

PREFLIGHT**COCKPIT SAFETY CHECK**

Magnetos (4)OFF
 MixturesCUTOFF
 ThrottlesCLOSED
 Gear SelectorDOWN

Hobbs & Tach RECORD
 Documents (A(R)ROW) CHECK
 Flight controlsRELEASE
 Gear Selector DOWN
 Parking brake released AS REQUIRED
 Cowl Flaps OPEN
 Fuel Selectors ON
 Avionics Master OFF
 Electrical Switches OFF
 Master switch ON
 Gear lights 3 GREEN
 Fuel gauges CHECK
 Annunciator panelTEST
 Pitot heat (if IMC or Night) ON, CHECK, OFF
 Exterior lights ON, CHECK, OFF

DAY - Landing Lights, & Strobes**NIGHT - Landing Lights, Strobes & Nav Lights**

Master switch OFF
 Altimeter FIELD ELEVATION
 Magnetic compass CHECK
 Alternate static NORMAL
 Pitot & static drains DRAIN
 Flight controls CHECK
 Flaps EXTEND
 Fire extinguisher CHECK
 Windows CHECK
 Emergency exit CHECK

RIGHT WING

Fuel sumps DRAIN NO DRIPS
 General condition CHECK & CLEAR
 Flap CHECK
 Ailerons (& static wicks if installed) CHECK
 Wingtip CHECK
 Tie down/chock REMOVE
 Fuel tank vent CHECK
 Fuel tank & cap CHECK
 Scupper drain CHECK
 Cowling CHECK
 Oil (6 Qts) CHECK
 Propeller & spinner CHECK
 Alternator belt CHECK
 Engine air inlets & governor CHECK
 Cowl flap CHECK
 Main gear CHECK

NOSE

General condition & leaks CHECK
 Battery vents CLEAR
 Heater air inlet CLEAR
 Cowl NO DEFORMATION FROM HEATER
 Nose gear CHECK
 Tow Bar REMOVED AND STOWED
 Chock (If in place) REMOVE

LEFT WING

General condition CHECK
 Cowling CHECK
 Oil (6 Qts) CHECK
 Propeller & spinner CHECK
 Alternator belt CHECK
 Engine air inlets & governor CHECK

Cowl flap CHECK
 Main gear CHECK
 Fuel tank vent CHECK
 Fuel tank & cap CHECK
 Scupper drain CHECK
 Tie down/chock REMOVE
 Stall Warning Vanes CHECK
 Pitot Tube 3 Holes CHECK
 Wingtip CHECK
 Aileron CHECK
 Flap CHECK

LEFT FUSELAGE

General condition CHECK
 Emergency exit CHECK
 Antennas CHECK
 Fresh air inlet CHECK

EMPENNAGE

Stabilator CHECK
 Trim tab & stall strip CHECK
 Rudder CHECK
 Antennas CHECK
 Tie down REMOVE

RIGHT FUSELAGE

General Condition CHECK
 Antennas CHECK
 Baggage area SECURE
 Baggage door UNLOCKED & LATCHED

BEFORE ENGINE START

Tail Lock IN COCKPIT
 Flaps RETRACT
 Passenger brief COMPLETE
 Seats & seat belts UPRIGHT & SECURE
 Fuel selectors ON
 Circuit breakers CHECK
 Carb heats OFF
 Strobes ON
 Heater OFF
 Propellers MAX RPM
 Mixtures RICH
 Brakes SET & HOLD
 Master & Alt switches ON

ENGINE START

Throttle 1/4" COLD, 1/2" HOT
 Fuel pump ON
 Magnetos ON
 Prime 3-5 SECS IF COLD
 Propeller area CLEAR
 Starter ENGAGE
 Throttle 800 RPM
 (No Higher Than 1000)

Oil pressure CHECK
 L Gyro Vac PRESSURE & BUTTON IN
 ENGINE Fuel pump OFF
 Mixture LEAN
**REPEAT FOR RIGHT ENGINE BELOW 20°F, WAIT
 5 MINS BEFORE STARTING OTHER ENGINE. DO NOT
 EXCEED 1500RPM**

BEFORE TAXI

LEFT Fuel selector X-FEED 30 SECS then ON
RIGHT Fuel selectorX-FEED 30 SECS then ON
 Avionics master ON
 LightsAS APPROPRIATE
 Autopilot TEST & OFF

Transponder (1200) ALT
 Radios SET
 ATISCHECK
 Flight instruments SET
 Navigation SET
Fuel selectors ON
 Radio CLNC, GROUND/CTAF

TAXI

Parking Brake CHECK RELEASED
 Brakes CHECK
 Flight instruments CHECK

ENGINE RUNUP

Brakes SET & HOLD
 Mixtures (<5000') RICH
 Throttles 1500 RPM
 Props (<500 drop) FEATHER CHECK
 Throttles2000 RPM
 Mags (175/50) CHECK
 Props (<300 drop) CHECK
 Vacuums (4.8-5.2") CHECK
 Engine gauges CHECK
 Ammeters CHARGING
 Annunciator panel TEST
 Carb heat CHECK
 Throttles (min 500) IDLE
 Throttles 1000 RPM
 Flight controls CHECK

BEFORE TAKEOFF

Fuel selectors ON
 Fuel pumps ON
 Propellers MAX RPM
 Cowl flaps OPEN
 Pitot heat AS REQD
 Flight instruments CHECK
 Trims CHECK
 Flaps 0°-10°, SHORT 0°
 Seats & seat belts SECURE
 Door & window SECURE
 Takeoff briefing COMPLETE
 Radio TOWER/CTAF
 Lights TAXI RECOG STRBS
 When cleared onto runway ON

TAKEOFF

Mixtures (<5000') RICH
 Throttles FULL
 Power (2700) CHECK
 Engine gauges CHECK
 Airspeed CHECK
 Rotate (norm/short) 75/70
 Initial Climb 88 (Blue Line)

CLIMB

Flaps RETRACT
 Gear UP
 Power/Props AS REQD
 Airspeed 105/500'/minute
 Cowl flaps AS REQD

CRUISE

Fuel pumps OFF
 Power/Props AS REQD
 Mixtures LEAN AS REQD
 Cowl flaps AS REQD

FREQUENCIES**HANSCOM - KBED**

ATIS124.6
 GROUND121.7
 TOWER118.5
 BOS APP124.4
 Signature (or 781-274-0010).....130.8

PRACTICE AREA - ALL123.5**NORWOOD - KOWD**

ATIS119.95
 GROUND121.8
 TOWER126.0
 BOS APP120.6 / 124.1
 Flight Level (or 781-769-8680) 129.42

EMERGENCY (GUARD)..... 121.5**NASHUA - KASH**

ATIS125.1
 GROUND121.8
 TOWER133.2
 BOS APP124.9
 Infinity (or 603-598-4526) 129.75

DESCENT

Power/Props AS REQUIRED
 Mixture RICH/AS REQUIRED
 Fuel selectors ON
 Fuel pumps ON
 Cowl flaps AS REQUIRED
 Carb heat..... AS REQUIRED
 Seats & seat belts UPRIGHT & SECURE

APPROACH & LANDING

Downwind 100 KTS
Gear (<140) DOWN
 Mixtures (<5000') RICH
 Propellers 100KIAS MAX RPM
 Carb heats..... AS REQD
 Flaps (<111) AS REQD
 Landing (0°)..... 80-90 KTS
 Landing (40°) 75-85 KTS

AFTER LANDING

Radio GROUND/CTAF
 RPMs 1000
 Carb heats OFF
 Pitot Heat OFF
 Flaps RETRACT
 Cowl flaps OPEN
 Fuel pumps OFF
 Mixtures LEAN
 Transponder 1200
 Heater FAN on 2 MINS OFF
 Transponder 1200

SHUTDOWN

Call for fuel AS REQD
 Avionics master OFF
 Electrical switches OFF
 Throttles IDLE
 L Mixture CUTOFF
 Gyro CHECK L BUTTON OUT / RIGHT BUTTON IN
REPEAT FOR RIGHT ENGINE
 Magnetos OFF
 Master & Alt switches OFF
 Cowl flaps OPEN
 Hobbs & tach RECORD
 Flight controls SECURE
 Tie downs SECURE
 Cover ON

EMERGENCY PROCEDURES

NOTE: NOT ALL EMERGENCY PROCEDURES ARE HERE

Check POH for additional procedures

ENGINE FIRE DURING START

Mixtures BOTH TO CUTOFF
 Throttle affected engine OPEN
 Starter affected engine CONTINUE CRANKING
 Fuel pumps OFF
 Fuel selectors OFF
Evacuate to rally point

ENGINE FAIL ON TAKEOFF

Throttles CLOSED
 If airborne IF RUNWAY AVAILABLE - LAND
 Brakes AS REQD
If insufficient runway:
 Mixtures OFF

Fuel OFF
 Mags OFF
 Masters OFF

ENGINE FAIL - CLIMB

Mixtures FORWARD
 Props FORWARD
 Throttles FORWARD
 Flaps UP
 Gear CHECK UP
 Airspeed 88 KTS
 Inop engine IDENTIFY & VERIFY
 Inop engine throttle CLOSE
 Inop eng prop FEATHER
 Bank to good engine 2-3°
 Rudder HALF BALL TO OPERATING ENGINE

GO TO ENGINE FAIL SECURE CHECKLIST**ENGINE FAIL SECURE****WHEN AT SAFE ALTITUDE AND AIRCRAFT UNDER CONTROL****On the IN-OP engine:**

Throttle CLOSE
 Prop FEATHER
 Mixture CUTOFF
 Cowl flap CLOSE
 Alternator OFF
 Mags OFF
 Fuel pump OFF
 Fuel selector OFF
 Electrical load REDUCE
 Crossfeed AS REQD

FUEL CROSSFEED**Opp tank to opp engine:**

Operating engine - fuel selector X-FEED
 Refer to Section 3 POH

ENGINE FAIL IN FLIGHT**AT A SAFE ALTITUDE**

Airspeed >88 KTS
 Mixtures FORWARD
 Props FORWARD
 Throttles FORWARD
 Flaps, Gear CHECK UP
 Inop eng TROUBLESHOOT

ENGINE TROUBLESHOOT

Inop eng IDENTIFY & VERIFY
 Inop eng carb heat ON
 Fuel Selectors ON
 Inop eng AIR START

ENGINE AIR START

Fuel selector ON/X-FEED
 Mags ON
 Fuel pump ON
 Mixture RICH
 Throttle OPEN ¼"
 Propeller MAX RPM
 Starter ENGAGE IF REQD
 Throttle REDUCE TO WARM
 Alternator switch ON

ENGINE ROUGHNESS

Carb heat ON
 If still rough after 1 minute:
 Carb heat OFF
 Mixture ADJUST SMOOTH
 Fuel pump ON
 Engine gauges CHECK
 Mags CHECK

Mixture (if one mag) RICH
 Land SOON AS PRACTICAL

ONE ENGINE LANDING

Inop engine SECURE
 Airspeed 90 KTS
 When Landing Assured:
 Gear DOWN
 Flaps 25°

ENGINE FIRE**On the Affected Engine:**

Fuel selector OFF
 Throttle CLOSED
 Propeller FEATHER
 Mixture CUTOFF
 Cowl flap OPEN
 Affected engine SECURE
 Airspeed..... INCREASE TO EXTINGUISH
 Land A.S.A.P

ELECTRICAL FIRE

Master & Alt switches OFF
 Electrical switches OFF
 Vents CLOSED
 Cabin heater OFF
 Fire extinguisher AS REQD
 POH CONSULT
 Land SOON AS PRACTICAL

MANUAL GEAR EXTENSION

Master & Alt switches ON
 Circuit breakers CHECK
 Nav light switch OFF
 Gear bulbs CHECK
 Airspeed <100
 Gear selector DOWN
 Emergency gear knob PULL & LEAVE OUT

SPEEDS KIAS

Va (3800/2700) 135/112
 Vfe 111
 Vlo (up, down) 109,140
 VLe 140
 Vy, Vyse (gear up, 0°) 88
 Vy (gear down, 0°) 78
 Vx (gear down, 0°) 82
 Vsse 82
 Vmc 56
 Vs0 55
 Vs1 57

SPECS

Usable fuel 108gal
 Taxi fuel 2.7gal
 Heater (left tank) 0.5 GPH
 Climb fuel full power 36 GPH
 Crosswind 17 KTS
 Maneuvers 2400/17"/110
 Cruise 75% leaned: 2400, 23.4 GPH
 3000' 24.4", 155
 6000' FT, 160
 Cruise 65% leaned: 2400, 20.4 GPH
 3000 22.0",
 6000' , 151 21.3" 14>
 Simulated Zero Thrust: 82 KIAS, 1850 RPM
 88 KIAS, 2180 RPM
 100 KIAS, 2510 RPM
 110 KIAS, 2690 RPM

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