

AIRCRAFT ACCEPTANCE

Certificates, Documents, & Placards	AR(R)OW & AS REQUIRED
Maintenance Status / Tachometer	CHECKED
Hobbs	RECORDED
Landing Gear Lever	DOWN
Control Wheel Lock	REMOVE
Ignition Switch	OFF
Avionics Power Switch	OFF
Master Switch	ON
Fuel Quantity Indicators	CHECK QUANTITY
Landing Gear Position Light (green)	ILLUMINATED
Master Switch	OFF
Fuel Selector Valve	BOTH
Static Pressure Alternate Source Valve	OFF
Baggage Door	CHECK

BEFORE STARTING ENGINES

Preflight Inspection	COMPLETE
Passenger Briefing	COMPLETE
Seats, Belts, Shoulder Harnesses	ADJUST AND LOCK
Avionics Power Switch	OFF
Circuit Breakers	CHECK IN
Electrical Equipment	OFF
Landing Gear Lever	DOWN
Brakes	TEST AND SET
Cowl Flaps	OPEN
Fuel Selector Valve	BOTH

STARTING ENGINES

Mixture	RICH
Propeller	HIGH RPM
Carburetor Heat	COLD
Throttle	PUMP ONCE OR TWICE; LEAVE OPEN 1/4 INCH
If engine is hot, turn auxiliary fuel pump ON during start	
Propeller Area	CLEAR
Master Switch	ON
Ignition Switch	START (RELEASE WHEN ENGINE STARTS)
Oil Pressure	CHECK
Avionics Power Switch	ON
Flashing Beacon and Navigation Lights	ON AS REQUIRED
Radios	ON
Mixture	LEAN FOR TAXI

TAXI

Brakes / Steering	CHECKED
Instruments	CHECKED

BEFORE TAKE-OFF

Parking Brake	SET
Cabin Doors	CLOSED AND LOCKED
Flight Controls	FREE AND CORRECT
Flight Instruments	SET
Fuel Selector Valve	BOTH
Cowl Flaps	OPEN
Mixture	RICH (BELOW 3000 FEET)
Aux Fuel Pump	ON (CHECK FOR RISE IN FUEL PRESSURE), THEN OFF
Elevator and Rudder Trim	TAKEOFF
Throttle	1800 RPM
Magnetos (Max. 150 RPM / 50 RPM difference)	CHECK
Propeller	CYCLE; RETURN TO HIGH RPM
Carburetor Heat	CHECK (FOR RPM DROP)
Engine Instruments and Ammeter	CHECK
Suction Gage	CHECK
Throttle	1000 RPM OR LESS
Throttle Friction Lock	ADJUST
Radios and Avionics	SET
Parking Brake	RELEASE

LINE UP

Takeoff Briefing	COMPLETE
Trim Tabs	SET
Wing Flaps	SET (NORMALLY 0°)
Mixture Control	FORWARD
Propeller	FULL FORWARD
Carburetor Heat	COLD
Pitot Heat, Strobe, & Landing Light	ON AS REQUIRED
Transponder	ALT

CLIMB

Wing Flaps	UP
Airspeed	V_y (84) UNTIL 1000' THEN 85-95 KIAS
Power	25 INCHES HG AND 2500 RPM
Mixture	AS REQUIRED
Cowl Flaps	OPEN AS REQUIRED

CRUISE

Power	15-25 INCHES HG, 2100-2700 RPM
Elevator and Rudder Trim	ADJUST
Mixture	LEAN
Cowl Flaps	CLOSED
Landing Light	OFF
Heading Indicator / Compass	CHECKED

DESCENT

Fuel Selector Valve	BOTH
Cowl Flaps	CLOSED
Power	AS DESIRED
Carburetor Heat	FULL HEAT AS REQUIRED
Mixture	ENRICHEN AS REQUIRED
Landing Light	ON

BEFORE LANDING

Seats, Belts, Shoulder Harnesses	ADJUST AND LOCK
Landing Gear	DOWN (BELOW 140 KIAS)
Landing Gear	CHECK (GREEN LIGHT & IN THE WINDOW)
Wing Flaps	AS DESIRED
Mixture	RICH
Propeller	HIGH RPM
Carburetor Heat	ON (APPLY FULL HEAT BEFORE CLOSING THROTTLE)

BALKED LANDING

Power	FULL THROTTLE AND 2700 RPM
Carburetor Heat	COLD
Wing Flaps	RETRACT TO 20°
Climb Speed	55 KIAS
Wing Flaps	RETRACT SLOWLY AFTER REACHING 65 KIAS
Cowl Flaps	OPEN

AFTER LANDING – CLEAR OF RUNWAY

Strobe, Landing, & Taxi Lights	AS REQUIRED
Carburetor Heat	COLD
Propeller Control	FORWARD
Mixture Control	LEAN FOR TAXI
Wing Flaps	CONFIRM HANDLE THEN UP
Trim Tabs	RESET
Cowl Flaps	OPEN

POSTFLIGHT SHUTDOWN AND SECURING

Brakes	HOLD
Throttle	1000 RPM
Avionics Power Switch, Electrical Equipment	OFF
Mixture	IDLE CUT-OFF
Ignition Switch / Keys	OFF & OUT
Master Switch	OFF
Fuel Selector	LEFT OR RIGHT
Control Lock	INSTALL
Aircraft	SECURE AS REQUIRED
Postflight Inspection & Paperwork	COMPLETE

ENGINE FAILURE DURING TAKEOFF RUN

Throttle	IDLE
Brakes	APPLY
Wing Flaps	RETRACT
Mixture	IDLE CUT-OFF
Ignition & Master Switches	OFF

ENGINE FAILURE IMMEDIATELY AFTER TAKEOFF

Airspeed	70 KIAS (FLAPS UP) / 65 KIAS (FLAPS DOWN)
Mixture	IDLE CUT-OFF
Fuel Selector Valve	OFF
Ignition Switch	OFF
Wing Flaps	AS REQUIRED (30° RECOMMENDED)
Master Switch	OFF

ENGINE FAILURE DURING FLIGHT

Airspeed	75 KIAS
Carburetor Heat	ON
Fuel Selector Valve	BOTH
Mixture	RICH
Auxiliary Fuel Pump	ON AS REQUIRED
Ignition Switch	BOTH (OR START IF PROPELLER IS STOPPED)
Primer	IN AND LOCKED

EMERGENCY LANDING WITHOUT ENGINE POWER

Airspeed	75 KIAS (FLAPS UP) / 65 KIAS (FLAPS DOWN)
Mixture	IDLE CUT-OFF
Fuel Selector Valve	OFF
Ignition Switch	OFF
Landing Gear	DOWN (UP IF TERRAIN IS ROUGH OR SOFT)
Wing Flaps	AS REQUIRED (30° RECOMMENDED)
Doors	UNLATCH PRIOR TO TOUCHDOWN
Master Switch	OFF WHEN LANDING IS ASSURED
Touchdown	SLIGHTLY TAIL LOW
Brakes	APPLY HEAVILY

FIRE DURING START ON GROUND

Cranking	CONTINUE
<i>If engine starts:</i>	
Power	1700 RPM FOR A FEW MINUTES
Engine	SHUTDOWN AND INSPECT FOR DAMAGE
<i>If engine fails to start:</i>	
Throttle	FULL OPEN
Mixture	IDLE CUT-OFF
Cranking	CONTINUE
Fire Extinguisher	OBTAIN
Engine	SECURE
Ignition & Master Switches	OFF
Fuel Selector Valve	OFF
Fire	EXTINGUISH
Fire Damage	INSPECT

ENGINE FIRE IN FLIGHT

Mixture	IDLE CUT-OFF
Fuel Selector Valve	OFF
Master Switch	OFF
Cabin Heat and Air	OFF (EXCEPT OVERHEAD VENTS)
Airspeed	105 KIAS
<small>(If fire is not extinguished, increase glide speed to find an airspeed which will provide an incombustible mixture)</small>	
Forced Landing	EXECUTE
<small>(As described in Emergency Landing Without Engine Power)</small>	

WING FIRE

Landing & Taxi Light Switches	OFF
Pitot Heat Switch	OFF
Navigation Light Switch	OFF
Strobe Light Switch	OFF
<small>(NOTE - Perform a sideslip to keep the flames away from the fuel tank and cabin, and land as soon as possible using flaps only as required for final approach and touchdown.)</small>	

ELECTRICAL OR CABIN FIRE IN FLIGHT

Master Switch	OFF
Avionics Power Switch	OFF
All Other Switches (except ignition switch)	OFF
Vents/Cabin Air/Heat	CLOSED
Fire Extinguisher	ACTIVATE

(WARNING - After discharging an extinguisher within a closed cabin, ventilate the cabin)

<i>If fire appears out & electrical power is necessary for continuance of flight:</i>	
Master Switch	ON
Circuit Breakers	CHECK FOR FAULTY CIRCUIT, DO NOT RESET
Radio Switches	OFF
Avionics Power Switch	ON
Radio/Electrical Switches	ON
<small>(One at a time, with delay after each until short circuit is localized)</small>	
Vents/Cabin Air/Heat	OPEN
<small>(When it is ascertained that fire is completely extinguished)</small>	
Land the airplane as soon as possible to inspect damage after cabin fire	

LANDING GEAR FAILS TO EXTEND

Master Switch	ON
Landing Gear Lever	DOWN
Landing Gear and Gear Pump Circuit Breakers	IN
Emergency Hand Pump	EXTEND HANDLE AND PUMP
<small>(Perpendicular to handle until resistance becomes heavy -- about 35 cycles)</small>	
Gear Down Light	ON
Pump Handle	STOW

GEAR UP LANDING

Landing Gear Lever	UP
Landing Gear and Gear Pump Circuit Breakers	IN
Runway	SELECT
<small>(Longest hard surface or smooth sod runway available)</small>	
Wing Flaps	30° (ON FINAL APPROACH)
Airspeed	65 KIAS
Doors	UNLATCH PRIOR TO TOUCHDOWN
Avionics Power and Master Switches	OFF (LANDING ASSURED)
Touchdown	SLIGHTLY TAIL LOW
Mixture	IDLE CUT-OFF
Ignition Switch	OFF
Fuel Selector Valve	OFF
Airplane	EVACUATE

LANDING w/o POSITIVE GEAR LOCKING INDICATION

Before Landing Check	COMPLETE
Approach	NORMAL (FULL FLAP)
Landing Gear and Gear Pump Circuit Breakers	IN
Landing	TAIL LOW AS SMOOTHLY AS POSSIBLE
Braking	MINIMUM NECESSARY
Taxi	SLOWLY
Engine	SHUTDOWN BEFORE INSPECTING GEAR

AMMETER SHOWS EXCESSIVE RATE OF CHARGE

(Full Scale Deflection)

Alternator	OFF
Alternator Circuit Breaker	PULL
Nonessential Electrical Equipment	OFF
Flight	TERMINATE AS SOON AS PRACTICAL

LOW-VOLTAGE LIGHT ILLUMINATES DURING FLIGHT

(Ammeter Indicates Discharge - Not associated with low RPM)

Avionics Power Switch	OFF
Alternator Circuit Breaker	CHECK IN
Master Switch	OFF (BOTH SIDES)
Master Switch	ON
Low-Voltage Light	CHECK OFF
Avionics Power Switch	ON
<i>If low-voltage light illuminates again:</i>	
Alternator	OFF
Nonessential Radio and Electrical Equipment	OFF
Flight	TERMINATE AS SOON AS PRACTICAL