

PREFLIGHT INSPECTION

Stall warning tester	RETRIEVE
ARROW documents	VERIFY
Avionics master	OFF
BAT 2 master	ON
PFD	VERIFY ON
Avionics cooling fan	AUDIBLE
Voltmeter	23-25 V
Flap position light	OUT
BAT 1	ON
Lights	CHECK
Stall warning	CHECK
Fuel quantity	CHECK
Fuel selector	FULLEST TANK
Flaps	100%, CHECK LIGHT ON
Oil annunciator	ON
BAT 1 and BAT 2	OFF
Alternate static source	NORMAL
Circuit breakers	CHECK IN
Fire extinguisher	CHARGED & AVAILABLE
Emergency egress hammer	AVAILABLE
CAPS handle	PIN REMOVED
Tach / Hobbs time	RECORDED
FlightCircle	DISPATCHED

WALK-AROUND

LEFT FUSELAGE	Door lock	UNLOCK
	COM 1 antenna	CONDITION
	Wing/fuselage fairing	CHECK
	COM 2 antenna	CONDITION
	Baggage door	CLOSED & SECURE
EMPENNAGE	Static button	CHECK FOR BLOCKAGE
	Parachute cover	SEALED & SECURE
	Tiedown rope	REMOVE
	Horizontal and vertical stabilizers	CONDITION
	Elevator and tab	CONDITION/ MOVEMENT
RIGHT FUSELAGE AND WING	Rudder	CONDITION/ MOVEMENT
	Rudder trim tab	CONDITION
	Rudder hinges/bolts/cotter pins	SECURE
	Static button	CHECK FOR BLOCKAGE
	Wing/fuselage fairings	CHECK
	Door lock	UNLOCK
	Flap and rub strips	CONDITION
	Right aileron	FULL TRAVEL
	Aileron gap seal	SECURITY
	Aileron hinges/bolts/cotter pins	SECURE
	Right wing tip	ATTACHMENT
	Strobe, nav light and lens	CONDITION
LEFT WING	Fuel vent	UNOBSTRUCTED
	Leading edge and stall strips	CONDITION
	Fuel cap	QUANTITY & SECURITY
	Wheel fairings	SECURITY & CONDITION
	Tire	CONDITION/ INFLATION
	Wheel and brakes	LEAKS/OVERHEATING
	Chocks and tiedown ropes	REMOVE
	Cabin air vent	UNOBSTRUCTED
	Gascolator	SAMPLED FOR 3 SEC.
	Right fuel drains	SAMPLED (2 drains)
	Left fuel drains	SAMPLED (2 drains)
	Strobe, nav light and lens	CONDITION

WALK-AROUND (CONT.)

NOSE AND PROP	Vortex generator	CONDITION
	Cowling	ATTACHMENTS SECURE
	Exhaust pipe	CONDITION & SECURITY
	Transponder antenna	CONDITION
	Tow bar	REMOVE AND STOW
	Strut	CONDITION
	Nose wheel fairing	SECURITY & CONDITION
	Nose wheel and tire	CONDITION/ INFLATION
	Propeller	CONDITION
	Spinner	CONDITION/OIL LEAKS
	Air inlets	UNOBSTRUCTED
	Alternator	CONDITION
FUEL	Landing light	CONDITION
	Engine oil level	CHECK 6-8 QUARTS
	Engine oil door	LEAKS/DOOR SECURE
	Cowling	ATTACHMENTS SECURE
	External power	DOOR SECURE
	Vortex generator	CONDITION
	Exhaust pipe(s)	CONDITION & SECURITY
	Wheel fairings	SECURITY & CONDITION
	Tire	CONDITION/ INFLATION
	Wheel and brakes	LEAKS/OVERHEATING
	Chocks and tiedown ropes	REMOVE
	Fuel drains	DRAIN AND SAMPLE
RIGHT FUSELAGE AND WING	Cabin air vent	UNOBSTRUCTED
	Fuel cap	QUANTITY & SECURITY
	Leading edge and stall strips	CONDITION
	Fuel vent	UNOBSTRUCTED
	Pitot mast	COVER OFF/TUBE CLEAR
	Strobe, nav light and lens	CONDITION
	Left wing tip	ATTACHMENT
	Flap and rub strips	CONDITION
	Left aileron	FULL TRAVEL
	Aileron gap seal	SECURITY
	Aileron hinges/bolts/cotter pins	SECURE
	Right fuel drains	SAMPLED (2 drains)
	Left fuel drains	SAMPLED (2 drains)

SECURING AIRPLANE

ELT	TRANSMIT LIGHT OUT
Parking brake	AS REQUIRED
Hobbs + flight time	RECORDED
Pitot tube cover	INSTALL
Chocks	INSTALL
Tiedowns	AS REQUIRED
Engine inlet plugs	INSTALL
Battery charger	CONNECTED
Windscreen	CLEANED
Leading edge	CLEANED
FlightCircle	CHECK IN
Tug	CHARGING
Logbook	ENTERED

ENGINE START

BEFORE START	Preflight inspection.....	COMPLETED
	Emergency equipment.....	ON BOARD
	Passengers.....	BRIEFED
	Seats and belts.....	ADJUSTED AND SECURE
	Brakes.....	HOLD
	BAT master switches.....	ON CHECK VOLTS
	Strobe lights.....	ON
	Mixture.....	FULL RICH
	Power lever.....	FULL FORWARD
	Fuel pump.....	PRIME THEN BOOST
	Propeller area.....	CLEAR
	Power lever.....	OPEN 1/4 IN.
	Ignition switch.....	START
	Power lever.....	MAINTAIN 1000 RPM
	Oil pressure.....	CHECK
	ALT master switches.....	ON
	Avionics power switch.....	ON
	Engine parameters.....	MONITOR
	Ammeter indication.....	CHECK

TAXI	Flaps.....	UP
	Radios avionics.....	AS REQUIRED
	Cabin heat defrost.....	AS REQUIRED
	Fuel selector.....	SWITCH TANK
	Parking brake.....	DISENGAGE
	Brakes.....	CHECK
	AHRS calibration.....	CONFIRM

RUN UP	Doors.....	LATCHED
	CAPS handle.....	VERIFY PIN REMOVED
	Seats and belts.....	SECURE
	Air conditioner.....	AS DESIRED
	Fuel quantity.....	CONFIRM
	Fuel selector.....	FULLEST TANK
	Fuel pump.....	BOOST
	Mixture.....	AS REQUIRED
	Flaps.....	50%, CHECKED
	Transponder.....	SET
	Autopilot.....	CONFIGURED
	Nav/Radios/GPS.....	SET FOR TAKEOFF
	Cabin heat defrost.....	AS REQUIRED
	Brakes.....	HOLD
	Power lever.....	1700 RPM
	Alternator.....	CHECK
	Pitot heat.....	ON
	All lights.....	ON
	Annunciator lights.....	CHECK
	Voltage/ammeter/alternator.....	CHECK
	Pitot heat.....	AS REQUIRED
	Lights.....	AS REQUIRED
	Magnetos.....	LEFT ONLY / RIGHT ONLY
	RPM drop.....	≤150 RPM, ≤75 RPM BETWEEN MAGS
	Engine parameters.....	CHECK
	Power lever.....	1000 RPM
	Altimeter 1 & 2.....	BARO SET
	Flight controls.....	FREE AND CORRECT
	Trim.....	SET FOR TAKEOFF
	Autopilot.....	DISCONNECTED

DEPARTURE BRIEFING

Runway, crosswind.....	BRIEFED
Rotation speed.....	70-73 KIAS
Climb-out speed.....	80-90 KIAS
Takeoff emergency.....	<500' / >500' / >2000'
CAPs available.....	500 FT. AGL

NORMAL TAKEOFF

Brakes.....	RELEASE
Power lever.....	FULL FORWARD
Engine parameters.....	CHECK
Elevator control.....	ROTATE 70-73 KIAS
80-90 KIAS.....	FLAPS UP

SHORT FIELD TAKEOFF

Flaps.....	50%
Brakes.....	HOLD
Power lever.....	FULL FORWARD
Mixture.....	SET
Engine parameters.....	CHECK
Brakes.....	RELEASE
Rudder.....	STEER WITH RUDDER ONLY
Elevator control.....	ROTATE SMOOTHLY, 70 KIAS
Airspeed at obstacle.....	78 KIAS

CLIMB

Climb Power.....	SET
Flaps.....	VERIFY UP
Mixture.....	LEAN AS REQUIRED
Engine parameters.....	CHECK
Fuel Pump.....	BOOST

CRUISE

Fuel Pump.....	OFF
Cruise Power.....	SET
Mixture.....	LEAN AS REQUIRED
Engine parameters.....	MONITOR
Fuel flow and balance.....	MONITOR

DESCENT

Altimeter.....	SET
Cabin heat/defrost.....	AS REQUIRED
Landing light.....	ON
Fuel system.....	CHECK
Mixture.....	AS REQUIRED
Brake pressure.....	CHECK

BEFORE LANDING

Seats and belts.....	SECURE
Fuel Pump.....	BOOST
Mixture.....	AS REQUIRED
Flaps.....	AS REQUIRED
Autopilot.....	AS REQUIRED

GO-AROUND

Autopilot.....	DISENGAGE
Power lever.....	FULL FORWARD
Flaps.....	50%
Airspeed.....	75-80 KIAS
Clear of obstacles.....	FLAPS UP

AFTER LANDING

Power Lever.....	1000 RPM
Fuel pump.....	OFF
Flaps.....	UP
Lights.....	AS REQUIRED
Pitot Heat.....	OFF

SHUTDOWN

Fuel pump.....	OFF
Throttle.....	IDLE
Ignition Switch.....	CHECK MAG GROUNDING
Mixture.....	CUTOFF
All switches.....	OFF, RIGHT-TO-LEFT
Magnetos.....	OFF

Standby instruments..... MONITOR
In IMC, autopilot..... GPSS MODE
Exit IMC

ENGINE FAILURE ON TAKEOFF (LOW ALTITUDE)

Establish best glide or landing speed..... 88 KIAS OR 80-85 KIAS
 Mixture..... CUTOFF
 Fuel selector..... OFF
 Ignition switch..... OFF
 Flaps..... AS REQUIRED
 If time permits, power Lever..... IDLE
 Fuel pump..... OFF
 BAT-ALT Master switches..... OFF
 Seat belts..... SECURED

ENGINE FAILURE IN FLIGHT

Establish best glide speed..... 88 KIAS
 Set Mixture..... AS REQUIRED
 Set Fuel Selector..... TO SWITCH TANKS
 Set Fuel Pump..... TO BOOST
 Set Alternate Induction Air..... TO ON
 Set Air Conditioner (if installed)..... TO OFF
 Check Ignition Switch..... BOTH
 If no start, perform Engine Airstart or Forced Landing checklist.

ENGINE AIRSTART

BAT master switches..... ON
 Power lever..... ½" OPEN
 Mixture..... RICH, AS REQUIRED
 Fuel selector..... SWITCH TANKS
 Ignition switch..... BOTH
 Fuel pump..... BOOST
 Alternate induction air..... ON
 ALT master switches..... OFF
 Starter (propeller not windmilling)..... ENGAGE
 Power lever..... SLOWLY INCREASE
 ALT master switches..... ON
 If unable to start, perform Forced Landing checklist.

ENGINE PARTIAL POWER LOSS

Air conditioner..... OFF
 Fuel pump..... BOOST
 Fuel selector..... SWITCH TANKS
 Check mixture..... SET FOR CONDITIONS
 Power lever..... SWEEP
 Alternate induction air..... ON
 Ignition Switch..... BOTH, L, THEN R
 Land as soon as practical.

LOW OIL PRESSURE

Power Lever..... MINIMUM REQUIRED
 Land as soon as possible.

PROPELLER GOVERNOR FAILURE

Propeller RPM will not increase:

Oil Pressure..... CHECK
 Land as soon as practical.

Propeller overspeeds or will not decrease:

Adjust Power Lever..... KEEP RPM IN LIMITS
 Reduce Airspeed..... 90 KIAS
 Land as soon as practical.

INADVERTENT SPIN ENTRY

CAPS..... ACTIVATE

SMOKE AND FUME ELIMINATION

Air conditioner..... OFF
 Temperature selector..... COLD
 Vent selector..... FEET/PANEL/DEFROST POSITION
 Airflow Selector..... MAXIMUM AIRFLOW
 If source of smoke is firewall..... AIRFLOW SELECTOR OFF forward
 Eyeball outlets..... OPEN
 If airflow does not clear smoke..... PARTIALLY OPEN DOORS
 Prepare to land as soon as possible.

ENGINE FIRE IN FLIGHT

Mixture..... CUTOFF
 Fuel pump..... OFF
 Fuel selector..... OFF
 Airflow selector..... OFF
 Power lever..... IDLE
 Ignition switch..... OFF
 Cabin doors..... PARTIALLY OPEN
 Land as soon as possible.

WING FIRE IN FLIGHT

Pitot heat switch..... OFF
 Navigation light..... OFF
 Landing light..... OFF
 Strobe light..... OFF
 If possible, side slip to keep flames away from fuel tank & cabin.
 Land as soon as possible.

CABIN FIRE IN FLIGHT

If in IMC conditions, turn ALT 1, ALT 2, & BAT 1 switches OFF.
 Battery 2 will power the PFD operational for about 30 min.
 BAT-ALT master switches..... OFF, AS REQUIRED
 Heater..... OFF
 Air vents..... CLOSE
 Fire extinguisher..... ACTIVATE
 If airflow does not clear smoke..... PARTIALLY OPEN DOORS
 When fire extinguished..... AIR VENTS FULL COLD
 Avionics power switch..... OFF
 All other switches..... OFF
 Land as soon as possible.

If setting master switches off eliminated source of fire and airplane is in night/weather/IFR conditions:

BAT-ALT master switches..... ON
 Avionics power switch..... ON

Activate required systems one at a time. Activate only the minimum of equipment necessary to safely land.

EMERGENCY DESCENT

Power lever..... IDLE
 Mixture..... AS REQUIRED
 Airspeed..... TO VNE (205 KIAS)

INADVERTENT SPIRAL DIVE DURING IMC FLIGHT

Power lever..... IDLE
 Stop the spiral dive by using coordinated aileron and rudder control, watching the attitude indicator/turn coordinator to level the wings.
 Cautiously apply elevator back pressure to bring airplane level.
 Trim for level flight.
 Power..... AS REQUIRED
 Use autopilot if functional, otherwise keep hands off control yoke, use rudder to hold constant heading.
 Exit IMC conditions as soon as possible.

