Climbing Above the Rest

J-GO Aviation

Annual Inspection Checklist

Aircraft Make & Model		*Aircraft Serial Number*	
Registration		*Engine Make & Model*	
Engine Serial Number		*Propeller Make & Model*	
Propeller Serial Number		*Tach Time Hobbs Time*	
Aircraft Total Time		*Engine TSMOH*	
Propeller TSMOH		*Date Inspection Started*	

Note any discrepancies in the discrepancy list on last page.

Engine Run-Up/ Pre-Inspection

- ☐ Perform thorough walk around noting any obvious defects.
- ☐ Check engine oil level.
- ☐ Start/Run Engine IAW the Owner's Manual.
- ☐ Proper engine temperature and pressure.
- ☐ Magneto operation/check.
- ☐ Carburetor heat operation.
- ☐ Mixture operation.
- ☐ Throttle operation.
- ☐ Propeller operation (if equipped).
- ☐ Engine response to changes in power.
- ☐ Static RPM.
- ☐ Suction Gauge.
- ☐ Generator Warning Light/Volts.
- ☐ Engine Instruments.
- ☐ Fuel flow indicator (if equipped).
- ☐ Fuel selector/shut-off valve operation.
- ☐ Idle speed and mixture check.
- ☐ Any unusual engine noises.
- ☐ Inspect for Leaks.

Preparation for Inspection

- ☐ Operational check of all lights for operation.
- ☐ Remove engine cowling.
- ☐ Remove propeller spinner.
- ☐ Loosen or remove fuselage inspection covers.
- ☐ Loosen or remove wing inspection covers.
- ☐ Loosen or remove empennage inspection covers.
- ☐ Remove interior seats.
- ☐ Remove upholstery as required to complete inspection.
- ☐ Remove interior panels as required for inspection.

Engine Compartment

- ☐ Inspect for visual evidence of excessive oil, fuel, or hydraulic leaks, and sources of such leaks. Overall engine cleanliness. (Performed throughout engine inspection items)
- ☐ Inspect studs, nuts, and other hardware for improper torqueing and defects. (Performed throughout engine inspection items)
- ☐ Drain engine oil.
- ☐ Remove oil filter and examine.
- ☐ Remove oil suction screen. (examine and clean)
- ☐ Remove ignition leads.
- ☐ Remove spark plugs.
- ☐ Perform cylinder compression test
    - #1 ____/80 #2 ____/80 #3 ____/80
    - #4 ____/80 #5 ____/80 #6 ____/80
- ☐ Verify magneto to engine timing.
- ☐ Install new oil filter.
- ☐ Install cleaned oil suction screen.
- ☐ Fill oil reservoir.
- ☐ Clean sparkplugs and inspect gap/condition. (Gap .015-.018)
- ☐ Install spark plugs with new washers. (using anti-seize)
- ☐ Inspect ignition leads/harness for security, chafing, burning, defective insulation, and loose or broken terminals.
- ☐ Inspect oil cooler for security, leaks, and obstructed air passages.
- ☐ Inspect/replace induction air filter.
- ☐ Inspect induction airbox for internal cleanliness, cracks, security.
- ☐ Inspect carb heat door in airbox for sealing, security, and operation.
- ☐ Inspect cold and hot flexible hoses for security, kinks, holes, chafing, and burning.

Engine Compartment Cont.

- Inspect engine baffles for security, sealing, cracks, metal deformation, and attachment of sealing strips.
- Inspect cylinders for security, cracks, broken cooling fins, proper installation. (cylinder base nuts)
- Inspect rocker box covers and push rod housings for security, oil leaks, cracks, and dents.
- Inspect crankcase, oil pan, reduction gear housing, and accessory section for security, oil leaks, safetying, and proper installation.
- (Studs, nuts, other hardware)
- Inspect front crankshaft seal for oil leakage.
- Inspect vacuum pump for security, oil leaks, and safetying.
- Inspect crankcase and vacuum system breather lines for security, chafing, obstructions, corrosion, and cracks.
- Inspect vacuum relief valve for security and the inlet screen for cleanliness, holes, corrosion, and safetying.
- Inspect vacuum system oil separator for security, cracks, oil leaks, and servicing.
- Inspect all lines, hoses, and clamps for condition, security, leaks, cracks, dents, kinks, corrosion, hose deterioration, and chafing.
- Inspect intake system for security, leaks, deteriorated hoses, and loose or corroded clamps.
- Inspect manifold drains for proper operation, drain lines and hoses for security, leaks, and chafing.
- Inspect exhaust system for security, leaks, cracks, and burned-out spots.
- Inspect cabin and carburetor heat muffs for security, cracks, corrosion, and signs of leakage.
- Inspect cabin heater valve and door for proper operation, sealing, cracks, and deformation; controls for security, binding, proper rigging, and alignment.
- Inspect engine mount for cracks, corrosion, dents, bends, evidence of overheating, and looseness; ground straps for security, corrosion, fraying of braided straps, and cracking of metal straps.
- Inspect engine shock mounts for security, safetying, and deterioration.
- Inspect all electrical wiring in the engine compartment for security, chafing, defective insulation, and loose or broken terminals.
- Inspect the starter for security, oil leaks, tight electrical connections; engagement lever for proper rigging and return spring tension (if equipped with pull style starter).

(All discrepancies located on last page)

Engine Compartment Cont.

- Inspect the generator for security and oil leaks if generator is fastened to accessory case; drive belt for cuts, fraying, and excessive wear; electrical connections for security.
- Inspect voltage regulator for security and tight electrical connections.
- Inspect starting vibrator for security and tight electrical connections.
- Inspect magnetos for proper installation, security, corrosion, chafing, electrical connects, leaks, unobstructed vents, and correct internal timing.
- Inspect carburetor for security, cracks, corrosion, fuel leaks, cleanliness of inlet screen, and proper safetying.
- Remove carburetor drain plug and flush sediments/water out. Reinstall plug.
- Inspect fuel/air control unit for security, cracks, corrosion, fuel leaks, cleanliness of inlet screen, proper safetying, and security of cooling shrouds.
- Inspect engine-driven fuel pump for security, cracks, leaks, proper safetying, and security of cooling shrouds.
- Inspect fuel injection distributor for security, proper safetying, and leaks.
- Inspect fuel injection lines for security, kinks, cracks, dents, leaks, and chafing.
- Inspect fuel injection nozzles for cleanliness and security.
- Inspect operation of the engine controls and linkages for security, proper rigging, binding, excessive wear, cracks, misalignment, corrosion, safetying, and chafing.
- Inspect all other systems not specifically addressed for correct installation, security, and defects.
- Inspect firewall for proper sealing, security of grommets and shields, cracks, dents, wrinkles, loose or missing rivets, screws, or bolts, and evidence of excessive loads.
- Inspect engine cowling for cleanliness, proper fit, security, cracks, dents, cuts, tears, loose or broken hinges, defective latches or fasteners, and deteriorated paint.
- Inspect cowl flaps for cleanliness, proper fit, security, cracks, dents, cuts, tears, loose or broken hinges, and deteriorated paint; control for security, proper rigging, and binding.
- Clean engine with solvents.

Propeller

- Inspect fixed-pitch propeller for track, nicks, cracks, corrosion, bends, dents, security, and proper safetying.

- Inspect constant-speed propellers for nicks, cracks, corrosion, bends, dents, loose nuts and bolts, oil leaks, freedom of blade movement, excessive looseness of blades, security, and proper safetying.
- Hartzell constant-speed propeller for correct lubrication.
- Inspect propeller governor for security, safetying, cracks, oil leaks; control for correct rigging, security, binding, and proper safetying.
- Inspect spinner and spinner bulkhead for cracks, dents, alignment, security, and condition of paint.

Fuel System

- Remove fuel strainer and clean. Inspect fuel strainer for internal cleanliness, security, leaks, and safetying. Reinstall fuel strainer and safety after inspecting.
- Inspect electric fuel pumps for cleanliness of filter screens, security, leaks, proper operation, and tight electrical connections.
- Inspect fuel tank sump drains for water and sediment, leaks, security, and safetying.
- Inspect quick-drain valves for proper operation.
- Inspect fuel tank filler cap placards for legibility.
- Inspect underside of wings for evidence of fuel leaks; rubber fuel cells for loose fasteners attaching upper surface to wing.
- Inspect fuel tank caps for leaks and security.
- Inspect fuel vents for obstructions, operation of check valve, leaks, security, and proper position of vent behind wing strut.
- Inspect fuel selector valve, or shut-off valve, for proper operation, security, leaks, positive detent positions, and legibility and correct indexing of placard.
- Inspect all fuel lines for security, chafing, leaks, cracks, dents, kinks, and corrosion.
- Inspect fuel line and selector valve drains for servicing, security, leaks, and safetying.
- Inspect fuel accumulator tank for cracks, dents, leaks, and security.
- Inspect fuel quantity gauges (direct-reading), electrical fuel quantity gauges, and fuel quantity electrical transmitters for security, correct indication, defective electrical wiring, cracked glass, legibility, and leaks.
- Inspect engine primer for proper operation, leaks, and security.
- Inspect vapor return line solenoid and fuel system check valves for proper operation, leaks, and security.

Landing Gear

- Inspect brakes for proper operation, sponginess, failure to hold pressure, and fluid level.
- Inspect master cylinders, brake lines, and hoses for security, leaks, cracks, dents, and chafing.
- Inspect brake linings for wear, cleanliness, chips, cracks, and security.
- Inspect brake discs for scoring, warping, excessive wear, and loose or broken brake clips.
- Inspect wheel and brake assembly for cracks, dents, corrosion, leaks, loose bolts, defective paint, freedom of moving parts, and excessive wear.
- Inspect axles for security, cleanliness, cracks, bends, defective threads; inspect axle nuts for proper adjustment and safetying.
- At 500-hour intervals, remove wheel bearings and inspect for cleanliness, rust, cracks, pits, scoring, brinelling, discoloration, excessive wear, and lubrication.
- Inspect main landing gear spring struts for security, cracks, bends, deep scratches, dents, chipped or peeling paint, and security of steps.
- Inspect tires for proper inflation, sufficient tread, cleanliness, cuts, blisters, breaks, and uneven wear.
- Inspect tailwheel for lubrication, security, cracks; tire for proper inflation, cuts, sufficient tread, breaks, and blisters; tailwheel spring, steering and anti-swivel mechanism for security, proper operation, cracks, frayed cables, and worn links.
- Inspect nose gear shock strut for proper servicing, leaks, cleanliness, proper operation, excessive wear, looseness, visible damage, and security.
- Inspect nose gear steering linkage for correct alignment, proper steering travel, lubrication, excessive wear, and visible damage or defects.
- Inspect torque links for lubrication, cracks, binding, security, safetying, and excessive wear.
- Inspect shimmy dampener for servicing, security, proper operation, leaks, and excessive wear.
- Inspect speed fairings for security, cleanliness, proper adjustment of scrapers, cracks, tears, separation of laminate, and condition of paint.
- Inspect parking brake for proper operation, correct adjustment, security, excessive wear, and full release.

Airframe/Fuselage

- Inspect pitot and static ports for obstructions; pitot and static lines for security, cracks, kinks, chafing, and moisture; pitot and static system for leaks; pitot tube for correct alignment.
- Inspect aircraft exterior for cracks, metal distortion, broken spotwelds, loose or missing rivets, screws, and bolts, corrosion, condition of paint, and any other apparent damage or defects. Especially check wing and empennage tips for damage.
- Inspect aircraft structure for corrosion, cracks, metal distortion, loose or missing rivets, screws, and bolts, and evidence of excessive loads.
- Inspect radio antennas for cleanliness, security, proper connections, corrosion, and cracked insulators; external loop housing for security, cleanliness, cracks, loose or missing screws, sealing, and obstructed drain holes.
- Inspect exterior drain holes for obstructions.

Cabin/Cockpit

- Inspect windows and windshield for cleanliness, proper attachment, sealing, crazing, cracks, deep scratches, and discoloration.
- Inspect door and window hinges and latches for lubrication, alignment, proper operation, cracks, distortion, binding, and security.
- Inspect seats for ease of movement, positive locking, security, and seat stops; seat upholstery for rips, tears, holes, and cleanliness; seat structure for cracks, bends, and corrosion.
- Inspect seat rails for security, cracks, and damage.
- Inspect safety belts for security, proper latching, cuts, tears, fraying, and broken stitching; attaching parts for cracks, deformed metal, and excessive wear.
- Inspect control column for security, binding, cracks, looseness, and restricted travel; bearings, sprockets, and pulleys for cleanliness, lubrication, binding, security, and excessive wear; cables and chains for security, cleanliness, corrosion, fraying, binding, broken links, and misalignment; turnbuckles for safetying; bellcranks for cracks, distortion, and binding.
- Inspect control wheels for alignment, binding, security, bent tubes, and excessive wear; control lock for proper operation and availability.
- Inspect instruments for cracked glass, security, proper operation, cleanliness, and legibility of markings; gyro instrument air filters for replacements.

Cabin/Cockpit

- Inspect magnetic compass for security, fluid discoloration, leaks, lighting, and proper operation. Accuracy of the compass on all cardinal headings should be check whenever equipment replacement, modification, or relocation might cause compass deviation, and at engine overhaul periods.
- Inspect instrument wiring and plumbing for security, chafing, leaks, cracks, kinks, defective insulation, loose terminals, and interference with control column travel.
- Inspect instrument panel for security, deteriorated shockmounts, cracks, damaged decorative cover, and legibility of all decals and labeling.
- Inspect defrosting, heating, and ventilating systems for proper operation, security, chafing, and deterioration; controls for proper rigging, binding, and security; ram air inlets for obstructions.
- Inspect cabin upholstery and trim for cleanliness, rips, tears, holes and security; sun visors for security and proper operation; ash trays for cleanliness and security.
- Inspect area beneath floor for cleanliness, chafing and security of lines, hoses, and electrical wires; control cables for fouling.
- Inspect stall warning horn and light for proper operation and security.
- Inspect electrical switches, circuit breakers, and fuses for security, proper functioning, correct rating, and legibility of placarding; wiring for security, proper insulation, and chafing; spare fuses for availability.
- Inspect instrument and cabin lights for proper operation, security, and cleanliness; instrument light rheostat for proper functioning.
- Inspect radios and radio controls for proper operation and security.
- Inspect radio components in the aft fuselage for security, proper shock mounting, cracked or deformed mounting brackets, and cleanliness.
- Inspect battery for servicing, security, and corroded terminals; battery cables for condition of terminals, security, and defective insulation; battery box for cracks, corrosion, damaged mounting brackets, and security; vent line for corrosion, security, and obstructions.
- Inspect ELT IAW FAR 91.207.

Empennage

- Inspect empennage for security of attachment, cracked fittings, loose or missing rivets and bolts, security of hinges, defective bearings, and evidence of elongated bolt holes and excessive wear of attaching parts.
- Inspect navigation light and rotating beacon for proper operation, security, cleanliness, and cracked glass.
- Inspect elevators for security of attachment, smooth operation, security of balance weights, cracks, corrosion, and skin or structural damage.
- Inspect Elevator Control system for the following:
  - Elevators for correct direction of movement when operated from the cabin.
  - Pulleys for security, cleanliness, binding, misalignment, cracks, cracked or deformed pulley brackets, and chipped or broken flanges.
  - Cables for cleanliness, security of terminals, corrosion, fraying, correct tension, and safetying of turnbuckles.
  - Bellcranks and push-pull rods for cleanliness, lubrication, security, binding, cracks, and distortion.
  - Fairleads and cable guards for security and excessive wear.
  - Elevator system for correct rigging and proper travel.
- Inspect elevator trim tab for security of attachment, smooth operation, cracks, corrosion, and skin or structural damage.
- Inspect Elevator Trim Control system for the following:
  - Elevator trim tab for correct direction of movement when operated from the cabin.
  - Pulleys and sprockets for security, cleanliness, binding, misalignment, cracks, cracked or deformed brackets, and chipped or broken flanges or teeth.
  - Cables and chains for cleanliness, security of terminals, corrosion, fraying, correct tension, broken or damaged links, and safetying of turnbuckles.
  - Push-pull rod for security, cracks, and distortion.
  - Fairleads, cable guards, and chain guards for security and excessive wear.
  - Trim control wheel for lubrication, cleanliness, security, binding, and operation of friction stop and position indicator; indicator for correct indexing and legible markings.
  - Trim tab actuator for security, cleanliness, lubrication, proper operation, corrosion, cracks, and excessive wear.
  - Trim control system for correct rigging and proper travel.
- Inspect rudder for security of attachment, smooth operation, security of balance weights, cracks, corrosion, and skin or structural damage.

Empennage Cont.

- Inspect Rudder Control system for the following:
  - Rudder for correct direction of movement when operated from the cabin.
  - Rudder pedal assembly for binding, cleanliness, lubrication, security, cracks, bent linkage, and excessive wear.
  - Pulleys for security, cleanliness, binding, misalignment, cracks, cracked or deformed pulley brackets, and chipped or broken flanges.
  - Cables for cleanliness, security of terminals, corrosion, fraying, correct tension on “closed” systems, and safetying of turnbuckles.
  - Fairleads and cable guards for security and excessive wear.
  - Rudder system for correct rigging and proper travel.

Left Wing

- Inspect wing and wing strut for security of attachment, cracked fittings, loose or missing rivets and bolts, security of hinges, defective bearings, and evidence of elongated bolt holes and excessive wear of attaching parts.
- Inspect navigation light and landing lights for proper operation, security, cleanliness, and cracked glass.
- Inspect stall warning sensing unit for freedom of vane, security, cleanliness, and proper operation.
- Inspect pitot and stall warning heaters for proper operation.
- Inspect ailerons for security of attachment, smooth operation, security of balance weights, cracks, corrosion, and skin or structural damage.
- Inspect Aileron Control system for the following:
  - Ailerons for correct direction of movement when operated from the cabin.
  - Pulleys for security, cleanliness, binding, misalignment, cracks, cracked or deformed pulley brackets, and chipped or broken flanges.
  - Cables for cleanliness, security of terminals, corrosion, fraying, correct tension, and safetying of turnbuckles.
  - Bellcranks and push-pull rods for cleanliness, lubrication, security, binding, cracks, and distortion.
  - Fairleads and cable guards for security and excessive wear.
  - Aileron system for correct rigging and proper travel.
- Inspect Flaps for security of attachment, smooth operation, binding rollers, cracked, bent, or loose tracks, corrosion, and skin or structural damage.

(All discrepancies located on last page)

Left Wing Cont.

- Inspect Flap Control system for the following:
  - Pulleys for security, cleanliness, binding, misalignment, cracks, cracked or deformed pulley brackets, and chipped or broken flanges.
  - Cables for cleanliness, security of terminals, corrosion, fraying, correct tension, and safetying of turnbuckles.
  - Bellcranks and push-pull rods for cleanliness, lubrication, security, binding, cracks, and distortion.
  - Fairleads and cable guards for security and excessive wear.
  - Flap system for correct rigging and proper travel.
  - Flap control lever for security, proper operation of latch, lubrication, and binding; flap decal for legibility.
  - Electric flap motor and transmission assembly for security, proper operation, security of electrical wires, and cleanliness; flap motor hinge for cracks, distortion, binding and cleanliness; screwjack threads for cleaning and relubrication as required.
  - Electric flap position transmitter for security, proper adjustment, proper operation of actuating linkage, cracked or deformed mounting bracket, and tight electrical connections.
  - Flap position indicator for cracked glass, security, proper indication, cleanliness, and legibility of markings.

Right Wing

- Inspect wing and wing strut for security of attachment, cracked fittings, loose or missing rivets and bolts, security of hinges, defective bearings, and evidence of elongated bolt holes and excessive wear of attaching parts.
- Inspect navigation light for proper operation, security, cleanliness, and cracked glass.
- Inspect ailerons for security of attachment, smooth operation, security of balance weights, cracks, corrosion, and skin or structural damage.
- Inspect Aileron Control system for the following:
  - Ailerons for correct direction of movement when operated from the cabin.
  - Pulleys for security, cleanliness, binding, misalignment, cracks, cracked or deformed pulley brackets, and chipped or broken flanges.
  - Cables for cleanliness, security of terminals, corrosion, fraying, correct tension, and safetying of turnbuckles.
  - Bellcranks and push-pull rods for cleanliness, lubrication, security, binding, cracks, and distortion.
  - Fairleads and cable guards for security and excessive wear.
  - Aileron system for correct rigging and proper travel.
- Inspect Flaps for security of attachment, smooth operation, binding rollers, cracked, bent, or loose tracks, corrosion, and skin or structural damage.

Right Wing Cont.

- ☐ Inspect Flap Control system for the following:
  - Pulleys for security, cleanliness, binding, misalignment, cracks, cracked or deformed pulley brackets, and chipped or broken flanges.
  - Cables for cleanliness, security of terminals, corrosion, fraying, correct tension, and safetying of turnbuckles.
  - Bellcranks and push-pull rods for cleanliness, lubrication, security, binding, cracks, and distortion.
  - Fairleads and cable guards for security and excessive wear.
  - Flap system for correct rigging and proper travel.
  - Flap control lever for security, proper operation of latch, lubrication, and binding; flap decal for legibility.
  - Electric flap motor and transmission assembly for security, proper operation, security of electrical wires, and cleanliness; flap motor hinge for cracks, distortion, binding and cleanliness; screwjack threads for cleaning and relubrication as required.
  - Electric flap position transmitter for security, proper adjustment, proper operation of actuating linkage, cracked or deformed mounting bracket, and tight electrical connections.
  - Flap position indicator for cracked glass, security, proper indication, cleanliness, and legibility of markings.

Miscellaneous

- ☐ Inspect all other systems which were not specifically addressed by this checklist. Systems could include those which have been added to the aircraft by the approval of a STC. Follow the guidelines established in the continued airworthiness section of the applicable STC. Inspect these systems for improper installation, poor general condition, apparent and obvious defects, insecurity of attachments, and corrosion.

Engine Run-Up/ Post Inspection

- ☐ Reinstall all panels/covers removed during inspection.
- ☐ Reinstall all seats and interior components.
- ☐ Perform thorough walk around checking everything that was removed from aircraft during the inspection.
- ☐ Check engine oil level.
- ☐ Start/Run Engine IAW the Owner's Manual.
- ☐ Proper engine temperature and pressure.
- ☐ Magneto operation/check.
- ☐ Carburetor heat operation.
- ☐ Mixture operation.
- ☐ Throttle operation.

Engine Run-Up/ Post Inspection Cont.

- ☐ Propeller operation (if equipped).
- ☐ Engine response to changes in power.
- ☐ Static RPM.
- ☐ Suction Gauge.
- ☐ Generator Warning Light/Volts.
- ☐ Engine Instruments.
- ☐ Fuel flow indicator (if equipped).
- ☐ Fuel selector/shut-off valve operation.
- ☐ Idle speed and mixture check.
- ☐ Any unusual engine noises.
- ☐ Inspect for Leaks.
- ☐ Complete paperwork (Including AD research.

Notes:

Mechanic: **Date:**

Inspector: **Date:**

Climbing Above the Rest

J-GO Aviation

Discrepancy Log

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(All discrepancies located on last page)