

USAF
FLIGHT CREW
CHECK LISTS

L/Col

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(T-33)

PILOT'S **ABBREVIATED** **FLIGHT CREW CHECKLIST**

USAF SERIES

T-33A

AIRCRAFT

COMMANDERS ARE RESPONSIBLE FOR BRINGING THIS SUPPLEMENT TO THE ATTENTION OF ALL AFFECTED AF PERSONNEL.

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T-33A ABBREVIATED CHECKLIST

NORMAL PROCEDURES

TABLE OF CONTENTS

	Page
PREFLIGHT CHECK	N-2
Before Entering Cockpit	N-2
Exterior Inspection	N-2
Interior Inspection	N-3
STARTING ENGINE	N-8
Automatic Ground Start—Front Cockpit	N-8
BEFORE TAXIING	N-9
TAXI	N-10
BEFORE TAKEOFF	N-10
LINEUP CHECK	N-11
CLIMB	N-12
Initial Climb	N-12
5000-Foot-Above-Terrain Check	N-12
18,000-Foot Check	N-12
LEVEL-OFF AND CRUISE	N-13
DESCENT	N-13
BEFORE LANDING	N-14
GO-AROUND	N-14
AFTER LANDING	N-15
After Touchdown	N-15
After Clearing Runway	N-15
Prior To Engine Shutdown	N-15
ENGINE SHUTDOWN	N-16
BEFORE LEAVING THE PLANE	N-16
TAKEOFF AND LANDING DATA CARD	N-17

T.O. 1T-33A-1CL-1

Note

The letter (a) following a checklist item number indicates that this item refers to a T-33 Model other than the -15, and is covered in Appendix II.

PREFLIGHT CHECK.

BEFORE ENTERING COCKPIT.

1. Form 781 - Check and secure.
2. Canopy and seat ejection systems, both cockpits - Check.
3. Flight publications - Check.

EXTERIOR INSPECTION.

1. General condition - Check.
2. Both nose compartment doors - Closed and locked.
3. Pitot cover - Removed.
4. Static sources - Clear.
5. Fuselage tank - Check.
6. Engine access doors - Closed and fasteners secure.
7. Alcohol tank cap - Secured.
8. Engine oil filler cap (dipstick) - Secured.
9. Fuel caps - Quantity and caps secured.
10. If stores are carried on MA-4A, pylon racks - Check that the rack is cocked and locked.

T.O. 1T-33A-1CL-1.

INTERIOR INSPECTION.

Aft Cockpit Check (Solo Flights).

1. Loose equipment - Secured.
2. Cockpit pressure inlets (two) and canopy ventilation duct - Closed.
3. Oxygen regulator - NORMAL.
4. Bomb release and tip tank auto-drop circuit breaker - IN, and bomb arming circuit breaker - As required.
5. Tip tank auto-drop switch - OFF (auto-drop system installed or tip tank ready safe switch to SAFE if auto-drop system is not installed and control stick bomb release button is connected).
6. Elevator trim override switch - NORMAL (and safetied).
7. Emergency fuel, starting fuel, landing light, and fuel override switches - OFF or NORMAL.
8. Fuselage tank boost pump switch - NORMAL (guard down).
9. Main fuel shut-off switch - OPEN (guard down and safetied).
10. Speed brake switch - UP.
11. Aileron boost lever - ON.
12. Communications and navigation equipment - As required.
13. Battery/generator switches - ON (guard down and safetied).

T.O. 1T-33A-1CL-1

14. Ignition switch – NORMAL.
15. Emergency hydraulic switch – OFF (guard down).
16. Emergency hydraulic selector lever – NORMAL (and safetied).
17. Circuit breakers – IN.
18. Cockpit lights – OFF.
19. Canopy locking handle – Removed and stowed.
20. External canopy jettison initiator (secondary) safety pin – Removed.

Front Cockpit Check.

Note

Those items marked with an asterisk (*) should be checked in the front cockpit only. All other items should be checked in both cockpits.

1. Cockpit – Check. (Loose items, equipment, tools, etc.)
2. Shoulder harness, anchor lanyard, lap belt, and oxygen equipment – Strap on and adjust.
3. Oxygen system – Check.
- *4. Battery switch – OFF.
- *5. Manual release handles (tanks or bombs) – IN and safetied.
6. Landing gear lever – DOWN.
7. Gang start and left console circuit breakers – IN.

T.O. 1T-33A-1CL-1

8. Bomb release and tip tank auto-drop circuit breaker – IN (rear cockpit). All other armament switches – OFF or SAFE.
9. Fuel tank switches – OFF. (Aft cockpit – Fuselage tank boost pump switch – NORMAL – guard down.)
10. Interphone panel – Set.
11. Tip tank auto-drop switches – OFF or tip tank ready safe switch to SAFE (if applicable).
- *12. Cabin pressure dump switch (if installed) – OFF.
13. Starting fuel switch – OFF.
14. Landing-taxi light switch – OFF.
15. Elevator trim override switch – NORMAL (and safetied).
16. Wing flap lever – Center position.
- *17. Throttle – OFF (friction lock adjusted).
18. Speed brake switch – DOWN (front cockpit) – UP (aft cockpit).
19. Main fuel valve shutoff switch – OPEN (guard down and safetied).
- *20. Cabin temperature selector rheostat – Position at 11 o'clock.
21. Aileron boost lever – ON.
- *22. Windshield defroster knob or lever – As required.
23. Cabin altimeter, (fwd cockpit) altimeter, clock, fuel counter – Check for proper settings.

T.O. 1T-33A-1CL-1

- 24. Emergency fuel switch – OFF or NORMAL.
- 25. Command radio – OFF.
- 26. IFF/SIF and navigation equipment – OFF.
- *27. Inverter switch, flight instrument power switch, or inverter test switch – OFF (center position).
- 28. Accelerometer – Zeroed.
- *29. Cockpit pressurization dump valve lever (if installed) – CLOSED.
- 30. Cockpit pressure inlets (two) and canopy ventilation duct – Open.
- 31. Ignition switch (front cockpit) – OFF (aft cockpit – NORMAL, guard down).
- *32. Generator switch – ON (front cockpit).
- 33. Battery and generator switch (aft cockpit) – ON. (guard down).
- 33a. Emergency fuel checkout switch (if installed) – NORMAL (guard down).
- *34. Auxiliary windshield defroster switch – OFF.
- 35. Emergency hydraulic pump switch – OFF (guard down).
- 36. Circuit breakers (right side) – IN (except front cockpit inverter power inverter relay, and turn-and-slip indicator circuit breakers on airplanes without inverter control switches).
- 37. AC fuses and spares – Screwed in clockwise finger tight.

T.O. 1T-33A-1CL-1

- 38. Emergency hydraulic system selector lever – NORMAL (safetied).
- 39. Manual canopy handcrank handle (fwd cockpit) – Stowed and safetied. Canopy locking handle (aft cockpit) – Stowed.
- 40. Stick grip – Check for security.
- 41. Signal ground crew to connect external power.
- 42. Command radios – ON.
- *43. Pitot heater – CHECK.
- 44. Exterior light switches – As required.
- 45. Cockpit lighting rheostats (four) – As required.
- 46. Fire and Overheat warning lights circuit test switch – TEST.
- *47. Trim tabs – Check.
- 48. All warning and indicator lights – TEST. Push to test the circuits.
- 49. Brakes – Check brake pedal pressure.

STARTING ENGINE.

AUTOMATIC GROUND START – FRONT COCKPIT.

1. Starter switch – START.
2. Ignition switch – NORMAL (after rpm has reached at least 9 percent).
3. Starting fuel switch – AUTO when rpm is stabilized above 10 percent.
4. Exhaust gas temperature – Check.
5. Throttle – Rapidly move to IDLE (rpm stabilized above 26 percent).
6. Starting fuel switch – OFF.
7. Engine instruments – Check.
8. External power source – Disconnected.
9. Battery switch – ON.
- 9a. Battery-Generator switch – ON.

BEFORE TAXIING.

1. J-8 attitude indicator – CAGE.
2. Inverters – STANDBY, then MAIN.
3. Loadmeter – Check.
4. Navigation Equipment – ON.
- 4a. Anti-G suit operation – Check (if required).
5. IFF/SIF – STANDBY.
6. Speed brake switch – UP.
7. Wing flaps – Set at 30 degrees (70 percent). Verify flap extension with ground crew.
8. Flight controls – Check.
9. Windshield defroster – Check operation.
10. Canopy-check operation – Full open or closed and locked.
11. Flight status – Safety pins and clips – Removed.
12. Brakes – HOLD.
13. Emergency fuel system – Check.
14. Fuselage tank switch – FUSELAGE or ON.
- 14a. Emergency fuel switch – TAKEOFF & LAND, or NORMAL.
15. Communications and navigation equipment – Check.
16. Altimeter – Set.
17. Wheel chocks – Removed.

TAXI.

1. Flight instruments – Check.

BEFORE TAKEOFF.

1. Leading edge and wing fuel tank transfer pumps – Check.
2. Tip tank fuel switch – ON (as required).
3. Tip tanks AUTO-DROP switch – ON, or tip tank ready safe switch to SAFE (if applicable).
4. Oxygen regulator diluter lever – As required.
5. Elevator trim – NEUTRAL.
- 5a. Fuel filter deice switch – As required.
6. Flaps – Check 30 degrees (70 percent) DOWN.
7. Takeoff and landing data – Confirm (check wind, etc.).
8. Zero-delay and anchor lanyard – Check.
9. IFF/SIF – As directed.
10. Pitot heat – As required.
11. Anti-Collision/Navigation Lights – As required.
12. Canopy – Close and lock. Check canopy warning light – Out.

LINEUP CHECK.

1. Heading indicator – Check against runway heading.
2. Attitude indicator – Check for excessive precession.
3. Throttle – 80 percent rpm.
4. EGT, fuel, oil, and hydraulic pressure – Check.
5. Loadmeter – Check.
6. Tip tanks – Feeding, indicator light out.
7. Fuel selector switches – GANG LOAD on.

CLIMB.

INITIAL CLIMB.

1. Fuel caps – Check that no fuel is siphoning from the filler wells.
2. Loadmeter and engine instruments – Check.

5000-FEET-ABOVE-TERRAIN CHECK.

1. Fuel switches – Discontinue gang-loading if the fuselage fuel tank is full.
 - a. Emergency fuel switch – OFF (engine fuel system No. 2).
2. Tip tank auto-drop switch – OFF (if applicable).
3. Oxygen system – Check.
4. IFF/SIF – Operation checked.
5. Zero-delay lanyard – Unhook and stow.

18,000-FOOT CHECK.

1. Altimeter – Reset.
2. Cabin altimeter – Approximately 10,500 ft.
3. Oxygen System – Check.

LEVEL-OFF AND CRUISE.

1. Oxygen system – Check.
2. Cabin altitude – Check.
3. Loadmeter – Check.
4. Engine instruments – Check.
5. Fuel – Check.
- 5a. Fuel filter deice switch – As required.
6. Fuel sequencing – As required.

DESCENT.

1. Windshield defroster – ON.
2. Pitot heat – As required.
- 2a. Emergency fuel switch (if installed) – TAKEOFF & LAND.
3. Altimeter – Set.
- 3a. Fuel filter deice switch – As required.
4. Fuselage tank fuel gage – Check quantity.
5. Fuel switches – GANG LOAD.
6. Zero delay lanyard – Connect.

BEFORE LANDING.

1. Zero-delay lanyard – Check hooked.
2. Fuel quantity – Check.
3. Hydraulic pressure – Check.
4. Speed brakes – DOWN (if not already extended).
5. Landing gear lever – DOWN at 195 knots or below.
6. Landing gear position indicator and unsafe warning light – Indicating gear down and locked.
7. Landing gear lever – jiggle in full down position.
8. Brakes – Check pedal pressure.
9. Wing flap switch – DOWN at 175 knots or below.
10. Landing-taxi light switch – As required.

GO-AROUND.

1. Throttle – Open to 100 percent.
2. Speed brake switch – UP as throttle is advanced.
3. Landing gear lever – UP after the airplane is airborne and a definite rate of climb is established.
4. Wing flap lever – UP at 140 to 165 knots.
5. Landing-taxi light switch – As required.

AFTER LANDING.

AFTER TOUCHDOWN.

1. Speed brake switch – UP.

AFTER CLEARING RUNWAY.

1. Radio equipment – As required.
2. IFF/SIF – OFF or STANDBY.
3. Landing/Taxi light switch – As required.
4. Anti-Collision/Navigation lights – As required.
5. Pitot heat switch – OFF.
6. Canopy – FULL OPEN or FULL CLOSED.

PRIOR TO ENGINE SHUTDOWN.

1. Oxygen diluter lever – As required.
2. Windshield defroster – OFF.
3. Auxiliary defroster switch – OFF.
4. Navigation equipment – OFF.
5. Trim tabs – NEUTRAL (check indicator light)
6. Speed Brake switch – DOWN (just prior to parking).

T.O. 1T-33A-ICL-1

ENGINE SHUTDOWN.

1. Brakes – Hold, until chocks are installed.
2. Fuel selector switch – OFF.
3. Wing flaps – As required.
4. Inverters – OFF.
5. Ignition switch – OFF.
6. Canopy – OPEN.
7. Throttle – OFF; lock friction brake.
8. Communications equipment – OFF.
9. All flight status safety pins and clips (seat, canopy, tip tanks, and landing gear) – Installed.
10. Battery switch – OFF.
11. Oxygen diluter lever – NORMAL OXYGEN.
12. Zero delay lanyard – Disconnect and stow.

BEFORE LEAVING THE AIRCRAFT.

1. Complete the entries in Form 781.
2. Ensure the security of the airplane before leaving the area.

T.O. 1T-33A-ICL-1

T-33A TAKEOFF AND LANDING DATA CARD

CONDITIONS

	TAKEOFF	LANDING
GROSS WEIGHT	_____	_____
RUNWAY LENGTH	_____	_____
OAT	_____	_____
PRESSURE ALTITUDE	_____	_____
RUNWAY GRADIENT	_____	_____
EFFECTIVE WIND COMPONENT	_____	_____
FORECAST ALTIMETER SETTING	_____	_____

TAKEOFF

TAKEOFF DISTANCE	_____
TAKEOFF SPEED	_____
2000 FT ACCELERATION CHECK	_____

LANDING

	IMMEDIATELY AFTER TAKEOFF	FINAL LANDING
APPROACH SPEED	_____	_____
LANDING GROUND ROLL	_____	_____

**T-33A ABBREVIATED CHECKLIST
EMERGENCY PROCEDURES****TABLE OF CONTENTS**

	Page
GROUND OPERATING EMERGENCIES . .	E-3
ENGINE FIRE DURING START	E-3
EMERGENCY GROUND EGRESS	E-3
TAKEOFF EMERGENCIES	E-3
ABORT AND/OR BARRIER ENGAGEMENT	E-3
ENGINE FAILURE DURING TAKEOFF . . .	E-4
ENGINE FIRE DURING TAKEOFF	E-4
NOSE COMPARTMENT DOORS MALFUNCTION	E-5
IN-FLIGHT EMERGENCIES	E-5
ENGINE FAILURE	E-5
AIR START PROCEDURES	E-5
UNSUCCESSFUL AIR START	E-7
EJECTION	E-7
BEFORE EJECTION	E-7
EJECTION PROCEDURE	E-7
BAILOUT PROCEDURE	E-8
ILLUMINATED FIRE OR OVERHEAT WARNING LIGHTS	E-8
COCKPIT SMOKE AND FUMES REMOVAL	E-9
OIL SYSTEM FAILURE	E-9
ENGINE VIBRATION OR FLUCTUATING FUEL PRESSURE	E-10
THROTTLE LINKAGE FAILURE	E-10

FLOAT VALVE FAILS OPEN	E-10
FLOAT VALVE FAILS CLOSED	E-11
TIP TANK FUEL SYSTEM	
MALFUNCTION	E-11
MALFUNCTION OF RELEASE	
MECHANISM	E-12
HIGH LOADMETER READING	E-12
ZERO LOADMETER READING	E-13
GENERATOR FAILURE PROCEDURE	E-13
INVERTER FAILURE	E-13
ASYMMETRICAL FLAP CONDITION	E-13
LANDING EMERGENCIES	E-14
FLAMEOUT LANDING PROCEDURES	E-14
LANDING WITH DAMAGED AIRPLANE	E-14
LANDING WITHOUT CANOPY	E-14
EMERGENCY LANDING GEAR	
EXTENSION	E-15
LANDING WITH GEAR RETRACTED	E-15
LANDING GEAR LEVER	
MALFUNCTION	E-16
LANDING GEAR FAILS TO REMAIN	
IN DOWN POSITION	E-16
LANDING GEAR UPLOCK	
MALFUNCTION	E-17
DITCHING PROCEDURE	E-18

NOTE

Procedures appearing in **BOLD FACE CAPITAL** letters are considered critical and should be committed to memory.

GROUND OPERATING EMERGENCIES

ENGINE FIRE DURING START.

1. **STARTING FUEL SWITCH, GANG START SWITCH OR THROTTLE** (as applicable) – **OFF**.
2. Start switch – **STOP START** (after 30 seconds of wind-milling).

EMERGENCY GROUND EGRESS.

1. Lap belt and shoulder harness – Release.
2. Oxygen hose and communication cord – Disconnect.
3. Canopy – Open. Jettison/Break.
4. Abandon aircraft.

TAKEOFF EMERGENCIES

ABORT AND/OR BARRIER ENGAGEMENT.

1. **THROTTLE** – **OFF**.
2. **SPEED BRAKES** – **UP**.
3. **Barrier** – **Engage Squarely** (if unable to stop on the runway).

T.O. 1T-33A-1CL-1

ENGINE FAILURE DURING TAKEOFF.

A. If decision is made to stop:

1. ABORT.

B. If takeoff is continued:

1. TIP TANKS - JETTISON.
2. ZOOM, IF POSSIBLE, AND EJECT.

ENGINE FIRE DURING TAKEOFF.

ILLUMINATED FIRE OR OVERHEAT WARNING LIGHTS (DURING TAKEOFF).

A. If decision is made to stop:

1. ABORT.

B. If takeoff is continued:

1. MAINTAIN POWER (to safe ejection altitude).
2. TIP TANKS - JETTISON (if necessary).
3. IF FIRE IS CONFIRMED - EJECT.
4. If fire cannot be confirmed land as soon as possible using minimum practical power.

T.O. 1T-33A-1CL-1

NOSE COMPARTMENT DOORS MALFUNCTION.

1. Speed Brakes - Down.
2. Airspeed - 130 to 215 Knots IAS.
3. Tip tanks - jettison if they contain fuel.
4. Land as soon as practical using 20 knots above normal on final approach. Use wide traffic pattern, making all banks shallow and smooth. Fly the airplane down very close to the runway. Do not attempt to spike the airplane on the runway and do not allow it to balloon.

IN-FLIGHT EMERGENCIES

ENGINE FAILURE.

AIR START PROCEDURES.

ABOVE 25,000 FEET.

1. Throttle - OFF.
2. Airspeed - 180 knots IAS.
3. Reduce electrical load.
4. Gang start switch - ON (after reaching 25,000 feet).
5. Throttle - Idle (when engine rpm stabilizes, then as required).

25,000 FEET MSL OR BELOW (LOW ALTITUDE GANG START).

1. GANG START SWITCH - ON.
2. THROTTLE - IDLE (if time and altitude permit).

T.O. 1T-33A-1CL-1

IF NO START, CONTINUE WITH STEPS OF ALTERNATE PROCEDURES FOLLOWING:

ALTERNATE PROCEDURE 1.

1. THROTTLE - OFF.
2. GANG START SWITCH - ON (if required).
3. THROTTLE - IDLE (when engine rpm stabilizes, then as required-;)

ALTERNATE PROCEDURE 2.

1. Throttle - OFF.
2. Gang start switch - OFF.
3. Fuel switches - GANG LOAD.
4. Air start ignition switch - ON.
5. Starting fuel switch - MANUAL.
6. Throttle - FULL OPEN.
7. Throttle - IDLE (when fuel pressure begins to rise).
8. Starting fuel switch - OFF (when engine rumbles).
9. Throttle - As required.

If still no start, continue with alternate procedure 3.

ALTERNATE PROCEDURE 3.

1. Throttle - OFF.
2. Gang start switch - OFF.
3. Fuel switches - GANG LOAD.
4. Emergency fuel switch - EMERGENCY.
5. Air start ignition switch - ON.
6. Starting fuel switch - MANUAL.
7. Throttle - FULL OPEN.
8. Throttle - IDLE (when fuel pressure begins to rise).
9. Starting fuel switch - OFF (when engine rumbles).
10. Throttle - As required.

T.O. 1T-33A-1CL-1

UNSUCCESSFUL AIR START.

1. Throttle - OFF.
2. Starting fuel or gang start switch (as applicable) - OFF.
3. Main fuel shutoff switch - OFF.
4. All fuel switches - OFF.

BEFORE EJECTION.

1. Advise other occupant of decision to eject.
2. IFF/SIF selector switch - EMERGENCY; (Mode 3, Code 77) transmit MAYDAY and give position report.
3. Lower helmet visor.
4. Reduce airspeed. *
5. Actuate bailout bottle.
6. Assume proper body position.

EJECTION PROCEDURE.

1. ORDER CREW MEMBER TO EJECT.
2. RAISE BOTH ARM RESTS.
3. SQUEEZE TRIGGER IN RIGHT-HAND GRIP.

T.O. 1T-33A-1CL-1

BAILOUT PROCEDURE (Ejection Seat Inoperable).

1. Lap belt, shoulder harness, oxygen and radio connections – Release.
2. Canopy – Jettison.
3. Bail out.
4. Parachute arming lanyard or ripcord handle – Pull (as applicable).

ILLUMINATED FIRE OR OVERHEAT WARNING LIGHTS

1. THROTTLE – MINIMUM PRACTICABLE POWER.
2. IF FIRE IS CONFIRMED – EJECT.
3. If fire cannot be confirmed – Use minimum power and land as soon as possible.

T.O. 1T-33A-1CL-1

COCKPIT SMOKE AND FUMES REMOVAL.

1. OXYGEN – 100%.
2. Check for presence of fire.
3. Battery and Generator switches – OFF (Only for an electrical fire).
4. Front and rear cockpit pressurization grilles and ducts – CLOSED.
5. Defroster – OFF.
6. Cabin Pressure – DUMP (if necessary).
7. Cabin temperature selector – COLD.
8. Speed brakes – DOWN. Extension of the speed brakes will facilitate cockpit smoke removal because the cockpit pressure dump valve empties into the speed brake area.
9. Cockpit ram air ventilator – OPEN.
10. Canopy – Jettison (if necessary). If smoke is caused by a short in the electrical wiring follow the procedures for High Loadmeter Reading.
11. Land as soon as practical.

OIL SYSTEM FAILURE.

1. Avoid high G forces.
2. Throttle – Adjust to between 68 and 85 percent rpm.
3. Land as soon as possible.

T.O. 1T-33A-1CL-1

ENGINE VIBRATION OR FLUCTUATING FUEL PRESSURE.

1. GANG START SWITCH - ON.
2. THROTTLE - 80 TO 96 PERCENT.

THROTTLE LINKAGE FAILURE.

With known throttle linkage failure at 25,000-ft, or below, with RPM at 70 percent, or below, proceed as follows:

1. Starting fuel switch - manual.
2. Starting fuel switch (aft cockpit) - automatic (if necessary). If solo, gangstart switch - ON.

With known throttle linkage failure with the gangstart system activated, proceed as follows:

1. Emergency fuel switch - emergency.
2. Gang start switch - off.
3. Starting fuel switch - manual.
4. Starting fuel switch (aft cockpit). Automatic (if necessary). If solo, gangstart switch - ON.

FLOAT VALVE FAILS OPEN.

1. Fuel selector switches - OFF, except the fuselage tank selector switch.
2. Tip, leading-edge, or main wing tanks - Transfer fuel (when fuselage tank contents have dropped to 60 gallons) until the fuselage tank is again full.
3. Repeat step 2 until the tip, leading-edge, and main wing tanks are empty.

E-10 Change 1

T.O. 1T-33A-1CL-1

FLOAT VALVE FAILS CLOSED.

1. Descent below the freezing level (if practicable).
2. Fill fuselage tank from one of the other tank groups.
3. At 240 knots IAS fishtail and porpoise the airplane.
4. Fuel tank selector switches - OFF, except for the tank with the malfunctioning valve.

TIP TANK FUEL SYSTEM MALFUNCTION.

1. Climb to 25,000 or 30,000 feet as rapidly as possible (the ambient air pressure of low altitudes will remain inside the tank if it may start the tank to feed).
2. Airspeed - 240 knots IAS.
3. Wings - Rock rapidly from side to side. Do not exceed 45-degree bank.
4. Tip tank circuit breaker - PULL.
5. Speed brakes - Cycle.

Change 1 E-11

T.O. 1T-33A-1CL-1

MALFUNCTION OF RELEASE MECHANISM.

1. Climb to 15,000 feet or more above the surrounding terrain.
2. Aileron boost – ON.
3. Airspeed – 195 knots IAS and make shallow turns, noting the degree of aileron control.
4. Gear, flaps and speed brakes – DOWN; simulate a landing approach.
5. Check aileron pressure and degree of aileron control required to hold the wings level as airspeed decreases.
6. Traffic pattern – Make a straight-in approach if the airplane can be controlled satisfactorily at an airspeed of 150 knots IAS or less.
7. Final approach – 20 knots above that speed where control difficulty occurred. In no case should a touchdown be attempted at more than 150 knots IAS.
8. Landing – Touch down on the side of the runway opposite the heavy tank.

HIGH LOADMETER READING.

1. Battery and generator switches – OFF.
2. All electrically powered equipment – OFF.
3. Battery and generator switches – ON.
4. Loadmeter – Monitor loadmeter for high readings while turning units back on.
5. Defective unit – OFF.

T.O. 1T-33A-1CL-1

ZERO LOADMETER READING.

1. Auxiliary windshield defroster – ON momentarily, then OFF.
2. Loadmeter – Check for an increase. If the reading increases it indicates an erroneously low reading or a faulty gage. Continue the flight and frequently recheck loadmeter.
3. Generator-out warning light – Check for illumination. If the light illuminates, the generator has failed.

GENERATOR FAILURE PROCEDURE.

1. All electrical equipment not needed to sustain flight – OFF except the command radio.
2. Command radio – Make emergency transmission and position report.
3. Fuselage tank fuel selector switch – OFF.
4. Standby inverter – ON (if necessary).
5. Lower flaps on downwind leg and do not extend speed brakes.

INVERTER FAILURE.

1. Select standby inverter.

ASYMMETRICAL FLAP CONDITION.

1. Flaps – Return To Symmetrical Position.
2. Airspeed – 160 Knots IAS Maximum.
3. Land – 20 knots above normal.

T.O. 1T-33A-1CL-1

LANDING EMERGENCIES

FLAMEOUT LANDING PROCEDURES.

1. Landing gear – DOWN (using the emergency landing gear extension procedures).
2. Wing flap lever – As desired.
3. Speed brakes switch – As desired.
4. Airspeed – 140 knots minimum until flare is initiated.

LANDING WITH DAMAGED AIRPLANE.

1. Climb – 15,000 feet above terrain and simulate a landing approach.
2. Airspeed – Note the minimum control speed.
3. Speed brakes, gear, and flaps – Down for descent to field.
4. Airspeed – 20 knots above minimum controllable speed during descent and in traffic pattern.
5. Traffic pattern – Fly a straight-in approach.

LANDING WITHOUT CANOPY.

1. Traffic pattern – Fly a straight-in approach 10 knots faster than normal.

T.O. 1T-33A-1CL-1

EMERGENCY LANDING GEAR EXTENSION.

1. Airspeed – 195 knots maximum (it may be necessary to slow down to 125 knots to reduce air pressure on the nose gear).
2. Landing gear lever – DOWN and locked.
3. Emergency selector lever – EMERGENCY. (Ensure that the lever is secured by the spring catch.)
4. Emergency hydraulic pump switch – ON, check load-meter for increase.
5. Gear unsafe light – OFF, check all wheel indicators showing.
6. Emergency hydraulic pump switch – OFF when gear is down and locked.

LANDING WITH GEAR RETRACTED.

1. Retract extended gear.
2. Tip tanks – jettison (if they contain fuel).
3. Final approach – NORMAL, flaps down.
4. Shoulder harness – LOCKED.
5. Speed brakes – UP.
6. Prior to touchdown accomplish the following:
 - a. Throttle – OFF.
 - b. Main fuel shutoff switch – CLOSE.
 - c. Generator and battery switches – OFF.
7. Flare and Touchdown as in normal landing.
8. When definitely stopped, evacuate aircraft.

T.O. 1T-33A-1CL-1

LANDING GEAR LEVEL MALFUNCTION.

LANDING GEAR LEVER FAILS TO REMAIN IN THE DOWN POSITION.

1. Landing gear lever – DOWN and hold.
2. Hydraulic pressure and landing gear indicators – Check.
3. Landing gear warning indicator and warning light circuit breakers on the right-hand side panel in the front cockpit – Pull out (locks landing gear lever in DOWN position).
4. Landing pattern – Fly a rectangular pattern, keeping airspeed below 195 knots IAS.
5. After touchdown – Roll straight ahead and stop.

LANDING GEAR LEVER STUCK IN UP POSITION.

1. Landing pattern – Fly a simulated flameout pattern.
2. Throttle – Reduce to lowest engine rpm consistent with maintaining safe flight conditions in the landing pattern.
3. Speed brakes – Cycle continuously to reduce normal hydraulic system pressure.
4. Emergency hydraulic system selector lever – EMERGENCY.
5. Emergency hydraulic pump switch – ON.
6. Throttle – OFF, after touchdown.
7. Speed brakes – Cycle continuously until engine rotation has stopped.
8. Emergency hydraulic pump switch – OFF, after landing gear safety clips are installed.

T.O. 1T-33A-1CL-1

LANDING GEAR LEVER STUCK IN DOWN POSITION.

1. Depress landing gear lever detent button and try to move lever to UP.
2. Trip landing gear lever solenoid lock release.
3. If gear does not retract – Return to the field, expend the excess fuel at speeds below 195 knots IAS, and land.

LANDING GEAR UPLOCK MALFUNCTION.

1. Landing gear – Recycle once.
2. Landing gear lever – DOWN.
3. Emergency hydraulic selector lever – EMERGENCY.
4. Emergency hydraulic pump switch – ON for 10 seconds, then OFF (to recock the uplocks).
5. Emergency hydraulic selector lever – NORMAL.
6. Landing gear lever – UP.

T.O. 1T-33A-1CL-1

DITCHING PROCEDURE.

1. IFF/SIF equipment – EMERGENCY.
2. Oxygen diluter lever – 100% OXYGEN, pressure dial – SAFETY.
3. Right armrest trigger safety pin – install.
4. Tip tanks – Retain.
5. Canopy – Jettison.
6. Gear – UP.
7. Parachute harness – Unbuckle, unless the dinghy is attached.
8. Shoulder harness and lap belt – Locked.
9. Throttle – OFF.
10. Wing flaps and speed brakes – DOWN.

T.O. 1T-33A-1CL-1

T-33A ABBREVIATED CHECKLIST PERFORMANCE DATA

TABLE OF CONTENTS

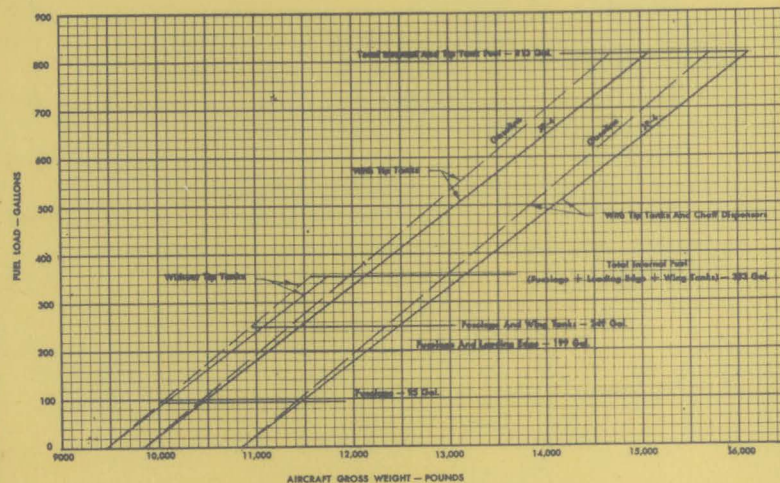
FUEL LOAD VS AIRCRAFT GROSS WEIGHT	P-2
TAKEOFF AND LANDING WIND COMPONENT CHART ..	P-3
TAKEOFF GROUND RUN DISTANCE	P-4
VELOCITY DURING TAKEOFF GROUND RUN – MILITARY THRUST	P-5
CRUISE CONTROL DATA SUMMARY – TIP TANKS	P-6
CRUISE CONTROL DATA SUMMARY – TIP TANKS AND CHAFF DISPENSERS	P-7
T-33 DIVERSION RANGE SUMMARY TABLE – TIP TANKS	P-8
T-33 DIVERSION RANGE SUMMARY TABLE – TIP TANKS AND CHAFF DISPENSERS	P-9
LANDING DISTANCE FOR OBSTACLE CLEARANCE – HARD STOP	P-10

FUEL LOAD VS. AIRCRAFT GROSS WEIGHT

MODEL: T-33A-S
DATA AS OF: 1 MARCH 1964
DATA BASED ON: CALCULATION

ENGINE: J33-A-35
FUEL DENSITY: 6.5 LB./GAL.
FUEL GRADE: JP-4

FUEL DENSITY:
JP-4 6.5 lb./gal.
Gasoline (Alternate Fuel) 6.5 lb./gal.
JP-5 (Emergency Fuel) 6.5 lb./gal. Approx.

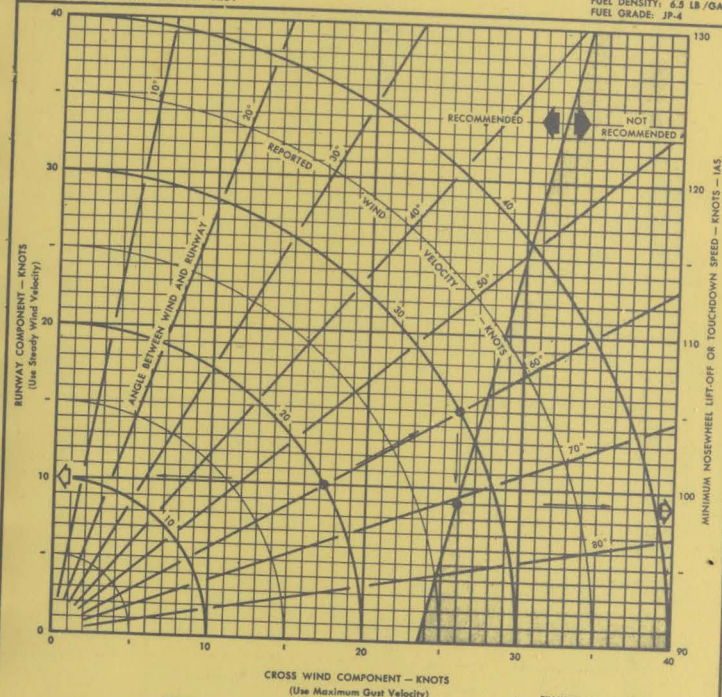


NOTE: 1. STANDARD CONFIGURATION (Tip Tanks) 13,100 lb.
WEIGHT OF MOUNTED CHAFF DISPENSERS (Empty) 390 lb.
WEIGHT OF HEAVIEST BUNDLES OF CHAFF (E8-20, 4/AL) 440 lb.
TOTAL AIRCRAFT WEIGHT WITH CHAFF DISPENSERS (Fully Loaded) 14,130 lb.
2. CREW OF TWO ASSUMED, ADJUST WEIGHT IF SINGLE CREW MEMBER IS CARRIED.
3. ADD WEIGHT OF TRAVEL POD (30 pounds) PLUS BAGGAGE IF CARRIED.

TAKE-OFF AND LANDING WIND COMPONENT CHART

MODEL: T-33A-S
DATA AS OF: 1 MAY 1963
DATA BASED ON: FLIGHT TEST

ENGINE: J33-A-35
FUEL DENSITY: 6.5 LB./GAL.
FUEL GRADE: JP-4



NOTES:

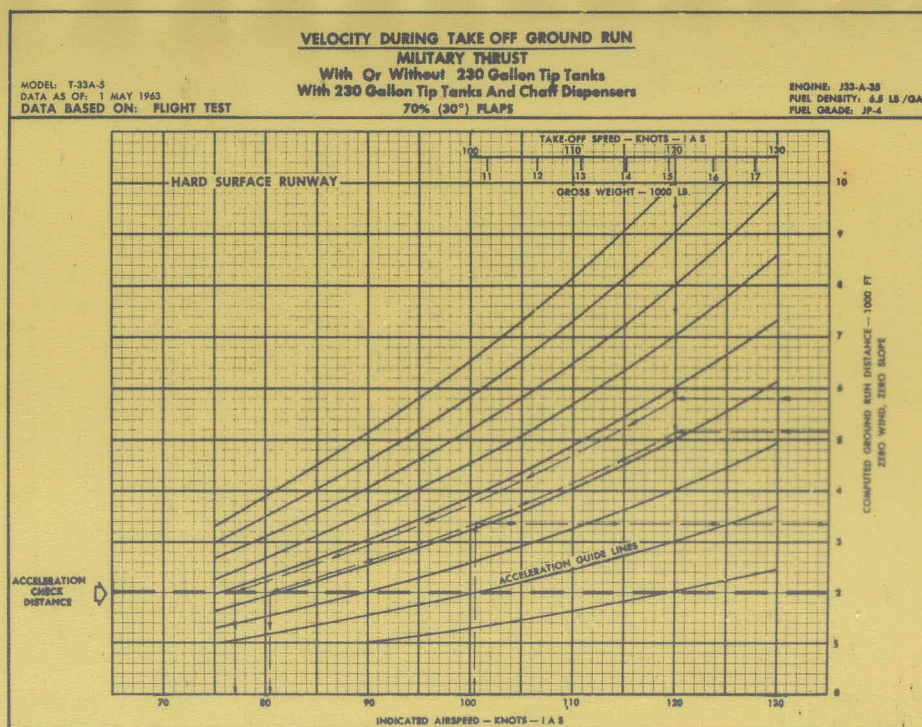
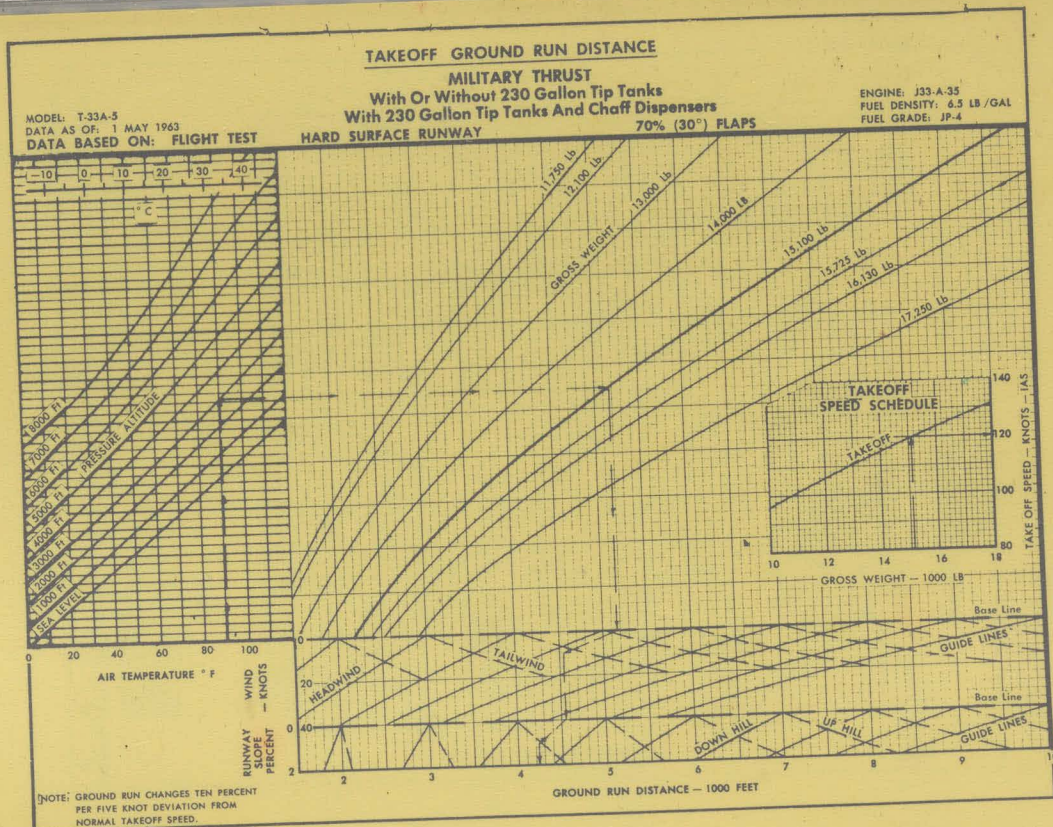
1. REFER TO SECTION II FOR TAKE-OFF PROCEDURE.
2. CHECK MINIMUM TAKE-OFF (or Touchdown) AIRSPEED, IF GUSTS EXCEED TWENTY-FIVE KNOTS.
3. ALLOWANCE FOR AIRSPEED POSITION ERROR INCLUDED.
4. MAXIMUM RECOMMENDED CROSSWIND BASED ON FIFTEEN DEGREES SIDESLIP.

EXAMPLE:

FOR TWENTY-KNOT WIND, SIXTY DEGREES FROM RUNWAY HEADING, WITH GUSTS UP TO THIRTY KNOTS:

1. USE 10-KNOT HEADWIND FOR TAKE-OFF (or landing) PLANNING.
2. A 26-KNOT MAXIMUM CROSSWIND COMPONENT REQUIRES 99 KNOTS - IAS MINIMUM TAKE-OFF (or Touchdown) SPEED.

LANDING CONDITION: DRIFT MAY BECOME SEVERE DURING LANDING GROUND ROLL, IF AIRSPEED TRANSITION THROUGH SHADED (Not Recommended) AREA OF CHART IS NECESSARY. DRIFT WILL CONTINUE UNTIL A SUBSTANTIAL PORTION OF THE AIRCRAFT'S WEIGHT IS ON THE RUNWAY.



T.O. 1T-33A-1CL-1

CRUISE CONTROL DATA SUMMARY

 MODEL: T33A-5
 DATA AS OF: 1 MARCH 1964
 DATA BASED ON: FLIGHT TEST
 Zero Wind
 Altitude Thrust
 CLIMB PERFORMANCE

 ENGINE: J33A-35
 FUEL DENSITY: 6.5 LB/GAL
 FUEL GRADE: JP-4

Standard Day

PRESSURE ALTITUDE - 1000 FT	CLIMB PERFORMANCE				CRUISE PERFORMANCE				FLIGHT TIME			
	Altitude Thrust				High Speed Cruise				Standard Day			
	AVERAGE CLIMB TAS	TIME TO ACCELERATE AND CLIMB MINUTES	DISTANCE IN CLIMB NAUTICAL MILES	FUEL USED TO ALTITUDE GALLONS	FUEL REMAINING AT ALTITUDE GALLONS	% RPM	IAS	TAS	FUEL FLOW GALLONS PER HOUR	NAUTICAL MILES PER GALLON	TOTAL TIME ENROUTE (ESTIMATED CRUISE TIME) Hours + Minutes	
											1 + 00	2 + 30
42 (-46.5)	37 (-46.5)	37 (-46.5)	196 (4.45)	245 (3.00)	568 (4.45)	100	213	421	210	2.00	3 + 20	3 + 32
						99	201	400	195	2.05	3 + 23	3 + 39
						X	X	X	X	X	X	X
40 (-46.5)	30.5 (-46.5)	30.5 (-46.5)	156 (4.35)	233 (4.30)	580 (4.30)	100	224	424	230	1.836	3 + 10	3 + 18
						97.5	205	390	200	1.971	3 + 17	3 + 24
						97.0	201	385	195	1.970	3 + 18	3 + 26
											3 + 34	3 + 42
38 (-46.5)	31.5 (-46.5)	26.5 (-46.5)	132 (4.20)	219 (4.20)	594 (4.20)	96.0	218	394	207	1.900	3 + 14	3 + 20
						95.5	208	381	202	1.900	3 + 14	3 + 21
						95.0	201	369	195	1.900	3 + 16	3 + 22
											3 + 32	3 + 39
35 (-46.5)	31.3 (-46.5)	22.0 (-46.5)	104 (4.02)	197 (4.02)	616 (4.02)	96.0	238	407	235	1.720	3 + 05	3 + 09
						95.5	215	367	205	1.790	3 + 12	3 + 19
						95.0	201	346	195	1.762	3 + 14	3 + 23
											3 + 31	3 + 38
30 (-44.4)	30.3 (-44.4)	17.0 (-44.4)	76 (1.30)	173 (1.30)	640 (1.30)	96.0	269	414	275	1.490	2 + 55	2 + 52
						95.0	215	339	210	1.615	3 + 10	3 + 15
						89.0	201	319	200	1.610	3 + 12	3 + 19
											3 + 27	3 + 34
25 (-34.5)	29.6 (-34.5)	13.0 (-34.5)	55 (1.85)	152 (1.40)	661 (1.40)	96.0	294	420	335	1.260	2 + 39	2 + 30
						86.0	210	304	210	1.452	3 + 10	3 + 12
						85.0	201	293	205	1.444	3 + 08	3 + 14
											3 + 25	3 + 28
20 (-24.5)	29.0 (-24.5)	10.5 (-24.5)	39 (1.59)	132 (1.59)	681 (1.59)	96.0	325	423	395	1.070	2 + 24	2 + 09
						83.5	219	293	200	1.280	3 + 01	3 + 05
						82.0	201	270	215	1.260	3 + 05	3 + 10
											3 + 16	3 + 22
10 (-4.4)	27.8 (-4.4)	5.0 (-4.4)	15 (1.35)	96 (1.35)	717 (1.35)	76.5	201	230	265	8650	2 + 50	

NOTE: MAXIMUM ENDURANCE.

REMARKS:

1. TOTAL FLIGHT TIME IS BASED ON ESTIMATED TIME ENROUTE, INCLUDING 40 GALLON TAXI, TAKEOFF, AND ACCELERATION TO CLIMB SPEED. FUEL ALLOWANCE PLUS MAXIMUM FUEL DISCREPANCY FUEL TO SEA LEVEL. TWO MINUTES INCLUDED FOR TAKEOFF AND ACCELERATION TO CLIMB SPEED. REMAINING FUEL IS COMPUTED AT 10,000 FEET.

2. TAKEOFF GROSS WEIGHT: 15,100 LB

3. DATA BASED ON: T.O. 1T-33A-1 (REVISION 2)

* COLD DAY

** APPROXIMATE VALUE

T.O. 1T-33A-1CL-1

CRUISE CONTROL DATA SUMMARY

 MODEL: T33A-5
 DATA AS OF: 1 MARCH 1964
 DATA BASED ON: FLIGHT TEST
 Zero Wind

 ENGINE: J33A-35
 FUEL DENSITY: 6.5 LB/GAL
 FUEL GRADE: JP-4

Standard Day

PRESSURE ALTITUDE - 1000 FT	CLIMB PERFORMANCE				CRUISE PERFORMANCE				FLIGHT TIME			
	Military Thrust				High Speed Cruise				Standard Day			
	AVERAGE CLIMB TAS	TIME TO ACCELERATE AND CLIMB MINUTES	DISTANCE IN CLIMB NAUTICAL MILES	FUEL USED TO ALTITUDE GALLONS	FUEL REMAINING AT ALTITUDE GALLONS	% RPM	IAS	TAS	FUEL FLOW GALLONS PER HOUR	NAUTICAL MILES PER GALLON	TOTAL TIME ENROUTE (ESTIMATED CRUISE TIME) Hours + Minutes	
											1 + 00	2 + 30
37 (-46.5)	299 (-46.5)	37 (-46.5)	190 (5.50)	285 (4.81)	528 (4.81)	100	203	367	265	1.383	2 + 54	3 + 26
						99	192	348	248	1.403	2 + 58	3 + 31
						X	X	X	X	X	X	X
35 (-44.4)	296 (-44.4)	32 (-44.4)	152 (3.82)	266 (3.82)	547 (3.82)	100	220	375	280	1.335	2 + 46	2 + 47
						98.0	200	344	250	1.378	2 + 53	2 + 56
						97.5	196	338	245	1.374	2 + 54	2 + 56
											2 + 47	2 + 47
30 (-34.5)	289 (-34.5)	24 (-34.5)	110 (2.26)	225 (2.26)	588 (2.26)	96.0	222	350	270	1.302	2 + 45	2 + 46
						94.5	209	332	255	1.310	2 + 48	2 + 51
						93.5	196	312	240	1.299	2 + 51	2 + 54
											2 + 56	3 + 00
25 (-24.5)	284 (-24.5)	18 (-24.5)	77 (1.47)	192 (1.47)	621 (1.47)	96.0	257	367	315	1.159	2 + 35	2 + 31
						91.5	219	318	260	1.210	2 + 46	2 + 49
						89.5	196	287	240	1.185	2 + 50	2 + 55
											2 + 55	3 + 00
20 (-14.4)	279 (-14.4)	14 (-14.4)	54 (1.93)	163 (1.93)	650 (1.93)	96.0	288	377	370	1.010	2 + 22	2 + 13
						88.5	226	300	275	1.092	2 + 42	2 + 44
						86.0	196	264	250	1.089	2 + 47	2 + 51
											2 + 51	2 + 54
15 (-4.4)	273 (-4.4)	10 (-4.4)	37 (1.40)	135 (1.40)	678 (1.40)	96.0	314	383	435	.88	2 + 08	2 + 36
						86.5	236	287	295	.97	2 + 37	2 + 35
						85.0	196	245	260	.95	2 + 45	2 + 47
											2 + 47	2 + 50
10 (-4.4)	269 (-4.4)	7 (-4.4)	23 (1.35)	110 (1.35)	703 (1.35)	80.0	196	224	285	.78	2 + 39	

NOTE: MAXIMUM ENDURANCE.

REMARKS:

1. FLIGHT TIME IS BASED ON ESTIMATED TIME ENROUTE, INCLUDING 40 GALLON TAXI, TAKEOFF, AND ACCELERATION TO CLIMB SPEED. FUEL ALLOWANCE PLUS MAXIMUM FUEL DISCREPANCY FUEL TO SEA LEVEL. TWO MINUTES INCLUDED FOR TAKEOFF AND ACCELERATION TO CLIMB SPEED. REMAINING FUEL IS COMPUTED AT 10,000 FEET.

2. TAKEOFF GROSS WEIGHT: 14,300 LB

3. DATA BASED ON: T.O. 1T-33A-1 (REVISION 2)

* COLD DAY

** APPROXIMATE VALUE

Date As Of: 15 Jul 61

Basic: Flight Tests

Ref: T.O. (1T-33A-1)

Detd: 15 Jul 61

T-33 DIVERSION RANGE SUMMARY TABLE

With 230 Gallon Tip Tanks

CONFIGURATION

Two 230 Gallon Tip Tanks

STANDARD DAY

ZERO WIND

FUEL	RANGE — TIME	INITIAL ALTITUDE — 1000 FT.										N. MI.	Miles
		5.1	5	10	15	20	25	30	35	40			
60 GAL.	Cruising At Same Altitude	27	34	42	51	62	70	78	86	93		N. MI.	
	Best Altitude	105.5	107.0	108.5	110.5	112.5	114.5	115.0	115.5	116.0		Min.	
	Using Best Alt. Max Range Descent (250 Knts)	5/10	10/15	10/15	15/20	20/20	25/25	30/30	35/35	40/40	1000 Ft.		
	Using Best Alt. High Speed Descent (250 Knts)	29	38	43	53	63					N. MI.		
80 GAL.	Cruising At Same Altitude	41	50	62	73	89	102	114	126	137		N. MI.	
	Best Altitude	108.0	110.0	112.5	114.5	118.0					Min.		
	Using Best Alt. Max Range Descent (250 Knts)	5/15	10/20	20/20	20/25	25/25	25/30	30/35	35/40	40/40	1000 Ft.		
	Using Best Alt. High Speed Descent (250 Knts)	51	62	73	82	96	104	114	124		N. MI.		
100 GAL.	Cruising At Same Altitude	54	66	81	96	116	136	152	167	181		N. MI.	
	Best Altitude	111.0	113.5	116.5	120.0	124.0	128.0	130.0	130.5		Min.		
	Using Best Alt. Max Range Descent (250 Knts)	15/20	20/25	25/25	25/30	30/30	30/35	35/40	40/40	40/40	1000 Ft.		
	Using Best Alt. High Speed Descent (250 Knts)	76	90	104	116	132	140	153	167	177	N. MI.		
150 GAL.	Cruising At Same Altitude	88	106	128	153	182	213	238	265	290		N. MI.	
	Best Altitude	117.5	121.5	126.5	132.0	138.5	143.5	146.0	147.5	148.0	Min.		
	Using Best Alt. Max Range Descent (250 Knts)	30/30	30/35	35/35	35/40	40/40	40/40	40/40	40/40	40/40	1000 Ft.		
	Using Best Alt. High Speed Descent (250 Knts)	156	172	192	207	228	245	262	275	286	N. MI.		
200 GAL.	Cruising At Same Altitude	122	146	176	209	252	290	325	359	398		N. MI.	
	Best Altitude	124.5	130.0	136.5	144.0	152.0	159.5	163.0	164.5	165.0	Min.		
	Using Best Alt. Max Range Descent (250 Knts)	40/40	40/40	40/40	40/40	40/40	40/40	40/40	40/40	40/40	1000 Ft.		
	Using Best Alt. High Speed Descent (250 Knts)	251	273	294	314	335	353	367	382	393	N. MI.		
KNOTS I.A.S.	Military Climb	274	264	254	243	233	222	212	202	191		N. MI.	
	Level Cruise	304	278	256	231	214	202	195	197	194		N. MI.	
START DESCENT WITH	N. MILES TO GO	0	13	27	42	57	74	93	115	143	MAX RANGE DESCENT		
	FUEL REMAINING	20	35	43	50	56	61	68	75	85	HIGH SPEED DESCENT		
	N. MILES TO GO	0	4	9	13	18	22	27	31	36			
	FUEL REMAINING	20	23	25	27	29	30	32	33	35			

EXAMPLE:

Best Altitude 15/20

maximum range descent

high speed descent

REMARKS:

Twenty gallon allowance included for approach and landing after Military Thrust climb, level cruise, and either a Max Range Descent or a High Speed Descent (250 Knts) to sea level. Cruise at initial altitude includes allowance for Max Range Descent and twenty gallon approach and landing fuel.

Date As Of: 15 Jul 61
 Basis: Flight Tests
 Ref: T.O. (1T-33A-1)
 Detd: 15 Jul 61

T-33 DIVERSION RANGE SUMMARY TABLE

With 230 Gallon Tip Tanks And Chaff Dispensers

CONFIGURATION

Tip Tanks and Chaff Dispensers

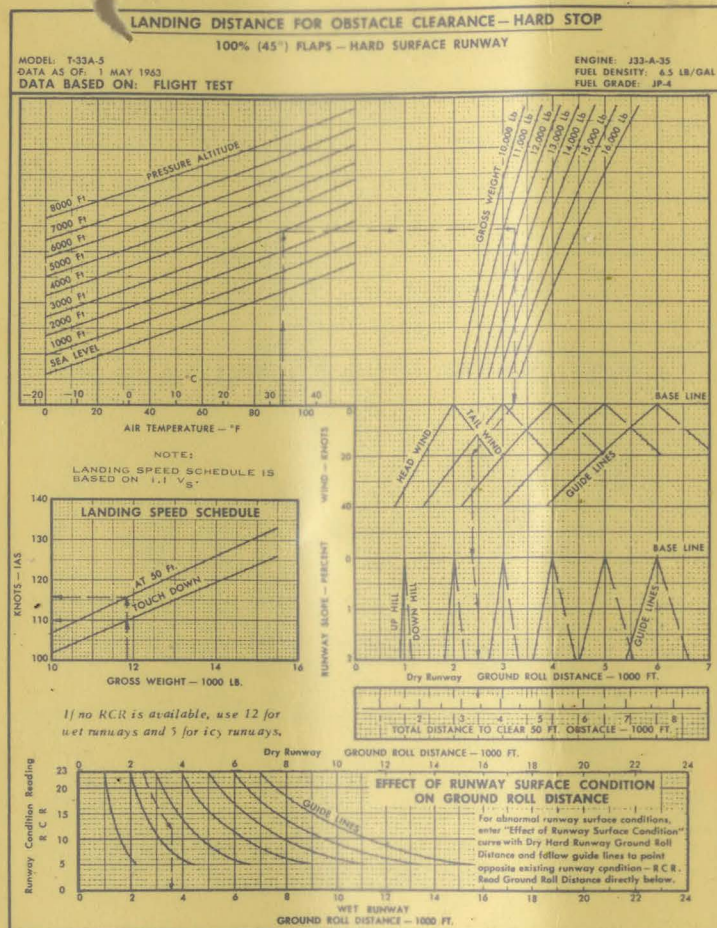
STANDARD DAY

ZERO WIND

		INITIAL ALTITUDE — 1000 FT.											
FUEL	RANGE — TIME	5.1	5	10	15	20	25	30	35	40			
60 GAL.	Cruising At Same Altitude	25	33	42	52	62						N. MI.	
	Best Altitude	105.5	109.0	112.5	115.5	117.5						Min.	
	Using Best Alt. Max Range Descent (250 Knts)	5/10	10/15	10/15	15/15	20/20	25/25	30/30	35/35		1000 Ft.		
	Using Best Alt. High Speed Descent (250 Knts)	27	35	42	52	62					N. MI.		
80 GAL.	Cruising At Same Altitude	39	48	60	73	86	100	111	122		N. MI.		
	Best Altitude	108.5	112.0	116.5	120.0	123.0	126.0	128.0	131.0		Min.		
	Using Best Alt. Max Range Descent (250 Knts)	10/10	10/15	15/20	20/20	25/25	25/25	30/30	35/35	40/40	1000 Ft.		
	Using Best Alt. High Speed Descent (250 Knts)	45	53	65	77	89	100	111	122		N. MI.		
100 GAL.	Cruising At Same Altitude	52	63	78	94	110	127	140	154		N. MI.		
	Best Altitude	111.5	115.5	120.5	124.5	128.0	131.0	134.0	136.5		Min.		
	Using Best Alt. Max Range Descent (250 Knts)	15/15	15/15	20/20	25/25	25/25	30/30	35/35	35/35	40/40	1000 Ft.		
	Using Best Alt. High Speed Descent (250 Knts)	66	76	90	104	117	130	145	154		N. MI.		
150 GAL.	Cruising At Same Altitude	85	102	123	146	169	192	212	231		N. MI.		
	Best Altitude	118.5	123.5	130.0	135.5	140.5	144.5	147.5	151.0		Min.		
	Using Best Alt. Max Range Descent (250 Knts)	25/25	25/25	30/30	30/35	35/35	35/35	35/35	35/35	40/40	1000 Ft.		
	Using Best Alt. High Speed Descent (250 Knts)	127	143	160	177	196	210	223	231		N. MI.		
200 GAL.	Cruising At Same Altitude	117	140	167	197	227	257	283	307		N. MI.		
	Best Altitude	125.0	132.0	140.0	147.0	152.5	157.5	161.0	165.0		Min.		
	Using Best Alt. Max Range Descent (250 Knts)	30/30	30/35	35/35	35/35	35/35	35/35	35/35	35/35	40/40	1000 Ft.		
	Using Best Alt. High Speed Descent (250 Knts)	196	214	239	257	272	287	299	307		N. MI.		
KNOTS I.A.S.	Military Climb	264	254	243	233	222	212	202	191		N. MI.		
	Level Cruise	284	263	241	224	212	207	198	195		N. MI.		
	N. MILES TO GO	0	13	27	42	57	74	93	115	MAX RANGE DESCENT			
	FUEL REMAINING	20	35	43	50	56	61	68	75	HIGH SPEED DESCENT			
START DESCENT WITH	N. MILES TO GO	0	4	9	13	18	22	27	31				
	FUEL REMAINING	20	23	25	27	29	30	32	33				

EXAMPLE: Best Altitude 30/35
 maximum range descent

REMARKS: Twenty gallon allowance included for approach and landing after Military Thrust climb, level cruise, and either a Max Range Descent or a High Speed Descent (250 Knts) to sea level. Cruise at initial altitude includes allowance for Max Range Descent and twenty gallon approach and landing fuel.



CHECKLIST FOREWORD

YOUR RESPONSIBILITY. In accordance with AFR 60-9, the flight crew is required to use this checklist when operating the subject aircraft.

HOW TO BE ASSURED OF HAVING LATEST DATA. Refer to T.O. 0-1-1-5 which is issued weekly and devoted solely to the listing of all current flight manuals, safety supplements, and checklists. Its frequency of issue and brevity ensures an accurate, up-to-date listing of these publications.

TECHNICAL ORDER NUMBER. This checklist is identified by a T.O. number that is identical with that of the applicable Flight Manual except for the addition of the letters CL (checklist) and a suffix number indicating the crewmember to which it applies.

CONTENT. This checklist consists of three parts, normal procedures, emergency procedures, and performance charts. The numbered items correspond to identically numbered items in the amplified procedures in Sections II and III of the Flight Manual. Emergency procedures are identified by a yellow and black striped border. A Takeoff and Landing Data Card is included at the end of the normal procedures checklist.

FLIGHT MANUAL. This checklist does not replace the amplified version of the procedures in the Flight Manual. To fly the airplane safely and efficiently, you must read and thoroughly understand why each step is performed and why it occurs in a certain sequence.

CONCURRENCY. As changes are made to the amplified checklists in the Flight Manual, concurrent changes will be made to this checklist so that both will agree. However, a change to the Flight Manual may not affect the amplified procedures. Therefore, the Flight Manual date may not be the same as the checklist date. To determine the checklist applicable to a given Flight Manual issue, refer to the bottom of the Flight Manual A page under Current Flight Crew Checklist. For purposes of determining the concurrency between the Flight Manual and this checklist, the latest date of a Safety Supplement affecting this checklist will be considered to be the latest change date of the Flight Manual.

SUPPLEMENTS. Whenever you receive a supplement affecting your Checklist write in the appropriate change information and make a notation on the bottom of the page to indicate that it reflects a certain supplement. A Checklist change incorporating the changes of the supplement will be made available to you.

Note that there is no action in the Checklist program that constitutes authority for discarding a Supplement. Such action is authorized only through the title page of the Flight Manual, another supplement, or T.O. 0-1-1-5.

CHANGES AND REVISIONS. Whenever you receive a normal change or revision to your checklist, check to ascertain that it reflects all outstanding Safety Supplements that affect the checklist. If it does not, add in the required information by hand (sometimes you will be able to accomplish this end simply by retaining the change page which references the outstanding supplement).

BINDERS. Binders containing plastic envelopes to hold and protect the checklist pages are available through normal AF supply channels. The binders are available with either 15, 25, or 40 envelopes. The Air Force Stock List numbers for these binders are: 7510-766-4268, 7510-766-4269, 7510-766-4270 respectively. Be sure to order enough binders; if you have a large checklist you may want to carry it in two small binders instead of a large single large one.

COMMENTS AND QUESTIONS. This checklist reflects decisions made by the using commands at the Command Review Conference. Any recommended changes to the Flight Manual should be submitted on AF Form 847 in accordance with the instructions in Section VIII of T.O. 00-5-1. These should be forwarded through Command Headquarters to Commander, SMAMA, McClellan AFB, Calif., 95652, Attn: MMSTA. AF Forms 847 are routed to MMSTA for control purposes. All other comments and questions transmitted by means other than AF Forms 847 will be submitted directly to the Flight Manual Manager, SMAMA, McClellan AFB, California 95652, Attn: MMEA.





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