisted and officer and in order to not speak out of one side of your mouth, you need to show that. You need the Commandant, the Assistant Commandant, ground and air.

The other thing is and probably the more important in a lot of ways is the problems that the Commandant faces with the aviation structure since it is run under the Navy, financed under the Navy and it has its unique terms and unique financing. We have the blue-green dollars. There is seldom a Commandant becomes a Commandant that understands aviation funding at all, how it operates. Hell, Al Gray didn't know how it worked. Lou Wilson did not know and it took him three years to understand it. Sam Jaskilka never understood it.

So in order to keep the Commandant from being hoodwinked when he gets in the CNO's, what we call the CEB (CNO's Executive Board), they are the people that run the Navy, two four stars and the rest of them are three stars. They sit around the table. The Commandant is on the board; the Commandant or the Assistant Commandant. When neither one of those are aviators, so much of the budget that affects the Marine Corps has to do with the aviation budget. The ships, amphibious ships has a minor but, and a lot of times there has been problems because you couldn't get any amphibious ships while they were building frigates or carriers or something like that but the real nuts and bolts fight comes in the aviation dollars.

And when you meet in these board meetings and you have a Commandant or Assistant Commandant who does not understand the airplane from a mechanical standpoint, technical standpoint, performance, the funding problems, contracting procedures, he is at a terrible disadvantage because the staff officer on the CEB staff can get up and brief a recommendation that is disastrous for the Marine Corps.

But if there is no one there that understands it well enough to make him stop, the Marine Corps loses out. I'll give you one example. When Gen Wilson came back from

Hawaii and became Commandant, he had been convinced by Gen [William G.] Johnson, the aviator who had been his deputy in Hawaii who was a helicopter man, Gen Johnson had convinced Gen Wilson that the F-14 was too sophisticated an airplane and required too much --

Frank: You ready for a hot drink now?

Miller: Anyway; when Gen Wilson got back to Washington, one of the first things he did was to tell the Chief of Naval Operations that the Marine Corps didn't want the F-14. And he didn't --

Frank: Shook them all up.

Miller: Yes, it shook up the Navy but on the other hand, Gen Wilson didn't require that we get any quid pro quo for \$400 million which our machines would have cost and which rightfully belonged to the Marine Corps aviation side. Gen Wilson did not understand and he literally gave the Navy \$400 million of the Marine Corps's purse and didn't get anything back for it.

Well, when I got here, of course, he knew that I supported the Marine Corps for having F-14s for a couple of reasons. First, we need to stay very close to the Navy and operate the same airplanes, stay in the same supply line and everything and be very compatible because if we have to operate aboard ship, we need to be operating the same kind of airplane.

The other being that from a training aspect, it is too expensive for us to get out on our own and try to run our separate line. Anyway, when I got back, I saw Gen Wilson and Les Brown. Les Brown had taken over as chief of staff and he had a kind of Sunday social get-together and Ida Mae, my wife and I, went to it and when Gen Wilson walked in, of course you know I had been his deputy in Hawaii. First words, he said, "Good to see you, Tom. I didn't know you would be willing to speak to me," because he had scrubbed the F-14.

I said, "No, General, I was sorry to see you make the decision before I had the opportunity to discuss it with you because I think it was the wrong decision but, and there are so many other aspects to it that you should know."

It wasn't two months after I had taken over as DCS Air that we needed a couple hundred million for the CH-53 echo helicopter and one day I was explaining to him how the Navy budget worked and I said you see, that was one of the reasons when you went over and gave them the F-14s, you shouldn't have said, here they are. You should have said I want to trade those in for this.

So he said, "I will still go back to the CNO and ask him for some money for the 53." He did and the CNO [Admiral Holloway] told him to go fly his kite. They had already taken the F-14s and they didn't want them [CH-53E] if they wanted to buy them or give up the money for them. So we had one hell of a time finding money for the CH-53s. It was that kind of decision that you have to have and you have to have it at four star level because in the CEB, one or two times that I was in the CEB, I was there basically (brief pause)

End Tape 1/VII, Side B

In the CEB, unless you are one of the principals on the CNO staff, if you are sitting in the back row or what we call the second row, you are only there really to be spoken to. You are not really there to do the speaking. On several, almost every time we were there, or me and General Jaskilka or General Wilson were there, they would bring up some issue that was contrary to the good of Marine aviation and, of course, Gen Wilson and Gen Jaskilka didn't say anything. I would pipe up. I knew the CNO, didn't like this at all. It really grated on him I know because later he asked the Commandant one time to keep me shut up.

But unless you are sitting at the front, I did a couple of times when the Commandant and Assistant Commandant couldn't make the CEB, I went as their direct representative and sat at the table, then they had no complaint for me saying something because I was sitting in for the Commandant, I was representing the Commandant. But again, I am looking at the CNO as a three-star to his four, and I couldn't really speak for Gen Wilson's four star. It puts you at a terrible disadvantage. Many times the CEB is run by the Vice CNO who is a four star. He is not the CNO. He is, if the CNO is out of town or something and quite often

we would meet with the Secretary of the Navy in those meetings so again, the importance of having the Assistant Commandant, a four star who can speak with the aviation tongue keeps the Marine Corps from being put at a terrible disadvantage and that is primarily the main thing I think that there is a morale factor in the aviation side that one of the FMFs should be commanded by an aviator just because that is one of the principal things that fluctuates one hell of a lot up and down, as you all know. It has been some time now since we have had an aviator, I guess since O'Donnell retired, we haven't had an aviator in command of FMF and I guess PAC in more instances, both Anderson and Axtell commanded the LANT.

PAC, Roberts had PAC at one time. O'Donnell and I were about the only commanders of FMFPAC. Mine was short primarily because Wilson pulled me back to Washington, D.C. to be DCS Air and sent [John R.] McLaughlin out to relieve me but I was CG FMFPAC during the *Mayaguez* incident and the final stages of the Saigon withdrawal. Wilson was in the area of leaving Hawaii in the withdrawal from Cambodia.

Frank: It is funny. You said you were CG. They don't have you down as CG. They have Deputy CG/Chief of Staff.

Miller: No, I was CG from the time Wilson left and came back.

Frank: They entered it wrong. In any case, we are anticipating ourselves here.

Miller: Yes, he was, you see, that is when the Commandant changed from the first of the year, I mean, to the mid-year.

Frank: All right. Well, what else down at Cherry Point?

Miller: I don't have a lot more to add to the Cherry Point thing. We worked with some new ideas. I always felt that the DASC, the direct air support center, should have a radar, to help in its control of helicopters. We did some --

Frank: The radar what?

Miller: A radar to control helicopters. You see, the DASC right now doesn't have any radar. All the radar comes from the TACC.

Frank: Tactical Air Control Center.

Miller: Yes. But you need radar located in such a manner that you can vector helicopters, particularly in inclement weather, you need to be able to continue operations under bad weather and in those conditions you need radar. Another thing the DASC, my feeling was the DASC should always, even in peacetime should be operated in the closest proximity to the division. It should be, we were at Cherry Point. When I got there we had the DASC set up at Cherry Point, well that's crazy, there are no ground troops there. I set up the DASC at New River, and we almost got the DASC and the FSCC in full peacetime operations sitting over right next to the division headquarters at Camp LeJeune.

Again, Gen Jaskilka for some reason killed that program. Now, Al Gray is a strong believer in that. When he had the division they did that down there. And we flew all of our training flights just like we fly them under combat conditions. That is what I was trying to get going so that our pilots, it was just automatic they take off, they check in with the TACC and if they are going to work with the ground side of the house, he shifts them to the direct air support center (DASC). The direct air support center works the problem with the ground through the air support coordination center plus the base command at Camp LeJeune which controls all the ranges.

So it was an ideal of a three-spoke wheel at Camp LeJeune. You would have the base commanders beside the control for the ranges. You would have the division's fire support coordination center and you would have the wing's fire support and they would all be run out of the same building.

I think Gen Gray finally did that probably while Gen [William] Maloney had the wing but we did that for the first time down there with the radar vectoring the helicopters and it worked great. We saved the life of a sailor. One night he was on an LSD and his appendix burst and it was miserable weather. The radar of the DASC at New River was the one that we put up on a little hill so it gave us good coverage and they vectored him right

over the top of the ship so that he could see the lights of the ship in this driving rainstorm and landed on board ship and got this kid and flew him to the hospital, saved his life.

But it worked very well. The tempo was always going full blast. Gen Spanjer came in and relieved me and I thought at the time that I was probably going to go to Washington as DCS Air. But I think Gen Anderson got upset at me for one thing, one of the pilots that used to fly him a lot was irked at me because I used to throw the guy out of the cockpit when I got aboard and I told him, "When I am on board this airplane, I fly it." This lieutenant colonel didn't like this and every chance he had to give me a bad name, he used to put me on report with Gen Anderson all the time. We proved the statistics that he was wrong in a lot of the things he was saying and he put Gen O'Donnell on the same thing so we didn't know where we sat with Gen Anderson because, but I'll be damned if I was going to let some damn lieutenant colonel run the situation as far as I was concerned and if Gen Anderson wanted to listen to him, fine.

Of course, Gen Anderson put Gen [Edward S.] Fris in as head of Air and understandably so because Gen Fris was a very, very close personal friend of Gen Anderson. In fact, it was always my opinion that Gen Fris was the guy that helped Gen Anderson make brigadier general in the MTDS [Marine Tactical Data System] business. Gen Fris was really the founder of the MTDS but Gen Anderson got a lot of credit for it because Fris worked for him at that time.

But and then Gen Chapman always had a very high regard for Gen Anderson because of that. So instead of coming to Washington, that is when Gen Wilson I guess was asking if they would let me come out and be his deputy. I went out there and it was a good tour. I really enjoyed it. Gen Wilson was a great guy to work for.

Frank: Very demanding.

Miller: Demanding but very fair and very emotional on some areas like all of us with just a positive-negative on some areas. But if you let him cool down, you could go back in and say I would like to talk about that some more and boy, he was willing to listen again. So we went through that drill when we went to this unit rotation thing. Ken McLennan and I

probably worked harder than any two of the flag officers in headquarters to change his mind on the unit rotation.

Frank: What was Ken McLennan doing out there at the time?

Miller: Ken was here in Manpower in Headquarters Marine Corps. He was a brigadier. Ken was, when I was a brigadier at III MAF, Ken was a colonel and was deputy G-4. He had come off of Okinawa and come down to Vietnam while I was chief of staff and he went in and went to work for, if you can imagine an aviator reserve colonel who was a G-4.

Frank: Who was that?

Miller: Al Wood.

Frank: Oh, yes.

Miller: A fantastic individual. You just wouldn't have thought that you would have had a reserve colonel and an aviator that could have been as fine a G-4 as he was. He was a fabulous G-4.

Frank: And another reserve aviator who has done very well for himself.

Miller: Who is that?

Frank: Keith Smith.

Miller: Well, it has been hard for me to consider Keith a reserve. His problem was that he just never could get a window to change over to a regular commission. Every time he tried, the rule was that you couldn't take that year group and he just couldn't. I have known Keith ever since he was a second lieutenant; it was just kind of a screwball thing. Keith has done well. He is a very cool operator. Sometimes I think that he needs a little more bull in a

china closet approach but who am I to be saying whether he should do it. That is his, he has done a good job, there is no question about it.

Frank: Very well liked and very much respected.

Miller: Yes. I was kind of surprised he didn't move up to Assistant Commandant.

Frank: The rumors are that Joe Went got the inside track for that one.

Miller: Yes, well, I think it is pretty well known that Joe Went is going to be --

Frank: Joe is getting tired of having to ask when you move up.

Miller: Yes. I don't know how long they are going to let Morgan stay on. I think they were still trying to get Morgan down there on that command, the readiness command down there.

Frank: I think that from my viewpoint, this is strictly an educated guess, that we couldn't, Gen Gray couldn't act too precipitously and look like a Saturday night clearing house and --

Miller: Well, the problem is, he is trying to hang onto that billet whereas it is known as a rotational billet and it is pretty, you have got to pull some kind of shenanigan to have [George B.] Crist relieved by another Marine and I think that the timing and all is very critical. It just doesn't look to me like--I would say Morgan will be gone by 30 June, one way or other. That is a long time to keep Went waiting because for all intents and purposes, Al has already said publicly that Went is going to be Assistant Commandant.

Joe has done a good job. Some aviators don't think he is near the aviator that he should have been but they have always got that complaint, just like the people that never liked him because Frank Peterson went as high as he did. But Frank was no slouch. No question, he probably got a little bit of boost, I say a little. I don't think it was a lot, because he was black but Peterson worked for me and I know some of the ins and outs of some of the rough areas in his career that a lot of people don't understand and because the

Commandant sent me all the paperwork on it and then later called me and told me to burn it so I can't find anything in Pete's record that anyone could fault. He has been a good leader.

I understand he is liked very well down at Quantico. The place looks clean and sharp, at least as good --

Frank: Frank has worked very hard down there.

Miller: I think he has done every bit as good as Dave Twomey did.

Frank: I think better.

Miller: That is the word I get but it is all in the eyes of the beholder so you never know.

Frank: Well, Joe Went can do no wrong. He is a fellow University of Connecticut graduate.

Miller: Oh, is that it? Joe is a hell of a nice guy and Joe has always done a good job everywhere he went so I don't have any problems with that. Joe, in some respects probably has got a little more charisma to him than Keith Smith from an appearance thing.

Frank: I think the tragedy that Keith Smith and his wife suffered with the death of his son in Beirut, you can see it on his face.

Miller: Yes.

Frank: I mean, he is gaunt. He is aged.

Miller: Yes, but Frank, I lost a son, too, so I don't, I think a person, if you're going to carry on in life you can't let things like that—life is life, things are going to come and go. My wife and I lost our first two, lost our first son, I never saw him, he died before I got back. Had an operation, developed pneumonia, and they didn't have penicillin at that time and

before they could get it, he died and he was 10 months old. And we lost a 19-year-old in this accident.

I grant you, the older they get, the more in the manhood area that they reach or womanhood, either way, the tougher it is but I looked at it a little bit different way that I was honored to be his father for 19 years and I looked at the good things and the bad things and I could hardly have expected a better son. I think Keith could very readily say that of his own son, too. I watched Bob Conley go through this same thing when he lost his son in Vietnam. I know a lot of people who have lost sons. Tom Kilcline, an admiral, lost his son in Vietnam. But that is life. When you get put here, all you can do is just do the best you can. You can't quit. You can't let something tear you down and so I don't know, there is no question it wears on everybody a little bit different way but I think you have to, I mean, you wouldn't want to think that it shortens your life just because you let it bother you so much because you have got other loved ones that sure don't want Dad to go out of the picture sooner because he worried himself to death because he lost a son.

Frank: You don't have many alternatives.

Miller: No, you don't. I have two, living daughters, and I couldn't dare let my son's death drive me to the point that I could not be a good father to two girls so that is the way I look at it. I am more of a fatalist. I take life as it is given to you, do the best you can and don't worry about it.

Frank: Got to be realistic.

Miller: Yes. I didn't mean to get off on this philosophy and leave Cherry Point.

Frank: We went out to Pearl. Why don't we save that for the next session? It is 20 after 3. We put in an hour and a half or more.

Miller: I should be able to get in next week for sure.

Frank: Okay, fine.

End Tape 2/VII, Side B

Session VIII

Interviewee: Lieutenant General Thomas H. Miller, USMC

Interviewer: Mr. Benis M. Frank

Date: 7 March 1988

Place: Unknown

Begin Tape 1/VIII, Side A

Frank: We have arrived at the time when you reported aboard at FMFPAC to take over as deputy CG and you were chief of staff.

Miller: The job in FMFPAC is both a joint job and a single job. The chief of staff is also the deputy commander so it is one job. You have a deputy chief of staff, a colonel, but the --

Frank: Administrative type?

Miller: Yes, but you were the chief of staff and also the deputy commander. This was a change that I don't know who really instigated it—General Krulak or General [Henry W.] Buse [Jr.]. I guess it was after Gen Buse because the complaint had come from some of the major generals that had been ordered out there to be the deputy CG FMFPAC. They sat there in their office and twiddled their thumbs. As a major general, they thought that was demeaning and because the commanding general always works with his chief of staff, his chief of staff runs the staff so the time I got there, William Gentry Johnson, a major general, was the chief of staff and deputy commander and I relieved him.

I had, an excellent tour there. Gen Wilson was the CG at the time and, of course, very experienced Washington man, good combat man. I think one of the better leaders we have had in the Corps.

Frank: You arrived out there in July of 1974.

Miller: Right.

Frank: Why don't you set the picture of what was going on in Vietnam. We had just about pulled out of Vietnam.

Miller: Yes, Vietnam was just about wound down. We had been required to send some of our electronic warfare airplanes back in there to help the B-52s that were still striking because the Air Force and the Navy did not have an electronic countermeasure airplane that could protect our B-52s. So we had to send our EA-6 squadron back in to do some protection of that but we were still phasing units out of Vietnam.

While I was out there, of course, the Operation Eagle Pull, we started planning for that. That was the withdrawal of our people from Cambodia and then--we had numerous plans worked up for the withdrawal of our people out of Vietnam. That occurred after the first of the year in early 1975. Gen Wilson at that time was in strong consideration to be Commandant. He was being called back to Washington rather regularly.

We were trying to get our forces back in their peacetime positions of California and the brigade at Kaneohe [Hawaii] was kept pretty well on the alert for a rapid movement and we were beginning to get most of the people back to Okinawa out of Vietnam and things, about midway through, the only Marines that were left in Vietnam were the ones that were tied to the embassy.

Frank: Security guards.

Miller: The security guard people and we had security guard people at Da Nang which were up there with the attache.

Frank: There were several other places, too, that were, I got the stories of some pretty hairy escapes.

Miller: Yes, of course, getting the group getting out of Da Nang was fairly hairy. In November of 1974, I remember they had a birthday party. General Lang, Frank Lang, was G-3 of CINCPAC and he had been out on a trip with Adm [Noel A.M.] Gayler and when he came back, he came to me and said, he wanted to know if there was any way we could get a

flag, a Marine Corps flag for those Marines up at Da Nang. They were putting on a birthday party and the ambassador agreed to come but they don't have a Marine Corps flag.

Marine flags being the sign of a unit, there was not any spares in particular when you are coming up there in Hawaii but if you are coming up to the Marine Corps birthday time, everything, every unit is waving its flag. It so happened I had been given a flag which certainly cannot be mine but it was presented to me when I was Second Wing commander of one of my squadrons I had commanded which, in turn, when it became the first Harrier squadron, I had it when it became the first Phantom squadron so when it became the first Harrier squadron, they had presented me with this flag and I still had it.

I happened to have it in my quarters there in Hawaii and I told Frank, if I was sure I would get it back, I would send that flag out there, so we did. We sent that flag out there. They had a hell of a good party and the sergeant up there was very prompt in getting the flag back to me but they were only about seven or eight Marines in Da Nang at that time.

Most of our planning at that time was in our planning with the Navy, CINCPAC Fleet and ourselves: how we were going to handle a withdrawal because intelligence indicated that things were not going to be too good and no matter what the message that kept coming back to us from Washington was that this is, we can either win it or get out any time. It was obvious we were rapidly losing the war so our concern was the safety of the people there plus a large number of Vietnamese.

I would say the main activity at that time was regrouping the forces back and looking at the needs of our young Marines. Gen Wilson became deeply concerned about the quality of Marines we had at the time. We had many discussions on what was the criteria that the Marine Corps should use in determining who should be a Marine and it was where, in these discussions it came out that his views, I think, became fixed on the idea that a high school education, a high school diploma was probably the best and only real criteria as to what Marines, whether you could tell whether a young fella was going to be a success as a Marine.

As you all know, he brought that back when he was Commandant, became Commandant. That is the first thing he did. He said that 72 percent of all Marines would be high school graduates and anybody else, out; anybody causing any trouble, out.

Senator Nunn had made a trip through on the way out to Vietnam and stopped in. Of course, Senator Nunn and Gen Wilson knew each other. I sat in with them in the discussions, just the three of us, and Nunn at that time said that he was deeply concerned about the quality of Marines in the end. He felt that the Marines were going to have to get their act together and he was going to cut the Marines, something like 60,000 Marines until they could do it and he told that to Gen Wilson.

Now, at that time we didn't know Gen Wilson was going to be the Commandant but Gen Wilson kind of listened. He didn't argue too much at the time but Senator Nunn made the statement at that time that if the Marine Corps could get its act together, he would be the first person who would put them back in and to be sure he would put the numbers back up to where they had been.

I can remember that very clearly because he lived by his word because, as you know, when Gen Wilson came back and he put in his policies, of high school graduate criteria, the disciplinary rate made a sharp drop. Everything went up and Senator Nunn came through with the people, as he had promised.

Anyway, Gen Wilson was coming back to Washington, D.C. at the beginning of the Eagle Pull operation, the withdrawal out of Cambodia. He was called back to Washington. It was a kind of a hard time for him to leave but he didn't really have much choice. He just came back for interviews and meetings. We could not say where he had gone. He just, if anybody inquired, he was away from the command for a day or two and not to indicate where he was.

Of course his main concern was the Marines out on the far end. At that time, Gen [Kenneth J.] Houghton had the division and III MAF in Okinawa and Gen Wilson felt very confident in Gen [Kenneth J.] Houghton and his ability on the ground side and Gen Vic Armstrong had the wing at Iwakuni, and so he had strong confidence in his leadership that he had out there. I said Kenny Houghton was the division commander but Carl Hoffman was III MAF. That was when we had a separate III MAF commander.

Well, Eagle Pull came off exceptionally well. The planning had been good but we began to realize for the first time that any future combat practically was going to be handled almost verbatim by Washington. To give you an example, on the day that we started Operation Eagle Pull, it was planned for withdrawal of about 400 people out of the embassy

in Phnom Penh and it was planned for a withdrawal for the first helicopters to land at about 12:15, noon. They were CH-53s. The carriers couldn't get within seven or eight miles of the beach because of the shallow water so it made the flight an unusually long flight. CH-46s couldn't handle the distance and carry anything so we put four internal fuel tanks in every CH-53. The 53 squadron was a squadron from Hawaii that was out there on the carrier.

They put the tanks in there and they went in that whole distance un-refueled, landed and came out with 40, 50 people in each helicopter. The first three helicopters came in and they were spaced in threes. They came in at about 12:30.

Frank: Who ran that operation?

Miller: The CAG, which was Adm Whitmeyer who was the naval commander on the scene. At the time we did not have a general set up and I will get to that in a minute, why this came about, because we didn't know when the operation was going to start. Of course, the bell rang and we initiated it and we had to do it fast and we went in there and when the first three helicopters picked up off the pad, there had been, the athletic field was located about a block and a half from the embassy. The way this had been set up was that members of the embassy and some of their families, one or two of their family would go down with kind of a pack on their back like they were just going somewhere during the day and leave the pack down with one member of the family down at this athletic field and then they would all eventually wander down there. At the exact bang of the clock there would be a sizeable group of people at the athletic field and boom, in would come the three CH-53 helicopters and the people would jump on it and then they would be gone.

I think there were four waves. It seems to me there were four waves of three each CH-53s. They put so many people on the first three that when they left, the people hadn't got out of the embassy fast enough and the other three came in and set down and there was nobody there to get aboard. We are sitting in Hawaii on the hotline between Washington, we had the White House on it, the Joint Chiefs of Staff War Room, the Secretary of Defense was there part of the time and then over in the White House part of the time in the White House War Room and then to our headquarters and then to Adm Whitmeyer's ship over

there and the embassy in Phnom Penn. It was a live satellite circuit and everybody is talking about it [the operation].

When they reported that the second wave of three helicopters had landed, they waited, they were only supposed to be on the deck about two to three minutes and everybody was supposed to be in and they were to get the hell out. We figured we really had to get out of there in about 30 minutes before the Cambodians recognized what we were doing and then would, of course, bring to bear firearms against the helicopters so the whole thing was a real rapid evacuation just to reduce the threat.

Frank: Who screwed up on it?

Miller: Well, because they took so many people in the first three, there was no residual to spill over to handle it so these helicopters sat there for a long time and the people hadn't left the embassy. It is hard to say who really was at fault except that the embassy always runs something like that. I don't want, because I am military, to put the thing back on the civilian but invariably the civilian in charge of the operation in the embassy who seldom really understands the punctuality of schedules-- so really they didn't watch this and they didn't monitor it and get the people down there.

Well, this became rather obvious, clear back here and the Secretary of Defense at that time was [James] Schlesinger and pretty soon he came on the loud speaker system and, of course, the microphones that we all had to talk to them plus the loud speaker in the command center at CINCPAC said, "What the hell is going on out there? Why are those helicopters still sitting there?"

And Adm Gayler tried to explain the situation of what had happened and the word Schlesinger was heard to say, "Well, damn it, get a runner and get down there to the embassy and get those people up there." Well, when you think of, here is a thing halfway around the world, you have got the Secretary of Defense telling a commander out in the war zone to send a runner, this is getting pretty bad.

So we got our first dose of how things could get muddled up and it even got worse in the Vietnam withdrawal because you could hardly answer a question until three or four other questions were dropped in your lap and the people that were responsible for replying to

these questions were the people that were having to do the work and they didn't have time to stop and give an oral dissertation on what their thought process and what was going on and it just got so bad because Washington just had to have every fact right now, right now!

I remember after the meeting we had, Gen Wilson was in for part of that but he was packing his bag and leaving and so he would just drop in and wanted to know how things were going along. Admiral Gayler made, made me, which at that time I was the acting Marine Pacific commander, sit right with him. Of course, my boss was Adm [Maurice F.] Weisner who was at CINCPAC Fleet which was down at Pearl Harbor. So it was kind of an unusual situation of command relations where CINCPAC had me sitting at his elbow and yet I worked for CINCPAC Fleet, which was not even there although their headquarters were on the loud speaker.

Anyway, we learned that we had to do something about control and we really came up with the idea of cutting something along the idea of the Huntley-Brinkley news report. We just put two guys on a microphone that [gave] just a constant running description of what is going on without hardly taking a breath so that Washington couldn't get a word in edgewise to ask a damn question. These guys would be busy just keeping the channel filled with all the data that was available so that the commander on the far end wasn't laboring with trying to respond to somebody in Washington's questions which he just didn't have time for.

So that came about and it helped some but we didn't get it working well enough and as I say, the Vietnam withdrawal, we were a little better when it came to the *Mayaguez* incident because this followed. In a period of two months, we had three major operations. It was getting to the point that most of us, I know Adm Gayler was becoming very drawn and worn out because he really wasn't getting much sleep and anytime this was going on, he never left the command center. In fact, I have only seen him sit in his chair when things were just a little quiet and nod and that was the only sleep I saw him get, and I was doing the same thing.

So it was getting to be a pretty lengthy process. Certainly it was an interesting period to be the first the deputy commander FMFPAC and then the acting FMFPAC commander and finally, when Gen Wilson left as the FMF commander because that was the

case in the case of the *Mayaguez*. The *Mayaguez* we had just completed the Vietnam withdrawal and the *Mayaguez* operation came on very unexpectedly.

In the case of the Vietnam withdrawal, we had lengthy discussions with Gen Wilson. We had put together three MAUs which kind of followed the Cambodian operation and getting ready for the Vietnam. Gen Wilson's original idea was that we would have three MAUs operating under Adm Whitmeyer who was, I forget what his task force number was, 32 or 34 or something. We finally got Bob Hable, who was our G-3, and myself on the telephone with General Hoffman. We wanted to get a brigade commander. We wanted a flag officer over the Marines. We didn't want three separate MAU colonels having to operate under the admiral and we wanted a CG III MAF forward tie.

Well, Gen Hoffman came in with a personal to Gen Wilson and Gen Wilson got real excited and said, "No way. Those three MAU commanders can handle it." Well, this kind of shook Gen Hoffman. I was on the phone with Gen Hoffman several times and he couldn't understand because that is our whole concept of operation is to go to a task force commander, a landing force commander type of operation.

So Bob Hable and I gathered our books and our best evidence and we went back in to see Gen Wilson and convinced him that Gen Hoffman was right and that he had to put a flag officer down there on that naval command ship, the ship with Adm Whitmeyer which at the time was the *Blue Ridge* which was our command ship. It was the Pacific command ship. And Whitmeyer was on it.

Gen Hoffman, in the rotation at that time, the way they rotated people into those brigade commands, they kind of alternated between the assistant division commander and the assistant wing commander. As it turned out, it was the assistant wing commander's time to be the MAU, the brigade commander and this turned out to be Gen [Richard E.] Carey.

So Gen Carey was ordered down and took his position on the *Blue Ridge* with Whitmeyer. This was after the Cambodian operation but before the Vietnam operation. Then the plans were set up. The joint commander for all this operation, believe it or not, although much to the chagrin of the Navy, was given to the Air Force commander. Of course, they were off in northeast Thailand and really had little knowledge of what was going on except by talking to people by radio to the various embassies.

Frank: Gen Wilson at this time, while he was not much of a player in it but I know when he came back later on when Dick Carey came back to headquarters, Gen Wilson was very upset of a chain of command and doctrine and you may want to address that.

Miller: Right, I will be glad to address that. I don't know what was the burr under Gen. Wilson's saddle blanket but he was pretty upset after the operation and it seemed to center around the fact that when Carey went in, the operation called, the plan called for the Marine commander much as in the case of an amphibious landing to move ashore with his command post, to link up with the Army commander in Saigon who was responsible for the withdrawal and with the embassy.

Frank: What was the Army commander's name?

Miller: I want to say Johnson but he is a tall, I knew him very well because he had one of our subordinate units there, Army units there in Da Nang when I was chief of staff of III MAF. What was his name? Hell of a nice guy, a big guy and he and Carey got along extremely well.

What Gen Wilson was really ticked off about was that when Carey left the ship to move, he never got a written assumption, move his command post to shore. Part of the problem was that Gen Wilson, as I said, was in and out, and the process was moving. The movers were moving his household effects, he was headed this way, he wasn't there. He didn't recognize that just as Carey was landing, the Army general blew up all the files and all the communications so that there was nothing but some satellite communications to talk on. There wasn't even teletype in from even the embassy. Everything was done by voice on the satellite.

There was no way for Carey to send a message that he had assumed command ashore but I don't think Gen Wilson recognized this and he was really ticked off at first. I don't think Gen Wilson had total confidence in Carey, whether it was the fact that Carey was an aviator, I don't know whether that has a bearing on it. I couldn't answer it. Gen Wilson would have to be the one to answer that but it just didn't seem to me that Gen. Wilson had confidence in Gen Carey.

It might be back through Adm Weisner and his Navy people that the Army people, the U.S. Army of the Pacific and all, that Carey had just done a superior job. In fact, Adm Weisner pointed out that what a tremendous job under hardships that Carey had done and Carey went in and Carey stayed right there in Tan Son Nhut airport until he should have gone out long before he did. When he left, he left with the last Marines except those Marines at the Embassy.

End Tape 1/VIII, Side A

Begin Tape 1/VIII, Side B

When Carey returned to Washington after the operation and called on Gen Wilson, I think at that time he satisfied Gen Wilson that he did the only things he could have done and that it was done well.

Frank: Wilson wasn't happy about the role of the Air Force general, the fact that he was --

Miller: Wilson. No, wait a minute. Wilson was Air Force specific but the general that was, I forget his name that was in Thailand that was supposed to be; Gen Wilson was very upset at this. Of course, so was Adm Weisner. The Navy never wanted to put their fleet underneath an Air Force commander sitting way up in Thailand.

Frank: Who inserted him into the play?

Miller: The JCS

Frank: Everybody had to have a bit of the action.

Miller: Oh, yes. They created a joint task force and gave the command to an Air Force general sitting way up in Thailand.

Frank: Fleet commander should have had it.

Miller: Yes. It should have been Whitmeyer or they could have even given it to the Army general in Saigon better than giving it to the guy way up there but they thought he could coordinate the air. The kind of air that we were using to go in there was, we had very little fixed wing air operation. They were sending, the Air Force was sending a bunch of A-7s down, they were circling overhead. They didn't know what the hell was going on so it was kind of ridiculous. That is what Gen Wilson was irked at. Gen Wilson was irked at the Navy, too, and some of the ways that they did things under the circumstances and also later what they did to our helicopter people. The Navy ships, as soon as it started getting at night, and then they would steam out away from the beach and gosh, here you had helicopters of all sizes and shapes coming from Vietnam trying to get aboard ship and they come to where they thought the ships were going to be and instead of the ships being there, the ships were another 50 miles out to sea.

They were scared. Instead of setting up some kind of a defensive perimeter and staying there, they just sailed out into the deep blue and that is why we had so many helicopters go in the water, they just ran out of fuel. But Gen Wilson, he was pretty upset at that whole situation. He tended at first, I think, to take it out on Carey but later on I think that was resolved and he understood that Carey had done the best with it and I don't know to this day what his final analysis of the whole thing was but I don't think that the Marines could have done any better than they did. He well knew that we saved the Ambassador and his people, Gen Wilson had gone by that time. But we had 16 Marines with the Ambassador in the embassy in Saigon and the night is wearing on and we can't get the Ambassador to come out.

Frank: But Ambassador Graham Martin was reluctant to leave. I think he was a psycho case myself.

Miller: Yes, I think so, too. I was sitting right there with Adm Gayler and Adm Gayler was just tearing his hair out trying to get everybody out of Vietnam.

Frank: Didn't Kissinger order him out?

Miller: The President. President Ford dictated a message, signed President Ford and it says, "Be on the next helicopter coming out."

Gayler got with the Secretary of Defense and told him, convinced him of what is in it and the only man that can order the Ambassador to come out is the President. And so they got President Ford, [he] said you will be on the next helicopter. I still have in my files somewhere a burned copy of a plain white sheet of paper that Schlesinger dictated over the wire to Gayler. Gayler wrote a message, put it on the teletype message even though there was nothing going in the teletype but then talked to the Ambassador and told him by radio I have just received this message and I am re-transmitting it to you but it reads as follows:

Mr. Ambassador, you will be on the next helicopter flight out of the embassy.

Signed, President Ford.

I have got that somewhere in my files. It is buried in there but I just made a burned copy of it because I thought in history that it would be an interesting thing.

Frank: The other problem from the Marine point of view, the evacuation is the fact that under contingency plans, they had to cut down trees in the compound, the helicopters, and --

Miller: Well, you see, the plan originally called for the placing of all the embassy personnel in buses and taking them to Tan Son Nhut Airbase. But the first bunch of six or seven buses started out and they didn't get a half a mile from the embassy and they couldn't get there. The streets were jammed and there was no way.

So they turned around and they came back. Then we got a whole bunch of people in the embassy and no way to get into it. The only helicopters that we had at that time that could carry any quantities of people were the CH-53s. Well, there really wasn't anyplace in the embassy grounds that you could put one of those except --there were two huge banyan trees. So the decision was, I know was asked by Adm Gayler, "what do you do?" I said, blow the damn trees up, get them out of there. So they sent the engineers up and they blew the trees down and carried them out of there. It gave our helicopters six feet on each side of their rotors between the buildings to land and they came in there and they carried people out until they had everybody but the Ambassador, about three civilian assistants, and 16 Marines.

Those Marines had always received orders that they don't go until the Ambassador goes and that is the reason we couldn't get the Marines out. So when we finally got to the message re-transmitted by Gayler to the Ambassador to be on the next helicopter. By that time the grounds had been overrun and the Ambassador was working his way up the stairs in the building. They finally got up on the roof and we took CH-46s because a 53 was too heavy and we considered that the roof would hold the 46, except there wasn't room enough for the 46 to set down on the whole roof but the pilots brought the 46s in, put the rear wheels on the roof with the nose hanging out over the end and dropped the ramp and that is how the Ambassador and those last Marines got aboard.

This was at night. It was a panic operation which at first in my opinion, it was very poorly planned to think that you could truck people six or seven miles. They would have to go through narrow streets of Saigon to get to Tan San Nhut Airport at a time when there is any kind of confusion going on, that was poor planning.

Frank: Who made the plans for that evacuation?

Miller: This was the embassy people there. They were the people that make all these plans. They are all around the world, that is what they are charged with. That is part of the problem we run into in places like the Russian Embassy. We were not allowed, in many cases, to put Marine officers, in as embassy guards. The staff NCO is the senior one around so consequently the guy calling the shots for security and that type of thing is a civilian. They are just not trained adequately, and they don't run any drills to speak of, and this is still the weakness of our embassy systems.

I think as I understand it, the recent agreement was that in the Moscow embassy now there is a Marine officer in charge of the Marine guard. It is something that I know when Gen Wilson was here as Commandant, [he] had a lot of conflict with the State Department in this regard, to try to put officers in charge.

Frank: That happened to Corlearis(?), the regional security officer was a foreign service officer. If he was a former Marine and also friendly toward the Marines, inclined toward the

Marines, it is a good situation. If he was a complete jerk, then no matter how proficient the MSG people were, how qualified they were, it was a wimp-out situation.

Miller: Yes, I think that is true even in the case where some of them may have had some Army or Marine experience, it was still a bad arrangement to have only an NCO answering to the civilian security officer which is not a military man by occupation. Any embassy of any major country or it doesn't have to be a major country but it is a country that stands to have conflict, there should be a Marine officer if you have got Marines there because the Marine officer always looks after his Marines, but he can associate and operate at the level in the embassy that decisions are made. If you have a staff NCO, he doesn't even get in the door and somebody comes out of the closed door and says, "Sergeant, do this." He hasn't had a chance to put in, he would probably be a hell of a fine staff NCO and could do it but they don't let him in so you need an officer that is in there to do it.

Frank: They do have regional officers but they are strictly administrative situations.

Miller: I think that is corrected.

Frank: Yes, hopefully.

Miller: But anyway, the Saigon evacuation was one that I don't think we could be overly proud of. Under the circumstances, I think we did about as well as could be expected. That was completed and most of the ships were headed off to their liberty ports about the time the *Mayaguez* incident happened.

That one was equally as complicated. In a matter of hours, we knew the ship had been taken over by Cambodians. We didn't know where the crew of the *Mayaguez* had been taken, whether they had been taken to the island or whether they had been taken to the mainland. The first thing we did, was to fly the ready battalion out of Okinawa to Thailand. Unfortunately, it was a battalion of the 9th Marines and they had just gone through a total mix-mastering of people going back to the states and rotating and this type of thing.

My deep concern at that time, and I know Gen Houghton and I had long discussions on the phone between Okinawa as to the readiness of that battalion. He was worried we didn't have any other choice because it had come up that that was the ready battalion at the time the bell rang and others were committed elsewhere so we had to send them.

We got them over to Thailand. The problem being at that time was that the USS *Hancock* had sailed off with all the helicopters plus two companies of infantry Marines and it would have been the ideal ship to handle the whole *Mayaguez* situation but they were halfway to Cubi Point or Subic Bay by the time the bell rang.

We got them turned around as quickly as possible. We got the carrier that we had put the Air Force helicopters on in the Saigon evacuation, it had got its air group back aboard and was sent to Australia for liberty and we got it turned around and headed back toward Cambodia. We got, fortunately we ordered, Adm Weisner ordered the airplanes to fly off to Subic Bay so the deck would be open. Thank goodness. Their air group had been off before [and] during the Saigon evacuation because in order to have enough lift birds, we had put a bunch of Jolly Green Giant Air Force helicopters on one of the fairly big carriers.

But their air group had joined them. The Air Force helicopters had gone back to Thailand but we got all those forces turned, headed our direction. They were going to be better than 24 hours before they could get within distance that they could even fly in with the helicopters. So I went to Adm Weisner and asked for a 24-hour delay of taking the island because I wanted to do it with our own Marine helicopters and our own Marine ground forces working together on it. With a 24-hour delay, the *Hancock* would have been within striking distance and the forces on the *Hancock* could have done it.

Adm Weisner supported me. Adm Gayler supported it. It went to Schlesinger. Schlesinger took it to the White House but President Ford decided he didn't want to wait and he wanted to go now.

So the word came back negative, no wait, start your plan now. The only thing we had then to bring the Marines from Thailand to the Maya Island of *Mayaguez*, I mean to the island near the *Mayaguez* was the Air Force Jolly Green Giants, 53s. Unfortunately, their crews with the helicopters were really fearless people, well trained in the recovery of downed airmen in hostile zones and used to flying under fire but without much experience of how and where to land troops so that they're in a disadvantage to do something once they

have landed. And what do they do? They came in and they landed on a sandy beach right in front of three machine gun nests that just ate them up.

The first two CH-53s went in, were shot up and went into the water. Most of the Marines got out of it but were not in a condition to do much fighting. They were wet, no ammunition and no guns and then they, all they were doing was surviving. Fortunately--

Frank: Communications with them?

Miller: Their communications that they had-- the main communicator went down in one of the helicopters so he lost all his radios. Fortunately, the next wave came in, and had them fly all the way back to Thailand and get another load and fly all the way back and it was about a three hour round trip so it was just pandemonium. They had Air Force A-7s circling overhead but they weren't any good because they had no communications for them. We also had Navy airplanes overhead and again, no communications with them because the Navy A-7s didn't have any FM radios in them. The Marines on the ground only had FM radios. So it was a screwed up thing from beginning to end.

In the meantime, we didn't know what attempt Cambodia would make if we tried to take the island. There was an airfield directly across the water to the mainland of Cambodia and they had some tactical aircraft on the field and we were afraid that the American forces would come under fire from these forces. The decision was finally made to bomb the fields so that they couldn't, not to damage any of the transport type of airplanes but just take out the tactical airplanes.

Well, they launched the carrier squadron to take those out, a bunch of A-7s of the Navy, and A-6s, and they got over the carrier, I was sitting with Adm Gayler and they were starting in to, getting ready to commence attack and the word came in from Washington, "hold, don't attack." Well, then there was some discussion and the thing went back and forth, and we had to get word immediately to the carrier to hold, don't strike. And then finally Gayler convinced Schlesinger we should strike so the word came down, "okay, go ahead."

Well, they were about 20 minutes out from their IP before the strike comes and in about another five minutes, we get another hold from Washington. Four times before they

got to the strike point they were told to hold. And we were in a hold condition when Gayler, Adm Gayler, it seemed to me, it sounded like he just lost his temper and he went to the Secretary of Defense and said something to the effect, "Damn it, Mr. Secretary, won't somebody in Washington make up their damn mind? He said, we have got I forget just how many airplanes with bombs on them up there. They have taken off from the carrier, they have held and held and held with all the indecision that is coming out of Washington. You have got two minutes. If you don't make up your mind one way or the other, they are going to drop the bombs in the water and go back and land aboard the carrier. Now, somebody has got to make up their mind."

Well, in about 20 seconds the word finally came, okay, strike the airfield. But you know, that was one of the things, sitting out there in the position like this, you just wonder, what in the world does the politician, and the leaders back here in Washington trying to run a war from way back here...it was really disgusting. It was one of those things you really bite your lip and just say I am surprised we could do anything right with all this on again, off again thing. But that was just one of the examples of things that occurred there.

Finally, we got some Marines landed by the Jolly Greens, got them on the backside of the island and got them in and then started a pretty good firefight going on. I think we finally wound up losing seven Marines as I recall. You probably --

Frank: I don't remember the number. I know we lost those in addition to the ones that were dropped.

Miller: We had some, a few Army troops aboard and we had one or two of those [that] they had to practically stick a gun in the back of his head and tell him to get off the helicopter. He wouldn't get off, he was going to go back with the helicopter. It was a pretty sad situation. But fortunately, the carrier that had been on its way to Australia. I don't know why I can't remember the name.

Frank: *Constellation* would have been --

Miller: *Constellation*. Anyway, they got back within about 30 miles of the island that evening and the helicopters that were putting the Marines in were still getting very badly shot up and we landed about three or four, fortunately. They would have never made it back to Thailand and those guys went in and landed on the carrier late in the evening and it was just lucky the carrier had gotten there at that time.

The *Hancock* got back there about the time, that time the Cambodians agreed to give up the crew of the *Mayaguez* and they sent them back out in the boats. Probably the story is best known, we finally got them back but it was really a hell operation. You know of all the mistakes and errors that are made but you see our situation today is not improved and our civilian military hierarchy of decision making.

Our civilian hierarchy doesn't seem to recognize the limitations of the military forces and certain basic rules you have to live by when you decide to use military forces or they are totally ineffective. I often wish there was someone that would research this thing and write it up in such a documented fashion. There were certainly people in CINCPAC headquarters that were there and also know where all the records were that could document this thing verbatim so it is not just what somebody would say, my hearsay reporting or somebody's hearsay. The facts are there.

Frank: The frustration level of the PAC must have been.... I mean, I can see pictures that were taken showing Ford and Kissinger and Schlesinger in the Oval Room or what have you.

Miller: In the War Room over in the White House probably. I guess it was from then. I had always thought that Secretary Schlesinger was a pretty fair Secretary of Defense except that I just had to say that under a situation he wasn't what I think the Secretary of Defense ought to be when you get into a situation like this. It is hard to say, you formed so many opinions and I look back over the time now and I say too bad we didn't have a Secretary like Weinberger when that thing came along. Because Weinberger, I couldn't help but admire the way he handled-- even though I was out--the Grenada thing, he turned the job over to the guy there and kept his mitts out of it because I remember press people were hounding him for answers and he said, they kept saying, "You mean you don't know what is going on?"

He said, "Of course not, the commander down there is running the job. I haven't got time, I can't worry him to death asking him a bunch of questions at a time when he is busy. I have confidence, he can handle the job."

That is all the kind of man you need as a Secretary of Defense and cut off this kind of stuff. If you don't believe in the commanders, then fire them but when you put a commander in charge-- the Brits are so good at this. You remember the commander in the Falklands. The Queen put the job on his shoulders and she didn't mess with it. He called the shots. This is a lesson and I don't know how we are going to operate this in a democracy.

If we hadn't gone to emergency war powers for the President in World War II, if we had fought World War II like we did Korea and Vietnam, we would have lost the hell out of it but people today don't recognize this and I get the message, I don't want to be a rabble rouser but it is serious business and they just don't understand that you can't run it the way the politician wants to run it.

Frank: Of course, this era of instant communication.

Miller: Yes, well, I think I told you in the early thing later when I came back from all this and went to the wing, the first operation, I had an operation in Turkey and then the next year I had an operation in Norway and we were beginning to use satellite communication to link our radars together and General O'Donnell who was my deputy commander in Cherry Point sat down there and I had in northern Norway put it on the satellite and he sat there with a four foot screen in front of him and watched the airplanes flying, real time, just like that and then we suddenly realized don't ever tell Washington about this now because the first thing you will do is the Joint Chiefs Command War Room and the White House War Room will have a screen there and they will pretty soon tell which fighter pilot to attack which airplane. That would be a disaster.

Frank: What was the aftermath of the *Mayaguez* as far as the PAC was concerned?

Miller: Well, it was hard to look at it and say we had done a great job. Again, it was done with a joint force. Air Force helicopters, Navy ships and the Marine ground forces. I certainly wasn't pleased with the degree of training, that we sent our young men into that type of situation. I was very uncomfortable. I had no other choice and Gen Houghton and I discussed this, as I said, many hours, but we had no choice as to which unit because they were the ready battalion, the transportation and all, the Air Force C-141s were all ready, you ring the bell on one of these plans and everything begins to run.

I think we were glad to see it over and we didn't get hurt worse than we did. I think that was my estimate.

End Tape 1/VIII, Side B

Begin Tape 2/VIII, Side A

Frank: You were saying you weren't sure how much --

Miller: I am not sure how much control, you see, when you go into one of these joint operations, if your force, particularly the Marines, find themselves in this situation so often where we are providing the manpower for an emergency fighting force but the commanders are not Marines. They are either Navy admirals or Air Force or Army generals that are at that level of command [who] really make the final decision happen.

Frank: Isn't that a problem with any task organized --

Miller: I think so. I think that was borne out in the Iranian attempted recovery.

Frank: Grenada too.

Miller: Grenada worked a little better although the Army had communications problems and the communications, you might say it was far more successful than the other operations, mainly because there was lack of interference with Washington. If you had mixed Washington's interference in with the normal military problems that they had down there between the joint force of Army and Air Force and Navy, then it would have been bad. The

reason it turned out successful, even though they had the problems, is because the commander down there had the authority to do it and he didn't have to ask a bunch of, or he didn't have a bunch of people questioning why he was doing something.

In the operations like the *Mayaguez*, Washington was calling every shot. I mean, right from the Secretary of Defense right all the way down. It would be good if somebody would get Adm Gayler before he gets too much loss of memory as we all get older. Some of these finite details kind of wear off and we remember the major things but I am sure Adm Gayler could fill a lot of people with a lot of detail and I am sure he has many times. But we don't seem to ever learn a lesson. We don't correct the thing and we just make a bigger empire as Adm Moorer once, when he was Chairman of the Joint Chiefs of Staff said to a bunch of Congressmen "Well, that bunch over there in the Pentagon believe that if you can't eat it or make love to it, then you reorganize it."

We are constantly reorganizing and all they are doing is making a bigger bureaucracy every time we reorganize. The JCS changed this past year. It is the same way. It is just added complexity to complexity to complexity.

Frank: When you were appointed Commanding General, FMFPAC, did that have to go up to Congress to get approval for your third star?

Miller: No, because they didn't make me a third star. I don't know what the time limit is on it. I was the commanding general for about three months, three to four months. Gen Wilson, was in the throes of changing the Commandant so there was some confusion back here so, and Gen Wilson had to decide after he got back here what officers he was going to put in what spot. When he left there, he said, "Tom, I am going to try to leave you here at FMFPAC." Had I stayed there at FMFPAC, I would have gotten a third star. Instead, when he called me when things kind of settled down, he said, "I told you I was going to try to leave you there and I had," but he said, "I believe I feel that I need you stronger here in the aviation chair in the Headquarters because I don't have people that I want to put in there other than you there and I really need you more there than CG FMFPAC."

I said, "Well, Gen Wilson, whatever you think." I enjoyed working for and with Gen Wilson very much so other than for my own desires of preferring to keep FMFPAC longer, I

felt that I had been fortunate in some respect to have had FMFPAC in the nearest you might call to peacetime combat situation as any other time so I couldn't complain. I also had some very strong feelings about aviation, having spent my whole career in the Marine Corps and how that Marine aviation shifted so it was equally challenging to come back here. That was also at the time that he had made up his mind that he was going to return the third star billet to DCS Air which had been removed at one time, went in, they agreed that the Assistant Commandant would always be an aviator, then they took the third star that was DCS Air at that time and moved it up as the third star at Assistant Commandant. That is when the Assistant Commandant was, [Verne J.] McCaul I believe was the guy that had the third star and moved up as Assistant Commandant.

But then that is, with the Assistant Commandant and aviator, then the D/CS Air position could get along with the major general. Today, of course, with the structures that we have, that is all jumped one star and properly so, the Assistant Commandant is a four star. The aviator is a three star. We still need a four star aviator. The only place for him is Assistant Commandant. If you speak of an air-ground team, then it would also seem appropriate that the Assistant Commandant would be the aviator with the Commandant as the ground. That doesn't preclude an aviator being Commandant, I certainly wouldn't want to see an aviator Commandant unless it was the total support of all the ground side of the house because I think it is far better that the Commandant be the ground officer.

But it is vital for the Assistant Commandant to be a four star aviator because of the budgetary problems that Marine aviation has coming out of the Navy budget.

Frank: Of course, having Frequent Wind and Eagle Pull and the *Mayaguez* incident is enough for any full plate.

Miller: Yes. I got pretty good baptism under fire there.

Frank: But during your two year tour, actually one year tour in fact, you were only out there a year. What else was going on? There was the draw down from Vietnam but I mean, as things were going on in Okinawa, Carl Hoffman had III MAFs out there.

Miller: Again, it was consolidation, pulling people back, trying to get the units into a better combat ready situation because as you may well recall they were pulling units out of Vietnam almost depending upon the time that they had spent in Vietnam as to when they came home, not to any organization so much but because it was one that always just wrecked my mind of understanding that we didn't maintain unit integrity of any kind. We pulled people by date that they had been out there rather than belonging to a unit.

This means that for instance, if the Third Division sitting in Okinawa happened to pull in an artillery battalion or infantry battalion, that unit might not even look like an infantry outfit or artillery, it might be half supply people, it might be half engineers.

So the division, the work in the Pacific in III MAF was trying to put all these units back together and make a fighting force and that was the problem. I made two trips I believe it was while I was deputy commander out to the Western Pacific and went through the division, the training areas at Okinawa and then Camp Fuji, and then the wing's places in the Philippines, trying to get some estimate of how well we were getting back to our basic organization and the training exercises we were having.

So we had our hands full and at the same time the Vietnam thing, the latter phases, except for the more or less administrative type Marines that we had in Vietnam, we were essentially out for the most part during the period that I was in Vietnam.

Frank: Was Rose Garden done at this time?

Miller: Yes, O'Donnell had the --

Frank: Was it a group?

Miller: It was a group that was called wing forward and they were flying in support of the Army forces and the Vietnamese forces there. I didn't know too much about the Rose Garden operation at that time because we were still moving things back more and we were more concerned about the units that were back and those that are out there at the time. Gen Wilson made a trip. But O'Donnell was, we used to call him the Bear of the Rose Garden.

He was there when I was in the Second Wing. That is when that thing was just really beginning to get started practically, when I was in PAC.

Frank: Okay, so that was pretty much the situation for the year you were out there in PAC.

Miller: Right.

Frank: This may be a good place to stop and finish up tomorrow. I have noted here that you commented last time, Gen Wilson and JCS involvement, Gen Wilson retirement. You want to talk about the Osprey and social stratification. Does that take, I just don't know whether you commented on that or that is something I picked out of nowhere and just wrote down here.

Miller: It may have been related to his policies toward personnel involvement, such things as housing policy. Some of his promotion concepts of going, moving into unit rotation. I think I could probably address that and that is a subject that is probably very, very high in requirement to keep [for] history. It is the move that he finally made that put us in the unit rotation business because I was very heavily involved and Bob Barrow was except, Bob was not as vocal for it, he may have been internally for it. But Ken McLennan and I, were the two hardest pressers on Wilson to go to the unit rotation and we battled it with him time and time again, got thrown out of his office two or three times but we kept coming back. Now, I still feel great when every once in a while he will call me up and say, "I see that unit rotation really paid off."

He got one of the Congressional Records here several years ago and was reading it. Some Army general up on Capitol Hill was catching hell from some Senator in the Armed Services Committee and about their rotational policies and their morale and all and he made some note, he said, I don't know why you don't learn a lesson from those Marines. They have got their unit rotation set down and they are by far the most combat ready and so forth. General Wilson was just delighted.

Have you been able to get most of his?

Frank: I did him.

Miller: Have you?

Frank: It is a large interview.

Miller: That must have taken you some time.

Frank: Ed did it. Except for a couple of sessions. Of course, I have known Lou Wilson for a few years now, an absolutely charming man but an outstanding Marine. When he came up here, the first few weeks he was at Headquarters, the atmosphere just changed. I mean, there were people snapping to. You would be walking the corridors. He had that visiting general officers' office down there and colonels would be walking in the hall and they heard a voice behind them, "Colonel, you need a haircut," or "Colonel, you need to lose weight." Stuff like that. Just really, really.....

Miller: That must have been an interesting. I should have told that one. We had a colonel that came out of Annapolis that headed the Marine detachment at Annapolis. He had been teaching classes as well as other jobs there but he was a "role model" all right. He was well overweight and he was being assigned to the Third Division and he was coming through for his interview with Gen Wilson and I always interviewed them before they went in to see him and then I took them in and introduced them. I didn't know him, I had just heard, I had been told that he was a little on the plump side and when he walked in, I, oh, boy, I knew this was going to be a bad day.

I said, "Colonel, I have to be frank with you. You better just keep yourself quiet and be prepared to take one real good whip lashing because I tell you, the Commandant isn't going to cow tow too much to your physique." So we talked a little bit about other things and finally Gen Wilson got an opening in his schedule and I called him and told him he was in and I would like to bring him in. So I brought him in. I introduced him and he said, "Welcome aboard. When are you going to get rid of that weight?"

Before I could leave the room, he had already said, "I am going out to WestPac in about a month." And he [Wilson] said, "You better be at least 30 pounds lighter or you are out." I was kind of surprised that the interview lasted much longer but they talked another 15, 20 minutes.

No, he could be very cold and stiff. There was lots of difference in the way he did that than Gen Krulak did. I always thought that Gen Wilson did it with a little more finesse. He didn't, I only saw Gen Krulak in some ways, was just a little crude, the way he did it. You don't have to be unreasonably mean, you can just state that you will, just affirm and you don't have to get nasty about it. Gen Wilson, I think, was very gentlemanly about it but there wasn't any question about what his decision was. It was very fair in every way.

Frank: That poster with that grim visage, I mean, that was the message. And, of course, he is as gentle and pleasant and gentlemanly as anybody I have --

Miller: Well, you know the title that Gen Thrash hung onto him, the smiling, green-eyed cobra. That is when Gen Thrash at Quantico and Wilson worked for him down there as a brigadier. Maybe even a two star. Of course, he and Gen Thrash are very close friends even to this day but Gen Thrash used to say he is my smiling green-eyed cobra. And he really is. When he gets, those cobra eyes, when he gets it really set.

Frank: He was up here just about a month or month and a half ago.

Miller: I hope his health is doing well.

Frank: I didn't know he hadn't been well.

Miller: Well, my understanding he has had some eye problem and, of course, I always worry because he only has one lung.

Frank: Didn't know that.

Miller: You see, he lost a lung when he was wounded in World War II. When he was CG FMFPAC, the CG's office was air-conditioned but he never used it. He couldn't stand air conditioning. He couldn't stand smoke, either, cigarette smoke, cigar smoke. So if you walked into his office, the windows were, of course, we were high there on the fourth floor there on the, on CINCPAC Headquarters and we had the most ideal set of offices of any command.

Frank: Of course, that used to be FMFPAC before CINCPAC snuck in.

Miller: I had two daughters born there. When it was Naval Aeia Hospital. In fact, my deputy chief of staff's office, I was put in the hospital out there when I went out there as a captain, I was put in the hospital for about two and a half months and the deputy chief of staff's office was my room.

Frank: Well, okay, General.

End Session VIII

PAGE INTENTIONALLY LEFT BLANK

Session IX

Interviewee: Lieutenant General Thomas H. Miller, USMC
Interviewer: Mr. Benis M. Frank
Date: 8 March 1988
Place: Unknown

Begin Tape 1/IX, Side A

Frank: We are at a point where you arrived at Headquarters Marine Corps after a year's tour at FMFPAC as deputy chief of staff and commanding general. Now, Gen Wilson had told you that he wanted you back, he needed you back to Headquarters as Deputy for Aviation so you knew what you were going to do, what you were coming back for. I assume when he, when you got back there, you had a conference with him and he told you what he wanted so he gave you your marching orders in a way. Is that a fair appraisal?

Miller: Yes. Having been General Wilson's deputy in Hawaii, we had a rather unusual association, in particular coming back to Headquarters because he and I had spent many hours in one on one discussions about which direction the Marine Corps ought to go. I felt that he provided the broad guidelines. I provided him with what I felt the detail area I thought Marine aviation should be moving and he had no problem. I mean, he fully agreed with my detail and I had no problem in his general guidance.

Frank: A question. You mentioned earlier, a couple of interview sessions ago about you were rather upset with Gen Wilson's coming out against the F-18.

Miller: No, 14.

Frank: F-14. And indicated more or less that Gen Wilson was not too "cognizant" in use of a term, with aviation matters. Which is probably a situation which prevailed throughout the Marine Corps with ground officers vis a vis aviation, lack of understanding. Have you found any general officer, ground officer who really had a grasp and feeling for aviation matters and understood aviation's problems?

Miller: There are some that have, seem to pick it up and understand it and recognize the importance of it as a part of the so-called air-ground team which we stand up and we hold to in many, many statements made before Congress, before other service members and so forth.

The problem the ground officer has with aviation, is aviation in the Marine Corps is not like aviation in the Army. The complexity of aviation in the Marine Corps is certainly not like aviation in the Air Force and in many respects it is not like aviation in the Navy because we become subordinate to Navy aviation in the budget process which makes the entire process of arriving at appropriate air weapons systems for the support of our ground forces--it is difficult because the Navy people don't understand the requirements of our ground forces and consequently when we go out on our own in a budget requirement from funds for Marine aviation, we are fighting basically the entire Navy for the dollar because that dollar comes in the Navy budget which supports surface ships, which supports submarines and supports Navy aviation not naval aviation.

Ours is lumped into the Navy aviation portion of the budget and then we get a certain percentage of that to support our system. This is a very complex thing and it is very difficult for ground people, general officers in particular who are thrust in the positions of Headquarters Marine Corps decisions to understand the complexity that those of us that are responsible for Marine aviation, the complex problems we have of getting through the budget process in the Navy, our needs.

Frank: I would like to go back to basics. When I first got in this business and started studying about the Marine Corps, rules and missions and so on, as a matter of fact, I have written it in a flyer on World War history, the aviation segment. Beginning in World War II, the Marine Corps aviation had two missions. Its primary mission was support of ground forces. Its secondary mission was as needed, would reinforce the Navy aboard carriers. Had it changed over the years at all?

Miller: No.

Frank: So everything comes out of that.

Miller: Absolutely.

Frank: And then essentially Marine Corps aviation is a supporting arm, much as artillery or naval gun fire.

Miller: Absolutely.

Frank: And would I be wrong in presuming that that concept was, for aviators, sometimes very difficult to understand and on the ground side very demanding that in a sense that the lack of perception of how much wider it was than that?

Miller: In my opinion, there is mis-communications within the Marine Corps, within its officer stream and [lack of] understanding on both sides, is what has led to some friction in this area. The aviator on one side says okay, yes, no question. We are there to support the ground force but some of them are a little like the Air Force. They say we also have an air battle that we have to handle which indirectly affects our ability to support the guy on the ground. For instance, if we can't neutralize enemy air in the air --

Frank: Air to air.

Miller: Air to air type, we can't get the air to help the guy on the ground with our air attack planes because the enemy air eats up our attack airplanes. So some aviators have felt that aviation was more than a supporting arm. I don't believe that. The whole purpose of Marine aviation is to support the ground force. On the other hand, we also need to educate the ground side that there is more to Marine aviation than just delivering the bomb or the weapon to support the guy on the ground.

Frank: On demand.

Miller: On his demand. That is the first priority but in order to accomplish that successfully, there is a lot of other missions that have to be taken care of. Electronic warfare today with missiles the way they are, if you don't have electronic warfare airplanes to neutralize the enemy's missile system, there isn't any way we can get helicopters or attack airplanes in there to support our ground forces.

But too many of the ground officers didn't have the visionary expanse of the whole to understand that. So the ground thought the aviator was trying to get too big, in fighters and all this complex radar and stuff. It really came down, in my opinion what caused a lot of the friction was when the young Marines signed up to come into the Marine Corps and they started selecting their occupational specialty that they wanted to go into, many of them wanted to go into technical billets that if they got out of the Marine Corps would be of value in getting a job.

It seemed more exciting on the aviation side in many cases. A lot of young men were not as interested in running around in the forest with their muskets and digging their trenches and that kind of world. A lot of them were technically minded and they wanted to get together.

Well, in order to qualify a man to get him into schools where you could train him on these technical skills, he had to have an IQ of considerably above what it took for a guy to be a good infantryman.

Well, that wasn't so bad but it is the fallout from that that the more highly educated young man that needs to go into the aviation school is also the guy that you have less trouble with. He is more acceptable to take orders. He understands, he has got a better education. And for years, we had discipline problems and, of course, you take a wing with 16,000 or 17,000 people and you take a division with 16,000 or 17,000 people and you throw their disciplinary rates up side by side, well, the wing just didn't have any disciplinary problem compared with what the poor division was running.

Well, that creates animosity on the ground side was because of what came in. I think most of us didn't know how to correct it. I would have loved to have seen the same standard required of the infantry. At that time you couldn't get enough people that way. This is part of the discussions that Gen Wilson and I had in Hawaii and we talked about this and Gen Wilson, of course, there is no question. He is a fabulous leader. He had as fine an

understanding of the total Marine Corps and the ground side. He didn't know much about the aviation and really didn't seem too much interested in it. They were kind of in the way. Again, he had generated this kind of feeling.

In our sessions, time and time again on Saturday mornings, we would go through this kind of discussion and I feel, from those discussions, is what came out of him is the decision I think we have mentioned before, his decision that what is the best criteria to select a would-be Marine. What kind of criteria to use in selecting a Marine. We talked about this and we talked about how the aviation disciplinary rate was so much better. It was because ours were high school graduates going to flight training maintenance courses and things like that.

I think he began to see then, if that is what it does for aviation, then the ground is going to have the same thing and that is when he came back here and he said the best criteria is a guy that is graduated from high school. The first edict when he got here from Hawaii was "I don't care if we go down to one Marine, he is going to be a good one and hereafter, 75 percent of all our recruits are going to have a high school education."

That was the secret to it in my opinion because of course, there were a lot of people that were hangovers in the Cushman Headquarters here who had put the preponderance of effort toward keeping the numbers up and in order to do that, you had to take all those calls and when he came in and said we are going to change this whole thing, we are not going to take Marines unless they have got a high school education, a lot of people poo-pooed that. They just said you won't have any Marines.

He was told that several times and that is when he pounded on the desk and said, "I don't give a damn. If we don't have but one Marine, he is going to be a good one! The rest of these culls we are going to get rid of." We discharged, the first year he was in, we discharged somewhere between 30,000 and 40,000 Marines, just booted them out.

Frank: Did you allow the recruit depots to increase its attrition rate?

Miller: Oh, yes, but Gen Chapman had done that.

Frank: What had happened since that time?

Miller: Well, we had gone through the build-up you might say, whatever build-up you call it for the Vietnam War and that is the part that really, --

Frank: All the services were hit with the --

Miller: Yes, and we took the Category Four, this business that the military services have to accept the youth of the United States at all levels. At that time you were really getting some real culls. Some of these kids are coming out, they have been taught by some of their teachers in school the anti-military approach and they are coming in and they were just picking up all kinds of stuff. It is almost impossible to relate how really impossible it was to make a Marine Corps out of that kind of field. We were loaded with those kind of people.

We had racial troubles. People would get in and they were troublemakers when they came in. First, was the Freedom of Information Act and then as you know, it followed right closely with the Privacy Act. One says at one time you have got to give all the information. The next minute you can't turn loose certain privacy information.

The Privacy Act killed us because we couldn't get our hands on the records of these kids that had gotten in trouble in the counties and the cities and, all kinds of crimes but a judge in many instances and we had many records where judges said, "I will let you off if you will go enlist in the Marine Corps." And then some of them it wasn't necessarily the Marine Corps but if you will enlist in the military services, I will not send you to prison.

We wound up with some of the worst people you could imagine and that is what Gen Wilson set out to do was to clean house. He was convinced and only he can answer that, but I constantly pointed out to him why the Marines in the wings had so much better disciplinary record. It was because we were forced by the people that would be accepted to be in the training schools, we had forced into a higher intellectual level person, not necessarily the person that because he graduates from high school. That doesn't mean that he is at a certain standard of education because as you well know even today, one high school graduates a senior and another high school graduate a senior and there is nowhere near a similarity in their education.

But the thing about it, as Gen Wilson used to say, it proves one thing. The guy isn't a quitter. He is willing to stick with going to school long enough to graduate. If he signs up to be a Marine, the chances are he is going to stick with it until his enlistment is over. And he was right. And it proved it. The minute he started this, the old disciplinary rate just took a nosedive. Sure, we dropped down but as you remember, I told you when Senator Nunn visited us in Hawaii. He told, this was before Gen Wilson was even going to comment. He said, "I am going to cut the Marine Corps because they have so many bad disciplinary problems."

As soon as this started down and we were at a fairly low level in personnel, but then the talk began to come in and Senator Nunn and the people, they started pumping us back up and so Gen Wilson's time as Commandant was at a very low ebb in discipline. We had high numbers but they went down because Congress took it away from us but then we began to show quality Marines as we did. By the time he left four years later, we were really on a nice upswing going on our disciplinary rate. Gen Barrow followed that with pretty much the same type of philosophy and carried on a program so the Marine Corps just kept getting better and better and better.

The unit rotation thing, and I have to come back to that, of course, I am parochial to it and anything I would say would be pointed to it because I believe in it so much but I was eventually, along with Gen McLennan and several others able to convince Gen Wilson that we just had to go to a unit rotation rather than individual.

We had all been overseas and back many times, listened and observed and the horrible stories about people coming in and the unit organization was constantly in turmoil because people were leaving and going all the time. We ran some studies in Headquarters that showed that the average time in an organization, showed the sergeant and below was 10 months, that the staff NCO was about 13 or 14 months, the 2d lieutenant officer was about 12 months.

When you put that together in what makes the Marine Corps, the Marine Corps is built on three levels of people, the junior enlisted man, the staff NCO and the junior officer and when you don't give those people time to build unit integrity or a team--can you imagine trying to put together a football team that you were changing the players every three or four months? That is what was happening in our tactical units. We had in the *Mayaguez* incident

when we had the ready battalion on Okinawa, the one that is staying in its barracks waiting for any emergency, it rotated, at the time of the *Mayaguez*, this was one of the battalions in the 9th Marines, I forget just which one it was now but Col Austin (?) was in it, he used to be over here at Headquarters, he was in on the *Mayaguez* thing.

But those people hadn't even been together more than about three or four months. I mean, the lieutenant and the first lieutenant and the captains and the staff NCOs and the enlisted people, they didn't know each other! I think the major decisions that Gen Wilson made was the changing of the selection process to a high school graduate and the other was he moved to unit rotation and today when we send a unit out of the United States to go somewhere, to the Mediterranean, those staff NCOs, those junior enlisted and those junior officers have been together on the order of three to four years and that is a difference in night and day.

Frank: What were the things facing you in the aviation community when you took over as DCS Air?

Miller: It was primary budgetary. Normally the Marine Corps share of the naval aviation budget through the years has fluctuated but it varies generally anywhere from 20 to 33 1/3 percent of the Navy budget goes to support Marine aviation. When I got back here, the budget process had degenerated to the point that Marine aviation was getting about seven percent from the Navy. We couldn't keep up with our losses. Our losses were, although we had our safety record was on the improvement, we were getting better all the time.

Frank: You bring to mind a statement that John Chaisson made when he was chief of staff and he gave a presentation to the Secretary of the Navy's advisory committee on naval history, talking about budget. He said one of the things facing him at this time, the time that he was chief of staff, was the cost of Marine Corps aviation which was far exceeding the cost of aircraft in the ground level and they were quite concerned about this. Is this a problem in your tenure?

Miller: Well, yes, but of course, John Chaisson was a fantastic individual but John Chaisson didn't understand the budget process for Marine aviation. Of course, when you have a person with the charisma and intelligence of people like John Chaisson and highly respected, respected by all, but it is hard to go up and tell him, Gen Chaisson, you really don't understand what you are talking about. I remember he gave this lecture concerning the cost of Marine Corps aviation was exorbitant.

Frank: You heard it before, though.

Miller: Sure, many times. I personally went down to Quantico two or three times and that same thing was thrown at me because they remembered Chaisson's presentation. The only way I could explain in a nice way without saying Gen Chaisson didn't know what the hell he was talking about, was that Marine aviation--you had to look at Marine aviation as a cost to the taxpayer. In the Marine Corps I have already explained that Marine aviation does not detract from the dollars that it takes to support the ground forces, because it doesn't even come through the same channel. Even though the Marine ground dollar comes through the Secretary of the Navy, it seldom is of a quantity that is even contested by the Navy.

Frank: Now, this would be a good point because what you are saying is going to be on the shelf here for history to give a very brief exposition, not very brief, because I don't think you could do it. Exactly what does the green dollar cover as far as Marine Corps aviation and what does the blue dollar cover? I assume that, and I know that when Gen Greene was Commandant, the things changed because the fuel, there were certain things he wanted taken care of by the green dollar.

Miller: He tried to make some changes. To my knowledge, he was unsuccessful. Gen Chapman was successful in taking the Marine airbase support, the buildings and so forth away from the Navy and putting them under the Marine Corps.

Frank: But getting the money from the Navy at the same time to do it.

Miller: Oh, yes. The only trouble was, you see, looking at it from the Marine aviator standpoint, he was violently opposed to what Gen Chapman wanted. Let me give you a perfect example. Cherry Point and Camp LeJeune. Two Marine bases; a division at Camp LeJeune and an entire, practically an entire wing at Cherry Point. The buildings initially built almost exactly the same, red brick, open bay barracks, same way at Cherry Point. Well, as time has changed, we moved in more to giving the young Marine more privacy, more of the motel type experience.

Frank: Much like down at Beaufort.

Miller: That's right, and our barracks and all, at that time at Cherry Point were all funded out of the Navy's program. Marine air stations came through the Naval aviation budget. All the barracks at Camp LeJeune were funded out of the green dollar support for base post support. For some unknown reason, the Marine Corps did not select to really drive to get those barracks updated whereas the Marine aviation side here at Headquarters went through the OP-05 part in Headquarters Marine Corps. They put on a strong drive to modernize these based on the fact that you have got very highly intelligent young men coming in from high school and you have got to make an impression and you have got to give them a decent place to live or they are going to go somewhere else, particularly after you get them educated. You had to give them a good living situation, good mess hall and so on.

So we air conditioned all the barracks at Cherry Point. Every barracks was air conditioned.

Frank: The money coming from the blue dollars?

Miller: From the Navy. But then this began to grate because this Marine from Camp LeJeune would talk to the Marine at Cherry Point and the Marine at Cherry Point said, "Oh, boy, it sure is nice to get back in the barracks." Here is this Marine down at Camp LeJeune, walk into his barracks, sweating like hell, windows wide open, fans going and everything. It caused dissension within the Marine Corps and that was what Gen Chapman was against.

We knew, on the aviation side that the minute that you put our base dollar underneath the Marine Corps that it was going to be divided probably in a disproportionate share to the ground because the ground side controls the dollar in the Marine Corps. So that meant that Camp LeJeune would get most of the money. Pendleton, El Toro and Cherry Point would then start falling off the cliff and coming apart.

So Gen McCutcheon was DCS Air at the time. And he struggled with Gen Chapman trying to point out that the Marine Corps wasn't really going to gain a hell of a lot and that Marine aviation was going to lose one hell of a lot. But Gen Chapman did it anyway. Fortunately, we were far enough ahead in our development on the aviation side that we had gotten most of the funding in Congress several years in advance in a five-year program which was carried on through. It really didn't hurt us that bad but it did begin to help Camp LeJeune and Pendleton and it began to level the process.

But that is kind of the way that people didn't understand the funding differences. Now, to go back to the initial question as to what funds, what part does the Marine Corps dollar pay to the Marines and aviation and all. The Marine Corps dollars pays the base support, airfield support, including vehicles and fuel and provided they are not special aviation vehicles. For instance, fire trucks and special aviation crash trucks, they will come through the Navy, anything that is unique.

Frank: Aviation unique comes through the Navy.

Miller: Come through the Navy what we call blue-green dollar. It is a Navy blue dollar with green support. The Marine Corps supports, Marine green dollar supports, clothing, food, barracks, everything that is not unique to aviation. In the case of an aviator in the aviation side, the Navy blue-green dollar supports the airplane, its parts, maintenance parts, its training. The fuels, all the fuels, all unique equipment around an airfield that has to do, with the exception where you have the SATS landing field now is funded by Marine green dollars, not Navy because it is not a common item. The Navy doesn't use it so it is a special item for the Marine area. It is an expeditionary for the Marine Corps so therefore it is going to do the green dollar rather than the blue-green dollar.

But, you see, I just hit the major items. If you get down into the little process, you can imagine how complex this gets and that is --

Frank: Who understands this?

Miller: Most of your aviators understand it because we work in both environments. As the commanding general of the Second Wing or commanding general of an air station, he works out of two pots as he is day-to-day balancing what he could charge against one budget versus what he can charge another one. So he has a pretty good understanding of it.

Now, when you come to Washington, even the aviator that has not been to Washington, all he knows is you have got two pots you are working out of. He doesn't understand how you get those pots in the budget struggle that you have and justification, the realm. So that is the reason, the guy that is going to be DCS Air has to have a lot of previous experience in Washington before he becomes deputy chief of staff air because he has to work with the Navy. He actually carries two bosses, the Chief of Naval Operations is his boss, writes a fitness report on him and so does the Commandant because he is OP-05-M which means he is the head of Marine aviation under the Chief of Naval Operations. It is a very complex thing and General Wilson, most ground people tend to be parochial in the Marine Corps and properly so, I don't mean that from a derogatory sense.

They say, "I don't give a damn what the Navy wants. To hell with them. This is the way the Marine Corps is going to do it." Well, I am as strong that way as any Marine Commandant would be except I know I can't do that when I have to slap the Chief of Naval Operations in the face and say I don't give a damn what you guys are going to do because he cuts my throat in the budget [when]. As I wind up in DCS Air and constantly walk a very tight rope with the Chief of Naval Operations like an alligator on one side and the Commandant like an alligator on one side. If he teeters on one side to the other, he is in deep trouble.

Frank: What is to keep the Marine Corps from gaining control and supervision of the total aviation budget? I assume that the problem is in the purchase, the --

Miller: Purchase and procurement of aviation specialists. We don't have the administrative structure.

Frank: Is that the reason why --

Miller: Well, if you can imagine the Naval Air Systems Command, if you can imagine, look at the size of the Marine Corps's I & L Division. Because the Marine Corps still buys a lot of its stuff from the Army-- but if you can imagine a staff like the Naval Air Systems Command or the Air Force's Air Systems Command, you have got thousands of civilians, technical specialists. This is why the Army still to this day, their aviation portion is just a disaster. They don't know how-- the people that run the aviation do not have their control of their own destiny, because the ground side of the Army in the Army calls the shots totally.

They are in a worse position in their aviation, even worse than Marine aviation is. Marine aviation is in many respects a wonderful position because it can play both ends against the middle sometimes. In the Army, if they decide to buy an extra helicopter, that comes out of the same pot of money that buys a truck or a bunch of machine guns for the ground.

Frank: We had that problem in the Marine Corps, too.

Miller: But you don't, well, this is where Chaisson, you see, was wrong, when he thought that when we bought an airplane for the Marine Corps, that we were taking it out of the Marine Corps's artillery money or infantry money.

Frank: I was thinking earlier within the aviation community, the helicopter seats or [air] frames versus fixed wing.

Miller: Yes, I don't have all the answers but Marine aviation has to be such a broad capability that aviators are well known for their parochialism to the community of aviation which they grew up in. You have got the parochialism of a helicopter pilot but he has tremendous support because he is the guy that the ground man sees all the time and fully

understands what he wants so he has a wave of considerably more support than the ground guy that supports an EA-6 that flies up here and puts out electronic warfare. He can't see that, the ground doesn't see that. He doesn't understand the results of it. He doesn't understand what goes on in an air-to-air battle.

So for that reason there is a struggle when you start allocating the money in aviation between helicopter versus fixed wing. Some of this has bearings on decisions of which systems we go to. A fairly accurate example was when Gen Wilson came back. Gen Johnson, the man I relieved in Hawaii before I got there had more or less grown up in the helicopter community.

Frank: Bill Johnson, very pleasant. I remember when he was G-1 out at the recruit depot in San Diego.

Miller: Yes, very pleasant guy, well respected on the ground side, been in helicopters so he had a lot of voice from the ground side. Helicopter aviation is a rather unsophisticated aviation compared to the fixed wing aviation. That means because of speeds, because of high sophisticated weapon systems, radar controlled and electronic warfare and so forth, aircraft performance, high performance and this type of thing. The helicopter in this stage that Johnson grew up was like barnstorming days. Jump in the cockpit, hand on the throttle and off we go.

Johnson never even knew much about the F-4 program in the Marine Corps, the Phantom. A lot of people used to say that the Marine Corps couldn't operate the Phantom in the sand and dirt. We proved that was absolutely wrong. In fact, our maintenance was better than the Navy sitting on the clean ships but there were a lot of factors to them.

But when Johnson went to Miramar which is generally a place where they introduce a new type airplane, they were introducing the F-14 and he went out there and he looked at this field of trailers, 60-some odd trailers out there that handled the maintenance. He just said the Marine Corps can't handle that. There is no way we can afford the people and so, well, he got to Gen Wilson as his deputy, convinced Gen Wilson that the F-14 was going to be far too expensive and the manpower and equipment and we wouldn't be able to maintain it so he had Gen Wilson convinced that the F-14 was not for the Marine Corps.

Well, you had to look at first why you need an airplane. It is not whether it is an F-14 or any plane but let's look at the threat. What are you going to be able to counter? It so happened that the F-14 today is about the only weapons system in all the air forces that can fire a missile at an inbound missile. It can attack the missile because it has a good radar. The Phoenix missile system is long range enough that it can go to a small rocket-type target which even the Air Force doesn't have today. So the F-14, Gen Wilson would argue the position [that], we will let the Navy provide that.

I would say, Gen Wilson, you don't want the Navy providing anything because when you want it, you can't get it if they are providing it. I added, "Do you really want the Marines dependent on those Navy F-14s sitting out there to keep enemy surface to surface missiles from hitting them? Suppose that carrier steams off. Who is going to handle those missiles for you? If we don't have the F-14 we are not going to be able to do that?"

That wasn't a good enough explanation and we went round and round over this for months and when he came back, he was faced at a time where the decision just, somebody had to make a decision. We were at a point where we either had to make or break with the F-14s and Gen Wilson just says, we are not going to take it and he walked over to Adm Holloway, Jim Holloway who was a CNO and he says, "Here, we don't want this F-14." When he did that, he didn't ask for anything back for the money.

Frank: Yes, you covered that problem earlier.

Miller: We have to go to the Congress when we get in deep trouble with the Navy and you can't get our dollars to support our programs, we get that message to the people on Capitol Hill and invariably we will get it. That is how we got the additional EA-6-As when the Navy wouldn't give us the money and the Department of Defense wouldn't give us the money. That is really how we got the AV-8, the Harrier.

End Tape 1/IX, Side A

Begin Tape 1/IX, Side B

Frank: Did you ever get the F-14?

Miller: No, no, we never got them. About that time, the Navy was shooting for a follow on type of fighter, a less expensive as they claimed fighter, and that is when the F-18, the YF-17, F-18, controversy started and then the Navy looked at the F-18 as an A-18, as an attack airplane to replace the A-7 and that looked good to them. They wanted, and then they then turned around and started using the Marine Corps', as a plus factor to get the F-18, the Marine Corps, since we didn't take F-14s and our F-4s were getting so old that we had to have something to replace them with, Congress said you have got to buy the F-18 to help the Marine Corps get out of the fighter situation.

So this is kind of how the animosity grew. We didn't go with them on the F-14, we didn't go with them on the A-7 and here we are, sticking in our own program in the AV-8. They said those Marines are getting too big for their britches. They are trying to develop their own airplanes now.

Well, when you get that kind of an attitude between the Navy and Marines, it is not a good situation because the Navy can strangle you. I mean, they can, they have got too many irons. There are laboratories that provide all the aviation support, the Naval Air Systems Command that buys all the parts, the whole supply system that distributes airplane parts around, it just happens that all the parts tend to go to support the carriers and then there isn't any left over for Cherry Point or El Toro. It is a human reaction and it is not unusual. But that is why they are getting this so complex, that you get in there and you are just constantly balancing personalities. I would have to say today I think from a personality stint, that Adm Dunn and Gen [Keith] Smith are probably working as close together as any two that ever worked before. They got along very well

The year that I was DCS Air, I had been in just a short period of time and the OP-05, the head of Naval aviation retired, they brought in a temporary which, because I had been made a three star, they brought in an admiral that was made three star after me which would make me senior. I think the chief of naval operations was sensitive. Jim Holloway was sensitive to the fact that the Marine aviator was senior rank-wise than the head of all naval aviation. That wasn't worth a tinker's hoot because Forrest Peterson, he was the guy that had flown the X-15, a fine aviator, was temporarily the OP-05 and Pete and I had been close friends for years, a small difference in rank, rank had nothing to do with it. It was working to put naval aviation together.

Well, at the same time they lost the head of the Naval Air Systems Command and so Adm Holloway elected apparently to put Peterson over to run the Naval Air Systems Command and he put Fox Turner in to be Op-05. He had been Sixth Fleet commander. An aviator, who liked to fly an airplane even in his senior days but he had been at Patuxent River at one time. Most of his experience had not been in the OpNAV side of the Navy. He was more experienced in the international and political side and he knew very little about the running of naval aviation.

He had some Navy captains that were typically very parochial carrier Navy captains and their attitude generally is stop the Marines. We don't care. And Turner would invariably, not knowing any better, would take their advice hook, line and sinker, and make decisions that these captains without even discussing the issue with me. One example was they on their own decided that they were going to take all of our all-weather A-6 airplanes because the Navy was getting short of them. They were going to take ours. They were going to give us A-7s, regardless of whether we wanted it or not so they could take our A-6s.

I tried, when I got the briefings on the budget and what they are going to do, I stopped the briefing and I told Adm Turner, I said, "Fox, there is just no way the Commandant, Gen Wilson, will go right through the overhead if you talk about taking all-weather close support airplanes away from the Marine Corps and trying to give us an A-7 which we can't use."

He said, "Don't bring that up. If you do, you better bring it up in a closed session between you and the Chief of Naval Operations and Gen Wilson and myself." He did heed that much of my advice and he set up a briefing to brief the budget and when he got to that point and briefed what he was going to do, Gen Wilson exploded and he looked right at Holloway, the Chief of Naval Operations and said, "There is no way you will do that, Jim. I will take you to Capitol Hill so fast your head will swim. You can't take those airplanes away."

Well, Adm Holloway was forced into kind of a trap because Turner had put him in that position and it was purely because Turner just didn't understand. He just thought he could blow it over the Marine Corps. Those are just some of the examples of things that have transpired.

But I would say that the whole tour, my whole tour as DCS Air, the greatest thing about it was that I felt all the time I enjoyed the full support of the Commandant. I had a manpower situation, the general feeling that aviation is going to grow too big in manpower versus ground. And one agreement when I came to town is that I went in and I said, Gen Wilson, tell me how many Marines I am going to have and then don't let Manpower take them away. I will give you an example, when I got to town and got to checking, we had A-6 radar mechanics as drill instructors and at the same time, my A-6 squadrons were short. They didn't have them. We were having trouble keeping the airplanes up. And here is a guy being a drill instructor that can fix radar.

He had already experienced this on one occasion because when he went down to the Marine barracks at Pearl Harbor one day as an inspection, he loved to go down there and they seemed to enjoy him coming down, and they would have a parade and he would walk down through the troops, and he would stop and ask Marines, "what did you do, where did you come from." The same thing happened down there. He would walk through the troops and he stopped and asked one Marine, "What is your MOS?" "A-6, avionics radar repairman."

He came back and he was livid. He called up E.E. Anderson, Assistant Commandant and told him. He said, "What in the hell is going on back there? What in the world are you saying?" Because he knew, out in the 1st Wing, we were having trouble keeping some of the A-6s because we didn't have enough radar repairmen and here he finds one in the shore patrol.

So he had a good feel when he came back here and he understood my request. I said, you know, I want to give the best aviation support you can get. I want to give that Marine on the ground, when he needs some support, I want aviation to give him the best but I need to know how many people I am going to have and if I need more, I will come to you and I will explain it to you. If you don't agree with it, then that is fine. But once you tell me how many I've got, manpower can't screw up my planning because I have to have that to measure how I can run the program.

He saved me many times because Manpower kept doing business as they had always done it. Suddenly they would come in and they would need people to do mundane duty, shore patrol or DIs or something, they would start hitting the aviation MOSs. The minute

that I had certain billets, so many billets allocated that I had to provide aviation like we all do as a TAD like mess duty and this type of thing. I had a certain number of those billets and as long as they stayed within what I was supposed to have, there was no problem. But I watched those pretty closely because I was more interested in the critical MOS areas and I was also interested in total numbers. When I would find them overstepping, I would go to Manpower and if I couldn't get the people up in Manpower to reshuffle the thing, then I had no recourse. I had to go see the Commandant. I would go say, "Gen Wilson, Manpower has done it to me again."

Frank: Ed Schultz? No, no Schultz.

Miller: No, Schultz. Wilcox, Ed Wilcox who was up in manpower. I went to Ed two or three times. The people that were doing it worked for him. I couldn't get any resolution and it was about two or three times that I called Ed and put him on the hot seat in front of the Commandant and Ed had to backtrack because the Commandant said, "Damn it, I told you I wanted those people left alone. If he is on the requirement, fine, but you can't take more than that away."

So with that kind of support, I think we accomplished a lot and we got aviation pretty well turned around from a fly-fly-fly outfit. I always felt that it didn't do any good to go out and burn up fuel and fly if the airplane didn't work.

Frank: That presents a question I wrote down here. In my study, my preparation for my history, I noted the squadron was attached to the miles that were deployed out there did a considerable amount of flying, tremendous hours. I was told that that affected the whole aviation community because the amount of gas that they expended had to be taken, that it was within the budget which would either affect operational training flights or stuff elsewhere. And you couldn't, I guess you couldn't go up to Congress and ask for more money.

Miller: During the Vietnam War, we had "supplementals" and I am sure you have heard of those. We used to go about two times a year between budget, major budgets with a

supplemental. You have to do that in wartime when you are not on a full wartime basis like in World War II when we were given total presidential powers, there was no hold on expenditures. You spend what was required to win the war. That wasn't the case in Korea and it wasn't the case in Vietnam and it wasn't the case in Grenada. The things we do today. This was the thing that I instigated in aviation. I would not let a squadron, the first one I had in the wing, I wouldn't let one squadron, it may be a good squadron with good maintenance, pilots fly, and everything is right, they are doing great. The more you fly, the more parts you use and the more fuel you use. I would not let one squadron degrade what the other squadron rated. When they flew, I made those squadrons come in with program hours. You program, this is how many hours you are going to fly and I approved it ahead of time, three months in advance.

If this was in April, I would say here is what you are going to do in July. He puts in what he's going to do, I looked over and we balanced it all out. That is when Gen Peterson was my comptroller at the 2d MAW and we watched these squadrons like a hawk. Years ago, it was always a great thing for an aviation outfit to go out and for one month they would just bust their butt and fly and then they would come home and say, "Look at the record we set, we flew more hours and did more of this and everything."

Well, that might have been okay back before the McNamara administration came in but once the McNamara administration came in, you had so much money and if you overspent your share, somebody else paid. In my opinion that is not very good organization anyway and you need to program your money in, you program how many hours you are going to fly, you even program what kinds of flying you are going to do. What does your pilots need -- do they need air to air, do they need air to ground, do they need joint air to ground operations? And you sit down and you say how many gallons of fuel you are going to use and how much it is going to cost for this month to do this, this, this and so. You spell it out. We made the squadrons program it.

It works smooth. But it was hard to get the flywheel effect to change. They still wanted to operate the single one. In order to fly a lot of times if an airplane didn't need [something], like the tacan receiver wasn't working, but if it was a clear day, you are not going to need the tacan, we're going to go anyway. Well, pretty soon you are flying a lot of

airplanes that stuff in them is not working. If somebody rings a bell and you got to go to combat, hell, you are not ready for combat. You could not go to combat if you had to.

So it was a false thing. I just grounded everything and I said, full systems up until that airplane, everything on it performs, you don't fly it. Another thing that occurs from the long range affect is when squadrons are allowed to fly airplanes that are not fully up. This means that the requisition for that part in the supply system doesn't get the emphasis of importance for the urgency to get the part if the squadron is still out here flying up a storm because the supply people gauge their efficiency of effort based on performance of the squadrons. If a squadron is flying a lot of hours, even though he has got a lot of parts on order, then that means those parts are not very important so pretty soon like any inventory management system when you don't have a hydraulic strut, and you don't have a certain demand on it regularly, then the ship-in or the purchase of more struts begins to dwindle because you are not using it.

Instead of where you used to keep five on the shelf, maybe you only keep one or two on the shelf. And so then suddenly because the system should have been changed more regular, you have a whole bunch of struts leaking and they should have been changed a long time ago but instead they were flying. When you go to the shelf, there is only one or two lying there and you need 10. So the supply system dies.

So it has to feed itself. The supply system is what we call a pull system. If you don't use it, it quits. What was happening, the squadrons were flying like hell with airplanes and not coming apart and the supply system was not providing any parts and they were buying less parts each year. Well, that was great to the guy who was trying to cut down on the amount of money he spent for parts but if you had to go to war, you are in one hell of a shape. First you didn't have any parts on the shelf and you didn't have any money.

So that is the reason I put in a very strict rule and I watched those guys like a hawk as a general, every morning. I went to my TACC where we had all these performance boards that I could tell and what were the condition of the airplane and I would send my inspectors down to those squadrons once in a while just to walk in and say, "I want to fly this airplane." And then say, "I am sorry."

"But wait a minute, your report said this airplane is up, says it is flyable." Pretty soon they found out they couldn't cheat on the system and so we started making the thing

[full mission capable] and it was, I think that is where we really turned around to what we call full system operations.

[Brief recess.]

Frank: Getting back to my original question and using Beirut as the example, you had a situation where these planes, these choppers had to fly, had to use the gas, which impinged on the overall budget. And your other squadrons, your other planes had missions to fly, too. How would they adjust that?

Miller: Just turn down the wick. They just wouldn't fly. That is the best example. You touch right on the message that the American people don't get today about the McNamara machine. We fought the whole Vietnam War with that kind of a philosophy or control by McNamara. When we would get to the point that airplanes in Vietnam had not only used up their pro rata share, they probably used up most of the pro rata share of the squadrons back in the states that were training to send people out to Vietnam and then things got real desperate. That was when we would go to Congress for the supplemental to get a little bit more to keep the support but it was a piecemeal thing. It was constantly cut and paste to make up instead of running the Vietnam War out of a separate budget.

Of course, politically that was difficult because the Congress was always very touchy about the money that was being spent in Vietnam and the fact that McNamara was doing far more in Vietnam than the dollar that the Congress was giving him because he was cheating on the people back here. And the people criticized the Reagan administration for what they have done in spending, over-spending as they say for the Defense Department.

For seven years, McNamara piecemealed the budget, begged borrowed, and stole funds that should have been going to things to keep our forces modernized. For seven years, by the time Reagan got in and Carter contributed to essentially the same thing, by having the same people like Harold Brown, running it, with the same kinds of philosophy. The military services were devastated when Reagan came in.

When you look at trying to replace those seven years at an inflated dollar, you can imagine why the budget, the defense budget has been so horrendous and they don't understand. Now we are getting into the position that looks like we will lose or whether we

will be able to hold our own under this severe cutback that [Frank] Carlucci [Secretary of Defense 1987-1989] proposed with this 30-some odd, \$33 billion cutback. I don't know what that is going to do, I am not close enough to do it but I know it is going to have a disastrous effect because we are really going to have to cut back in a time. If you look at it from the international perspective when we were trying to negotiate with Gorbachev to get rid of nuclear weapons and at a time when their conventional warfare forces are far superior in numbers to ours, we are in a position of having to cut back conventional forces at a time when we should be holding steady so it is a --

But that kind of explains what you were saying in Lebanon. If you don't declare war and you force the Defense Department to work out of its own budget that has been allocated, if you spend more in the Persian Gulf, boy it is bleeding the Navy bad.

Frank: Feeding on its young.

Miller: Oh, sure. And, of course, this is one of the reasons in my opinion that [James] Webb [Secretary of the Navy] quit, because again, he couldn't go in his own mind to Congress and support Carlucci's budget, or you can call it the President's budget, whichever, and stand up there and support it. Now, it is my opinion civilians have a little different problem than military. Military doesn't gain anything by quitting. Their life is there and they just have to take their orders from the civilian and salute and go on. If the civilian leadership ask for their own personal opinion, which I have always been free to express my own personal opinion but I had to have the question worded properly such as, "I know what the official position is, General, but what is your own personal view? What do you think about it?"

And then I would give it the way I felt about it. I never got slapped or anything for that. [W.] Graham Claytor was upset at me one time when he knew that that was what I was going to say on the helicopter training issue of putting all helicopter training under the Army but I promised him that until they asked me my personal opinion that I would support the position of the President.

I feel civilian political appointees when they come into office such as Webb, if they get to a point if they can't in their own conscience support the program, they ought to get out

and that is why I give Webb high marks for getting out because he couldn't in his own conscience support it. He doesn't have an obligation like a military man to go ahead and go on.

On the other hand, he could have justified in some sense staying on because we all know by history that even people as high as the Secretary of the Navy which in today's organization of the government is a fairly low position, it doesn't get much public attention in the press. It was, you probably saw articles on Webb's resignation maybe a week. You pick up the paper today and from now on Webb is a forgotten man.

Some people justify that for staying on, that he, even though he couldn't abide with the thing, he stayed on and maybe helped the Navy or the sailors by staying on. By giving up, he didn't help them a bit. I tend to believe what he did was right myself. I think I would have done that, the same thing. Because I offered to do that when Graham Claytor and I came to odds. I offered to retire and I don't think he wanted to go through that. It wouldn't have made much difference but it might, if the papers-- at that time he didn't want any kind of derogatory thing, that he was forcing me out.

I would not go up on Capitol Hill and testify in my own opinion that I supported what he was trying to do and I told him that. As long as they don't ask me my own opinion, I will state the official position and support it.

Frank: I have a couple of other things here we discussed at the end of yesterday's session. We talked about the Osprey. You were going to comment on that.

Miller: The Osprey really got started, was under development by the Army and NASA in about 1975, 1976, 1977, time frame. And it came to my attention in about 1977 or 1978, I forget the exact year, that the Army had budgetary requirements for R and D funds that they considered more critical. NASA was hurting at the time budget-wise to support their programs. And Bell had built these two prototype tilt rotors called the XV-15s and they had done part of the test program but the money was running out and they were getting ready to cancel the project and put the two tilt rotors in storage.

It struck me that that was a terrible mistake because of their importance, we had learned from our helicopters not being tied to airfields. And the long range program of the

Marine Corps that all airplanes, as soon as we can accommodate the V-STOL [vertical, short take off or landing] capability was vital.

So I immediately set to work and got together with RAdm Bud Eakus (?) who was in charge of R and D [research and development] for the Naval Air Systems Command and I asked Bud if there was any way. We had determined that they needed about \$1.7 million to complete the test program thing and that the Navy, I mean, the Army and NASA didn't want to cough up that \$1.7 to complete the trials and they were just going to go ahead and put them in storage. I talked to Bud Eakus and I had known Bud for many years and Bud said he thought that if we called around, we could find 1.7 for this but that we would have to get the support of the Assistant Secretary of the Navy who at that time was Dr. Mann, David Mann.

So I went over to see David Mann. Fortunately, David and I had known each other pretty well and we had been pretty good friends. I had served with him on the Stealth Committee when it was in its highest level of secrecy. We had a fairly close relationship.

Frank: You worked on that when you were on active duty?

Miller: Oh, yes.

Frank: You haven't mentioned that at all. I don't suppose you can say too much about it.

Miller: No, not too much. In Stealth, there were only two people in the Marine Corps that knew anything about it, Gen Wilson and myself. We were the only ones that carried the clearances. The only reason I knew it because I am an aviator. It was applicable to aviation. At that time it was being under cloak and dagger development so there really wasn't much need to know except the Navy had established a Stealth Board of which Dave Mann was the chairman of the board for stealth and we met rather frequently. We didn't have much to do. The Air Force was doing most of the development work but the Navy monitored it to keep their hand in on it and we were the only ones who knew. Gen Wilson, of course, knew it through the Joint Chiefs of Staff and the briefing of high security programs.

But I had known Dave Mann there, had been closely associated with him and he and I had gotten along extremely well. I went to Dave and asked him for his help to get \$1.7 million to complete the work on the XV-15 because I felt that we were going to have to come up with a replacement pretty soon for the CH-46 and about 1992, all of our planning had shown that we were going to start running out of CH-46s by 1992.

Frank: This is another, going off on a tangent here, interesting aspect, the length of time for development of an aircraft and the fact that the expendability of the age factor in the inventory, of stuff in the inventory. There comes a time when you have to, no matter how good an item it is, it has to go.

Miller: It has to go basically because metal is like the human being, it grows in age and its longevity of use deteriorates as the time goes by. Fatigue sets in, in metals. That is one of the reasons that the fibers today offers such tremendous future because their fatigue rate is undocumented. It is so much longer than metal. You can take a plastic thing and bend it and bend it and it won't break. You take and bend a metal thing that much and it will break.

So airplanes in a certain stage, you can modify them and repair them and use them and use them and use them and use them but they finally get to a stage that no matter how good they are flying and all that, they have got to go because they have structurally deteriorated. Anyway, the CH-46s had losses and in use were deteriorating and we were on a, we had loaned some 44 of them to the Navy for what they called VOD or COD work, vertical on-board delivery or carrier on-board delivering, COD, I guess it is, they used it to haul supplies between supply ships and carriers and other ships.

Frank: One of the problems that Marine Corps aviation, especially those assigned to the MAUs, the squadrons, they were used by the Fibrons [amphibious squadrons] or by the battle groups to haul Navy supplies. My experience was with the squadron down at Grenada that was going down there, was very teed off at this, that this is a misuse, a misapplication of Marine Corps, I guess it is for a Navy project. They weren't too happy about it.

Miller: Yes. But you have to grow bigger than being a Marine. If you have got a military job that has to be done and if you are the Navy commander and all the assets come under you, you perform your missions with the assets you have. The fact that the Navy had not given what we always thought [was the right] amount of priority support to VODS or CODs; they always knew that when they got tight, they could always holler for the Marines to do that.

So it might have been better off the way it was because if they had taken more money out of the naval aviation budget to buy more VOD or COD airplanes, then maybe we wouldn't have had as many helicopters for our troops as we had.

It is hard to have wing commanders and division commanders see their assets being used by an admiral at sea but if you were a Marine in Washington, then they are working on the total budget aspect, they can justify why the admiral had to do it that way and it is probably better for you in the long run. So you have to look at it from a broad aspect.

But anyway, back to the Osprey. Dave Mann did direct OP-07 who is R and D for the Navy at that time, he directed them to come up with \$1.7 million to put in the NASA/Army program. We completed the test, and the airplane was a huge success and we got some pilots flying it and there just was hardly any problems. We had mechanical problems as anytime you develop a new concept like that but what we offered was far and above a better replacement for the CH-46 than another new helicopter because the technology in the helicopter business still limits us to speeds under 200 miles an hour. There is the articulating system within a helicopter, [it] is always kind of fraught with possibilities of problems. You have bearings along shafts turning at high speeds and all you have got to have is one little screw-up and you have got a crash on your hand.

So the Osprey was really like something that had dropped in out of heaven for what the Marine Corps needed. It provided the Marine Corps with the speed and the distance at a very critical time to replace a helicopter that has fallen out anyway. Well, it was kind of hard selling this at first because the Navy-- I had feared that the Navy was going to look at the Osprey and say here comes those Marines again with another Harrier project. So we proceeded pretty cautiously but we got that thing going pretty well. Now, I left the service before the thing really got going. It was still very much involved in the R and D stage but the fact that we had saved it from being put in the hanger, I always feel with great pride that

we had the vision to hang on and struggle to get the money, this \$1.7 million, to keep that thing from being stashed away and just die.

Frank: It is a very expensive airplane, isn't it?

Miller: Well, airplanes are relative as to when you buy them. Any airplane today of the size military airplanes are, are expensive. Now, it is nowhere near as expensive as a B-1. It is nowhere near as expensive as an EA-6B. EA-6B is something like \$45 million to \$65 million. But you know, pricing is, it is hard to say forget cost. You can't because the economy still has to turn but there is no way you can compare dollars of cost today, can you remember when you dropped out of your chair if somebody said your automobile was going to cost \$1,000?

Frank: That is a little before my time.

Miller: You can't remember that? I can remember when my dad paid \$989 for a Chrysler and gosh, that was the biggest thing in town and expensive, almost \$1,000. Well, what do we, we don't even, this is not too many years down the line, 50 years I guess you would say, 50 years down the pike and what are we paying for cars? Up to \$25,000, \$30,000. Now, put that same scale in airplanes.

Frank: Compare a Corsair.

Miller: In World War II, nobody even knew what the Corsair cost. I think the best figure I heard one time was \$270,000. It was carried on the books as \$2, \$1 for the engine and \$1 for the airframe. That was the bookkeeping of it. Of course, it was done during wartime when we built it and paid the bill. We got them a lot cheaper that way, too, but we have got the Osprey going and fortunately, after I left, what was the Assistant Secretary of Defense for DDR & E [director, defense research and engineering]. He latched on to that idea of the Osprey and strongly supported it.

I had been over before I retired and talked to, he was Undersecretary at the time of Air Force, Hans Mark who later became Secretary of the Air Force. He had become a strong believer in VSTOL airplanes. Had done a lot of work. He had been with NASA many years ago as a scientist with them and I had talked to him about Harriers in the Air Force and he thought that was ideal but he could never get the hierarchy of the Air Force to go that way but he was really hooked on this tilt rotor, too. I convinced him that they had the Paris Air Show coming up and I convinced him to get Secretary Lehman interested in it. This was when Lehman had come in to be the Secretary of the Navy and it was awful important to have Lehman interested in it. Bell needed a way to get it to the Paris Air Show. They couldn't afford the money to take it over there.

Hans Mark came up with an Air Force airplane that flew it over there as a training mission for the Air Force plane and then Lehman was a good friend of Hans Mark and Hans Mark convinced Lehman that he should go to the Paris Air Show and while he was there, he should fly the tilt rotor. He did, and this is what really helped. It really got the ball rolling.

End Tape 1/IX, Side B

Begin Tape 2/IX, Side A

The Congress has supported the program and even in all its big budget drill that we are going through right now and the past year, the Osprey program was not hurt so it has really been an answer to a prayer because that is going to be the most revolutionary. It is even going to be more revolutionary than the Harrier for the Marine Corps.

Frank: What is it, pilot, co-pilot, and navigator?

Miller: Just a pilot and co-pilot. It might have a crew chief but I don't know.

Frank: Holds how many troops?

Miller: Probably 20, 22. Fully loaded.

Frank: It has several hundred miles legs, too.

Miller: Five hundred miles, usually radius which means 1,000 miles.

Frank: So you can launch 500 miles out.

Miller: Oh, no problem and its speed will be close to 300 knots cruise. And then when it comes in, it lands just like the helicopter. This is such a gigantic step.

Frank: Vertical development to the nth degree.

Miller: One of the most convincing things is that you could put a task force off of Cape Hatteras and you could make a landing in Miami, Florida. So you don't give away your position by the ship locations as to where you are going to land. You could have your ships at Cape Hatteras and land in Boston.

Frank: Well, does this refute the argument that there are not going to be any more amphibious landings? The power still has to be extended from the sea.

Miller: There was an article printed about a year ago, two years ago, in the amphibious group over here in Alexandria, *Amphibious Warfare* magazine. They reprinted an article written by, I always have trouble remembering his name even though I shouldn't. Anyway, he is one of these so-called military analysts and he and a fellow by the name of Jeff Record and [Martin] Binkin wrote a study, a Brookings study. Jeff Record helped, was volunteered to help Senator Glenn when he was running for the nomination of presidency and he I served together on an advisory committee for Senator Glenn.

I was always a little bit miffed at Jeff. At first I didn't understand or to this day believe that he has got all the actual experience to verify his so-called expertise for all his writings but he and I hammered away at each other for a year or so while we were serving on this committee about the Marine Corps and what the Marine Corps's position and they had attacked the Marine Corps....

Frank: Oh, that study was devastating.

Miller: It said amphibious is a thing of the past. This article, and you would get a great deal of pleasure out of reading it. I have still got the book at home. He wrote a similar type article, Jeff did, for the guys out here and when it said Jeff Record I thought, "Well, I better read this." So I started reading it and it started out just like the Brookings study and I am getting angrier by the moment. What in the world is this Marine group out here printing this garbage for?

When all of a sudden right in the middle of it, he stops and he said, "That was my position eight years ago but after numerous years and discussions with people and analysis, this is the way it is." He turned around and argued against himself all the way through. And he says, the form amphibious warfare is not a thing of the past. We may not recognize it in the same form as we recognized it in the past but there will always be the Falklands. He went on about the Falklands and he called attention to many kinds of operations that are really amphibious and I think that that is probably one of the things that has caused [Alfred] Gray as Commandant to change the term amphibious to expeditionary.

Of course, I can remember when we used to use expedition and we vacillated back.

Frank: That was a political thing.

Miller: Well, you might say this is political, too. He is trying to keep the image of the Marine Corps in the expeditionary role and not necessarily excite people who say that there is no need for amphibious operations. But certainly there is going to be need for amphibious operations. It is a show of force and an ability to move ashore from the beach; but the Osprey. The problem we had with the Osprey is of course the other service that tends to use airplanes for its infantry is the Army. It is the manner, the tactics that the Army uses that is so violently different, so far away different than the tactics that we use, that their requirements for a flying machine to do their job versus the flying machine for us to do our job is totally different.

An Army moves en masse. It has heavy artillery, it has got tanks and it really doesn't do any good for some part of that Army to be able to travel at 300 to 400 miles an hour when the tank and the truck and the other vehicles and the mode of fighting is at 10, 15, 30,

50, miles an hour so they are not interested in speed, in a helicopter. We are because we strike, we use surprise, the element of surprise to gain success on the battlefield. And the Osprey is terribly important to us because of its speed and its range to go.

We had a study that back I believe it occurred when I was a colonel in Headquarters that showed that we were talking about then about the range of the CH-53. And we were trying to develop a machine that would fit for most any occasion. It turns out that something like 85 percent of all the capitals of the nations of the world are within 500 miles of the coast.

Well, Marines I suppose have always considered that one of their missions was being able to recover nationals from well within a country who has taken on a hostile attitude toward them. So we didn't point out our requirements of our aviation weapon systems to 500 miles but if there was any possible way that we could have that capability. We did develop that to some extent in the CH-53, the one when we really used it best was in the Cambodian evacuation. It was when I told you, remember when we put four fuel tanks in each one. Then it could still carry 50-some odd people.

Now, if we had the Osprey when we tried to get people out of Iran, there wouldn't have been any refueling problem. The speed of getting in there would have been so much faster, the element of surprise would have just caught everybody completely flat footed just like we did with our 53s in Cambodia. We got in there so quick and within 30 minutes we carried almost 300 people out of there. The element of surprise is vital for any of military conflict although a lot of people seem to think that intelligent sensors and things like that can negate some of that advantage.

Frank: The landing of the plane in Red Square.

Miller: Absolutely. Well, that is why the Osprey in my opinion is so important. As a fall out it will be one of the military aviation developments that is also going to have a horrendous impact on civilian aviation of that because big airfields, like Washington Dulles will die away, there will be a few of them. Washington Dulles will be there, maybe Baltimore-Washington but Washington National won't be there. It will be just a pad and

those aircraft will be cut down in numbers because the big fixed wing airplanes that require the big runways will be the long range jobs, overseas and across the United States.

All the rest of this movement around in a locale, New York, Philadelphia, even Chicago, in some instances, Atlanta, will be handled by a machine like the tilt rotor, the Osprey that will fly to downtown landing strips on top of buildings and you don't have to have the big airfield. The commuter airline of tomorrow will have no airfield. What a tremendous change with the use of space and real estate the way it is today.

Take Charlottesville, Virginia, which has a college. You wouldn't have to have an airfield out there with 6,000 or 7,000 foot runways. It would all be handled by a fleet of tilt rotors. They are run just like buses down the street. That is where another tremendous impact is going to come out of the Osprey. I, unfortunately, am not going to live long enough to really see it but, I know it is coming.

Frank: When will the Osprey enter the system?

Miller: We have an entry date of 1991 so we have about two years before we deploy anything with it.

Frank: I know that during your career in the Marine Corps you have flown everything in the aviation inventory that we have had. I assume that even when you were D/CS Air, you are doing some flying.

Miller: Gen Wilson was very kind. There were several people questioning, some admirals questioned by what authority that I was out doing, flying around at some of these things. He said, "Because the Commandant said I was authorized to do it." Not all Commandants have been that lenient. I don't think Gen Kelley was that considerate of some of the aviation people. I felt it was so very important to me to not only make the right decision on the future to know what our young pilots are involved in today but to know what the support requirement was for the maintenance aspect we talked about earlier.

The other area is that I think it was awful important that the young pilot see the guy that is flying, that is running the aviation program, see him out there doing it. A lot of

people don't play that as important. I think that is one of the stronger parts of leadership and I think that is one of the things Bush is coming ahead in the advantage is that he is the guy with the experience. A lot of people don't like Bush and they don't like what he is doing but the guy has been there.

I found in the military and in the leadership role, that the leadership in several areas is more important than one area and sometimes you live by the rules you make. You make a rule. If you are the commander, you make a rule, it is really more binding on you than anybody else because you cannot expect anyone to abide by a rule you make that you don't live up to yourself. That is our first rule.

The other being is that when you lead people, you can't sit back in your chair and say, go do men, because if there is dangers involved, you are telling them to go into a dangerous situation which you yourself are not willing to go into. If you have to make a decision which is going to jeopardize lives of men, then you [should] be willing to. Now, that is not always when you can. Some of our positions don't let us do things and maybe that is right. I got involved in that after being here in the States and going to Vietnam when I was working for Gen McCutcheon. When I made general and went to Vietnam, they wouldn't let me fly in combat because of stealth program classification and some of the other highly classified programs that I had and they didn't want me to fly. But I think that that is one of the reasons, of course, I am kind of a nut as an aviator anyway.

Frank: Which plane did you enjoy flying most?

Miller: That is almost like asking me which of my children do I love most. I was more sentimentally attached to probably the Corsair where I flew my first combat. After that, probably the Phantom because I had so much to do with the design and development of it and then after that the Harrier which I never got to fly near as much as I wanted to, because of my position. In fact, Gen Axtell would not let me fly when I had the wing and had Harrier squadrons. I understood his reasoning and I had to agree with it. The Harrier was new and it was a unique airplane and we had all kinds of people trying to get a chance to fly it. The Air Force people, most of them generals and admirals that wanted to fly and Navy captains as well. He used me as the wing commander as a kind of a guinea pig to the fact he

won't even let the wing commander fly his own airplanes because we have too few of them and our young pilots need all the flight time.

So I didn't get a chance to fly the Harrier very much at all after I had done all the test work on it in the early stages. Consequently, it is kind of hard for me to say that the Harrier was one of my more enjoyable. It certainly was while I was flying it but I never got a chance to get back into it again.

In the helicopter area, the helicopter is an altogether different flying machine than a fixed wing airplane, unique in such ways as in some ways they are more fun to play with because you can do so much. I guess the word is screwy things with them that you can't do with another type of airplane but I really in my own pride, I think I had a lot to do with Marine helicopter flying because when I came back here as a colonel, from Vietnam, went to work for General McCutcheon, he let me really go to work and build a gunship, the Cobra. We even started by taking Army Cobras, I think we covered this.

And that warmed my heart because I wanted to do something to get the helicopter people out of what I call the Wright brothers type of flying machines that they were using, the elementary and rudimentary machines that just were pathetic in performance. At the time the Army wasn't making much effort in the helicopter area. The military services were not all that enamored with the helicopters and yet again, because of their limited requirement for any kind of basing facilities, it meant you could use them just like trucks. You could use them anywhere so we really needed to put some emphasis on the fact that we got the twin engine Huey. It was a great stroke and I think purely because of my efforts and some of the staff that worked for me and the full support of Gen McCutcheon while they were able to get that, we had to fight tooth and toenail to get that through the Department of Defense and through Congress because we used the Canadian engine first and that rattled the cages of all the places.

I had a hand in helping with a young fellow in the Naval Air Systems Command of getting the CH-53 Echo, the big one, going. This one lieutenant colonel, by his own, talked this lady into some money to start building a rotor head that would build the foundation for this helicopter that would pick up better than 16 tons. To see that come to fruition, I look back over and my chest just swells with pride with the things we, we have got the Harrier and we have got the EA-6A which is probably the most important airplane that the Marine

Corps owns today is the electronic warfare airplane because we couldn't fight a modern war without that.

Frank: Was that the plane that went to VMCJ-1, that Jerry Fink first commanded and developed out at El Toro? You know, he died by the way.

Miller: Oh, yes, I knew. I visited with Jerry about two weeks before he died.

Frank: We didn't know about it until just recently.

Miller: Oh, you didn't? When we had our convention in October, and while I was out there I went by and spent a whole morning with Jerry and he had cancer of the liver. Two to three weeks later, he passed away. I was very close with Jerry because I was the Marine aviation representative in Freedom Village when Jerry came back and I was the first Marine he saw when he got off the buses bringing him back.

Frank: Loved the guy.

Miller: Yes, great guy.

Frank: You are talking about the, when I was out in California in 1967, he was out in TransPAC but he just recently relinquished because they were involved with VMCJ-1 and you know, Jerry is a very intense person. He said he had a whole bunch of black notebooks, that there were a considerable amount of problems with the systems and everything else. He wasn't about to allow them to get through and apparently he said that because of all the problems he was creating, all the questions he was raising, they wound up taking the squadron away from him and couldn't take it out to Vietnam which made him very unhappy.

Miller: I never did know the background on him. I didn't know that Jerry was that much involved in the EAs. I didn't get involved in the EA-6 until I came here as a colonel. While I was a lieutenant colonel in MAG-11 forward in Da Nang, I did go out and I flew a mission

in the EF-10 the old F-3D night fighter, that was converted to our electronic warfare airplane. I flew a mission in North Vietnam with them knowing I was coming back to Headquarters and I wanted to understand the electronic warfare mission because I had only had a little bit to do with that in the early part of my career in Korea. I had never flown an electronic warfare mission in combat, certainly, and this was an opportunity to do that. I had never even flown the airplane and I went out one afternoon and flew the airplane for the first time and made a bunch of take offs and landings and my first landing it was almost dark and the next morning at 10:00 I took off on the mission and we flew it.

I had such an understanding and feeling of the mission with the kind of equipment that we were forcing those people to use in this old EF-10, it had no ejection seat. If you got hit, you had to unbuckle and slide out through a passageway that was between the pilot and copilot and depending if you were in a real critical time frame, who goes out first. The second guy may not make it. It is terrible.

Anyway, I came back here as a colonel under McCutcheon and was so pumped up and enthused about the fact that we had to get something to replace the EF-10. The EAs have come along at that time which I had nothing to do with but Dr. Fubini who was a great advisor to the Department of Defense on electronic warfare, shot the whole program down for the Navy. The Navy had started the EA-6A program and Fubini convinced McNamara it was no good. They had 12 airplanes so they said, well, we'll give them all to the Marines and that will be the end of the program. It turned out that the EA-6As were the lifesavers of the Vietnam War.

I went to work with the Navy and by that time they realized how important they were and were going to build the EA-6B. But by the time it takes 10 to 12 to 15 years today to go that route, well, the Vietnam War would have been over if we had waited. So we put in for additional EA-6As and we had a hell of a fight because the Department of Defense wouldn't give it to us but the Congress gave it to us and put the money in and said, Mr. McNamara, you buy it. That is how I got so heavily involved in the EA. Our experience with it really built the EA-6B for the Navy today. It is a shame that somebody doesn't have the intimate knowledge to write a book on the history of aviation electronic warfare, really a major development.

To my knowledge, we're about the first service that really ever used electronic warfare in combat. We used it in Korea. We had AD-5Ws. They were four seat ADs but the equipment be it was so classified that they wouldn't let the airplane fly over land in Korea so they had to do all their work from running up and down the coast taking cuts on radars.

Frank: I never heard that.

Miller: You hadn't?

Frank: I don't think even Peter Mersky has got that in his book.

Miller: We had a squadron of them at K-3 and of course I knew about them. When I finished my 106 combat missions they threw me out of the squadron. I was sent down to the target section of the Wing and in developing targets we were trying to find enemy radars and in Korea those characters used practically bamboo radar antennas that they turned by hand and things and it is damn hard to find those things. But through the use of our EAs [AD-5Ws] we were getting radio direction finding cuts on them so we could find an area where they were generally operating these things so then we would go in with a napalm strike, for instance, on the top of some hill where we kept getting these radars and hoping that we would burn something up.

But those AD-5Ws, to my knowledge we were the only military service [to fly them]. If the Air Force did any of that, I didn't know it; this was in 1953.

Frank: Which squadron had them?

Miller: I believe it was Headquarters squadron of the 1st Wing.

Frank: Okay. You gave me an idea for an article perhaps.

Miller: Well, there are some people that know this well and I just was trying to think who it would be to give you a clue to get the details on it.

Frank: Come up with some, put them on tape.

Miller: I am sure some of our electronic warfare people, some of the early forerunners of electronic, General Ed Fris might even know some about this.

Frank: All right.

Miller: But to my knowledge, the Marine Corps is the first service to ever use that type in combat condition. Now, the Air Force may have used it in a spy approach and what, as far as combat, to my knowledge we were the only outfit in Korea that had it and, then of course, we were the only ones that did even in Vietnam, the close-in tactical, what I call tactical electronic warfare. The Navy used the EA-3. It was the Douglas A-3D made into electronic warfare airplane. They used them but they always used them in a standoff position. They stayed way out, but the problem there is one of a technical nature where you can't get enough signal into the antenna if he is not looking at you. If he is looking at you, you can jam it. But if he looks over, the ground station looks over somewhere else and you are over here, you just don't have enough power, particularly in distance. Your power drops off by the square in distance. So you can have five kilowatts way back here and if you are 20 miles, you are just getting very small wattage in and if he is looking the other way, the degradation of his side lobe of his antenna is such that you can't get enough signal in there to jam his radar signal.

That is why the Marine Corps doesn't have any stand-off electronic warfare today. Additionally, that is why we have put our electronic warfare airplane in the A-6 configuration which is an airframe that can fly right with the bombers, it can go through the same maneuvering and flies right with them so if some enemy radar is trying to watch them and track them to launch a missile at, his antenna is right on them so he can jam the hell out of them so that is why that is so important.

Frank: Jerry said that they had a problem, in that they were cooking off and the equipment, the way they were working.

Miller: Very early problems in an area which there weren't too many experienced people. Any time you start a program like that, you really need to have a lot of faith in the eventual solving of the problem. It is just like the VSTOL issue, the Harrier issue. We had so many failures in this country that we wanted to just guard it. The Osprey is a persistence thing. The only thing that has kept that thing going has been the persistence.

Frank: Have there been as many operational accidents with the Osprey as we had with the Harrier?

Miller: Oh, no. The understanding on the Harrier is also very misleading. With the first two years that we had the Harrier in our squadrons, we didn't have any accidents. None. I think the worst one I can remember is Bill Sharon who is now Dr. Sharon who is, by the way, I think he is a professor down at the University of Virginia, Bill was the XO of his squadron, he was shooting a GCA, approach at Charleston and he forgot to put his landing gear down and set the Harrier down on the runway.

They got out there and they jacked it up and the gear dropped down, he got in the airplane and lit it off and flew it back to Beaufort.

But we didn't have any accidents. About two years after that, we experienced the problem as we always do with squadrons of new airplanes. We always put prima donnas, most experienced pilots in those squadrons and during that phase, you don't have the usual, dumb mistakes that pilots make that cause accidents. But you can't run very long that way. First, you don't have that many prima donnas, you can't just keep them in the job all the time and it kills the morale. Pretty soon you have got an organization that is all chiefs and no Indians. So you have got to feed new blood into it.

Well, of course, the new blood in the Harrier then, the Harrier was the big new thing and every helicopter pilot, every OV-10 pilot and some of the A-4 pilots all wanted to fly the Harrier. The Phantom guys, they weren't too elated over the Harrier. They loved their

Phantom. Not too many of the A-4 guys wanted to fly it because they were happy with their A-4s.

So when we started opening the program up the wrong people went in to it. I say wrong, they are pilots, but were not conditioned by experience. Your mental response is conditioned by what you fly and what you fly regularly. When you fly a helicopter or OV-10, something that is relatively slow and has an altogether different react system, it does not condition you for flying a Harrier. An A-4 attack airplane is probably the best experience you could get.

The F-4 was pretty good but you have got two crew members and it comes down to a personal workload, how much do you have to do and how short a time do you have to do it in. Where you are the sole pilot and you are the one that has to make all the decisions and if the landing gear has got to come up, you have to pull the lever, you can't say to the guy in the backseat, pull the landing gear up. The workload is kind of high and then you add bad weather and that kind of thing.

Well, to make a long story short, we put a lot of people into the Harrier program. We commenced about the third year they are in the squadrons and by the time they got through, got in and the numbers, we had a pretty good saturation of people that were not really conditioned for the Harrier. The Harrier is a dangerous airplane to fly because it is different. You don't fly Harriers in flight school and you don't get the kind of training for that so it is totally different. It is not like a helicopter at all, doesn't fly at all like a helicopter. Not only that, it requires a decision process. It is about 10 times faster than a helicopter.

Workload aspect, only the single cockpitted airplanes even approach the workload that you give the pilot. And the fact that you went through the normal, conventional flight into slow flight and vertical standstill hovering flight was a very broad spectrum of workload requirements.

So it caught up with us in about our third or fourth year and we went through some rather horrendous accidents, as you know, and that is where the name, it got the bad name. When you look at it, up until that time, we measured accident rate on so many accidents per hours flown. When you look at measuring accidents by missions accomplished, we went back and we did a study with the Harrier on mission accomplishment versus accidents and the Harrier is one of the safest airplanes in the business because it flew so many more

missions. It only took 15, 20 minutes to run out for a bombing mission and back when it would take an F-4 which had to go to the big airfield to take off and then it had to be vectored around, it was a long ways away so you flew hours and you built up a lot of hours so it is, again, it was a common understanding of what you were achieving as far as your accident rate per achievement, the Harrier was a safe airplane because we flew, it had eight to ten times more take-offs and landings than Phantoms and the other conventional airplanes had. Even [more] than helicopters have had because it is so fast that it only took 15 minutes to do a mission that would take a helicopter an hour and it would take another airplane almost an hour because he had to come from an airfield a long ways away.

So you see it is kind of comparing apples and oranges and the Harrier, being an unusual type, nowadays, you don't have many Harrier accidents. It is because one thing, we have got the AV-8B, we have got a lot more automation inside, like automatic stabilization; computers in there that keep a pilot from getting himself into dangerous situations. It literally takes the airplane away from the pilot or if he starts getting in trouble, it gets the thing out quicker than the human brain can react to get it out and if you can get these things, it is like a disease, if you can catch it in the early stage, it is not near as much of a problem.

The Harrier got a bad name. I held a meeting, a press conference in the Pentagon and went over this explanation about mission accomplishment. We didn't get one bit of bad publicity after that. We explained it all to them and they got off our back. The fact that it was built in England, not built in the United States, plus a reporter in Raleigh, I think it was, that was trying to get some great award for reporting of bringing dirty things to light. I was afraid I was going to have some Marine that was going to shoot him before I could get him shut up because he was causing such problems at Cherry Point by what he was printing in the paper that the wives were giving their husbands hell that were in the squadron thinking that the husband ought to get out of the squadron because they were going to be widows before they could do it and it was breaking up marriages.

Some of these guys were getting such a feeling toward this guy I was afraid one of them was going to go up there and shoot him because we couldn't shut him up. Everything was negative, you know. But I suppose most all these things have two sides to them.

Frank: Let's see, what else do we have to talk about? Social stratification, Gen Wilson's retirement. You were going to comment on that.

Miller: Well, the social stratification I think was the thing during Gen Wilson's term, when he came in, as we have already discussed in unit rotation, with that idea, he came in with a recognition that families are as much Marines as the Marines themselves and the families are to be treated, decisions concerning the family should be weighted. One of the first problems he attacked was the housing problem.

We all know through the years when we got orders to a new station, the first thing we had to do is move out of quarters. If we were going overseas, we had to go find someplace to put our family while we were overseas because our families all got kicked off the base.

Gen Wilson's feeling at that time, that is absolutely the craziest thing in the world, when a Marine needs his family to have stability is while he is gone. While the Marine is gone, the wife needed someone to look after the mechanics of the house, the leaking faucets, commodes and the sewer is stopped up. At a time she needs the help most is when the Marine Corps was throwing her out of quarters. He changed the whole priority and allowed anyone that desired to leave their family in quarters while he went overseas. In my opinion, that was one of the finest decisions he ever made because it helped the family, it did not disrupt the kids in the school they were in, it did not throw kids in a whole new school environment or associations with people, certainly today in the drug environment where they are thrown into a new school, the dad isn't here to help monitor what is going on. They are all set in a school right where he is living when he gets orders overseas, they stay right in that environment. It really is a big boon.

When you couple that with the unit rotation in the sixth month type of rotational thing, it was really a psychological change.

Frank: Raising morale.

Miller: Tremendous morale and that is holding up today. It has been one of the big things. It is one of these quiet things you don't hear a lot of publicity about it but when you go

around and ask, people almost today can't imagine it being any other way. It wasn't one of those things that made a lot of headlines but people just didn't recognize what the point was. That was what I would consider the biggest social changes that he did.

He also developed the idea that each Birthday Ball time that one of the three star generals from Washington would go over and represent the Marine Corps at foreign port, foreign places like Okinawa and Japan and the Philippines. Oddly, he asked me to take the first one. It wasn't just me. He said, you take your wife. She is a part of it. She will attend the wives' people and check into the family situations over there and come back and let me know. He said, "You are my representatives. I can't go because of our activities here in Washington. I want those people over there to know that I am thinking about them and I care about them and that is why you are over there to see what is going on."

End Tape 2/IX, Side A

Begin Tape 2/IX, Side B

The thing was that the Commandant cared for people, for families, and that when they got orders, sure, we don't all like our orders but the telephones were open and you could call up and ask why and the thing would be explained. I noticed we are turning the other way around now but it is one of those cycles. I have lived through four or five of those cycles while I was in.

But I think there was, I look back on Gen Wilson's time as really turning the Corps around and really pointing it in the direction and I think it is responsible for the real good shape that the Corps is in.

Frank: Morale-wise?

Miller: I get that feeling. I talk to the young officers and in particular those that are working with the young enlisted men and they say, you know, we have got the best enlisted people you have ever seen. They are just top notch. You talk to the more senior officers and they say, the young officers we have today are just out of this world. He is intelligent, he is sharp, he is reasonable, he is common sense, you just couldn't do any better.

Frank: It is a very tight selection system, too, with the personnel constraints. I am amazed that outside of the Naval Academy graduates and the NROTC contract, scholarship students who are regulars, that out of each Basic School graduating class, I think less than one percent are given regular commissions and within a period of their obligated service, less than 10 percent are like, say, augmented now, integrated was the term which is a very tight.

Miller: Gen [Keith] Smith proves the exception. He never could get a window he could get in. I watched that for a long time.

Frank: It is the benefit of the Marine Corps to, it is to be commended that they saw him as an exceptional individual that ought to be retained.

Miller: Well, it is also, we are fortunate, and I speak from the aviation side today that we don't have near the loss of aviator problems that the Navy has. The Navy still has got serious problems. We can really take the cream of the crop.

Frank: Now, going through 35 years, 37 years of a career, do you leave with any great reluctance or are you ready to go when you retire? Of course, you didn't have much of an alternative.

Miller: Well, I have always recognized and felt very strongly that when we get up to the top, I consider three star in the Marine Corps as pretty damn close to the top that when the time comes, we need to move on. Some people feel differently about this. I was not glad to go, I didn't feel like I was going because I was too old but I had reached the rank point and I spent the years in the rank to where there was only really one other course for me to have done any better in the Corps would have been to either be the Assistant Commandant or the Commandant. I never really believed that an aviator should necessarily be the Commandant. I would have liked to have been the Assistant Commandant. I knew under the personality clashes that I had had and that if I wasn't the Assistant Commandant, it was my own fault, it wasn't anybody else's, because I would not compromise my views to be the Assistant Commandant and I knew that Secretary of the Navy Graham Claytor would not

approve me as ACMC although today and in the early days we were very close friends. He took violent exception to me at the time I would have been considered if Bob had elected me to be his Assistant Commandant and I never even asked Bob if he ever asked. I knew if he had asked Graham Claytor. Graham Claytor would have said no because I was his big, one of his big stumbling blocks to his trying to do what the Secretary of Defense wanted him to do is to put Marine helicopter training under the Army and I was fighting with every tooth and toenail against it.

So I left, my last four years I felt couldn't have been more comfortable. I don't know of any time in my whole career I worked harder. It is easy to work hard when you feel like what you accomplish means so much, and I think we accomplished a lot for aviation. I think you are seeing today the results of it, the F-18, marvelous system. You hear nothing but great words from the people who use it; the AV-8B, a huge success, doing great, CH-53 Echo, Super Stallion, just doing great. Although I had very little to do in the beginning it was very important to keep the Osprey from being tucked away, that is coming along.

The Cobra we have today is the only free world fighter helicopter. The Army is so terribly confused. I just look back, I couldn't ask for anything different. I think it was time that I left. I think we needed new blood to come in, make different decisions. I didn't want, didn't necessarily want to go but I recognized that I should go and I have tried to stay certainly out of DCS Air's hair because I think the prerogative with DCS Air is just the run the air in his own best judgment and not have a lot of second guessers. I have always offered my assistance in any way I could to do what I can to help, and I have been asked several times by the Commandant and by DCS Air.

I was very happy to go. I can't express it exactly like Gen Wilson told me when I said, "Do you miss the Corps?" And he said, "Not a damn bit." I knew what he meant. He meant he didn't miss the in-fighting and all. He would never give up missing the Corps. That is not the point.

Frank: What did you do when you retired? Did you do anything? Did you go to work?

Miller: No, Adm Arleigh Burke told me the day of my retirement, he slapped his arm around me and he said, "Tom, let me give you a bit of good advice. Don't do a damn thing

the first year of retirement because you will get yourself hooked up with someone." I have not gone back. I own a private business I have been in. Some of it is inherited and some of it I have built in South Texas in the ranching and farming business. I have plenty of activity to keep me busy, I had taken on a number of chores as I am the chairman of the executive board of the Mercury Seven Foundation. That is the foundation for the first seven astronauts that gives scholarships each year. I have served on the executive board of the Naval Aviation Museum Foundation.

I am on the foundation here that is trying to get the museum, Air and Space Museum Annex built at Dulles. I have been asked, there is a good possibility that I may be placed on the state, Virginia state aviation commission. My name has been inserted to the Governor. I don't know whether, it may be that I haven't tried doing many of these jobs. I have been asked a number of times. At one time I was asked if I would be the FAA administrator and I said, "Only if I receive positive assurance that when I relinquish the job that I would get my title of lieutenant general back." You have to do that, you only get that back at the pleasure of the Congress and if you miff somebody off in Congress while you are the administrator, they could retire you as the administrator and you wouldn't go back on your retirement status of the military if they don't like you. I wouldn't put that in jeopardy for all the rice in China.

So I have stayed very active, I still stay as really more active than I really have got time for. I stretch myself, my wife and I travel a lot but it has been fun because we fly together, she is my co-pilot.

Frank: Does she have a license, too?

Miller: No, she has no license. She has taken a course, I call it a cardiac course, that is in case I have a cardiac, she can land the airplane. She has had about 16 hours of instruction in flying.

Frank: I am surprised that you never got involved with anything in the aviation industry or aviation, you had such a tremendous backlog of experience and knowledge and expertise.

Miller: Well, there is a little bit different philosophy and Gen [Bill] Fitch is a lot, has a got a lot of background very similar to mine but he has a different philosophy than I do. I never, because of this conflict of interest law at the time that I went out, whereas I could not associate or not be involved with the Marines for life, if I were with a defense contractor. All my business in aviation has been with military aviation which is defense oriented so if I went to work for any defense contractor, I am immediately ostracized from being able to associate freely with the Commandant or DCS Air or anything.

There is big money in that stuff. You can make a potful. You can make \$40,000 or \$50,000 a year on top of your retired salary with just a drop of the hat and that puts you well up over \$100,000 a year kind of job. That is great. But money is not that important to me. It is nice to be able to do what you [want] do but there is only so much I have got time to do and as long as my wife and I can do reasonably with our family and get around, fine.

I didn't ever want to go to work with a contractor. In fact, Gen Jaskilka asked me to join what is known as Birdeshall Associates out here and they are a group of retired military people that formed a consulting firm. They sell nothing to the government. They have no contracts with the government at all. They are there as advisors and consultants to industry and if industry has a product or something or they are having some problem with trying to get a product in the door at the defense department, they come to Birdeshall who puts together a team, and defense department pays Birdeshall for advice. What are they doing wrong or is there a requirement for this or that.

That way, when I work under those conditions, I get paid by Birdeshall for consulting. I have no contact with the military. I sell no product. We tell the industry what they should do and we give them the names and telephone numbers of people that they are to contact and things like that or if they write something and they call this outfit a battalion when it should have been a squadron, when they write it up, we do that.

I was recently involved with one contractor that is bidding on the new automatic TAC [tactical air command] center for aviation, and a bunch of us were, Gen [Phil] Shutler, Gen [Charles] Cooper, even though he was ground, he was, because of his CG FMFPAC experience. So we worked for Birdeshall. That is the only industry I work with because it keeps my arm's length and it doesn't destroy [that special relationship]. I can go in and sit

down with the Commandant and talk about anything I want to. I can make all kinds of suggestions.

Another thing I stay fairly busy with is helping my close personal friend, Senator Glenn. He has asked me from time to time to go with him as a consultant on the SDI [strategic defense initiative] program and this helps keep me, not only from a clearance standpoint but also knowledgeable of things that are ongoing.

So I really have all that I can handle. I enjoy my retirement. I am happy. I can't say that I was any happier than I was in the Marine Corps but I feel like I am still accomplishing. It is just sometime I over commit myself and that is hard to do. I am poor at saying no unfortunately.

Frank: Well, I want to thank you. I have enjoyed this. I have enjoyed our time together.

Miller: I wish it hadn't been so split up so much.

Frank: We started in 1982, by the way.

Miller: You ought to disown me completely for that. That must throw a terrible strain on you trying to keep all that together.

Frank: Well, I may have, there may have been a number of things which we didn't cover because of the spread of time or because I didn't have the knowledge to ask you about and so I put this in now so that when you do get the transcript, we do get the transcript down to you to read it, please either record or put marginal notes of things that should be added to make it ---

Miller: Well, if you come up with something that you want to cover, don't hesitate to give me a call.

Frank: Well, I won't know until we see it and I may see it but you will be more, because I interrupted you a number of times to go off on tangents but if you see stuff when you get to see this transcript, please call. I thank you and I have enjoyed it thoroughly.

Miller: I appreciate it.

End Session IX

Session X

Interviewee: Lieutenant General Thomas H. Miller, USMC (Ret.)

Interviewer: Dr. Fred H. Allison

Date: 19 December 2003

Place: LtGen Miller's home in Arlington, Virginia

Allison: One thing I'd like to talk to you about and ask about is the role of Keith McCutcheon in the development of this concept-- the Marine air/ground team.

Miller: I'd be most happy to do that because, as I say, I don't know of anyone that's contributed more to Marine Corps aviation than Keith McCutcheon. I was not with Keith McCutcheon at all in World War II. I only became acquainted with him after Korea. What I talk about with Keith McCutcheon during World War II is purely hearsay, most of it from his own lips to me, and the two different times that I worked for him, first as a colonel and later on as his Deputy CG [commanding general] of III MAF [Marine Amphibious Force, in Vietnam].

Allison: And that's fine. You know if you've heard it from him that's a good enough source for me.

Miller: Well his remarks came about in explaining his own theory of what the Marine Corps aviation mission was and the kinds of aircraft that were required to perform that mission.

His most notable experience seemed to me – in his discussions with me – was his experience when he was, I believe, a Marine [air] group commander in the Philippines where he was in charge of scheduling and running most of the operations of close air support. He related back about the success of Marine aviation on Guadalcanal that really had never been expounded on a great deal. It came to me personally when I was in flight school. A young captain; a ground captain from Guadalcanal was coming through Corpus Christi and was giving a briefing on what was going on in Guadalcanal and he was explaining how one Marine division could stand off, I believe it was almost three Japanese divisions on Guadalcanal, and this young captain said, "I wouldn't be here alive today if it hadn't have been for the aviation elements at Henderson Field". Because of their close

proximity that they could be overhead of the ground Marine that needed his help within 10 to 15 minutes and that ability to be there that quick was what enabled them to be so successful.

Allison: The close proximity to the front line?

Miller: No, the responsiveness of air to the ground Marine and that was what McCutcheon later on explained to me. After the Korea experience and everything he generally called it a “Thirty Minute Rule; if you can’t get in to help the Marine in 30 minutes you might as well not come.” So his thought was that Marine aviation should be geared with aircraft and capability to respond to the Marine ground in 30 minutes. Now that takes in a lot and then he went on to explain how World War II went, where he learned in the Philippines that that was true because sometimes his air support wouldn’t arrive in time and it was useless.

Allison: The crisis had passed.

Miller: The crisis had passed.

I confirmed that in later years in 1963 when I was out there that . . . and then I later went back as G-3 of III MAF and we lost people because we couldn’t get, either helicopters, or we could usually get the fixed-wing there but in the jungle they weren’t as much help if you couldn’t get the helicopters there with more troops or take the troops out. So that “Thirty Minute Rule” stood up. But McCutcheon developed that “Thirty Minute Rule” I think also from his experience with helicopters in Korea. Anyway, he kind of stuck to this “Thirty Minute Rule” and if you think about it Marine aviation is there for one reason and that is to support that young Marine on the ground. I had a young commander tell me how aviation became to being in the Marine Corps, which kind of surprised me because I’d never heard about it in that sense. [It] was that in World War I the Germans started using balloons for observers for their artillery spotting and the balloons would stay out of range of the Marine’s firepower and the Marines decided they had to have something that could compete with the German balloons, and that’s when the idea of Marines having airplanes was born. I had never heard this before and I don’t know how true it is. *[This has no historical basis]*.

Allison: Actually they had had them before the war.

Miller: Yes, but that's when I think it made an impression on the ground that they really. But McCutcheon played a rather distinctive role in helicopter operations, which he really never discussed too much in Korea except that I know he wound up on the so called long range study board that occurred sometime in '54 or '55 after Korea.

Allison: For the helicopter or for aviation?

Miller: Well it was long range for everything in the Marine Corps but as a part of the long range aviation this board came out with a statement that, "All Marine aviation aircraft would have vertical and short takeoff capability as soon as technology would permit it." This was a board that came out of Quantico. I think it was called the Long Range Study Board. And it occurred sometime a year or two after Korea had ended, which was '53 I guess, and McCutcheon was on that board and then later on he was known as kind of the "Father of the Vertical Development Concept". So this was kind of his background of aviation and although in World War II he was a fixed-wing aviator he became so engrossed in this helicopter because, you see, up until Korea - first coming out of World War II with the atomic bomb coming into play - the idea of an amphibious landing that we utilized in World War II was considered impossible in a nuclear environment because you couldn't assemble the ships in a group that would handle an amphibious landing because one nuke bomb would take out the whole thing.

Allison: Right.

Miller: So the Marine Corps was in a - that was part of the studies that occurred after World War II - they were quite in a quandary and that's when it happened that Piasecki and Sikorsky came up with their helicopters, and the people at Quantico latched onto it in a theoretical sense and they started fooling around with the helicopters. Well it was Korea that was the first opportunity to more or less prove the theoretical advantage of the helicopter.

Allison: Yes, in combat?

Miller: In combat. And of course if you've been in Korea, if you can imagine a ground war in Korea, everything is vertical; mountains. How do you get food? How do you get ammo? How do you get the wounded out? It would all have to have been on the backs of men. No vehicle could transit the . . . so the helicopter was, gosh, was just such a fabulous multiplier in capability in Korea that even the ground general; the first general that was involved in it, he was sold on it of course. And then General [Randolph] McCall Pate had the division at that time before he became Commandant and he was sold on it. So the data that came out of Korea was more or less what prompted the Marine Corps to decide that everything in aviation had to be STOVL [short take off vertical landing] because it was fine to be able to get the troops and handle the troops, but if you're going to be able to move the troops then with helicopters how are you going to move the artillery for support? Well that's when the Marine Corps gave up a lot of its heavy [artillery] support because it was useless; there wasn't anything at that time to haul the heavy fire support around with the helicopters, they couldn't carry that weight. So they gave up artillery units and strengthened the aviation to be their support. Now I don't know all the details of the study, my memory just doesn't go back to that point. I was too junior I guess at the time to get involved in the studies. I don't know just exactly what year it was that the Marine Corps gave up a lot of its heavy artillery and boosted its requirement for aircraft but it's in some studies at Quantico. Anyway, that kind of sealed the Marine Corps then. They were kind of locked into aviation because with the nuclear war and with the capability of the helicopter, the ships could disperse into wide areas and yet still - and that's when the old 50-mile rule came in of standoff distance from the shore - the helicopters had to have range enough to carry their troops in 50 miles and return to the ships. That was the range that was put in on the requirements of the helicopter. So with that McCutcheon was headed-- that although we had [F-4] Phantoms and we had electronic warfare airplanes and we had all these airplanes, they still required long runways, and if you think back, the most determining use of reliable aviation support is controlled mostly by basing requirements. Now the Navy is very proud to say they can move their base - and they can move it within reason - around, the Air Force can't. A perfect example;

Afghanistan here, the Air Force is kind of left out of the picture because they didn't have any airplanes that could fly in Afghanistan.

Allison: Especially early in the war.

Miller: Right, so that was why General McCutcheon was so adamant to the VSTOL [vertical short take off and landing] arena and of course naturally all that rubbed off on me even as a colonel--his advice. I respected his experience and all [to the extent] that I became probably in the next generation the advocate of VSTOL operations. And I was fortunate during my tour as a colonel there, one of the majors in my office that was in charge of what we call R&D; that was the advanced projects, and he came upon the Harrier. Of course we had looked at everything in the United States forum but they'd all been kind of engineering blunders.

Allison: What was the name of your office?

Miller: AAW [Air Weapons Systems Branch of the Deputy Chief of Staff for Air Division]. Well as a colonel I came there in '66, after Army War College and I stayed there until I made general in -- gosh, let's see, '66, '67, '68 -- I made general in '69 I believe or '68/'69. I went overseas in '70 and then they moved me out of Aviation when I made General and moved me over as the Deputy G-3. A major general by the name of Cliff Drake was the G-3. He was kind of paranoid [focused] on creating television education for the Marines and he was traveling a lot.

I remember the second day I was in the job I got called to General [Leonard F.] Chapman's office to explain some problems we were having with the LVTs [chuckle]. I had to do a lot of fast brushing up to go in and brief him on what the problem was after being in the office two days as the Deputy G-3. But I stayed in that job about six months and that's when I was then ordered over and I got over to Da Nang in December of '69 and was there until December of '70 when I came home.

Allison: As the Assistant for the MAF commander there.

Miller: Yes. First as G-3 at III MAF and then as Deputy.

Allison: Do you think the idea of the Marine air/ground team then sort of comes out of World War II; in the experience of World War II?

Miller: Oh absolutely. The Marine air/ground team was, I think, probably generated as much at Guadalcanal as it's real birthplace because you have the air and the ground right there together to show what they could do as a team.

Allison: But then later in the war they were separate. In many cases they operated separately.

Miller: Well that's true because you see people . . . up until a certain time and finally Congress rewrote Title 10, which now prevents the President from taking aviation away from ground.

Allison: Right, that was after the war there.

Miller: Yes.

Allison: Now McCutcheon was a lieutenant colonel and then a colonel but do you know who was pushing that; to develop good coordination between air and ground coming out of World War II in that time period?

Miller: Well I think – and this is purely hearsay – I think General Geiger had a lot to do with that but it always appeared to me that Marine aviators kind of had to fight for their own area because it wasn't until the ground would get in trouble and need aviation that they really were concerned with it. They kind of looked at us as a different Corps or something. Now I can tell you that has been an evolutionary change and I'm, of course, delighted. I used to get kind of irked because some of the aviators--I can remember that aviation did not want to be

called a supporting arm. I thought that was trivial because any element is supporting to the total, and hell yes, aviation is a supporting arm but I would hear general officers making cases. I know some names of some generals that I thought were too parochial aviation.

Allison: During this period?

Miller: Yes. Now General [Christian F.] Schilt, I think, probably had quite a lot to do with helping things come together. It was those generals that were farsighted enough that were brought into the ground, General [Anthony] Lukeman, as top-notch people. Now we've had even one of our rather recent Commandants who wrote a letter that said that aviation officers are really not general officers. There is a hang-up that the ground people have and it's esprit and I'm not sure it's all bad as long as people don't take it all that serious. They are so proud of the Marine on the ground that they don't see anything other than a ground infantry Marine as a real Marine. The logistician guys have suffered from this same problem. I would say probably the engineers have suffered some from this problem. If you're not an infantryman, well. [Even] artillery; they still don't enjoy the feel of an infantryman but I think that's all beginning to break down now and I think there's much more. And I guess the thing that I'm delighted to see is, is that the ground is recognizing today . . . the last three Commandants [Generals Mundy, Krulak and Jones or Hagee], which I've known very closely, all agree that without fixed-wing aviation there would be no Marine Corps.

Allison: Let's go back to the Harrier. Okay, you were talking about – I think I interrupted you and we got off on a tangent there – you were talking about leading up to the procurement of the Harrier when you were at AAW.

Miller: Right. Well this young major in my office knew General McCutcheon and my direction that we were investigating anything that looked like a vertical fixed-wing airplane; a vertical takeoff and landing fixed-wing airplane.

Allison: So you remember the name of the major?

Miller: Major John Metzko; M-E-T-Z-K-O. He's still, I believe, in the local area if you're interested. And John was kind of a character himself. He would sit in the office with earmuffs on so all the chatter in the office wouldn't bother him while he'd be reading all these engineering documents and everything. But John knowing what we were looking for, came upon the Harrier. First it was the P-1127 program in Britain and he had been kind of watching that program and then it transitioned into what was known as the Kestrel Program, which was a triad program that was Germany, Britain and the United States, and they built nine of them as I recall. [The Kestrel] I think is also a bird.

They ran a trial program. Now unfortunately there was an Army aviator and I believe a Navy aviator in that program, no Marines, and I'm not sure whether there was an Air Force. I thought there were only two Americans in the program but there were two or three Germans in the program and the Brits made up the majority of it and they went through about a year's trials to prove the effectiveness as a military machine. And as it came out in the end the airplane was underpowered and they didn't feel, although it showed great promise, it didn't have enough power to carry enough useful load in performance of VSTOL maneuvers. Well as a result of that now the United States got involved to the tune of about 50 million dollars into the program about that time. The French, I think, got involved in the program also. But anyway, Rolls Royce came along with some of their own money and developed a much-rated engine for the Kestrel and that's when it became the Harrier. At the time we were speaking of the Brits had decided that they were going to equip their squadrons but they were going to use it for low-level nuclear deliveries. With all their airfields well known and plotted they felt terribly vulnerable and they had to move their aircraft into what they called "hives" in the trees and so forth and that's the reason it was so important to have an airplane that could take off in grass and very rudimentary airfield conditions, and that was what it was really designed for so that they could also go across the English Channel at low level, at high speed, and deliver their weapons on the European front. Anyway, they had already made the decision to go into production on the airplane. Well John was able to get with a Navy captain; a British Royal Navy captain, at the embassy here by the name of John Glenndenning and John got him a movie with the Harrier being flown and showing it's performance and he brought that movie in and he showed it to me, and it was rather startling to me that they'd gotten that far without any more notoriety than

they had because they had grown this Kestrel; the original P-1127 that did the first work - and by the way the first pilot that flew the P-1127 was still alive at that time - and so we had a lot of people that we could talk to. Anyway, I got this movie and they showed it to me. So one day when General McCutcheon was coming down and stuck his head in the office I said, "We've got a movie here I'd like to show you. Do you want to watch it now or after lunch?" He said, "Let's go have lunch and we'll come back and watch it." So I had the guys set it all up and when I showed it to him, well McCutcheon took one look at it and he said, "Well we better look into this more seriously". So I went to work at that time and got a hold of Metzko and I got with Glenndenning and had him come over, and we discussed the situation and what the possibilities were. Farnborough was coming up in September and this was in '68 - and I said, "There's a good possibility that we'll be going over to Farnborough and let's see what the possibility of some of us flying it." Well John Metzko had not been a so called test pilot and Glenndenning said, "Unless they've got test pilot background the Brits are not going to stand for anybody flying because no non-Brit had ever flown the airplane and most of the pilots that had flown it were all contractor pilots, a lot of them were former RAF. Well fortunately I had had the Patuxent background and there was one other officer on my staff by the name of Bud Baker, a lieutenant colonel, who had Patuxent background. So we got out our logbooks and we gave them to John Glenndenning and he started exploring with the Brits over in England of the possibility of us flying. Well he couldn't get a decision. The time came up for us to go to Farnborough and we went ahead with the idea that maybe we could, so we took some flight gear and so forth along with us.

Anyway, on the last day of Farnborough - I'm trying to remember the first pilot, I flew it with; well he's dead now. But anyway - he came up to me and he said, "Tom, we've got good news and bad news", and I said, "Well give me the good news first", and he said, "The MinTech" - the Minister of Technology is like the Department of Defense I guess here - "has approved you flying the airplane but they will only allow you ten flights each." Well hell, I almost gave myself away in laughter because we figured we'd be damned lucky if we got one or two flights in the airplane. So that really turned, the bad news turned out to be good news for us because ten flights each would allow us to pretty well explore the capabilities of the airplane and what we envisioned that it could be used for.

And anyway, to make a long story short, we did; we spent two or three days – they were having rains and floods in southern England and so we had a lot of time to sit with John Farley who was the head pilot of the program and had the most flying time in the airplane, and we went over every characteristic of the airplane and everything, and although they didn't have any trainers in those days (two-seat versions), he really fixed us up. So we worked that pretty well and finally got off in it. I still have 4,000 feet of the 16-millimeter film. We didn't allow . . . see we were in civilian clothes and prior to going over, my office had explored a British transport airplane. We were trying to find a replacement for our old DC-3s; the old R4D, and I had my office searching everything in the United States to find an airplane that would be similar in use but modernized of the DC-3 and we couldn't find any practical airplane in this country to move into that category. We ran into an airplane called an Andover built by the British and I had my people explore how we would go about buying an airplane from England and I sent this officer over to the Department of Defense to talk to the people in DoD about foreign procurement. Well the guy he talked to was some guy that [Robert] McNamara had programmed or had directed to find an offset in the United States for the British buying the F-111; the TFX. The British were going to buy some of the F-111s and we needed to buy something from them to kind of help offset it. Well this guy, he went berserk and somehow told the *Aviation Week* magazine people that the Marines were going to buy the transport airplane Andover from the British. Well again, Mendel Rivers, the all-powerful Chairman of the House Armed Services Committee picked this up out of the aviation magazine and he quickly got a call to the Commandant wanting to know, "What the hell is this; the Marine Corps trying to go buy an airplane from the Brits", and so I had to rush down again and explain to the Commandant that there was no intention. We were only exploring and we needed to know all the aspects if we decided to do that but we'd made no decision. So we knew we were on the hot seat so when we went over on the Harrier we stayed in civilian clothes and we told the Brits as soon as we got over there, "No publicity of our program. Don't tell anybody." Then when we wound up going to fly the airplane we absolutely forbid them to let anybody know that we were flying. There were two Air Force captains in the Ministry of Technology that were supposed to be following the development of the Harrier. They were not even told. So this thing had to be kept super quiet. The only

record that we allowed – and they gave it – is this 4,000 feet of 16-millimeter film I have that they took pictures of us flying the airplane.

Allison: From the outside, is the picture of the airplane flying or is it from . . . ?

Miller: Yes, outside. There are pictures on the airfield there in Dunsfold that shows us coming in and hovering and some of the wobbling and control of our first flights.

Allison: What was your impression of the airplane the first time you flew it?

Miller: The airplane was a lot like the A-4 Skyhawk, it's small. It's small and the thrust over weight ratio was pretty good on the Skyhawk; the A-4. So the Harrier was quite a bit like the Skyhawk except that of course the Skyhawk didn't have any vertical capability at all. So the power; the thrust to the engine, was so horrendous when I first flew the Skyhawk I thought, "Gee, this thing is overpowered". Because the engines were so powerful it made the whole airplane shake, you know, and well the Harrier was several jumps above that and of course the first flight we took in it was what they called "push-up". It was purely into the vertical mode.

Allison: The very first time you did it.

Miller: The first time. The reason we couldn't do the other flights is because we had very heavy overcast and the rains and we were waiting because our initial flights were going to be regular airplane flights; runway, takeoff, fly and get used to flying the airplane - no vertical stuff - come in, normal landing type. But since we waited and waited and waited the decision was made for us to go ahead and do push-ups and so I went out and I did the first push-ups, and of course explaining this was John Farley on what would happen and so forth because the airplane's characteristic was that as you add power you want to go to full power as fast as you can because there is a suck-down feeling on the airplane initially until you get about 12 or 15 feet above the ground and then you really go. It has to do with the vacuum that you create from the intake of the engines and the circulation of the air to the ground and

back on top of the wing. You have to get out of that suck-down period as quickly as possible. So that's the only thing that was really kind of astonishing because you would just think you'd just have a nice smooth ride. So anyway, before I had poured the coal to this thing it kind of shuttered and came on up off the ground and when it got about 12 or 15 feet off the ground, boy it took off. Well the trouble was it was a low overcast; about 300 feet, and I could see myself going into that overcast. The airplane was not designed to hover IFR [chuckle] and boy I was . . . and I couldn't pull off the power too fast because I was afraid I'd fall out of the hover and I got it stopped just as the cockpit touched the clouds, thank God. But then I spent the next, oh, 30 minutes I suppose mostly in the hovering and landing and then doing another hover.

Allison: It must have been a strange feeling? Had you flown helicopters at that time?

Miller: Yes, I had flown helicopters. But it was so totally different it just didn't resemble a helicopter at all. Once you're out of the so-called ground effect it's smooth and of course with a helmet there's no shake and vibration like you get in a helicopter. It's rather intoxicating in fact. John Farley called me on the radio and said, "Now Tom, it's time to come down. You can't stay up there all day!" [Chuckle] Well they worry about the heating effect that they get also in the aft fuselage since normally the airflow through the fuselage keeps the engine heat from heating up too much of the airplane, but if you're in a hover and you don't have any airflow around the airplane then the airframe of the airplane begins to soak up all that heat and so they don't want the airplane to get all that heated so they had limited times that they wanted you to stay in a hover, which it turned out that they didn't want you to hover over a minute at a time. Well a minute is plenty of time to hover because really the only reason you do that is to take off and land and so forth. The landing was a little bit trickier because you fly it at about the same speed you would in a Phantom on a downwind but as you turn onto the 90-degree you bring your nozzles back into what we call a "braking position". That's 18 degrees past vertical forward.

Allison: Yes, forward.

Miller: So it's a brake; it slows you down. And that's kind of weird because you pull this nozzle back and, boy, the old airspeed indicator starts coming back real fast and you've got to start coming forward on the throttle pretty fast because, first; as you're coming around the downwind leg you're in a kind of a moderate power setting and then when you pull that thing into the braking stop and that airplane starts slowing down real fast, well you're losing wing lift, you've got to make up with it with vertical thrust so you've got to come up. Well you come on around and about the time you hit the runway you're getting pretty slow and if you stop you'll start backwards, you see, because you're in a braking stop. So as soon as you get pretty much over the runway the first thing you do is to get the nozzles back into the vertical position. So that kind of a gyration was . . . of course there's nothing like it in the airplanes we fly here today or in helicopters.

Allison: Would that have been equivalent to like an AV-8 Alpha model?

Miller: I would say yes; it was not much different than the model I flew except that the AV-8A wound up with a bigger engine than we had.

Allison: That's one thing that always, you talk to Harrier pilots and you ask them about the thing that impressed them the first time they flew the Harrier and it was the power that they had.

Miller: Oh yes. Well the engine that was in the Kestrel was a 15,000 pound thrust engine. The one I flew was 19.5 [19,500 pounds of thrust] I think.

Allison: Which is more than a J-79.

Miller: Yes, oh yes. But this is, of course, no [after] burner. And of course the Pegasus engine is a fantastic engine but the 19.5 was what I flew and I was convinced then that you could do everything in it that you could do in an A-4 and I had a fair amount of time in the A-4.

Allison: You mean as far as maneuverability or ordnance delivery; ordnance carrying capability, everything?

Miller: It could do everything the A-4 could do. Now you see the argument that we were getting from this guy Russ Murray who was the head of Systems Analyses for McNamara, who was our major opponent, he had been an engineer with Grumman and he always philosophized by saying that any airplane that's got an engine that's big enough to lift itself doesn't have any cruise range to speak of. This is a theory that many of the engineers in the United States lived on for a long time is that you give up too much in range and lift carrying capability if you go vertical.

Allison: Right, yes.

Miller: I went over the data very carefully on the Harrier and I could go further on the same amount of fuel in a Harrier than I could in a Skyhawk and I could carry the same bomb load. Now I couldn't do a vertical takeoff with all that bomb load but I could take off in a couple hundred feet with that same bomb load vertically or almost vertically.

Allison: Yes, there's a tradeoff.

Miller: Yes, a tradeoff, or you could download fuel. It depends on what the mission was.

Allison: It gives you flexibility.

Miller: It just gave you so much more flexibility than the Skyhawk had that we wouldn't lose a thing by giving up Skyhawks and buying Harriers, not to mention this VSTOL capability that we had. So I left there just totally convinced. But knowing the attitudes in this country when you get a new airplane, well everybody thinks that pilots that get to fly the new airplane just go paranoid [in love] on them and they're just sold and everything so they take it with a grain of salt that the pilots that first fly airplanes on how they become so supportive of them. So Bud and I talked at great length that when we came back that we

were going to soften our enthusiasm and try to just speak plainly in total facts and not try to oversell it. And I think that paid off. There was the President's, what we call the PSAG; the President's Scientific Advisory Group, over in the White House. It was a group of engineers that the President had pulled in under his wing to go over weapons systems and this one was the Aircraft Committee and I was the Marine member to that committee, and they heard about me going over to England and flying the Harrier. When we got back here I got a call from this doctor that ran the thing and he wanted me to come over and brief him immediately. Well I hadn't even briefed the Commandant yet and I told him that. Dr. [Richard L. (probably)] Garwin – I don't know whether you've come across his name. He's pretty famous in the defense area from MIT. I think he was from MIT - and a Doctor Millard from MIT also that was on that PSAG group. But they were just glowing because they had just a high impression of the Marine Corps and the helicopter and hearing the Marine Corps was going to lead the pack now in the fixed-wing VSTOL, and you talk about support, boy, we really had the support of the PSAG over there.

Allison: Were they all military people?

Miller: No, they were all PhD's and engineers.

Allison: I see, but you were a member of it.

Miller: Yes. Well they had an Army representative on it as well as a Marine representative. They had a special group that handled aircraft problems. And we had an Air Force member and we had a Navy member and we had an Army member, and I was the Marine member.

Allison: And they were sold on the idea.

Miller: Oh yes, oh they were sold. They were the strongest pushers that you could be. Of course their say so didn't have a helluva lot to do with what the Department of Defense's decision was except it was good to have their support because naturally they had people over

in - Johnny Foster for instance - in DDR&E [Department of Defense Research and Engineering] of course listened to them a lot because he himself was an engineer too.

Allison: So coming out of that you see that's there's going to be more of a challenge selling the Department of Defense on the Harrier than it would be getting it through Congress and through the government?

Miller: Getting it through the government, I think, was our biggest obstacle because we thought we could sell it well enough in the Department of Defense with General Chapman's influence and all. Our problem was we had one guy in the Department of Defense who was against it and that was this guy that I mentioned a few minutes ago – it was the systems analyst guy; Russ Murray. [He] was against it all the way but General Chapman was able to get to Secretary McNamara to let us go ahead and put it in the budget. And when we got back here to DC in October, hell, our budget had already gone over to the Department of Defense and the budget was practically on its way to Congress and it wasn't in there, and General Chapman was, boy, he wanted it in that budget. Well he fought like hell; he and McCutcheon, and somehow got an agreement with the Congress and the Congress agreed to let us put the budget in as an appendices after the first of the year so it got put in the budget. But then we knew what was going to hit the fan was, here we were buying a foreign airplane and that's what we figured. Now Bud and I in discussing this thing; when we were trying to discuss where our opposition was going to come from, we figured that if we could get our industry in this country to support us that that would be a big jump on the Congress because they were very influential lobbyists for them up on Capital Hill.

Allison: Aircraft manufacturers you mean?

Miller: Primarily aircraft manufacturers. So I set up with their representatives here in Washington that we would be glad to come out and explain to them what we had learned from flying the Harrier to their company; Grumman, North American, Northrop. Bud and I went around and briefed them on our flights in the Harrier. And I was fortunately in fairly good graces with the McDonnell people because I'd flown a speed record in their airplane

and helped design it so they knew me quite well. And old man McDonnell was alive at that time and he, for some reason, took very much liking to me and so when we went out and briefed the McDonnell people – of course I knew his nephew Sandy McDonnell who later took over the company – a number of the engineers that I'd been involved with on the Phantom, we wanted them to listen to what we had to say and then I went up in the office with the old man later after I did the briefing and asked him - and we asked this of Grumman and the others - would they please write the Commandant a letter adding their support to our program.

Allison: But how could they support it? I mean they had to have an agreement that they were going to get some of the cut in the building or something, wouldn't they?

Miller: Well they didn't have to have a cut on the Harrier but what was the future. For instance, Northrop was probably the one that was the most closely involved because they had the XB-5A, which was the fan and wing VSTOL that crashed.

Allison: Yes, I remember.

Miller: You know the cable got caught in one of the fans and crashed. Link-Tempco-Vought [LTV] bought [it] and of course built the four-engine tilt wing VSTOL transport airplane and they were interested but they're all looking to the future. Now we're talking about something that's in being right now and we don't have to wait ten years to get it designed and built.

Allison: So they're sort investigating this technology?

Miller: Right, and this is what . . . Northrop . . . Tom Jones was a very close friend of Mendel Rivers, the Chairman of the House Armed Services Committee, and of course we had briefed Jones and his people at Northrop about the airplane and we asked Jones for his support. I don't recall whether we asked, I guess we asked him for a letter. I don't know that

he wrote a letter but Mr. McDonnell agreed and wrote the Commandant a letter that [said], I support your program.

Allison: That's interesting.

Miller: And I think this is the way . . . but the selling factor, I think, was Jones was back here in Washington and he and Mendel Rivers had lunch together and Rivers asked him, "What do you think about this crazy idea; the Marines want to buy this Harrier over in England," and Jones said, "I agree. I think it's probably a good step because," he said, "I can build it but it may take me ten or fifteen years and one helluva lot of money and I think the Marines are doing right. They're making a preliminary step and then we'll all be able to use their data to design a much better system, but this will help the Marines," and he supported it. I think that probably had more to do . . . that really sold us on the House side. I got caught with Senator [William Stuart] Symington on the Senate Armed Services Committee, Stuart Symington whose son was a Congressman from the St. Louis area and in the hearing he said, "Now Colonel, what do you think that my son is going to think of this," and of course what we had to do, to sell this program we had to find a way to come up with the money. We had to find some program that we were willing to give up to use the money. Well the cost of the first 12 or 15 – I forget, 12 I guess that we had to buy – was 58 million dollars. That sounds like a small amount for airplanes today but it so happened we had 58 million dollars in the program for some new F-4J airplanes coming out of St. Louis. Well we were going to take that 58 million dollars away from them and send it to England and he said, "What do you think my Congressman son out there in St. Louis is going to think when you guys take money out of St. Louis and send it to England?" I said, "Senator, I don't want to get into that aspect of the program because that's not my job. My job is to provide for the Marine Corps what it needs most and I would ask that you contact Mr. McDonnell because we have discussed the thing at length with him, he's aware of the program, and let him express his views." I never heard another thing from him.

Allison: Did he support it then, Symington did?

Miller: Yes.

Allison: But eventually McDonnell did get some of the manufacturing aspects of it, didn't he?

Miller: Well of course this is part of the approach I took with Mr. McDonnell because, see, they sold F-4s to Britain and then they maintained a supporting contract with Britain to support those F-4s over there and I said, "This looks, to me, like a typical thing in reverse now, and you all can get your finger in the pie on this one." I said, "I can't get into that. That's your industrial business." Well they knew this all along and I think they started immediately doing the paperwork on this thing and so we knew that McDonnell was going to grab onto this thing.

Allison: Were there forces in the Marine Corps that would oppose the Harrier at that point, either ground or air?

Miller: I would say there were forces that were less enthusiastic and it was fighter pilots. It's the pilots that think you've got to be able to go Mach II, carry big loads of bombs, and there was that initial reservation that all people [have]-even today there's opposition to the Harrier. They've marveled at the statement that I can counter with them. I can take an AV-8B today and I can put the same bomb load on it that you can put on an F-16 and I can carry it just as far and drop it just as accurately as an F-16 can. Now I can come back and I can land on a postage stamp and even on takeoff I don't need a 5,000 foot runway to get off. I can take off in 200 feet with that load. Now what's this business about you can't carry anything? And I could go further than I could go in an A-4. So the people that knew the performance of the AV-8B, now I don't know this for a fact but it's the feedback I get, that Desert Storm, of course I do know by fact that the Harrier flew more sorties and dropped more ordnance than any other airplane in the war. **[INTERVIEW INTERRUPTED BY PHONE CALL]**

Anyway, let me go back. The Harrier flew more missions and dropped more ordnance than any other type of airplane in Desert Storm, that's a fact. Not many people recognize that.

Allison: No, I didn't know that.

Miller: But I'm sure the DCS-Air [Deputy Chief of Staff for Aviation at Headquarters Marine Corps] Office there in Headquarters can give you all the details on it.

But now in this operation the word that I get back is that the Harrier has really made a name for itself over there and I hear people that are wondering with eyeballs, the Harriers and the Cobras work together. And on targets where the Cobras were too vulnerable the Harriers were there to take them on because of their speed and maneuverability, and they were landing and refueling from the same pads that the Cobras were. And so they traveled right along with the ground troops. And here's the Harrier, it's a fixed-wing. Well this is what the theory of close air support has always been., [and why] the VSTOL thing-- again, this goes back to the McCutcheon theory of the 30-minute response time and the flexibility. Now what I'm going to say--and I don't mean it because [General] Jim Jones was a very close friend of mine and I knew his uncle very well, General [William K.] Jones, who was my boss for a short time in the Pacific--but Jim Jones was - and I had the utmost respect for him and I still do - but Jim made a decision here. He had been the Deputy to [Secretary of Defense, William] Cohen of course and I can imagine he's pretty well engrossed with this jointness activity that everybody at the DoD level has, you know, that everybody wants to be joint. The first question that I would ask in jointness is, "Would you put TAC [tactical air command] and SAC [strategic air command] together? What would you gain? You would destroy their unique capabilities of each of their skills if you tried to mesh. What good would it do to take a fighter pilot from TAC and put him in a bomber that has a totally different mission?" Well there's that much difference between Navy aviation and Marine aviation. Their mission is totally different. General Jones doesn't recognize that and neither does Secretary of the Navy [Gordon] England and in the interest of jointness he programmed ten of our fighter squadrons; committed them, to Navy carriers.

Allison: TAI; Tactical Air Integration.

Miller: Okay. This is disastrous because a Marine squadron on a big aircraft carrier – now I’m talking big, not an amphibious carrier, a big aircraft carrier – is totally useless. There is no way in hell it can meet a 30-minute requirement to support Marines.

Allison: Even if the CAG [carrier air group commander] would let them do it; even if the CAG would let them try.

Miller: Well first, the closest air we got with a carrier in Desert Storm was 300 miles. They got into the Persian Gulf finally but they were still 300 miles from where the Marines were fighting. Well even if they had been 50 miles you still can’t make a 30-minute requirement because the carrier first has got to turn into the wind and it’s got to fit with its rotational squadrons, and people that have ever done any experience on an aircraft carrier know this but Jim Jones hadn’t had a chance. He didn’t ask anybody and he made the agreement up at the Secretariat level in the interest of jointness.

Allison: Do you think it was forced on him though? Does the Navy have that much leverage to force something like that on the Marines?

Miller: Oh yes, the Navy’s got an awful lot of leverage mainly because the Navy is probably one of the President’s most important military forces. I say the Navy likes to tell you, “What is the first question the President asks when he runs into a conflict on earth? Where are the carriers?” I agree. I’m not downgrading the Navy at all and if I was a naval officer I’d be doing the same thing they’re doing, so I’m not downgrading the Navy at all. And the only reason we’ve operated on carriers up until this time was it started, of course, in World War II in the Pacific where we were island hopping. There was no land whatsoever to even have an airfield and we didn’t have any airfields even where there was enough land.

Allison: So the Marines had to get on the carriers.

Miller: So the Marines had to be on aircraft carriers and then there's always the feeling that the first force to an area of problem is going to be the carriers. Well that may be true but not today. If you've got a VSTOL airplane you can TRANSPAC or TRANSLANT and be in Afghanistan long before a carrier can ever get off of Pakistan and in Desert Storm we had squadrons a week ashore in Saudi before the carriers ever got there.

Allison: Harrier squadrons?

Miller: Yes, so Jim just didn't think this out. And as you say, maybe it was forced onto him. I don't believe any other Commandant before him would have allowed it to have been forced on him.

Allison: But General Mundy opened the door by having three; allowing what was it, three or four?

Miller: Congress forced --we were dedicated to two. General Wilson was --boy; if you mentioned this I mean he would just go purple with rage. He didn't want a Marine squadron on any carrier. He said, "We support our Marines and that's what Marine air is for and we didn't get in here to support the Navy." Well I didn't believe in that. I believe that we've got to be compatible with the Navy. We need to have our squadrons carrier compatible so that we can go aboard and there's no doubt in my mind that we can go aboard just as quick or even faster sometimes than the Navy squadrons. And we've always shown that we can perform equally as well as the Navy squadrons can but here about -- I don't know just how many years -- five or six years ago since I've been retired, the Congress forced us to put two more squadrons so we were demanded four. But what they did is they -- and I don't understand this because--well I do understand it-- there's a lot of politics involved in it -- but they cut the Navy squadrons to the point that they couldn't fill the carriers without four Marine squadrons. That's what it came down to. I've never understood; the Navy you see downgraded this OP-05 office -- it used to be a three-star billet - they downgraded the head of naval aviation to a two-star billet. Well hell, he can't even get into the head meetings at

the Secretariat level in the Pentagon. Because the three-stars and up are the ones generally set in those.

Allison: You would think that naval aviation would have more clout than that.

Miller: Yes, and well we knew when they did, Mundy you see was Commandant when that happened and I went to Mundy immediately and I said, "I know the jealousy of the Navy and the Marine Corps, and they certainly don't like a Marine being senior in the aviation field to them as the head. That happened with me. Wilson made me a three-star and then about six or eight months later they put an officer into the OP-05 billet that was junior to me and Jim Holloway who was CNO at the time, boy, he was not going to have any thought of that so he very quickly changed him. You may remember the name Forrest Petersen who flew the X-15 and he was a test pilot. He became a three-star and the head of naval aviation but I was senior to him. He lasted just a short period of time and Holloway brought in "Fox" Turner who was senior to me, who had been Sixth Fleet Commander over in the Med. So they're very sensitive. Well I knew that the minute that they downgraded that to a two-star billet that they were going to be honking on the Marine Corps to reduce their aviation billet to a two-star. I went to Mundy because when I was Wilson's Deputy I had pointed out to him why it was so important for the Marine Corps to have a three-star in that billet because back years ago it was a three-star and then it got downgraded when the ground agreed to always make the Assistant Commandant an aviator and it was a three-star billet at that time.

Allison: As Assistant Commandant.

Miller: As Assistant Commandant and that's when they did away with the Air FMFPAC you see. There used to be FMFPAC and AIRFMFPAC and LANT and so there were four commands where today there's only two. And so they gave up in order to get those stars and then they downgraded the DCS-Air job to a two-star. So while McCutcheon had it he was just a Major General. I was the first three-star back when Wilson got it put back to a three-star [and] well now today we used to provide a brigadier at least over in OP-05 as the

Deputy to O5. Now they have a two-star admiral as the deputy to our three-star aviator in Headquarters Marine Corps.

Allison: Yes, that's right.

Miller: So things have kind of flip-flopped. But ever since they reduced that billet the Navy planning in aviation is just, well it hasn't gotten the support and I don't know whether it's because of the lack of the rank or just the quality of the people that are running it.

Allison: One thing you hear people say about the Harrier, the reason that it's had problems and safety issues and not deployed different places as people say that it should, is it's not supported financially, is that true?

Miller: That's true.

Allison: And why is that?

Miller: Well it comes out of the naval aviation budget.

Allison: Blue dollars.

Miller: The naval aviation budget supports it. Naval Air Systems Command runs that and they're oriented to the Navy.

Allison: And the Navy doesn't fly it and they don't fly the Harriers.

Miller: And I hate to say it – and this is just a personal view – the people that we've put in the jobs of DCS-Air have not been qualified enough in the background of the problems that they are really responsible for. They don't, for instance it appears to me that the DCS-Airs of the last three or four years don't have much to do with Naval Air Systems Command. When I was there the head of Naval Air Systems Command, as far as I was concerned,

worked for the Commandant just like he worked for CNO. Well as the Commandant's representative I kept a sharp eye on [Naval Air Systems Command]. Fortunately I had worked in BUAIR in the Phantom program so I was fairly familiar with BUAIR or Naval Air Systems Command. But as far as I'm concerned those guys over there work for me and if I found them not supporting something, I was on top of them. The Osprey went through that same problem. They don't get the support over there because why spend the dollars for the Marines if we can get it.

Allison: The Navy's not getting anything out of it.

Miller: And our Marines over in Aviation in the Marine Corps did not keep their rolling pin over the top of those guys in NAVAIR to support it properly. Now I know that's being very critical of them but this is a game in Washington and you've got to be on your toes.

Allison: Those are Navy dollars to support the Harrier.

Miller: Well naval aviation dollars. Congress gives it to us for naval aviation. But they control it now. There are wonderful things that can be done with good sharp Marines over there. The Marines first that are on duty over there must have full support of Headquarters Marine Corps Division of Aviation and Division of Aviation needs to look at those guys over there as their representatives to keep things going right. And if they can't get it done internally they need to come back to Headquarters Marine Corps and then let the head of Marine aviation work it out with the admirals over there.

Allison: At Naval Air Systems Command.

Miller: But unfortunately the people that have held those jobs have not ever had previous experience. The last one that did was Harry Blot. Back a ways, probably eight years ago. Harry was a fixed-wing and he was a Harrier pilot; test pilot, that did the thrust vectoring concepts with the Harrier, that did all the things for that. But that's the problem and they just have not supported it now. Of course fortunately the Osprey got into the newspaper

headlines so much that that problem in my view – and this is just my own personal view again – is that too many people looked at the Osprey as a helicopter. Well the Osprey is more like a helicopter than a C-130. The Osprey is more of a complexity of the C-130 than any helicopter and the technology that's in it; the specifications that the airplane was built by were helicopter specifications. Well what happens when they put a high performance airplane hydraulic system in an airplane using helicopter specifications? To explain what I mean, I don't know of a helicopter that has greater than a 2,000 -pound psi hydraulic system. The F-18 fighter airplane has a 5,000 pound. Nearly all hydraulic lines today on most airplanes are titanium because they're light and they're very strong. The only problem is they're very brittle. And so the mounting specifications in the bending and the mounting to the airplane are much stricter on a 5,000 pound system than in a helicopter with a 2,000 pound system. Well they treated this 5,000 pound system in the Osprey like it was a 2,000 pound system in a helicopter and that's what caused the failure in the last . . . that grounded the airplane at Camp LeJeune; a hydraulic line broke in one of the engines. The thing that complicated it even worse was that the computer system – and this country is nuts on computers - and they've got a computer in there that's supposedly--you're warning comes on upon system failure and the pilot punches a button that says, "Computer takeover", and the computer readjusts things to overcome the failure. Well it has three hydraulic systems. In the Phantom and the F-18 - all modern fighter airplanes all have three hydraulic systems - and with the thing properly programmed one system will run the whole airplane. But this computer program was designed to cut one system out and let the other two systems run it. The only trouble is the software in the program when the computer was wrong, it put the other two systems 180 degrees out of phase so if one did something the other one countered it and then the pilots couldn't take over manually, so they lost control of the airplane and there wasn't anything they could do about it. They couldn't even get the computer cleared out of it and handle the hydraulic system themselves. So that's just an example.

There are other things about the way the airplane was designed and it was designed by Bell, a very capable helicopter manufacturer, but they hadn't built high performance airplanes before. Then the Marine Corps made the mistake of putting 17 ground troops in a test flight in the airplane to prove some of its tactical maneuvering way ahead of the airplane even going through its pilot training program. We've always, in the aircraft development –

and I say we, the Navy and the Marine Corps – have always gone through--after it went through the test pilot phase at Patuxent you got into the tactical proving of the airplane. Before you go into this tactical proving of the airplane you start a pilot training program for the pilots that are going to be doing all this and during that phase the pilots are learning and you also learn some of the idiosyncrasies and the problems of the airplane during the time these pilots are learning to fly the airplane. They hadn't even started that program yet and they put these Marines in this thing with some of these highly experienced pilots – they're highly experienced because of helicopters but they didn't have fixed-wing experience of any great degree – and there's only one pilot kind in the Marine Corps that is really qualified to be doing the Osprey and that's a Harrier pilot because it's a hybrid airplane. It's an airplane that flies with two different methods of lift. That's the only plane we have that flies under two different methods of lift. So the experience level that you've got for pilots to go into the Osprey program really should come almost completely from Harrier experienced pilots but instead they're all helicopter people and that was one of the major fallacies. So yes, these are natural errors and of course this is just one old guy's views at it but I think if you looked at what they've done, now they've put Harrier pilots into the test program at Pax River. The HMX is the tactical exercise tester for what we call COMOPTEVFOR, which is the Navy command which does all this tactical experimentation with the airplane once it's developed. Well HMX is under their umbrella for doing this. HMX really wasn't the qualified outfit to be doing it because they're all helicopter again and they were the ones that pushed putting the Marine troopers in it. And then the pilot, the mistake that he did, there's no question it proved, he far exceeded his known no-no's of what he'd been briefed not to do so it was purely a pilot error and it had nothing to do with the airplane. So it's very tragic. All the crashes, the only one that can be attributed to the airplane was the one that had the hydraulic failure in the computer. The first crash; the one they showed so much on television up in Philadelphia where the thing gets up and then goes to wobbling and it crashes, that was because a GE electronics guy hooked up the flight control system backwards. Now fortunately no one was killed.

The airplane where they were killed here at Quantico that came up from Florida had been down there for cold weather training. Before they started to come back here they were inspecting the airplane and they found an oil leak in one of the props on one of the

propellers and so they were told to change a seal. They changed the seal except the mechanic put the seal in backwards. They didn't notice it of course and then flying up here, since they flew a non-stop flight, by the time it got to Quantico enough oil had seeped out of it into the cowlings that when he rotated the engines it poured this oil into the intake of the engine and the engine exploded. Again, it wasn't the airplane's fault. So there was only one accident out of four that could be attributed to the thing and so the airplane just got such a terrible name.

Allison: Does it have the same problem with the Navy funding it that the Harrier did?

Miller: Absolutely, it's even more serious, and again, I fault DCS-Air. He wasn't monitoring the program over there like he should be. Now there's a Marine running it. That Marine was either derelict in notifying him, if he was having trouble getting funding for it he should have come to the DCS Air to take it up at the higher level.

The F-35 buy, and they [the U.S. Air Force] may be going to buy a lot more of the STOVL versions than the straight versions.

Allison: And they weren't going to buy any before.

Miller: No.

Allison: I wonder why; because of the need for close air support that they're seeing?

Miller: I think Afghanistan woke them up because they couldn't participate. They couldn't get an airplane.

Allison: There were no land bases. They didn't have an airplane they could land like the Harrier.

Allison: They're just now getting F-16s up in Bagram, aren't they?

Miller: Yes.

Allison: Just now? That's the first after over a year.

Miller: You know it's--what is I guess -- and it's just my theory -- I used to call it, we as old timers used to call it, "Blow and Go". Pilots that are, all they're willing to do is go high and fast. Well war isn't fought today up in higher altitudes even as much as it did in World War II. It's a lot closer to the ground.

Allison: Is there still--you had mentioned that some of the opponents of the Harrier were some of the fighter pilots that had this mentality. Is that still around today? Was it around after World War II?

Miller: I've gotten eight or ten e-mails from guys who were always very skeptical. A lot of these guys thought I was completely nuts in the halls of Headquarters because I was pushing so hard for the Harrier and it makes me feel very good because they're all admitting that it's the wave of the future for the Marine Corps.

Allison: And they're former fighter pilots?

Miller: Yes. The one, the most interesting which happened, he converted sometime back, was a fellow by the name of Mike Sullivan.

Allison: I know him.

Miller: Do you know Mike?

Allison: Yes.

Miller: Mike, as you know, was in the 2nd Marine Phantom squadron. He was in [VMFA] 531 that came from Cherry Point, they were the first Phantom squadron into Da Nang in

Vietnam and Mike was in that. Well he used to just give me hell. He was a colonel in Headquarters Marine Corps when I had DCS-Air. He was the roving inspector that went around to all the wings and flew with the people and checking on them but his job was here in Headquarters and he would just give me hell all the time, “Why do you want that little ole peanut airplane? The damn thing, it can’t do a whole lot of anything.” Well when Mike left, I guess when he became a brigadier, he became a deputy wing commander I believe it was and he went out and flew the Harrier and since then the Harrier is the only airplane [chuckle]. Mike did a 180-degree reversal. But these that I’ve been getting here recently are the ones that have listened to the ground and the people that are coming back from Iraq and were in Desert Storm that are just now praising. The problem, again, was this--the thing that hurt it mostly, even around the Desert Storm time, was the engine problem that they had and Rolls Royce didn’t do a very good job and finally – I’m not sure who was responsible – but they finally rattled Rolls Royce’s cage and made them get in and fix the engine. I know General Jones when he was the Commandant wrote me a note and he said, “You’d be very proud to know we’ve got the engine problem licked now”, and he was always very good about keeping me posted on the Harrier.

Allison: Another problem too, isn’t it, as far as working in an expeditionary environment was the tendency for it to get foreign object damage; FOD damage?

Miller: Yes, but again that’s a pilot responsibility, on how to combat the FOD. The thing that is dangerous with FOD is you have to be able to use what we call a “rolling takeoff.” It’s best explained and exhibited in snow. For instance, if you’re landing in snow, if you come down in a vertical decent the snow comes up around you and you’re on instruments, you can’t see anything. So what you have to do is when you get down and the minute you start stirring up the snow you start slow movement forward, the same way on takeoff. If you’re in an area where you’ve got FOD problems you start a slow roll and then come on up with the power

Allison: You don’t go full power right away?

Miller: No you don't because you stir up the stuff. It will suck up anything. The amount of airflow into those intakes are fantastic and that's, of course, one of the big problems that you have with this so called blow-down effect is the suction from there tends to take the hot air and suck it back into the engine; the hot air from the engine and reduces it's thrust. So on conditions, there again, it's important that you roll fast enough forward that you leave the hot stuff behind you and you leave any debris that you stir up behind you rather than in front of you. But again, that's pilot technique and that can pretty well always be taken care of. It's definitely something you have to watch out for. I flew an F-86 in Korea. My brother - I'll say that because he's like a brother, closer probably than a blood brother - is John Glenn the astronaut, and he got an exchange billet with the Air Force and was flying F-86s from a field just south of Seoul and I was in a joint operation in Seoul. I got a couple of Air Force captains to get me approved to go down and check out in the F-86 and John, of course, being in the squadron as the Operations Officer, he worked it and he chased me on my first Mach I flight in an F-86 where I got it 42,000, straight down, full power to go Mach I [chuckle]. Anyway, the F-86 had screens and you had a switch and when the airplane is on the ground you had those screens down and that would not allow any foreign object to get into the intake of the engine.

Allison: These came across the intake?

Miller: Yes, it strained anything coming in the duct. The only thing is it reduced some of the thrust of the engine of course but fortunately not enough, now it might have been critical if you'd have been at a higher altitude but at more or less sea level there was more than enough thrust in the engine that the screens--then of course just as soon as you got up off the ground far enough that you weren't going to pick up anything like that you hit the screen switch and you could feel a little bit more surge in the engine. Now why somebody didn't try screens, maybe they thought it would reduce the thrust too much but I think it would have been worth trying anyway and testing.

Allison: One other thing that you had mentioned in our telephone conversation the other day, you mentioned that Keith McCutcheon, but also General Chapman, were probably the

most important individuals for the development of the Marine air/ground team or setting the course. What were you referring to as far as General Chapman goes?

Miller: Well the Commandant of course, I don't think the Commandant could have been more supportive. Now whether it was due to General McCutcheon's education for Chapman in Aviation --but on the other hand I always felt that General Chapman was very attentive to aviation support of ground and that he would do anything to help aviation if it could do a better job for supporting the ground. And I think it was General McCutcheon of course that brought him into the technical area of the VSTOL and the responsiveness; this so called 30-Minute Rule, and General Chapman agreed with that 100 percent because when I briefed him, after I came back from England I briefed him on the Harrier and what Bud and I had found out and it was done there in the Headquarters; in the briefing room, and I was standing there on the stage. When I finished General Chapman said, "I think that's just the machine we need. Let's get on with it." So it was obvious that we had his total support. And how much influence McCutcheon had in forming his opinion or how much of his opinion was that he sought, he had the foresight to be able to see what it could do for the ground Marine. Again, to this day, I think this thing in Iraq that showed where the people are so marveled that here you've got a Cobra and a Harrier refueling in the same spot right behind the enemy lines, to be there to support those guys, and they can be on them so quick. It has its own self-starting capability.

Allison: It's just fast.

Miller: And it has its own oxygen system so it's got everything. You don't have to support it. It's the answer and I'm just hoping that the F-35 -- whatever they're going to call it -- there are some things that the Harrier can do that the F-35 won't be capable of doing. It bothers me a little bit but the guys seem to think that they don't need it.

Allison: What would that be?

Miller: High speed maneuvering in flight.

Allison: It won't be able to do it?

Miller: No.

Allison: I thought it could.

Miller: No, once it's in flight you don't open up the vertical landing capability.

Allison: Oh, it goes pure conventional fighter then.

Miller: Once it's airborne it's a pure conventional fighter attack airplane whereas the Harrier can thrust vector and it can beat any airplane in the air if you get into a dogfight.

Allison: Ok.

Miller: That's right. Well the British proved that in the Falklands. They shot down every enemy airplane that ever approached them and they didn't lose a single airplane to an air-to-air battle. They lost airplanes to ground fire but they didn't lose any to air. It is an airplane that's vulnerable to ground fire, there's no question about that. From an IR missile the airplane is a big target because you've got, see the IR comes from hot metal, not necessarily hot air but hot metal. Well you've got those two nozzles that are right in the middle. The two aft nozzles are hot air and they're big metal things that are just hotter than hell and that's right where the missile is going to go, whereas in the F-18 all the hot metal is inside the afterburner in the tail end and it will go up a tailpipe but you can't shoot at it from a forward aspect of it.

Allison: Right, and even if it does . . . I mean that happened in Desert Storm that an F-18 was hit with something that blew its tail off but it kept flying or something like but there were few Harriers that went down.

Miller: Right.

It's my view that McCutcheon's and Chapman's recognition of this responsiveness to the Marine on the ground is our Number One chore and anything that tends to reduce that effectiveness is not the way you need to go. You've got to keep your eye on the Number One mission and that's supporting the Marine on the ground and as you look back, the helicopter's been a great savior but we went dead in the water for 40 years and General McCutcheon used to say that the helicopter is only an interim vehicle. Now that's the foresight he had. He is considered the father of the helicopter in the Marine Corps by many. There were many others of course that flew it first and did things like that but he was [noted] as kind of the father of the vertical development concept and he used to say, "I just hope people don't get hooked on this airplane or this helicopter because its purely an interim vehicle to aircraft of much higher air performance as years go by." So here we are.

Allison: Here we are. I've never even heard that before. It's always considered to be an interim vehicle.

Miller: The Osprey is a result of that. He embedded that thought into me so much that when I was G-3 of III MAF; when I was Director of Operations out there; it would just break my heart when the division would report we had a patrol that got overrun and the helicopters didn't get there in time. Well you know, again, response time; 30 minutes. There's no way you could crank up a helicopter at the field at Da Nang, at Marble Mountain field, where all the helicopters were and get them out of sight of Da Nang in 30 minutes.

Allison: Yes, only if they were already airborne and happened to be in the area.

Miller: That's true, but generally they don't have the troops on them or the war load that you have on them. Our Phantoms could get there but in the jungle they were kind of useless because sometimes even the Willy Peter marking rounds couldn't even be seen through the jungle, you know, in the trees. So I came back, as I said, when I was out there on my first tour and was commanding the group; the Phantom group, the fixed-wing group, McNamara's group came out on a visit and he wouldn't ride in the CH-46. He wanted

Hueys because he could see better out of a Huey than he could a 46, so we had to download – I say we; the helicopter people – had to download the guns off that we used for gunships off the Hueys so his crew could ride in them out to these various things. We had no medevacs during that period of time. It was about a two day period - it was fairly short – but we had no gunship helicopters to go with the medevac helicopters to go out and pick up wounded and that’s just so--when I came back that was one of the first things. I went back to General McCutcheon and I said, “We’ve got to have a gunship that you can’t carry passengers in”, and McCutcheon, as you know, said, “What’s your recommendation?” I said, “Well, the only thing I see on the horizon is the Army’s got some Cobras. Let’s see if we can’t buy some of them”, and he says, “Okay, go get them.” Well finagling we, again, “What do you Marines want that you didn’t get?” “We want some helicopters,” and we got them. Congress has given us every program we’ve got except for the F-18. Of course they’ve given us that but the F-18 went pretty much along the regular procurement lines because it went through the process. Everything we’ve gotten; the twin-engine, as I’ve told you, we got for the Huey and the Cobra, it went around DoD. Congress gave it to us. The AV-8As, they gave them to us. We needed more RF-4 ‘photos’. We couldn’t get them through DoD. The Congress gave them to us. So every program we’ve done has come from the Congress, not from the Department of Defense.

Allison: It’s got a really good reputation from Congress. I mean when it comes to close air support the Marines speak the gospel, right? Isn’t that what they think in Congress?

Miller: Absolutely. And of course Senator Glenn, he keeps telling the people at Headquarters, as we went down and went over this TACAIR integration with General [Michael W.] Hagee; the new Commandant, and explained to him . . .

Allison: You and Senator Glenn did?

Miller: Yes, Senator Glenn and I went down and spent about an hour with him to explain what was going to be the impact of General Jones’ decision of giving the TACAIR to the

Navy. Now the Navy you see will not let Harriers fly off their big carriers. I don't know whether you know why.

Allison: Something about their operating cycle; that cycle of operations; cyclic ops or something.

Miller: No. The real reason is back in my day when Senator Hart . . .

Allison: Gary Hart?

Miller: Gary Hart, he was following [Admiral Elmo] Zumwalt's theory of little carriers. Remember Zumwalt wanted a bunch of little bitty carriers. Well Hart did too and Hart used as his reasoning now, "You don't need big carriers because you've got airplanes like the Marine's Harrier that don't need big carriers", and they are stuck on that.

Allison: They're paranoid about that.

Miller: And they are paranoid and they think that VSTOL will kill the big carriers. But the big carrier has nothing to do with VSTOL. They could show-- if the Navy did their homework they could show that their sortie rate from the big carrier could triple with a VSTOL airplane. They don't have to turn into the wind. They don't have to do a lot of the cycling around. Hell, I watched a movie with three Harriers landing on a helicopter carrier at the same time.

Allison: That will help your sortie rate.

Miller: Sure. If they do some studies, they just don't. But they're so paranoid that they're afraid they're going to lose [the big carriers]. Because we did it here with a Harrier squadron on a carrier in the Med, a regular six-month tour.

Allison: Oh you did? I didn't know that.

Miller: And when they had this rising up in Somaliland [Somalia] and they needed air support the only carrier airplanes that could support it were the Harriers.

Allison: Oh, and so they put them on the big carriers?

Miller: We did a regular tour; a six month tour, on a big carrier. That was before they became paranoid on it. Then the report was printed and it was so good. The captain of the ship briefed in Norfolk and the Norfolk admirals told him to quiet it. Well he got called to Washington to brief the CNO and when he was coming up General Wilson was invited to the briefing and General Wilson was taking me, and I asked permission to call the squadron commander up and have him go with us since he was aboard the ship and he had been in the briefing in Norfolk. He was not apparently aware of what the admirals had told the captain of the ship about his briefing. Well the first thing, he was startled when he saw the Harrier squadron commander in this CNO briefing and he came over to him and he said, “Joe, don’t spill the beans on me but I’ve got to change my briefing”, and so he briefed and he downplayed it significantly. Well Tyler; the skipper – I think his name was Tyler – went back to the Commandant’s office and Tyler went and explained to him what kind of briefing he gave in Norfolk versus the one he gave the CNO. The written report was never released by the Navy. It was a total success. They had one airplane take off, it had a mechanical problem, turned around and landed going in the opposite direction [chuckle]. They brought airplanes aboard during the fixed-wingers [landing and taking off], and all kinds of things that just made it a total--and the captain of the ship, he was sold on it.

Allison: Did they have regular conventional aircraft or was it all Harrier?

Miller: Oh no, it was just one squadron of Harriers with the regular conventionals.

Allison: Oh, okay, and they were able to mix them; the operations?

Miller: Just a regular Med deployment.

Allison: But they mixed the operations where they'd have conventional going on one side of the deck or one end of the deck?

Miller: Oh yes. They didn't have to make any special considerations. In fact they didn't even have to have what they call a "Ready Deck" for catapult landings or launching because even if they were just passing the time and didn't even have the launch crews or the catapult crews aboard they could still bring the Harriers aboard. So, you know, it was just a shame and I tried for years to get that report but I never could get my hands on it.

Allison: What carrier was that, do you remember?

Miller: I believe it was the *Yorktown*. I'll have to go back but Harry Blot, who's retired down in the North Carolina area, has all the history on the thing and he knows it.

Well listen, I appreciate it.

Allison: I'll let you go.

END OF INTERVIEW

SESSION XI

Interviewee: Lieutenant General Thomas H. Miller, USMC (Ret.)
Interviewer: Fred H. Allison
Date: 10 and 13 January 2006
Place: LtGen Miller's home in Arlington, Virginia

Allison: Sir, could you describe setting the speed record in the F-4 Phantom.

Miller: When I was at the Navy War College in 1957, that's when the Russians put the Sputnik in the air. That was a big slap in the face of the world. Working on this airplane, [Captain] Jeff [Davis, USN] and I were called over to the head of naval aviation, all of naval air, he wanted to know how many world records we could take with this airplane, we were the project officer on, in an attempt to regain some of the prestige we had lost. Jeff and I went to work and we worked about 12 world records we could achieve with this airplane. So they picked the ones that were the more prestigious and the 100 and 500 [km] speed records were the top ones, more difficult for the Russians to equal. Jeff and I then worked up all this technical data, how we could win the record. In presenting it to the admirals—fortunately both Jeff and I had flown the airplane, we had been able to get approval for us to go fly the airplane out at Edwards when it was being tested. When it came time for these records, we convinced the admiral that it would be very good if the two project officers had flown some of the records. In our dealings with the engineers this would have much more value, they would listen to what we say because we had flown the airplane. They approved it, Patuxent got mad as hell about it, the admiral called up the admiral at Naval Air because normally they fly all the records with the pilots who are there. I happened to be in the office briefing him about the airplane when the admiral at Patuxent called him and was raising hell, it was kind of funny. That's how we got to fly the record.

Allison: But you had flown it before at Edwards.

Miller: Right, they had 2 or 3 of them out there in tests. I checked out in it late one afternoon. The next morning they had promised to have one of the airplanes at the Navy

gunnery meet going on down at Yuma. So let me take the airplane to Yuma, on my second model.

Allison: This was the H model

Miller: Yes, the F-4H1. When I called the tower at Yuma to come in and land, the tower wanted me to make a speed run across the field. I felt as long as they requested it, I did [it]. We had a problem with the airplane in the early phases, PIO [pilot induced oscillations], you had to watch it, it starts pitching and [you] lose control of it. I had to limit my speed, I didn't want to get into that. I crossed the field in miles per hour just a little bit under the speed of sound. Then I came back with landing gear and flaps down and came in and landed.

Allison: It had the J79 engine in it?

Miller: Yes. Originally it had the engine that was in the A-4. They pulled that engine and put the J79 in.

Allison: You didn't have a backseater in there did you?

Miller: No, all the instrumentation to verify the record was in the back seat.

Allison: What did you think the first time you flew the Phantom?

Miller: Oh I was very impressed with it. Of course I had flown the F-9. It was out in front of the F-9, speed and handling, it was just a pleasure to fly. It was fast, those two J79s in afterburner will really get you up there.

Allison: What did the F-4 handle like on that speed record?

Miller: You don't do much handling except for the turns. The problem is, anytime you turn, the sharper the turn, the more you reduce your speed. When I went in [the speed run] I was

about 1.7 Mach, I had just dropped the last 600-gallon tank. I was the first pilot, I guess, who dropped a 600-gallon tank at a super sonic speed. They were quite concerned. Admiral Pirie called me on the phone and said, 'normally we require contractors to do these first flights. I want you to really understand that its strictly up to you if you're willing to do it.' We needed the information, it could tell us how close we could hit the entry at the highest possible speed. We wanted to go in the starting point at above Mach II. But because of the wing tanks we had to delay, because we couldn't drop them super sonic. The thing then was I had a fairly short distance to the starting point, and I carried the 600-gallon, centerline, supersonic. I was somewhere up around 1.5 when I finally dropped the big tank.

Allison: This was a triangular course.

Miller: Yes, 500 kms, or about 310 statute miles. You make one lap around it. The starting point was a mountain peak that stuck up just west of Edwards. It went up to Lone Pine, it was geodetic survey point, then it went out into Nevada, just in the southern tip, called Desert Butte. Started out going north, then east, slightly north. The final turn was the bad one.

Allison: What altitude were you?

Miller: I entered at 37,000, that was the altitude that the engines were most effective. I never got below Mach II on the first turns, it was a little less than 90 [degrees]. But up here it was about 135 degrees of turn, I sure didn't want to lose it, but I had so much turn to make it was tough. The temperature in the cockpit was getting pretty hot, up around 130 degrees. That's the reason I had to fly the record in an orange flight suit. I couldn't use a pressure suit and go higher, I might have been able to get a higher speed if I went higher in altitude. Because of the temperature in the cockpit, we could not use a pressure suit. Anytime you fly above 40,000 feet you're supposed to wear a pressure suit.

The engineers had different colored paints that run at certain temperatures. So the airplane looked like a zebra with all these colored paints on it to determine what the temperatures were at different places on the airplane. Of course the leading edge of the

wings was the highest. The windshield had to be changed once, because the visibility was beginning to change. They had a camera inside, they photographed through that, where they had a bunch of lines, the lines begin to not run straight, and change the reflection because of the temperature.

Allison: How many runs did you make.

Miller: A total of 7, I believe. We tried different things. We even tried running the course in an opposite direction. We didn't think it would make any difference, and it didn't. So we went with the winds, naturally coming west to east, so going around clockwise was the only way to do it. You're coming down in fuel, getting lighter and I'm getting faster all the time. I'm convinced that the Phantom, I don't know where it would stop accelerating. The guy that flew the 15 km, that's the high speed record, they had to slow him down, because he was getting up to the area the wind tunnel tests showed you would lose lateral and longitudinal stability of the airplane, it would come apart. You never know if you put the Phantom in afterburner at 50,000 feet, straight and level it would just keep increasing.

Allison: There were no indications of instability when you were flying it?

Miller: No. The altitude record was at 92,000 I believe [actually 98,560 feet].

Allison: I can't remember the speed restrictions on a centerline tank is but I'm sure it wasn't 1.5.

Miller: The chase plane that was chasing me when I dropped it said that if he had blinked his eyes when I dropped it, he would never had seen it go. It just disappeared. You would have thought that tank at that altitude would have gone a helluva long way, but in fact it went less than 3 miles, it just literally stopped. Not very aerodynamic. I flamed out rolling out on the runway at Edwards. One time [prior to the speed run] I had flamed out in the air and managed to land it at Edwards. I had been up to 2.3 in it, it was still accelerating.

Allison: You were one of the first Marines to fly the A4 weren't you?

Miller: I'm not sure if I was the first or 2nd pilot to fly the A4. I was in a squadron at El Toro and heard we were going to be the first squadron to get the A4. So they had the fleet induction trials, FIP trials, you take a couple of pilots and an enlisted group of about 20 and you report to Patuxent normally. Patuxent's runway was under repair at the time so they didn't want to load up Patuxent with the FIP trials, so they moved it to Quonset Point, Rhode Island. One other pilot and myself went up there, and we were the first Marines to fly it, unless Bob Barber who was a Patuxent test pilot flew it.

Allison: What squadron was that?

Miller: VMA-224. There was a squadron on the East Coast, one of the pilots from the East Coast was Bud Blass, he was an enlisted pilot before he became an officer. He was the executive officer as a captain, on Majuro of one of the SBD squadrons. He was a character. He had a big heavy mustache. He could fly, there was no question about it, one of the best pilots I ever observed. He led one half of his squadron and the CO led the other. The SBDs in those days always flew in 3 plane diamond formations. Bud would always come into the field with all his 'V's stacked up above him, of course he was in the lower group. He would roll over, pull down, roll back [up], drop his gear and flaps, come in and land—like a split-S, came down, turned 180, come in and land. As he rolled he split the flaps, then rolled 180 degrees, then put the gear down. It was a sight to behold. I was surprised his skipper would let him do it.

Allison: Sir, could you discuss changes that were made in the budgeting process, between the Navy and on to Congress, for Marine aviation and how this helped Marine aviation get some of things it wanted?

Miller: McCutcheon and Chapman, the Commandant was upset because we were having this fight each year with the Navy and we weren't able to get anything in. The reason we couldn't in those days, do anything about it is because the budget went from the Navy to the

Secretary of the Navy. He naturally would approve what the Navy submitted, we couldn't get the Marine thing in there. We couldn't go to the Secretary and say, 'They didn't let us put it in, we didn't have a leg to stand on. The thing that changed the way we submitted it, is we submitted our budget in writing and gave a copy of that budget to the Secretary of the Navy, in writing [showing] what our requirements were. Then when you testified before Congress, they would come up and say, 'Now general what did you guys put in for that you didn't get?' We couldn't say anything because it would be undercutting the Secretary of the Navy. We had to have in writing something that said what our initial requirements were. That had never done before. Thereafter, at the same time we submitted our requirements to the Navy to put in the budget we gave it to the Secretary of the Navy, so that we could answer in Congress, 'Yes, we told the Secretary of the Navy but he opted not to give it to us.' The only reason you can do this, is you put it in writing, yes this is our initial requirements. That's what changed.

Allison: You often were involved in the Congressional hearings yourself, wasn't that kind of unusual, as a lieutenant colonel?

Miller: McCutcheon, due to my background, in college at the University of Texas, while working to stay in school, I got a job as the assistant Sergeant of Arms on the Senate floor. That was merely a doorkeeper and I managed the pages that ran around, the rest of the time I stood at the door. I approved who came on the floor, then when a senator motioned that he wanted a page, I would get him a page. But I watched politics in action. I had a feel as to how politics worked. I felt that the road for what we needed was going to the staff of various Congressmen and Senators because their staffs work up their positions. So, when I became head of Marine aviation, I held an annual breakfast for the staff of the Senate and House Armed Service Committees, staffers, using two levers for each one of the committees. We presented what we were going to go to the Navy with for our requirements. Long before the budget went over. They've already been told what we're going to ask for. And we said, if there's something that's not going to sell, then tell us. So we were in pretty good position when we went to the Navy. No matter what the Navy did we had a pretty good feel for what the staffers thought. Even before we got this re-submission, the copy to

the Secretary of the Navy, this was already on track, the staffers were aware of it. That's the thing I think that had more to do with us being able to sell our programs. The first where it came about was in the EA-6A. There were only 12 EA-6As built. Dr. Fubini convinced the Secretary of Defense at the time it was a waste of money. The Navy decided, well if it's a waste of money, then give it to the Marine Corps. Since we had been flying the F-3D, as an EA-3, it was so limited in speed and altitude, it couldn't even stay with the strike airplanes. But we had the most experienced enlisted people in handling electronic warfare. The Navy had the EA-3 which was a big two-engine job. Their jamming capability was standoff jamming. They felt they could handle standoff by increasing the power of the jamming transmitters, they could stand off at a further distance, they didn't have to be with the strikes. That won't work, side lobe degradation on an antenna in those bands of frequencies is just fantastic. In other words, if you get 20 degrees off the main [beam], I don't care how much power you put in there, you're not going to be able to jam it. That means if you're going to jam, you've got to be with the strike airplanes. If the enemy's going to shoot at the strike airplanes, you've got to be with them. You've got to get into the enemy's beam, if you're not in there, you're not going to jam them. We tried to tell them this. This Dr. Fubini, I often wondered how he got his doctorate, but jamming in those days, in the Vietnam War was paramount. They were getting the top-notch Russian missiles to shoot. We needed more than 12 airplanes, well put them in the budget, the Navy wouldn't begin to do it. The data we were getting on the effectiveness on our 12 was so outstanding that they were convinced and started building the EA-6B. They thought if we went in the budget for more EA-6As, it would kill the EA-6B, so they wouldn't approve it. When we went to Congress one of the questions that was asked was what didn't you get that you put in for? Gen McCutcheon testified that our data showed that the EA-6A was so effective, that we needed the thing right now, we can't wait for the development of another one. Well the Department of Defense, systems analyst for McNamara, Dr. Enthoeven, he killed it, at the Defense level. It went through Congress, we had already briefed the staffers about what the requirements were, and Congress came through and gave us the money. It was \$106 million for 15 more EA-6As, they were cheap in those days. That was the first battle we won where we had everybody against us, and it was all because the staff had fully understood our requirement. They had not turned it down in our breakfast. He gave me complete full run, I was his

AAW, weapons systems. You think how many generals would turn loose a colonel or a junior officer to go fooling around up on Capitol Hill with a free run. Part of that was McCutcheon's style, and my style. When I wanted to do something I would brief him. He didn't like to eat in the general officers' mess. He like to eat real fast, if he went down to the Commandant's [mess] he'd get involved in discussions, a lot of chatter. He liked to come by my door, he had to pass my shop, and he'd stick his head in and say, 'You want to go to lunch?' And I would say, 'Yes sir.' Whatever I did, I stopped and went with him. Well when we would sit there eating our lunch--he didn't talk much, he was very quiet. I would say, general I thought you would want to know what I'm doing and I'd pretty well brief him on everything, figuring if he doesn't want me to do it, he would tell me. Then the theory behind that is also, if what I did fouled up, and got him in hot water, it was me. I did it, because he never approved. That kept him clean. We had one or two occasion this way, but fortunately we came out, with the Commandant saying, "Congratulations but lets not do it this way again." It was on the Huey, the twin-engine package on the Huey.

There was a supplemental called over to the Assistant Secretary of Defense for Procurement as to what we needed that we could put in the supplemental. Well I put in this twin-engine package for the Cobra. The meeting was called at 4 o'clock in the afternoon. There was a Navy captain that represented the Secretary of the Navy. The Navy presented what they wanted in and I presented what the Marine Corps wanted in. Tom Morris was the Assistant Secretary of Defense at the time. The twin-engine package got put in the supplemental and sent to Congress. Unfortunately a fellow by the name of Ken Ballou, who had been the Undersecretary of the Navy at one time, was working for Lycoming as a lobbyist. He saw this changing of engines in the Cobra from a Lycoming to a Pratt and Whitney. Oh he blew the whistle and this thing came firing back. Pratt and Whitney was up in Canada, they had built it up there. We had been working with Continental on it but Continental wanted so much money for their little twin engine package, it was a nice package, but they had so much money on it, they wanted to write off all their previous development costs. So we went with this Pratt and Whitney package. So the stuff hit the fan over that. We got called over to Mendel Rivers. The Assistant Commandant, Lew Walt. They sent Lew Walt, this is part of the politics, Lew Walt had developed quite a name, for what he had done [in Vietnam]. So instead of the Commandant going over to talk to Mendel

Rivers because Mendel Rivers admired combat men, I went over with Walt to talk to Rivers. When he came in, boy it was obvious to me we were in for quite a battle because he didn't sound the least friendly at all. Finally, Walt said, 'Miller, explain what the reasoning is for what we have done.' And I went through pretty much as we had presented it to his staff. I told him, 'Mr. Chairman, your staff was well aware of all this, and if you talk with them they can give you the details.' We got through it. He said, 'alright, I understand what you're doing, but we've gotta do something to help the poor people in this country, we've got all these people up in Appalachia that need jobs. Tell Pratt and Whitney, or United Aircraft, you tell them I'll let you have 25 engines, but any more than that have to be built in this country. The only way you can do that is to build a plant.' So they built a plant over in West Virginia somewhere. We got our engines. That's when this thing hit the fan and the Secretary of the Navy hit the Commandant.

Allison: You knew Lyndon Johnson too, did this help you in these political dealings?

Miller: No, the only gratuity I ever got from the Vice President, later President was a card for me and my wife to go sit in his gallery in the Senate anytime we wanted to go. He had known my father, I met him when I was about 12, 15 years old. He was right out of college, he was going to Washington with our Congressman, who was married to a King Ranch daughter. He would always stop in to see my Dad as he would travel from Kingsville to San Antonio to catch an airplane to fly to Washington. He stopped in and he had Lyndon Johnson with him, and he was just a tall, lanky, real young looking guy. My Dad would holler out [to me], 'Come here, Mr. Dick has got someone he wants you to meet.' Of course he introduced me to Lyndon Johnson. When I reminded him of our meeting at the Glenn parade, (Glenn spoke at two sessions of Congress, there was a luncheon held on the State Department roof that followed that, and of course my wife attended that) I went into the head, and Lyndon Johnson was in there, I said, 'Mr. Vice President you probably don't remember me, but you probably remember my father, my father was a lawyer in George West, Texas. He had been county judge and always affectionately called Judge Miller.' When I said Judge Miller, he slapped me on the back and said, 'I will be goddamned, you're the Judge's son!' After that, anytime he saw me, he remembered me. When the Secretary

of the Navy later on held a dinner there at his quarters in the Pentagon, I'm standing over talking to Gen Greene who was Assistant Commandant, and another general officer, maybe the Commandant, Johnson comes over and says, come here Tom, I want you to meet Lady Bird. You can imagine, here a lieutenant colonel being called to by the Vice President.

Even before that though, I had met him. When Glenn's flight into orbit had been cancelled, that's when he came out [to our houses], Annie wouldn't let him in. In the movie it shows the Vice President just going in a tantrum when Annie wouldn't let him in. That was not so. The guy wrote it in his book too. See this is what made me mad. The guy that wrote the book was wrong. First he had all the wives down at Langley. Annie Glenn lived right here when John orbited. When Johnson came out to call on her, he came out because he was worried [about] the strain on her, he came out to tell her, no matter how much we cancelled, we're not going to let it go until everything was right. He thought that would relieve her. When he started to go in, well the press started in. She said, Mr. Vice-president, I'm sorry I can't let you in, the press is going to come. Johnson made a kind of motion, like, I'll come on in, they won't. When he started in, boy they started a bunch of cuss words and all, [like] 'Mr. Vice President you can't go in this goddamned place' and using foul language and all. The Vice president said to Annie, 'Well, ma'am I'm not going to impose on you, I apologize for what the press has done here today. I just wanted to let you know we're concerned, but everything will be all right.' I walked with him out to his car, in fact he even stopped and petted my dog. The Glenns still have that picture, it was a black lab. I walked him to the car and I told him who I was and he said, oh I've seen you on television. Because I was on television so much, every time you would get these cancellations, the press was here, cameras all around the street. So he kind of knew who I was by the television. The president's aide had come to me and asked me to be the aide to the Glenn family.

Allison: It was later on when you told him you were Judge Miller's son.

Miller: Yes, really that's why he reacted so quickly, because he'd seen me before and didn't realize. He had a very soft heart, I've seen him almost cry at times on television. Like the

poor people in Appalachia, that's why the effort from the Executive Branch to do something for the poor people in Appalachia. That's how this engine deal came up.

Allison: His soft heart too is why possibly he fought the war in Vietnam the way he did.

Miller: He inherited Kennedy. Jack Kennedy brought in that civilian/political circle, [which] McNamara was [part of], of course. So, he inherited it. [I participated] later in a study called 'Night Song' that got McNamara fired. President Johnson asked the chief of staff, he said I want to know, why the air war is so ineffective in Vietnam. I was in Headquarters in AAW. The JCS instigated this study to answer the president's question. The reason I got selected was the clearance level you had to have in order thoroughly investigate it. The reason my clearance level was, weapons systems, involved in so-called black programs. I had to have special intelligence rating. I was the only one in Headquarters Marine Corps other than the Commandant and my boss, you had to get in the general officers ranks, to carry that clearance, so I was a member of that. There were two Marines on it, myself and this Marine who had been on the joint staff. There were 6 or 7 members all together. That study required us to go to Southeast Asia, go to every level of command with the idea of asking, what caused our air war to be so ineffective. In the research in going through the Secretary of Defense's files, we found 16 letters or memos telling him what was wrong with the air war. Those were written to the President, but McNamara had only allowed one to go through. They were all in his files. We went out there, we were in Thailand, next to Cambodian border, and all the CIA operations that were going on out there, we went through all this getting all the data we could get. When we came back we put all this in the study, as I said it was called Night Song. All through the study we referred to [the] letters that were written to the President by the joint staff, we put them as an annex to our study, knowing that all this would be sent to the President. When the President found out that McNamara had not been fair and open with him, it wasn't a week after that study got to him, that McNamara was out.

Allison: Who wrote those letters.

Miller: They were from the joint staff, it was the JCS who forwarded these things. They were in a quarterly type report, it was written supposedly addressed to the President, but McNamara had only allowed one go through. We knew that the only way we could get them to the President was to put them as an annex to this study. We knew he would see them then. Because it was terribly embarrassing. What had been said time and time again that's all we had to do, is what we put in our report, they had nailed it. McNamara I tell you, he couldn't be more of a traitor to our country. He did explain his theory one time, we're going to lick this guy [the North Vietnamese] but we're not going to slaughter him in doing so. Well the military thing to do is to get to the enemy as quickly as possible to let him know he can't win. Well that was not the theory, that was anything but the theory of McNamara. He was just going to let him run alongside him in a race, he wasn't just going to run away with it. That was his theory of war, he didn't understand military conflict at all.

Allison: So McNamara rather than Johnson is responsible for the poor prosecution of the Vietnam War?

Miller: Oh yes. It was already done, 7 years in Vietnam. Gosh, that thing could have been ended in a month or even a week or two, much like Desert Storm. Unfortunately every time the damn politicians get into it, this is what's happening in Iraq. You've got every congressman is a general over there. John Murtha, that shocked me. I can't imagine what he was thinking, this guy Kennedy, all the rest 4 or 5 Senators there. They couldn't do more to damage the country.

Allison: This sort of is about leadership, for you, what's most important?

Miller: I go back to McCutcheon, he set the course for people that worked for him, then he got off their back. He let them go, don't tie them down so much. To be conscious of your responsibility to those you work for. I tried in McCutcheon's case to take the course that allowed him to know what was going on, but not getting approval. Approval by silence then allowed him the flexibility of his own position. I don't know how you stir that into leadership, but I think its so important in leadership of giving people that work for you,

giving them what you want done, spell it out to them, then don't ride their back. They don't want to be told, let them show some of their own initiative, you've got to give them room to show their own initiative. A perfect example is Jack Dailey, quiet, not outspoken. He worked for me two times. In the remarks he made, when I was going to be the honorary chairman, announced that one of the traits [I gave him] and he appreciated more than any other was that I gave him the direction and things that I wanted, then I didn't harass them, [they] marched off and were allowed to do things on [their] own. You have to look at the total picture. You've got to be looking ahead, you've got to think what you're doing is not getting your boss in trouble. The people who work for you, you have to control them enough that they don't get your boss in trouble. You have to make clear to the people who work for you, just keep me informed.

SESSION OF 13 JANUARY 2005

Allison: We were speaking of leadership the other day, what Marine officers served as a role model for you?

Miller: Marion Carl was role model as a flyer. I thought that Marion Carl was the best pilot I had ever known. He did things everybody would kill themselves if they tried it. Like flaming out in a jet somewhere around El Toro, flying into North Island, he flamed out about 70 miles north of San Diego, and he managed to dead stick that airplane at night at North Island,

Allison: What kind of airplane was that?

Miller: I think it was an F-9. But can you imagine losing your airplane at night and [doing that]? Of course he was very familiar with North Island, it was not instrument weather, and the lights were obvious as to where you were. But any other pilot would have just bailed out. Somebody said one time he had over 9 accidents in his career. At Patuxent he flew into the trees, he was very badly injured, but he recovered. The fact that Marion Carl went into the trees at Patuxent, everybody knew about it.

Allison: What other Marine legends can you speak to?

Miller: John Smith, to young people had the appearance of a Marine aviator. Of course John got himself in trouble, he acted with authority he didn't have, it got him trouble. He was more or less later kicked out of the Corps. He would make remarks that were inappropriate about certain general officers things like that. When I was in flight school John L. Smith came in talked to us, more or less in basic phase. We all went to the gymnasium John L. Smith stood up there in his green uniform, he was just back from Guadalcanal. Just his appearance was, here's a real Marine. I followed his career all along, I thought it was wrong, he would have made a good general officer. He had an ego, he was strong.

Allison: How was Marion Carl as a leader of Marines?

Miller: Marion was dedicated to aviation. He didn't think that alcohol mixed as a pilot. He was very much against people drinking, I don't know but I seriously doubt that he ever drank. He was seriously dedicated to flying. He did things as a general officer that were inappropriate. In hearsay that came to me, when he reported to Da Nang as the Deputy (III MAF?), he went through himself some of the colonels' lockers, most all of them had refrigerators, and came out with [a policy]: no drinking in quarters. In those days there were no restrictions about it. Now, that could have been done in a more flexible manner. That caused him to get a reputation that was inappropriate. Another thing, he got in trouble with the Commandant. He later was made Inspector General of the Marine Corps. He had the team that went out for the IG inspections. Again this is hearsay. One time they were up in Iceland, Marion had his staff that was with him. While they were running the inspection, he went off hunting, he was a dedicated hunter. The word got back to the Commandant, here's the Inspector General off hunting while his team is doing the inspection.

A: Who was the Commandant then?

Miller: Probably Greene, not for sure though.

Allison: What do you recall about Les Brown, he is a name often heard.

Miller: Les was senior to me. He was a very close friend. He and Jay Hubbard were just like brothers, they went to school together. Hubbard's voice got him in trouble. He said things in public that got him in trouble, but most people agreed with him 100 percent. It all had to do with Anderson, E.E. Anderson. The aviation community, they knew that Anderson was pulling deals in Headquarters, even before he was Assistant [CMC], when he was head of Manpower. This made a lot people real upset, the deals he was pulling. He had people he was pushing to come up in the Corps, which most of the aviation community didn't think were worth a tinker's damn. This was just the reputation he had. Jay expressed those views openly and quite often. I think Hubbard decided on his own to get out, I don't think he was kicked out, but he knew he wasn't going to go any further. Jay was a fabulous aviator, whereas Les Brown was just an average aviator. Everybody loved Jay Hubbard, you'll find that out there in the California community. That museum out there (the Flying Leatherneck museum), Jay built all of that, that's why they wanted to name it [after him], before he died, he made them change the name, he wouldn't let them name it after him. It's going to be one of the better aviation museums. They've got good leadership. Les was a bit more polished in expressing his views, he was a very fine officer and an average pilot.

Allison: It seems to me that Roy Geiger had this vision that Marine aviation exists to support the ground troops, would you say that McCutcheon picked the flame up from him possibly, passed it to you, who would you have passed it to?

Miller: I guess I would have passed it to John Cox (without pulling some inappropriate shenanigans like Anderson was doing). Bill Fitch is another one, Bill White, I was not a strong believer in Bill White's skills in flying. Bill had eye problems, I think as an aviator he was just, as I recall he was later grounded for a medical situation. Bill didn't have the flying experience I thought, enough to make him DCS/Air. He was really not familiar with high performance aircraft and to my knowledge never had any duty in Headquarters, not enough background in my opinion. Fitch in my opinion and Cox—Cox got in trouble, at

least from my hearsay—he flew too much and the Commandant didn't think a general officer ought to be flying that much. Before he was sent to take over the Wing at WestPac John went down to MAWTS, which he had essentially built, and flew all the airplanes, they had helicopters, he felt that the Wing commander ought to be flying with the various squadrons. I think it was PX Kelley, he didn't think he should be flying and this hurt him bad. How that was passed down, when he should have been going up. The jump from two star to three star is a real major jump, because the Commandant really picks the three stars. There is no selection board for them. It comes about by assignment to jobs, if you're assigned DCS Air, you automatically become a three star.

Allison: In reviewing your transcript, you did not talk much about the time you served as the executive officer of VMA-224, in the late 1950s.

Miller: When I took over the XO of the squadron, I came from the job of Special Services of the air station. I was working everything I could do to get out of that station job, because that's a killer from a promotion point. Rank wise I came into 224 as XO. When I went in Nate Peavey [phonetic], Walt Sullivan were in the squadron and the squadron commander at that time was [Francis] Ken Coss. Ken was a latecomer to aviation, he had been on the ground side. From all feelings he got into aviation primarily because of the pay, I don't think it was a desire to fly, just better pay. Ken was not a very good pilot and he knew it. It was kind of a touchy situation. Here I am XO and my reputation as an aviator was considerably better, and I thought it best I stay as low key as possible. I liked Ken Coss and he liked me. When I got passed over for colonel, (he had moved down here from Newport, Rhode Island), he came to the door and was crying, to tell me I had been passed over, that's how much he loved me. Anyway we went on as far as my reputation in the squadron, the guys respected me. We were having a gunnery meet and the CO was expected to be the leader of his team, but Ken was smart enough, his desire to be rated the best squadron, the best scores. Ken unfortunately couldn't hit the side of a barn in strafing and things like that. So in many instances, Ken made me the leader of the team. I don't recall whether we came out leading or [VMA] 314, Hap Langstaff had 314 at the time. He had a fellow by the name

of Hutchins who was just fabulous with his skills and a couple of other pilots who were just phenomenal.

Allison: You picked up the first A-4 for the Marine Corps didn't you?

Miller: Yes, he picked me to be the head of the FIP. I took about 25 enlisted people, Nate Peavey and myself to go back on the FIP. He liked me, even though I was passed over he gave me this.

Allison: Why did you get passed over, any idea.

Miller: Yes, I know why I was passed over. I was in BUAER at the time and Gen [John T. "Toby"] Munn was over there, and I went over to see him, I had known him very well. I asked him what could I do to be picked next year. He said, 'Don't you worry.' I went to Gen [Arthur F.] Binney and he told me the same thing, you just keep on doing a good job and we'll see that the wrong is corrected. So that gave me some good feeling, here are general officers telling me not to worry. I understood and I think they knew what happened. In those days they handed out the jackets, they just dealt them out like a stack of cards. The guy doing my jacket was a colonel, he hated aviation, and what he did was give me the lousiest briefing he could give me and not be too inappropriate, but it was almost obvious to members of the board, even though it was supposed to be secret. I had a member or two tell me it was obvious. But this guy was trying to save a spot for a ground person rather than an aviator.

Allison: How common was that to have ground officers flat out bias against aviators.

Miller: I think it was quite often. Trouble is you've got a board of six ground and three aviators and the ground side could vote in anyone they wanted.

Allison: What about in the Marine Corps in general, that you would have friction between air and ground and did it get better over time?

Miller: Yes there was friction. I would say its pretty much disappeared today, and thank goodness. The ground is finally waking up to we are Marines. In the past there was a feeling on the ground side, we're the true Marine. It was started back in the days when there was no aviation and aviation was added later. There was some ground people who fully recognized that aviators were Marines. But there was some so-called gung-ho infantry, who believed infantry was it, that was it. Even the supply, artillery, mechanized people had that problem, it was more pronounced with the aviators. Our aviators who got promoted were those who dealt very closely with the ground. This officer that just recently retired, he got promoted because he had a group of helicopters, a colonel, group commander and they worked closely with the infantry. When he came up for promotion, the aviators believed he was not a true aviator because he flew helicopters.

Allison: So you have a prejudice in aviation against helicopters.

Miller: Oh yes. That started out it was really bad, fortunately today that doesn't exist at all. In fact to show this, when I was DCS/Air, I tried to point out to the fighter guys, that they were not necessarily the top dogs in aviation, because first of all, in combat the helicopter guys were right down in the fight. In flight school, 50% of them [new aviators] ask for helicopters. So, its pretty balanced.

Allison: When you talk about different type aircraft that ground Marines will support to bring into the Marine Corps, is there a difference. Has the whole VSTOL concept reduced the friction between air and ground?

Miller: Sure. Fortunately all this is disappearing. The Cobra is recognized as a fighter/type helicopter. With the Harrier, a helicopter pilot's background is totally unsuitable for putting them in a Harrier. Most people recognize that the response time for a helicopter is not required to be as high as for a fighter, and the Harrier of all the fighter airplanes is one that requires the pilot to be the most skilled in high performance airplanes, because of its thrust to weight ratio, it is a very dangerous airplane for low skill pilots. That's one of the reasons,

when I had control, did not allow any helicopter pilot to go into the Harrier. I would tell them why I had turned them down. Their chances of getting killed were much higher and I just didn't want to be a part of it, and I think they understood it.

Allison: It seems like that kind of an airplane would cement the loyalty of the ground to the air.

Miller: In Desert Storm and Iraq, the ground sees the Harrier as their greatest saviors, because they saw targets that the Cobra wouldn't get into. But the beauty of this is that the Cobra and Harrier people would work as a team. If a Cobra pilot saw a target too dangerous for him to take on, sitting on the same ramp, which might be a place on a highway, he would say, 'Your target buddy.' That worked so well, and the ground people saw this happening. I think today the ground is really pushing for the Harrier. That's why we have such total support in the Marine Corps for the Joint Strike Fighter. My worry is fighting the fight to get the Joint Strike Fighter with the VSTOL version. We get total opposition from the Navy, they don't want VSTOL on the carrier and someday that's got to go. They're just blind, they can improve their carrier operations 100%. Gary Hart scared the Navy, the admirals today were junior officers aboard carriers in the day when the fight was on with Gary Hart [the Congressman from Colorado]. He was pushing small carriers, you could buy a lot more small carriers with the Harrier aboard. That's why we got so much opposition and it exists today. This was when I was DCS/Air. I went over and sat down with him. I talked to him for almost an hour. My approach was, Congressman you seem to believe this in opposition to the Navy. If you believe it so strong, let them have a squadron on it, let us give them a squadron of Harriers, and let the young pilots decide what is good for the Navy. But he wouldn't do it. Bob Dunn was OP-05, head of Naval Aviation. I offered to him one squadron, for his young pilots to fly, AV-8s. He wanted to do it, we had agreed to do it, but the admirals at Norfolk killed it.

Allison: There is still a real bias against the Harrier in the Navy.

Miller: Oh, still to this day.

Allison: Can you clarify why you were working with Gary Hart on this?

Miller: He had an advisor, Bill Lind, who's a total idiot. He went to school and studied German warfare, he's a great believer in armor. Bill was for the small carrier and he convinced Gary Hart. First it was far less expensive, you didn't need these big carriers when you had VSTOL airplanes operating off the small carriers. Hart still is for small carriers, his comments today come out. Lind thinks he's God's gift to warfare. This stuff in Iraq, how Congressmen will listen to people like that, he won't even ride in a helicopter.

Allison: Of course the maneuver warfare really caught on in the Marine Corps.

Miller: That's Bill Lind's so called specialty.

Allison: While you were still in, was there moves going on to get aviation more integrated into the ground?

Miller: Yes, I was trying my best all the time. I had to hammer on some heads, some World War II aviators who [believed] the name of Marine aviation was made by guys who shot down Zeros. They thought supporting the ground was not important, our fighter pilots they were there to shoot down opposition from air. They didn't have much thought of getting down there in grunt society and fighting. Every time I got indications of that, I opened my mouth, our number one mission is to support the ground in any manner that they needed. Most often, to support their lives is to get to them in 30 minutes. That came out of studies done in [Quantico] 3 wars—World War II, [Korea and Vietnam]. I most noticed it in Korea. In World War II my squadron was sitting in Majuro. In Korea it was different, at the squadron I saw the need better in the joint operations center. I was put up there as the Marine target picker. Our manner of close air support is different, silence is approval. The Army loved to call for Marine air.

Allison: When were you in Korea?

Miller: In May 1953 I went to the JOC. When I finished my tour in the squadron, no more than 3 months. I flew 106 missions in 91 days. There it showed Marine air support for ground. Marine air, fixed wing, propeller driven airplanes provided most of that support. The jets were located way down at K3, they had to fly over 200 miles to get to the guy on the ground who's hollering for support. In [VMF] 323 we were just south of Seoul. They had a wing headquarters at K3. [Gen Vernon] Megee received permission from [Major] Gen [Glenn O.] Barcus [USAF] for Marines to let Marine air to pick targets on its own. That direction from Gen Megee to set up Wing headquarters staff to take on this added responsibility. On the Wing staff then, two officers from the G-3 and myself from the G-2 [did this]. I had been picking the targets already from G-2 from the intelligence reports, to rate the target by its importance. He got this all set up and it was working real well. Gen Megee felt we needed somebody working in Seoul at the Joint Operations Center to pass on these targets, coordinate it with the Air Force, so that we didn't get in trouble. I went then and spent 6 months in JOC. There is where I saw joint operations. It was the best joint operations you've ever seen. Everybody there, the Army, Navy, Air Force, British and Australians, they were all right there. Nothing was done without everybody agreeing. At about 4 o'clock everyday we briefed the next days operation. Gen [Maxwell] Taylor [was there]. That's one of the reasons, sitting there watching our Marine air versus Air Force support of the Army, the difference, it was so obvious it was almost embarrassing. I just kept my mouth shut and kept on working.

That was the big change Megee got worked out. In the early stages when the JOC was running everything, without any Marine influence. That was his agreement with Gen Barcus, to let the Marines operate under the direction of the Marine general. Unfortunately we didn't have a single Marine commander, over Marine air and ground. This is why it was very quickly after Korea, that Marines went to a single commander of all Marines in the fight. In Vietnam, if General Westmoreland wanted the Marines to do something, he had to first come to the overall Marine commander for air or ground. The Air Force tried to change this situation, and we had a real fight. In 1970, that's when they tried to change air support. I went out there under specific directions from Gen McCutcheon, (my job was to be the G3 of III MAF) to get the 'single manager' thing thrown out, not from the Commandant but

Gen McCutcheon. We wrote up a change on this Order 92 or something, that Mommyer and the people in Saigon had written up, to change it to say, give the Marine commander 'direction control.' In other words don't tell us what time, just what the target is and what damage you want on it. Don't tell us what airplane to fly, in other words, don't write the FRAG order, we'll write the FRAG order. This was to get us back in full control.

Allison: Was it during Korea that so many pilots changed their perspective on what their job was as a fighter pilot?

Miller: I think Vietnam probably. I think Korea was causing it to change, but we were cut out of the air war in Korea, that's why this feeling stayed on, this fighter pilot mentality. Marine air got very rare instances, while under Marine control to counter enemy air, because the Air Force had control of it. Vietnam, more than any other, where there was no fighters, no enemy air, that's where Marine air supported the ground. Through that period of time, these hard-nosed fighter pilots saw the importance of Marine air.

Allison: You still believe there is a need for high performance fighters in the Marine Corps?

Miller: No question, but that also comes through the kind of airplane you fly. Unfortunately single-mission airplanes are unacceptable. So airplanes, like the F-4 had to be capable of bomb dropping. An example today, the Air Force started out with this F-22, with no mention of any kind of an attack capability, strictly a fighter. They quickly saw the light at the end of the tunnel, Congress is not going to give them a single-mission airplane. They quickly said, we're going to drop bombs from the F-22. Having that as part of the airplanes we buy, through all the hearings and everything, we make it very clear that the Marine Corps mission is dual mission, fighter and attack. That causes the pilots to think more about ground operations. This operation today, there is no enemy air. In the early first stages of any battle, there is most likely going to be enemy air. That's the first thing we do with Navy or Air Force air is to destroy any enemy air. But it hasn't lowered our requirement, the first stages of any battle; you have to consider there will be enemy air.

Allison: Is that why you supported the F-14, you need a fighter capability and it was the state of the art fighter of the time.

Miller: I thought the Marine Corps should have stayed in the F-14 because it could drop bombs. The Navy thought it should be just a fighter, its like the Air Force with the F-15, it started out purely fighter, and they suddenly find out its good for attack. In my opinion I think the Air Force made a mistake going with the F-16. The requirement is there for a fighter airplane. There is no country to speak of that's going to have any significant air power. In this type of warfare we're in today, there are no fighter airplanes. The only chance [of that happening] that any small country [to get them] would be for them to purchase them from Russia. Russia will certainly maintain a fighter capability. You can't get caught with your pants down.

Allison: Do you have any comments on developing the expeditionary quality of Marine aviation, MWSS [Marine Wing Support Squadrons], SATS [short airfield for tactical support]?

Miller: I don't recall fighting any battles, like that, because with VSTOL, the SATS requirements, of building a 4,000 foot strip disappears. It was very important in the early stages, in the McCutcheon concept that all Marine aviation would be VSTOL, and this changes the requirements of the long strip. Now they will generally operate from existing strips, that might be there, but the real case is, Marines can support Marines from a very short pad. So we don't have to go through the production of the SATS strip, when you see the time and expense of putting in a SATS strip, its not only expensive in money but also time. But we'll maintain that capability.

Allison: Any thing on wing support squadrons [MWSS].

Miller: I think its very necessary, you do need the facility because you can't operate from a boat, as a major support base back up you can maintain one ashore. If the ships are close

enough, the ships can be your main base. Our concept is three base concept, the main base, a major pad and the little bitty pad.

Allison: There has been lots of changes in Marine aviation social life.

Miller: Well Marion Carl's emphasis on no alcohol have carried through. I don't think Marion expressed his views toward religion and anti-alcohol, I don't think they were related. He just thought alcohol didn't work with flyers because of what it did to your body. Why send a pilot that's boozing it up into the sky. A lot of that comes from the kind of flying he was doing, the testing. He flew in the rocket airplanes, the E55-8 (?).

Allison: Didn't Marine aviation have a reputation of being the rowdier bunch.

Miller: Yes. The Air Force saw this much sooner than the Navy. Carrier aviation, we're the best pilots in the world because we land aboard ship. For Marines, not only had the ship experience and association with the Navy, but they were out living in the tents and doing the same thing as the Navy, so we were even more so. This is what Marion saw and he was trying to get the Marines off of drink. The way he went about it hurt him so bad and hurt me, because a lot of young Marines thought highly of his skills as a pilot.

Allison: Were there any benefits from the old social way, Happy Hour and all.

Miller: I don't know. There is no question that the flyer today is better. The emphasis on safety. A lot of this is driven by cost. Years ago you didn't think about airplane cost. In World War II I was told that it was on the books costing \$1 for the airframe and \$1 for the engine. Today that's not the case, everybody knows we're talking \$58 million per airplane. Not to mention that it costs \$2 million to train a pilot, up to the point he goes to the squadron. Senator Goldwater, decided he wanted a hearing on why this country needed four air forces. We went into those hearings the first two years I was DCS/Air. Bill Houser was the Navy rep. He was an admiral, OP-05, three star. We went through this, and the thing that finally won out for us, Barry Goldwater ask the Air Force and Navy, 'If you want to

take over the Marine mission, are you going to require more airplanes or will you require just what you have today?’ They saw that they had walked themselves into a corner. Because if they said they needed more airplanes, then they were just about as expensive as the Marine Corps. But if they could do the mission with the airplanes they did have, then they had too many airplanes today. They compared the costing of just one mission and the Marine Corps was by far the cheapest. That killed it. I remember the last day, he held his hands up, and said, ‘I agree, I understand now, we really only have two air forces. We don’t count the Army, they don’t have much, they’ve got helicopters, they’re not an air force. The Air Force, you’ve got basically two air forces under one, TACair and SAC. But in the Navy you’ve got Navy air and Marine air and that’s naval air. So, naval air and the Air Force, and I agree.’ and the hearings ended.

Allison: Was he Chairman of the Armed Services Committee.

Miller: He was on it, not the Chairman. It was interesting, except it was very grueling. They generally would last two or three hours, and in a day or two later we would go again. For two years we went through these hearings. When [Colin] Powell got in, as Chairman [of the JCS], the cost of mission thing saved us again, right after Desert Storm. That’s when Powell cut all the services, by 40%. That’s why today we’re in so much trouble, we only have 60% of the forces we had in Desert Storm. In this one we just didn’t have the forces to go in there with the forces that most of the generals felt we needed.

Allison: It seems like Marine aviation, tacair is a likely candidate.

Miller: I think today, it is recognized, even by the Air Force, as quick response, they’re there first. We had I believe we had five squadrons on the ground supporting Kuwait, but any other service got there. I don’t think there is any question that Marine aviation was there first. My argument today is that with VSTOL airplanes, we can go anywhere in the world, that means we’re most responsive of all the services, both tactical air and support transportation. The VSTOL and the JSF is absolutely mandatory because, of course the Navy is not going to put any VSTOL aircraft on their carriers, if the ships sits off 50-100

miles, you don't have any responsive air. The Air Force can't get there because they don't have any airplanes that can do that. Afghanistan is an example of that. I've got a feeling that Rumsfeld believes in the Marine Corps, look what he's done with the generals, Peter Pace in there and five four-star generals. All of this comes from the reputation of the Corps, how it fights and how it responds.

Allison: What about MAWTS [Marine Aviation Weapons and Tactics Squadron]? You had DCS/Air when it was stood up.

Miller: John Cox, my AAP was [most important in this]. My feeling on this was our squadron people lacked knowledge of tactics. Once a pilot got into a squadron, he more or less flew the kind of missions he thought would accomplish [the desired end]. The ground brother had no thought at all about what the bomb will do and how it would be delivered. They were totally ignorant on the air and ground sides. When this came to me as a proposal, I totally supported (I don't know if I was the first to expound on this or not, whether this is what we're going to do, I'm not sure). I know it certainly fit in with the McCutcheon deal. In directions I gave to my staff, caused them to come up with the idea of: 'Let's form a squadron that does that, trains both ground and air.' (I want others to be brought in on this, like John Dailey and John Cox).

Allison: Was there opposition to setting up MAWTS?

Miller: I don't recall any opposition to it. Today it's one of the best ideas out there. The beauty of it is that it's where the ground can get the idea, battalion commanders. Looking back on it, it was one of the best moves that was made while I was in DCS/Air, MAWTS, but again I believe it came out of the McCutcheon thing. How much influence I had on it, I can't remember.

Allison: When did you first detect that you had an interest in aviation?

Miller: When I was 10 or 12 years old. There was a grass field on my uncle's farm, that the Air Force leased for a landing field for students training. It was about 80 miles south of Randolph [Army Air Force Base]. It was an outlying field. I would go out there and watch them land and take off and it created a burning desire to get to fly like those guys. They used BT-9s, very much like an SNJ, but had fixed landing gear. I was in high school. CPT training came in and I wanted to sign up, but my mother wouldn't approve. My aunt and her son, he was a year younger than me, we were like brothers. When barnstormers came through there and took people up for, I think \$5 per ride, Harold, her son, he would get in and go up and go flying with the barnstormers. His mother often said I looked so sad standing there, and I couldn't fly because of my mother. So she provided the money and said, 'Here son, go fly.' She was my father's brother's wife. She said she just couldn't stand there and watch me. She was a wonderful lady.

Allison: Your father was a judge right?

Miller: Yes for one term (a county judge), I don't think he cared for it too much. He told me he could use his time better.

Allison: Is your hometown, George West still there?

Miller: Yes, it has a population of about 2500 people, about the same as when I was there. When uranium was discovered there, it really went wild for a period, they changed the way of getting it out of the ground, so it didn't destroy the ground when they got it out of the ground.

Allison: You were four years old when Charles Lindbergh made his famous flight, do you remember that?

Miller: I sure do; he was a role model too, but not to the degree that Marion Carl was. Lindbergh came out with the modified Corsair, to El Toro when we were getting ready to go overseas [in VMF-155]. We had received our first Corsairs in September 1943, it had the

birdcage canopy and low tail wheel. I don't know how long we had been flying it but one day Lindbergh flew in with a raised tail wheel and a clear, bubble canopy. The word was passed that Lindbergh was up at base operations. So Glenn and I wandered up, one of us, I don't know who was first, but we said we would sure like to fly that airplane. Lindbergh said, 'Do you want to fly it? sure go ahead.' Later he came out when we were in combat in the Marshall Islands, I believe it was when we were in Kwajalein. He probably was a role model in making me want to fly.

Allison: Talking about leadership, who were some of the stand-outs regarding Marine Corps-type leadership.

Miller: Beyond McCutcheon, my XO in VMF-155 there was "Drifty" Reynolds and the CO, Pete Haines was a very fine leader.

Allison: In summary, what is the most important thing, as you look back over your career?

Miller: It was my ability to carry out the McCutcheon concept, the Osprey, the Harrier of course. What made me different than most aviators was my understanding of the importance of Marine air, how it can be the most effective support for the ground troops. Consequently some of my views came in conflict with other people, like the Harrier fight in Congress.

Allison: Wasn't that mainly against the Navy.

Miller: I would say more against the Department of Defense—Enthoeven and a guy named Russ Murray, David Chu. He's head of Manpower now. He's the guy who convinced the Secretary of Defense, Dick Cheney, that the Osprey was too expensive. It's with great charm, [I can say] 'Mr. Secretary, we told you what this was going to be now, and look what you almost [stopped]'. Same thing with the Harrier, but that was even more opposition. Not only within the Department but a lot of people, in Congress, didn't want us to build the Harrier. I look back on it and realize how much of it McCutcheon would have wanted.

That's the thrill, that I have, the feeling that we have carried on, and that its proven itself, the Harrier's proved to the ground and the Department of Defense, and the VSTOL concept is proven very sound. For years we designed and built airplanes on how well it could turn and fight, and speed. That's why the speed record is kind of a shining light for me. I gained a reputation, you set a record, your name goes in front of a lot of people. I think I learned this from Glenn. John and I had been very competitive with each other in our squadron, who could have the best gunnery scores and this kind of thing. When we'd go out on the banners, it was who could hit the sleeve more. We were always very close in what we could hit. My mother finally came around and was very supportive of me. To overcome so much opposition to things McCutcheon wanted, of course he was still alive when the Harrier was coming around so he could see the beginning of what he wanted. I think the Osprey would have been even more of what he wanted. He used to say, I hope people don't get locked up on helicopters, we can't go into the 21st century at 150 knots. With helicopters, it's [Osprey] just an interim means. Once it gets in, its going to be one of the accomplishments of the future.

Allison: Your relationship with Glenn has been a longstanding one.

Miller: Yes. We made a vow to each other, mostly for the war, if one or the other of us got killed the other one would be sure his family would be cared for for life. This has been maintained up to this day, and can be seen in the support I've received from John during this sickness and all. We made the vow in World War II when we were going to the Pacific. But its been maintained ever since. I'm still one of the people on all his papers who can take over things. He has a son who is very capable, so something would have to happen to him before I would take over, but I'm there and he for me. So there was this closeness but also this drive, this competitiveness. Up until the time of the space program we had done pretty much the same things. We both had been to Patuxent as test pilots, squadron operations, pretty much the same, John did go out to China. I got pulled off the airplane and stopped in Hawaii. I didn't necessarily mind that, except I wasn't going to go into a squadron, I went to station support. At that time it was important at that time, we had already lost a son, and we were having another child and I wanted to stay with my wife if at all possible. That of

course cut any chance of me being competitive with him. When the space program came along, I wanted to go too, but I was quickly eliminated because I was too tall, you had to be 5'11". He's six foot, but was able to scrunch down enough to get 5'11". Anyway, I look back now on my career, and I say, 'Lord, thank you for fate, I didn't go.' I wouldn't change my career for that of an astronaut for all the rice in China. My ability to work with the finest young people in this world, officers and enlisted, you work with them and there's no comparison. And to help the civilian community, floods, we provided helicopters and things, all the good things military people do. The people who come into this environment, don't come into it for money. They come into it for a dedicated purpose in life, that's one of the greatest things. That's what I see when I go down to 8th and I and watch one of the Evening Parade. I watch all those young people, they're not in it for the money.

Allison: Anything else of importance we need to discuss?

Miller: When I was going out to the Pacific again, I went to the Commandant and asked him, if he would put in a good word for me, I wanted to be the Deputy Division commander. I've always thought the deputy in the division should be an aviator and the deputy in the wing should be a ground officer. When I got to Hawaii, Gen Buse was the FMF commander, he called me in and said, 'Tom, I know you're thinking about being assigned as deputy division commander, but some circumstances have come up and it just won't work. The commander out there thinks it would be best if Ed Simmons became the deputy, he has a greater possibility of being promoted.' Gen Nickerson, "Herman the German," said he would be glad to have you as the G-3 of III MAF. So this was the first time they have an aviator as G-3 of III MAF. I had total support from Nickerson, for some reason he liked me. What I learned as G-3 surpassed what I would have learned as deputy division commander. I'm learning upper level stuff, it had a lot to do with forming my opinions and beliefs, carrying out the feelings McCutcheon had about supporting the ground with air.

It was a very good experience, generally I would go with Nickerson out to visit troops in the field. So, I made helicopter runs to the outer places. I was very much aware how our helicopters were supporting our troops. There is where the 30-minute rule came in. Recon people were always getting themselves in trouble, of course that's their job, but when

they called that they're in trouble, how quick can you get to them. Another thing, in those days the only gunship was the Huey, it was slow, underpowered. When McNamara came out to do his survey, his staff wanted to go in a Huey. So we had to download all our gunships. Our medevacs were all Hueys. The very fact that we had to download our gunships to haul a bunch of staffers out really burned me. It undermined our ability to help our young people [who were] hung up out in the jungle and under attack and also the medevacs, getting the wounded people in. So that was one of the first things I did when I came back to Washington with McCutcheon, told him, General I want some Cobras.

The big fight was getting some Cobras. McCutcheon said, how are you going to do it. I said I don't see why we can't ask the Army to give us some, I think 25 Cobras. Of course they were single engine and the fire systems aboard were terrible. They had this little mini-gun, and a grenade launcher that wasn't worth two hoots. The .30 caliber Gatling gun was useless, any enemy can stand behind a tree or get in a trench and a .30 caliber wouldn't touch them. General Electric had built this 6-barrel Gatling gun for all the fighters. I told them I wanted a Gatling gun, 20 millimeter, because that's the lowest round that had an explosive shell. So it turned out to be the 20-millimeter. We couldn't fit a 6-barrel gun on the Cobra, it was too heavy, and they finally came up with a three barrel, weighed 192 pounds. They were able to get it, and its still on them today. It's the most effective fire support that you can give for the guy on the ground, that 20 millimeter round, that explosive round, it's a killer, you can't hide from it. You have the incendiary and a wide variety of rounds.

The chief of staff for Nickerson was an aviator, he left and I moved up to chief of staff, and was chief of staff a short while when McCutcheon took over the III MAF. I left when McCutcheon got sick and went to the hospital.

Allison: After Vietnam, what influence did the war have on what Marine aviation needed to be?

Miller: It woke up aviation, they got a little of it in Korea, but they realized the importance of ground support. Our fighter people go in it quite often, that's again where the 30-minute rule comes in or verifies it. In Korea I was very much involved in it, Glenn was not. He

later went on and got in an Air Force squadron, that's where he shot down three [MiGs], they called him the 'MiG Mad Marine,' painted it on the side of his airplane. I wouldn't trade my tour, as much as I like to fly fighters and shoot down enemy airplanes. From a career standpoint my tour at JOC was phenomenal, I don't know of any other Marine that left a squadron and got this job. I represented Marine aviation at 'Freedom Village,' when the prisoners came back. It was quite an experience in [it gave me a sense of] the results of war. Seeing how enemies treat their prisoners. Actually they weren't too badly treated as a whole, but far in excess of what was acceptable. Two Marine aviators, [Col Frank H.] Schwable, I can't remember the other one. The two of them were terribly mistreated. In the early stages they were put in holes with bars over the top, terrible weather, drenching rain. They were trying to get them to make statements that could be printed about what the United States was doing to their great country. So seeing the results of war and how we had to work to get the fighting stopped.

Allison: As DCS/Air, working with Congress is no doubt a real challenge, but important. Any comments on that relationship?

Miller: When I was DCS/Air we regularly held meetings with the staff, where we briefed the staff on what we were going to come to Congress and ask for to get their opinion. They would give us the questions we were going to get asked. We asked them, would this sell, and how. So when we got up there we pretty much knew whether we were going to get support. A lot of times they would not tell us, but only from their side, what they knew. I think this is very important, because the Marine Corps is only here because of Congress.

Allison: Do you know if this relationship still exists today?

Miller: I don't know, I urged the Assistant Commandant to maintain it.

Allison: Tactical Air Integration (TAI) is a very controversial topic. What are your feelings about it?

Miller: The Navy came to me and asked for another squadron. I went to the Chief of Staff who was Snowden. I said, 'I feel like we should support it.' He said, 'I won't touch that, go to Jaskilka,' who was Assistant Commandant and he said, 'No I won't touch that, the Commandant has too much feeling [about it].' I said, 'Ok, I'll go ahead and make a decision, I've tried every way in the world to get in touch with General Wilson who is in Europe and we don't have any more time. I have to give them an answer.' So, I put the fourth squadron aboard and to my knowledge it stayed that way, until General Wilson took me to task when he got back. He raked me over the coals because I had approved this thing. I felt it was the Marine Corps' support to the Navy, it was justified.

Allison: There is a lot of difference between Wilson's views and Jones' [General James L.] views.

Miller: Wilson believed that Marines shouldn't be anywhere in the Navy.

LtGen William H. Fitch, (who had been sitting in on the interview): There's a balance there. The Navy is pretty one-way about it. What they think about is operating as they want to operate. Whereas the Marine Corps is dedicated to the ground units. Once you get aboard a carrier you've got a problem relative to the responsive to ground unit-- its just a fact of life, you've got a big carrier that's as long as that street down there, about 1200 feet away, and they're not going to let it get in harms way. It gets back to how quick you can scramble airplanes, can you be responsive to them. If you're sitting way the hell out at sea you're not going to be very responsive and that was what Wilson believed.

PAGE INTENTIONALLY LEFT BLANK

INDEX

1

101st Airborne, 242
 1D, 28
 1st Marine Aircraft Wing, 235, 239, 334, 354
 1st Marine Division, 235, 236

2

2d Marine Aircraft Wing (MAW), 48, 112, 127, 262, 267, 274, 291, 312, 328, 336
 2d Marine Division, 267
 2nd Marine Phantom squadron, 395

3

3d Marine Division, 42, 235, 311, 313

4

4th Marine Division, 18, 19

5

5th Air Force, 170, 171, 172

7

7th Marines, 246

8

82nd Airborne, 271

9

9th Marine Aircraft Wing (MAW), 43
 9th Marines, 302, 324

A

A-20, Havoc Bomber, 11, 12
 A-3D, 214, 355
 A-4, Skyhawk, 100, 173, 176, 215, 216, 224, 227, 356, 357, 377, 379, 380, 385, 409

A-4D1, 174

A-6, 108, 115, 193, 194, 217, 304, 333, 334, 355

A-7, 215, 216, 299, 304, 332, 333

Abrams, Creighton W., 182, 243, 244

AD, 60, 167, 168, 354

AD-5W, 354

Afghanistan, 206, 371, 388, 394, 430

AH1, 100, 101

Air and Space Museum Annex, 363

Air Force, 5, 59, 63, 65, 70, 71, 72, 73, 83, 84, 101, 105, 106, 107, 108, 113, 140, 141, 142, 156, 157, 165, 166, 167, 170, 171, 172, 176, 177, 179, 181, 211, 213, 214, 217, 218, 221, 232, 233, 234, 238, 239, 240, 241, 243, 254, 264, 267, 274, 290, 296, 298, 299, 303, 304, 308, 318, 319, 329, 331, 341, 345, 350, 354, 355, 370, 374, 376, 381, 394, 397, 425, 426, 427, 428, 429, 431, 436

Air Force College, 84

Air Force One, 142

air to air weapons, 200

Air Weapons Systems Branch (AAW), 371, 373

Air Weapons Systems Requirements, 113, 196, 219

air/ground support, 69, 71, 74, 424, 425, 426, 437

AIRFMFPAC, 389

air-ground team, 278, 310, 318, 367, 370, 371, 372, 373, 398, 400

Thirty-Minute Rule, 368, 386, 387, 398, 434, 435

all-weather fighter squadron, 122

amphibian airplanes, 15

Amphibious Landing Force Commander, 96

amphibious landings, 346

amphibious operations, 347

amphibious warfare, 347

Amphibious Warfare, 346

Anderson, Earl E., 249, 250, 251, 252, 334, 419
 Anderson, Samuel E., 172, 270, 275, 281, 283
 Andover, 376
 anti-aircraft fire, 38
 anti-submarine warfare, 114
Argon, 259
 armament test, 58
 Armstrong, Al, 75, 78, 79, 191, 197, 258
 Armstrong, Vic, 292
 Army, 3, 42, 69, 71, 72, 73, 81, 82, 83, 84, 85, 86, 106, 114, 118, 136, 170, 171, 179, 180, 181, 182, 183, 191, 195, 196, 199, 200, 201, 202, 209, 210, 230, 232, 233, 234, 237, 241, 242, 243, 244, 267, 269, 297, 298, 299, 302, 305, 308, 311, 312, 318, 329, 339, 340, 341, 343, 347, 351, 362, 371, 374, 381, 401, 424, 425, 429, 431, 435
 Army Air Corps, 114, 118
 Army War College, 81, 82, 83, 84, 179, 180, 182, 191, 195, 196, 371
 Army's Command and General Staff College, 230
 Aspin, Les, 274
 Assistant Chief of Staff, 235
 Assistant Commandant, 252, 270, 278, 280, 310, 361, 389, 436, 437
 Assistant Secretary of Defense, 210, 212, 412
 Atsugi, Japan, 50, 121, 175, 178, 179, 208
 attack pilots, 10
 Aviation Department, 197
Aviation Week, 220, 376
 AW-513 Marine Corps flag, 126, 127
 Axtell, George, 265, 266, 270, 271, 281, 350
 Axtell, Greg, 266

B

B-52, 213, 290
 Baker, Bud, 220, 221, 222, 223, 224, 273, 375, 380, 382, 398
 balanced aviation, 114
 Ballou, Ken, 412

Barcus, Glen O., 170, 171, 172, 425
 Baron, 277
 Barrow, Bob, 186, 187, 188, 253, 256, 265, 312, 323
 Bartlett, Dewey F., 233
 basic flight training, 5
 Basic School, 129, 361
 Bear of the Rose Garden. See O'Donnell, Andy
 Beard, 215
 Beckington, Herbert L., 265
 Beechcrafts, 12
 Binkin, Martin, 346
 Binney, Arthur F., 91, 421
 Birdeshall Associates, 364
 Blackburn, Tom, 164
 Blass, Bud, 409
 Blot, Harry, 391, 404
 blue dollar, 326, 390
Blue Ridge, 296
 blue-green dollar, 115, 278, 327
 Bolt, Jack, 47
 bombing airfields, 38
 Bong, Richard, 166
 Bowman, George S. Jr., 249, 263
 Brice, William Oscar, 20
 "Old Whiskey Nose", 20
 Brown, Harold, 106, 107, 274, 338
 Brown, Leslie, 59, 136, 143, 145, 153, 155, 156, 157, 279, 419
 BT2D, 60, 167
 BTD, 60, 167
 BUAER, 86, 87, 97, 98, 109, 115, 116, 120, 174, 421
 Bureau of Naval Weapons, 86
 Burger, Chief Justice, 80
 Burke, Arleigh, 79, 80, 362
 Buse, Henry W. Jr., 289, 434
 Bush, George H., 184, 350
 BUWEPS, 97

C

C-130, 115, 121, 217, 392
 C-141, 217, 308
 C-5, 217
 C-9, 62

Cambodia, 107, 281, 290, 292, 303, 304, 348
 Cambodian evacuation, 348
 Camp Fuji, 311
 Camp Kearny. *See* Miramar
 Camp LeJeune, 255, 265, 268, 272, 282, 326, 327, 392
 Cannon Subcommittee, 72
 Cape Canaveral, 140, 142, 143, 149
 Carey, Richard E., 296, 297, 298, 299
 Carl, Marion, 47, 58, 59, 179, 196, 417, 418, 428, 431
 Carlisle. *See* Army War College
 Carlucci, Frank, 339
 Carpenter, Rene (Schiller), 138, 139
 Carpenter, Scott, 138, 146
 Carter, Jimmy, 184, 234, 274, 338
 Cassidy, Tom, 256
 Category Four, 322
 CH-46, 115, 271, 301, 342, 343, 400, 401
 CH-53, 107, 115, 271, 280, 293, 300, 301, 304, 348, 351, 362, 369
 Chaisson, John, 42, 70, 71, 74, 110, 324, 325, 329
 Challenger, 132, 150
 Chapman, Leonard F. Jr., 210, 220, 221, 222, 230, 238, 243, 244, 249, 252, 262, 268, 283, 321, 325, 326, 327, 371, 382, 397, 398, 400, 409
 Cheney, Richard, 432
 Cherry Point, North Carolina, 11, 12, 34, 43, 48, 49, 52, 54, 60, 61, 159, 161, 163, 167, 175, 262, 266, 267, 272, 281, 282, 287, 307, 326, 327, 332, 358, 395
 Chief of Naval Operations, 67, 76, 77, 78, 79, 192, 193, 194, 233, 234, 238, 278, 279, 280, 328, 331, 333, 389, 391, 403
 chronology of an aircraft, 99, 101
 Chu, David, 432
 CINCPAC, 237, 239, 258, 290, 291, 294, 295, 306, 315
 Civil Action Patrols (CAP), 243
 Civil Air Patrols (CAP), 21, 38, 243, 245
 Civil aviation, 11
 Class O, 58
 Claytor, W. Graham, 339, 340, 361, 362
 CNO's Executive Board (CEB), 278, 280
 Cobras, 115, 199, 201, 202, 209, 210, 215, 351, 362, 386, 398, 401, 412, 422, 423, 435
 Cohen, William, 386
 Colonna, Jerry, 41
 Command and Staff. *See* Naval War College
 Commandant, 70, 76, 77, 112, 134, 140, 146, 147, 154, 185, 186, 189, 193, 206, 207, 220, 221, 222, 223, 224, 225, 226, 230, 231, 232, 233, 234, 238, 244, 250, 251, 252, 253, 254, 256, 258, 263, 268, 270, 272, 274, 275, 276, 277, 278, 279, 280, 281, 285, 286, 290, 291, 292, 301, 309, 310, 313, 323, 325, 328, 333, 334, 335, 347, 349, 360, 361, 362, 364, 365, 370, 376, 381, 383, 384, 388, 389, 391, 396, 398, 401, 403, 409, 412, 414, 415, 418, 420, 425, 434
 Commander-in-Chief, 155
 Communications, 20
 Concord, 63, 64, 65
 Congress, 46, 72, 73, 74, 76, 95, 97, 106, 107, 111, 116, 143, 144, 184, 185, 188, 189, 190, 192, 202, 210, 212, 213, 217, 221, 225, 226, 231, 232, 237, 253, 309, 318, 323, 327, 331, 332, 335, 338, 339, 345, 351, 353, 363, 372, 382, 388, 391, 401
 Congress Budget Process, 409
 Congressional Medal of Honor, 23, 24, 25, 45, 186, 253
 Connelly, Robert, 50, 177, 179, 208
 Connelly, Tom, 215, 223
Constellation, 305, 306
 Cooper, Charles, 364
 Corpus Christi, 1, 4, 9, 10, 14, 15, 45, 159, 162, 367
 Corsair
 F4U, 13, 26, 27, 28, 29, 30, 31, 33, 36, 43, 47, 48, 49, 59, 60, 61, 124, 162, 163, 164, 165, 167, 168, 169, 194, 344, 350
 Coss, Ken [Francis], 173, 420
 cost analysis, 105

cost of aviation vs ground force, 111

Cougar

F-9F, 173

Cox, John, 419, 430

Cram, Jack, 54, 58, 59

Crist, George B., 285

Croft, Frank C., 162

Cronkite, Walter, 134

Crusader, F8U, 97, 98, 99, 175, 176, 215

Cubi Point, P.I, 178

Cushman, Robert E. Jr., 235, 249, 250,
251, 252, 270, 274, 275, 321

D

Da Nang, 126, 127, 176, 177, 178, 179,
208, 258, 290, 291, 297, 352, 371, 395,
400, 418

Dailey, Jack, 417, 430

Davis, Jeff, 405

Davis, John, 102

Davis, Ray, 236

Dawson, Marion L., 120, 174

death of son, 39, 43, 287

DEFCON 3, 177

Department of Defense (DoD), 202, 205,
218, 221, 222, 331, 351, 353, 375, 376,
381, 382, 401, 432

Depeau, 72

Deputy Chief of Staff, Air, 77, 78, 80, 88,
113, 179, 180, 185, 191, 192, 193, 195,
196, 280, 281, 283, 310, 317, 324, 327,
328, 332, 334, 349, 362, 364, 371, 386,
389, 390, 394, 396, 419, 422, 423, 428,
430, 436

Desert Storm, 385, 386, 387, 388, 396,
399, 416, 423, 429

DESOPS, 231

Direct Air Support Center, 281, 282

director of defense research and

engineering (DDR &E), 222, 223, 344

Division of Aviation, 49, 86, 207, 229,
391

DMZ, 42

Dole, Elizabeth, 195

Drake, Cliff, 230, 238, 371

Dulacki, Leo J., 243, 244, 262

Dunn, Robert, 332, 423

E

E base

elimination-based training, 3

E6B computer, 35

EA-6, 290, 330

EA-6A, 210, 212, 213, 331, 351, 353, 411

EA-6B, 211, 212, 213, 214, 344, 353, 411

Eakus, Bud, 341

EB-66, 214

Edwards Air Force Base, 405, 407, 408

EF-10, 211, 353

EF-111, 214

effect of education on discipline, 320,
321, 323

importance of education, 321

level of individuals enlisting, 322

El Centro, 16, 20, 27, 28, 29, 31, 33, 42,
43, 45

El Toro, 54, 56, 59, 122, 125, 172, 173,
174, 175, 327, 332, 352, 409, 417, 431

electronic attack airplane. See EA-6B

electronic warfare, 115, 210, 211, 213,
214, 219, 241, 290, 320, 330, 352, 353,
354, 355, 370

electronic warfare airplane. See EA-6A

electronics test, 58

Elwood, Hugh M., 277

Engen, Donald D., 102

England, Gordon, 386

Enthoeven, Alain C., 212, 221, 222, 226,
411, 432

Evening Parade, 434

Ewa Air Station, 25, 51

F

F-111

TFX, 106, 107, 108, 214, 376

F-14, 106, 205, 215, 279, 280, 317, 330,
331, 332, 427

F-15, 427

F-16, 385, 427

F-18, 62, 108, 114, 203, 205, 206, 317,
332, 362, 392, 399, 401

F-22, 426

F-2A
 Brewster Buffalos, 13
 F-2G, 59, 60
 F-4, 32, 98, 141, 175, 176, 193, 194, 205,
 208, 214, 217, 223, 246, 330, 332, 357,
 358, 370, 385, 426
 F-4D. See Skyray
 F-4F, 13, 14, 18, 27, 31, 32, 33, 35, 47
 Wildcats, 17
 F-4H1, 98, 99, 100, 101
 F-6A. See Skyray
 F-6A, Douglas, 121, 126
 F-6F
 Hellcat, 164, 165
 F-7F, 53, 54, 55, 59, 61, 169
 F-86, 172, 173, 397
 F-8F
 Bearcat, 55, 59
 F-9, 417
 Falklands, 307, 347, 399
 Farley, John, 376, 377, 378
 Farnborough Air Show, 220, 225, 375
 FG1D
 Corsairs, 26
 Fifth Cavalry Brigade, 242
 fighter pilots, 10, 11, 12, 14, 113, 114,
 164, 307, 385, 386, 395
 Fink, Jerry, 211, 352, 356
 Fitch, Gus, 364
 Fitch, William H., 419, 437
 Fleet Introduction Program, 174
 Fleet Marine Force, 281
 Fleet Marine Force (FMF), 173, 295, 434
 Fleet Marine Force Atlantic (FMFLANT),
 270
 Fleet Marine Force Pacific (FMFPAC),
 52, 170, 180, 239, 281, 289, 295, 309,
 315, 317, 364, 389
 flight school, 4, 15, 120, 121, 122, 132,
 162, 357, 367
 flight test, 57, 58
 flight training, 2, 3, 7, 9, 10, 11, 56, 123,
 321
 Flint, Larry, 102
 Flucky, Gene, 23, 24, 25
 Flying Leatherneck museum, 419

Fontana, Paul, 178, 179
 Ford, Gerald, 26, 300, 303, 306
 Foreign Object Damage (FOD), 396
 Foss, Joe, 45, 46
 Foster, Johnny, 222, 223, 226, 382
 four air forces, 72
 Senate hearing, 73
 four navies
 submarine Navy, destroyer Navy,
 battleship Navy, carrier Navy, 82
 Foxworth, Robert, 173
 FR1, 60
 FR-1, 48
 Freeman, Bill, 45, 46
 Frequent Wind, 273, 310
 Fris, Edward S., 283, 355
 Fubini, Gene, 210, 211, 353, 411
 fuel conservation, 34, 36
 Fulbright, J. William, 85

G

G-2F, 60
 Garwin, Richard L., 381
 Gatling gun, 435
 Gayler, Noel A.M., 290, 294, 295, 299,
 300, 301, 303, 304, 305, 309
 Geiger, Roy, 277, 372, 419
 General Electric, 209
 General Order Five, 194
 George West, Texas, 1, 413, 431
 Geraghty, Tim, 186, 187
 Gilberts, 34, 35
 Glendenning, John, 220
 Glenn, Annie, 12, 13, 16, 132, 133, 134,
 135, 136, 138, 140, 142, 143, 149, 150,
 161, 414
 Glenn, John, 1, 8, 9, 10, 11, 12, 13, 14, 17,
 22, 23, 24, 25, 26, 29, 33, 37, 38, 47,
 48, 50, 52, 54, 97, 98, 117, 132, 133,
 134, 135, 136, 137, 138, 139, 140, 141,
 142, 143, 144, 146, 147, 148, 149, 150,
 151, 153, 154, 155, 157, 158, 160, 161,
 162, 163, 346, 365, 397, 401, 413, 414,
 432, 433, 435
 Glenn, Lynn, 145
 Glenndenning, John, 374, 375

Godbold, Edwin C., 130, 131, 133, 139
 Godbold, Loren W. Torgerson, 131
 Goldwater, Barry, 72, 73, 108, 232, 428
 Grace, Jack, 79
 Gray, Alfred, 187, 264, 268, 269, 278,
 282, 285, 347
 Greek Marines, 267
 Green Berets, 182
 green dollar, 115, 116, 325, 326
 Greene, Wallace M. Jr., 110, 116, 200,
 237, 325
 Grenada, 306, 308, 336, 342
 Grissom, Betty, 139
 Grissom, Gus, 156, 157
 Grumman, 107, 164, 213, 223, 226, 380,
 382
 Guadalcanal, 35, 50, 268, 367, 372, 418

H

Hable, Bob, 296
 Hagee, Michael W., 373, 401
 Haig, Al, 57, 58, 75, 78, 79, 137, 138,
 146, 147, 181, 182, 183, 184, 185, 188
 Haines, (John) Pete, 14, 34, 35, 39, 51,
 162, 432
Hancock, 303, 306
 Hargraves, Ben, 17
 Harrier, 114, 115, 126, 212, 216, 218,
 219, 220, 223, 224, 225, 226, 227, 228,
 273, 274, 291, 331, 332, 343, 345, 350,
 351, 356, 357, 358, 362, 371, 373, 374,
 376, 377, 379, 380, 381, 382, 383, 384,
 385, 386, 388, 390, 391, 393, 394, 395,
 396, 398, 399, 402, 403, 404, 422, 423,
 432
 Hart, Franklin A., 163
 Hart, Gary, 266, 402, 423, 424
 Hawaii, 20, 21, 28, 43, 52, 68, 127, 161,
 162, 175, 176, 180, 207, 279, 281, 290,
 291, 293, 317, 320, 321, 323, 330
 Hawker Siddeley, 219, 220, 225
 Hayes, Bob, 277
 Haynes, Fred, 265
 Headquarters Marine Corps, 46, 49, 52,
 56, 70, 97, 134, 147, 154, 179, 180,
 191, 197, 229, 231, 263, 284, 309, 313,

315, 317, 318, 321, 323, 324, 326, 348,
 353, 354, 386, 390, 391, 395, 396, 398,
 401, 415

Henderson Field. See Guadalcanal
 Hewitt, Roy R (Dick), 170
 Hickman, Horace M., 72, 73
 Hoffman, Carl, 292, 296, 310
 Holler, Al, 58
 Holloway, James, 280, 331, 332, 333, 389
 Hope, Bob, 41
 Houghton, Kenneth J., 292, 303, 308
 Houser, William, 72, 192, 428
 Hubbard, Jay, 131, 419
 Hueys, 199, 200, 201, 208, 215, 351, 401,
 412, 435

I

III MAF, 75, 235, 236, 238, 242, 243,
 249, 257, 258, 262, 284, 292, 296, 297,
 310, 311, 367, 368, 372, 400, 418, 425,
 434, 435
 importance of family, 360
 Inspector General of the Marine Corps,
 418
 Iraq, 396, 398, 416, 423, 424
 Italian Marines, 267

J

J79 engine, 406
 Jaskilka, Samuel, 264, 278, 280, 282, 364,
 437
 Jerome, Jerry, 276, 277
 JOC
 Joint Operations Center the U.S. Air
 Force, 170, 171, 172, 425, 436
 John Curtis Award, 63
 Johnson, Lyndon, 140, 142, 144, 145,
 413, 414, 415, 416
 Johnson, William Gentry, 220, 279, 289,
 330
 Joint Chiefs of Staff (JCS), 86, 96, 97,
 170, 186, 188, 191, 231, 232, 233, 234,
 236, 237, 273, 276, 293, 298, 309, 312,
 341, 415, 416, 429
 Joint Strike Fighter, 423
 Jolly Green Giants, 303, 305

Jones, David, 232, 234
Jones, James L., 373, 386, 387, 388, 396,
401, 437
Jones, Tom, 224, 225, 383
Jones, William K., 386
Joslyn, William, 75
JSF, 429
Judge Advocate General (JAG), 263

K

K-13, 172
K-3, 169, 171, 354
K-6
Poin Tek, 169
KC-130, 217, 218
Kelley, Paul X., 186, 187, 188, 189, 256,
276, 349, 420
Kennedy, Caroline, 143
Kennedy, Jackie, 140, 143, 154
Kennedy, John F., 74, 133, 134, 139, 140,
141, 142, 143, 144, 146, 154, 155, 415
Kennedy, Robert, 154
Kestrel, 219, 374, 375
Kissinger, Henry, 182, 299, 306
Kleburg, Richard, 145
Korea, 42, 47, 48, 49, 56, 57, 59, 68, 69,
129, 159, 163, 165, 169, 171, 173, 210,
219, 250, 307, 336, 353, 354, 355, 367,
368, 369, 370, 397, 424, 426, 435
Krop, Ron, 264
Krulak, Victor, 176, 177, 186, 194, 200,
245, 248, 289, 314, 373
Kuwait, 429
Kwajalein, 33, 34, 41, 432

L

Lang, Frank C., 126, 127, 290, 291
Langford, Frances, 41
Langstaff, Hap, 420
Lebanon, Beirut, 186, 339
Leek, Frederick E. (Ev), 120, 162, 263
Lehman, John, 256, 345
Libya, 108
Life Magazine, 134, 136, 182
Lind, William, 424
Lindbergh, Charles, 33, 431

Link-Tempco-Vought (LTV), 99, 215,
223, 383
Long Range Study Board, 369
Long, Russell B., 141, 173, 186
Lukeman, Anthony, 373
Lycoming, 210, 412
Lynn, Bill, 266

M

MACV
Military Assistance Command
Vietnam, 182, 236, 238, 239
MAG-15, 81
MAG-11, 50, 55, 121, 127, 159, 174, 175,
176, 177, 179, 180, 208, 352
MAG-12, 48, 169
MAG-15, 125
MAG-22, 159
MAG-91, 43, 53, 159
Majuro, 25, 26, 34, 37, 41, 50, 409
Maloelap, 34, 38
Maloney, William, 282
Mangrum, Richard C., 2, 78
Mann, David, 341, 342, 343
Manpower, 78, 86, 111, 196, 197, 244,
284, 334
Marine air, 70, 71, 73, 170, 171, 192, 239,
241, 263, 326, 367, 372, 388, 398, 432
Marine Air Infantry School (MAIS), 81,
129
Marine Amphibious Brigade (MAB), 262
Marine aviation, 2, 67, 71, 72, 110, 111,
112, 192, 195, 208, 254, 279, 280, 310,
317, 318, 319, 324, 325, 326, 327, 328,
329, 342, 352, 367, 368, 369, 386, 391,
409, 410, 419, 424, 427, 428, 429, 435,
436
Marine aviation vs ground Marine, 67, 68,
69, 70, 72, 168, 207, 265, 277, 319,
320, 327, 421, 423
Marine aviators, 45, 50, 60, 67, 112, 130,
257, 264, 326, 332, 372
Marine Corps Air Technical School, 56,
159, 163, 251
Marine Corps Birthday Balls, 360
Marine Corps flag, 291

Marine Corps Headquarters, 37, 46, 49,
 52, 56, 86, 97, 147, 162, 171, 172, 173,
 180, 197, 229, 230, 253, 284, 386
 Marine Corps Technical School, 161, 275
 Marine Tactical Data System (MTDS),
 283
 Mark, Hans, 345
 Marshall Islands, 19, 22, 25, 26, 35, 50,
 432
 Marshalls Islands, 37
 Martin 19, 201
 Martin, Graham, 299
 MAU, 188, 255, 267, 268, 296, 342
 MAWTS, 420
 Marine Aviation Weapons and Tactics
 Squadron, 430
Mayaguez, 107, 272, 281, 295, 296, 302,
 303, 304, 306, 307, 309, 310, 323, 324
 McCain, John C. Sr., 237
 McCaul, Verne J., 310
 McCue, Godfrey, 140, 142, 143
 McCutcheon, Keith, 75, 81, 86, 179, 180,
 191, 195, 196, 197, 198, 199, 201, 206,
 207, 208, 210, 215, 218, 219, 220, 221,
 222, 223, 226, 236, 238, 239, 240, 243,
 245, 247, 252, 253, 258, 276, 277, 327,
 350, 351, 353, 367, 368, 369, 370, 371,
 372, 373, 375, 382, 386, 389, 397, 398,
 400, 401, 409, 410, 411, 412, 416, 419,
 425, 426, 427, 430, 432, 433, 434, 435
 "Father of the Vertical Development
 Concept", 369
 McDonnell, Douglas, 99, 100, 101, 120,
 121, 152, 167, 216, 223, 224, 225, 226,
 355, 382, 383, 384, 385
 McDonnell, Sandy, 383
 McFarland, Robert, 187
 McGraw, William, 121, 176, 177, 178
 McKittrick, W.L., 162
 McLaughlin, John R., 281
 McLennan, Ken, 258, 283, 284, 312, 323
 McNamara, Robert, 73, 101, 104, 106,
 107, 167, 212, 222, 223, 251, 336, 338,
 353, 376, 380, 382, 400, 411, 415, 416,
 435
 McShane, Barney, 48, 49, 87

Meade, Jim, 187
 Megee, Vernon E., 77, 170, 171, 172, 277,
 425
 Mercury, 138, 151
 Mercury Seven Foundation, 138, 363
 Metzko, John, 219, 374, 375
 Midway, 21, 22, 25, 28
 MiG, 47, 48, 204, 436
 Miller, Ida Mae, 16, 40, 135, 139, 144,
 153, 160, 182, 279
 Miller, John, 187
 Miramar, 13, 256, 330
 mission direction, 238
 Momyer, William W., 237, 238, 240
 Moore, Benjamin, 53, 160
 Moore, Tom, 238
 Moran, Art, 175
 Morgan, Thomas, 253, 275, 285
 Morris, Tom, 412
Mount Whitney, 268
 multi-engine training, 11
 Mundy, Carl E. Jr., 373, 388, 389
 Munn, John T. (Toby), 78, 88, 91, 277,
 421
 Murray, Russ, 212, 213, 221, 222, 226,
 274, 380, 382, 432
 Murtha, John, 416
 MWSS
 Marine Wing Support Squadrons, 427

N

N2S, 5
 N3N, 5
 NAS Dallas, 1, 3
 NASA, 137, 144, 145, 146, 147, 151, 152,
 153, 155, 156, 157, 340, 341, 343, 345
 National War College, 83
 NATO, 96, 125, 241, 267, 269, 271, 272
 NATOPS
 Naval Air Training and Operational
 Procedure Standardization, 55
 Nauru, 34, 37
 naval air, 1, 70, 405, 429
 Naval Air Systems (Bureau of Weapons),
 246, 329, 332, 333, 341, 351, 390, 391
 Naval Air Test Center, 58

Naval aviation, 67, 70, 99, 114, 192, 193,
 194, 195, 215, 216, 223, 318, 324, 326,
 332, 333, 343, 388, 389, 390, 391
 Naval Aviation Museum Foundation, 101,
 363
 naval aviators, 2, 50
Naval Institute Review, Naval Review, 238
 Naval War College, 74, 81, 82, 83, 84, 85,
 86, 119, 130, 159, 181
 navigation, 35, 36
 Navy, 1, 4, 5, 6, 15, 18, 21, 27, 30, 41, 58,
 60, 64, 67, 70, 71, 72, 73, 74, 75, 78,
 81, 82, 83, 84, 85, 86, 97, 98, 99, 100,
 101, 102, 106, 107, 108, 109, 110, 111,
 113, 114, 115, 116, 119, 120, 123, 129,
 141, 146, 159, 162, 164, 167, 169, 171,
 174, 181, 191, 192, 193, 194, 195, 205,
 210, 211, 212, 213, 214, 215, 216, 223,
 229, 233, 234, 241, 246, 249, 251, 252,
 256, 258, 259, 261, 264, 268, 278, 279,
 280, 290, 291, 296, 298, 299, 304, 308,
 310, 318, 324, 325, 326, 327, 328, 330,
 331, 332, 333, 339, 340, 341, 342, 343,
 345, 350, 353, 355, 361, 370, 374, 381,
 386, 387, 388, 389, 390, 391, 393, 394,
 402, 403, 405, 409, 410, 412, 423, 425,
 426, 427, 428, 429, 432, 437
 Navy aviation, 114, 191, 195, 318, 386
 Navy Department, 99
 Navy school, 162
 Navy War College, 405
 Nelson, (Swede), 130
 New River, 282
 Nickerson, Herman Jr., 75, 186, 235, 238,
 242, 243, 244, 247, 248, 249, 258, 262,
 434, 435
 night operations, 268, 269, 271, 272
 Night Song, 415
 Nixon, Richard M., 56, 183, 250
 North Vietnamese, 235
 Northrop, 224, 225, 382, 383
 NP1, 5
 Nunn, Samuel, 232, 254, 292, 323

O

O'Conner, Thomas, 177

O'Donnell, Andy, 265, 270, 272, 281, 283,
 307, 311
 Okinawa, 22, 42, 166, 178, 259, 284, 290,
 292, 302, 303, 310, 311, 324, 360
 O'Neal, S.B. (Stubby), 44, 45
 Op Nav, 192
 OP-05-M, 328
 OP-07, 343
 OP-5, 192, 193, 326, 332, 388, 389
 Operation Eagle Pull, 272, 290, 292, 310
 Osprey, 228, 312, 340, 342, 343, 344,
 345, 346, 347, 348, 349, 356, 362, 391,
 392, 393, 400, 432
 OTS-8, 12
 Ovens, Pat, 268, 269

P

P-3 ASW, 114
 P-38, 165, 166
 P-47, 165, 166
 P-51, 165, 166
 Pace, Peter, 430
 Pacific Fleet, 19
 passed over, 89, 90, 421
 Pate, Randolph McCall, 370
 Pax River, 48, 49, 54, 56, 57, 59, 61, 87,
 99, 117, 136, 146, 147, 159, 160, 161,
 167, 173, 174, 196, 220, 333, 375, 393,
 405, 409, 417, 433
 PB4Y, 60
 PBJ, B-25, 61
 P-boats
 patrol boats, 11
 PBY, 11, 15
 PBY2, 15
 PBY5A, 15
 Pearl Harbor, 295, 334
 Peavey, Nathan, 420
 Pendleton, 18, 19, 181, 263, 327
 Pensacola, 114
 Perry, Robert, 102, 189, 246, 247
 Petersen, Frank, 285
 Peterson, Forrest, 332, 336, 389
 Peterson, Frank, 286
 Phantom, 63, 64, 98, 99, 100, 101, 102,
 103, 104, 120, 121, 122, 126, 141, 146,

175, 176, 177, 203, 214, 224, 291, 330,
350, 356, 358, 370, 378, 383, 391, 392,
395, 400, 405, 406, 408
Philippines, 311, 360, 367, 368
Phnom Phen, 293, 294
Phoenix missile system, 331
Piasecki and Sikorsky, 369
Pilot Induced Oscillations
PIO, 406
plotting board, 35
politician interference, 307, 309, 416
porpoising, 27, 30
Powell, Colin, 429
Pratt and Whitney, 209, 210, 412, 413
President's Scientific Advisory Group
(PSAG), 222, 223, 226, 381
primary flight training, 4, 8
Privacy Act, 322
project officer, 55, 56

Q

qualifications for entering Marine Corps,
2
Quantico, Virginia, 56, 65, 84, 119, 159,
162, 163, 195, 275, 286, 314, 325, 369,
370, 393, 394
Quilter, Chick, 54

R

R4D, 13, 16, 220, 376
radar officer, 37
Ramsey, Lloyd B., 242
Randolph Army Air Force Base, 431
Rayburn, Red, 203
Reagan, Ronald, 184, 186, 188, 338
Record, Jeff, 346, 347
Redmond, Walt, 56
Renner, Joseph N (Jumpin' Joe), 44, 48,
49, 53, 56, 61, 160
Reynolds, "Drifty", 432
Richards, Samuel, 173
Right Stuff, 134, 136
Rivers, Mendel, 213, 220, 224, 225, 226,
376, 383, 384, 412, 413
Roberts, Dean C., 14, 281

Robertshaw, Louis B., 77, 78, 86, 91, 179,
180, 191, 192, 196, 236
Robinson, R.B., 102
Rogers, Ford O. "Tex", 26
Roi-Namur, 34, 39
rolling takeoff, 396
Roosevelt, Franklin D., 256
Rose Garden, 270, 311
Rowe, Robert, 181, 182
Royal Air Force (RAF), 187, 375
Royal Marines, 267, 268, 271
Royal Navy, 220, 374
Rumsfeld, Donald, 430
Rylander, 13, 14

S

Saigon, 182, 272, 281, 297, 299
Saigon evacuation, 272, 281, 299, 300,
301, 302, 303
SAMs, 213, 214
satellite NAV, 272
SATS, 215, 216, 327
short airfield for tactical support, 427
SB2A
Brewster dive bomber, 13
SB2U, 13
SBC4s, 17
SBD, 21, 23, 39
Schilt, Christian F., 77, 373
Schirra, Wally, 146
Schlesinger, James, 294, 300, 303, 304,
306
Schmidt, Harry, 19
Schwable, Frank H., 436
Seabees, 41
Secretary of Defense, 193, 203, 210, 211,
212, 213, 223, 225, 237, 240, 272, 293,
294, 300, 305, 306, 307, 309, 339, 344,
362, 386, 411, 412, 415, 432
Secretary of the Navy, 153, 194, 210, 249,
256, 271, 281, 341, 361, 386, 410, 411,
412, 413, 414
selection boards, 91, 92, 93, 94, 95, 275
Senate Armed Service Committee, 410
Senate Armed Services Committee, 72,
224, 384

Senior School, 81, 82, 84, 85, 116, 119,
 120, 125, 129, 130, 131, 140, 153, 157,
 159, 174
 Sergeant of Arms, 410
 Service test, 54, 57
 Sharon, Bill, 356
 Shepard, Alan Jr., 136, 137, 138, 139,
 146, 147, 157
 Shepard, Louise, 138, 139
 Shepherd, Lemuel, 76, 77, 170, 230, 268
 Shultz, Dutch, 192
 Shutler, Philip, 364
 Simmons, Edward, 434
 Simpson, Ormond, 247
 single manager, 236, 238, 239, 240, 243
 Skyray, 101, 120, 121, 122, 126
 Slayton, Deke, 156, 157
 Smith, Holland M. "Howlin-Mad", 18
 Smith, John L., 45, 46, 47, 88, 418
 Smith, Keith, 121, 284, 286, 287, 332,
 361
 Smith, Oliver P., 247
 SNJ, 14, 17, 163
 SNV
 "Vultee Vibrator", 5
 social stratification, 185, 273, 312, 359
 South Vietnam, 235
 Spanish Marines, 267
 Spanjer, Ralph H., 236, 283
 Special Services officer, 173
 speed record in F-4 Phantom, 64, 405,
 406, 407, 408
 Sputnik, 102, 132, 405
 SR71, 63
 Star Wars, 206
 Stealth, 341
 Stennis, John, 186, 233, 249, 253
 STOVL (Short Take Off Vertical
 Landing), 370, 394
 Strategic Air Command (SAC), 386
 submarines, 15, 21, 22, 23, 24, 38, 318
 Sullivan, Mike, 395
 Sullivan, Walter, 420
 supplementals, 210, 221, 336, 338
 Sutherland, James W., 258
 syllabus, 5, 120, 121

Symington, Stuart, 224, 384

T

T39, 62
 Tac Air Subcommittee, 72
 Tactical Air Command (TAC), 364, 386,
 429
 Tactical Air Control Center, 282, 337
 Tactical Air Integration (TAI), 387, 436
 TAD, 54, 56, 159, 160, 161, 335
 Talbert, Robert, 238
 Tan Son Nhut, 298, 300, 301
 tanker, 217, 218
 tanking, 178, 217, 218
 Tarawa, 34, 37, 42
 Taylor, Maxwell, 425
 technology, 104
 test pilot, 9, 57, 58, 87, 97, 113, 117, 146,
 147, 160, 196, 216, 220, 375, 389, 391,
 393
 Test Pilot Association
 Test Pilot Program, 58
 Thatcher, Margaret, 109
The Right Stuff, 132, 136
 Thomas, Gerald, 230
 Thomas, Patsy, 41
 Thrash, William G., 242, 277, 314
 Tigercat. See F7F
 Title 10, 76, 111, 170, 192, 237
 uni-service, 73, 237, 240, 244, 372
 Titterrud, Stanley E., 181
 Top Gun, 114
 Training Squadron 18A and 18B, 15
 Trainor, Mick, 187
 Truman, Harry, 246
 Turner, Fox, 192, 333, 389
 Twomey, Dave, 187, 286

U

U.S.S. Barb, 22, 23, 24, 25
 U.S.S. Makin Island, 25, 26
 UH-1N, 215
 Undersecretary of the Navy, 215
 unit rotation, 255, 256, 259, 260, 283,
 312, 323, 324, 359
 University of Texas, 1, 3, 40

USO shows, 41
USS Guadalcanal, 268
USS Mount Whitney, 267

V

V-5 Naval Aviation Training, 1
vertical assault, 195
vertical envelopment, 103
Viet Cong, 200, 235, 246, 261
Vietnam, 41, 42, 68, 79, 121, 126, 127,
167, 170, 176, 178, 179, 180, 181, 182,
200, 201, 202, 206, 207, 208, 209, 211,
212, 213, 216, 218, 221, 236, 250, 257,
261, 262, 272, 276, 284, 287, 290, 292,
294, 295, 296, 299, 307, 310, 311, 322,
335, 338, 350, 351, 352, 353, 355, 367,
396, 411, 412, 415, 416, 424, 425, 426,
435
Vietnam War, 338, 411
VMA-224, 57, 173, 409, 420
VMA-314, 420
VMCJ-1, 211, 352
VMCJ-EA-6, 219
VMF (AW)-513, 120, 121, 126, 127, 174,
175, 273
VMF- 115, 59
VMF- 311, 59
VMF-155, 431
VMF-323, 425
VMF-422, 35
VMF-912, 43
VMF-914, 160
VMFA-312, 176
VMFA-314, 175, 176
VMFA-531, 175, 176, 177, 208, 395
VMFA-542, 176
VMO-155, 14, 15, 16, 17
VSTOL (Vertical and Short Take Off and
Landing), 219, 224, 341, 345, 356, 371,
374, 380, 381, 383, 386, 388, 398, 402,
422, 423, 424, 427, 429, 433

W

Wainwright, Loudon, 134
Walt, Lew, 56, 200, 237, 412, 413
Warner, John, 271

Washington D.C., 12, 54, 67, 75, 80, 81,
104, 113, 129, 139, 143, 144, 145, 158,
162, 179, 180, 182, 184, 190, 196, 205,
224, 225, 226, 229, 231, 234, 236, 244,
246, 249, 261, 262, 270, 272, 274, 276,
279, 281, 283, 289, 290, 291, 292, 293,
295, 298, 304, 305, 307, 308, 309, 328,
343, 348, 360, 382, 384, 391, 403
Watergate, 183
Webb, James E., 145, 146, 339, 340
Weinberger, Caspar, 206, 306
Weisner, Maurice F., 295, 298, 303
Went, Joe, 285, 286
West Point, 185
Westmoreland, William C., 176, 177, 237,
425
Wheeler, Edwin B., 235, 242
White House, 56, 133, 134, 139, 155, 183,
222, 223, 234, 293, 303, 306, 307, 381
White, William, 419
Whitmeyer, 293, 296, 299
Widdecke, Charles F., 75, 258
Wilcox, Ed, 335
Will Drawerson, 219
Williams, Robert
Blue Angels, 56
Wilson, Louis H. Jr., 70, 80, 112, 126,
186, 188, 205, 232, 233, 239, 240, 249,
253, 254, 255, 256, 259, 263, 264, 273,
278, 279, 280, 281, 283, 289, 290, 291,
292, 295, 296, 297, 298, 299, 301, 309,
311, 312, 313, 314, 317, 320, 322, 323,
324, 328, 330, 331, 333, 334, 335, 341,
349, 359, 360, 362, 388, 389, 403, 437
Wilson, Woodrow, 190
wingman, 38, 47, 48
Wood, Al, 258, 284
World War II, 4, 24, 37, 41, 42, 45, 49,
51, 61, 68, 71, 81, 87, 91, 103, 114,
117, 124, 129, 131, 132, 159, 161, 164,
165, 230, 251, 307, 315, 318, 336, 344,
367, 368, 369, 372, 387, 395, 424
Wotje, 34
Wright engine, 167
Wyckoff, Don, 31, 40, 48, 52, 53, 80, 130

X

X-15, 332, 389
XXIV Corps, 242, 243, 258

Y

YF-17, 62, 203, 332
Yorktown, 404
YP59

Airacomet, 56, 60

YP-59, 48
Yuma, 406

Z

Zais, Mel, 242, 243, 244
Zeros, 35, 164
Zonne, Edmund L., 13, 14
Zumwalt, Elmo, 402