TM 1-1510-253-CL

TECHNICAL MANUAL

OPERATOR'S AND CREWMEMBER'S CHECKLIST

ARMY MODEL C-26E AIRCRAFT

DISTRIBUTION STATEMENT A: Approved for public release, distribution is unlimited.

HEADQUARTERS, DEPARTMENT OF THE ARMY
21 MARCH 2012

GENERAL INFORMATION AND SCOPE

SCOPE. This checklist contains the operator's and crewmember's checks to be accomplished during normal and emergency operations.

GENERAL INFORMATION. This checklist consists of three parts: normal procedures, emergency procedures, and performance data. Normal procedures consist of the procedures required for normal flight. Emergency procedures are subdivided into classifications as follows: engine, propeller, fire, fuel, electrical, landing and ditching, flight controls, electrothermal propeller de-ice, and FMS/flight displays. Performance data consists of performance checks.

This checklist must be onboard aircraft for all flight operations. Procedures specified in Flight Manual Supplements are fully integrated in this checklist. These checklist procedures take precedence over procedures specified in applicable Flight Manual Supplements. Where there is any difference; this checklist has priority.

Normal Procedure Pages. The normal procedures checklist is a condensed version of the amplified checklist appearing in the normal procedures or crew duties portion of the applicable operator's manual except when changed by the Flight Manual Supplements and consequently represented in this checklist.

Emergency Procedure Pages. Requirements for this section of the condensed checklist manual (CL) are identical to those for the normal procedures, except that information is drawn from the amplified checks in the emergency procedures portion of the operator's manual, Supplemental Type Certificates (STC), and Flight Manual Supplement. Emergency requirements are subdivided into classifications listed in the General Information paragraph. Immediate actions are <u>underlined</u> and shall be memorized, and when necessary, the procedures accomplished from memory.

PERFORMANCE PAGES. The contents of the performance checks procedures of this manual are a detailed version of the procedure from the Normal Procedures pages designated by a ★

The detailed procedures in the performance checklist are the same as those annotated with a ★ in the amplified normal procedures checklist in the Operator's Manual except as modified or changed by the STC Flight Manual Supplements and included in this checklist. The condensed normal procedures checklist has only the title of the procedure annotated with a ★, which indicates that the detailed procedure is included in the performance checklist.

SYMBOLS PRECEDING NUMBERED STEPS.

*	Indicates performance of steps is mandatory for all "Thru Flights"
★	Indicates a detailed procedure for this step is included in the Expanded Checklist Section, located at the back of this checklist.
O	Indicates "if installed" or "as applicable".
G	Indicates steps are applicable only when Ground Power Unit is connected and operating properly.

ABBREVIATIONS AND TERMINOLOGY

ADC ..... Air Data Computer
AFD ..... Adaptive Flight Display
AHS ..... Attitude Heading System
AHRS ..... Attitude and Heading Reference System
AWI ..... Alcohol and Water Injection
CAWI ..... Continuous Alcohol-Water Injection
CDU ..... Control Display Unit
CVR ..... Cockpit Voice Recorder
DCP ..... Display Control Panel
EGPWS . Enhanced Ground Proximity Warning System
ESIS ..... Electronic Standby Instrument System
FGC ..... Flight Guidance Computer
FGP ..... Flight Guidance Panel
GPS ..... Global Positioning System
ISS ..... Impending Stall Speed

ABBREVIATIONS AND TERMINOLOGY — Continued

LSC ..... Low Speed Cue

NTS ..... Negative Torque Sensing

NGS ..... Nose Gear Steering

PFD ..... Primary Flight Display

SAS ..... Stall Avoidance System

TCAS ..... Traffic Collision Avoidance System

TERMINOLOGY.

Power – Maximum Allowable. Power settings that do not exceed maximum torque (110%) or maximum EGT (650°C) and do not jeopardize aircraft control.

Power – As required. Power settings required for current mode of flight (climb, cruise, or decent) that do not exceed maximum continuous power (100% torque or 650°C EGT).

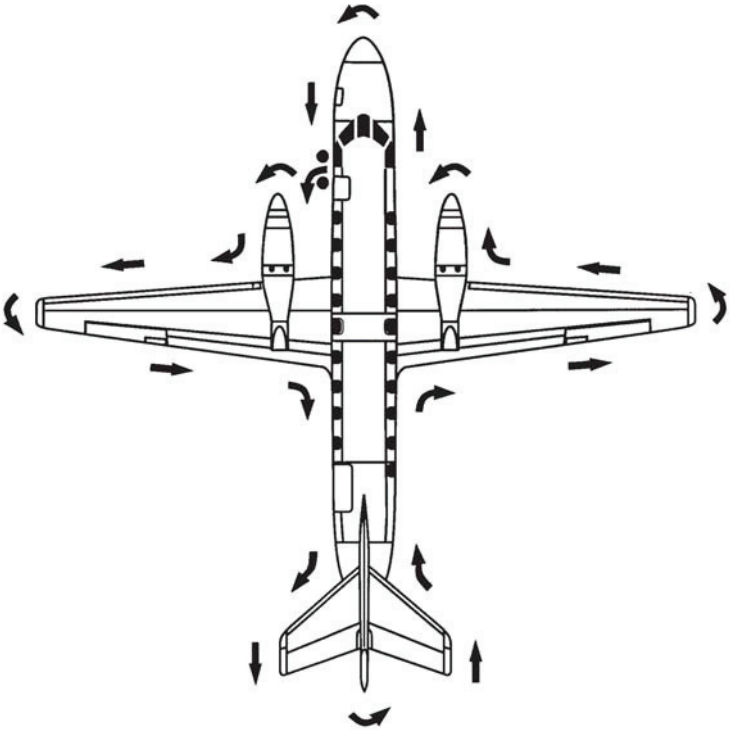
Land – As Soon As Possible. Execute landing to nearest suitable landing area without delay; may or may not be an airfield.

Land – As Soon as Practicable. Executing a landing to nearest suitable airfield.

Thru Flight. Short period stopovers, turnaround missions, or continuation flights, which are scheduled during same mission day and when no complete crew change or maintenance has occurred. Refueling is not considered maintenance. Remain Over Night (RON) is not considered Thru Flight.

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can improve this manual. If you find any mistakes or if you know of a way to improve these procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms), directly to: Commander, U.S. Army Aviation and Missile Command, ATTN: AMSAM-MMA-NP, Redstone Arsenal, AL 35898-5000. A reply will be furnished to you. You may also send in your comments electronically to our E-mail address: 2028@redstone.army.mil or by fax 256-842-6546/DSN 788-6546. For the World Wide Web use: https://amcom2028.redstone.army.mil. Instructions for sending an electronic 2028 may be found at the back of the applicable Operator's manual immediately preceding the hard copy 2028.



Exterior Walk Around Diagram

NORMAL PROCEDURES

BEFORE EXTERIOR CHECK

1. Aircraft / Flight Publications — CHECK
2. ★ Oxygen system — CHECK
3. **Landing Gear** Handle / Emer Controls — **DOWN** / STOWED
4. **PARKING BRAKE** — SET As Required
5. Fuel Caps — CHECK Secure
6. ESIS — **TEST** (Check Green Light On)
7. **BATTERIES** — CHECK Voltage/ON/CHECK Disconnects
8. Exterior Lights — ON / CHECK
9. Cargo Door — OPEN
10. Exterior Lights — **OFF**
11. Cargo Door Secondary Warning Light — TEST
12. Fuel Quantity Gauge — TEST / VERIFY Quantity
13. **AWI QTY**, **OXYGEN PRESS** & **OAT** Gauges — CHECK
14. **BATTERIES** — **OFF**
15. **CONTROL LOCK** — SET As Required
16. Tie-downs and Covers — REMOVE
17. Fuel Samples — CHECK

EXTERIOR CHECK

LEFT WING

1. Air Cycle Turbine and Battery Vents — CHECK
2. Magnastick — CHECK
3. Gear Doors — OPEN
4. Wheel Well — CHECK
5. Landing Gear Assembly — CHECK
6. Gear Doors — CLOSE
7. ★ Fire Extinguisher Pressure — CHECK

8. Oil Cooler & Engine Inlets — CHECK
9. Prop Blades & Spinner — CHECK
10. Oil Bypass, Quantity & Cap — CHECK
11. Hydraulic Sight Glasses & Cap — CHECK / SECURE
12. Cowling and Doors — SECURE
13. Wing Ice Light — CHECK
14. Wing Surface & Boots — CHECK
15. Fuel Vent — CHECK
16. Landing & Recognition Lights — CHECK
17. Wing Tip Lights & Static Wicks (4) — CHECK
18. Aileron and Trim Tab — CHECK
19. Flaps & Aft Portion of Gear — CHECK
20. Engine Exhaust — CHECK
21. AWI Filler Cap — CHECK SECURE

TAIL SECTION

1. Aircraft Underside — CHECK
2. Cargo Compartment & Door — CHECK SECURE
3. Left Horizontal Stabilizer / Elevator — CHECK and Note Position
4. Left Static Ports (3) — CHECK
5. Vertical Stab, Rudder & Rudder Trim Tab — CHECK
6. Static Wicks (11) — CHECK
7. Aft Navigation Lights — CHECK
8. Right Static Ports (2) — CLEAR
9. Right Horizontal Stabilizer / Elevator — CHECK
10. Oxygen Bottle Disc — CHECK

RIGHT WING

1. Engine Exhaust — CHECK
2. Flaps & Aft Portion of Gear — CHECK
3. Aileron and Trim Tab — CHECK

4. Wing Tip Lights & Static Wicks (4) — CHECK
5. Landing & Recognition Lights — CHECK
6. Fuel Vent — CHECK
7. Wing Surface & Boots — CHECK
8. Wing Ice Light — CHECK
9. Gear Doors — OPEN
10. Wheel Well — CHECK
11. Landing Gear Assembly — CHECK
12. Gear Doors — CLOSE
13. Fire Extinguisher Pressure — CHECK
14. Oil Cooler & Engine Inlets — CHECK
15. Prop Blades & Spinner — CHECK
16. Oil Bypass, Quantity & Cap — CHECK
17. Cowling and Doors — SECURE
18. Magnastick — CHECK
19. Air Cycle Turbine and Battery Vents — CHECK

NOSE SECTION

1. OAT Sensor — CHECK
2. Heated ADC Temp Probe — CHECK
3. Right Static Ports (2) — CLEAR
4. Air Conditioning System Vents — CHECK & SECURE
5. SAS Vanes — CHECK
6. Pitot Tubes — CHECK
7. Windshield / Wipers — CHECK
8. Nose Wheel Well & Landing Gear Assembly — CHECK
9. Left Static Ports (2) — CLEAR
10. Baggage Compartment & Door — CHECK & SECURE
11. Airstair Passenger Door — CHECK
12. Chocks — As Required

INTERIOR CHECK

CABIN

1. Cabin Area — CHECK
2. Emergency Exits — CHECK
3. IFF Transponder — **STANDBY**
4. “J” Box Circuit Breakers (5) — CHECK

COCKPIT PEDESTAL

1. **CONTROL LOCK** — SET As Required
2. **RUDDER** and **AILERON TRIMS** — CHECK & **CENTERED**
3. VHF / UHF Control Panel — **TR+G**
4. Reversionary Panel Switches — **NORM**
5. **SAS SERVO** Switch — **OFF**
6. **FUEL & HYDR SHUT OFF** Switches — **OPEN**
7. **FUEL BOOST PUMP** Switches — **OFF**
8. **TRIM SELECTOR** Switch — **PILOT**
9. **ENGINE STOP** and **FEATHER CONTROLS** — CHECK & **IN**
10. **FLAPS** Lever — **UP**
11. **WATER INJECTION** Switch — **OFF**
12. Speed Levers — CHECK, Low & Frictioned
13. **POWER** Levers — CHECK
14. **PROP SYNCH** — Set **TAKEOFF** & **LANDING**

COCKPIT LEFT

1. **LEFT ESSENTIAL BUS TIE** Switch — **ON**
2. **ESSENTIAL BUS TRANSFER** Switches — **LEFT BUS**
3. All Circuit Breakers — CHECK In
4. **AVIONICS AUX POWER** Switch — **OFF**
5. **CABIN PRESSURE** Selector — **AUTO**
6. **CABIN PRESSURE MANUAL CONTROL** — SET
7. **AUTO / CONT IGNITION** Switches — **AUTO**

8. **SPEED** Switch **SELECT** Switch — **AUTO**
9. **START MODE** Switch — **PARALLEL**
10. **UNFEATHER** Test Switch — CENTERED
11. **NOSE GEAR STEERING** Switch — **OFF**
12. **SRL-△ P / P POWER** Switches — **NORM**

COCKPIT CENTER

1. **STATIC SOURCE SELECTOR** — **NORMAL**
2. ELT Selector — **ARM**
3. Cabin Pressure Controls — SET
4. Pilot's Audio Panel — SET
5. Pilot's **DG** Switch — **NORM**
6. Pilot's Panel Light Switches — SET
7. Left Rocker Switches — **OFF**
8. Fuel Counter — ZERO
9. **INV, AVIONICS, and MASTER** Switches — **OFF**
10. **TEMP CONTROLS** — SET
11. **CABIN LTS** — SET
12. **CABIN PRESS** Switch — **NORM**
13. **BLEED AIR VALVE** Switches — **OFF**
14. **GROUND BEACON** — **ON**
15. **FRESH AIR FAN** & **DEFOG** Switches — **OFF**
16. **AIR COND / FAN** Switch — **OFF**
17. Copilot's Audio Panel — SET
18. Copilot's **DG** Switch — **NORM**
19. Copilot's Panel Light Switches — SET

COCKPIT RIGHT

1. Pass Oxygen Lever — **OFF**
2. All Circuit Breakers — CHECK In
3. **NON ESSENTIAL BUS TIE** Switch — **ON**
4. **AVIONICS AUX. PWR** Switch — **OFF**
5. **RIGHT ESSENTIAL BUS TIE** Switch — **ON**

POWER ON

G 1. **GPU** — Check Voltage

2. **ESIS** — **ON**

3. **BATTERIES** — ON (CHECK ESIS Amber Light Off)

G 4. **AIR COND** System — SET As Desired

G 5. **INVERTERS** — **ON** and Check (109 – 121 Volts)

G 6. **AVIONICS MASTER** Switch — **ON**

G 7. Annunciator Panels (3) — **TEST**

8. **ENGINE FIRE EXT** System — **TEST**

9. **SMOKE DETECTOR** System — TEST

10. **LDG GEAR POS** Annunciator — **TEST**

★ 11. **SAS** TEST (**EXCEPT CRUISE**) — COMPLETE

★ 12. **PITCH TRIM** System — CHECK

13. **AWI PUMP TEST** Switch — **TEST**

G 14. AHRS Alignment — CHECK Completed

G★ 15. FMS Initialization — Complete As Required

G★ 16. Autopilot — CHECK As Required

G★ 17. **CVR** — **TEST** As Required

G★ 18. **WX RADAR** — CHECK As Required

G★ 19. **TCAS** — **TEST** As Required

G★ 20. **EGPWS** — **TEST** As Required

G 21. **AVIONICS MASTER** and **INVERTER** — SET As Required

22. Crew Oxygen Masks — CHECK

23. **AIR COND** System — SET As Required

24. **BATTERIES** — SET As Required

25. **ESIS** — SET As Required

26. **CONTROL LOCK** — SET As Required

27. Crew/passenger briefing — CHECK

* BEFORE STARTING ENGINES

1. **PARKING BRAKE** — SET
2. **ESIS** — **ON**
3. Chocks — INSTALL or REMOVE As Required
4. Cargo & Baggage — SECURE
5. Cargo Door — SECURE

O 6. Passenger Briefing — Complete

7. Cabin Door — SECURE

O 8. **GPU VOLTAGE** — CHECK

9. **BATTERIES** — ON (CHECK ESIS Amber Light Off)
10. **INTERIOR** & **EXTERIOR** Lights — SET As Required
11. **L** & **R BOOST** Pumps — CHECK & **OFF**
12. **SAS SERVO** Switch — **ON**
13. Speed Levers — SET **LOW RPM**
14. **POWER** Levers — SET for START
15. Annunciator Panel — CHECK

O★ 16. **FEATHER VALVE / FUEL SHUTOFF VALVE** — CHECK

O★ 17. **PROPELLER UNFEATHER PUMP** — CHECK

* STARTING ENGINES (GPU)

1. **AVIONICS MASTER** Switch — **ON**
2. **AIR COND / FAN** Switch — **OFF** or **FAN**
3. Right **PROP** — CHECK Unfeathered, Clear, Cap Secure
4. Right Engine — **START**
5. Engine & System Instruments — CHECK
6. Right **BLEED AIR** — CHECK **HIGH** then **LOW**
7. **INVERTER** — ON & CHECK (109 – 121 Volts)
8. Left **PROP** — CHECK Unfeathered, Clear, Cap Secure

9. Left Engine — **START**
10. Engine & System Instruments — CHECK
11. Left **BLEED AIR** — CHECK **HIGH** then **LOW**
12. **GPU** — Disconnect & CHECK Annunciator
13. Right **GENERATOR** — **RESET**, CHECK then **ON**
14. Left **GENERATOR** — **RESET**, CHECK then **ON**
15. **BATTERY** Disconnects / Current Limiters — CHECK

* STARTING ENGINES (BATTERY)

1. **AIR COND / FAN** Switch — **OFF**
2. Start Mode Switch — SET As Required
3. Right **PROP** — Check Unfeathered, Clear, Cap Secure
4. Right Engine — **START**
5. Engine & System Instruments — CHECK
6. Right **GENERATOR** — **RESET**, CHECK then **ON**
7. Right **BLEED AIR** — Check **HIGH** then **LOW**
8. **INVERTER** — ON & CHECK (109 – 121 Volts)
9. **AVIONICS MASTER** Switch — ON
10. **START MODE** Switch — **PARALLEL**
11. Right **GENERATOR** — CHECK Below 150 amps
12. Left **PROP** — CHECK Unfeathered, Clear, Cap Secure
13. Left Engine — **START**
14. Engine & System Instruments — CHECK
15. Left **GENERATOR** — **RESET**, CHECK, then **ON**
16. Left **BLEED AIR** — Check **HIGH** then **LOW**
17. **BATTERY** Disconnects / Current Limiters — CHECK

* BEFORE TAXIING

O 1. CMWS Power — TURN ON

O 2. CMWS — BIT checks as required

3. **TEMP CONTROLS / AIR COND** System — SET

4. **FUEL BOOST PUMP** Switches — **ON**

5. Cabin Signs & Lights — SET As Required

6. Altimeters (3) — SET

7. **NOSE GEAR STEERING** — **ARMED**, Light On

8. **ESIS** Display — Confirm Initialization Complete

9. AHRS Alignment — CHECK Completed

★ 10. FMS Initialization — Complete

11. Prop Start Locks — RELEASE As Required

* TAXIING

1. Brakes — **RELEASE** & CHECK

★ 2. Nose Gear Steering — CHECK

3. Flight Instruments — CHECK

O 4. CMWS Safety Pin — PULL

ENGINE RUNUP

1. Annunciator Panels (3) — **TEST** As Required

★ 2. Autopilot — CHECK and **TEST** As Required

★ 3. **WX RADAR** — CHECK As Required

★ 4. **TCAS** — TEST As Required

★ 5. **EGPWS** — TEST As Required

★ 6. Anti-Ice / Deice Systems — CHECK As Required

★ 7. **SAS CRUISE** TEST — Complete

* 8. Generators — CHECK Volts & Loads

O★ 9. Overspeed Gov — CHECK As Required

O★ 10. **SRL / TEMP LMTR** — CHECK As Required

* 11. Prop Start Locks — **RELEASED**

12. NTS CHECK — Complete

* BEFORE TAKEOFF

1. **FLAPS** — SET **1/4**
2. Trims — SET for **TAKEOFF**
3. Pressurization — SET
4. Cabin — CHECK
5. Galley & Stores — Check Secured
6. **FRESH AIR FAN** — **NORMAL** or **OFF**
7. Flight Controls — Free & Correct
8. Engine & System Indications — CHECK
9. DEP Briefing / TOLD Data — Review and SET
10. COMMs & NAVs — SET As Required (SAFFR - Source, Altitude, Format, FD & Runway)

* LINEUP CHECK

1. Runway & Final Approach — Clear
2. **IGNITION** & **ICE PROTECTION** — SET As Required
3. **EXTERIOR LIGHTS** — All **ON**
4. Transponder / Radar / TCAS — SET As Required
5. **BLEED AIR** Switches — SET As Required
6. Speed Levers — SET **HIGH** & Friction

NOTE

For CAWI takeoffs, set approximately 40% torque before selecting continuous (CONT) with WATER INJECTION switch.

AFTER TAKEOFF

1. Landing Gear — **UP**
2. **FLAPS** (V_2 + 5 KIAS & 500’ AGL Minimum) — **UP**
3. **WATER INJECTION** Switch — **OFF**
4. **BLEED AIR** Switches — SET As Required
5. Climb Power — SET

O 6. CMWS **SAFE/ARM** switch — **ARM**

CLIMB

1. **PROP SYNC** — SET As Required
2. **YAW DAMPER** — SET As Required
3. Pressurization — CHECK & SET
4. Annunciator Panel & Engine Indications — CHECK
5. **EXTERIOR LIGHTS** — SET As Required
6. Fuel Caps, Engines & Nacelles — CHECK Dry & Secure

TRANSITION LEVEL

1. Altimeters (3) — SET (**PUSH STD**)

CRUISE

1. Cruise Power / RPM — SET As Required
2. Cabin Pressure — CHECK
3. Cabin Signs / Temp Controls — SET As Required
4. **EXTERIOR LIGHTS** — SET As Required
5. Fuel Consumption & Balance — CHECK

DESCENT & ARRIVAL

1. Altimeters (3) — SET
2. Pressurization — SET
3. **FUEL QUANTITY & BALANCE** — CHECK
4. Galley & Stores — CHECK Secure
5. Cabin Signs — SET As Required
6. **EXTERIOR LIGHTS** — SET As Required

O 7. CMWS — As required

O 8. Passenger Briefing — Complete

APPROACH

1. Approach — Select in FMS / Confirm Wpts
2. RAIM Availability — Verify As Required
3. **ESIS** — SET As Required
4. BARO Minimums — SET As Required
5. ARR Briefing / TOLD — REVIEW and SET

BEFORE LANDING

1. **PROP SYNCH** — SET **TAKEOFF** & **LANDING**
2. Speed Levers — SET **HIGH** & **Friction**
3. **FLAPS** — SET As Required
4. **LANDING GEAR** — DOWN & Confirm
5. **NOSE GEAR STEERING** — **ARMED** & CHECK
6. Landing & Taxi Lights — ON

LANDING

1. **LANDING GEAR** — Recheck DOWN
2. **FLAPS** — CHECK Final Setting
3. **YAW DAMPER** — Confirm OFF

O 4. CMWS **SAFE/ARM** switch — **SAFE**

GO AROUND

1. **WATER INJECTION** Switch — SET As Required
2. **POWER** — SET As Required
3. **FLAPS** — SET **1/4**
4. **LANDING GEAR** — **UP**
5. **FLAPS** (V_{REF} + 5 KIAS & 500’ AGL Minimum) — **UP**
6. Airspeed — V_{YSE} Minimum
7. **WATER INJECTION** Switch — **OFF**
8. **EXTERIOR LIGHTS** — SET As Required

O 9. CMWS **SAFE/ARM** switch — **ARM** as required

AFTER LANDING

1. Speed Levers — SET **LOW** & Friction
2. **FLAPS** — SET **UP**
3. **IGNITION** & **ICE PROTECTION** — SET As Required
4. **EXTERIOR LIGHTS** — SET As Required
5. **PITCH TRIM** — SET In Green Arc

O 6. **AIR COND** System — SET as Required

O 7. CMWS Safety Pin — INSTALL

QUICK-TURN SHUTDOWN

1. **PARKING BRAKE** — SET
2. Left **BLEED AIR** Switch — **OFF**
3. **AIR COND** System — **OFF** or **FAN**
4. Left **GENERATOR** — **OFF**
5. Left Engine — SHUTDOWN

QUICK-TURN RESTART

1. Cabin Door — SECURE
2. Left **POWER** Lever — SET for Start
3. **START MODE** Switch — SET **PARALLEL**
4. Right **GENERATOR** — Check Below 150 AMPS
5. Left **EGT** — CHECK
6. Left **PROP** — Check Unfeathered, Clear, Cap Secure
7. When EGT is above 200°C, perform Step 8: if not continue with Step 9.

★ 8. HIGH RESIDUAL EGT — START

9. Left Engine — **START**
10. Engines & Systems Instruments — CHECK
11. Left **BLEED AIR** — CHECK **HIGH** then **LOW**
12. Left **GENERATOR** — CHECK & ON
13. **BATTERY** Disconnects / Current Limiters — CHECK
14. **AIR COND** System — SET As Required
15. Left Start Lock — RELEASE
16. **PARKING BRAKE** — RELEASE
17. Taxi Check — Complete

ENGINES SHUTDOWN

1. **PARKING BRAKE** — SET
2. **NOSE GEAR STEERING** Switch — **OFF**
3. **FUEL BOOST PUMP** Switches — **OFF**
4. **SAS SERVO** Switch — **OFF**
5. **FLAPS** — SET As Required
6. **INVERTER** Switch — **OFF**
7. **AVIONICS MASTER** Switch — **OFF**
8. **BLEED AIR** Switches — **OFF**
9. **COCKPIT DEFOG** Switch — **OFF**
10. **AIR COND** System — SET to **FAN HIGH** for 30 Sec. then **OFF**
11. **GENERATOR** Switches — **OFF**
12. Engine Stop Buttons — Press & Hold, 5 Sec. Min.
13. **POWER LEVERS** — REVERSE at 50% Until 10%
14. **CONTROL LOCK** — SET
15. Cabin Lights — **OFF**
16. Clocks — ZERO

O 17. CMWS **PWR** — Note inventory then **OFF**

18. **EXTERIOR LIGHTS** — **OFF**
19. **BATTERIES** — **OFF**
20. **ESIS** — **TEST** then **OFF**

BEFORE LEAVING AIRCRAFT

1. Right Speed Lever — SET Forward 1 Inch

O 2. Crew Oxygen Masks — Disconnect

3. Voltmeter — SET Selector to BUS
4. **PROPELLERS** — CHECK & Rotate As Required
5. Oil Bypass Buttons — CHECK
6. Oil Levels — CHECK
7. Landing Gear — CHECK

8. Chocks, Tie-downs, & Covers — Install As Required
9. Logbook — Complete
10. **PARKING BRAKE** — SET As Required
11. Aircraft — Secure As Required

TRAFFIC PATTERN

This checklist shall only be used after first landing of the day, and only for subsequent traffic patterns with same crew.

BEFORE TAKEOFF

1. **FLAPS** — Set 1/4
2. Trims — Set For **TAKEOFF**
3. O Pressurization — SET
4. Engine & System Indications — CHECK
5. DEP Briefing / TOLD Data — REVIEW and SET
6. COMMs & NAVs — SET As Required

LINE-UP

1. Runway & Final Approach — Clear
2. **IGNITION** & **ICE PROTECTION** — SET As Required
3. Exterior Lights — All **ON**
4. Transponder / **RADAR** / **TCAS** — SET As Required
5. **BLEED AIR** Switches — SET As Required
6. Speed Levers — SET **HIGH** and Frictioned

NOTE

CAWI Takeoffs; Set Torque at 40% before selecting WATER INJECTION Switch to CONT.

AFTER TAKEOFF

1. **LANDING GEAR** — **UP**
2. **FLAPS** (V_2 + 5 KIAS & 500’ Minimum) — **UP**
3. **WATER INJECTION** Switch — **OFF**
4. **BLEED AIR** SWITCHES — SET As Required
5. Climb Power — SET

6. Annunciator Panel & Engine Indications — CHECK
7. **EXTERIOR LIGHTS** — SET As Required

BEFORE LANDING

1. Speed Levers — SET **HIGH** & Friction
2. **FLAPS** — SET As Required
3. **LANDING GEAR** — **DOWN** & CONFIRM
4. **NOSE GEAR STEERING** — **ARMED** & Check
5. Landing & Taxi Lights — **ON**

LANDING

1. **LANDING GEAR** — RECHECK **DOWN**
2. **FLAPS** — Check Final Setting
3. **YAW DAMPER** — CONFIRM **OFF**

GO AROUND

1. **WATER INJECTION** Switch — SET As Required
2. Power — As Required
3. **FLAPS** — SET **1/4**
4. **LANDING GEAR** — **UP**
5. **FLAPS** (V_{REF} + 5 KIAS & 500’ AGL Minimum) — **UP**
6. Airspeed — V_{YSE} Minimum
7. **WATER INJECTION** Switch — **OFF**
8. **EXTERIOR LIGHTS** — SET As Required

AFTER LANDING

1. Speed Levers — SET **LOW** & Friction
2. **FLAPS** — SET Full **UP**
3. **IGNITION & ICE PROTECTION** — SET As Required
4. Exterior Lights — SET As Required
5. **PITCH TRIM** — Set In Green Arc

O 6. **AIR COND**. / Aft Evaporator Blower — SET As Required

THRUFLIGHT

* THRUFLIGHT EXTERIOR / INTERIOR

1. Aircraft Pubs — Check As Required
2. **PARKING BRAKE** — SET As Required
3. Fuel Caps — CHECK Secure
4. Left Landing Gear Assembly — CHECK
5. Left Oil Quantity & Cap — CHECK
6. Hydraulic Sight Glasses & Cap — CHECK
7. Left Cowling & Doors — CHECK Secure
8. Cargo Compartment & Door — CHECK & Secure
9. Right Landing Gear Assembly — CHECK
10. Right Oil Quantity & Cap — CHECK
11. Right Cowling & Doors — CHECK Secure
12. Nose Wheel Well & Landing Gear Assembly — CHECK
13. Chocks — Confirm Removed
14. Crew Oxygen Masks — Connect
15. Nose Wheel Steering Switch — **OFF**
16. Left Rocker Switches — SET As Required
17. Batteries — **ON**
18. Fuel Quantity Gauge — Verify Quantity
19. Batteries — SET As Required
20. Fuel Counter — SET As Required

EMERGENCY PROCEDURES

ENGINE.

REJECTED TAKEOFF

1. **POWER LEVERS** — **GROUND IDLE**
2. BRAKES — APPLY As Required
3. Nose Gear Steering — Use As Required
4. Reverse Thrust — Use As Required
5. **WATER INJECTION** Switch — **OFF**
6. ATC — Notify

If Due to Engine Failure

7. Engine Cleanup — Failed Engine
   a. **ENGINE STOP** & **FEATHER** — **PULL**
   b. **FUEL SHUT OFF** Switch — **CLOSED**
   c. **HYDRAULIC SHUT OFF** Switch — **CLOSED**
   d. **FUEL BOOST** PUMP Switch — **OFF**
   e. **WATER INJECTION** Switch — **OFF**
   f. **GENERATOR** Switch — **OFF**
   g. **AUTO/CONT IGNITION** Switch — **OFF**
   h. **BLEED AIR** Valve — **OFF**
   i. **AIR COND**. System — **OFF** or **FAN**

ENGINE FAILURE – TAKEOFF CONTINUED

WARNING

If engine failure is accompanied by LEFT ESS bus failure ensure landing gear control power switch is transferred to right essential bus. Failure to comply could result in personnel injury or damage to equipment.

1. **POWER** — **SET MAX ALLOWABLE**
2. **LANDING GEAR** — **UP**
3. **ENGINE STOP & FEATHER** — **PULL**
4. **FLAPS** (V_2 + 5 KIAS and 500' Minimum) — **UP**
5. **AIRSPEED** — **V_{YSE}**
6. **WATER INJECTION** Switch — SET As Required
7. **POWER** — **SET As Required**
8. **TRIM** — SET As Required

O 9. CMWS — SELECT ARM

10. Engine Cleanup - Failed Engine
    a. **FUEL SHUT OFF** Switch — **CLOSED**
    b. **HYDRAULIC SHUT OFF** Switch — **CLOSED**
    c. **FUEL BOOST PUMP** Switch — **OFF**
    d. **GENERATOR** Switch — **OFF**
    e. **BLEED AIR** Switch — **OFF**
    f. **IGNITION / ICE PROTECTION** — **OFF**
11. Engine Cleanup — Operating Engine
    a. **BLEED AIR** SWITCH — SET As Required

b. **GENERATOR** Load — CHECK (300 Amps Max)

12. **TCAS** — SELECT **TA** Only
13. **PROP SYNCH** — SET **TAKEOFF** & **LANDING**
14. **AIR COND** / FAN Switch — **OFF** or **FAN**
15. Land — As Soon As Practicable

ENGINE FAILURE – IN FLIGHT

1. **AUTOPILOT / YAW DAMP** — **DISENGAGE**
2. **POWER** — SET As Required
3. **ENGINE STOP & FEATHER** — **PULL**
4. **TRIM** — SET As Required
5. Engine Cleanup — Failed Engine
   a. **FUEL SHUTOFF** Switch — **CLOSED**
   b. **HYDRAULIC SHUTOFF** Switch — **CLOSED**
   c. **FUEL BOOST PUMP** Switch — **OFF**
   d. **GENERATOR** Switch — **OFF**
   e. **BLEED AIR** Switch — **OFF**
   f. IGNITION / ICE PROTECTION — **OFF**
6. Engine Cleanup — Operating Engine
   a. BLEED AIR Switch — SET As Required
   b. Generator Load — CHECK (300 Amps Max)
7. **TCAS** — Select **TA** Only
8. **PROP SYNCH** — SET **TAKEOFF** & **LANDING**
9. **AIR COND** / FAN Switch — **OFF** or **FAN**
10. Land — As Soon As Practicable

NOTE

- **Compute single engine landing distance by adding 66% to two engine landing distance.**
- **Autopilot may be engaged after completion of memory items.**

ENGINE FAILURE – FINAL APPROACH

1. **POWER** — **SET As Required**
2. **LANDING GEAR** — **RECHECK DOWN**

IN FLIGHT – RELIGHT

NOTE

- **If reason for inadvertent flameout is known and relight will not aggravate conditions use steps below for relight procedures.**
- **Engine relight should be expected to occur automatically if Ignition Switch is in AUTO and fuel is available at igniters.**

1. **POWER** Lever — SET Approx. 1/4" Forward of Flight Idle
2. SPEED Lever — SET Approx. 97% RPM
3. Airspeed — Maintain 100 - 180 KIAS
4. **START** Button — PRESS (Until Ign, Fuel Flow & EGT Rise)
5. **EGT** — Monitor During Start (770°C Max)
6. **RPM** — CHECK Stabilized
7. "SRL OFF" Light — CONFIRM EXTINGUISHED
8. **POWER** — SET As Required

DOUBLE ENGINE FAILURE

1. **AIRSPEED** — Best Glide
2. **LANDING GEAR** — SET As Required
3. **FLAPS** — SET As Required
4. In Flight Relight procedure — Complete
5. If relight unsuccessful, Engine Failure – In Flight Checklist — Complete

NOTE

- **Best glide airspeed is approximately 1.5 V/Vs on SAS indicator.**
- **Plan for emergency gear extension and a zero flap landing. If altitude permits, unfeathering one engine may provide sufficient hydraulic pressure to operate flaps.**

GLIDE AIRSPEEDS				
Weight (Pounds)	16,000	14,000	12,000	10,000
Airspeed (KIAS)	160	150	140	130

SINGLE ENGINE BEFORE LANDING

1. SPEED LEVERS — Set **HIGH** & Frictioned
2. **FLAPS** — Set **1/4**
3. **LANDING GEAR** Handle — **DOWN** & Confirm
4. **FLAP OVRD** — Select
5. Airspeed — V_{YSE} Minimum
6. **NOSE GEAR STEERING** — **ARMED** & CHECK
7. Landing & Taxi Lights — ON

O 8. CMWS — SELECT SAFE

SINGLE ENGINE LANDING

NOTE

- **Compute single engine landing distance by adding 66% to two engine landing distance.**
- **Turn engine anti-ice and/or bleed air off as required to achieve single engine go-around performance.**

1. **LANDING GEAR** Handle — RECHECK **DOWN**
2. **FLAPS** — CHECK Final Setting

SINGLE ENGINE GO AROUND

1. **WATER INJECTION** Switch — SET As Required
2. **POWER** — SET Max Allowable
3. **FLAPS** — SET **1/4**
4. **LANDING GEAR** Handle — **UP**
5. **FLAPS** (V_{REF} + 5 KIAS & 500’ AGL Minimum) — UP
6. Airspeed — V_{YSE} Minimum
7. **WATER INJECTION** Switch — **OFF**
8. Exterior Lights — SET As Required

O 9. CMWS — SELECT ARM

NO RESPONSE TO POWER LEVER MOVEMENT

NOTE

If either/both engine(s) exhibit a lack of response to power lever after extended operations at high altitude with OAT below freezing, cause may be ice blockage of P2T2 inlet sensor probe, the following procedure should be accomplished and normal power lever response should return within approximately 3 minutes.

1. Ignition Switches — **CONT**
2. Engine Heat Switch(es) — **ENGINE** & **PROP HEAT**

NOTE

After condition has cleared and normal operation is observed, anti-ice and ignition can again be turned OFF.

3. Engine Heat Switch(es) — As Required
4. **AUTO / CONT** Ignition Switches — **AUTO**

ENGINE CONTROL / FUEL CONTROL MALFUNCTION

NOTE

If indications of improper operation of fuel or propeller control exist.

1. Shut down affected engine, APPLY **ENGINE FAILURE-IN FLIGHT CHECKLIST**.
2. Land as soon as PRACTICABLE.

PREPLANNED ENGINE SHUTDOWN

1. **TCAS** — SELECT **TA** Only
2. **PROP SYNCH** — **TAKEOFF** & **LANDING**
3. **POWER LEVER** (Affected Engine) — Approx. 1/4" Forward
4. **POWER LEVER** (Operating Engine) — As Required
5. Speed Levers — 97% RPM
6. **AIR COND** / **FAN** Switch — **OFF** or **FAN**
7. **BLEED AIR** (Affected Engine) — **OFF**
8. Current Limiters — CHECK
9. **GENERATOR** (Affected Engine) — **OFF**

NOTE

Engine shutdown with an open current limiter is not recommended unless an engine malfunction has been detected.

10. Engine Stop & Feather (Affected Engine):

    a. Pull only until fuel flow shuts off.

CAUTION

Do not allow engine to windmill during rpm decay longer than one minute. Failure to comply could cause damage to equipment.

    b. Let engine windmill until 200°C EGT, 30% RPM or 1 minute, whichever occurs first, then pull aft and confirm the propeller feathers.

CAUTION

Do not permit inoperative engine to windmill in 18% to 28% RPM range. Failure to comply could cause damage to equipment.

11. Engine Cleanup Procedures, (Selected Engine):

    a. **FUEL SHUT OFF** Switch — **CLOSED**

    b. **HYDRAULIC SHUT OFF** Switch — **CLOSED**

    c. **FUEL BOOST PUMP** Switch — **OFF**

    d. **GENERATOR** Switch — CONFIRM **OFF**

    e. Engine Stop & Feather — Forward

    f. **IGNITION/ICE PROTECTION** — SET As Required

g. **GENERATOR** Load (Op Eng.) — Check (300 Amps Max)

h. Land — As Soon As Practicable

AIRSTART – NORMAL

CAUTION

Engine shutdown due to failure indicated by engine instruments or excessive vibration; airstart should not be attempted. Failure to comply could cause damage to equipment.

1. **SPEED LEVERS** — 97% RPM
2. **POWER LEVER** — **1/4"** Forward of **FLIGHT IDLE**
3. **STOP** & **FEATHER** — Forward
4. **FUEL SHUT OFF** Switch — **OPEN**
5. **HYDRAULIC SHUT OFF** Switch — **OPEN**
6. **FUEL BOOST PUMP** Switch — **ON**
7. **GENERATOR** Switch (Affected Engine) — **OFF**
8. **BLEED AIR** Switch (Affected Engine) — **OFF**
9. **AUTO/CONT IGNITION** Switch — **AUTO**
10. **EGT** — 200° C or LESS
11. RPM — 10% or LESS
12. Altitude — 20,000 Ft MSL or LESS
13. Airspeed — 100 - 180 KIAS
14. **START** Button — PRESS (Until Ign, Fuel Flow & EGT Rise)
15. **PROPELLER** — Check UNFEATHERING

16. Fuel Flow — Check (Begins at 10% RPM)
17. **EGT** — Check (Increase at 10% to 20%)

CAUTION

Abort by pulling engine stop and feather control if, EGT does not increase by 25%. Failure to comply could cause damage to equipment.

18. Fuel & Oil Pressure — CHECK in Green Arc
19. **GENERATOR** Switch — **RESET / ON**
20. **BLEED AIR** Switch — **ON**
21. **POWER** — Matched
22. **TCAS** — Select **TA** / **RA**

MANUAL ENGINE START

NOTE

Delay moving Speed Switch Select Switch to MANUAL until RPM reaches 15% when EGT is above 200°C.

1. **SPEED** Switch **SELECT** Switch — **OFF**
2. **START** Button — PRESS
3. **SPEED** Switch **SELECT** Switch (10% RPM) — **MANUAL**
4. **START** Button — Maintain EGT 685°C - 695°C
5. When engine has stabilized:
   a. **SPEED** Switch **SELECT** Switch — **AUTO**
   b. Continue with normal engine start procedure.
6. **SRL** / **TEMP LIMITER** — CHECK

L SRL OFF or R SRL OFF Light Illuminated

NOTE

Less than 80% RPM – Illumination of respective L SRL OFF and/or R SRL OFF is normal. Greater than 80% RPM – SRL Switch is off or internal computer has malfunctioned.

SRL COMPUTER FAILURE / MALFUNCTION

NOTE

SRL System Failure may be indicated by one or more of the following:

1. SRL OFF light illuminated above 80% RPM
2. SRL OFF light NOT illuminated below 80% RPM
3. Sudden change in EGT of 20°C or more with no corresponding change in other engine parameters.
4. Erratic or fluctuating EGT indication.
5. SRL-△P/P power switch(es) in SRL **OFF** position.

When operating with SRL computer inoperative:

6. Engine Power (Affected Engine) — REDUCE
7. SRL-△P/P power switch (Affected Engine) — SRL **OFF**
8. Temp Limiter Circuit Breaker — PULL

   (Affected Engine - Respective ESS BUS)
9. Engine Power — SET

NOTE

Set power by matching torque to engine with operable SRL system. If both SRL systems are inoperative, set power IAW the following:

NOTE

- **All SRL Off / Inoperative procedures in the FLIGHT MANUAL should be reviewed prior to operation with SRL Off / Inoperative.**
- **Manual Engine Start Will Be Necessary.**
- **CAWI unavailable with Temp Limiter breaker pulled.**

TAKEOFF WITH SRL OFF / INOPERATIVE

1. Use actual OAT temperature and determine EGT limit from placarded **SRL INOP EGT LIMITS** chart.
2. Use OAT temperature plus 5° C and determine target torque and performance limitations.
3. Monitor engine closely during takeoff to prevent exceeding EGT limits.
4. Takeoff with both Bleed Air and Engine Deice on is prohibited with SRL Off / Inoperative.

CLIMB / CRUISE POWER WITH SRL OFF / INOPERATIVE

NOTE

Determine EGT limit using placarded SRL INOP EGT LIMITS chart and appropriate conditions.

L CHIP DET or R CHIP DET Light Illuminated

(Indicates Metallic particle on Magnetic Chip Detector)

1. Prior to Takeoff — Do not Takeoff
   a. In flight, Engine Indications Normal: — Continue to destination & report to maintenance.
   b. In flight, Engine Indications Abnormal: — Execute an Engine Shutdown by applying **ENGINE FAILURE – IN FLIGHT CHECKLIST** (p. **E3**).

BYPASS OPEN Light Illuminated

WARNING

Do not test TEMP LIMITER in flight. At high altitudes flame out may result.

NOTE

Temp Limiter opens FUEL BYPASS valve if EGT is above 650°C and RPM is above 90%.

TEMP LIMITER FAILED OPEN

1. **TEMP LIMITER** CB (Respective ESS BUS) — PULL
   a. If on ground — **DO NOT TAKEOFF**
   b. If in flight — Maximum altitude for prolonged operation 15,000 feet.

TEMP LIMITER FAILED CLOSED

1. Do not advance power rapidly above 50% travel.
2. Set power levers carefully above 50% torque to allow **EGT** lag.

3. Monitor **EGT** and prevent it manually from exceeding 650°C.

L OIL PRESSURE or R OIL PRESSURE Light Illuminated

1. Oil Pressure Gauge — CHECK
2. PRESSURE NORMAL — Monitor Engine Instruments
3. PRESSURE LOW and / or abnormal engine indications — Shut Down Engine apply **ENGINE FAILURE IN FLIGHT CHECKLIST** (p. **E3**)

HIGH OIL TEMPERATURE

1. On Ground (> 127°C) — DO NOT Takeoff

NOTE

Elevated oil temperatures (in caution range) on ground are common with high ambient temperatures.

2. In-flight (> 110°C) — REDUCE Power
3. If Temp Remains out of Limits and / or any other Indication(s) of Pending Engine Failure — SHUTDOWN Engine apply **ENGINE FAILURE INFLIGHT CHECKLIST** (p. **E3**).

L BETA or R BETA Light Illuminated

NOTE

- **Indicates adequate pressure for full reverse operations**
- **Illumination in flight indicates a probable electrical malfunction in circuitry.**

FIRE.

ENGINE FIRE ON THE GROUND

1. **ENGINE STOP & FEATHERS** — **PULL**
2. **FUEL SHUT OFF** Switches — **CLOSED**
3. **HYDRAULIC SHUT OFF** Switches — **CLOSED**
4. **FIRE EXTINGUISHER** Switch (Affected Engine) — **PRESS**
5. **BATTERY** Switches — **OFF**
6. **PARKING BRAKE** — SET
7. Aircraft — Evacuate

ENGINE FIRE IN FLIGHT

1. **AUTOPILOT / YAW DAMP** — **DISENGAGE**
2. **ENGINE STOP & FEATHER** — **PULL**
3. **FUEL SHUT OFF** Switch — **CLOSED**
4. **HYDRAULIC SHUT OFF** Switch — **CLOSED**
5. **FIRE EXTINGUISHER** Switch — **PRESS**
6. **POWER** — SET As Required
7. Emergency Descent (pgs. **E-43** and **E-44**) / Drift Down — PERFORM As Required
8. Cleanup Procedure (Affected Engine)
   a. **FUEL BOOST PUMP** Switch — **OFF**
   b. **GENERATOR** Switch — **OFF**
   c. **BLEED AIR** Switch — **OFF**
   d. **IGNITION/ICE PROTECTION** — **OFF**
9. Cleanup Procedure (Operating Engine)
   a. **BLEED AIR** Switch — SET As Required

b. **GENERATOR** Load — CHECK (300 Amps Max)

NOTE

If maximum continuous power limit is not being developed, increase power may be obtained by selecting bleed air off.

10. **TRIM** — SET As Required
11. **AUTOPILOT / YAW DAMPER** — SET As Required
12. **PROP SYNCH** — SET **TAKE OFF** & **LANDING**
13. **TCAS** — Select **TA** Only
14. **AIR COND** / **FAN** Switch — **OFF** or **FAN**
15. Land — As Soon as Possible

L WING OVHT or R WING OVHT Light Illuminated STEADY

NOTE

Intent of this procedure is to land aircraft as soon as POSSIBLE when WING OVHT annunciator light is observed; even if it extinguishes and tests satisfactory.

1. **BLEED AIR** Switch — **OFF**
2. **LANDING GEAR** Handle — **DOWN**
3. **GENERATOR** Switch — **OFF**
4. Land — As Soon as Possible

If Time Permits:

5. 3 Minute Timing — Started
6. If WING OVHT light does not extinguish after 3 minutes:

   a. **LANDING GEAR** Handle — **UP** Only if required for continued flight

b. Engine (Affected Side) — Shutdown apply **ENGINE FAILURE IN FLIGHT CHECKLIST** (p. **E-3**)

7. If WING OVHT light extinguishes:

a. Annunciator panel **PRESS** to **TEST** — **PRESS**

NOTE

If respective WING OVHT annunciator does not illuminate, suspect failure of Fire Warning Circuit.

8. If respective WING OVHT annunciator does not test and any indication of possible fire are observed:

a. **LANDING GEAR** Handle — **UP** Only if required for continued flight

b. Engine (Affected Side) — Shutdown apply **ENGINE FAILURE IN FLIGHT CHECKLIST** (p. **E-3**)

NOTE

Consider leaving gear in the down position if within a reasonable distance to diversion airport.

9. **LANDING GEAR** Handle (after 3 minutes) — **UP**

10. **GENERATOR** Switch (If required) — **ON**

11. **BLEED AIR** Switch — Remain **OFF**

L WING OVHT or R WING OVHT Light Illuminated FLASHING

NOTE

Intent of this procedure is to land aircraft as soon as POSSIBLE when WING OVHT annunciator light is observed; even if it extinguishes and tests satisfactory.

1. **BLEED AIR** Switch — **OFF**

2. **GENERATOR** Switch — **OFF**
3. Land — As Soon as Possible

If Time Permits:

4. 3 Minute Timing — Started
5. If WING OVHT light does not extinguish after 3 minutes:
   a. Engine (Affected Side) — Shutdown apply **ENGINE FAILURE IN FLIGHT CHECKLIST** (p. **E-3**)
6. If WING OVHT light extinguishes:
   a. Annunciator panel **PRESS** to **TEST** — **PRESS**

NOTE

If respective WING OVHT annunciator does not illuminate, suspect failure of Fire Warning Circuit.

7. If respective WING OVHT annunciator does not test and any indication of possible fire are observed:
   a. Engine (Affected Side) — Shutdown apply **ENGINE FAILURE IN FLIGHT CHECKLIST** (p. **E-3**)
8. **GENERATOR** Switch (If required) — **ON**
9. **BLEED AIR** Switch — Remain **OFF**

SMOKE IN AIRCRAFT

1. **CREW OXYGEN MASKS** — **DON**
2. **PASSENGER OXYGEN CONTROL** — **ON**
3. **PASSENGER OXYGEN MASKS** — **DON**
4. Smoke Source:
   a. If Smoke or Fire from Electrical Bus:
      (1) **BUS TIE** Switch — **OFF**

(2) AC Bus / Inverter Failure Checklist (below) — Perform

b. If Smoke from Bleed Air Source:

(1) **BLEED AIR** Switch — One **OFF**

c. If Smoke Continues:

(1) **BLEED AIR** Switch — One **ON**, Two **OFF**

d. If Smoke Continues:

(1) **BLEED AIR** Switches — Both **OFF**

5. Smoke Elimination:

a. If Smoke in Cabin:

(1) Cabin Altitude — Increase

(2) Once Pressure Differential is Less than 1 PSI **CABIN DUMP** Switch — **DUMP**

b. If Smoke in Cockpit:

(1) **CABIN DUMP** Switch — **DUMP**

6. Fresh Air Fan — **ON**

7. Emergency Descent — Commence As Required

8. Land — As Soon as Possible

FUEL.

L XFER PUMP or R XFER PUMP Light Illuminated

1. Fuel Pressure (respective side) — CHECK

a. If low:

(1) Fuel Boost Pump Switch — Check **ON**

(2) If Already **ON** — Select Other Pump

b. If PRESSURE NORMAL or PRESSURE LOW and light remains illuminated: 70 pounds of fuel remains in that wing tank.

(1) Land — As Soon As Practicable

c. If still low: — 75 pounds of fuel is unusable in that wing tank. Subtract 75 pounds from fuel indicated on quantity gauge to get remaining usable fuel.

L FUEL FILTER or R FUEL FILTER Light Illuminated

NOTE

Indicates corresponding fuel filter is being bypassed due to filter blockage.

1. Illumination in flight — Monitor Engine Operation.
2. Illumination on ground — Do Not Takeoff.

ELECTRICAL.

AC BUS / INVERTER FAILURE

1. Both AC BUS Lights Illuminated:
   a. **INVERTER** Switch — Select Other Inverter
   b. Inverter Circuit Breaker — CHECK
2. One AC BUS Light Illuminated:
   a. **AC BUS TIE** Circuit Breaker — CHECK

BATTERY FAULT Light Illuminated

1. Both **BATT** Switches — **OFF**
2. Left **BATT** Switch — **RESET / ON**
   a. If BATTERY FAULT light remains off: — Leave battery **ON** and proceed to step 3

b. If BATTERY FAULT light comes on again: — Left battery **RESET** & **OFF**. Proceed to step 3

3. Right **BATT** Switch — **RESET / ON**

a. If BATTERY FAULT light remains off: — Leave battery on.

b. If BATTERY FAULT light comes on again: — Right battery **RESET** and **OFF**.

EXCESSIVE AMMETER INDICATION

NOTE

If excessive load occurs, indicated by excessive ammeter indication, malfunctioning circuit should be identified and turned off.

1. **BATT** Switches — **OFF**

a. If overload still exists, turn battery switches on and go to Step 2.

b. If overload ceases, isolate faulty battery by turning battery switches on individually. Leave switch **OFF** that causes excessive load.

2. If Step 1 is unsuccessful:

a. **NON-ESSENTIAL BUS TIE** Switch — **OFF**

b. Ammeter — CHECK

c. If excessive load indicated, **NON-ESSENTIAL BUS TIE** Switch — **ON**, skip to step g.

d. If normal ammeter load indicated

e. Leave **BUS TIE** Switch in **OFF** position (Plan to land with existing flap position)

f. **GPWS FLAP OVERRIDE** Switch — Press (For No-Flap Landing)

	APPROACH SPEEDS (KIAS)						
	WEIGHT (1000 POUNDS)						
	10.0	11.0	12.0	13.0	14.0	15.0	16.0
1/2Flaps	103	107	110	113	116	119	122
1/4 Flaps	108	112	115	118	121	125	128
No Flaps	110	114	118	122	126	130	134

g. Compute flaps up landing distance by adding 72% to the flaps full landing distance.

NOTE

- **It may be preferable to leave a malfunctioning bus off in flight and troubleshoot difficulty after landing.**
- **The following items cannot be powered following a Non-Essential bus failure:**
  - **Flaps**
  - **NGS**
  - **Prop Sync**
  - **Exterior Lights**
  - **Fuel Counter**
  - **Cabin Temp Cont**
  - **Oxy Press Gauge**
  - **Pitch Trim Ind.**
  - **Aisle Lights**
  - **Fresh Air Fan**
  - **Flap Position Ind Smoke Detector**

- **Landing Gear Warning Horn**
- **Defog Fan**
- **Bleed Air Control (Fails to HIGH)**
- **Annunciator Panel Lights: Left and Right Hydraulic, Low Suction**
- **Cabin Door, Cargo Door**

NOTE

If restoration of Non-Essential bus is required, pull all circuit breakers, turn bus tie switch on, reset circuit breakers one at a time until faulty circuit is found. Pull circuit breaker for malfunctioning circuit and do not reset.

h. **RIGHT ESSENTIAL BUS TIE** Switch — **OFF**

i. Ammeter — CHECK

j. If excessive load indicated, **RIGHT ESSENTIAL BUS TIE** Switch — **ON**, skip to step k.

k. If normal ammeter load indicated — Leave bus tie switch off and Perform DC Electrical Bus Failure Checklist below.

l. Left Essential **BUS TIE** Switch — **OFF**

m. Ammeter — CHECK

n. If excessive load indicated, Left Essential **BUS TIE** Switch — **ON**

o. If normal ammeter load indicated — Leave bus tie switch off and Perform **DC ELECTRICAL BUS FAILURE CHECKLIST** below.

DC ELECTRICAL BUS FAILURE

NOTE

It may be preferable to leave a malfunctioning bus off in flight and troubleshoot difficulty after landing.

Non-Essential Bus Failure:

NOTE

The following items cannot be powered following a Non-Essential bus failure:

- **Flaps**
- **NGS**
- **Prop Sync**
- **Exterior Lights**
- **Fuel Counter**
- **Cabin Temp Cont**
- **Oxy Press Gauge**
- **Pitch Trim Ind.**
- **Aisle Lights**
- **Fresh Air Fan**
- **Flap Position Ind**
- **Smoke Detector**
- **Landing Gear Warning Horn**
- **Defog Fan**
- **Bleed Air Control (Fails to HIGH)**
- **Annunciator Panel Lights: Left and Right Hydraulic, Low Suction**
- **Cabin Door, Cargo Door**

1. **NON-ESSENTIAL BUS CB** (J-Box) — Check In

If still no power:

2. **NON-ESSENTIAL BUS TIE** Switch — **OFF**

   (Plan to land with existing flap position)

3. Both **BATT** Switches — Check **ON**
4. Both **GENERATOR** Switches — Check **ON**
5. **CURRENT LIMITERS** — CHECK
6. **GPWS FLAP OVERRIDE** Switch — PRESS

NOTE

For No-Flap Landing

	APPROACH SPEEDS (KIAS)						
	WEIGHT (1000 POUNDS)						
	10.0	11.0	12.0	13.0	14.0	15.0	16.0
1/2Flaps	103	107	110	113	116	119	122
1/4 Flaps	108	112	115	118	121	125	128
No Flaps	110	114	118	122	126	130	134

7. Compute flaps up landing distance by adding 72% to the flaps full landing distance.

NOTE

If restoration of Non-Essential bus is required, pull all circuit breakers, turn bus tie switch on, reset circuit breakers one at a time until faulty circuit is found. Pull circuit breaker for malfunctioning circuit and do not reset.

Left or Right Essential Bus Failure:

1. **BUS TIE** Switch (Failed Bus) — **OFF**
2. For **RIGHT ESS** Bus Failure:

a. **INVERTER** Switch — Select **#1 INVERTER**

b. Right **BOOST PUMP** — Select **AUX**

c. Left **BOOST PUMP** — Select **MAIN**

d. **PITCH TRIM** Selector — Select **PILOTS** System

3. For Left Ess Bus Failure:

a. **INVERTER** Switch — Select **#2 INVERTER**

b. Left **BOOST PUMP** — Select **AUX**

c. Right **BOOST PUMP** — Select **MAIN**

d. **PITCH TRIM** Selector — Select **COPILOTS** System

4. **ESIS PWR** Switch:

a. For **LEFT ESS BUS** Failure — **ESIS** is now running on internal battery. Consider turning **ESIS OFF** unless/until required for continued operation.

NOTE

Subsequent power up and in-flight alignment of ESIS will take approximately two minutes with aircraft stabilized in level unaccelerated flight.

b. For **RIGHT ESS BUS** Failure — **ESIS** confirm in **ON** position.

5. Aircraft Control — Transfer to Side with Operating Bus

6. **BUS TRANSFER** Switches — Transfer as Required

CAUTION

If left bus switch was turned OFF for Excessive Ammeter Indications, select transfer switches one at a time and monitor load. If any transfer switch causes excessive load, return that switch to the original position. Failure to comply could cause damage to equipment.

7. Both **BATT** Switches — Check **ON**
8. Both **GENERATOR** Switches — Check **ON**
9. Current Limiters — CHECK
10. **AVIONICS AUX POWER** Switch (Failed Bus) — **ON**
11. **SAS INDICATOR SELECTOR** Switch — Select Operating Computer

NOTE

The following items cannot be powered following an essential bus failure on the affected side.

- **Prop deice & duct heat**
- **Pitot heat**
- **SAS**
- **SRL & Temp Limiter**
- **Fuel & Hydraulic shutoffs**
- **Intercom**

NOTE

Cargo door warning annunciator may illuminate 5 minutes after loss of the left essential bus and does not indicate an unsafe door. Verify with cargo door warning system on copilot console.

NOTE

If restoration of bus is required, pull all circuit breakers on affected bus, turn bus tie switch on, reset circuit breakers one at a time until faulty circuit is found. Pull circuit breaker for malfunctioning circuit and do not reset.

TOTAL ELECTRICAL FAILURE

1. **ENTRANCE LIGHT** Switch — SET As Required

NOTE

Pilot's overhead and entrance floodlights are battery powered when entrance light is in ON position

2. **ESIS PWR** Switch — Verify **ARMED** / **STBY PWR** Light **ON**
3. **ESIS** (Airspeed, Attitude, Altitude) — Verify Powered & Valid
4. **AVIONICS AUX PWR** Switches — **ON**
5. Both **BATTERY** Switches and **GEN** Switches — **OFF**
6. **BATTERY** Switches (Individually) — **RESET / ON**
7. **GENERATOR** Switches (Individually) — **RESET / ON**

GENERATOR FAILURE (L GEN FAIL or R GEN FAIL Light Illuminated)

NOTE

Some aircraft Warning lights may have "GENERATOR" instead of "GEN".

1. **GENERATOR** (Affected Side) — **OFF / RESET**
2. Voltmeter — Check Normal

3. **AIR COND / FAN** Switch — **OFF** or **FAN**
4. **GENERATOR** — **ON**

If reset unsuccessful:

5. **GENERATOR** — **OFF**
6. **GENERATOR** Load (Operative) — CHECK

DOUBLE GENERATOR FAILURE

1. Both **GENERATOR** switches — **OFF**
2. Electrical load — Reduce
3. **GENERATOR** and **START CONTROL** Circuit Breakers — Checked
4. **L GENERATOR** Switch — **RESET**/Voltage Check
5. **L GENERATOR** Switch — **ON**
6. If Left Generator will not go on line, turn it **OFF**.

NOTE

If one of two generators can be put online, consideration should be given to continuing flight with single generator rather than risking a second double generator failure.

7. Repeat steps 4 and 5 for right generator.

NOTE

If neither generator voltage is within limits, it is acceptable to put a single generator online.

8. If Neither Generator will reset:
   a. **TRIM & AUTOPILOT** control — Left Side
   b. **INVERTER** — Select # **1**
   c. **RIGHT BOOST PUMP** — **AUX**
   d. **LEFT BOOST PUMP** — **MAIN**

e. Avionics — Select #1 Radios

f. Non-Essential **BUS TIE** Switch — **OFF**

g. Right Essential **BUS TIE** Switch — **OFF**

h. All unnecessary equipment — **OFF**

9. Land — As Soon as Practicable

WARNING

When operating on battery power alone in flight, Land – As Soon as Possible, to preclude complete electrical failure.

CIRCUIT BREAKER TRIPPED

1. Circuit Breaker — Push to Reset (Once)

CAUTION

If Circuit Breaker trips again, DO NOT reset. Damage to equipment or electrical fire can occur.

HYDRAULIC.

HYDRAULIC FAILURES

CAUTION

Do Not Close Hydraulic Shut Off Valve(s) Except for Engine Fire.

NOTE

Hydraulic system normal operating limits 1700 – 2100 PSI

L HYDR or R HYDR Light Illuminated

1. Hydraulic Pressure Gauge — CHECK
2. Pressure Normal — Monitor Engine Instruments

3. PRESSURE LOW and / or both lights are illuminated — Proceed with Hydraulic System Failure Checklist

HYDRAULIC SYSTEM FAILURE

1. Prepare for emergency extension of landing gear.
2. Prepare for landing at existing flap configuration.
3. **FLAP OVRD** — Select
4. Use appropriate V_{REF} speeds for flap setting.

WARNING

Nose gear steering system must not be armed. Steer with brakes, power and rudder. Failure to comply could result in personnel injury or damage to equipment.

5. **NGS** Switch — **OFF**

NOTE

Compute flaps up landing distance by adding 72% to the flaps full landing distance.

	APPROACH SPEEDS (KIAS)						
	WEIGHT (1000 POUNDS)						
	10.0	11.0	12.0	13.0	14.0	15.0	16.0
1/2Flaps	103	107	110	113	116	119	122
1/4 Flaps	108	112	115	118	121	125	128
No Flaps	110	114	118	122	126	130	134

LANDING GEAR EMERGENCY EXTENSION

NOTE

If landing gear malfunctions, check position of emergency gear release lever, hand pump valve, and Landing Gear Control circuit breaker on Left Essential Bus. Transfer landing gear control to Right Essential Bus Transfer Switch and confirm Landing Gear circuit breaker on Right Essential Bus.

1. Airspeed — 175 KIAS MAX
2. **LANDING GEAR** Handle — **DOWN**
3. **EMERGENCY RELEASE** Handle — ROTATE Aft
4. **HAND PUMP VALVE** handle
   a. Pull Pip Pin
   b. Rotate **VALVE** Handle 90° Forward
5. **EMERGENCY HAND PUMP** — Pump As Required

   (Hydraulic Pressure Gauge at least 500 - 800 PSI)
6. Landing Gear Indicator — Check (Three Green)
7. **NOSE GEAR STEERING** — **OFF**

NOTE

- **Strong resistance to pump handle motion gives sufficient pressure (500 to 800 psi) to ensure gear security in addition to mechanical down locks.**
- **If manual extension is used because of failure in landing gear electrical control system, hydraulic pressure gauge will continue to indicate approximately 2,000 psi system pressure. In this case, pressure to gear down actuators can be detected only by effort required to move emergency hand pump.**
- **If failure at bottom of hydraulic pack allows depletion of all hydraulic fluid, emergency hand pump will not provide pressure. Nevertheless, step 3 above will allow landing gear to free fall to safe, down and locked position.**
- **Hydraulic pressure to nose wheel steering system will not be available following landing gear emergency extension required by either hydraulic failures or gear position selector valve electrical failures. Do not arm nose wheel steering.**

8. If gear does not extend:
   a. **EMERGENCY RELEASE** lever — Rotate Forward
   b. **HAND PUMP VALVE** Handle — Rotate Aft
   c. **LANDING GEAR** Handle — **UP**

NOTE

Extending landing gear in this manner requires airplane be slowed to a minimum safe airspeed. Therefore, procedure must be performed at altitude appropriate to ensure safe recovery in event of inadvertent stall.

d. **FLAPS** — Select **FULL DOWN**

e. Airspeed — Slow to just above flight idle stall speed

f. **LANDING GEAR** Handle — **DOWN**

9. If gear does not extend:

a. **LANDING GEAR** Handle — **UP**

b. **LANDING GEAR** Handle — **DOWN**

10. If gear does not extend:

a. **LANDING GEAR** Handle — **UP**

b. **EMERGENCY RELEASE** Lever — Rotate Aft

c. **HAND PUMP VALVE** Handle — Rotate Forward

d. **EMERGENCY HAND PUMP** — Pump As Required

NOTE

If gear doors or up locks are binding, it may be necessary to perform a zero G push over maneuver while using the above procedures.

GEAR UP LANDINGS

NOTE

for all gear up landings

- If either main gear will not extend, land with all three gear up if possible. If nose gear will not extend, land on mains.
- Ensure passengers are briefed regarding bracing position and evacuation procedure.
- Depressurize airplane and consider removal and secure stowage of escape hatches prior to landing. Expect main cabin door to operate normally except that it may not fully open with the nose or left main gear retracted.
- Historically, this class of airplane has received more damage landing on sod than on smooth, paved surfaces.
- Propeller blades contacting surface while turning under power tend to disintegrate and throw shrapnel. Blades contacting surface when feathered or nearly feathered will bend but most likely will not shatter and will aid in holding wings and nacelles off runway.
- Pilot may choose to feather one propeller early and save other engine for last minute glide path corrections. During approaches with one main gear up and one down, it is recommended that propeller on gear up side be feathered first.

LANDING WITH ALL THREE GEAR UP

1. Use Full Flaps.
2. Normal V_{REF} speeds plus 5 to 10 KIAS.
3. Feather propellers only when landing is assured.
4. Shut off all electrical power just prior to touchdown. Leave batteries on during night landing for landing light use.
5. Touch down in flat attitude, on centerline using rudder for direction control.

LANDING WITH NOSE GEAR UP

1. Use normal approach technique and flap setting.
2. Shut off all electrical power just prior to touchdown. Leave batteries on during night landing for landing light use.
3. Feather propellers after mains have touched down.
4. Hold nose off runway as long as practical allowing for sufficient pitch control to lower nose smoothly to runway.

LANDING WITH ONE MAIN GEAR UP

1. Attempt to retract all three gear, and land with gear up using ALL THREE GEAR UP procedures.
   a. Check position of emergency gear release lever, the hand pump valve handle and the landing gear control circuit breaker.
   b. Transfer landing gear control to other Essential Bus using transfer switch.
2. If possible select runway with fewest obstructions and flattest terrain on un-extended gear side.

3. Feather propellers when landing is assured.
4. Shut off all electrical power just prior to touchdown.
5. Hold wing with the un-extended gear off runway as long as possible. Use brakes and rudder for directional control. Expect aircraft to turn into the low wing.

NOSE WHEEL STEERING MALFUNCTION

NOTE

In the event of a flashing NWS FAIL light, an uncommanded steering deflection, and / or a park light illuminated when the park button is not pressed, the following procedures should be followed:

1. Directional control — USE Rudder, Brakes, and / or Power
2. **NGS** Switch — **OFF**

FLIGHT CONTROLS.

TRIM SYSTEM MALFUNCTIONS

STABILIZER TRIM SYSTEM RUNAWAY

1. **ELEVATOR** — Overpower
2. **MASTER DISCONNECT** — Press and Hold
3. **TRIM SELECTOR** — **OFF**
4. **MASTER DISCONNECT** — Release
5. **TRIM SELECTOR** — Select Opposite Position
6. **STABILIZER** — Trim As Required

PILOT'S TRIM SYSTEM INOPERATIVE

1. **TRIM SELECTOR** — Copilot
2. **AUX** or Copilot's **TRIM** — Use As Required

COPILOT'S TRIM SYSTEM INOPERATIVE

1. **TRIM SELECTOR** — Pilot
2. Pilot's **TRIM** — Use As Required

BOTH PILOTS' TRIM SYSTEM INOPERATIVE

1. **TRIM SELECTOR** — **OFF**
2. Airspeed — As Required to maintain low elevator forces
3. **SAS SERVO** Switch — **OFF**

NOTE

- **If trim system fails in an extreme nose down trim position, do not extend flaps unless required for landing because of high pull force required to maintain level flight.**
- **If trim system fails in extreme nose up trim position, flap extension (below Vfe) will reduce push force required to maintain level flight.**
- **Flap extension decreases push force requirements.**

4. **FLAPS** (on landing approach) — SET As Required

NOTE

Gear extension increases push force requirements.

5. **LANDING GEAR** Handle — **DOWN** (when desired)

GO AROUND WITH BOTH PILOTS' TRIM SYSTEM INOPERATIVE

NOTE

Very high push forces will be required if flaps are retracted with stabilizer trim in extreme nose up position. If a go-around or balked landing is required when stabilizer trim is stuck in an extreme nose up position, do not retract flaps immediately.

1. **POWER** — SET As Required

NOTE

Application of power increases push force requirements.

2. **FLAPS** — Retract in Increments

NOTE

Flap retraction increases push force requirements.

3. Airspeed — As Required to Reduce Elevator Forces
4. **LANDING GEAR** Handle — **UP** (when feasible)

INADVERTENT PUSHER

SAS MALFUNCTIONS

WARNING

Pull forces required to overpower stick pusher may exceed 60 pounds. Failure to override could result in personnel injury or damage to equipment.

NOTE

With SAS servo turned off, stick pusher will be inoperative. Stall warning will still be provided by activation of stickshakers 5 to 10 knots above stall speed. Angle of attack should be immediately reduced to provide an adequate margin above stall speed. If angle of attack isinadvertently allowed to increase, stall recovery should be initiated at first natural or SAS indication of stall (glareshield stall light and/or stall horn).

1. **ELEVATOR** — Overpower
2. **MASTER DISCONNECT** — Press and Hold
3. **SAS SERVO SWITCH** — **OFF**
4. **MASTER DISCONNECT** — Release

INADVERTENT STALL WARNING

Stick Shaker or stall warning at speeds well above normal stall warning speeds

NOTE

- **Pressing either stall light module will remove power immediately from respective SAS computer and render SAS pusher servo inoperative. Pilot's stall light module controls left SAS computer and copilot's light module controls right SAS computer.**
- **Both stall warning stick shakers, stall horn, and glareshield STALL lights for operating SAS computer will be operational. Stick pusher will not operate with either SAS computer off.**

1. STALL LIGHT MODULE (either SAS) — Press **OFF**

If shaker continues, go to Step 2

2. STALL LIGHT Module (operating SAS) — Press **OFF**

If shaker stops, go to Step 3.

3. STALL LIGHT Module (first SAS disabled) — Press **ON**

SAS SERVO FAIL Light Illuminated

1. **SAS SERVO** Switch — **OFF**

L SAS FAIL or R SAS FAIL Light Illuminated

1. STALL LIGHT Module (Affected SAS) — Press
   a. Verify Computer OFF
2. **SAS INDICATOR** Select Switch — Select Operating **SAS**

PRESSURIZATION SYSTEMS.

Depressurization or CABIN ALTITUDE Light Illuminated

1. **CREW OXYGEN MASKS** — **DON**
2. **PASSENGER OXYGEN CONTROL** — **ON**
3. **PASSENGER OXYGEN MASKS** — **DON**
4. **CABIN PRESS** (Dump) Switch — **NORM** position
5. **BLEED AIR** Switches — **LOW/HIGH**
6. **CAWI** Switch — **OFF**
7. Emergency Descent — COMMENCE As Required

MANUAL PRESSURIZATION

1. Low Cabin Pressure:

a. **CONTROLLER** Setting, **CAWI**, **CABIN DUMP** and **BLEED AIR** Switches — CHECK

b. **MANUAL PRESSURIZATION** — Attempt

c. If unsuccessful — Descend or Use O_2

2. High Cabin Pressure:

a. Attempt manual pressurization.

b. If unsuccessful:

(1) **BLEED AIR** Switches — **OFF**

(2) Altitude — Descend Below 12000 Ft MSL

(3) Cabin Press below 1 psi — Cabin Press Dump

(4) **BLEED AIR** Switches — SET As Required

(for cabin heating / cooling)

3. Excessive Rate Of Pressurization:

a. Attempt manual pressurization.

b. If unsuccessful:

(1) **BLEED AIR** Switches — **OFF**

(2) Isolate faulty source by turning on one bleed at a time. Leave faulty bleed air switch off. If unable to control excessive pressurization then:

(3) **CABIN PRESSURE** — **DUMP**

CABIN DOOR or CARGO DOOR Light

WARNING

When airplane is un-pressurized, the passenger entrance door safety lock will not be engaged; it will be possible to open door in flight. Opening door in flight could result in personnel injury or damage to equipment.

Prior to Takeoff:

1. Do Not Takeoff

In Flight:

1. Crew & Passengers — REMAIN Clear of Affected Door
2. SEAT BELT Sign — **ON**
3. Cabin Differential Pressure — Reduce
4. Descend — As Required
5. Land — As Soon As Practicable

AIR CONDITIONING SYSTEM MALFUNCTION

1. Warm or Hot air from cold air outlets:
   a. **BLEED AIR** Switches — **OFF** – One at a Time

      (Isolate faulty bleed air system and leave off)

   b. **BLEED AIR** Switch (unaffected side) — **ON**
2. Automatic Temperature Control Fails
   a. **TEMP CONTROLS** — **MANUAL**
   b. Control cabin temperature by alternately selecting off and manual positions.

MISCELLANEOUS SYSTEMS

INADVERTENT ICING ENCOUNTER

1. **AUTO / CONT IGNITION** Switches — **CONTINUOUS**
2. **LEFT ENGINE HEAT** — **ENGINE** & **PROP**
3. **PITOT / SAS HEAT** — **ON**
4. **WINDSHIELD HEAT** — **HIGH**
5. **DEICE BOOTS** — Select **AUTO**

After determining left engine working properly:

6. **RIGHT ENGINE HEAT** — **ENGINE** & **PROP**

LOW SUCTION Light Illuminated

Less than 4.4 in Hg suction

1. Pressurization — Monitor
2. If abnormalities are noted Revert to Manual Operation

INSTRUMENT STATIC PRESSURE MALFUNCTION

NOTE

DO NOT dump pressurization when Alternate Static source is selected.

1. Pilot's Static Source — Select Alternate

EMERGENCY DESCENT

1. **SPEED LEVERS** — **HIGH RPM**
2. **POWER LEVERS** — **FLIGHT IDLE**
3. AIRSPEED — 175 KIAS MAX
4. **LANDING GEAR** Handle — **DOWN**
5. **FLAPS** — SET **1/2**
6. Altitude — Decend As Required

AUTOPILOT MISTRIM ANNUNCIATION

E or A

Illumination of red-boxed **E** (Elevator) or **A** (Aileron) annunciation on PFDs indicates that autopilot is flying airplane in mistrimmed condition. If mistrim indication continues for more than a few seconds:

NOTE

- **If continuous mistrim indication is presented, pilot should brace flight controls and disconnect autopilot. Upon disconnect, pilot will experience a force in excess of 25 pounds. Re-engagement of autopilot should not be attempted until reason for out-of-trim state has been isolated, corrected, and airplane has been returned to a trimmed condition.**
- **Intentional or automatic stick free disengagement of autopilot into annunciated red elevator mistrim indication will induce significant airplane response in direction of mistrim force.**

1. Flight Controls — Hold Firmly
2. **AP** & **YD** — **DISENGAGE**
3. Elevator and/or Aileron — Trim As Required
4. Fuel Balance — Check & Balance As Required
5. **AP** & **YD** — SET As Required

AUTOPILOT TRIM FAIL ANNUNCIATION

CAUTION

Mistimed condition may occur in conjunction with Pitch Trim failure. When autopilot is disengaged in mistimed condition, expect abrupt change in control forces. Failure to comply could cause damage to equipment.

Illumination of red TRIM annunciation **TRIM** on PFDs indicates that autopilot pitch trim system has failed. Autopilot will not automatically disengage, and may not function properly.

ALT or VS or IAS INDICATES AN ADC FAILURE

1. **ADC** Circuit Breaker — CHECK
2. **ADC** Switch — Select operative ADC
   - Autopilot will function in basic roll/pitch modes (as indicated by yellow strike-outs of selected mode) until autopilot is coupled to operative ADC side.
   - ADC comparators will be inoperative.
   - Couple FGC to operating side ADC to re-engage autopilot modes.

DUAL ADC FAILURE

1. **ADC** Circuit Breakers — CHECK

   Use Electronic Standby Instrument System and land at nearest suitable airport.

   - **TCAS** will be inoperative.
   - Transponder Mode C will be inoperative.
   - **AUTOPILOT** and **YAW DAMPER** will operate in ROLL and PTCH mode only.

- **EGPWS** will be inoperative.

AP

Indicates a disengagement of autopilot, yaw damper may also disengage.
Automatic Disengagement

1. **AP** & **YD** — Acknowledge and cancel Aural
2. Determine cause of disengagement
3. **AP** & **YD** — SET As Required

ATT or HDG
INDICATES AN AHRS FAILURE

1. **AHRS** Circuit Breakers — CHECK
2. **AHRS** Switch — Select Operative **AHRS**
   - Autopilot and yaw damper may disconnect and may no longer function.
   - AHRS comparators will be inoperative.
   - If AHRS 1 is failed, TCAS will be inoperative.
   - Couple FGC to the operating side AHRS to regain flight director operation.

DUAL AHRS FAILURE

1. **AHRS** Circuit Breakers — CHECK

   Use Electronic Standby Instrument System (ESIS) and land at the nearest suitable airport.

   - TCAS is inoperative.
   - Weather radar stabilization will be inoperative.

DCP

Indicates failure of respective display control panel, control of respective display via DCP is lost. PFD bezel buttons are still operative. No in-flight action required.

FD

Indicates that flight director has failed, or when pitch or roll outputs from selected FGC are invalid, or loss of nav information from active navigation source. If coupled to failed flight director, autopilot may disengage.

1. Check Nav Source Valid — Select Operable NAV Source

If only one PFD is affected:

2. **FGP "CPL"** Button — Transfer to Alternate Side

RA

Indicates that radio altitude data is invalid, radio altitude digital display, radio minimums functions, and analog radio altitude display on PFD and TCAS will be inoperable. Enhanced features of EGPWS will continue, GPWS Modes 1-6 will be inoperative.

FMS 1 or FMS 2

Indicates that selected FMS navigation data is invalid, course pointer, lateral deviation bar and to/from pointer are removed.

1. NAV Source — Select Another NAV Source

VNV

Indicates invalid VNAV data, VNAV deviation pointer is removed.

1. Vertical NAV Source — Select Another Vertical Mode

TCN

Indicates that TACAN deviation is invalid, course pointer, and lateral deviation bar and to/from pointer are removed.

1. NAV Source — Select Another NAV Source

VOR 1 or VOR 2

Indicates that selected VOR deviation is invalid, course pointer, and lateral deviation bar and to/from pointer are removed.

1. NAV Source — Select Another NAV Source

GS

Indicates that glideslope deviation is invalid and glideslope pointer is removed. If glideslope data is valid on other PFD, approach should be flown by referencing operable side.

1. NAV Source — Select Another NAV Source

LOC 1 or LOC 2

Indicates that selected localizer deviation is invalid, course pointer and lateral deviation bar are removed.

1. NAV Source — Select Another NAV Source

ENHANCED GROUND PROXIMITY WARNING SYSTEM (EGPWS)

The following procedures supplement those found in basic POH/AFM.

NOTE

- **Pilots are authorized to deviate from their current air traffic control (ATC) clearance to extent necessary to comply with an EGPWS warning.**
- **In event of terrain warning, PFD will highlight TERRAIN display selection with a cyan box around TERRAIN display selection when not selected for display. While TERRAIN display selection is highlighted with a cyan box, single button push access to display TERRAIN sweep is active.**

EGPWS WARNING

RED **PULL UP** Annunciator and Continuous" PULL UP, PULL UP" Voice Warning

OR

EGPWS TERRAIN WARNING, RED **PULL UP** Annunciator and "TERRAIN, TERRAIN, PULL UP" or "OBSTACLE, OBSTACLE, PULL UP" Voice Warning

1. **Wings** — **LEVEL**
2. **Power** — **SET MAX ALLOWABLE**
3. **Pitch** — **INCREASE**
   - Promptly and smoothly, increase pitch to obtain maximum climb performance.
   - Adjust as required to avoid continuous buffeting and/or stall warning.
4. **Gear and Flaps** — **UP**
5. Continue climb until all visual and voice warnings cease.
6. ATC — NOTIFY (if required)

DEACTIVATION

If pilot in command determines that activation of EGPWS will interfere in dealing with emergency conditions, system may be deactivated by pulling EGPWS circuit breaker located on left aft circuit breaker panel under Left Essential Bus.

DITCHING OR OFF-AIRPORT LANDING

Inhibit visual and voice alerts using the following procedure.

1. TERR INHB — Select

PERFORMANCE CHECKS

OXYGEN SYSTEM

PRICE CHECK

1. Check oxygen **P**ressure available using oxygen pressure gauge located on instrument panel.
2. Check mask **R**egulator for condition, security, and set regulator control to 100% position.
3. Check **I**ndicator located in oxygen tubing for "flash" indication when oxygen is demanded.
4. Check **C**onnections of oxygen tubing and mask for condition and security. **C**ommunications – check mask microphone operating.
5. Check **E**mergency position of mask regulator for continuous flow.

FIRE EXTINGUISHER PRESSURE

Bottle Temp (°F)		Bottle Pressure (PSI)
-40	.....	292 - 370
-20	.....	320 - 400
0	.....	355 - 437
+20	.....	396 - 486
+40	.....	449 - 540
+60	.....	518 - 618
+80	.....	593 - 702
+100	.....	670 - 784
+120	.....	755 - 855

SAS TEST

1. **SAS SERVO** Switch — **OFF**
   a. Check SAS Servo Fail Light On
2. **POWER LEVERS** — SET between Flt Idle and Full

3. **SAS STALL** Switches — One at a Time to Stall
   a. Note Green ADV Lights on SAS gauge
4. **POWER LEVERS** — SET Ground Idle
5. **SAS STALL** Switches — SET Both to Stall
   a. Check Shakers, L & R Stall Lights, Stall Horn On — NO PUSHER
6. **SAS SERVO** Switch — **ON**
   a. Check SAS Servo Fail Light Out
7. STALL LIGHT Left Switch — PUSH
   a. L SAS FAIL Light On
8. **SAS** Gauge Select Switch — SELECT Left Side
   a. Note Needle Position
9. **SAS STALL** Switches — PUSH Both to Stall
   a. Check Shaker, R STALL Light and Stall Horn On — NO PUSHER
10. STALL LIGHT Left Switch — PUSH L SAS Fail Light Out
11. STALL LIGHT Right Switch — PUSH R SAS Fail Light On
12. **SAS** Gauge Select Switch — SELECT Right Side
    a. Note Needle Position
13. **SAS STALL** Switches — PUSH Both to Stall
    a. Check Shaker, L STALL Light and Stall Horn On — NO PUSHER
14. **STALL LIGHT** Right Switch — PUSH
    a. R SAS Fail Light Out
15. **SAS STALL** Left Switch — PUSH To Stall
    a. Check Shaker, L STALL Light and Stall Horn On — NO PUSHER
16. **SAS STALL** Right Switch — PUSH To Stall
    a. Check Shaker, R STALL Light and Stall Horn On — NO PUSHER

17. **SAS STALL** Switches — PUSH Both to Stall and Hold
    a. Check Shaker, L & R STALL Lights, Stall Horn and Pusher On
18. Check Disconnects then release — **SAS STALL** Switches
    a. No. 1 "G" Switch — Pusher Off SAS SERVO Fail Light Out
    b. No. 2 "G" Switch — Pusher Off SAS SERVO Fail Light Out
    c. Left **MSTR DISC** Switch — Pusher Off SAS SERVO Fail Light Out
    d. Right **MSTR DISC** Switch — Pusher Off SAS SERVO Fail Light Out
19. No. 1 "G" Switch — To Monitor
    a. SAS SERVO FAIL Light On within 5 Sec

PITCH TRIM SYSTEM

(First flight of the day)

WARNING

Operation of trim system should occur only by movement of pairs of switches. Any movement of stabilizer while actuating only one switch on control wheels indicates a malfunction. Flight should not be initiated with any malfunction of any portion of trim system.

1. OUT-of-TRIM Warning — CHECK
    a. **STABILIZER TRIM** — SET outside green takeoff band
    b. **POWER LEVERS** — ADVANCE to 50% travel
    c. **OUT-of-TRIM** warning horn — CHECK Steady
    d. **STABILIZER TRIM** — SET in green takeoff band
    e. **OUT-of-TRIM** warning horn — CHECK Silenced

f. **POWER LEVERS** — SET at flight idle gate

2. Compare Pitch Trim Indicator with Stabilizer position noted during preflight.
3. Select **PILOT** with **TRIM SELECTOR**.
4. Individually actuate both **PILOT TRIM** switches in both directions.
   a. Note no stabilizer movement while actuating each individual toggle trim switch.
   b. Note tone when actuating the right toggle switch only.
5. Actuate both **PILOT TRIM** switches in both directions.
   a. Note stabilizer movement and tone.
6. Place **TRIM SELECTOR** to **OFF**.
7. Actuate **PILOTS, COPILOTS** and **AUXILIARY TRIM** switch in both directions.
   a. Note no stabilizer movement and no tone.
8. Select **COPILOT** with **TRIM SELECTOR**.
9. Individually actuate both **COPILOT TRIM** switches in both directions.
   a. Note no stabilizer movement while actuating each individual switch.
   b. Note tone when actuating right switch only.
10. Actuate both **COPILOT TRIM** switches in both directions.
    a. Note stabilizer movement and tone.
11. Actuate the **AUXILIARY TRIM** switch in both directions.
    a. Note stabilizer movement and tone.
12. Set pitch trim to the desired takeoff setting.
13. Position trim selector for flying pilot.

FMS INITIALIZATION

1. STATUS Page (initial page at power up) — CHECK
   a. CORRECT DATABASE e.g. J6 - AMERICA
   b. CURRENT DATABASE(s) i.e. for duration of mission.
   c. CURRENT DATE and TIME in UTC
   d. CORRECT PROGRAM i.e SCID 832-4120-037
2. R6 Line Select Key (POS INIT) — PRESS.

NOTE

Never leave a page with unfilled prompts (open boxes).

3. R4 Line Select Key (SET POS TO GPS) — PRESS
   a. Confirm that latitude and longitude from R4 appear in **SET POS** blocks adjacent to R5 line select key. If not, press R4 line select key again and verify the Lat/Long fills blocks at R5. Once this occurs, the word **COMPLETED** will appear above coordinates adjacent to R4 Line Select Key.
4. R6 Line Select Key (FLPN) — PRESS

NOTE

Minimize data entry errors, use EXEC function key as often as necessary after entering changes to data.

   a. Enter departure airport under **ORIGIN** at L1 line select key.
   b. Enter destination airport under **DEST** at R1 line select key.
   c. Enter balance of planned route into **FLPN** page. (Note: May want to get ATC Clearance first.)
5. R6 Line Select Key (PERF INIT) — PRESS

a. Confirm **BOW** matches Operating Weight from current DD Form 365-4. — As Required

b. Enter number of passengers and their average weight (i.e. 4/200) at **PASS/WT**. — As Required

c. Enter weight of luggage and cargo at **CARGO**. — As Required

d. Enter estimated amount of fuel at Take-off in pounds, at **MANUAL FUEL**. (Takeoff gross weight will be displayed at **GWT** for performance planning and V speed calculations.)

e. Enter a cruise altitude at **CRZ ALT** — As Required

f. EXEC Function Key — PRESS

6. TUN Function Key — PRESS
7. L3 Line Select Key (NAV 1) — PRESS
8. R1 Line Select Key — SELECT AUTO As Required

Repeat steps 6 – 8 for remaining NAV system. i.e. NAV 2

9. TUN Function Key — PRESS

AUTOPILOT

(First flight of the day)

NOTE

Either a cockpit speaker or a headset is required to complete this check.

1. Heading SYNC Button — PRESS on FGP
2. HDG — SELECT on FGP
3. **CONTROL LOCK** — Release
4. Yoke — PULL to neutral pitch position
5. **AP** / **YD** — **ENGAGE**

   Note engagement of autopilot / yaw damp and appropriate Flight Guidance Mode Annunciations (FGMA) on PFDs

6. HDG Knob — TURN 10° left and right

   Note appropriate FD indications on PFDs.

7. **PILOT'S MASTER** Disconnect — PRESS

   Note disengagement of AP / YD on PFDs and aural alert.

8. **AP** — **ON**
9. **GA** Button — PRESS

NOTE

Note disengagement of AP and that command bars move to approximately 8° nose up.

10. **YD** — **OFF**
11. Elevator — TRIM As Required

CVR

(First flight of the day)

1. **CVR TEST** switch — PRESS

(Observe the green test light illuminates within five seconds)

WX RADAR

(First flight of the day)

1. COLOR TEST PATTERN
   a. Both PFD R2 Line Select Keys — DISPLAY RADAR
   b. Both PFD R1 Line Select Keys — SELECT ARC Format
   c. DCP RADAR button — SELECT **TEST** Function

Verify that all colors display (green, yellow, red and magenta) on each PFD. OUTER-most magenta band will display during every other sweep on either of PFD.

2. RETURN DISPLAY TEST

CAUTION

Ensure following test is performed in a safe environment for radar operations. Minimum distance from obstacles for safe operations is twenty-four (24) inches. Failure to comply could cause damage to equipment.

   a. Both DCP RADAR Buttons — SELECT WX or WX+T

b. Both DCP Range Knobs — SELECT 10 Mile Range

c. Both DCP Tilt Knobs — ADJUST to Display a Return

d. DCP RADAR Button — SELECT **STBY**

TCAS

(First flight of the day)

NOTE

- **Local procedures (e.g. ADIZ, TFR, etc.) may preclude test completion or require an alternate squawk code to prevent unnecessary official response.**
- **Either a cockpit speaker or headset is required to complete this check.**

ATC 1 Transponder

Manual Display Mode

1. Pilot's Annunciator Panel — SELECT ATC 1 XPDR
2. PFD **TFC** (R3) Line Select Key — ENSURE Display **OFF**
3. CDU Tuning Page — SET XPDR Code As Appropriate
4. CDU R6 Line Select Key — PRESS
5. CDU R2 Line Select Key — SELECT **TEST**

   NOTE: Red and green advisory bands on vertical speed scale and red TRAFFIC advisory below EADI. Note: **TFC** prompt with a cyan background adjacent to PFD R3 Line Select Key and prepare to PRESS PFE R3 Line Select Key.

6. PFD **TFC**. (R3) Line Select Key — PRESS

   NOTE: four traffic symbols (■ ● ♦ ◊) and LISTEN for "TCAS System Test OK" audio message.

IFF Transponder

Manual Display Mode

1. PFD **TFC** (R3) Line Select Key — ENSURE Display **OFF**
2. Pilot's Annunciator Panel — SELECT IFF XPDR
3. IFF Transponder — SET XPDR Code As Appropriate
4. IFF Transponder — SELECT TA / RA Mode
5. IFF Transponder — INITIATE **TEST** on Mode 3/A Selector

   NOTE Red and green advisory bands on vertical speed scale and red TRAFFIC advisory below EADI. Note **TFC** prompt with cyan background adjacent to PFD R3 Line Select Key and prepare to PRESS PFD R3 Line Select Key.
6. PFD **TFC**. (R3) Line Select Key — PRESS

   NOTE four TRAFFIC symbols (■ ● ♦ ◊) and LISTEN for "TCAS System Test OK" audio message.
7. IFF Transponder — SELECT **STBY**
8. Pilot's Annunciator Panel — SELECT **ATC** 1 **XPDR**

EGPWS

(First flight of the day)

Manual Display Mode

NOTE

Either a cockpit speaker or a headset is required to complete this check.

1. PFD TERR (R2) Line Select Key — ENSURE Display OFF
2. G/S INHIB Switch — PUSH Momentarily

NOTE the following annunciations on the PFD and LISTEN for the following audio alert messages. Note the TERR prompt with a cyan background adjacent to the PFD R2 Line Select Key and prepare to PRESS the PFD R2 Line Select Key.

1. Annunciations
   a. Selected Mode displays **TERR TEST**.
   b. **GPWS TERR TERRAIN FAIL** Flashes into view 5 times approximately, then is removed.
   c. **GND PROX** Flashes into view 2 times approximately, then is removed.
   d. G/S INHIB Annunciation Switch flashes ACTIVE for one second.
   e. **PULL UP** Flashes in view 5 times approximately, then is removed.
   f. **GND PROX** Again flashes in view 2 times approximately, then is removed.
   g. The 9-color grid terrain display self test pattern.
2. Audio Alerts
   a. "**Glideslope**"
   b. "**Pull Up**"
   c. "**Terrain, Terrain, Pull Up**"
3. PFD TERR (R2) Line Select Key — PRESS

FEATHER VALVE / FUEL SHUTOFF VALVE

WARNING

Malfunctions of NTS system or mis-rigging of feather valve may result in difficulties in aircraft controllability due to propeller wind-milling drag, in event of an in flight shutdown. Malfunctions or mis-rigging of fuel shutoff valve may result in inability to Airstart engine.

These checks are strongly recommended whenever:

a. The NTS system, feather valve, or fuel shutoff valve's proper function is in doubt.

b. Prior to a flight during which intentional engine shutdowns are planned.

1. Engine — PRIOR TO START (NOT RUNNING)
2. **POWER LEVER** — FULL REVERSE
3. **UNFEATHER PUMP** — ACTIVATE
4. **PROPELLER** — VISUALLY OBSERVE MOVEMENT TOWARDS REVERSE
5. **ENGINE STOP** and **FEATHER CONTROL** — **PULL** To Feather While Observing Propeller
6. **PROPELLER** — VISUALLY OBSERVE RETURN TO START LOCKS
7. **ENGINE STOP** and **FEATHER CONTROL** — **RESET**
8. **UNFEATHER PUMP** — **OFF**
9. **POWER LEVER** — **FLIGHT IDLE**

PROPELLER UNFEATHER PUMP

(Before Start Propeller Unfeathering)

1. **POWER LEVER** — PULL to **REVERSE**
2. **UNFEATHERED TEST** Switch — SELECT L or R
3. **UNFEATHER TEST** Switch — SELECT **OFF** at **REVERSE PITCH**
4. **POWER LEVER** — RETURN to **GROUND IDLE**

NOSE WHEEL STEERING

NOTE

Accomplish this check when the aircraft is clear of ramp and taxiway obstructions

1. While taxiing at a slow speed move L / R Test Switch left.
   a. Note a slight turn to the left, followed by nosewheel steering disconnecting, the green NWS light extinguishing, and the amber NWS FAIL light blinking.
2. Repeat this check to the right.

NOTE

Applying a slight amount of opposite rudder during operation of Test Switch will cause a positive disconnect of nose steering and reduce amount of heading variation.

3. Move nose gear steering arm switch to VALVE TEST position.
   a. Note green NWS light extinguishes and re-illuminates as switch reaches VALVE TEST position.
4. Deflect rudder pedals left and right.
   a. Note that no steering inputs occur amber NWS FAIL light is not on.
5. Apply a small amount of brake pressure to ensure that nose gear is castering freely.
6. Put nose gear steering switch back to ARMED position.
   a. Note green NWS light illuminates.
7. Move right speed lever forward one-half inch (until green NWS light is extinguished).
   a. Check for no steering response then take command of nose gear steering with left / right power levers, note green NWS light on.
8. Return speed lever to LOW position.

NOTE

Green NWS light must extinguish each time nose wheel steering is deactivated by either right speed lever switch, test switch, arm switch or release of NWS power lever button(s).

ANTI-ICE / DEICE SYSTEMS

1. **AUTO/CONT IGNITION** Switches — **CONT**
   a. Check IGN lights on
2. **AUTO/CONT IGNITION** Switches — **AUTO**
   a. Check IGN lights off
3. **DEICE BOOT** Switch — **MANUAL**

a. Note fluctuation of deice gauge at approximately 6 seconds (wings deflating and horizontal stabilizer inflating) and again at 10 seconds (horizontal stabilizer deflating)

4. **DEICE BOOT** Switch — **AUTO**

a. Note wing boots 6 sec empennage 4 sec

CAUTION

Extended ground operation will damage Pitot & SAS heating elements.

5. **PITOT** & **SAS HEAT** Switches — **PITOT** & **SAS**

a. Note illumination of SAS DEICE annunciator light and normal load indicated on L & R Pitot Heat Load Meter.

b. Note selection of single switch will not illuminate SAS DEICE annunciator light.

6. **PITOT** & **SAS HEAT** Switches — **PITOT**

a. Note SAS Deice annunciator light out and normal indications on L & R Pitot Heat Load Meter

7. **PITOT** & **SAS HEAT** Switches — **OFF**

CAUTION

Engine Intake Heat limited to 10 sec ground operations above +5 °C. Do not operate either propeller deice boots or oil cooler duct heat when propellers are static.

8. **ENGINE** & **PROP HEAT** Switches — **ON**

a. Note rise in EGT and Intake Heat lights on and Duct Heat Cycle Lights on and L & R Prop Deice Load Meter

NOTE

Duct Heat Cycle Lights may not illuminate at ambient temperatures above 90ºF.

9. **ENGINE** & **PROP HEAT** Switches — **OFF**

a. Note drop in EGT and Intake Heat lights off

10. **INTAKE HEAT TEST** Buttons — Press - Intake Heat lights on - then release
11. Left **PROP** & **DUCT HEAT** Switch — **ON**
    a. Note Left Prop Load Meter in green arc.

    (5-8 sec later)
12. Right **PROP** & **DUCT HEAT** Switch — **ON**
    a. Note Right Prop Load Meter in green arc.
13. Check both Prop Load Meters for deflection at 34 seconds and in the green arc (25-32 amps)
14. **WSHLD HT** Switches — SELECT **LOW**
    a. Check Windshield blurs slightly and WS Heat lights On
    b. NOTE: WS Heat Lights may not illuminate at ambient temperatures above 90°F.
15. **WSHLD HT** Switches — SELECT **HIGH**
    a. Check Windshield blurs and WS Heat lights On
16. **WSHLD HT** Switches — **OFF**
17. **PROP** & **DUCT HEAT** Switches — **OFF**
18. **DEICE BOOTS** (after 3 minute cycle complete) — **OFF**

SAS CRUISE TEST

1. **SAS GAUGE SELECT** Switch – SELECT Left Side
2. Left **SAS CRUISE** Switch – PUSH To CRUISE
3. **SAS** Indicator Needle – 1.3 Vs (±.05 Vs)
4. **FLAP** Handle – SELECT **FULL DOWN**
5. **SAS** Pointer Needle – Observe slight movement up between:
    a. **FLAPS UP** and **1/4**
    b. **FLAPS 1/4** and **1/2**
    c. **FLAPS 1/2** and **FULL DOWN**

6. **SAS** Indicator Needle — Approximately 1.2 Vs
7. **SAS GAUGE SELECT** Switch — SELECT Right Side
8. Right **SAS CRUISE** Switch — PUSH To **CRUISE**
9. **SAS** Indicator Needle — Approximately 1.2 Vs
10. **FLAP** Handle — SELECT **FULL UP**
11. **SAS** Pointer Needle — Observe slight movement down between:
    a. **FLAPS FULL DOWN**and **1/2**
    b. **FLAPS 1/2** and **1/4**
    c. **FLAPS 1/4** and **UP**
12. **SAS** Indicator Needle — 1.3 Vs (±.05 Vs)

OVERSPEED GOVERNOR

CAUTION

- **Do Not Allow RPM to Exceed 106%. RPM Above 101.5% should not exceed 30 sec. Failure to comply could cause damage to equipment.**
- **Failure of Start Locks during an overspeed governor check can result in a sudden forward "jump" of aircraft. Before performing overspeed governor checks, pilot should verify that areas behind and ahead of aircraft are clear. Failure to comply could cause damage to equipment.**

1. **PARKING BRAKE** — SET
2. Speed Lever — SET **HIGH RPM**
3. **POWER LEVER** — ADVANCE

Until Further Motion Causes No Increase in Fuel Flow or RPM (RPM Should Be 103% To 105%)

4. Speed Lever — SET **LOW RPM**
5. Repeat steps 2 thru 4 for second engine if required.

SRL/TEMP LMTR CHECK

The following SRL / Temp Limiter checks are required:

a. At intervals not to exceed 50 flight hours

b. Prior to any flight after a manual engine start

c. After any indication of SRL / Temp Limiter malfunction except when operating IAW SRL / Temp Limiter malfunctions section of Flight Manual

d. After any engine fuel control or SRL computer maintenance or adjustment

WARNING

Do not test TEMP LIMITER in flight. At high altitudes flame out may result.

1. **PROPELLERS** — CONFIRM On Start Locks
2. **PARKING BRAKE** — SET
3. Left Speed Lever — SET **HIGH** RPM
4. Left **POWER LEVER** — ADVANCE to 100% RPM
5. **EGT** — STABILIZE and NOTE Value

NOTE

If no increase is noted in following check, system must be checked and corrected before further flight.

6. Left **SRL – △ P/P POWER SWITCH** — SELECT △ **P/P OFF**
   a. Note a Slight **EGT** Increase
7. Left **SRL △ P/P POWER** Switch — SELECT **NORMAL**
8. Left **SRL – △ P/P POWER SWITCH** — SELECT **SRL OFF**
   a. Note Change in **EGT** value and L SRL OFF Light Illuminated

NOTE

Changes in EGT between engines SRL OFF and ON must not exceed 10°C. If 10°C is exceeded, SRL system must be checked or corrected before further flight or operations must be conducted in accordance with SRL Inoperative procedures.

9. Left **SRL – △ P/P POWER** Switch — SELECT Normal
10. **TEMP LIMITER TEST** Switch — SELECT **L** (Left)

NOTE

Do not let RPM decay below 90% RPM.

11. **TEMP LIMITER TEST** Switch — RELEASE
    a. Note an increase in **EGT**, **RPM**, and **FUEL FLOW**, and **FUEL BYPASS OPEN** Light extinguished
12. Left **POWER LEVER** — SELECT **GROUND IDLE**
13. Left Speed Lever — SET Low RPM
    a. Repeat steps 3 – 13 for right engine

NOTE

If temp limiter fails, pull temp limiter circuit breaker. Operate engine in accordance with procedures outlined in Temperature Limiter Malfunctions section of FLIGHT MANUAL.

HIGH RESIDUAL EGT START

Whenever an engine ground start is required soon after engine shutdown while residual EGT is above 200° C, the following procedure is recommended:

1. COMPLETE all Before Starting Engine Checks.
2. COMPLETE all Starting Engine Checks up to Engine Start.

NOTE

Prior to pressing start button, hold starter test switch until RPM is 15%. Then press start button only long enough to provide fuel and ignition and to ensure light off. Release starter test switch after light-off is obtained, and continue with normal start procedure.

3. Engine Start — COMPLETE

By Order of the Secretary of the Army:

RAYMOND T. ODIERNO
General, United States Army
Chief of Staff

Official:

JOYCE E. MORROW
Administrative Assistant to the
Secretary of the Army
1205901

Distribution:

To be distributed in accordance with the initial distribution number (IDN) 314269, requirements for TM 1-1510-253-CL.

The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters = 328.08 feet
1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigrams = .035 ounce
1 dekagram = 10 grams = .35 ounce
1 hectogram = 10 dekagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 33.81 fl. ounces
1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264.18 gallons

Temperature Conversion

°C to °F = (9/5 x °C) + 32.
°F to °C = (°F - 32) x 5/9.

PIN: 086482-000