MODEL GA-7/COUGAR

ANNUAL OR 100-HOUR INSPECTION PROCEDURE (AIRCRAFT IN SERVICE HOURS)

ANNUAL OR 100-HOUR INSPECTION PROCEDURE GUIDELINE (AIRCRAFT IN SERVICE HOURS)

FAR 43.15 (c) (1) states: "Each person performing an annual or 100-hour inspection shall use a checklist while performing the inspection. The checklist may be of the person's own design, one provided by the manufacturer of the equipment being inspected, or one obtained from another source. This checklist must include the scope and detail of the items contained in appendix D to this part and paragraph (b) of this section." The following pages contain a comprehensive annual or 100-hour inspection procedure checklist. This checklist has been prepared to assist a mechanic in performing a detailed inspection of such scope and detail that when the inspection is completed, the mechanic is absolutely sure that he has not overlooked any areas, even though he may not have previous experience on this particular model aircraft. Once a mechanic becomes familiar with this aircraft, he may wish to prepare his own checklist, which must be within the scope of Appendix D of FAR Part 43.

OWNER'S NAME	STREET ADDRESS		
CITY	STATE	ZIP CODE	
IDENTIFICATION NUMBER	SERIAL NUMBER	HOURS	DATE INSPECTION COMPLETED
SERVICING AGENCY	CITY	STATE	

NOTE: Check conformity with FAA Specifications, Airworthiness Directives, and Grumman American Aviation Corporation and Supplier's Service Bulletins and Letters.

NOTE: It is recommended that reference be made to the applicable maintenance handbook, service bulletins, letters, installation instructions, and vendor specifications for torque valves, clearances, settings, tolerances, and other specification data.

NOTE: Indicate airworthiness of aircraft after completion of 100-hour/annual inspection by person making this determination placing their signature and certificate identification in the appropriate block at the end of the inspection procedure guide.

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ANNUAL OR 100-HOUR INSPECTION PROCEDURE

PRE-INSPECTION ENGINE RUNUP (BOTH ENGINES)	MECH	INSP
Prior to beginning the annual or 100-hour inspection, an engine runup is made to facilitate oil drainage and to observe the following, noting any discrepancies: (Refer to Pilot's Operating Handbook.)		
1. Fuel Pressure (0.5 to 8 psi) Electric Pump only prior to engine startup (Left) ——— (Right) ——— Turn pump off for engine start (Left) _____ (Right) _____ Both (Left) _____ (Right) _____ Engine pump only after engine startup.		
2. Oil Pressure (60 to 90 psi) Approx. 25 psi idling) Actual (Left) _____ (Right) _____ Actual, Idle (Left) _____ (Right) _____		
3. Oil Temperature Average Ambient Air / Oil Inlet Temperature Desired / Oil Inlet Temperature Maximum Above 60°F — 180°F (82°C) — 245°F (118°C) 30° to 90°F — 180°F (82°C) — 245°F (118°C) 0° to 70°F — 170°F (77°C) — 225°F (107°C) Below 10°F — 160° F(71°C) — 210°F (99°C) Actual (Left) _____ Actual (Right) _____		
4. Manifold Pressure (_____) Actual (Left) ____ Actual (Right) ____		
5. Cylinder Head Temperature (Normal 200°F to 300°F; Never exceed 500°F.) Actual (Left) ____ Actual (Right) ____		
6. Perform propeller operational Check. (Refer to Hartzell propeller owner's manual that is supplied with aircraft.)		
7. Magneto rpm drop (Maximum drop on either magneto 175 rpm. No more than 50 rpm difference between magnetos.) Actual Drop Left Engine: Left _____ Right _____ — Actual Drop Right Engine: Left _____ Right _____		
8. Static rpm (2675 to 2700 rpm) Actual (Left) _____ Actual (Right) _____		

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PRE-INSPECTION ENGINE RUNUP (Continued)	MECH	INSP
9. Idling Speed (600 to 650 rpm) Actual (Left)____ Actual (Right)____		
10. Ammeter (indicates alternator output in relation to battery state of charge).		
11. Gyro Pressure Gauge (4.6 to 5.4 psi)		
12. Fuel Selector (Check operation in all positions.)		
13. Carburetor Heat Controls for proper operation.		
14. Engine Response to changes in power settings.		
15. Idle cutoff.		
A. PROPELLER GROUP (BOTH PROPELLERS)		
1. Remove spinners and check for cracks.		
2. Inspect blades for erosion, scratches, nicks, and cracks. Dress out nicks as required. (Refer to Chapter 61).		
3. Inspect backplate for nicks, cracks, and damage. Smooth out nicks and scratches as required. Cracks may be welded.		
4. Inspect front crankshafts seal and blade hub/dome area for oil leaks.		
5. Inspect propeller governor for condition and evidence of oil leakage.		
6. Check propeller mounting bolts. Torque to 40 to 50 foot-pounds and safety.		
7. Reinstall spinners. Torque spinner bulkhead bolts to 22 inch-pounds. Check spinner runouts (1/16 inch maximum runout).		
B. ENGINE GROUP (BOTH ENGINES)		
1. Remove engine cowl. Clean and check for cracks, wear, distortion, loose or missing fasteners.		
2. Drain oil sumps. Remove oil screens, clean and inspect for metal particles. Reinstall and safety. Replace oil filter as required.		
3. Check oil temperature sending units, oil coolers, oil lines, and fittings for leaks, chafing, and secure mounting.		
4. Fill engines with oil per lubrication chart. (Refer to Chapter 12.)		
5. Clean engines.		

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C.	CABIN GROUP (Continued)	MECH	INSP
4.	Check seatbelts and shoulder harnesses for condition, security of mounting, and latch operation.		
5.	Check elevator, rudder, and aileron trim control for condition, security of mounting, proper operation, and indication.		
6.	Check rudder pedal and brake system for proper operation and condition. Check brake fluid level.		
7.	Check control T-Column for security of mounting and adequate clearance from other equipment.		
8.	Check cables, pulleys, turnbuckles, and cable ends for condition, secure attachment, and safeties. Check cables at pulleys for fraying while actuating controls through full travel. (Maximum of four broken wires per cable is acceptable.)		
9.	Check cable tension (at the average temperature for aircraft operation).		
10.	Check all controls for clearance and proper operation.		
11.	Check all interior bond lines for any indication of damage, peeling, corrosion, or cracking.		
12.	Check flap actuator, push rods, limit switches, and indicator for proper operation and security of mounting.		
13.	Lubricate flap actuator and linkage. (Refer to Chapter 12, lubrication chart.)		
14.	Check all plumbing in cabin area for leaks and condition.		
15.	Check gyro system filters, replace if necessary.		
16.	Check instruments for condition, security of mounting, legible markings, and placards.		
17.	Check electrical wiring, switches, lights, and electronic equipment for condition and security.		
18.	Inspect baggage compartment and cargo tiedowns.		
19.	Inspect all placards in cabin for condition and legibility.		
20.	Reinstall baggage floor inspection covers, console panels, and inspection covers.		
21.	Check fresh air vents for proper operation.		
22.	Check emergency exit window for condition and proper operation.		

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C.	CABIN GROUP (Continued)	MECH	INSP
23.	Inspect emergency locator transmitter for security, operation, and battery expiration date (if installed).		
D.	FUSELAGE AND EMPENNAGE GROUP		
1.	Remove tail cone empennage covers, nose baggage doors, and battery access panel.		
2.	Check pitot heating element for proper operation (if installed).		
3.	Check pitot tube openings and lines. Drain if required and leak check.		
4.	Inspect exterior surfaces for condition and damage. Check all drain holes in the fuselage bottom for obstructions.		
5.	Check battery electrolyte level and specific gravity. Clean and tighten battery terminals. Check battery box drains and vents for condition and drainage clear of aircraft structure.		
6.	Check voltage regulators, starter relays, and master switch relays for secure mounting and proper operation.		
7.	Check electrical wiring for condition and secure connections.		
8.	Inspect bond lines for any indication of damage, peeling, corrosion, or cracks.		
9.	Check horizontal and vertical stabilizers for damage and security of mounting. Ensure that horizontal stabilizer and elevator drain holes are open.		
10.	Check elevator and rudder trim mechanism for damage, security of mounting, and proper operation.		
11.	Check rudder and elevator cables and pulleys for damage, proper operation, and safeties. Check bellcrank attaching hardware for wear.		
12.	Lubricate per lubrication chart. (Refer to Chapter 12.)		
13.	Inspect antenna mountings, wiring, and electronic installations.		
14.	Check static system lines and the alternate air source valve (if so equipped). Drain any accumulated moisture from system drain and leak check after draining.		
15.	Check position and anti-collision lights for security of mounting.		
16.	Check forward and aft baggage compartment doors, seals, and latches for security, condition, and proper operation.		

D.	FUSELAGE AND EMPENNAGE GROUP (Continued)	MECH	INSP
17.	Reinstall inspection covers and panels.		
E.	WING GROUP		
1.	Remove wing tips and access panels. Inspect surfaces, skins, ribs, and tips for damage. Check position and anti-collision (if equipped) lights for security of mounting.		
2.	Check wings for security of attachment.		
3.	Visually inspect interior and exterior bond lines for any indication of damage, peeling, corrosion, or cracks.		
4.	Check ailerons, aileron bearings and stops, flaps, flap hinges, and bearings for damage and security, proper travel, and wear.		
5.	Check fuel vents and connecting lines for damage and restrictions.		
6.	Check fuel cap gaskets for airtight seal.		
7.	Check wing leading edge, cove area aft of rear spar, lower wing area, and wheel well for fuel tank leakage.		
8.	Inspect fuel tank placards.		
9.	Check for interior corrosion of skin indicated by a white flaking ash.		
10.	Install wing tips and access panels.		
F.	MAIN LANDING GEAR GROUP		
1.	Remove wheels and check for cracks. Check condition of brake linings and wheel cylinders. Pack wheel bearings, reinstall wheels, and key axle nuts at first 100 hours and each 100 hours thereafter. Inspect wheel bearing grease for contamination and solidification at each annual or 100-hour inspection. Do not exceed 500 wheel miles between repacking intervals. For operation in dusty areas or areas of high humidity, repack every 100 hours. Perform a complete wheel inspection when tires are replaced.		
2.	Check tires for approved type, wear, and proper inflation.		
3.	Check brake lines for leaks and secure attachment.		
4.	Check retracting mechanism and hydraulic lines for leakage, security of mounting, and evidence of damage.		
5.	Check struts for proper extension, inflation, leakage, fluid level, security of mounting, and proper lubrication. (Refer to Chapter 12.)		
6.	Perform landing gear operational check (retraction). (Refer to Chapter 32.)		
7.	Inspect inside all wheel wells for cleanliness and evidence of damage to components.		

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G. NOSE GEAR GROUP	MECH	INSP
1. Check nose gear strut for security of mounting, corrosion, damage, cracks, and proper servicing. (Refer to Chapter 12.)		
2. Check steering mechanism for security of mounting, corrosion, damage, cracks, and proper operation.		
3. Check shimmy dampener for security of mounting, evidence of leakage, and proper servicing. (Refer to Chapter 12.)		
4. Check retracting mechanism and hydraulic lines for leakage, security of mounting, evidence of leakage, and proper servicing.		
5. Remove nose wheel; check for cracks; clean, inspect, and repack bearings; reinstall wheel and safety axle nuts at first 100 hours and each 500 hours thereafter. Inspect wheel bearing grease for contamination and solidification at each annual or 100-hour inspection. Do not exceed 500 wheel miles between repacking intervals. For operation in dusty areas or areas of high humidity, repack every 100 hours. Perform a complete wheel inspection when tire is replaced.		
6. Inspect nose wheel for cracks, corrosion, and loose or broken bolts.		
7. Check tire for approved type, wear, and proper inflation.		
8. Perform landing gear operational check (retraction). (Refer to Chapter 32.)		
H. OPERATIONAL INSPECTION		
1. Check brake operation (including parking brake).		
2. Check fuel primer operation and lines for leaks.		
3. Check operation of auxiliary fuel pumps.		
4. Check fuel pressure.		
5. Check starter for proper operation.		
6. Check oil pressure and temperature (both engines).		
7. Check engine controls for proper operation. Check throttle, mixture, and propeller controls for proper cushion.		
8. Check cylinder head temperature (both engines).		

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H. OPERATIONAL INSPECTION (Continued)	MECH	INSP
9. Check operation of left and right engine magnetos (1800 rpm); both on, left off, both on, right off, both on. (Maximum magneto drop 175 rpm with 50 rpm maximum difference between magnetos.) With engine at idle, turn switch to OFF position momentarily to check magneto grounding.		
10. Check left and right engine static rpm (2700).		
11. Check left and right carburetor heaters for proper operation and cushion.		
12. Check left and right alternator outputs.		
13. Check left and right cowl flap operation.		
14. Check pressure gauge and pressure system output (4.3 to 6.1 psi).		
15. Check both fuel selector valves operation and indexing.		
16. Check heating, defrosting, and ventilating systems for operation.		
17. Check radio for operation.		
18. Check left and right engine idle speed (600 to 650 rpm) and mixture setting.		
19. Check left and right idle cutoff on carburetor for proper operation.		
20. Check ailerons and trim tabs for proper operation.		
21. Check rudder and trim tab for proper operation.		
22. Check elevators and trim tab for proper operation.		
23. Check wing flaps for proper operation.		
24. Check fuel quantity gauges for condition and proper operation.		
25. Check interior lights for proper operation and adjustment.		
26. Check navigation and anti-collision lights for proper operation and landing light for proper operation and adjustment.		
27. Check pitot heat for proper operation.		
28. Check both stall warning devices for operation. (Refer to Chapter 27.)		
29. Inspect engines after ground runup. Flight test and inspect for oil leaks and secure mounting of all components.		

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I. RADIO GROUP	MECH	INSP
1. Inspect radio and electronic equipment for improper installation and insecure mounting.		
2. Check all wiring, bonding, and shielding for improper routing, improper installation, poor condition, and obvious defects.		
3. Inspect all antennas and antenna installations for poor condition, insecure mounting, and improper installation.		
J. GENERAL	**MECH**	**INSP**
1. Aircraft cleaned and serviced.		
2. Aircraft conforms to FAA Specifications.		
3. All applicable FAA Airworthiness Directives complied with.		
4. All manufacturer's Service Letters, Bulletins, and Alert Bulletins complied with.		
5. Check for proper Pilot's Operating Handbook availability.		
6. Aircraft papers in proper order. Make log book entry.		
7. This aircraft has been determined to be airworthy after completion of the 100 hour/ annual inspection.		

NOTE: Each person performing an annual or 100-hour inspection shall inspect (where applicable) each installed miscellaneous item that is not otherwise covered by this Inspection Procedures Guideline for improper installation and improper operation.

Signature _____

Certificate Identification _____

END OF INSPECTION

Inspection Procedures Guidelines
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H.	OPERATIONAL INSPECTION (Continued)	MECH	INSP
9.	Check operation of left and right engine magnetos (1800 rpm); both on, left off, both on, right off, both on. (Maximum magneto drop 175 rpm with 50 rpm maximum difference between magnetos.) With engine at idle, turn switch to OFF position momentarily to check magneto grounding.		
10.	Check left and right engine static rpm (2700).		
11.	Check left and right carburetor heaters for proper operation and cushion.		
12.	Check left and right alternator outputs.		
13.	Check left and right cowl flap operation.		
14.	Check pressure gauge and pressure system output (4.6 to 5.4 psi).		
15.	Check fuel selector valve operation and indexing.		
16.	Check heating, defrosting, and ventilating systems for operation.		
17.	Check radio for operation.		
18.	Check left and right engine idle speed (600 to 650 rpm) and mixture setting.		
19.	Check left and right idle cutoff on carburetor for proper operation.		
20.	Check ailerons and trim tabs for proper operation.		
21.	Check rudder and trim tab for proper operation.		
22.	Check elevators and trim tab for proper operation.		
23.	Check wing flaps for proper operation.		
24.	Check fuel quantity gauges for condition and proper operation.		
25.	Check interior lights for proper operation and adjustment.		
26.	Check navigation and anti-collision lights for proper operation and landing light for proper operation and adjustment.		
27.	Check pitot heat for proper operation.		
28.	Check stall warning device for operation.		
29.	Inspect engines after ground runup. Flight test and inspect for oil leaks and secure mounting of all components.		

Inspection Procedures Guidelines
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I. GENERAL	MECH	INSP
1. Aircraft cleaned and serviced.		
2. Aircraft conforms to FAA Specifications.		
3. All applicable FAA Airworthiness Directives complied with.		
4. All manufacturer's Service Letters, Bulletins, and Alert Bulletins complied with.		
5. Check for proper Pilot's Operating Handbook availability.		
6. Aircraft papers in proper order. Make log book entry.		
7. This aircraft has been determined to be airworthy after completion of the 100 hour/ annual inspection.		

Signature _____

Certificate Identification _____

END OF INSPECTION

Inspection Procedures Guidelines
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