Models AA-5, AA-5A & AA-5B
Annual or 100-hour Inspection

Registration Number	Serial Number	Hours

Registered Owner(s)	Street Address

City	State/ Provence	Postal Code

Inspector	Signature	License No.	Date

Airport/City	State/ Provence

Guidelines

FAR 43.15(c)(1) states;

> Each person performing an annual or 100-hour inspection shall use a check list while performing the inspection. The check list 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 check list. This check list 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 over-looked 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 check list, which must be within the scope of appendix D of FAR part 43.

Check for conformity' with FAA Specifications, Airworthiness Directives, and Gulfstream American 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 values, clearances, settings, tolerances, and other specification data.

Procedure

1. Perform Annual or 100-hour Inspection.

   Complete the inspection by performing each of the procedures detailed on the checklist which follows. Indicate completion by initialing in the appropriate column.

2. In addition to the Servicing Guide and Annual or 100-hour Inspection Procedure, the following steps should be adhered to when performing an inspection or overhaul:

   (a) Check any FAA Airworthiness Directive or Gulfstream American Service Bulletins and Letters for compliance at the time specified thereon. Also, check appropriate sections of the Maintenance Manual.

   (b) Check that all aircraft documents are present and in order:

   - Aircraft Airworthiness Certificate (Form FAA 8100-2)
   - Aircraft Registration Certificate (Form FAA 8050-1 or FAA 8050-3)
   - Weight and Balance Sheet
   - Aircraft Equipment List
   - Any Repair and Alteration Forms if applicable (Form FAA 337)
   - Aircraft Radio Station License if applicable (Form FCC 566 or FCC 453B)
   - Aircraft and Engine Log Books

   Note: All of the above items except the log books must be carried in the aircraft at all times. Form FAA 8100-2 (Airworthiness), FAA 8050-3 (Registration), and, if applicable, FCC 556 or FCC 453-B (Radio Station) must be visually displayed.

   (c) Check that operating limitations placards (reference Maintenance Manual Chapter 11) are displayed.

Pre-Inspection Engine Run Up

Prior to beginning the annual or 100-hour inspection, an engine run up is to be made to facilitate oil drainage and to observe the following, noting any discrepancies.

Insp	Mech	Procedure	Remarks
		PI1 Fuel pressure (0.5 to 8 PSI): _____ Electric Pump only prior to engine start up _____ Engine Pump only after engine start up _____ Both	
		PI2 Oil pressure: 60 to 90 PSI Idling: ~25 PSI Actual _____ Actual _____	
		PI3 Magneto RPM drop: (175 RPM maximum drop on either magneto; no more than 50 RPM difference between magnetos.) _____ Actual Drop Left _____ Actual Drop Right	

Pre-Inspection Engine Run Up

(continued)

Insp	Mech		Procedure	Remarks
		PI4	Static RPM: AA-5 & AA-5A (2250-2375) Actual _____ AA-5B (2150-2275) Actual _____	
		PI5	Idling speed: AA-5 & AA-5A (600 to 650 RPM) Actual _____ AA-5B (500 to 650 RPM) Actual _____	
		PI6	Ammeter (no steady discharge in normal operating range).	
		PI7	Suction gauge (4.6 to 5.4 in. Hg.).	
		PI8	Fuel selector (check operation in all positions).	
		PI9	Carburetor heat control.	
		PI10	Engine response to change in power.	
		PI11	Idle cut-off.	

Propeller Group

Insp	Mech		Procedure	Remarks
		PR1	Remove spinner and check for cracks, scratches, scoring, dents, nicks, and distortions.	
		PR2	Inspect blades for erosion, scratches, nicks, and cracks. Dress out nicks as required.	
		PR3	Inspect spinner back plate, bulkhead, and doubler for cracks and secure mounting.	
		PR4	Check front crankshaft seal for oil leaks.	
		PR5	Check propeller mounting bolt torque: _____ foot-pounds or _____ inch-pounds.* Resafety propeller and mounting bolts.	
		PR6	Reinstall spinner. Check spinner run out _____ inch maximum.*	

Engine Group

Insp	Mech		Procedure	Remarks
		EG1	Remove engine cowl. Clean and check for cracks, wear, distortion, loose or missing fasteners, and landing light attachment.	

*Refer to Maintenance Manual Chapter 61 and insert required values here applicable to your aircraft for quick reference during inspection.

Engine Group
(continued)

Insp	Mech		Procedure	Remarks
		Eg2	Drain oil sump. Remove oil screen(s), clean, and inspect for metal particles. Reinstall and resafety. Replace oil filter (if installed). Cut apart and inspect old filter for metal particles.	
		Eg3	Check oil temperature sending unit, oil lines, cooler, and fittings for leaks, chafing, dents, cracks, and secure mounting.	
		Eg4	Fill engine with oil per lubrication chart (reference Maintenance Manual Chapter 12).	
		Eg5	Clean engine.	
		Eg6	Check engine cylinder compression: #l:_____ #2:_____ #3:_____ #4:_____	
		Eg7	Clean and regap or replace spark plugs as required. (See latest revision of Lycoming Service Instruction No. 1042).	
		Eg8	Check ignition harnesses. Clean and inspect insulators.	
		Eg9	Check magneto timings, oil seal leakage, and distributor blocks for cracks, burned areas, and corrosion.	
		Eg10	Remove and service air filter (see Maintenance Manual Chapter 73 for details). Inspect carburetor heat control valve plate, shaft, valve plate to shaft screws, and bearings for signs of wear and security. Replace filter and/or gasket if damaged or defective. Reinstall carburetor air filter.	
		Eg11	Check induction air intake seals for leaks, deterioration, and hardness. Check flex ducts for broken or loose strings, loose or displaced supporting wire, and general overall condition for signs of wear or perforation.	
		Eg12	Drain carburetor bowl. Reinstall drain plug. Remove and clean carburetor fuel inlet screen with acetone. Reinstall screen.	
		Eg13	Remove and clean electric fuel pump filter. Reinstall and resafety.	
		Eg14	Check fuel pump for proper operation and secure mounting. Pressurize fuel system with electric pump and inspect fuel system and lines for leaks. Check fuel primer for operation and line leaks.	
		Eg15	Check starter for secure mounting.	

Engine Group
(continued)

Insp	Mech	Procedure	Remarks
		EG16 Check security of throttle arm on carburetor. Check throttle, carburetor heat, and carburetor mixture controls for proper travel, security, operating condition, and control cushion.	
		EG17 Remove exhaust shroud and check muffler tailpipe, risers, clamps, gaskets, and exhaust system for cracks, leaks, and secure mounting. Reinstall shroud.	
		EG18 Check breather tube for obstructions and secure mounting.	
		EG19 Inspect cylinders for evidence of excessive heat indicated by burned paint on the cylinder. Check for cracks, loose bolts, oil leaks, and general condition.	
		EG20 Inspect engine mount for cracks, secure mounting, and proper safety wiring. Check rubber vibration dampeners for signs of deterioration. Replace as required.	
		EG21 Check all baffles for cracks, loose or missing screws, and deteriorated seal material.	
		EG22 Check alternator for secure mounting and lugs and brackets for cracks. Check condition and tension of alternator drive belt. Replace if required. (Adjust belt tension to yield a 5/16 in. deflection at the center of the belt when applying a pressure equivalent to 14 pounds for new belts and 10 pounds for used belts.)	
		EG23 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.	
		EG24 Inspect vacuum system components (if installed) for secure mounting. Check vacuum pump drive for evidence of seal leakage. Replace seal and pump if required. Check all interconnecting lines and fittings for leaks, deterioration, and damage. Replace as required.	
		EG25 Check ground straps for condition and secure attachment.	
		EG26 Check electrical wiring for condition and secure connections including shielded cable ground connections.	
		EG27 Check voltage regulator, starter relay, and master switch relay for secure mounting and proper operation.	

Engine Group
(continued)

Insp	Mech		Procedure	Remarks
		Eg28	Install cowl, checking for proper engagement of air intake duct and cowl latches.	

Cabin Group

Insp	Mech		Procedure	Remarks
		Cg1	Remove front seats, fold rear seat forward, remove cover from rear seat support, and remove console side panels.	
		Cg2	Check windshield, windows, and canopy for cracks and secure mounting. Clean and lubricate canopy rails. Check canopy operation and locking devices.	
		Cg3	Check seat belts and shoulder harnesses for condition and secure mounting.	
		Cg4	Check elevator trim control for condition, secure mounting, proper operation, and indication.	
		Cg5	Check rudder pedal and brake system for proper operation and condition. Check brake fluid level. Replace rudder pedal springs at 1,000 hours.	
		Cg6	Check control "T" for secure mounting and adequate clearance from other equipment.	
		Cg7	Check chains, cables, pulleys, turnbuckles, and cable ends for condition, secure attachment, and safeties. Specifically check cables at pulley's for fraying while actuating controls through full travel, (maximum of four broken wires acceptable).	
		Cg8	Check cable tension at the average temperature for aircraft operation.	
		Cg9	Check all controls for clearance and proper operation.	
		Cg10	Check all interior bond lines for any indications of damage, peeling, or cracking.	
		Cg11	Check nose gear torque tubes and mounting brackets and bond joints for cracks and secure mounting. Check torque on mounting bolts: center bearing bracket bolts 185-195 in-lb. and end plate bolts 300-350 in-lb.	
		Cg12	Check flap actuator, push rods, limit switches, and indicator for proper operation and secure mounting.	
		Cg13	Lubricate per lubrication chart (Maintenance Manual Chapter 12).	

Cabin Group
(continued)

Insp	Mech	Procedure	Remarks
		CG14 Check all plumbing in cabin for leaks and condition.	
		CG15 Disassemble, clean, lubricate, and reassemble fuel selector valve every 500 hours. See fuel system section for details.	
		CG16 Check gyro system filters (if installed), replace if necessary.	
		CG17 Check instruments for condition, secure mounting, and legible markings.	
		CG18 Check electrical wiring switches, lights, and electronic equipment for condition and security.	
		CG19 Inspect baggage compartment, baggage door, and cargo tie-downs.	
		CG20 Inspect all placards in cabin for condition and legibility.	
		CG21 Reinstall cover over rear seat support, console side panels, and front seats.	
		CG22 Check fresh air vents for proper operation.	
		CG23 Check radio cooling passage for blockage (if installed).	
		CG24 Check and verify correct quantity and rating of spare fuses mounted in right side of glove box.	

Fuselage and Empennage Group

Insp	Mech	Procedure	Remarks
		FE1 Remove tailcone and empennage covers.	
		FE2 Inspect emergency locator transmitter for security, operation, and battery expiration date.	
		FE3 Inspect exterior surfaces for condition and damage. Check all drain holes in the fuselage bottom for obstructions.	
		FE4 Inspect bond lines for any indication of damage, peeling, or cracks.	
		FE5 Check ventral fin (Model AA-5), horizontal and vertical stabilizers for damage and secure mounting. Insure that horizontal stabilizer and elevator drain holes are open.	
		FE6 Check elevator, elevator bearings and stops, rudder, rudder bearings and stops, tab hinges, and bellcranks for damage, travel, and proper operation. Maximum allowable torque tube wear limit at bearing supports is 0.030 in. reduction in wall thickness.	

Fuselage and Empennage Group
(continued)

Insp	Mech		Procedure	Remarks
		FE7	Check elevator trim mechanism for damage, secure mounting, and proper operation.	
		FE8	Check rudder and elevator cables and pulleys for damage, proper operation, and safeties. Check bellcrank attaching bolts for wear.	
		FE9	Lubricate per lubrication chart (Maintenance Manual Chapter 12).	
		FE10	Inspect antenna mountings, wiring, and electronic installations.	
		FE11	Check position and anti-collision light(s) for secure mounting.	
		FE12	Check static system lines and the alternate air source valve (if installed). Drain any accumulated moisture from system drain.	
		FE13	Reinstall inspection covers.	

Wing Group

Insp	Mech		Procedure	Remarks
		WG1	Remove wing tips and access panels. Inspect surfaces, skins, ribs, and tips for damage. Check position and anti-collision lights for secure mounting. Insure that all wing drain holes are open.	
		WG2	Visually inspect interior and exterior bond lines for any indication of damage, peeling, or cracks.	
		WG3	Check ailerons, aileron bearings and stops, flaps, and flap bearings for secure mounting, damage, proper travel, and wear. Maximum allowable aileron torque tube wear limit at bearing supports is 0.030 in. reduction in wall thickness. Check that aileron flap and drain holes are open. Check that aileron balance weight tube arm I.D. is open, corrosion free, and zinc coated (early aircraft only).	
		WG4	Check fuel vents and connecting lines for damage and restriction.	
		WG5	Check fuel tanks, sump tanks and lines for evidence of leakage. Check sump tanks and lines for secure mounting.	
		WG6	Check fuel cap gaskets for air tight seal.	
		WG7	Check wing and outboard wing section attaching bolts. Torque to 60-85 in-lb.	
		WG8	Inspect fuel tank placards.	
		WG9	Check pitot heating element for proper operation (if installed).	

Wing Group
(continued)

Insp	Mech	Procedure	Remarks
		WG10 Check pitot tube opening and lines. Drain accumulated moisture.	
		WG11 Check for interior corrosion of skin indicated by a white flaking ash.	

Main Landing Gear Group

Insp	Mech	Procedure	Remarks
		MG1 Remove wheels and check for cracks. Check condition of brake linings, wheel cylinders, torque plates, and mounting pins. Pack wheel bearings, reinstall wheels, and key 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. For operation in dusty areas or areas of high humidity, repack every 100 hours. Perform a complete wheel inspection when tires are replaced.	
		MG2 Check tires for approved type, wear, and proper inflation.	
		MG3 Check brake lines for leaks and secure attachment.	
		MG4 Check struts for secure mounting. Inspect for cracks, delamination, and nicks.	
		MG5 Inspect the upper main mounting brackets and spar attaching supports (center spar to fuselage) for wear, cracks, loose bolts, and corrosion.	
		MG6 Inspect wheel and strut fairings for damage and secure mounting (if installed).	

Nose Gear Group

Insp	Mech	Procedure	Remarks
		NG1 Check nose gear strut for secure mounting, deformation, damage, and cracks.	
		NG2 Remove nose gear strut from torque yoke and inspect for corrosion of the faying surfaces every 12 calendar months. Remove corrosion if present, paint surfaces with zinc-chromate, and reassemble wet. Seal strut to yoke connection with RTV-102 by Dow Corning (or suitable silicon sealant).	
		NG3 Remove and check nose gear fork for deformation, wear, and cracks. Maximum fork to strut bearing clearance is 0.035 in.	

Nose Gear Group
(continued)

Insp	Mech	Procedure		Remarks
		NG4	Grease fork and friction dampener, assemble to strut, and tighten to 10–22 lb. drag at axle.	
		NG5	Remove nose wheel, check for cracks, clean, inspect and repack bearings, reinstall wheel, and safety axle at first 100 hours and each 500 hours thereafter. Inspect wheel bearing grease for contamination and solidification at each annual or 100-hour inspection. For operation in dusty areas or areas of high humidity, repack every 100 hours. Perform a complete wheel inspection when tire is replaced.	
		NG6	Check tire for approved type, wear, and proper inflation.	
		NG7	Check wheel fairing for damage and secure mounting (if installed).	

Operational Inspection

Insp	Mech	Procedure		Remarks
		OI1	Check brake operation (including parking brake).	
		OI2	Check fuel primer operation and lines for leaks.	
		OI3	Check booster pump operation.	
		OI4	Check fuel pressure.	
		OI5	Check starter for proper operation.	
		OI6	Check oil pressure and temperature.	
		OI7	Check engine controls for proper operation. Check throttle control for proper cushion.	
		OI8	Check magneto operation; 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.	
		OI9	Check engine static RPM: 2250-2375, Model AA-5 and AA-5A 2150-2275, Model AA-5B.	
		OI10	Check carburetor heater for proper operation.	
		OI11	Check alternator output.	
		OI12	Check suction gauge and vacuum system output 4.6 to 5.4 in. Hg.	
		OI13	Check fuel selector valve operation and indexing.	
		OI14	Check heating, defrosting, and ventilating system for proper operation.	
		OI15	Check radio for proper operation.	

Operational Inspection
(continued)

Insp	Mech	Procedure	Remarks
		OI16 Check engine mixture setting and idle speed: 600-650 rpm, Model AA-5 and AA-5A; 500-650 rpm, Model AA-5B.	
		OI17 Check Idle cut off on carburetor for proper operation.	
		OI18 Check ailerons for proper operation.	
		OI19 Check elevators and trim tabs for proper operation.	
		OI20 Check flaps for proper operation.	
		OI21 Check fuel quantity gauges for condition and proper operation.	
		OI22 Check interior lights for proper operation and adjustment.	
		OI23 Check navigation and anti-collision lights for proper operation and landing lights for proper operation and adjustment.	
		OI24 Check pitot heat for proper operation.	
		OI25 Check stall warning device for operation.	
		OI26 Inspect engine after ground run-up.	
		OI27 Flight test and inspect for oil leaks and secure mounting of all components.	

General

Insp	Mech	Procedure	Remarks
		GG1 Aircraft cleaned and serviced.	
		GG2 Aircraft conforms to FAA Specifications.	
		GG3 Aircraft complies with FAA Airworthiness Directives.	
		GG4 Aircraft complies with manufacturers' Service Letters and Bulletins.	
		GG5 Checked for proper Owners Manuals or Pilots Operating Handbook.	
		GG6 Aircraft papers in proper order.	
		GG7 Make log book entry.	