

N11HC CONDITION INSPECTIONS

Table of Contents

8-1.	CONDITION INSPECTION CHECKLIST	1-3
8-1.1.	Service Lives	1-3
8-1.2.	Inspection Times.....	1-3
8-1.3.	Advisory Publications, AD's etc.	1-3
8-1.4.	Parts & Supplies	1-3
8-1.5.	Pre Condition Checks & Prep	1-4
8-1.5.1.	Engine Run-up:	1-4
8-1.5.2.	Engine In Flight Checks:	1-5
8-1.5.3.	External Lights	1-5
8-1.6.	Powerplant and Propeller	1-6
8-1.6.1.	Engine Compression Check.....	1-6
8-1.6.2.	Engine Oil & Filter	1-6
8-1.6.3.	Plugs	1-6
8-1.6.4.	Magnetos	1-7
8-1.6.5.	Engine Controls:.....	1-7
8-1.6.6.	Fuel System:	1-7
8-1.6.7.	Engine & Accessories:	1-8
8-1.6.8.	Propeller and Spinne.....	1-9
8-1.6.9.	Ground Run-up Check	1-9
8-1.6.10.	Cowling Installation	1-10
8-1.7.	Cabin & Fuselage	1-10
8-1.7.1.	Interior Lighting	1-10
8-1.7.2.	General Cockpit Inspection	1-10
8-1.7.3.	Canopy Latch & Lock Mechanisms.....	1-11
8-1.7.4.	Interior Panel Removal.....	1-11
8-1.7.5.	Forward Cabin Checks.....	1-11
8-1.8.	Control System Inspection	1-12
8-1.8.1.	Under Seat Pan Area	1-13
8-1.8.2.	Battery inspection:.....	1-13
8-1.8.3.	Control Tunnel Area	1-13
8-1.8.4.	Aft Fuselage Area:	1-13
8-1.9.	External Fuselage & Belly Pan	1-14
8-1.9.1.	Control Surfaces & Rigging.....	1-14
8-1.9.2.	Low Checks.....	1-14

N11HC CONDITION INSPECTIONS

8-1.10.	Wings & Control Surfaces:.....	1-14
8-1.11.	Landing Gear	1-15
8-1.12.	Post Maint Systems Check:.....	1-16
8-1.13.	Post Maint <i>In-Flight</i> Checks:.....	1-16
8-1.14.	Paperwork.....	1-16
8-1.15.	Completion Sign-Off:	1-17

N11HC CONDITION INSPECTIONS

8-1. CONDITION INSPECTION CHECKLIST

Date Started:

Date Completed:

Hobbs Start:

Hobbs End:

Pay Minnesota's Tax

Last/prior annual inspection completed on _____ at _____ hrs.

This annual inspection procedure details a complete and thorough inspection of the entire airframe, engine and all systems. It is a recommended guide only. If the regular 50 and 100 hour inspections are complied with then many of the inspection items and tasks in this document are redundant and need not apply. These items are noted with an "if required" comment.

8-1.1. Service Lives

- Main Alternator 2000 Hours
- Standby Alternator 1700 Hours
- Regulator (Main Alternator) LR3C-14 Indefinite
- Regulator (Standby Alternator) SB1B-14 Indefinite

8-1.2. Inspection Times

- Starter 50 Hours

8-1.3. Advisory Publications, AD's etc.

- See N11HC [Advisory Publications](#) website for list of items to check

8-1.4. Parts & Supplies

Parts & Supplies Required For Condition Inspection:

- Hartzell Propeller Owners Manual
- Lycoming Service Bulletins & Letters (see section IX-A)
- Oil, Oil Filter (CH-48110)
- Oil Analysis Kit
- Filter Wrench, Drain Hose, Trash Bag
- Fuel Filter: Fram HPGC1 (NAPA p/n: 3900R),
- Filter Bowl Retaining Bolt Stat-a-Seal Washer (S-H p/n: 620-7500-038)
- Fuel Lube Lubricant (for above washer)
- Bracket Air Filter Element p/n: BA-23 (or entire filter assy BA-110)
- Aeroshell 6 Grease (Prop Hub Lube) (if required)
- Grease Gun (Prop Hub) (if required)
- Wheel Bearing Grease (Blue)
- LPS-2 Lubricant or Tri-Flow non-drying penetrating lube.
- Degreaser Solvent/Cleaner (cowling/engine compartment)

N11HC CONDITION INSPECTIONS

- Injector Servo Fuel Inlet Fitting Oring (may not be needed - check before reinstalling).....□
- .032 Stainless Steel Safety Wire (prop bolts).....□
- Brake Pads (Cleveland #66-106), Rivets, Rivet Tool (if required).....□
- Torque Wrench.....□
- Air Compressor, Hose & Filtered Nozzle.....□
- Tire Pressure Gage.....□
- Differential Compression Tester.....□
- Magneto Timing Box.....□
- Slick Mag Timing Lock Pin (if mags are to be removed for inspection/servicing).....□
- Angle Finder (Elevator, Aileron & Flap travel).....□
- Rudder Travel Jig.....□
- Misc Screws: AN509-10R10 (MS24694-S52) Belly Pan; Wing Tip:S56, S57, S58.....□
- Part Cups/cans/small boxes.....□
- 4 Small jars or cans with tops for soaking fuel injectors.....□
- 12 mm box wrench or socket for starter terminal nut.....□

8-1.5. Pre Condition Checks & Prep

Preliminary Condition Checks & Preparation

8-1.5.1. Engine Run-up:

- Start the engine and warm it up thoroughly. Check the following: Note OAT:_____.....□
- Set parking brake and run engine at 2000 RPM for the following checks:.....□
- Left magneto drop (switch to L position):_____rpm.....□
- Right magneto drop (switch to R position):_____rpm.....□
- Propeller control and governor action (do not exceed 500 RPM drop).....□
- Oil Temp:_____ Oil Pressure: Idle (800 rpm):_____ 2000 rpm:_____.....□
- Static RPM - Idle:_____.....□
- Main Alternator output - Idle: Voltage:_____ Amps: _____.....□
- Secondary Alternator output - Idle: Voltage:_____ Amps: _____.....□
- Parking brake - operation and will hold at 2000 rpm.....□
- Magneto ground: Shutoff engine with key switch. Warning: let engine come to a complete stop - do not turn key on or a backfire will occur and damage the exhaust! Be sure to restart engine and shut down with mixture cut-off to insure no combustible fuel remains in the cylinders which would create a serious prop hazard.....□
- Remarks:

N11HC CONDITION INSPECTIONS

8-1.5.2. Engine In Flight Checks:

- Prepare for take-off. Perform the following in-flight checks:□
- Take Off Roll - Full throttle RPM: _____ Manifold Pressure:.....□
- Check engine operation on all fuel selector valve positions (__Header, __Left, __Right).....□
- Alternator full load output - (2000 rpm min): Volts: _____ Amps:_____ **□
- ** Full load output: check with all equipment turned on: Nav lights, Strobe Lights, Landing Lights, Interior Lights, Fuel Pump, Pitot Heat, All Avionics & COM Xmit. Cycle gear (in-flight only!) and operate flap motor to draw maximum current.□
- Check cabin heat and defrost functioning properly.□
- Note OAT:_____ Cruise Oil Temp:_____ Max Climb Oil Temp:_____□
- Oil Pressure (Hot, 2400 RPM):.....□
- Accomplish [Flight Test Profile items](#) from Jan 2012 Sport Aviation□
- Return to airport & land.□
- Mixture cutoff RPM rise at idle:.....□
- Check functioning of ELT - 1st 5 min of the hour: Trigger for 3 cycles max. Listen on 121.5.....□
- Remarks:

8-1.5.3. External Lights

- External Lights - Check security and operation - Prior to removing cowling.□
- Nav Lights - Left (red):_____ Tail (white):_____ Right (green):_____□
- Strobe Lights - Left: _____ Right:_____ Tail: _____□
- Landing/Taxi Light: _____ WigWag Lights:.....□
- Remarks:

N11HC CONDITION INSPECTIONS

8-1.6. Powerplant and Propeller

8-1.6.1. Engine Compression Check

while engine still Hot (if required):

- Remove the engine cowl and check for leaks and stains.....□
- Secure oil cooler to fuse/cowl hinge with temporary mounting fixture.....□
- Check engine for any Oil Leaks or Fuel Leaks.....□
- Perform compression check per Lycoming Service Instruction 1191-A□
- #1: #2: #3: #4:.....□
- Record results in Engine Log Book.□
- Last (prior) Compression Check @ _____ hrs.□
- Remarks:

8-1.6.2. Engine Oil & Filter

Engine Oil & Filter Change, while engine still Hot (if required):

- Drain oil & replace spin-on filter. Take oil sample for analysis.□
- Safety wire filter.□
- Refill with new oil.....□
- Last (prior) Oil & Filter Change @ _____ hrs.□
- Remarks:

8-1.6.3. Plugs

Plug Rotation Cleaning & Gapping (if required):

- Clean, Gap & Rotate spark plugs (Gap .016-.022)- note measured plug gap as removed.....□
 - []1T<-->4B 1T Gap: 4B Gap:
 - []2B<-->3T 2B Gap: 3T Gap:
 - []1B<-->4T 1B Gap: 4T Gap:
 - []2T<-->3B 2T Gap: 3B Gap:
- Check ignition harness for breaks; check cigarettes and contact springs.□
- Clean cigarettes and contact springs with alcohol - (do not touch springs with fingers)□
- Re-install spark plugs (420 in-lbs/35 ft-lbs)□
- Re-install ignition leads. Torque lead nuts 80-90 in-lbs max (dry).....□
- Last (prior) Plug Rotation & Cleaning @ _____ hrs.□
- Remarks:

N11HC CONDITION INSPECTIONS

8-1.6.4. Magnetos

Magnetos: 100 hr Inspection (if required):

- See Slick service manual for 500 hr inspection, removal & service.....
- Inspect security of mounting bolts & Ignition harness cap.....
- Check security of P-leads (15 IN-LBS MAX) and check wires for breaks or frays.
- Check security of Mag ground wires and check wires for breaks or frays.....
- Check and adjust magneto timing per Lycoming: 25 deg BTDC (if not recently done).
- Note timing - LEFT Before:_____ After:_____ Right Before_____ After:_____.....
- Torque magneto clamp down nuts to 17 ft-lbs (204 in-lbs) max or the flange may become permanently damaged.....
- Last (prior) Mag 100 hr inspection @ _____ hrs.
- Remarks:

8-1.6.5. Engine Controls:

Check the following controls for security, full range of travel, interference, rubbing or chafing of the control linkage/arms through the full range of travel.

- Lubricate if necessary.....
- Throttle.
- Mixture.....
- Prop pitch control.....
- Inspect each mounting clamp and cable housing end keeper for wear or looseness. Replace any aluminum keeper with a steel keeper if it shows signs of wear from vibration.
- Remarks:

8-1.6.6. Fuel System:

- Drain the fuel tank sumps and check for contaminants. Remove and clean the fuel sump strainers (finger screens) if excessive contamination is apparent.
- Inspect & replace fuel filter element & Stat-O-Seal washer. Lube Stat-o-Seal & bolt with thin film of fuel lube to prevent rubber seal damage. Safety wire filter bowl bolt.....
- Remove and clean injector servo body fuel inlet screen. Replace o-ring if necessary.....
- Check fuel flow through fuel line with electric fuel pump ON.....
- Remove fuel injectors - use 6 point socket. Identify cylinder and keep separate.
 - Do not mix injectors or components.
- Clean Fuel Injector Nozzles w/ Hopps #9 to remove all gum and varnish.
DO NOT SOAK MORE THAN 1 HOUR!
- Re-install Fuel Injector Nozzles - do not use thread sealant.
Re-torque injectors to 60 in-lbs using 6 point long reach socket.
- Torque injector line B-nuts to 25-50 in-lb max. Do Not Over Tighten. Per SB 1414A
- Last (prior) Fuel Injector Check & Cleaning done at @ _____ hrs; date:_____.....
- Remarks:

N11HC CONDITION INSPECTIONS

8-1.6.7. Engine & Accessories:

General Engine Compartment and Engine Accessories:

- Inspect alternator: mounting, wiring, terminals for security and condition.□
- Check field connector plug and grip of connectors on spade terminals. Pinch down female connector for firm/tight sliding grip on male spade terminals if required.□
- Inspect alternator belt and adjust tension, if needed.□
- Inspect starter: mounting bolts, wiring & terminals for security & condition.....□
- Remove cabin heat muff scat hoses and check exhaust for cracks. (Soot on the inner surface of the heat muff indicates a crack). Remove the heat muff from the exhaust pipe for further inspection if any trace of exhaust soot is found indicating a crack exists.□
- Carefully inspect all welded exhaust joints paying close attention to the welded "Y" joints.....□
- Check exhaust springs & safety wire, gaskets and shrouds for security and cracks.....□
- Check cylinder baffles for cracks and proper seal.□
- Check engine mount and braces for security, rust, chafing, cracks & condition of rubber bushings and bonding straps.....□
- Check engine mount to firewall securing bolts. Torque to 200 in-lbs min. Note that these become loose over time due to heating of the fiberglass firewall mounting surface allowing it to shrink and/or compress.□
- Check engine for loose nuts, bolts and screws. **Check Acc. Case Ground Lug Bolt**□
- Check oil cooler and lines for security, chafing, signs of leaks and obstructions.□
- Check all breather and overboard lines for security and obstruction.1□
- Inspect injector body, fuel pump and fuel filter fuel lines for security and leaks.□
- Check fuel distributor/fuel injector fuel lines for cracks, nicks, sharp bends or leaks.□
- Inspect cabin heat box and control for security. Check hoses for security and leaks.....□
- Inspect manifold pressure hose from cylinder fitting to firewall fitting for security, chafing and leaks.□
- Inspect the induction air filter and clean with compressed air. Replace if it is difficult to see light through it due to foreign material or if it has been in service for 12 months or 200 hours since last replacemen (per Brackett Instructions). BA-110 assy; BA-23 Element.□
- Clean engine and cowling, using a suitable solvent or degreaser to remove all traces of oil, soot, dirt and fuel stains.....□
- Check cowling for chafing, cracks or heat damage.□
- Check taxi & landing lights for security. Check wire terminal connections snug.□
- Top up brake fluid reservoir, leave an air space for fluid expansion.□
- Check engine for any loose hardware and tools that may have been left in the engine compartment during maintenance.□
- Check the main alternator externally for security of mounting and wiring. Belt tension should be checked by making sure that the alternator pulley may not be rotated by hand inside the belt. Alternately, approximately 50 Lbs. belt tension may be used. The belt should be checked for cracking or fraying and replaced if these conditions are found. ([IAW B&C](#))□
- Check the Standby alternator externally for security of mounting and wiring ([IAW B&C](#))□
- Check the main and standby regulator ([LR3C-14](#)) ([SB1B-14](#)) externally for security of mounting, tightness of terminal screws, and chafing or breakage of wiring. (IAW B&C). Hyperlink also has info on the calibration of the SB1B-14.....□
- Remarks:

N11HC CONDITION INSPECTIONS

8-1.6.8. Propeller and Spinne

Propeller and Spinner (grease only if > 100 hrs since last grease):

- Remove propeller spinner and check spinner, front plate and back plate for security and cracks.□
- Inspect propeller track.□
- Check blades for nicks. Repair nicks per Hartzell Propeller Owners Manual.....□
- Remove mounting bolt safety wire. Check torque of mounting bolts (60-70 ft-lbs). Resafety bolts with .032 Stainless Steel safety wire.....□
- Grease propeller hub. Aeroshell 6 per Hartzell Prop Manual No. 115N Rev 5 pg 605-606. Remove the rubber lubricaps from all four fittings (pull off - do not remove safety wire). Remove the engine-side (rear) fitting from each blade socket. Remove any hardened grease with safety wire. Pump 1 fl.oz grease (maximum) into each cylinder-side (front) fitting, or until grease emerges from the opposite hole where the fitting was removed - whichever occurs first. Note: one (1) ounce grease is aprox 6 pumps on hand held grease gun. DO NOT USE AIR AN ASSISTED GREASE GUN.....□
- Reinstall spinner. Do not overtighten spinner screws.....□
- Make an entry in propeller log book of this inspection and any maintenance performed.....□
- Remarks:

8-1.6.9. Ground Run-up Check

Ground Run-up Check (After Engine Maintenance Completed):

- Start the engine and warm it up thoroughly. Check the following: Note OAT:_____□
- Set parking brake and run engine at 2000 RPM for the following checks:□
- Check engine operation on all fuel selector valve positions (__Header, __Left, __Right).....□
- Left magneto drop (switch to L position):_____rpm.□
- Right magneto drop (switch to R position):_____rpm.□
- Propeller control and governor action (do not exceed 500 RPM drop).□
- Suction Gage Vacuum: @Idle:_____ 1000 rpm:_____ 1400:_____ 2000:_____ □
- Oil Temp:_____ Oil Pressure: Idle (800 rpm):_____ 2000 rpm:_____ □
- Static RPM - Idle:_____ □
- Main alternator output - Perform an operational test to determine that the main alternator maintains the aircraft electrical bus at the approximate regulator set point as loads are added and removed (at high loads, cruise RPM may be required).□
- Standby alternator -- perform the before takeoff test described under the "Final Test" described in the B&C installation drawing.□
- Main Alternator Regulator -- check to determine that the regulator maintains the aircraft electrical bus at its approximate set point as loads are added and removed (at high loads, cruise RPM may be required).□
- Parking brake - operation and will hold at 2000 rpm.□
- Magneto ground: Shut off engine with key switch. Warning: let engine come to a complete stop - do not turn key on or a backfire will occur and damage the exhaust! Be sure to restart engine and shut down with mixture cut-off to insure no combustible fuel remains in the cylinders which would create a serious prop hazard.□

N11HC CONDITION INSPECTIONS

- Mixture cutoff RPM rise at idle: _____ □
- After engine shut-down, carefully check for any oil or fuel leaks. □
- Remarks:

8-1.6.10. Cowling Installation

- Replace Taxi and/or Landing Lights if necessary. □
- Adjust taxi and landing light positions if required. □
- Pre-Cowling Check: □
 - Check: Oil cooler secure w/ pins & safety screws. □
 - Check: Taxi/Ldg Light Connectors □
 - Check: Side Hinge Pins Secure □
 - Check: Induction SCEET Tube Secure - No Rips. □
 - Check: Lower Cowling Screws. □
- Reinstall upper cowling. Check all screws secure. □
- Verify operation of Taxi & Landing Lights. □
- Remarks:

8-1.7. Cabin & Fuselage

8-1.7.1. Interior Lighting

Interior Lighting (prior to removing interior components & console):

- Baggage Compartment/Interior Flood Light □
- Map/Reading Lights. □
- Panel Flood Lights. □
- Instrument Post Lights & Dimmer. □
- Internal Instrument Lights & Dimmer □
- Remarks:

8-1.7.2. General Cockpit Inspection

- Check instruments for security, legibility and markings. □
 - Check the fuel tank gauges and senders, if applicable, for proper markings, indication, and freedom of movement. □
 - Check the compass for discoloration, compass card displayed. □
 - Check the circuit breakers and switches for security and condition. □
 - Check all Plexiglas for cracks. □
 - Check canopy hinges and latches for security. Lubricate as required. □
 - Test Standby ADI Backup Battery IAW [Users Guide](#) (pg 2) □
- (Once a year a complete function test of the backup battery system is recommended:

N11HC CONDITION INSPECTIONS

Activate the ADI backup battery and confirm LED is illuminated. Continue in this mode, note the time of activation and confirm minimum one hour function of the ADI.

If function time is less than one hour then remove backup battery and charge on the bench for a minimum of eight hours and retry function test above.)

- Remarks:

8-1.7.3. Canopy Latch & Lock Mechanisms

- Remove inside canopy latch handle covers□
- Check actuator bars secure, cir-clips & safety wire secure - not flopping over pin.....□
- Check security & operation of lock mechanism - clears safety wire loop.□
- Check for excessive free-play & rattling of actuator bars.□
- Lubricate mechanism pivot points and pins with graphite lube.□
- Check mill-fiber handle stop pad is secure - not fractured off canopy frame.....□
- Remarks:

8-1.7.4. Interior Panel Removal

- Remove: wing attach bracket black covers, overhead console, center console, baggage bulkheads, rear control tunnel top, carpets, heel rests, seat pans, belly pan, and gear doors (as necessary).....□
- Check all seat pan screws - discard & replace screws with chewed heads (they will wear holes in leather seat cushions).....□
- Check the seat pans for cracks or stress marks.....□
- Check the seat belts and shoulder harnesses for security and condition.....□
- Check the wing attach bolts and fittings for security, integrity and safety.□
- Remarks:

8-1.7.5. Forward Cabin Checks

Fwd cabin - Instrument Panel & Forward, Header Tank, Firewall.

- Check the pitot tube line and static line plumbing and fittings behind the panel.□
- Check all instrument wiring and plumbing for security and chafing behind the panel.□
- Check radio equipment, wiring & antenna connectors for security & proper connection.....□
- Check all cabin ground bus terminal screws tight.□
- Check all EPI-DPU wire terminal connections snug. Do not over tighten.□
- Check the fuel tank, fuel lines, vent lines and fuel standpipes and fittings behind the panel for security, leaks or contaminants also check all lines and fittings in the seat pan area and where they pass thru the lower center panel and console.□
- Inspect engine mount points on the aft side of firewall for cracks or stress marks in the fiberglass.□

N11HC CONDITION INSPECTIONS

- Check & tighten Main Bus power feed terminals & Alternator fuse bolts/nuts on copper bus bar on aft firewall - co-pilot side.....□
- Check Main Bus Power feed terminal stud bolt is tight (behind breaker panel section on upper fuselage next to cabin ground bus bar.□
- Check all Cabin Ground Bus Bar terminal connections are tight.....□
- Inspect parking brake cable, cable keeper, security and operation.....□
- Check the brake master cylinders and brake line fittings for leaks.....□
- Check all brake pedal and cylinder pivot points free with no excessive wear or free play□
- Verify all brake pedal and cylinder pivot bolts/nuts properly cotter-pinned and secure.□
- Lubricate brake cylinder pivot points with a light lubricant.....□
- Remarks:

8-1.8. Control System Inspection

Inspect the following control system components: pushrods, rod end bearings, cable and linkages for corrosion, safety, security and chafing. Clean and lubricate all rod-end bearing surfaces, pulleys and gears as necessary. Check the following systems:

- Aileron system (seat pan area, see section IV-D for wing bell-crank inspection):.....□
 - Check rod end bearings & jam nuts tight.□
 - Check control stick pivot not binding and not loose.□
 - Check control stick wires not being pinched or binding.□
 - Remove aileron counterweight assemblies and inspect for rust inside tubes IAW SB #153□
- Elevator system (seat pan area, see section II-I for rear control tunnel & aft fuse area):.....□
 - Check rod end bearings & jam nuts tight on both control tubes. Check tubes are free and clear with no interference or rubbing on wires, cables etc. through full range of travel.□
- Trim system:□
 - Check trim cables for any wear, rubbing or binding.□
 - Check trim cable pullys for free rotation. Check for excessive wear or cable cuts.□
 - Inspect trim spring tension:□
 - Inspect each trim cable ferrel for wear and carefully inspect each nico-press sleeve for signs of slippage - at both the spring end and the control arm end.□
 - Lubricate trim box shafts & gears with graphite lubricant.....□
- Rudder system:□
 - Inspect rudder cables for any wear, rubbing or binding throughout full range of travel.□
 - Check rudder cable pulleys for free rotation. Check for excessive wear or cable cuts.□
 - Check rudder cable NicoPress swages for corrosion IAW SB152.....□
 - Check rudder return springs and attach bracket. Inspect spring attach holes for wear.□
 - Lubricate hinge pin and between hinge nuckles with an appropriate grease lubricant while holding rudder up to open the lower hinge nuckle gaps on bottom side for grease.....□
 - Verify that the rudder hinge is properly safetied and bracket is secure.□
- Flap system: Note: Lube flap actuator linkages and pivot points.□
 - Inspect flap motor attach and pivot points for security.□
 - Inspect flap actuator linkage for security with all pivot bolts/nuts cotter pinned.□
 - Check linkage free from binding, interference and rubbing on wires, hoses etc. through the full range of travel.....□
 - Check the flap/gear warning cam and microswitch for security.□
 - Lubricate the flap linkage with a light lubricant.....□

N11HC CONDITION INSPECTIONS

- Remarks:

8-1.8.1. Under Seat Pan Area

Seat Pan Area - Fuel Lines & Wiring

- Check the operation of the fuel selector valve. Remove, disassemble and lubricate if necessary. Check the handle position markings on the console overlay.□
- Check all fuel lines for leaks, security and chafing in the seat pan area.□
- Check all wiring bundles for security and chafing.....□
- Check wiring terminal blocks for security & check each screw terminal is tight/secure.....□
- Remarks:

8-1.8.2. Battery inspection:

- Inspect and clean the battery terminals if necessary. Check all terminal connections on battery master contactor.....□
- Inspect and clean the battery box (if installed).□
- Check the electrolyte level and top up if applicable.....□
- For an enclosed battery box, inspect the drain tube and vent lines for damage and obstructions if applicable.□
- Note: Replace the battery every 3 years to guarantee maximum performance and reserve capacity. 3 years max or at first sign of poor cranking power.....□
- Remarks:

8-1.8.3. Control Tunnel Area

- Check all wire bundles secure & not chafing.....□
- Check fuel vent lines & fittings secure, not rubbing or loose.....□
- Check all cables & control tubes free of interference.....□
- Remarks:

8-1.8.4. Aft Fuselage Area:

- Check static tube security and connection to static ports & tee.□
- Check ELT Battery replacement date (on back of battery):.....□
- Verify ELT switch set to ARMED.□
- Check Transponder Antenna secure.□
- Remove transponder antenna connector, check for corrosion, clean & re-connect.....□
- Check aft elevator control tube secure, jam nuts tight.....□
- Check rudder bell-crank, cable clevis's & rudder pushrod secure.....□

N11HC CONDITION INSPECTIONS

- Check Trim cables & pullys free, not worn & nico press crimps secure. Be sure to check all cables & sleeves including at the elevator control horn with light & mirror.□
- Lubricate rudder cable clevis's & all rod ends as necessary.□
- Remarks:

8-1.9. External Fuselage & Belly Pan

8-1.9.1. Control Surfaces & Rigging

- Check the stabilizer for security and cracks.□
- Check elevators for security:□
 - Check hinges & hinge bolts tight.□
 - Check elevator hinge pivot bolts secure.□
 - Check elevator pivot points for excessive bushing wear and excessive side play.□
 - Check elevator control horn secure between elevators: No up/down movement between the left and right elevators when moved independently by the trailing edges.□
- Check the elevator counterweights for cracks or any signs of rubbing.□
- Lubricate the elevator hinge bushings with a graphite lubricant.□
- Remarks:

8-1.9.2. Low Checks

Under wing/belly-pan wiring, plumbing and hardware check:

- Check all hydraulic lines & brake lines that run under the wing for security, leaks, chafing, corrosion and general condition.□
- Check all hydraulic manifold fittings for signs of leaks. Check aft edge of wing for signs of hydraulic fluid indicating a hydraulic leak somewhere.□
- Check all antenna cables for security, proper routing and general condition.□
- Check battery cables security, proper mounting clamps, any chafing, condition, etc.□
- Check static system tubing for security, proper mounting, abrasion and condition.□
- Remarks:

8-1.10. Wings & Control Surfaces:

- Remove all inspection covers and remove the wing tips.□
- Check the wing tips for cracks and stress marks.□
- Check all wiring and plumbing for chafing and security. Fuel vent lines secure.□
- Check all control rods, rod ends and bell cranks for corrosion, safety, security and chafing:□
 - Aileron bell cranks secure with full freedom of movement at full elevator up/down.□
 - Aileron control rod ends & jam nuts tight□
 - Aileron counter weights secure□

N11HC CONDITION INSPECTIONS

- Remove aileron counterweights and inspect inside tubing for corrosion (SB#_____) if aircraft has been flown in rain or tied down outside. Check for corrosion every 2 yrs min.....□
- Check the flaps, ailerons and rudder for full freedom of movement (and proper travel *):□
 - Ailerons: 19 deg down, 21 deg up (+/- 1 deg.) Left:_____ Right:_____.....□
 - Flaps: 0 to 40 degrees down (slotted flaps) Full down travel:_____□
 - Elevator: 18 degrees down, 30 degrees up. Measured:_____□
 - Rudder: 24 degrees left, 25 degrees right (+/- 1 deg.) Measured:_____□
- *Note: Check travel if any control system has been removed or adjusted since last check.
- Check all vent and drain holes in control surfaces are free and unobstructed.□
 - Ailerons□
 - Flaps□
 - Elevators□
 - Rudder□
- Inspect & lubricate hinges: (Do NOT use graphite on piano hinges!!).....□
 - Aileron hinges: Check for security and wear. Lubricate with non-drying penetrating lube.□
 - Flap hinges: Check for security and wear. Lubricate with non-drying penetrating lube.□
 - Rudder hinge: Lubricate hinge pin and between hinge nuckles with grease or non-drying lubricant while holding rudder up to open hinge nuckle gaps on bottom. **See above**□
 - Verify that the rudder hinge is properly safetied.....□
- Check the wing skins, the leading edge and the wheel wells for cracks, stress marks and delamination.□
- Check the fuel tank, the fuel lines, vent lines and wing tank end rib ground studs at each wing tip for security, leaks or contaminants.□
- Check the fuel filler caps for proper labeling:□
- Check all drain and vent holes for obstructions.□
- Check inside the wings for loose hardware tools or any other FOD.....□
- Check pitot tube mounting, wiring and hose connection. Check mounting screws tight.□
- Reinstall the inspection covers and wing tips.□
- Remarks:

8-1.11. Landing Gear

- Check the main tires for cracks, wear and proper inflation.....□
- Remove main wheels. Repack wheel bearings & inspect wheels for cracks and corrosion.....□
- Inspect the brake discs for excessive scoring, the brake lines for leaks or chafing and the brake pads for wear. Replace the brake pads if necessary. Check the operation of the brakes and bleed them, if necessary.....□
- Check the nose gear shimmy damper for security. Inspect the damper clamps . Tighten shimmy damper clamp bolts to increase damping friction if required.□
- Check inflation & condition of main tire. Replace if necessary.□
- Remove Nose Wheel. Clean and re-pack wheel bearings.□
- Check the gear doors for damage and security of mounting.□
- Lubricate flap actuator arm/rod clevis pins with a non-drying penetrating lubricant.□
- Remarks:

N11HC CONDITION INSPECTIONS

8-1.12. Post Maint Systems Check:

- Replace interior components. Check inside fuselage and seat pan areas for any tools, rags or loose hardware prior to covering up.
 - Center Console, Seat Pans.....
 - Overhead Console
 - Control Tunnel Top
 - Aft Baggage Bulkhead - Lower Verify ELT set to ARMED prior to installing bulkhead.....
 - Upper Baggage Bulkhead - Upper & Hat Shelf.....
 - Carpets & Seat Cushions.....
 - Battery Box/Cover.....
- External Lights - Check security and operation:
 - Nav Lights - Left (red):_____ Tail (white):_____ Right (green):_____.....
 - Strobe Lights - Left: _____ Right:_____ Vertical Tail _____.....
 - Landing Light:_____ WigWag Lights:_____
- Interior Lighting:
 - Baggage Compartment/Interior Flood Light
 - Map/Reading Lights
 - Panel Flood Lights
 - Instrument Post Lights & Dimmer
 - Internal Instrument Lights & Dimmer.....
- Remarks:

8-1.13. Post Maint In-Flight Checks:

Perform this check after all other inspections and service has been accomplished and the aircraft is considered airworthy for a test flight.

- Take Off Roll - Full throttle RPM: _____ Manifold Pressure:_____.....
- Check cabin heat and defrost functioning properly.
- Remarks:

8-1.14. Paperwork

- Verify compliance with **ALL** known and applicable ADs for the engine or other components.
 - Known recurring/repetitive SBs & ADs at time of this writing:.....
 - SB 518 - Thermostatic Bypass Valve (Oil).....
 - SB 466 - Oil Filter base Adapter Cracks
 - SB 388B- Exhaust Valve & Guide Condition Check (Wobble Check).....
- Check that all Stoddard Hamilton Service Bulletins are complied with.
- Additional Inspection Items, Service Items, Replacement Items & Notes:
 - Replace the DPU Battery every 2 years. (Note: new style battery may last 5 yrs?)
 - Replace main 14v 25 amp-hr battery 36 months max.
 - Pitot Static System & Transponder Check - 24 calendar months.
 - Air Filter - Replace Annually.....
 - Fuel Filter - Replace Annually IAW SB's 101, 130 and 150.....
- Make sure the following documents are present, current and properly displayed if applicable

N11HC CONDITION INSPECTIONS

- Airworthiness Certificate□
- Registration Certificate.....□
- Weight and Balance□
- Placards□
- Radio Station License (Not required for flights within continental US).....□
- Logbook: make the appropriate log book entries, noting any discrepancies and other pertinent information. Sign off the annual condition inspection as required by the operating limitations imposed with the Experimental Airworthiness Certificate.....□
 - Airframe Logbook Entry:□
 - Engine Logbook Entry:.....□
 - Propeller Logbook Entry:.....□
- Remarks:

8-1.15. Completion Sign-Off:

Note the date when all of the above inspections have been completed: _____

Remarks:

Additional Remarks & Notes to Include In Next Inspection: