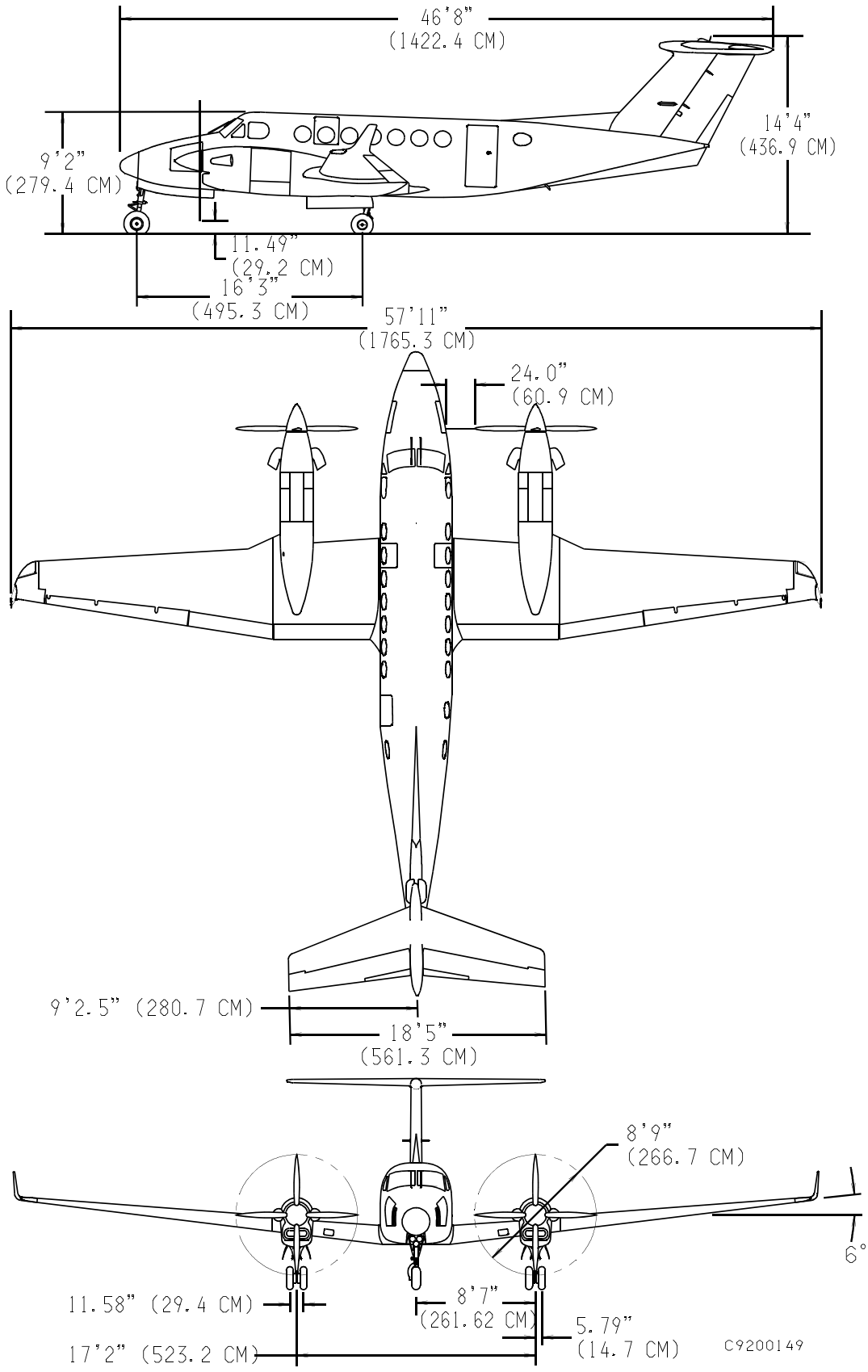


B300 THREE-VIEW

ENGINE FAILURE DURING TAKEOFF (AT OR ABOVE V_1) - TAKEOFF CONTINUED

1. **V_R Speed . . . . . .ROTATE TO APPROXIMATELY 10° PITCH ATTITUDE**
2. **Landing Gear (when positive climb established) . . . . . UP**
3. **Airspeed . . . . . MAINTAIN V_2 TO 400 FT AGL**
4. **Propeller (inoperative engine). . . . . VERIFY FEATHERED**

WARNING

Do not retard the failed engine power lever until the autofeather system has completely stopped propeller rotation. To do so will deactivate the autofeather circuit and prevent automatic feathering.

5. Flaps (at 400 ft AGL minimum) . . . . . UP AT V_2 + 9
6. Airspeed . . . . . .INCREASE TO 125 KNOTS
7. Climb to 1500 ft AGL, then accomplish the following cleanup procedures on the inoperative engine:
   a. Condition Lever . . . . . .FUEL CUTOFF
   b. Prop Lever . . . . . .FEATHER
   c. Firewall Fuel Valve . . . . . .CLOSE
      EXTINGUISHER PUSH & CLOSED - ILLUMINATED
   d. Generator . . . . . OFF
   e. Engine Auto Ignition . . . . . OFF
8. Autofeather. . . . . OFF
9. Brake Deice (if installed) . . . . . OFF
10. Electrical Load . . . . . MONITOR

ENGINE FAILURE IN FLIGHT BELOW AIR MINIMUM CONTROL SPEED (V_{MCA})

1. **Power . . . . . .REDUCE AS REQUIRED TO MAINTAIN CONTROL**
2. **Nose . . . . . .LOWER TO ACCELERATE ABOVE V_{MCA}**
3. Power . . . . . .AS REQUIRED
4. Engine . . . . . SECURE
   (See ENGINE FIRE OR FAILURE IN FLIGHT procedure.)

BEFORE ENGINE STARTING

NOTE

Items marked with an "*" may be omitted at pilot's discretion after the first flight of each day.

NOTE

Power settings and performance predicated on Indicated OAT shall use the temperature obtained from the Indicated OAT gage on the left cockpit sidewall and not from the temperature displayed on the AFDs.

1. Weight, CG, Performance, and V-Speeds . . . . . .CHECKED

WARNING

Only a crew member or properly trained ground personnel should close and lock the airstair door and cargo door (if installed).

2. Airstair Door (B300) . . . . . LOCKED
   a. Close and lock the door.
   b. Check the position of the safety arm and diaphragm plunger.
   c. Check that the green index marks on each of the 4 latch bolts align within the indicator windows.
   d. Check the engagement of both upper door hooks by means of the illuminated viewing ports.
   e. Attempt to turn handle to unlocked position without depressing the release button.
3. Cargo Door (B300C) . . . . . LOCKED
   a. Check upper handle position - closed and latched. (Observe through the handle access cover window.)
   b. Check that the orange index marks on each of the four rotary cam locks align within the indicator windows.
   c. Check lower pin latch handle position - closed and latched. (Observe through the handle access cover window.)
   d. Check that the orange-colored indicator aligns with orange stripe on carrier rod. (Observe through window at lower left corner.)

NOTE

The untapered shoulder of the latching pins must extend past each attachment lug.

4. Airstair Door (B300C) . . . . . LOCKED
   a. Close and lock the door
   b. Check the position of the safety arm and diaphragm plunger. (Lift the door step)
   c. Check that the orange index marks on each of the six rotary cam locks align within the indicator windows.
5. Load and Baggage . . . . . CONFIRM SECURED
6. Passenger Briefing . . . . . COMPLETE
7. Cabin Equipment . . . . . POSITIONED
   a. All Seats . . . . . SEAT BACKS UPRIGHT; HEADRESTS EXTENDED TO SUPPORT OCCUPANT'S HEAD
   b. Lateral-tracking Seats . . . . . OUTBOARD POSITION
   c. Tables . . . . . STOWED
8. Pilot Seats and Rudder Pedals . . . . . ADJUSTED
9. Seat Belts and Shoulder Harnesses . . . . . FASTENED
10. Parking Brake . . . . . CONFIRM SET
11. Control Locks . . . . . CONFIRM REMOVED
* 12. Oxygen System Preflight Inspection . . . . . CONFIRM COMPLETE
13. ELT Switch . . . . . ARM
    Yellow XMT Light - EXTINGUISHED
14. Fuel Panel . . . . . CHECK
    a. Standby Pumps . . . . . OFF
    b. Crossfeed . . . . . OFF
    c. Aux Transfer Switches . . . . . AUTO
    d. Circuit Breakers . . . . . IN
15. Pilot's Instrument Panel and Subpanel . . . . . CHECK
    a. Standby Flight Display System Power . . . . . TEST
       (Green Light ILLUMINATED)
    b. Standby Flight Display System Power . . . . . ON
       (Amber Light ILLUMINATED)
    c. Battery Bus . . . . . CONFIRM NORM
    d. Engine Anti-ice . . . . . ON & MAIN

CAUTION

To minimize ingestion of ground debris, the engine anti-ice system should be ON for all ground operations.

    e. Landing Gear Relay Circuit Breaker . . . . . IN
    f. Landing Gear Control . . . . . DOWN

16. Power Console and Pedestal . . . . . CHECK
    a. Power Levers . . . . . IDLE, FRICTION SET
    b. Prop Levers . . . . . FULL FORWARD, FRICTION SET
    c. Condition Levers . . . . . FUEL CUTOFF, FRICTION SET
    d. Oxygen Controls:
        1) Passenger Manual Drop Out . . . . . CONFIRM PUSHED OFF
        2) System Ready . . . . . CONFIRM ON
    e. Landing Gear Alternate Extension Handle . . . . . STOWED
17. Reversionary Switch Panel . . . . . CHECK
    a. Prop Sync . . . . . ON
    b. DG FREE/NORM . . . . . NORM
    c. Slew +/- . . . . . CENTER
    d. PFD1 . . . . . NORM
    e. MFD . . . . . NORM
    f. PFD2 . . . . . NORM
    g. AHS . . . . . NORM
    h. ADS . . . . . NORM
    i. PFD1 Inhibit . . . . . NORM
    j. MFD Inhibit . . . . . NORM
    k. PFD2 Inhibit . . . . . NORM
    l. Pilot's Static Air Source . . . . . NORM
    m. EMER FREQ . . . . . EXTINGUISHED
    n. Slew +/- . . . . . CENTER
    o. DG FREE/NORM . . . . . NORM
18. Copilot's Subpanel and Instrument Panel . . . . . SET
    a. Window Defog . . . . . OFF
    b. ECS Mode . . . . . OFF
        1) Cockpit/Cabin Blower . . . . . AUTO
        2) Envir Bleed Air . . . . . AS REQUIRED

19. Electric Heat . . . . . AS REQUIRED WITH GPU
    a. Battery . . . . . VERIFY ON
    b. External Power Source . . . . . TURN OFF, CONNECT TO AIRPLANE; TURN ON
    Ext Pwr - Cart CAS MESSAGE DISPLAYED
    c. Voltmeter . . . . . 27.5 - 28.4 VOLTS
    d. EXT PWR Switch . . . . . ON
    Ext Pwr - Active CAS MESSAGE DISPLAYED
    e. ECS Mode . . . . . ELEC HEAT
    Electric Heat On CAS MESSAGE DISPLAYED

CAUTION

Do not operate the electric heat with the pedestal floor outlet blocked or the cockpit door closed. The **Electric Heat On** CAS message must be removed when ELEC HEAT mode is de-selected. Electric heat must be off at least 2 minutes prior to and during engine start.

20. Right Panel Circuit Breakers . . . . . IN
21. Overhead Switch Panel
    a. Data Load . . . . . OFF
    b. Master Panel Lights. . . . . .AS REQUIRED
    c. Display Brightness. . . . . .AS REQUIRED
    d. Interior Master Switch (B300) . . . . . OFF
22. Battery . . . . . ON

* 23. Annunciators . . . . . TEST

* 24. Fuel System . . . . . .CHECK
    a. Firewall Fuel Valves . . . . . .CLOSE
    Left & Right **EXTINGUISHER PUSH** & **CLOSED** - ILLUMINATED
    b. Standby Pumps . . . . . ON
    L-R Fuel Press CAS MESSAGE DISPLAYED
    c. Firewall Fuel Valves . . . . . .OPEN
    Left & Right [EXTINGUISHER PUSH] & [CLOSED] - EXTINGUISHED
    RED [L-R Fuel Press] CAS MESSAGE REMOVED
    d. Standby Pumps . . . . . OFF
    L-R Fuel Press CAS MESSAGE DISPLAYED

e. Crossfeed . . . . . ALTERNATELY LEFT AND RIGHT

Fuel Crossfeed CAS MESSAGE DISPLAYED
RED [L-R Fuel Press] CAS MESSAGE REMOVED

f. Crossfeed . . . . . OFF

g. Fuel Quantity . . . . . TEST

L-R Fuel Quantity CAS MESSAGE DISPLAYED

25. Fuel Quantity (main and auxiliary) . . . . . CHECK

26. Pilot's Subpanel . . . . . CHECK

* a. Landing Gear Control Lights . . . . . TEST

* b. Hydraulic Fluid Sensor . . . . . TEST

Hyd Fluid Low CAS MESSAGE DISPLAYED

c. Beacon . . . . . ON

* 27. Copilot's Subpanel (FL-954, FL-1010, FL-1031 thru FL-1076; FM-66 thru FM-70; without Kit 434-3014) . . . . . CHECK

* a. Cabin Altitude Warning. . . . . TEST

Cabin Alt High CAS MESSAGE DISPLAYED

CABIN ALTITUDE Annunciator - ILLUMINATED
(note aural warning)

* b. Cabin Differential Warning . . . . . TEST

Cabin Diff High CAS MESSAGE DISPLAYED

* c. Stall and Landing Gear Warning . . . . . TEST
(Stall on PFD and note aural warnings)

* d. Fire Detector and Extinguisher. . . . . TEST

L Engine Fire & R Engine Fire CAS MESSAGES DISPLAYED

Left & Right ENG FIRE (Glareshield) & FIRE (ITT) - ILLUMINATED
(note aural warnings)

Left & Right EXTINGUISHER PUSH & DISCHARGED
- ILLUMINATED

* 28. Copilot's Subpanel (FL-1077, FL-1080 and After; FM-71 and After; and Airplanes with Kit 434-3014) . . . . . CHECK

* a. Cabin Altitude Warning. . . . . TEST

1) Cabin Alt Warn Test Switch. . . . . HOLD IN TEST POSITION
UNTIL STEP 4

Cabin Altitude CAS MESSAGE DISPLAYED
(note aural warning starts)

2) Cabin Alt Warn Silence Button . . . . . PRESS
(note aural warning stops)
(note after short time delay)
WHITE [Cabin Altitude] CAS MESSAGE REMOVED
Cabin Alt High CAS MESSAGE DISPLAYED
(note aural warning starts)

3) Master Warning . . . . . PRESS
(note aural warning stops)

4) Cabin Alt Warn Test Switch . . . . . OFF
RED [Cabin Alt High] CAS MESSAGE REMOVED

* 29. Cabin Differential Warning . . . . . TEST
Cabin Diff High CAS MESSAGE DISPLAYED

* 30. Stall and Landing Gear Warning . . . . . TEST
(Stall on PFD and note aural warnings)

* 31. Fire Detector and Extinguisher. . . . . TEST
L Engine Fire & R Engine Fire CAS MESSAGES DISPLAYED
Left & Right ENG FIRE (Glareshield) & FIRE (ITT) - ILLUMINATED
(note aural warnings)
Left & Right EXTINGUISHER PUSH & DISCHARGED
- ILLUMINATED

32. Cockpit Voice Recorder Panel . . . . . TEST

ENGINE STARTING (BATTERY)

NOTE

Starting with environmental bleed air off will provide cooler engine starts.

1. GEN TIES (for night operation) . . . . . MAN CLOSE
Man Ties Close CAS MESSAGE DISPLAYED
2. Propeller Area . . . . . CLEAR
3. Right Ignition and Engine Start . . . . . ON
RIGHT IGN DISPLAYED
RED [R Fuel Press] CAS MESSAGE REMOVED
4. Right Condition Lever (after 12% N_1, minimum) . . . . . LOW IDLE
5. Right ITT and N_1 . . . . . MONITOR
(1000°C maximum)

CAUTION

If no ITT rise is observed within 10 seconds after moving the Condition Lever to LOW IDLE, move the Condition Lever to CUTOFF and release the Ignition and Engine Start Switch to OFF. Allow 5 minutes for fuel to drain and starter to cool, then follow Engine Clearing procedures.

6. Right Oil Pressure . . . . . CHECK
7. Right Ignition and Engine Start (at 50% N_1 or above) . . . . . OFF
8. Right Condition Lever . . . . . HIGH IDLE
9. Right Generator . . . . . RESET, THEN ON
   AMBER [R DC Generator] & [L-R Gen Tie Open]
   CAS MESSAGES REMOVED
10. Battery . . . . . CHARGE
    (until loadmeter reads approximately 50% or less)
11. Left Ignition and Engine Start . . . . . ON
    LEFT **IGN** DISPLAYED
    RED [L Fuel Press] CAS MESSAGE REMOVED
12. Left Condition Lever (after 12% N_1, minimum) . . . . . LOW IDLE
13. Left ITT and N_1 . . . . . MONITOR
    (1000°C maximum)
14. Left Oil Pressure . . . . . CHECK
15. Left Ignition and Engine Start (at 50% N_1 or above) . . . . . OFF
16. Right Condition Lever . . . . . REDUCE TO LOW IDLE
17. Left and Right Prop RPM . . . . . 1050 MINIMUM
18. **L-R Prop Pitch** CAS Message . . . . . DISPLAYED
19. Voltmeter . . . . . L GEN
    (voltmeter - 27.5 to 29.0 volts)
20. Left Generator . . . . . RESET, THEN ON
    AMBER [L DC Generator] CAS MESSAGE REMOVED
21. Right Generator . . . . . RESET, THEN ON
    AMBER [L-R Gen Tie Open] CAS MESSAGE NOT
    DISPLAYED WITH SWITCH IN THE RESET POSITION

ENGINE STARTING (EXTERNAL POWER)

CAUTION

NEVER CONNECT AN EXTERNAL POWER SOURCE TO THE AIRPLANE UNLESS A BATTERY INDICATING A CHARGE OF AT LEAST 20 VOLTS IS IN THE AIRPLANE. If the battery voltage is less than 20 volts, the battery must be recharged, or replaced with a battery indicating at least 20 volts, before connecting external power.

NOTE

When an external power source is used, ascertain that it is capable of generating a minimum of 1000 amps momentarily and 300 amps continuously. The battery should be ON to absorb transients present in some external power units.

1. Battery . . . . . VERIFY ON

CAUTION

External power source output voltage - SET 28.0 - 28.4 volts.

2. GEN TIES (for night operation) . . . . . MAN CLOSE
   Man Ties Close CAS MESSAGE DISPLAYED
3. Voltmeter . . . . . BAT - 20.0 VOLTS MINIMUM
4. External Power . . . . . VERIFY OFF
5. Avionics Master . . . . . VERIFY OFF
6. Left and Right Generators . . . . . VERIFY OFF
7. Interior Master Switch (B300) . . . . . VERIFY OFF
8. Battery Bus . . . . . VERIFY NORM
9. Beacon . . . . . VERIFY ON
10. External Power Source . . . . . TURN OFF
    CONNECT TO AIRPLANE; TURN ON
    Ext Pwr - Cart CAS MESSAGE DISPLAYED
11. Voltmeter . . . . . EXT PWR - 28.0 - 28.4 VOLTS
12. EXT PWR Switch . . . . . ON
    Ext Pwr - Active CAS MESSAGE DISPLAYED
13. Prop Levers . . . . . FEATHER
14. Propeller Area . . . . . CLEAR

15. Right Ignition and Engine Start . . . . . ON
RIGHT **IGN** DISPLAYED
RED [R Fuel Press] CAS MESSAGE REMOVED
16. Right Condition Lever (after 12% N_1, minimum) . . . . . LOW IDLE
17. Right ITT and N_1 . . . . . MONITOR (1000°C maximum)

CAUTION

If no ITT rise is observed within 10 seconds after moving the Condition Lever to LOW IDLE, move the Condition Lever to CUTOFF and release the Ignition and Engine Start Switch to OFF. Allow 5 minutes for fuel to drain and starter to cool, then follow Engine Clearing procedures.

18. Right Oil Pressure . . . . . CHECK
19. Right Ignition and Engine Start (at 50% N_1 or above) . . . . . OFF
20. Left Ignition and Engine Start . . . . . ON
LEFT **IGN** DISPLAYED
RED [L Fuel Press] CAS MESSAGE REMOVED
21. Left Condition Lever (after 12% N_1, minimum) . . . . . LOW IDLE
22. Left ITT and N_1 . . . . . MONITOR (1000°C maximum)
23. Left Oil Pressure . . . . . CHECK
24. Left Ignition and Engine Start (at 50% N_1 or above) . . . . . OFF
25. EXT PWR Switch . . . . . OFF
Ext Pwr - Cart CAS MESSAGE DISPLAYED
26. External Power Source . . . . . TURN OFF
AMBER [Ext Pwr - Cart] CAS MESSAGE REMOVED
DISCONNECT FROM AIRPLANE; SECURE DOOR
27. Right Generator . . . . . RESET, THEN ON
AMBER [R DC Generator] & [L-R Gen Tie Open]
CAS MESSAGES REMOVED
28. Voltmeter . . . . . L GEN
(voltmeter - 27.5 to 29.0 volts)
29. Left Generator . . . . . RESET, THEN ON
AMBER [L DC Generator] CAS MESSAGE REMOVED
30. Right Generator . . . . . RESET, THEN ON
AMBER [L-R Gen Tie Open] CAS MESSAGE NOT DISPLAYED WITH SWITCH IN THE RESET POSITION
31. Prop Levers . . . . . FULL FORWARD
32. Left and Right Prop RPM . . . . . 1050 MINIMUM
33. **L-R Prop Pitch** CAS Message . . . . . DISPLAYED

HOT START OR HUNG START

1. Condition Lever . . . . . .FUEL CUTOFF
2. Ignition and Engine Start . . . . . STARTER ONLY
3. ITT Below 400°C . . . . . .IGNITION AND ENGINE START - OFF
4. Do not attempt another start until the cause of the hot start or hung start has been corrected.

NO LIGHT START

If No ITT Rise Is Observed Within 10 Seconds After Moving The Condition Lever To LOW IDLE:

1. Condition Lever . . . . . .FUEL CUTOFF
2. Ignition and Engine Start . . . . . OFF
3. Allow 5 minutes for fuel to drain and starter to cool, then follow ENGINE CLEARING procedure.

ENGINE CLEARING

The following procedure is used to clear an engine any time it is deemed necessary to remove internally trapped fuel and vapor, or if there is evidence of a fire within the engine. Air passing through the engine serves to purge fuel, vapor, or fire from the combustion section, gas generator turbine, power turbines and exhaust system.

1. Condition Lever . . . . . .FUEL CUTOFF
2. Ignition and Engine Start . . . . . STARTER ONLY
   (for a maximum of 30 seconds)

CAUTION

Do not exceed the starter time limits; see Section 2, LIMITATIONS.

3. Ignition and Engine Start . . . . . OFF
4. Allow 5 minutes before attempting another start.

BEFORE TAXI

NOTE

Items marked with an "*" may be omitted at pilot's discretion after the first flight of each day.

* 1. Electrical System. . . . . CHECK
   a. GEN TIES. . . . . OPEN
   L-R Gen Tie Open CAS MESSAGE DISPLAYED
   b. Voltmeter:
      1) TPL FED . . . . . .26.5 TO 28.0 VOLTS
      2) R GEN and L GEN . . . . . .27.5 TO 29.0 VOLTS
      (within 1.0 volt of each other)
      3) CTR . . . . . 23 VOLTS MINIMUM
   c. GEN TIES. . . . . NORM
   AMBER [L-R Gen Tie Open] CAS MESSAGE REMOVED
   d. Bus Sense . . . . . MOMENTARILY TO TEST
   L-R Gen Tie Open & **Battery Tie Open**
   CAS MESSAGES DISPLAYED
   e. Voltmeter . . . . . .CTR - 0 VOLTS
   f. Bus Sense . . . . . .MOMENTARILY TO RESET
   AMBER [L-R Gen Tie Open] & [Battery Tie Open]
   CAS MESSAGES REMOVED
   g. Voltmeter . . . . . CTR - 27.5 TO 29.0 VOLTS
   h. Generator Load . . . . . .OBSERVE PARALLELED WITHIN 10%
2. Avionics Master. . . . . .ON
3. Transponder . . . . . AS REQUIRED
   (Alt On mode if Auto selected)
4. Interior Master Switch (B300) . . . . . AS REQUIRED
5. Master Panel and Cockpit Lights . . . . . AS REQUIRED
6. Mic Switches . . . . . .NORMAL
7. Cabin Lights . . . . . AS REQUIRED
8. Furnishings (B300C) . . . . . AS REQUIRED
9. Cabin Sign. . . . . FSB
10. Standby Flight Display . . . . . .INITIALIZATION COMPLETE
11. Exterior Lights . . . . . AS REQUIRED

12. Environmental System Controls . . . . . SET
(Observe N_1, ITT, and generator limits if air conditioning or electric heat is used)
    a. Automatic Climate Control . . . . . .AS REQUIRED
        1) ECS Mode . . . . . AUTO
        2) Cockpit/Cabin Temp . . . . . .AS REQUIRED
        3) Cockpit/Cabin Blower . . . . . AUTO
        4) Envir Bleed Air . . . . . AUTO
        5) Bleed Air Valves . . . . . .OPEN or ENVIR OFF
            • Use ENVIR OFF for more efficient cooling on the ground.
    b. Manual Control Cooling . . . . . .AS REQUIRED
        1) ECS Mode . . . . . MAN COOL
        2) Cockpit/Cabin Temp . . . . . .AS REQUIRED
        3) Cockpit/Cabin Blower . . . . . .AS REQUIRED
        4) Envir Bleed Air . . . . . .AS REQUIRED
        5) Bleed Air Valves . . . . . .OPEN or ENVIR OFF
            • Use ENVIR OFF for more efficient cooling on the ground.
    c. Manual Control Heating . . . . . .AS REQUIRED
        1) ECS Mode . . . . . .MAN HEAT
        2) Cockpit/Cabin Blower . . . . . .AS REQUIRED
        3) Cockpit/Cabin Temp . . . . . .AS REQUIRED
        4) Envir Bleed Air . . . . . .AS REQUIRED
        5) Bleed Air Valves . . . . . OPEN
        6) MAN TEMP INCR/DECR . . . . . .AS REQUIRED

NOTE

It is the pilot's responsibility to monitor bleed air temperatures in MAN HEAT.

CAUTION

Longer than 2-3 second switch actuations and shorter than 60 seconds in between switch activation may result in a duct overheat situation. Follow Section 3A, ABNORMAL PROCEDURES if this occurs.

    d. Recirculation Blowers . . . . . .AS REQUIRED
        1) ECS Mode . . . . . OFF
        2) Cockpit/Cabin Blower . . . . . .AS REQUIRED

NOTE

The blowers will not operate in the AUTO mode with ECS OFF or in MAN HEAT.

e. Electric Heat Control . . . . . AS REQUIRED
• ECS Mode . . . . . ELEC HEAT
Electric Heat On CAS MESSAGE DISPLAYED

CAUTION

Use of electric heat is for ground operations only. Do not operate the electric heat with the pedestal floor outlet blocked or the cockpit door closed. The Electric Heat On CAS message must not be displayed when ELEC HEAT mode is de-selected.

NOTE

When in use the cockpit blower will default to high speed and is not adjustable. Operation may affect the accuracy of the magnetic compass.

13. Brake Deice (if installed) . . . . . AS REQUIRED

If Brakes Require Deicing:

a. Bleed Air Valves . . . . . OPEN
b. Brake Deice . . . . . ON
L-R Bk Deice On CAS MESSAGE DISPLAYED
c. Condition Levers . . . . . HIGH IDLE
(until brakes are deiced, then LOW IDLE)
d. Brake Deice . . . . . OFF
CYAN [L-R Bk Deice On] CAS MESSAGE REMOVED

14. Prop Sync . . . . . ON
15. TCAS II . . . . . TEST
a. Tuning Page - XPR/TFC . . . . . TEST
1) TCAS II test pattern will display on the PFDs (and MFW map if Traffic Overlay is selected).
2) Cyan TCAS Test message will be displayed on the PFDs.
3) The red TRAFFIC message will be displayed on the MFW map.
4) Fly-to-zone and traffic avoidance cues will be displayed on the ADI.
5) The aural message “TCAS System Test OK” will be heard over the speakers and headsets at the conclusion of a successful test.
16. EMER FREQ . . . . . EXTINGUISHED

17. TAWS+ (FL-954, FL-1010, FL-1031 thru FL-1139; FM-66 thru FM-75) . . . . . TEST (G/S INHIB switch/annunciator)

NOTE

TAWS+ cannot be tested in flight.

a. Verify avionics on and the following equipment is functioning:
   1) Radio Altimeter
   2) ADS 1 and 2
   3) AHS 1 and 2
   4) GPS 1
   5) Gear and Flap Indicating System
   6) Display System (PFD 1, PFD 2 and MFD)
   7) FMS

b. Ensure all TAWS+ inhibit switch/annunciators (G/S INHIB, TERR INHIB, and FLAP OVRD) are deselected.

c. Verify no TAWS+ inoperative mode messages (amber GPWS or TERR) are displayed on the PFD.

d. Conduct a self test of the system by depressing the G/S INHIB switch/annunciator and releasing. The following annunciations and alerts should be issued:
   1) Aural “Terrain Awareness Test Start”
   2) Terrain display test pattern displayed on HSI.
   3) Cyan TAWS Test message on HSI and **TAWS Test** CAS message displayed.
   4) Amber TAWS Terrain Fail message on PFD briefly.
   5) A momentary illumination of the G/S INHIB and FLAP OVRD switch/annunciators (ACTIVE).
   6) **Gnd Prox** message on the PFD.
   7) **Pull Up** message on the PFD.
   8) Terrain display test pattern removed and all TAWS+ messages and switch/annunciators extinguished.
   9) Aural “Terrain Awareness System Passed”
   10) Aural “Terrain Awareness Test Complete”

18. ITAWS (FL-1140 and After; FM-76 and After) . . . . . TEST (PFD menu, TAWS/SMS Config)

NOTE

ITAWS cannot be tested in flight.

a. Verify avionics on and the following equipment is functioning:
   1) Radio Altimeter
   2) ADS 1 and 2
   3) AHS 1 and 2
   4) GPS 1 or GPS 2
   5) Gear and Flap Indication System
   6) Display System (PFD 1, PFD 2 and MFD)
   7) FMS

b. Ensure no ITAWS inhibits are displayed on CAS.

c. Conduct a self-test of the system by selecting TAWS Test on the PFD menu.
   1) MFW Map is displayed on the MFD with range at 5 NM and relative terrain overlay is selected.
   2) TAWS Test is displayed on the MFW Map.
   3) Mode 1 Caution Aural “Sink Rate, Sink Rate” is sounded.
   4) Mode 1 Warning Aural “Pull Up, Pull Up” is sounded.
   5) 500 foot callout is sounded.
   6) Mode 2 Caution Alert **Gnd Prox** is displayed on the ADI.
   7) Mode 2 Warning Alert **Pull Up** is displayed on the ADI.
   8) Terrain Caution alert amber highlight is displayed on the MFW Map relative terrain with GPWS GrndProx on the MFD
   9) Terrain Warning alert red highlight is displayed on the MFW Map relative terrain with PULL UP on the MFD.
   10) TAWS Test message is removed when the test is completed or cancelled.

   The duration of the TAWS test is approximately 30 sec.

19. Flight and Engine Instruments . . . . . CHECK
    a. Altimeters . . . . . SET
    b. Standby Flight Display Altimeter . . . . . SET
20. Flaps . . . . . UP
21. Flight Controls . . . . . CHECK FOR FULL FREEDOM OF MOVEMENT AND PROPER DIRECTION OF TRAVEL
22. Brakes . . . . . RELEASE & CHECK

NOTE

Single-engine taxi operations have not been demonstrated to provide adequate directional control under all conditions.

Care must be exercised when taxiing on unimproved surfaces. If possible, conduct RUNUP on a hard surface

free of sand and gravel, to preclude pitting of the propeller blades and airplane surfaces.

BEFORE TAKEOFF (RUNUP)

NOTE

Items marked with an "*" may be omitted at pilot's discretion after the first flight of each day.

1. Avionics and Radar . . . . . CHECK
2. Pressurization . . . . . CHECK AS REQUIRED AND SET
   a. Environmental Bleed Air . . . . . NORMAL
   b. Bleed Air Valves . . . . . OPEN
* c. Pressurization Controller . . . . . SET
      1) Adjust cabin altitude knob to indicate 1,000 feet below field pressure altitude.
      2) Set rate knob to 12-o'clock position.
* d. Cabin Pressure Switch . . . . . HOLD AT THE TEST POSITION
* e. Cabin Altimeter and VSI . . . . . CHECK FOR DESCENT INDICATION
* f. Cabin Pressure Switch . . . . . RELEASE TO PRESS POSITION
   g. Pressurization Controller . . . . . SET
      • The inner scale (ACFT ALT) should indicate planned cruise altitude plus 1,000 feet. This setting must not result in an outer scale (CABIN ALT) indication of less than 500 feet above departure field pressure altitude.
3. Autopilot . . . . . CHECK
   a. Pitch Trim . . . . . TAKEOFF POSITION
   b. Elevator . . . . . FORWARD POSITION
   c. Autopilot . . . . . ENGAGE
      AP & YD DISPLAYED ON PFD
   d. Electric Pitch Trim . . . . . OPERATE IN BOTH DIRECTIONS
      (AP disengages with each operation and the YD remains engaged)
   e. Elevator . . . . . CENTERED
   f. Autopilot . . . . . ENGAGE
      1) Apply rearward pressure on the elevator - Pitch trim travels nose-down.
      2) Apply forward pressure on the elevator - Pitch trim travels nose-up.
   g. AP/Trim Disconnect . . . . . DEPRESS TO FIRST LEVEL
      MOMENTARY AP & YD DISPLAYED ON PFD, THEN REMOVED

h. Repeat items a through g for copilot's side.

4. Yaw Damp. . . . . CHECK
   a. Yaw Damp . . . . . ON
   YD DISPLAYED ON PFD
   b. Rudder Pedals . . . . . CHECK FOR ADDED RESISTANCE
   c. AP/Trim Disconnect . . . . . PRESS TO 1ST LEVEL
   (Yellow [YD] flashes and rudder pedals move freely)

* 5. Electric Pitch Trim . . . . . CHECK
   a. Pilot's and Copilot's Trim Switches . . . . . CHECK OPERATION
      1) Move each dual-element switch fore and aft - Verify trim is inoperative.
      2) Move both dual-element switches fore and aft - Verify trim operates nose down and nose up.
      3) Ensure Pilot's trim switch overrides copilot's trim switch.
   b. AP/Trim Disconnect . . . . . PRESS TO 2ND LEVEL
   TRIM DISPLAYED ON PFD
   c. Release Disconnect Switch . . . . . RED [TRIM] REMOVED

WARNING

Operation of the electric pitch trim system should occur only when both elements of the dual-element switch are activated. Any movement of the elevator trim wheel while activating only one element denotes a system malfunction.

6. Trim Tabs . . . . . SET
7. Engine Controls Friction Locks . . . . . SET
8. Flaps . . . . . CHECK AND SET

* 9. Overspeed Governors and Rudder Boost. . . . . CHECK
   a. Rudder Boost Switch . . . . . OFF
   Rudder Boost Off CAS MESSAGE DISPLAYED

b. Rudder Boost Switch . . . . . RUDDER BOOST
AMBER [Rudder Boost Off] CAS MESSSAGE REMOVED

c. Prop Levers . . . . . FULL FORWARD

d. Prop Governor Test Switch . . . . . HOLD TO GOV

e. Power Levers (individually) . . . . . INCREASE UNTIL PROP IS STABILIZED AT 1500 TO 1610 RPM. CONTINUE TO INCREASE UNTIL RUDDER MOVEMENT IS NOTED (right power lever, right rudder; left power lever, left rudder. Observe ITT and torque limits.)

f. AP/Trim Disconnect. . . . . DEPRESS TO 1ST LEVEL
(rudder boost is interrupted)

Rudder Boost Off CAS MESSAGE DISPLAYED

g. AP/Trim Disconnect Switch . . . . . RELEASE
AMBER [Rudder Boost Off] CAS MESSAGE REMOVED

h. Power Lever . . . . . IDLE

i. Repeat steps e through h on the opposite engine.

j. Prop Governor Test Switch . . . . . RELEASE

* 10. Low Pitch Stops and Primary Governors . . . . . CHECK

a. Prop Levers . . . . . FULL FORWARD

b. Low Pitch Stop Switch. . . . . HOLD TO GND IDLE STOP

L-R Prop Pitch CAS MESSAGE DISPLAYED

c. Power Levers . . . . . SET 1500 RPM

d. Prop Levers . . . . . CYCLE TO LOW AND HIGH RPM
(propeller RPM decreases then returns to 1500 RPM)

e. Low Pitch Stop Switch. . . . . RELEASE
WHITE [L-R Prop Pitch] CAS MESSAGE REMOVED

f. Prop RPM . . . . . STABILIZED AT 1150 TO 1250

* 11. Autofeather. . . . . CHECK

a. Autofeather Switch . . . . . HOLD TO TEST

b. Power Levers . . . . . APPROXIMATELY 22% TORQUE

LEFT **AFX** & RIGHT **AFX** DISPLAYED ON EICAS

c. Power Levers . . . . . RETARD INDIVIDUALLY

1) At approximately 17% torque - OPPOSITE ANNUNCIATOR - EXTINGUISHED

2) At approximately 10% torque - BOTH ANNUNCIATORS - EXTINGUISHED (prop starts to feather)

NOTE

Autofeather annunciators cycle on and off with each fluctuation of torque as the prop feathers.

d. Power Levers . . . . . IDLE
LEFT [AFX] & RIGHT [AFX] REMOVED
(neither prop feathers)

e. Autofeather Switch . . . . . RELEASE

12. Autofeather . . . . . ARM
AMBER [Autofeather Off] CAS MESSAGE REMOVED

13. Manual Propeller Feathering . . . . . CHECK

* 14. Vacuum and Pneumatic Pressure . . . . . CHECK

a. Left Bleed Air Switch . . . . . .PNEU & ENVIR OFF

1) Pneumatic pressure and vacuum gages . . . . NORMAL PRESSURE

2) Red [L-R Bl Air Fail] CAS Message . . . . . NOT DISPLAYED

b. Right Bleed Air Switch . . . . . .PNEU & ENVIR OFF

1) Pneumatic pressure and vacuum gages . . . . . ZERO PRESSURE

2) L-R Bl Air Fail CAS Message . . . . . DISPLAYED

c. Left Bleed Air Switch . . . . . OPEN OR ENVIR OFF

1) Pneumatic pressure and vacuum gages . . . . NORMAL PRESSURE

2) Red [L-R Bl Air Fail] CAS Message . . . . . REMOVED

d. Right Bleed Air Switch . . . . . OPEN OR ENVIR OFF

NOTE

The L Bleed Air Off, R Bleed Air Off, or L-R Bleed Air Off CAS message will be displayed if the respective bleed air switch is not in the OPEN position.

* 15. Engine Anti-ice . . . . . CHECK
(system initially ON)

WARNING

Either the MAIN or STANDBY actuator must be operational on each engine before takeoff.

a. Engine Anti-ice Actuators . . . . . STANDBY

b. Engine Anti-ice . . . . . OFF
CYAN [L-R Eng Anti-Ice] CAS MESSAGE REMOVED

c. Engine Anti-ice Actuators . . . . . MAIN

d. Engine Anti-ice . . . . . ON

L-R Eng Anti-Ice CAS MESSAGE DISPLAYED

16. Ice Protection Equipment (if required) . . . . . .CHECK

a. Engine Auto-Ignition . . . . . .CHECK

1) Power Levers . . . . . IDLE

2) Engine Auto-Ignition Switches . . . . . ARM
LEFT IGN & RIGHT IGN DISPLAYED

3) Power Levers . . . . . ADVANCE TO ABOVE 17% TORQUE
LEFT [IGN] & RIGHT [IGN] REMOVED

4) Power Levers . . . . . IDLE
LEFT IGN & RIGHT IGN DISPLAYED

5) Engine Auto-Ignition Switches . . . . . OFF
LEFT [IGN] & RIGHT [IGN] REMOVED

b. Windshield Anti-ice (check pilot's & copilot's one at a time)

1) Windshield Anti-ice . . . . . HI
(observe increase on left & right loadmeters)

2) Windshield Anti-ice . . . . . OFF, THEN NORMAL
(observe increase on left & right loadmeters)

3) Windshield Anti-ice . . . . . OFF

c. Electrothermal Propeller Deice . . . . . .CHECK

CAUTION

Do not operate propeller deice when the propellers are static.

1) Automatic Prop Deice . . . . . ON

2) Deice Ammeter . . . . . .26 TO 32 AMPS
(monitor for 90 seconds to ensure automatic timer operation)

3) Manual Prop Deice . . . . . .HOLD IN MANUAL POSITION

a) A small needle deflection on both loadmeters indicates that the manual system is operating.

b) Deice Ammeter . . . . . 0 AMPS

4) Manual Prop Deice . . . . . .RELEASE

5) Deice Ammeter . . . . . .26 TO 32 AMPS

6) Automatic Prop Deice . . . . . OFF

NOTE

Use of electrical current for the manual (backup) system is not registered on the propeller deice ammeter; however, it will be indicated as part of the electrical load on the loadmeters (approximately 10%) when the system is switched on.

d. Surface Deice . . . . . CHECK

1) Condition Levers . . . . . HIGH IDLE, IF REQUIRED

2) Pneumatic Pressure . . . . . CHECK

3) Surface Deice Switch . . . . . SINGLE AND RELEASE

a) Pneumatic Pressure . . . . . MOMENTARY DECREASE

b) **Wing Deice** & **Tail Deice** CAS Messages . . . DISPLAYED THEN REMOVED

c) Boots. . . . . CHECK VISUALLY, WHERE POSSIBLE, FOR INFLATION AND HOLD DOWN.

d) Inflation time . . . . . 6 SECONDS FOR WINGS FOLLOWED BY 4 SECONDS FOR HORIZONTAL STABILIZER.

4) Surface Deice Switch . . . . . MANUAL AND HOLD

a) Pneumatic Pressure . . . . . MOMENTARY DECREASE

b) **Wing Deice** & **Tail Deice** CAS Messages . . . DISPLAYED

c) Boots. . . . . CHECK VISUALLY, WHERE POSSIBLE, FOR INFLATION

5) Surface Deice Switch . . . . . RELEASE

a) Cyan [Wing Deice] & [Tail Deice] CAS Messages . . . REMOVED

b) Boots. . . . . CHECK VISUALLY, WHERE POSSIBLE, FOR HOLD DOWN

6) Condition Levers . . . . . LOW IDLE

17. Fuel Quantity, Flight, and Engine Instruments . . . . . CHECK

18. Static Take-Off Power . . . . . CONFIRM

19. V_1, V_R, V_2 . . . . . SET

BEFORE TAKEOFF (FINAL ITEMS)

1. Engine Auto-Ignition . . . . . ARM (if required)

LEFT **IGN** & RIGHT **IGN** DISPLAYED IF ARMED

2. Engine Anti-ice . . . . . AS REQUIRED

L-R Eng Anti-Ice CAS MESSAGE DISPLAYED IF ON

3. Exterior Lights . . . . . .AS REQUIRED
4. Ice Protection . . . . . .AS REQUIRED
   a. Windshield Anti-ice . . . . . NORMAL/HI (if required)
   b. Prop Deice. . . . . AUTO (if required)
   c. Left and Right Fuel Vent Heat . . . . . ON
   d. Stall Warning Heat . . . . . ON
   e. Left and Right Pitot Heat . . . . . ON
      AMBER [L-R Pitot Heat] CAS MESSAGE REMOVED
5. Transponder. . . . . XPDR1 OR XPDR2
6. Prop Levers . . . . . .CONFIRM FULL FORWARD
7. Trim . . . . . .CONFIRM SET
8. Flaps . . . . . .CONFIRM SET
9. Envir Bleed Air . . . . . SET
   a. OAT above 10°C . . . . . AUTO or LOW
   b. OAT at or below 10°C . . . . . .AUTO or NORMAL
10. Bleed Air Valves. . . . . .AS REQUIRED
11. ECS Mode . . . . . .AS REQUIRED

CAUTION

Use of electric heat is for ground operations only and should not be selected for takeoff or flight operations. The **Electric Heat On** CAS message must be removed when ELEC HEAT mode is de-selected.

12. Cockpit/Cabin Blower. . . . . .AS REQUIRED
13. Cockpit/Cabin Temp. . . . . .AS REQUIRED
14. Interior Lights . . . . . .AS REQUIRED
15. Generator Load . . . . . .CHECK
    a. When OAT is greater than 10°C:
       1) A/C ON: Loadmeters must be 30% or less
       2) A/C OFF: Loadmeters must be 50% or less
16. Battery Ammeter . . . . . .CHECK
    (Charge current 10 amps or less if required)
17. CAS Messages . . . . . REMOVED OR CONSIDERED

TAKEOFF

WARNING

Do not cycle boots during takeoff.

1. Brakes . . . . . HOLD
2. Power Levers . . . . . SET STATIC TAKE-OFF POWER (observe ITT limits)
3. Left AFX & Right AFX . . . . . CONFIRM DISPLAYED ON EICAS
4. Brakes . . . . . RELEASE

NOTE

Increasing airspeed will cause torque and ITT to increase.

5. V_R . . . . . ROTATE TO APPROXIMATELY 10°
6. Landing Gear (when positive climb established). . . . . UP
7. Airspeed . . . . . MAINTAIN V_{35} UNTIL CLEAR OF OBSTACLES
8. Flaps (at 125 knots, minimum) . . . . . UP

ROLLING TAKEOFF

1. Brakes . . . . . RELEASE
2. Power Levers . . . . . SET STATIC TAKE-OFF POWER (within 10 seconds of brake release; observe ITT limits)
3. Left AFX & Right AFX . . . . . CONFIRM DISPLAYED ON EICAS

NOTE

Increasing airspeed will cause torque and ITT to increase.

4. V_R . . . . . ROTATE TO APPROXIMATELY 10°
5. Landing Gear (when positive climb established). . . . . UP
6. Airspeed . . . . . MAINTAIN V_{35} UNTIL CLEAR OF OBSTACLES
7. Flaps (at 125 knots, minimum) . . . . . UP

CLIMB

1. Bleed Air Valves . . . . . OPEN
2. Envir Bleed Air . . . . . .AS REQUIRED

NOTE

Optimum pressurization performance will be achieved with the Environmental Bleed Air switch in the NORMAL position.

3. Yaw Damp . . . . . ON
4. Climb Power . . . . . SET
5. Props . . . . . 1600 RPM, OR AS DESIRED
6. Windshield Anti-Ice . . . . . NORMAL

CAUTION

The practice of turning the windshield anti-ice on early in the flight is recommended if it is anticipated that it will be required later in the flight after the windshield has been cold-soaked. Activating the windshield anti-ice after the windshield has been cold-soaked may cause the windshield to crack.

7. Engine Instruments . . . . . MONITOR
8. Cabin Sign . . . . . .AS REQUIRED
9. Pressurization . . . . . .CHECK
10. Lights . . . . . .AS REQUIRED

CRUISE

WARNING

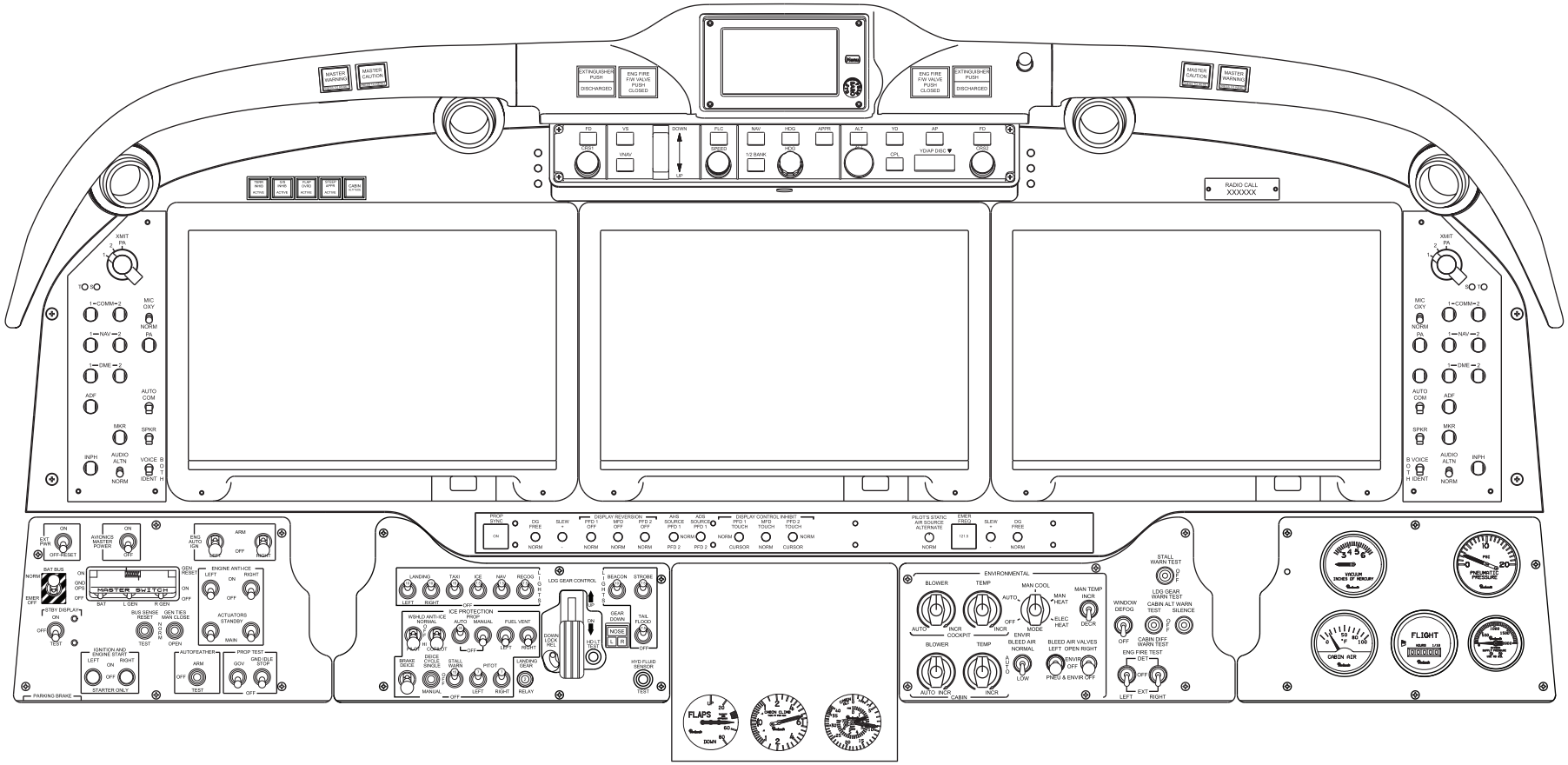
Do not lift Power Levers in flight.

NOTE

Power settings and performance predicated on Indicated OAT shall use the temperature obtained from the Indicated OAT gage on the left cockpit sidewall and not from the temperature displayed on the AFDs.

1. Cruise Power . . . . . SET PER CRUISE POWER TABLES OR GRAPHS
2. Autofeather . . . . . OFF

TYPICAL ILLUSTRATIONS



FL07C
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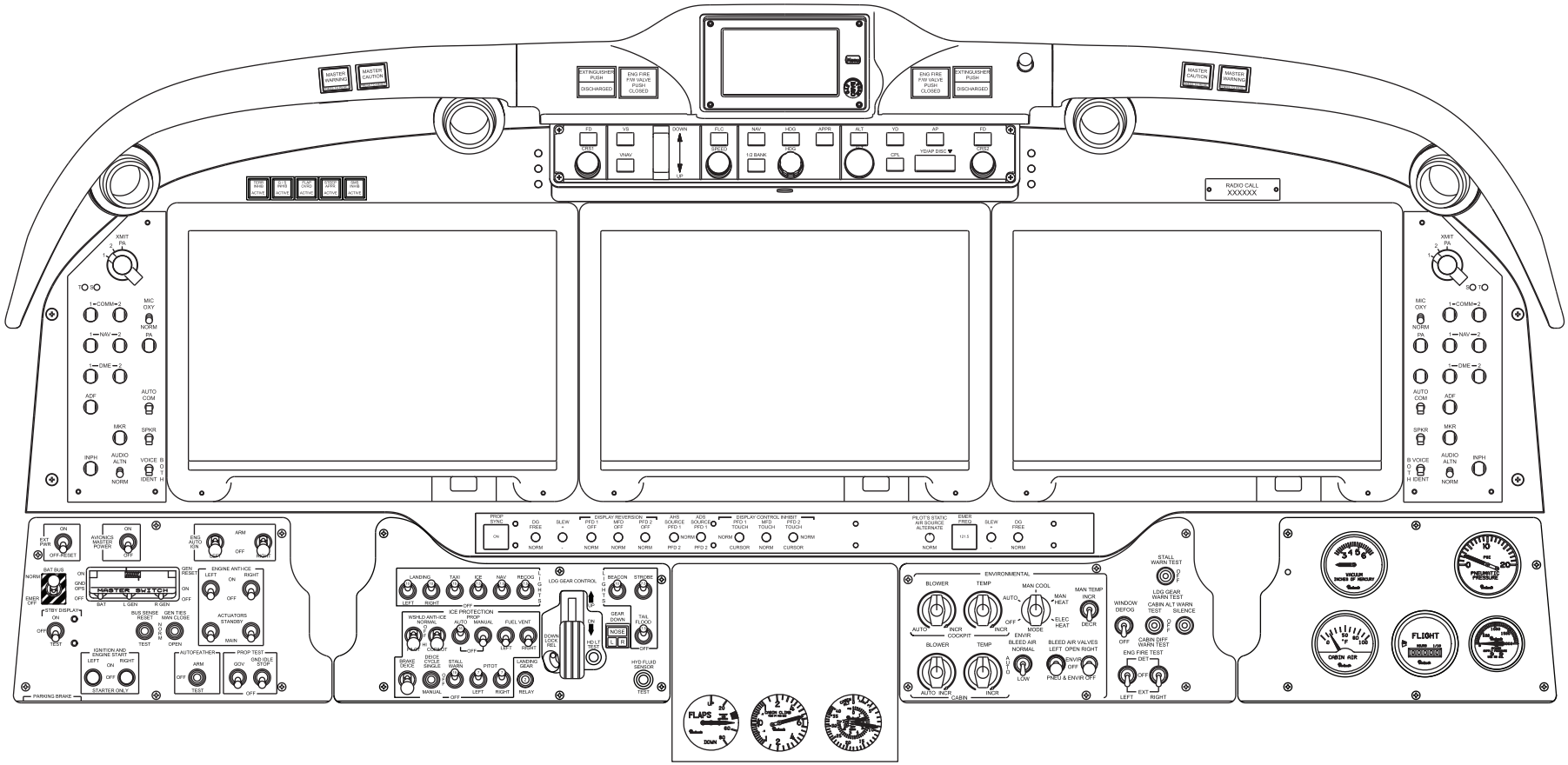
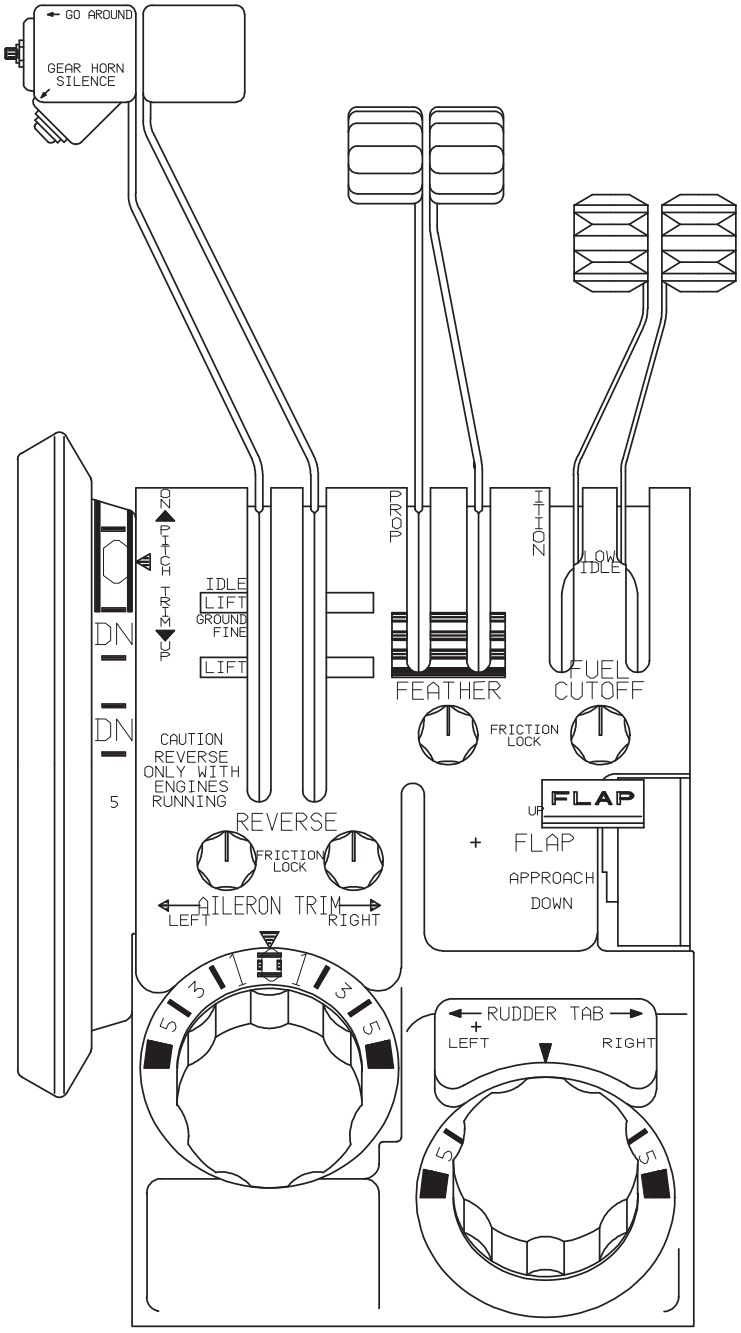
INSTRUMENT PANEL (FL-954, FL-1010, FL-1031 THRU FL-1076, FL-1078 AND FL-1079; AND FM-66 THRU FM-70; WITHOUT KIT 434-3014)

Rigjt - Fold over

E70403



INSTRUMENT PANEL (FL-1077, FL-1080 THRU FL-1139; FM-71 THRU FM-75; AND AIRPLANES WITH KIT 434-3014)



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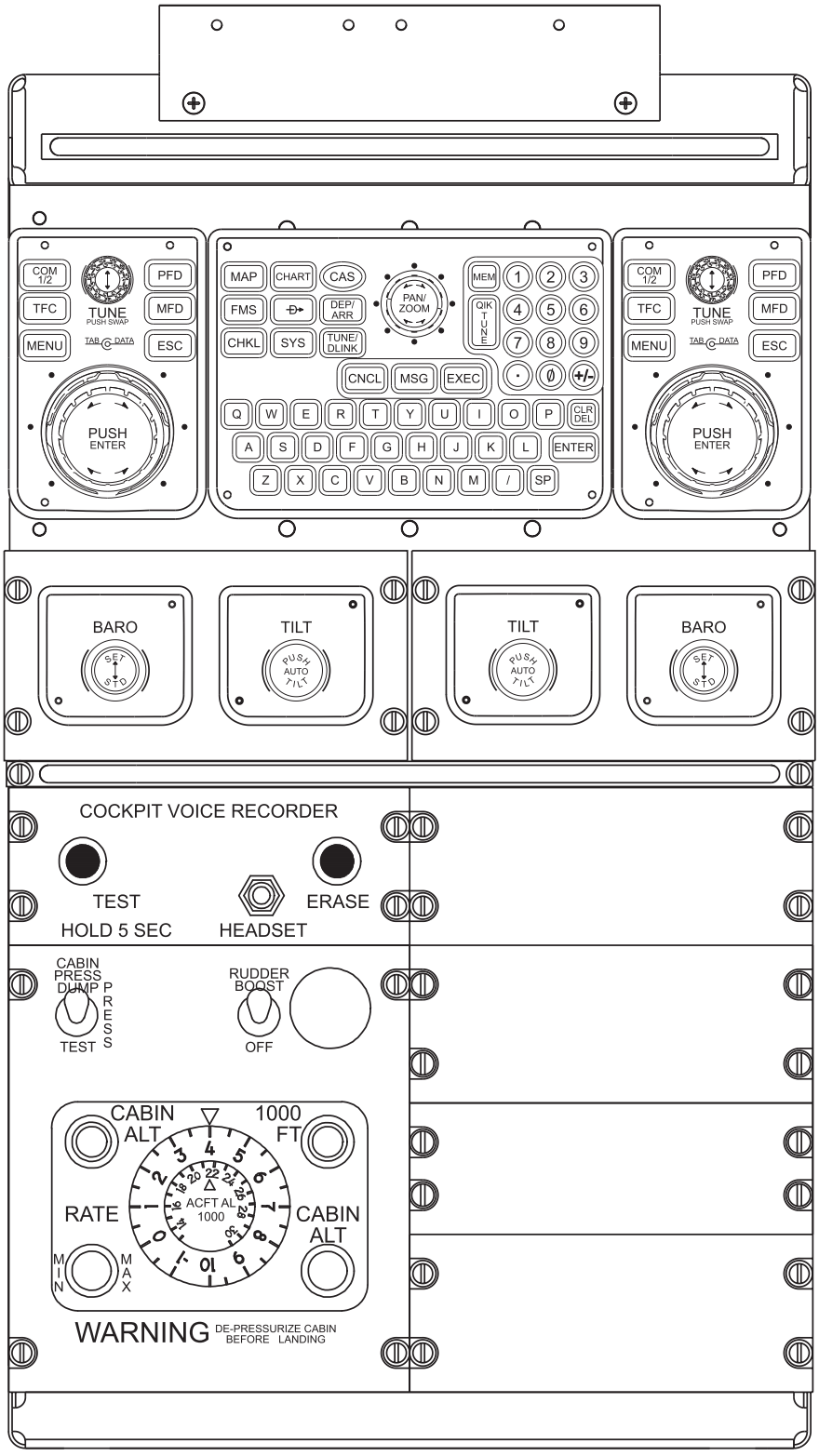
PEDESTAL



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PEDESTAL EXTENSION

WARNING

Before starting engines, remove the control locks, reversing the preceding procedure.

CAUTION

Remove the control locks before towing the airplane. If towed with a tug while the rudder lock is installed, serious damage to the steering linkage can result.

ENGINES

The Model B300/B300C is powered by two Pratt & Whitney Canada PT6A-60A turboprop engines.

PROPULSION SYSTEM CONTROLS

The propulsion system is operated by three sets of controls; the power levers, propeller levers, and condition levers. The power levers serve to control engine power. The condition levers control the flow of fuel at the fuel control outlet and select fuel cutoff, low idle and high idle functions. The propeller levers are operated conventionally and control the constant speed propellers through the primary governor.

POWER LEVERS

The power levers provide control of engine power from idle through take-off power by operation of the gas generator (N_1) governor in the fuel control unit. Increasing N_1 rpm results in increased engine power.

PROPELLER LEVERS

Each propeller lever adjusts the propeller governor, which results in an increase or decrease of propeller rpm. For propeller feathering, each propeller lever releases high pressure oil from the propeller allowing the counterweights and feathering spring to change the pitch. Detents at the rear of lever travel prevent inadvertent movement into the feathering range. In flight, the operating range is 1450 to 1700 rpm.

CONDITION LEVERS

The condition levers have three positions; FUEL CUTOFF, LOW IDLE and HIGH IDLE. Each lever controls the fuel cutoff function of the fuel control unit and limits idle speed at 62% N_1 minimum for low idle, and 70% N_1 minimum for high idle.

PROPELLER GROUND FINE OPERATION

The propeller ground fine operation is used to provide optimum deceleration on the ground during landing by taking advantage of the maximum available propeller drag.

Ground fine operation is accomplished by a gate position for the power levers in the pedestal. The power levers must be retarded below the IDLE gate by raising them over the gate and retarding the levers to the GROUND FINE gate.

CAUTION

Power levers should not be moved to the GROUND FINE position when the engines are not running as this will cause damage to the system.

PROPELLER REVERSING

When the power levers are lifted over the IDLE gate, they control engine power through the GROUND FINE and REVERSE ranges.

CAUTION

Propeller reversing on unimproved surfaces should be accomplished carefully to prevent propeller erosion from reversed airflow and, in dusty or snowy conditions, to prevent obscuring the operator's vision.

Condition levers, when set at HIGH IDLE, keep the engines operating at 70% N_1 (minimum) for maximum reversing performance.

CAUTION

Power levers should not be moved into the reversing position when the engines are not running as this will cause damage to the reversing system.

FRICTION LOCKS

Four friction locks are located on the power quadrant of the pedestal.

ENGINE INSTRUMENTATION

Engine instrument design incorporates currently approved green, yellow and red operating ranges and monitor time limits of each range to give the pilot a visual indication of engine parameters as they change.

Engine instruments are provided in the Engine Indication Crew Alerting System (EICAS) window and the engine synoptic window. The EICAS is displayed on the pilot's PFD during engine start and normally on the MFD after avionics power is applied.