# Expanded Normal Procedures

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Checklist Usage

Tasks are executed in one of two ways:

- as a sequence that uses the layout of the cockpit controls and indicators as cues (i.e., “flow pattern”).
- as a sequence of tasks organized by event rather than panel location (e.g., After Takeoff, Gear – UP, Flaps – UP).

Placing items in a flow pattern or series provides organization and serves as a memory aid.

A challenge-response review of the checklist follows execution of the tasks; the pilot not flying (PM) calls the item, and the appropriate pilot responds by verifying its condition (e.g., “Propeller Anti-Ice” [challenge] –“ON” [response]).

Two elements are inherent in the execution of normal procedures:

- use of either the cockpit layout or event cues to prompt the correct switch and/or control positions followed by the normal checklist as a done list.
- use of normal checklists as “done” lists.
Normal Procedures

The following procedures are normally conducted in a flow pattern and followed by a “done” checklist upon completion.

Before Starting Engines

Exterior Condition ................................................... CHECKED

Instrument Emergency Lights (Nighttime) ................. ON

Instrument emergency lights may be used for initial illumination of the cockpit before turning on the battery.

Airstair Door .......................................................... LOCKED

Emergency Exits ..................................................... UNLOCKED

Cabin Loading ......................................................... SECURE

Passenger Briefing ..................................................... COMPLETE

The pilot-in-command is responsible for ensuring that all passengers have been properly briefed on the following items prior to each flight:

- Smoking
- Use of Safety Belts
- Seat Positions
- Normal and Emergency Exit Operation
- Fire Extinguisher Location
- Oxygen Use
- Survival Equipment (if required)
- Overwater Equipment (if required)

Seats, Seatbelts/Shoulder Harnesses ......................... SECURE

TOLD Cards ............................................................... COMPLETE
Parking Brake ........................................... SET

While applying brakes, push parking brake knob completely in, depress button on end of parking knob, and pull completely out.

Control Locks ................................. REMOVED/STOWED
Oxygen System Preflight ....................... COMPLETE


Control Locks ................................. REMOVED/STOWED

Oxygen System Preflight ....................... COMPLETE


Pilot’s Instrument Panel ....................... CHECK

Pilot's Gyro ..................................... SLAVED
Standby Horizon (if installed) ............... TEST

Pilot Subpanel Switches ....................... SET L/R

Battery Bus ..................................... CONFIRM NORM

Engine Anti-Ice ................................. ON

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

Inverters ........................................ OFF
Avionics Master ................................. OFF
EXT PWR Switch .............................. OFF
Autofeather ..................................... OFF
Auto Ignition .................................... OFF
Landing Gear Control ......................... DOWN
Landing Gear Control Relay ................. CHECK IN
Clock (control wheel) ........................ CHECK & SET
External Lights ................................. ON/AS REQUIRED
Ice Protection ................................. OFF
Power Quadrant .................................................. SET
Power Levers .................................................. GND IDLE
Prop Levers .................................................. FULL FORWARD
Condition Levers ............................................. FUEL CUTOFF
Pedestal Switches ............................................ SET
  EFIS Power (if installed) ................................. OFF
  Cabin Pressure Switch ................................. PRESS
Pitch Trim ................................................... ON
Rudder Boost Switch ................................. RUDDER BOOST
FMS (Universal) ........................................... ON/INITIALIZE
Oxygen Controls:
  Passenger Manual Dropout .......................... CONFIRM PUSHED OFF
  System Ready ......................................... CONFIRM ON
Copilot's Subpanel Switches ......................... SET L/R
  Window Defog ............................................ OFF
  Vent Blower ........................................... AUTO
  Cabin Temp Mode ........................................ OFF
  Environmental Bleed Air .......................... LOW
  Bleed Air Valves ..................................... ENVIR OFF
  Aft Blower ............................................... OFF
  Electric Heat ............................................ OFF
  Aft Heat ................................................ AS REQUIRED
Copilot's Instrument Panel ......................... CHECK
  Copilot's Gyro .......................................... SLAVED (OUT)
  Clock (control wheel) ............................. CHECK & SET
Alternate Static Source ................................. NORMAL
Expanded Normal Procedures

Right Circuit Breaker Panel ................. CHECK
Battery ........................................ ON
Voltmeters .................................... CHECK (23V DC MIN)
Cockpit Lights ................................. AS DESIRED
MIC Switches ................................ NORMAL
Cabin Lights .................................. OFF
Furnishing Switch ............................. OFF
FSB Sign ....................................... ON
Annunciators ................................ TEST
Fuel Panel ..................................... CHECK
  Standby Pumps ................................. OFF
  Crossfeed ..................................... OFF
  Auxiliary Transfer Switches ............... AUTO
  Circuit Breakers ............................. IN
Fuel Quantity ................................. CHECK
  Check the main and auxiliary fuel quantity.
Before Starting Engines Checklist ........... COMPLETE
Engine Starting (Battery)

See Limitations chapter for starter/generator limitations.

NOTE: Better engine service life may be obtained by alternating engine battery starts.

During engine start, crew duties should be defined and organized. The pilot monitors ITT, $N_1$, and 10-second time limit for light off; the copilot is responsible for starter time limits and all other indications or abnormalities. The copilot provides verbal confirmation of oil pressure, ignition, and fuel pressure. This allows the pilot to concentrate on the two most important starting parameters: ITT and $N_1$. In addition, it prevents both pilots from looking at the same gauge at the same time and leaving other indicators unmonitored.

GEN TIES (Nighttime) . . . . . . . . . . . . . . . . . . . . . MAN CLOSE
Engine Anti-ice. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ON
Propeller Area . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . CLEAR
Right Engine . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . START
 Prop Area . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . CLEAR
Ignition and Engine Start Switch . . . . . . . . . . . . . . . . . . . . . . IGN/ENG START
Observe $N_1$ rotation, IGNITION ON, FUEL PRES LO OFF, $N_1$ stabilized (12% minimum).
Condition Lever . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . LOW IDLE
Observe fuel flow 100 PPH and oil pressure increasing.
ITT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . MONITOR

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.
Expanded Normal Procedures

ITT exceeding 820°C is abnormal; 820-1000°C is limited to 5 sec.

Oil Pressure ................................................. CHECK

**CAUTION:** If ITT appears likely to exceed 1,000°C, move condition lever to FUEL CUTOFF and Ignition OFF. Leave engine start switches in the STARTER ONLY position. Continue monitoring the engine to reduce ITT below 400°C. Do not attempt another start until the cause of the hot start or hung start has been corrected.

**NOTE:** After aborting start attempt, allow 60 seconds delay for fuel draining, motor the engine for a minimum of 15 seconds, and allow the engine to stop completely before attempting another start.

Condition Lever (Battery Start) ................. HIGH IDLE

May be left in low idle for GPU start.

Ignition and Engine Start Switch ...................... OFF

50% N₁ minimum.

Right Generator ............................... RESET, THEN ON

Voltmeter .......................... L GEN (28V DC)

The R DC GEN, L GEN TIE OPEN, R GEN TIE OPEN extinguishes; loadmeter displays high load due to battery charging.

Battery ................................. CHARGE

**NOTE:** Airplanes Prior To FL-215 and FM-10:
The BATTERY CHARGE annunciator will illuminate approximately 6 seconds after the generator is on-line.

Charge until loadmeter reads approximately 50% or less.
Left Engine .............................. START

Start the left engine following the same procedure as for the right engine.

Voltmeter ............................. L GEN (28V DC)
Left Generator ......................... RESET, THEN ON
Right Generator ....................... RESET, THEN ON

NOTE: Hold the right generator switch in RESET and observe the left generator, maintaining sufficient voltage to hold the bus ties closed.

Propeller Levers .................... FULL FORWARD
Propeller RPM .......................... 1050 (MIN)
PROP PITCH Annunciators .......... ILLUMINATED

Engine Starting (Battery) Checklist .......... COMPLETE

**Engine Starting (GPU)**

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

See Limitations chapter for starter/generator limitations.

During engine start, crew duties should be defined and organized. The pilot monitors ITT, N₁, and 10-second time limit for light off; the copilot is responsible for starter time limits and all other indications or abnormalities. He provides verbal confirmation of oil pressure, ignition, and fuel pressure. This allows the pilot to concentrate on the two most important starting parameters: ITT and N₁. In addition, it prevents both pilots from looking at the same gauge at the same time and leaving other indicators unmonitored.
**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 1,000 amps momentarily and 300 amps continuously. The battery should be ON to absorb transients present in some external power units.

Volmeter ...................... EXT PWR (28V DC)
Volmeter ...................... CTR (20V DC MIN)
External Power Switch ......................... ON

**CAUTION:** External power source output voltage – SET 28.0 - 28.4 volts.

Volmeter ...................... CTR (28V DC MIN)
EXT PWR Annunciator ......................... ON, Steady
Engine Anti-ice ....................... ON
Propeller Area .................. CLEAR
Left Engine .......................... START
Prop Area .................. CLEAR
Ignition and Engine Start Switch ........ IGN/ENG START

Observe N₁ rotation, IGNITION ON, FUEL PRES LO OFF, N₁ stabilized (12% minimum).
CAE SimuFlite

Condition Lever......................... LOW IDLE
Observe fuel flow 100 PPH and oil pressure increasing.

ITT..............................................MONITOR

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.

ITT exceeding 820°C is abnormal; 820-1000°C is limited to 5 sec.

CAUTION: If ITT appears likely to exceed 1,000°C, move condition lever to FUEL CUTOFF and Ignition OFF. Leave engine start switches in the ON position. Continue monitoring the engine to reduce ITT below 400°C. Do not attempt another start until the cause of the hot start or hung start has been corrected.

NOTE: After aborting start attempt, allow 60 seconds delay for fuel draining, motor the engine for a minimum of 15 seconds, and allow the engine to stop completely before attempting another start.

Ignition and Engine Start Switch ....................... OFF @ 50% N₁ minimum.

External Power Switch.............................. OFF
GPU........................................DISCONNECT/REMOVED/LIGHT OFF
Left Generator................................. RESET, THEN ON
Expanded Normal Procedures

GPU .......................... DISCONNECT/REMOVED/LIGHT OFF

Left Generator .......................... RESET, THEN ON

Voltmeter .......................... R GEN (28V DC)

The R DC GEN, L GEN TIE OPEN, R GEN TIE OPEN extinguishes; loadmeter displays high load due to battery charging.

Battery ......................... CHARGE (until loadmeter reads (Nicad only) approximately 50% or less)

Right Engine .......................... START

NOTE: Airplanes Prior To FL-215 and FM-10:
The BATTERY CHARGE annunciator will illuminate approximately 6 seconds after the generator is on-line.

Start the right engine following the same procedure as for the left engine.

Voltmeter .......................... R GEN (28V DC)

Right Generator .......................... RESET, THEN ON

Left Generator .......................... RESET, THEN ON

NOTE: Hold the left generator switch in RESET and observe the right generator, maintaining sufficient voltage to hold the bus ties closed.

Propeller Levers .......................... FULL FORWARD

Propeller RPM .......................... 1050 (MIN)

PROP PITCH Annunciators .......................... ILLUMINATED

Engine Starting (GPU) Checklist .......................... COMPLETE

NOTE: If, for any reason, a start is discontinued, allow the engine to come to a complete stop to permit gas generator fuel drain valve operation.
Hot Start or Hung Start

Condition Lever .............................. FUEL CUTOFF
Ignition and Engine Start ...................... STARTER ONLY
ITT below 400ºC ......................... Ignition/Start Switch OFF

Do not attempt another start until the cause of the hot start or hung start has been corrected.

No Light Start (ITT Rise Within 10 Seconds)

Condition Lever .............................. FUEL CUTOFF
Ignition and Engine Start ...................... OFF (5 minutes)
Engine Clearing ............................. ACCOMPLISH

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.

Propeller Lever .............................. FEATHER
Condition Lever .............................. FUEL CUTOFF
Power Lever ................................. IDLE
Ignition and Engine Start ............... STARTER ONLY (30 sec)

CAUTION: Do not exceed the starter time limits.

Ignition and Engine Start ........................ OFF

Allow 5 minutes before attempting another start.

Engine Clearing Checklist ......................... COMPLETE
Expanded Normal Procedures

Before Taxi

Electrical System ............................................. CHECK
  Gen Tie Switch ............................................... OPEN
    Observe L GEN TIE, R GEN TIE annunciators illuminate.
  Voltmeter .................................................... CHECK
    Observe CTR bus at battery voltage.
  Gen Tie Switch ............................................... NORM
    Observe CTR bus voltage normal.
  Bus Sense Switch .......................................... TEST (momentary)
    Observe L GEN TIE, R GEN TIE, and BAT TIE annunciators illuminate.
  Voltmeter .................................................... CHECK
    Observe CTR bus at zero voltage.
  Bus Sense Switch .......................................... RESET
    Observe L GEN TIE, R GEN TIE, and BAT TIE annunciators extinguish.
  Voltmeter .................................................... CHECK
    Observe CTR bus voltage normal.
  Bus Selector Switch ........................................ TPL FED
  Master Panel/Cockpit Lights .............................. AS DESIRED
  Environmental System ..................................... SET
  Inverters (2) .................................................. ON/CHECK
    No. 1 and 2 AC BUS annunciators extinguished.
  Avionics Master Switch .............................. ON
  Standby Power ................................................. ON

NOTE: Place the standby power switch in the ON position. Allow the AI-804 gyro to spool-up prior to uncaging.
CAE SimuFlite

FMS .................................................. VERIFY/ACCEPT
EFIS Power Switches ................................. ON
Flaps .................................................. UP
Exterior Lights ................................. AS REQUIRED
Flight and Engine Instruments.................. CHECK
Cabin Lights .................................. AS DESIRED
Furnishing Switch ................................. AS DESIRED
Annunciators ................................ TEST/NORMAL
Flight Controls ............................ FREE/CORRECT
Flight Instruments ...................... NO FLAGS
Brakes .................................. RELEASE/TEST

Before Takeoff (Run-Up)

Nosewheel .......................... CENTERED
Parking Brake ......................... SET
Autopilot/Yaw Damp ................. CHECK
  Pitch Trim ......................... TAKEOFF POSITION
  ELEV Trim Switch .................. ON
  Yaw Damp Button .................. ENGAGE
    Note rudder pedals respond to yaw damper engagement.
Rudder Boost Switch  . . . YAW CONTROL TEST/RELEASE
  Observe YD DISC flash momentarily on EFIS ADI, then extinguish.
    Rudder pedals released.
Rudder Boost/Yaw Control Test Switch .......... RUDDER BOOST
Control Yoke ............................. RELAX
Autopilot Button ...................... ENGAGE
  AP and YD illuminate steady on EFIS.
**Expanded Normal Procedures**

**Electric Pitch Trim**

ACTUATE

Electric Pitch Trim switches should be tested in both directions with the autopilot engaged to verify the autopilot disconnects with all switch activations.

Repeat for both pilot and copilot.

**Control Yoke**

CENTER

**Autopilot Button**

ENGAGE

Allow green AP and YD annunciators to illuminate steady on EFIS ADI.

**Control Yoke**

PUSH/PULL

Move the yoke in both the forward and aft directions to verify the autopilot attempts to trim-off the applied pressure.

**Turn Knob**

L/R

Confirm that the control wheel responds appropriately to control from the detent position.

**Turn Knob**

CENTER DETENT

**HDG Control Knob**

PUSH SYNC

**HDG Mode**

ENGAGE

**HDG Control**

L/R

Observe Control Yoke follows heading commands.

**Yoke CWS/SYNC button**

PUSH/RELEASE

Confirm roll response from previous step becomes inactive when button pressed.

Repeat previous four steps for both pilot and copilot.

**GA Button**

PUSH

Observe EFIS command bars pitch to +7 degrees.

Autopilot disconnects but yaw damp remains engaged.

**Autopilot Button**

ENGAGE
AP/Trim Disconnect  . . . . . . . . . . . . . . . . . . . PUSH first level
AP DISC and YD DISC flash momentarily on EFIS, then extinguish.
Repeat for both pilot and copilot side.
A/P test button  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . PUSH
All annunciators illuminate, then extinguish. GA remains illuminated. Any other annunciator remaining illuminated indicates a malfunction.
A/P test button  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . PUSH
All annunciators illuminate, then extinguish. GA extinguishes. Any other annunciator remaining illuminated indicates a malfunction.

Electric Trim. . . . . . . . . . . . . . . . . . . . . . . . . . CHECK/ON
ELEV Trim Switch . . . . . . . . . . . . . . . . . . . . . . . . . ON
Pilot’s and Copilot’s Trim Switches . . CHECK OPERATION
Trim should be inoperable when each dual-element switch is moved individually.
Trim should operate only when both dual-element switches are moved simultaneously.
Ensure that pilot trim overrides copilot trim.

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. The electric pitch trim must then be turned off and the flight conducted only by manual operation of the elevator trim control.

AP/Trim Disconnect  . . . . . . . . . . . . . . . . . . . PUSH second level
PITCH TRIM OFF annunciator illuminates, and any trim in motion ceases.
ELEV Trim Switch . . . . . . . . . . . . . . . . . . . . CYCLE OFF, THEN ON
Expanded Normal Procedures

Trim Tabs .......................................................... SET
Ice Protection .........................................................CHECK

Engine Anti-Ice:
- Engine Anti-Ice Actuators ......................... STANDBY
- Engine Anti-Ice .............................................. OFF
  - L ENG ANTI-ICE, R ENG ANTI-ICE annunciators extinguish.
- Engine Anti-Ice Actuators ......................... MAIN
- Engine Anti-Ice .............................................. ON
  - L ENG ANTI-ICE, R ENG ANTI-ICE annunciators illuminate.

Engine Auto Ignition:
- Power Levers ............................................... IDLE
- Auto-Ignition Switches ............................... ARM
  - L IGNITION, R IGNITION annunciators illuminate.
- Power Levers ........ ADVANCE above approx 17% torque
  - L IGNITION, R IGNITION annunciators extinguish.
- Power Levers ............................................... IDLE
  - L IGNITION, R IGNITION annunciators illuminate.
- Auto-Ignition Switches ............................... OFF
  - L IGNITION, R IGNITION annunciators extinguish.

Windshield Anti-Ice:
- Windshield Anti-Ice Switches ..................... HI
  - Observe loadmeter increase and magnetic compass swing.
- Windshield Anti-Ice Switches ............ OFF, then NORMAL
  - Observe loadmeter increase and magnetic compass swing.
Windshield Anti-Ice Switches ....................... OFF
    Observe loadmeter decrease and magnetic compass swing.

**Electrothermal Prop Deice:**
Automatic Prop Deice Switch ....................... ON
Deice Ammeter ...................................... 26-32 AMPS
    Monitor for 90 seconds to confirm timer operation.
Manual Prop Deice. ...................... HOLD in Manual Position
    Observe slight loadmeter deflection.
Deice Ammeter ...................................... 0 AMPS
Manual Prop Deice. ...................... RELEASE
Deice Ammeter ...................................... 26-32 AMPS
Automatic Prop Deice Switch ....................... OFF

**Surface Deice:**
Condition Levers ...................... HIGH IDLE (if required)
Pneumatic Pressure ........................... CHECK
Surface Deice Switch ................... SINGLE CYCLE and release
    Observe Pneumatic/Vacuum gauge fluctuations. WING DEICE annunciator illumination followed by TAIL DEICE annunciator illumination. 6 seconds for WING DEICE, 4 seconds for TAIL DEICE.
Boots .............................................. CHECK VISUALLY
Surface Deice Switch ................... HOLD MANUAL
    Observe Pneumatic/Vacuum gauge fluctuation. WING DEICE and TAIL DEICE annunciators illuminate steady.
Boots .............................................. CHECK VISUALLY
Surface Deice Switch ................... RELEASE
    Observe Pneumatic/Vacuum gauge fluctuation. WING DEICE and TAIL DEICE annunciators extinguish.
Expanded Normal Procedures

Boots . . . CHECK visually for vacuum hold-down
Condition Levers . . . . . . . . . . . . LOW IDLE
Overspeed Gov/Rudder Boost . . . . . . . . CHECK
Rudder Boost Switch . . . . . . . . . RUDDER BOOST
Prop Levers . . . . . . . . . . . . . . FULL FORWARD
Prop Governor Test Switch . . . . HOLD to GOV
Power Lever (individually) . . . . . . . INCREASE

Each power lever should be advanced until propeller RPM has stabilized between 1520-1610 RPM. Continue to advance lever until proper rudder movement is evident.

AP/Trim Disconnect Switch . . . . PRESS 1st Level
Rudder Boost is interrupted.
Rudder Boost Switch . . . . . . . . OFF/ON
Rudder Boost is interrupted.
Power Lever . . . . . . . . . . . IDLE
Repeat for opposite engine.
Prop Governor Test Switch . . . . . . . RELEASE
Low Pitch Stops/Primary Governors . . . . . CHECK
Prop Levers . . . . . . . . . . . FULL FORWARD
Low Pitch Stop Switch . . . . . . HOLD to GND IDLE STOP
L PROP PITCH, R PROP PITCH annunciators illuminated.
Power Levers . . . . . . . . . . . . . . SET 1500 RPM
Prop Levers . . . . . . . . . . . . . CYCLE
Levers are cycled to low, then back to high RPM. Observe proper RPM response.
Low Pitch Stop Switch . . . . . . . . . . . . . RELEASE
L PROP PITCH, R PROP PITCH annunciators remain extinguished.
Prop RPM ........................................ 1150 to 1250 RPM
Autofeather ....................................... CHECK

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

Autofeather Switch ............................. HOLD to TEST
Power Levers ................................. SET 22% Torque
Power Lever (individually) ................. IDLE
  Observe opposite AFX annunciator extinguished. Appropriate propeller begins feathering at approximately 10% torque and continues to cycle.

Power Lever ................................. SET 22% Torque
  Observe feathering sequence terminated and both AFX annunciators illuminated.

Power Levers ................................. IDLE
  Observe AFX annunciators simultaneously extinguishing and no associated prop feathering.

Autofeather Switch ............................. ARM
Pressurization ................................. CHECK
Environmental Bleed Air Switch .......... NORMAL
Bleed Air Valves ............................... OPEN
Pressurization Controller ................... SET
  Set approximately 1,000 feet below field pressure altitude. Set rate knob to 12 o’clock.

Cabin Pressure Switch ........................ HOLD to TEST
Cabin Altimeter/VSI ......................... CHECK
  Observe cabin descent, cabin altitude decreasing, and differential increasing.
Expanded Normal Procedures

Cabin Pressure Switch ......................... RELEASE

Pressurization Controller ...................... SET to Takeoff

Set controller to the greater of 1,000 feet above planned cruise altitude (inner scale) or 500 feet above takeoff field pressure altitude (outer scale).

Environmental Bleed Air Switch ............ AS REQUIRED

Pressurization Controller ...................... SET

**CAUTION:** Environmental bleed air must be in the LOW position at ambient temperatures above 10°C.

Environmental Bleed Air ...................... AS REQUIRED

Bleed Air Valves ............................... TEST

Bleed Air Valves ............................... OPEN

Left Bleed Air Valve ......................... PNEU/ENVIR OFF

Observe no change in Vacuum/Pneumatic gauges.

Right Bleed Air Valve ....................... PNEU/ENVIR OFF

Observe ZERO Vacuum/Pneumatic pressure. L BL AIR FAIL, R BL AIR FAIL annunciators illuminate.

Left Bleed Air Valve ......................... OPEN

Vacuum/Pneumatic gauges recover to normal positions.

Right Bleed Air Valve ....................... OPEN

Pneumatics and Vacuum Gauges .............. NORMAL

Manual Prop Feathering ...................... CHECK

Autofeather Switch .......................... ARM

Prop Sync ................................. ON

Flaps ................................. AS REQUIRED

Friction Locks .............................. SET
Fuel Quantity .................................................. CHECK
Flight Instruments ................................. SET
Avionics/Radar/FMS ................................. SET/PROGRAMMED
ADC .......................................................... TEST

**ADC Test:**

ADC Test Switch .......................................... PUSH

Observe air data instruments flag and revert to loss-of-data mode.
Altitude pointer slews to 250-foot mark.
VSI pointer slews to 6000-ft/min descent rate.
Airspeed indicator and \( M_{MO} \) pointers slew to zero.

ADC Test Switch .......................................... RELEASE

Observe air data transmissions to the instruments restored.
Instrument flags pull from view.

**VSI Test (Non TDI-920):**

VSI Test Button .......................................... PUSH

Observe the warning flag in view. Pointer slews to 6000-ft/min descent rate.

VSI Test Button .......................................... RELEASE

Observe normal indications.

**Airspeed Indicator Test:**

Airspeed Indicator Test Button ........................ PUSH

Observe warning flag in view and both pointers slew to 160 knots for 1 second before slewing to zero.

Airspeed Indicator Test Button ........................ RELEASE

Ensure barber pole returns to 260 knots.
Altimeter Test:
Altimeter Test Button ................................. PUSH
Observe warning flag in view for approx ½ second.
Altitude pointer slews to 750-foot mark.
Altimeter Test Button ................................. RELEASE
Observe normal indications.
Baro Knob ................................. ADJUST/SET
Observe baroset digits responding appropriately.
Baro Knob ................................. PUSH/PULL/AS DESIRED
PUSH for barosettings in inches of mercury.
PULL for barosettings in millibars.

Altitude Alerter Test:
ALT ALERT Annunciator/Switch ........................ PUSH/HOLD
Observe warning flag in view.
ALT ALERT annunciator illuminates.
Remote ALT ALERT annunciators illuminate.
ALT ALERT Annunciator/Switch ........................ RELEASE
Observe warning flag out of view.
ALT ALERT annunciator extinguishes.
Remote ALT ALERT annunciators extinguish.

EFIS ................................................. TEST
EFIS Test Button ................................. PUSH/HOLD (>4 seconds)
Observe pilot instruments Pitch UP and Roll RIGHT 10 degrees, Copilot instruments Pitch DOWN and Roll LEFT 10 degrees.
Observe red “TEST” on both EADIs and MFD.
After 4 seconds, pitch, roll, and heading increments are removed from view, and all active flags are brought into view.
Comparator Warning Lights ........................ PUSH to Cancel
TCAS (CLT 92T AND TVI-920D) ....................... TEST

CTL 92 Test Button ................................. PUSH

  Allow 10 seconds to complete.
  Observe four TCAS test traffic targets displayed on the
  TVI-920D and MFD.
  Note “TCAS SYSTEMS TEST OK” audio alert.

TVI-920 Test Button ............................... PUSH and HOLD

  Hold for 10 seconds.
  Observe display of part number, and list of TCAS-related
  systems that either pass or fail.

EGPWS ................................. TEST

Terrain Inhibit Switch .................. ENSURE NOT ENGAGED
WXR Radar Display .................... ON (or TEST)
Terrain Display ....................... ENSURE NOT SELECTED
EGPWS Test Button ................. PUSH less than 2 seconds

  Observe:
  GPWS INOP, TERRAIN INOP,
  WINDSHEAR INOP Annunciators ........ ILLUMINATED
  BELOW GLIDESLOPE (or
  amber GPWS) Annunciator ............ ILLUMINATED
  “GLIDESLOPE” audio message is enunciated.
  BELOW GLIDESLOPE (or
  amber GPWS) Annunciator .......... EXTINGUISHED
  GLIDESLOPE CANCELED
  Annunciator ......................... ILLUMINATED
  (IF INSTALLED)
  GLIDESLOPE CANCELED
  Annunciator ......................... EXTINGUISHED
  (IF INSTALLED)
PULL UP (or red GPWS) Annunciator ................. ILLUMINATED

“PULL UP” audio message is enunciated.

PULL UP (or red GPWS) Annunciator ................. EXTINGUISHED

WINDSHEAR WARNING Annunciator ..................... ILLUMINATED

Siren and “WINDSHEAR, WINDSHEAR, WINDSHEAR” audio message is enunciated.

Pilot or Copilot WINDSHEAR ALERT Annunciator ............... ILLUMINATED

PULL UP (or red GPWS) Annunciator ..................... ILLUMINATED

“TERRAIN, TERRAIN, PULL UP” audio message is enunciated. Terrain display self-test pattern is displayed for 12 seconds.

PULL UP (or red GPWS Annunciator ....................... EXTINGUISHED

GPWS INOP, TERRAIN INOP, WINDSHEAR INOP Annunciators ....... EXTINGUISHED
Before Takeoff (Final Items)

- Bleed Air Valves: OPEN
- Environmental Bleed Air: AS REQUIRED
- Electric Heat: OFF
- Aft Heat: AS DESIRED
- Aft Blower: AS DESIRED
- Generator Loads: CHECK
- Battery Ammeter: CHECK (0-10A)
- Exterior Lights: SET
- Ice Protection: AS REQUIRED
- Auto Ignition: ARM (If Required)
- Autofeather: CHECK/ARM
- Annunciators: CONSIDERED
- Headings/Flight Directors: SET
- Standby Gyro: UNCAGED/SET
- Prop Levers: FULL FORWARD
- Crew Briefing: COMPLETE
- Transponder: ON
- Brakes: RELEASED
- Engine Anti-ice: OFF or AS REQUIRED

Takeoff

- Brakes: HOLD
- Power Levers: SET STATIC POWER
- Brakes: RELEASE
- \(V_R\): PITCH 10 DEGREES
- Landing Gear: UP
Expanded Normal Procedures

Landing/Taxi Lights ................................................. OFF
Yaw Damp ......................................................... ON
Airspeed ........................................................... $V_{35}$ (until clear of obstacles)
Flaps ............................................................ UP (125 kt minimum)

Rolling Takeoff

Power Levers ........................................... SET STATIC POWER (within 10 sec)
Autofeather (L+R) ........................................... ILLUMINATED
$V_R$ .......................................................... PITCH 10 DEGREES
Landing Gear ....................................................... UP
Landing/Taxi Lights ............................................... OFF
Yaw Damp ........................................................ ON
Airspeed ........................................................... $V_{35}$ (until clear of obstacles)
Flaps ............................................................ UP (125 kt minimum)

Climb

Yaw Damp ......................................................... VERIFY/ON
Attitudes .......................................................... COMPARE
Climb Power ........................................................ SET
Props ............................................................ SET (1600, or AS DESIRED)
Engine Instruments ............................................... CHECK
Ice Protection ...................................................... AS REQUIRED
Windshield Heat ..................................................... NORMAL
Bleed Air Valves ..................................................... OPEN
Environmental Bleed Air ........................................ AS REQUIRED
Pressurization .................................................... CLIMB/DIFFERENTIAL
Outside Check ..................................................... CONFIRM
Exterior Lights ..................................................... AS REQUIRED
10,000 Feet

Cabin Sign .................................................. AS REQUIRED
Exterior Lights .............................................. AS REQUIRED
Pressurization ................................. NORMAL
Oxygen Control .............................. CHECK

Transition (18,000)

Altimeters .................................................. 29.92
Pressurization ........................................... NORMAL

Cruise

Cruise Power ................................................ SET
Autofeather ............................................... OFF
Systems Check .......................................... COMPLETE

NOTE: Engines, fuel consumption, electrical, pneumatic, environmental, pressurization, oxygen and anti-ice systems should be monitored.

Aft Blower .................................................. AS REQUIRED
COMM/NAV Radios ......................................... SET
Destination Weather ............................ CHECK
Approach Procedure .............................. CONSIDER
Crew Briefing ........................................... CONSIDER
Landing Data .............................................. CHECK
## Expanded Normal Procedures

### Descent/Transition

Pressurization .............................................. SET

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<tr>
<th>Closest Altimeter Setting</th>
<th>Add to Airport Elevation</th>
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<tbody>
<tr>
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### Pressurization Controller Setting for Landing

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<tr>
<td>30.90</td>
<td>-500</td>
</tr>
</tbody>
</table>

Fuel Balance .................................................. CHECK
Autofeather .................................................. ARM
Ice Protection .............................................. AS REQUIRED
Window Defog ................................................ AS REQUIRED
Windshield Defrost ....................................... AS REQUIRED
Destination Weather ................................. RECHECK
Approach Procedures ............................... RECHECK/BRIEF
Cabin Sign .................................................. CONSIDER
Exterior Lights ........................................ AS REQUIRED
Altimeters ................................................ SET
Expanded Normal Procedures

Approach

Surface Deice ............................................ AS REQUIRED
Autofeather ............................................. CHECK/ARM
Fuel Balance ............................................. CHECK
Pressurization ........................................... CHECK
Environmental Bleed Air ......................... LOW
Cabin Sign ............................................... ON
Cabin Condition ......................................... SECURE
Exterior Lights ......................................... AS REQUIRED
Landing Data ............................................ REVIEW

Refer to the AFM section V, for Landing Data Distances.

Approach Briefing ............................. COMPLETE
Altitude Alerter/Radar Altimeters .......... SET
Flaps ........................................................ APPROACH

Before Landing

Landing Gear ......................................... DOWN (3 GREEN)
Approach Speeds .................................. CONFIRM
Exterior Lights ......................................... AS REQUIRED
Radar ..................................................... STBY/AS REQUIRED
Surface Deice ......................................... AS REQUIRED
Engine Anti-Ice ....................................... CONSIDER
Normal Landing (Final Items)
Landing Gear ................................. CONFIRM (3 GREEN)
Pressurization Differential ................ CHECK ZERO
Flaps ............................................. DOWN
Yaw Damp ...................................... OFF
Power Levers ................................. IDLE
Prop Levers ................................. FULL FORWARD

After Touchdown
Power Levers ................................. LIFT GROUND FINE
Brakes .......................... AS REQUIRED

Maximum Reverse Landing
Condition Levers ............................ HIGH IDLE
Prop Levers ................................. FULL FORWARD
Landing Gear .................................... CONFIRM (3 GREEN)
Flaps ............................................. DOWN
Engine Anti-Ice ............................... ON
Airspeed ..................................... $V_{REF}$
Yaw Damp ...................................... OFF

Landing Steep Approach
TAWS (If installed) .......................... ACTIVATE STEEP APPROACH
Prop Levers ................................. FULL FORWARD
Flaps ............................................. FULL DOWN
Airspeed ..................................... $V_{REF}$

Prior to Landing
Yaw Damp ...................................... OFF
Power Levers ................................. IDLE
Expanded Normal Procedures

After Touchdown
Power Levers ................. LIFT GROUND FINE
Brakes .................. AS REQUIRED

Balked Landing/Missed Approach
Power Levers ...................... MAX ALLOWABLE
Propellers ................ FULL FORWARD
Airspeed ......................... $V_{REF}$

| NOTE: | When clear of obstacles, establish normal climb. |

Flaps ($V_{REF}$ plus 10 kt) ................ APPROACH
Landing Gear ...................... UP
Flaps (125 kt, min) ......................... UP

After Landing
Engine Anti-Ice ...................... CONFIRM/ON
Auto Ignition ...................... OFF
Exterior Lights ...................... AS REQUIRED
Ice Protection ...................... OFF
Brake Deice ......................... CYCLE
Flaps .............................. UP
Trim .............................. SET
Transponder ......................... STBY/OFF
Radar .............................. STBY/OFF
Bleed Air Valves .................... ENVIR OFF
Pressurization Differential ............. VERIFY ZERO
CAE SimuFlite

Shutdown/Securing

Parking Brake .................................................. SET
Electric Heat .................................................. OFF
Autofeather .................................................. OFF
Exterior Lights .................................................. AS REQUIRED
FMS .............................................................. OFF
EFIS Power Switches .......................................... OFF
Oxygen Control Handles ...................................... OFF
Instrument Emergency Lights (Nighttime) ................. ON
Battery .......................................................... CHARGED
Standby Gyro .................................................. CAGED

NOTE: DO NOT cage the gyro while the aircraft is in motion.

Avionics Master .................................................. OFF
Inverters .......................................................... OFF
Aft Heat ........................................................... OFF
Vent Blowers ................................................... AUTO/OFF
Cabin Temp Mode ............................................... OFF
ITT ................................................................. STABILIZED
Power Levers ................................................... FLIGHT IDLE
Condition Levers ............................................... FUEL CUTOFF
Prop Levers ...................................................... FEATHER
Pilot’s Subpanel Switches .................................. L/R OFF
Gang Bar .......................................................... OFF (<15% N₁)
Overhead Panel Light Switches .............................. OFF
Expanded Normal Procedures

Parking Brake .................. AS REQUIRED
Instrument Emergency Lights (Nighttime) .......... OFF
Baggage Compartment Lights ..................... OFF
Cabin Entry Lights .......................... OFF
Tiedowns/Chocks .......................... INSTALL
Restraints/Covers ......................... INSTALL