

N104CD Annual Condition Inspection Checklist

Location of Inspection: _____ Date of Inspection: _____

Aircraft Owner: _____ Total Airframe Hours: _____

Mechanic: _____ Total Engine Hours: _____

Certificate Number: _____ Total Propeller Hours: _____

* LPS-2 for lubrication of rod ends and bellcranks

Engine

- Remove and inspect upper and lower cowling, inspect hinge pins and eyelets
- Change oil (9 qts) and filter (Champion CH48110) - Send oil sample for analysis
- Cut open and inspect old oil filter for particles
- Remove filtered air box and inspect per SB 96-10-1
- Clean and recharge K&N E-3450 intake air filter and replace F.A.B.
- Inspect alternate air door position (closed)
- Inspect throttle body attachment nuts/bolts
- Inspect crankcase nose seal for oil leaks
- Inspect oil cooler fins and external condition for leaks
- Inspect engine and accessory case for oil leaks and repair as appropriate
- Inspect starter pinion, ring gear for wear and condition, lubricate w/grease
- Inspect starter mountings and lead connection
- Inspect alternator mountings and lead connections
- Inspect alternator and alternator belt condition and tension (Gates 7375XL / 11A0955) 11-13 ft.lbs new, 7-9 ft.lbs used.
- Inspect starter contactor and associated wiring
- Inspect baffles and airseal gaskets for condition
- Inspect heat mufflers, heat boxes and all SCAT hoses
- Inspect engine mount for cracks and inspect engine mount bolts/nuts for cotter pins and/or torque
- Inspect engine mount to sump clearance for any damage due to minimal clearance
- Inspect engine mount elastomer plate per SB 14-8-29
- Inspect shock isolators, mounting bolts and washers for condition
- Inspect firewall for distortion and cracks
- Inspect firewall to engine ground wire
- Inspect all firewall penetrations
- Inspect all wire bundles for security and chafing
- Inspect accessories on rear case
- Inspect engine driven fuel pump with fuel system pressurized
- Inspect crankcase/sump for cracks, leaks and/or missing fasteners
- Inspect exhaust system and mounting brackets for cracks
- Inspect exhaust gaskets for blow-by leaks and re-torque mounting nuts
- Clean/degrease engine
- Perform Differential Compression Test and record

Cylinders: 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ / 80 psi

- Remove and replace upper Lightspeed sparkplug (Denso IK24 or IK27) (Gap: .032"-.040", torque 15ft-lbs)
- Remove lower plugs noting current installed location (Iridium UREM38S)
- Inspect spark plug condition, clean and re-gap (Gap: .016"-.021")
- Replace lower spark plug gaskets (Champion M674K)
- Rotate plug position/polarity, apply anti-seize and reinstall (torque 25 ft-lbs)
- Inspect ignition harness, springs and insulators for condition
- Inspect magneto mounting clamps/nuts for security
- Check magneto timing with buzz box
- Inspect throttle control cable attachment and return spring
- Inspect mixture control cable attachment and return spring
- Inspect prop governor control cable attachment
- Verify govern not covered by MT SB 31 flyweight failure (mine is not)
- Inspect all engine controls for proper movement

NOTES:

Propeller / Spinner

- Grease prop hub (Aeroshell 6) per Hartzell Manual (no more than a couple of pumps of grease!)
- Inspect propeller bolts and safety wiring
- Inspect spinner and backplate for cracks
- Inspect propeller blades for nicks, cracks and/or surface erosion, repair as necessary
- Inspect hub for cracks and/or corrosion
- If removed, re-install propeller mounting bolts, torque, and safety wire noting alignment marks
- Check propeller track

NOTES:

Cabin

- Remove seats, seat backs, interior panels, under-seat inspection panel and all other interior panels
- Inspect gear attach bolts for proper torque
- Remove tunnel cover, baggage bulkhead
- Inspect fuel selector valve operation, lubricate as necessary
- Inspect electric fuel pump
- Pressurize and inspect fuel system for leaks
- Remove filter screen from Electric Fuel pump, clean, and re-install
- Inspect fuel lines in cabin for leaks and chafing
- Inspect rudder pedals, cables and attachments
- Inspect brake masters and associated tubing for leaks
- Inspect control sticks, linkages and push/pull tubes
- Inspect static air lines inside empennage and fuselage for chafing
- Inspect transponder, comm, and GPS antenna mounts and wiring
- Inspect condition of seat belts and shoulder harnesses
- Inspect fire extinguisher condition

- Inspect empennage bulkheads and stringers for cracks and loose rivets
- Inspect elevator and aileron trim servo operation and display
- Inspect battery (Odyssey PC925) and clean or replace as necessary
- Remove flap torque tube inspection cover
- Inspect flap operation for binding
- Inspect flap position sensor and linkage
- Lubricate flap motor arm and all flap connecting rod ends
- Inspect aux batteries and cabling for security and chafing, replace batteries as necessary
- Inspect wire bundles in empennage for security and chafing
- Inspect wire bundles in fuselage sidewalls for security and chafing
- Inspect strobe unit in empennage
- Inspect GADAHRS and MSU for security
- Inspect door latching mechanism and door latch pins and receiver holes
- Inspect canopy, windshield, and rear windows for cracks

NOTES:

Panel

- Inspect instruments, wiring, and attachments
- Inspect instrument lights and dimmers for operation
- Inspect antenna connections and mountings
- Inspect wire bundles underneath panel for security and chafing
- Inspect manifold pressure, pitot, and static tubing for security and chafing
- Inspect instruments, radios, switches, and breakers for operation
- Verify ELT is armed
- Replace ELT batteries (E-04.0 Main Lithium Battery) ** every 5 yrs
- Replace ELT remote sensor battery (1 - Duracell PX28L 6V Lithium) ** every 10 yrs
- Replace ELT alert module battery (1 - CR-2 6V Lithium) ** every 10 yrs
- Inspect fuse panel for condition and wiring chafing
- Check altitude reporting encoder and certification
- Inspect spare fuses available in passenger seat back

NOTES:

Airframe

- Remove wing root fairings
- Inspect wing attach bolts and nuts for proper torque
- Inspect fuel sender wiring for security and chafing
- Inspect flap system and torque tube and attachments for slop
- Inspect flap actuator rod end and jam nut for security and lubricate
- Inspect flap rod end per SB 07-4-12
- Inspect Aileron Pushrods for scraping by aileron trim servo
- Lubricate rod ends for both elevator and aileron control tubes
- Inspect static ports are clear

- Inspect skin for loose rivets, corrosion, and other damage
- Remove empennage fairing and fuselage inspection plates
- Inspect ELT batteries free from corrosion and in-service currency
- Inspect ELT mount
- Inspect rudder and vertical stabilizer for corrosion and condition
- Inspect rudder pivot bolts for proper torque and lubricate
- Inspect rudder trim system
- Inspect rudder control stops for condition
- Inspect rudder cable attachments for security and cotter pin
- Inspect horizontal stabilizer and elevators for corrosion and condition
- Inspect elevator pivot bolts for proper torque and lubricate
- Inspect elevator counterbalance weights for security
- Inspect elevator control stops for condition
- Remove trim actuator access plate and inspect trim nuts for cracks per SB 06-9-20
- Inspect elevator trim tab, arm, and actuator rod for cracks
- Inspect elevator bellcrank, horns and attachments for corrosion, security, and lubricate
- Inspect vertical stabilizer spar attach points for proper torque
- Inspect vertical stabilizer in area of hinges from SB 06-2-3
- Inspect horizontal stabilizer spar attach points for proper torque
- Inspect F-1010 bulkhead reinforced by SB 08-6-1
- Inspect wing structure for corrosion and condition
- Inspect strobe wiring for security and chafing
- Inspect fuel tanks, lines and drains for leaks
- Inspect fuel vents not blocked
- Inspect fuel cap and O-ring condition
- Inspect pitot tube and plumbing for security and blockage
- Inspect landing light fixtures for security
- Inspect landing lights for proper operation
- Inspect strobe and position lights for proper operation
- Inspect aileron attach bolts for proper torque
- Inspect aileron control stops and travel
- Inspect aileron trim tab and actuator rod for cracks and security
- Inspect aileron bellcrank
- Inspect aileron push tubes for condition and security of jam nuts
- Inspect ailerons for joint alignment in neutral position, adjust if necessary
- Inspect aileron hinge bracket per SB 16-03-28
- Lubricate all aileron rod ends
- Inspect OAT probes

NOTES:

Landing Gear

- Remove wheel pants and gear leg covers
- Raise front wheel off ground and inspect side-to-side breakout force of nosewheel, torque if required
- Inspect front nosewheel swivel for security and lubricate front greast fitting
- Inspect nosewheel bearing spacers and bearings for wobble/slop/damage
- Inspect nosewheel WD-631-PC stop flange for proper orientation per SB 14-12-22
- Remove front wheel and re-pack wheel bearings
- Re-install front wheel and torque properly

- Remove main tires and brake assemblies
- Check Brakes and fill reservoir with Hydraulic fluid (MIL-H-5606)
- Check and/or replace Brake linings (p/n Cleveland 66-112, rivets p/n: 105-2)
- Inspect and/or replace Tires (15/6.00-6 Mains & 5.00-5 Front), rotate if necessary (wheels torque: 150 in-lbs DRY)
- Re-Pack wheel bearings with grease
- Fill tires with recommended air pressure (42psi Mains / 40psi Front)
- Check brake cylinders for condition and leaks
- Check brake lines for security and chafing
- Thoroughly clean axle/brake area of dust
- Re-mount wheels, tires, and brake assemblies (torque brakes: 75-80 In-lbs DRY)
- Inspect wheel pants and attach points for cracks and security
- Inspect gear leg covers for cracks and condition, re-install and secure

NOTES:

Close-Up

- Re-install interior panels, seats, flap covers, all access panels, fairings, seats, and seat cushions
- Replace any single-use fasteners or fasteners with damage

Operational Inspection

- Visual inspection of engine/propeller
- All inspection panels and fairings secure
- Brake system check
- Check boost pump for proper pressure
- Oil pressure/oil temperature within limits
- Magneto check
- Ignition switch/both magneto's grounded check
- Check e-bus operation
- Check fuel gauges for operation
- Check for proper idle RPM and RPM rise upon leaning mixture
- Check static run up 2700 RPM
- Check fuel selector for engine shutoff
- Check Flight Controls Free and Correct
- Inspect external Antennas
- Thoroughly clean the aircraft

NOTES:

Documentation

- Verify Registration and Airworthiness Certificate in aircraft
- Verify Operating Limitations is in aircraft
- Verify pre-flight checklist and Pilot's Operating Handbook in aircraft
- Verify external data plate secure and installed
- Review equipment list and update as necessary
- Review AD's and SB's for applicability and compliance
- Verify IFR pitot/static test date and mark on calendar for new test reminder
- Verify BFR date and mark on calendar for BFR reminder
- Verify pilot medical certificate date and mark on calendar for medical reminder
- Document condition inspection and record maintenance performed

NOTES:
