Preflight check

COCKPIT

Airplane Records..... CHECK

WARNING
No braking action will occur if the parking brake control handle is pulled and held before depressing the brake pedals.

Parking Brake.....	SET
Flight Controls.....	FREE - PROPER MOVEMENT
Trim Controls.....	NEUTRAL
Electrical Switches.....	OFF
Circuit Breakers.....	IN
Landing Gear Selector.....	DOWN NEUTRAL
Battery Master Switches.....	ON
Cross Tie Operation.....	OFF/DISC
Master Warning Light.....	CHECK ON
Mater Caution Light.....	CHECK ON
Generator Switches.....	OFF
Crosstie.....	OFF/DISC
Bleed Air Switches.....	OFF
GPU Connect Switch.....	ON IF AVIAL.
Voltage and Frequency.....	CHECK RISE
Fuel crossfeed control.....	ALL
Fuel Quantity Gauges.....	CHECK
Flaps.....	CHECK – UP
Pitot Heat.....	SET ON – GREEN

External power from a Ground Power Unit (GPU), where available, will boost starting power. NOTE: Pressurization controls should be OFF to prevent pressurization of the cabin while on the ground.

ECS CONTROLS
Set environment controls once external power is available. If not connected to external power, postpone the following steps prior to engine start.

Temperature Control.....	AUTO
Selector Control.....	HI
Cabin Fan.....	SET
Thermostat.....	SET COMFORT
Emergency Press.....	AUTO
Cabin Air Selector.....	OUTSIDE
Cabin/OAT Temperature Indicator.....	CHECK CABIN TEMP

Exterior Lighting
Windscreen
Check for proper operation and visibility

Navigation, Recognition, and Strobe Lights	CHECK
Ice Inspection Light	SET ON – GREEN
Windshield Wiper	CHECK

Prior to Start

CHECK FUEL AND ICE SYSTEMS AND POWER CONTROLS.
SET CONTROL/AUTOPILOT SYSTEM.

Fuel Quantity, left and right	CHECK
Fuel Pump, left and right	SET ON – GREEN
Select Fuel Pump left and right	SET ON – GREEN
Fuel pressure, left and right (Min pressure 5-15 PSI)	CHECK
Power Levers	START/IDLE
Prop pitch levers	LOW/IDLE
Fuel condition levers	CHECK – IDLE
Gear handle	CHECK DOWN
Ice protection heat switches	SET ON – GREEN
Avionics Master Switches	OFF
Inverter Power Switch	OFF

Engine Start

All controls are on the overhead panel

Warning
Failure to set the Avionics Master and Inverter Power switches to the OFF position during the engine startup or shutdown may result in equipment failure.

Check power to start- left Bus ammeters	CHECK 10-15 AMPS
Bus voltage left	CHECK 20-30 V
Fuel Ignition Safety (FUEL IGN)	SET ON – GREEN
Ignition Select	SET ON – GREEN
Prop Unfeather Safety	SET ON – GREEN
Starter Motor	SET ON – GREEN

Turbine spool up will commence when the motor is switched ON. If external power is not available spool up will take 3-6 seconds longer

Igniter (START/ENRICH)	PRESS-HOLD

Hold igniter until combustion is achieved. Observe prop RPM – should rise to 1,000 RPM minimum.

EGT	CHECK LIMIT
Bleed Air	ON – CHECK GREEN
Oil pressure/temperature	CHECK LIMIT
Fuel Ignition Safety (FUEL IGN)	OFF
Ignition Select	OFF

Repeat procedure for right engine

CAUTION

Abort engine start immediately if:

- **Propeller fails to rotate.**
- **RPM does not reach 10%(within 10 seconds.**
- **EGT is not raising within 5 seconds after fuel flow indication,**
- **EGT rapidly approaching 770°C. Exceeding 770°C EGT may cause serious engine damage.**
- **RPM stops accelerating before reaching 65% rpm.**
- **Oil pressure fails to rise before reaching 65% rpm.**
- **Fuel pressure low annunciator ILLUMINATED at idle rpm.**
- **Any unusual noise or vibration**

AVIONICS POWER/INVERTER START

Inverter power	ON – CHECK GREEN
Inverter select	ON – CHECK GREEN
Ground clearance switch	ON – CHECK GREEN
Avionics master switch 1	ON – CHECK GREEN
Avionics master switch 2	ON – CHECK GREEN
Radios/electrical equipment	SET ON

Follow the preflight steps found in the Autopilot Procedures.

Before Taxi

Follow the Cabin Pressurization Checklist (Ground Operations) prior to these Before Taxi procedures.

Scan engine instruments frequently to insure normal limits.

Altimeter	SET
Fuel condition levers	CHECK – IDLE
EGT gauge, left and right	CHECK – NORMAL
Oil temperature/pressure, left and right	CHECK – NORMAL
Fuel flow	CHECK – NORMAL
Circuit breakers	CHECK IN
Seat belt lights	ON – CHECK GREEN
No smoking lights	ON – CHECK GREEN
Ice Protection switches	ON – CHECK GREEN
Pitot heat	CHECK ON
Strobe Light	ON – CHECK GREEN
Position lights	ON – CHECK GREEN
Flaps	SET
Fuel Quantity	CHECK
Transponder	SET
Warning and Caution Lights	EXTINGUISHED
Autopilot/Yaw Damper	OFF
Elevator Trim	SET
Rudder Trim	NEUTRAL
Aileron Trim	NEUTRAL

Normal takeoff check

CAUTION

Do not exceed engine limits.

NOTE: Demonstrated crosswind component for takeoff is 18 knots. Demonstration tests were performed on a paved and level runway.

Heading Indicator	CHECK
Brakes	APPLY
Power Levers	SET 30% TORQUE
Propeller Governing	VERIFY
Brakes	RELEASE
Power Levers	SET 100% TORQUE
Rotate controls	104 KIAS
Airspeed	ACCELERATE TO 123 KIAS Until above 50 feet
Gear (Below 170 KIAS)	UP

Climb Check

NOTE: When setting power advance the power levers to or only slightly beyond the point at which the torque or EGT limit, as applicable, is reached. If the power levers are advanced to beyond the point at which limiting occurs, the torque or EGT limit, as applicable, will be exceeded if a limiter failure occurs.

Climb Power	SET
Seat Belts and No Smoking Signs	AS REQUIRED
Pressurization Controls (see checklist)	SET
Engine Instruments	MONITOR
Yaw Damper	AS DESIRED
ECS Cabin Comfort Controls	SET AS DESIRED

Cruise Check

NOTE: When setting power advance the power levers to or only slightly beyond the point at which the torque or EGT limit, as applicable, is reached. If the power levers are advanced to beyond the point at which limiting occurs, the torque or EGT limit, as applicable, will be exceeded if a limiter failure occurs.

Cruise Power	SET
Autopilot speed bug (Airspeed Indicator)	SET IF DESIRED
Autopilot speed control	SET IF DESIRED
Engine Instruments	MONITOR
Fuel Quantity Indicators	MONITOR
ECS Cabin Comfort Controls	SET AS DESIRED

Rough Air Operation Check

Slow Airspeed to below rough air penetration speed (at or below 25,000 ft, 195 KIAS. Above 25,000 ft, reduce speed 7 KIAS for each 5,000 ft above 25,000 ft). Fly by reference to attitude indicator. Do not change trim. Avoid abrupt maneuvers.

Seat Belt Sign	ON
Ignition Select Switch	ON – CHECK GREEN

Descent Check

WARNING

Do not retard the power levers below FLIGHT IDLE in flight.

Pressurization (see checklist)	SET
Altimeter	SET
ECS Temperature Control	AS REQUIRED
ECS Cabin Fan	AS REQUIRED
Power	AS REQUIRED

Holding Check

Recommended Holding Airspeed	150 KIAS
Fuel Pressure and flow	MONITOR

Before Landing Check

Propeller RPM levers	FULL FORWARD
EGT	MONITOR
Propeller RPM	MONITOR
Fuel Ignition Safety (FUEL IGN) left & right	SET ON – GREEN
Ignition Select left & right	SET ON – GREEN
Seat Belts and No Smoking Signs	ON – CHECK GREEN
Flaps (194 KIAS max apply flaps 10°)	AS REQUIRED
Landing Gear (below 170 KIAS)	DOWN
Gear Position Lights	3 GREEN
Landing Lights	AS REQUIRED
Autopilot Yaw Damper	OFF
Cabin Pressure	DEPRESSURIZED
Flaps (167 KIAS max)	25°
Airspeed (recommended approach speed, full flaps, max landing weight)	105 KIAS (at 11, 100 lb)

Note: Ignition must be turned **ON** prior to landing and remain **ON** until the landing is completed or until climb has been established following a balked landing.

Landing Check

WARNING

Do not retard power levers below FLIGHT IDLE in flight.

CAUTION

When landing at light weights, use caution when applying brakes as excessive pedal pressure will result in skidding the tires with a resultant loss of braking effectiveness.

NOTE: Demonstrated crosswind component for landing is 18 knots. Demonstration tests were performed on a paved, dry, level runway.

Prior to reaching 50 feet above landing surface, verify:

Landing gear	DOWN-3 GREEN
Flaps	40° (DOWN)
Airspeed (recommended approach speed, full flaps, max landing weight)	105 KIAS (at 11, 100 lb)
Power Levers	AS REQUIRED

After Touchdown:

Power Levers	GROUND IDLE
Brakes	AS REQUIRED
Reverse Thrust	AS REQUIRED

Balked Landing Climb Check

Power Levers	ADVANCE TO TAKEOFF POWER
Torque and Temperature	WITHIN LIMITS
Airspeed	110 KIAS
Flaps	APPROACH 25°
Landing gear	UP (after climb established)
Flaps	UP
Airspeed	125 KIAS

Shutdown Check

Caution
Do not retard the rpm levers to the LOW position if the power levers are aft of the ground idle stop.

Note: No braking action will occur if the parking brake control handle is pulled and held before depressing the brake pedals.

Power levers	GROUND IDLE (BELOW 10% prop RPM)
Parking Brake	SET
Prop RPM Levers	LOW/IDLE
Flaps	UP
Ice Protection Equipment	OFF
Strobe Light	OFF
Position/recognition lights	OFF
ECS controls (see checklist)	CHECK OFF

CAUTION

Failure to set Avionics Master and Inverter Power switches to the OFF position during engine startup or shutdown may result in equipment failure.

Inverter Power Switch	OFF
Avionics Master Switches	OFF
Radios/electrical equipment	OFF

ENGINE SHUTDOWN – ENGINE 1

Bleed Air	OFF
Fuel Ignition	OFF
Prop unfeather safety	OFF
Fuel Pumps	OFF

Monitor engine shutdown. Check EGT falloff.

Ignition Select	OFF
Select Fuel Pump	OFF
Generator	OFF

Repeat process for engine 2

Master battery switches	OFF