

**FREQUENCIES**

**BED**  
**ATIS** .....124.6  
**GROUND** .....121.7  
**TOWER**.....118.5  
**BOS APP** .....124.4  
**Signature**..... 130.8  
 .....or 781-274-0010

**OWD**

**ATIS** .....119.95  
**GROUND** .....121.8  
**TOWER**.....126.0  
**BOS APP** .....124.1

**ASH**

**ATIS** .....125.1  
**GROUND** .....121.8  
**TOWER**.....133.2  
**BOS APP** .....124.9

**Practice area-ALL- . 123.5**  
**Emergency (guard) 121.5**

**COCKPIT SAFETY CHECK**

**Magnetos (4)** .....OFF  
**Mixtures** .....CUTOFF  
**Throttles** .....CLOSED  
**Gear selector** ..... DOWN

**PREFLIGHT**

Hobbs & tach ..... RECORD  
 Docs (AROW) .....CHECK  
 Flight controls .....RELEASE  
 Gear selector ..... DOWN  
 Parking brake.AS REQUIRED  
 Cowl flaps.....OPEN  
 Fuel selectors..... ON  
 Avionics master..... OFF  
 Electric switches ..... OFF  
 Master switch..... ON  
 Gear lights..... 3 GREEN  
 Fuel gauges .....CHECK  
 Annunciator panel..... TEST  
 Pitot heat .. ON, CHECK, OFF  
 Ext. lights .. ON, CHECK, OFF  
 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  
 Flap .....CHECK  
 Aileron .....CHECK  
 Wingtip.....CHECK  
 Tie down/chock ..... REMOVE  
 Scupper drain.....CHECK  
 Fuel tank vent .....CHECK  
 Fuel tank & cap .....CHECK  
 Cowling .....CHECK  
 Oil (max 6,min 5.5) ..CHECK  
 Propeller & spinner...CHECK  
 Alternator belt.....CHECK  
 Engine air inlets.....CHECK  
 Cowl flap .....CHECK  
 Main gear .....CHECK

**NOSE**

General condition.....CHECK  
 Battery vents ..... CLEAR  
 Heater air inlet ..... CLEAR  
 Cowl..... NO DEFORMATION FROM HEATER  
 Nose gear .....CHECK  
 Chock..... REMOVE

**LEFT WING**

General condition.....CHECK  
 Cowling .....CHECK  
 Oil (max 6, min 5.5) .CHECK  
 Propeller & spinner...CHECK  
 Alternator belt .....CHECK  
 Engine air inlets.....CHECK  
 Cowl flap .....CHECK  
 Main gear .....CHECK  
 Scupper drain.....CHECK  
 Fuel tank vent .....CHECK  
 Fuel tank & cap .....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 .....CHECK  
 Rudder .....CHECK  
 Antennas .....CHECK  
 Tie down..... REMOVE

**RIGHT FUSELAGE**

General condition..... CHECK  
 Antennas ..... CHECK  
 Baggage area ..... SECURE  
 Baggage Door.....Unlocked

**BEFORE ENGINE START**

Tail Lock.....IN COCKPIT  
 Flaps ..... RETRACT  
 Passenger brief... COMPLETE  
 Seats & seat belts ...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 - L & R**

Throttle .. ¼" COLD, ½" 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**

**BEFORE TAXI**

**LEFT** Fuel selectors.. X-FEED 1 minute then.....ON  
**RIGHT** Fuel selectors X-FEED 1 minute then.....ON  
 Avionics master ..... ON  
 Lights .....AS APPROPRIATE  
 Autopilot.....TEST & OFF  
 Transponder (1200) .....ALT  
 Radios .....SET  
 ATIS.....CHECK  
 Flight instruments .....SET  
 Navigation .....SET  
**Fuel selectors ..... ON**  
 Radio..CLNC, GROUND/CTAF

**TAXI**

Parking Brake.....RELEASE  
 Brakes..... CHECK  
 Flight instruments .... CHECK

**ENGINE RUNUP**

Brakes .....SET & HOLD  
 Mixtures (<5000') ..... RICH  
 Throttles ..... 1500 RPM  
 Props (<500 drop) .....FEATHER CHECK  
 pThrottles ..... 2000 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  
 Lights ..... ON  
 Takeoff briefing... COMPLETE  
 Radio..... TOWER/CTAF

**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

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

**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.. . Ck L BUTTON OUT R-IN  
**REPEAT FOR RIGHT ENGINE**  
 Magnetos..... OFF  
 Master & Alt switches .... OFF  
 Cowl flaps..... CLOSED  
 Hobbs & tach ..... RECORD  
 Flight controls ..... SECURE  
 Tie downs ..... SECURE  
 Cover..... ON

**EMERGENCIES NOTE:**

NOT ALL EPs are here:

**Check POH for additional procedures**

**ENGINE FIRE - START**

Mixture..... CUTOFF  
 Throttle ..... FULL OPEN  
 Starter ..CONTINUE CRANKING  
 Fuel pumps..... OFF  
 Fuel selectors..... OFF

**ENGINE FAIL - TAKEOFF**

Throttles..... CLOSED  
 If airborne RWY AVAIL 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  
 In-op eng.....IDENTIFY & VERIFY  
 In-op eng throttle .... CLOSE  
 In-op eng prop .... FEATHER  
 Bank to good engine ... 2-3°  
 Rudder..HALF BALL to OPG ENG

**GO TO ENG FAIL SECURE CK LIST**

**ENGINE FAIL SECURE**

**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  
 x-feed..... AS REQD

**ENGINE FAIL IN FLIGHT**

Airspeed ..... >88  
 Mixtures ..... FORWARD  
 Props ..... FORWARD  
 Throttles..... FORWARD  
 Flaps, Gear ..... CHECK UP  
 In-op eng .. TROUBLESHOOT

**ENGINE TROUBLESHOOT**

In-op eng .IDENTIFY & VERIFY  
 In-op eng carb heat ..... ON  
 Fuel Selectors.....ON  
 In-op 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**

In-op engine ..... SECURE  
 Airspeed ..... 90  
**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 EXT**

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 ..... 108g  
 Taxi fuel.....2.7g  
 Heater (left tank)... 0.5 GPH  
 Climb fuel full pwr ... 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", 147  
 6000'..... 21.3", 151  
 Simulated Zero Thrust .....  
 .....82 KIAS, 1850 RPM  
 .....88 KIAS, 2180 RPM  
 ..... 100 KIAS, 2510 RPM  
 ..... 110 KIAS, 2690 RPM

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