Preflight

Fluids	
Engine master	OFF
Fuel quantity	CHECK VISUALLY
Fuel sumps	DRAIN
Left wing, right wing, fuel strainer. Inspect for contamination.	
Fuel filler caps	SECURE
Engine oil level	CHECK
	Minimum 6 quarts
Gearbox oil level	CHECK
Oil must cover at least 1/2 of inspection glass	
Cabin	
Pitot cover	REMOVE
POH	VERIFY PRESENT
Master	ON
Flaps	EXTEND
Fuel gauges	CHECK QUANTITY
Water level light	CHECK OFF
Avionics	ON
Check avionics fan audible	
Avionics	OFF
Annunciator panel	TST
Lights	CHECK
Pitot heat	TEST
Master	OFF
Fire extinguisher	SECURE
Control lock	REMOVE
Empennage	
Rudder gust lock	REMOVE
Control surfaces	CHECK
Right	
Main wheel tire	CHECK INFLATION
Aileron	CHECK
Nose	
Propeller, spinner	CHECK
Air filter	CHECK CLEAR
Nosewheel & strut	CHECK INFLATED
Static source	CHECK CLEAR

Preflight (continued)

Left	
Main wheel tire	CHECK INFLATION
Fuel tank vent	CHECK CLEAR
Pitot tube	CHECK CLEAR
Stall warning	TEST
Aileron	CHECK
Final	
Flight Circle	DISPATCH
Hobbs times	RECORD
Baggage door	LOCK
Chocks	REMOVE
Tie-downs	REMOVE

Securing

Control lock	INSTALL
Tie-downs, chocks	APPLY
Vents, windows	CLOSE
Pitot cover	APPLY
Flight Circle	CHECK IN
Doors	LOCK

Speeds

		KIAS
Best glide (V_G)		65
Best angle of climb (V_X)	Sea level 10,000 ft	60 65
Best rate of climb (V_Y)	Sea level 10,000 ft	79 71
Landing approach	Flaps up Flaps 40	69-80 60-70
Normal takeoff climb		70-80
Short-field takeoff climb	Flaps 10	57
Normal enroute climb	Sea level 10,000 ft	75-85 70-80
Design maneuvering speed (V_A)	2450 lbs 2000 lbs 1600 lbs	97 91 82

Light Gun Signals

Aircraft on the Ground	Aircraft in Flight
Cleared for takeoff	Cleared to land
Cleared for taxi	Return for landing (to be followed by steady green at the proper time)
STOP	Give way to other aircraft and continue circling
Taxi clear of the runway in use	Airport unsafe, do not land
Return to starting point on airport	Not applicable
Exercise extreme caution	Exercise extreme caution

Start

Before Start	
Preflight inspection	COMPLETE
Passenger briefing	COMPLETE
Brakes	TEST and SET
Seats, belts, harnesses	SECURE
Fuel valve	BOTH
Radios, electrical equipment	OFF
Circuit breakers	CHECK IN
Beacon switch	ON
Engine Start	
Fuel pump	ON
Thrust lever	IDLE
Propeller area	CLEAR
Engine master	ON
Wait for Glow lamp to extinguish	
Starter	ENGAGE UNTIL 500rpm
Oil pressure	CHECK
If no pressure in 3 seconds, shutdown	
FADEC Backup Battery Test	
Alternator	OFF
Master	OFF
	Min. 10 seconds
Master	ON
Alternator	ON
CED-Test button	PRESS
Before Taxi	
Avionics	ON
Headset	ON
Ammeter	CHECK CHARGING
Voltmeter	CHECK
Fuel pump	OFF
Flaps	RETRACT
Altimeters	SET
Navigation, lights	ON

Run-up

Instruments	CHECK and SET
VOR check	IF NEEDED
Brakes	SET
Doors and windows	CLOSED, LOCKED
Flight controls	FREE and CORRECT
Fuel valve	BOTH
Thrust lever	IDLE
FADEC test button	PRESS and HOLD
Both FADEC lights	CHECK ON
	RPM increases
FADEC B light	CHECK ON
	RPM decreases
FADEC A light	CHECK ON
RPM increases, then decreases	
Both FADEC lights	CHECK OFF, RPM IDLE
FADEC test button	RELEASE

Run-up (continued)

Force FADEC B switch	FORCE FADEC B
Engine should run normally	
Force FADEC B switch	OFF
Thrust lever	FULL FORWARD
Min. load 94%, RPM 2240-2300	
Thrust lever	IDLE
Vacuum gauge	CHECK

Before Takeoff

Radios, navigation, instruments	SET
Takeoff briefing	COMPLETE
Beacon, navigation, landing lights	ON
Flaps	0-10°
Trim	TAKEOFF
Fuel valve	BOTH
Fuel quantity	CHECK
Fuel pump	ON

Climb

Fuel pump	OFF
Airspeed	70-85 KIAS
Throttle	FULL

Cruise

Power	AS REQUIRED
	75% recommended
Trim	ADJUST

Before Landing

Fuel valve	BOTH
Fuel pump	ON
Landing light	ON
Airspeed	69-80 KIAS (flaps UP)
Flaps	AS REQUIRED
Airspeed	60-70 KIAS (flaps DOWN)

After Landing

Flaps	UP
Fuel pump	OFF

Shutdown

Brakes	SET
Thrust lever	IDLE
Avionics, electrical equipment	OFF
Engine master	OFF
Master	OFF

Engine Malfunction During Takeoff (with sufficient runway ahead)

Thrust lever	IDLE
Brakes	APPLY
Flaps (if extended)	RETRACT
Engine master	OFF
Alternator, battery master	OFF
Fuel shutoff valve	CLOSED

Engine Malfunction Immediately After Takeoff

Airspeed	Flaps retracted: 65 KIAS Flaps extended: 60 KIAS
Fuel shutoff valve	CLOSED
Engine master	OFF
Flaps	AS REQUIRED (30° recommended)
Alternator, battery master	OFF

Engine Malfunction During Flight

Fuel shutoff valve	OPEN (push full in)
Fuel selector	BOTH
Electric fuel pump	ON
Land ASAP.	

Restart After Engine Failure

Note: If the propeller stops at an airspeed ≥ 65 KIAS, the reason for stoppage should be discovered before attempting a restart.

Airspeed	65-85 KIAS (max 100 KIAS)
Altitude	BELOW 13,000 FT
Fuel shutoff valve	OPEN (push full in)
Fuel selector	BOTH
Electric fuel pump	ON
Thrust lever	IDLE
Engine master	OFF THEN ON
If propeller does not turn, then starter	ON
Thrust lever	FULL
Check engine parameters, power	

FADEC Malfunction in Flight: One FADEC Light is Flashing

FADEC test knob	PRESS ≥ 2 seconds
If FADEC light extinguished (LOW warning):	
Continue normal flight	
If FADEC light illuminated steady (HIGH warning):	
Monitor the other FADEC light	
Land ASAP	
Select airspeed to avoid engine overspeed	

FADEC Malfunction in Flight: Both FADEC Lights are Flashing

CED load display	CONSIDER UNRELIABLE
FADEC test knob	PRESS ≥ 2 seconds
If FADEC lights extinguished (LOW warning):	
Continue normal flight	
If FADEC lights illuminated steady (HIGH warning):	
Check the available engine power	
Expect engine failure	
Select airspeed to avoid engine overspeed	
Land ASAP	
In case a fuel tank was flown empty:	
Fuel selector	BOTH
Electric fuel pump	ON
Check the available engine power, thrust lever response	
Land ASAP	

Abnormal Engine Behavior

If the engine acts abnormal during flight and the system does not automatically switch to the B-FADEC, it is possible to switch to the B-FADEC manually.
Select an appropriate airspeed to avoid engine overspeed
Force-B switch ON
Be prepared for an emergency landing
Land ASAP

Emergency Checklists

Engine Fire When Starting Engine on Ground

Engine master	OFF
Fuel shutoff valve	CLOSED
Electric fuel pump	OFF
Battery master	OFF
Fire extinguisher	USE

Engine Fire During Takeoff (on Ground)

Engine master	OFF
Fuel shutoff valve	CLOSED
Electric fuel pump	OFF
Battery master	OFF
Fire extinguisher	USE

Engine Fire in Flight

Engine master	OFF
Fuel shutoff valve	CLOSED
Electric fuel pump	OFF
Battery master	OFF
Cabin heat and air	OFF
Airspeed	65 KIAS
Emergency Landing With Engine Out procedure	RUN

Electrical Fire In Flight

Avionics master	OFF
Cabin heat and air, vents	OFF
Fire extinguisher	USE
All electrical switches except alternator, battery master, and engine master	OFF
If fire continues:	
Battery master, alternator	OFF
Cabin heat and air, vents	ON
Check circuit breakers, do not reset open breakers	
If fire extinguished:	
Avionics master	ON
Turn on electrical equipment required to continue flight and land ASAP. Switch breakers ON one at a time, with delay after each.	

Engine Shut Down In Flight

Airspeed	SELECT TO AVOID ENGINE OVERSPEED (65 KIAS RECOMMENDED)
Engine master	OFF
Fuel shutoff valve	CLOSED
Electric fuel pump	OFF
To stop propeller (if needed):	
Airspeed	< 55 KIAS
When propeller stopped	65 KIAS

Emergency Landing With Engine Out

Airspeed	Flaps up: 65 KIAS Flaps down: 60 KIAS
Fuel shutoff valve	CLOSED
Engine master	OFF
Flaps	AS REQUIRED (RECOMMEND FULL)
Alternator, battery master	OFF
Doors	UNLOCK
Touchdown	SLIGHTLY NOSE UP
Brake	FIRMLY