

Condition Inspection Checklist

Date: _____

empennage

left elevator

- check skins for cracks
- check counterweight area for cracks
- inspect hinges, check for loose bushings
- lubricate hinges

right elevator

- check skins for cracks
- check counterweight area for cracks
- inspect hinges, check for loose bushings
- check trim tab servo flexible cable
- check trim tab skins for cracks
- check trim tab hinges
- check servo drive arm and trim tab horn
- check elevator horn
- check aft elevator push pull tube and ends
- check aft elevator bellcrank

rudder

- check skins for cracks
- check counterweight area for cracks
- check hinges, check for loose bushings
- check right rudder cable to horn connect
- check left rudder cable to horn connect

horizontal stabilizer

- check skins for cracks

vertical stabilizer

- check skins for cracks
- remove left and right inspection covers
- check cables, pulleys, bellcrank
- rotate both rudder pulleys 1/8 turn clockwise
- check horizontal/vertical stabilizer forward junction for cracks

wings

wing tip

- check wing tip for cracks
- remove wing tip
- check for fuel leaks
- check fuel vents
- check pitot tube attachment integrity
- check pitot tubing
- check pitot heat operation
- check electrical wiring integrity
- check all visible wing fiberglass for cracks/delamination
- check strobe power supply attachment integrity
- check strobe light attachment integrity
- remove and clean strobe light lens, check sockets
- check navigation light operation
- check strobe light operation
- replace wingtip

 aileron

- ___ ___ check skins for cracks
- ___ ___ check counterweight
- ___ ___ check counterweight attachment area for cracks
- ___ ___ check hinges
- ___ ___ check push/pull tube connect

flap

- ___ ___ check skins for cracks
- ___ ___ check hinges
- ___ ___ check push/pull tube connect
- ___ ___ operate flap over entire range

wing external

- ___ ___ check skins for cracks
- ___ ___ check fuel drains for leaks
- ___ ___ check fuel filler cap O rings

wing internal

- ___ ___ remove all inspection covers
- ___ ___ remove landing gear cover
- ___ ___ check tie down supports
- ___ ___ check aileron bell crank and push pull tube ends
- ___ ___ check aileron torque tube and push pull tube ends
- ___ ___ check flap push pull tube and torque tubes
- ___ ___ check for fuel leaks
- ___ ___ check fuel lines, fittings, plates, clamps
- ___ ___ check landing gear attach at rib J (inboard rib)
- ___ ___ check landing gear attach at rib R (outboard rib)
- ___ ___ check landing gear
- ___ ___ check brake line
- ___ ___ check electrical wiring and antennas
- ___ ___ check pitot tubing
- ___ ___ check carry through to fuselage security bolts and plates
- ___ ___ check all visible wing fiberglass for cracks/delamination

landing gear

- ___ ___ remove brake fairings
- ___ ___ remove wheel pant
- ___ ___ clean mud/debris from inside of pant, check for cracks
- ___ ___ check gear faring for cracks
- ___ ___ check axle attachment integrity
- ___ ___ check brake line
- ___ ___ check brakes for leaks/wear/cracking
- ___ ___ check brake lining for 1/8" material
- ___ ___ check wheel for cracks
- ___ ___ pack wheel bearings
- ___ ___ check wheel bearings for proper operation
- ___ ___ check tire wear, rotate as necessary
- ___ ___ check tire inflation, 65psi mains, 32psi nose

fuselage exterior

- ___ check entire skin for cracks with special attention to:
- ___ engine mount gusset area
- ___ nose gear support area
- ___ door hinge area
- ___ forward shear tie area
- ___ carry through area

aft shear tie area

- ___ empennage to fuselage attach area
- ___ check windows for cracks

door

- ___ check interior and exterior skins for cracks
- ___ check window for cracks
- ___ check hinge area for cracks
- ___ check hinges
- ___ clean, check, lubricate deadbolts and their receivers
- ___ check handle and latch mechanism
- ___ check strut and strut attach points
- ___ check seal

cabin (aft to front)

- ___ remove seats
- ___ remove BL162 cover
- ___ remove antenna shelf
- ___ check all visible tailcone fiberglass for cracks/delamination
- ___ check transponder antenna
- ___ check electrical wiring
- ___ check GPS antenna
- ___ check antenna ground plane
- ___ check ELT antenna
- ___ check ELT mount/attach integrity
- ___ check ELT battery replacement date: _____
- ___ verify ELT is armed
- ___ check cables for chafing/wear
- ___ rudder tension: _____
- ___ elevator tension: _____
- ___ check pulleys/pulley assembly
- ___ check turnbuckle integrity
- ___ check aft seat/shoulder belt connect points
- ___ check aft seat connect points
- ___ inspect all visible fiberglass in aft seat area
- ___ remove rear center console cover
- ___ check pulleys/cables
- ___ check aft shear tie fiber glass, plates and bolts
- ___ check brake line entry into fuselage
- ___ remove flap actuator cover
- ___ vacuum inside cabin

flap actuator system

- ___ check torque tubes
- ___ check actuator
- ___ check actuator to carry through attach bracket
- ___ check limit switches
- ___ check position sensor
- ___ check electrical wiring
- ___ observe operation over entire range
- ___ adjust digital flap indicator zero and full scale as needed
- ___ check "V" block, pulleys and cables
- ___ check turnbuckle integrity
- ___ check mid elevator bellcrank and associated mechanism
- ___ carry through, fore and aft
- ___ check for cracks/delamination especially at pins
- ___ check carry through to fuselage security bolts
- ___ check carry through pins and securing nuts
- ___ remove forward console cover
- ___ check front seat/shoulder belt connect points
- ___ inspect all visible fiberglass in front seat area
- ___ inspect pulleys/cables in forward console
- ___ check stick mechanism and all push/pull and torque tubes
- ___ check pitot tubing

- ___ check/drain pitot system water trap
- ___ check fore shear tie fiber glass, plates and bolts
- ___ remove fuel select console cover
- ___ check fuel valves
- ___ check all fuel lines/fittings
- ___ remove pulley cover at nose gear support
- ___ check fire extinguisher charge
- ___ remove nose gear support inspection cover
- ___ check pulleys and cables
- ___ check cable connection to rudder torque tubes
- ___ check rudder torque tubes
- ___ check brake pedals
- ___ check brake cylinders
- ___ check brake lines
- ___ inspect engine mount gussets, attack plates and bolts
- ___ check all visible fiberglass for cracks/delamination
- ___ check hot/cool controls for proper operation
- ___ check all wires and tubing under instrument panel
- ___ check vacuum filter (replace as necessary)
- ___ remote ELT head battery replacement date: _____

electrical loads

Turn all switches off including avionics switches. The loads are measured by turning one switch on at time and recording the battery discharge current with that switch on. Be sure the cowling is still attached so the taxi and landing light loads can be measured.

Turn master switch on - record initial voltage and current after turn coordinator has reached top speed. All current readings are negative.

| | | |
|-----------------|---------|-------|
| Initial Voltage | 12.8 | _____ |
| | Amps | Amps |
| Master | 1.5 | _____ |
| Field | 3.7 | _____ |
| Fuel Pump | 4.3 | _____ |
| Pitot Heat | 10.2 | _____ |
| Nav Lights | 8.2 | _____ |
| Strobe Lights | 5.9-7.1 | _____ |
| Taxi Light | 8.7 | _____ |
| Landing Light | 8.7 | _____ |
| Cabin Lights | 1.7 | _____ |
| Panel Lights | | |
| high | 2.1 | _____ |
| low | 1.6 | _____ |
| Avionics | 2.0 | _____ |
| Audio | 2.0 | _____ |
| GPS | 3.5 | _____ |
| Com, rcv | 2.4 | _____ |
| Com, xmit | 4.0 | _____ |
| Nav | 2.6 | _____ |
| Xpndr | 2.6 | _____ |
| Autopilot | ? | _____ |

| | | |
|---------------|-----|-------|
| Flap | | |
| down | 2.8 | _____ |
| up | 3.3 | _____ |
| Trim, hi rate | 1.7 | _____ |

Ending voltage 12.6 _____

- ___ operate trim tab over entire range
- ___ operate at high and low rate settings

-
- verify off setting deactivates trim tab
 - check cooling fan operation
 - check all cabin lights for operation
 - check all panel lights for operation
 - check altimeter see FAR 91.217, 91.413
 - perform pitot static tests as appropriate see FAR 91.217, 91.413

cowling

- inspect exterior for cracking/heat damage
- remove nose gear fairing
- remove upper and lower cowling
- inspect fuselage joggle for cracks
- inspect cowling interior for cracking/heat damage
- inspect cowling interior for baffling chafing
- inspect cowling interior for oil leaks
- inspect taxi/landing lights, mounts and wiring
- inspect oil access door hinges

engine mount

- inspect all welds for cracks
- inspect all tubes for bending/buckling
- inspect lord mounts for cracks
- inspect lord mount bolts
- inspect firewall mount bolts

engine mechanical

- check for oil leaks
- check crankcase for cracks, leaks and seam bolts
- check pushrod tubes
- check valve covers
- check rocker arm covers
- check cylinder head oil return lines
- check inter cylinder baffling
- check baffling/cowling seal
- check cylinder compression
 - #1: _____, #2: _____, #3: _____, #4: _____
- check magneto timing

exhaust

- check gaskets for leaks
- check nuts, flange welds
- check stack for weld cracks, burn through
- check heat muff
- note color of exhaust deposits: _____

fuel system

- check rigid fuel lines and fittings
- check electric pump and mount
- check mechanical pump
- inspect flexible fuel lines and fittings
- inspect injector lines and supports
- inspect fuel injector attachments
- clean injectors as needed
- clean gascolator screen
- clean fuel screen in throttle body
- drain sump at bottom of throttle body
- check pressure sending unit
- check fuel pump cooling air SCAT tubing

air induction

- check throttle body attachment hardware
- check/clean air filter, replace as necessary; Brackett #BA16 or #BA6108

- ___ check SCAT tubing from air filter to throttle body
- ___ check alternate air door operation and light

ignition system

- ___ check condition of spark plugs
- ___ clean, gap and swap top to bottom. 0.016 to 0.019in
- ___ check harness and insulators
- ___ check p-lead connections
- ___ check magneto for oil seal leakage
- ___ check breaker felts for proper lubrication
- ___ check distributor blocks for cracks, burned areas, corrosion
- ___ check engine timing

oil system

- ___ check flexible lines/fittings
- ___ check temp sending unit
- ___ check pressure sending unit
- ___ clean/check oil cooler
- ___ change oil/filter as required
- ___ check filter element for foreign particles
- ___ check oil strainer in oil sump
- ___ check breather tubes

accessories

- ___ check vacuum pump and lines
- ___ check starter mechanical integrity
- ___ check starter electrical connections
- ___ check starter ring/gear for excessive wear
- ___ check alternator mechanical integrity
- ___ check cooling fan for cracks
- ___ check alternator belt for cracks/wear
- ___ check alternator belt for tension, 11-13ftlb new, 7-9ftlb used.
- ___ clean engine, don't contaminate vacuum pump

electrical system

- ___ check battery box for physical integrity
- ___ check battery for physical deterioration
- ___ check battery terminals for corrosion/mechanical integrity
- ___ check all wiring for integrity, chafing
- ___ check manifold vacuum line for integrity

controls, check travel, play, check nuts, etc.

- ___ throttle
- ___ mixture
- ___ governor
- ___ hot air
- ___ cooling air (both sides)

firewall

- ___ check firewall seals
- ___ check cooling air cutoff valves
- ___ check hot air SCAT tubing
- ___ check brake hydraulic fluid level

propeller

- ___ check mounting bolts and wire tie
- ___ check torque if safety paint broken
- ___ remove spinner
- ___ inspect spinner and backing plate for cracks
- ___ inspect blades for nicks and cracks
- ___ inspect hub parts for cracks and corrosion
- ___ check hub bolts

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Follow-up items, "buy", notes

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