

SCOPE AND PREPARATION

The 50-hour inspection includes a visual check of the engine, propeller, and aircraft exterior for any apparent damage or defects; an oil change and filter element change on aircraft equipped with an external oil filter; and accomplishment of lubrication and servicing requirements. Remove propeller spinner and engine cowling, and replace after the inspection has been completed.

If the airplane is not equipped with an external oil filter, the engine oil should be changed and the oil screen cleaned every 25 hours. Refer to paragraphs 2-16, 2-17, 2-17A, and 2-40A for detailed instructions regarding servicing and lubrication requirements in an unusual environment.

The 100-hour (or periodic) inspection includes everything in the 50-hour inspection. Also loosen or remove all fuselage, wing, empennage, and upholstery inspection doors, plates, and fairings as necessary to perform a thorough, searching inspection of the airplane. Replace after the inspection has been completed.

NOTE

Numbers appearing in the "AS SPECIFIED" column refer to the data listed at the end of the inspection chart.

PROPELLER.

- | | AS SPECIFIED | EACH 100 HOURS | EACH 50 HOURS |
|---------------------------------------|--------------|----------------|---------------|
| 1. Spinner and spinner bulkhead ----- | ● | | |
| 2. Blades ----- | ● | | |
| 3. Hub ----- | ● | | |
| 4. Lubrication (Hartzell) ----- | | ● | |
| 5. Bolts and nuts ----- | ● | | |
| 6. Governor and control ----- | ● | | |

ENGINE COMPARTMENT.

Check for evidence of oil, hydraulic fluid and fuel leaks, then clean entire engine and compartment, if needed, prior to inspection.

- | | | | |
|---|---|--|--|
| 1. Engine oil, screen, filler cap, dipstick, drain plug and external filter element ----- | ● | | |
| 2. Oil cooler ----- | ● | | |
| 3. Induction air filter (Also see paragraph 2-17.) ----- | ● | | |
| 4. Induction airbox, air valves, doors, and controls ----- | ● | | |
| 5. Cold and hot air hoses ----- | ● | | |

1

	AS SPECIFIED		
	EACH 100 HOURS		
	EACH 50 HOURS		
6. Engine baffles	•		
7. Cylinders, rocker box covers, and push rod housings	•		
8. Crankcase, oil sump, accessory section, and front crankshaft seal	•		
9. All lines and hoses	•		
10. Intake and exhaust systems (Also see paragraph 12-24)	•		
11. Ignition harness	•		
12. Spark plugs and compression check.....		•	
13. Crankcase, hydraulic, and vacuum system breather lines.....	•		
14. Electrical wiring.....	•		
15. Vacuum pump, oil separator, and relief valve	•		
16. Vacuum relief valve screen or filter		•	2
17. Engine controls and linkage	•		
18. Engine shock mounts, engine mount structure, and ground straps	•		
19. Cabin heater valves, doors, and controls	•		
20. Starter, solenoid, electrical connections	•		
21. Starter brushes, brush leads, and commutator			3
22. Generator or Alternator, drive belt, pulley, and electrical connections.....	•		
23. Generator or Alternator brushes, brush leads, and commutator or slip ring			3
24. Voltage regulator mounting and electrical leads	•		
25. Magnetos (external) and electrical connections	•		
26. Bendix magneto breaker compartment and timing (Also see paragraph 12-72)		•	4
27. Slick magneto timing			5
28. Slick magneto breaker compartment (Also see paragraph 12-78).....			5
29. Fuel injection fuel-air control unit, fuel pump, fuel manifold valve, and fuel lines.....	•		
30. Engine fuel injection nozzles	•		13

		AS SPECIFIED		
		EACH 100 HOURS	EACH 50 HOURS	
31.	Fuel-air control unit screen		•	
32.	Hydraulic pump		•	
33.	Firewall		•	
34.	Engine cowling	•		
35.	Cowl flaps and control	•		
AIRFRAME				
1.	Aircraft exterior	•		
2.	Aircraft structure		•	
3.	Windows, windshield, and doors	•		
4.	Seats, stops, seat rails, upholstery, structure, and seat mounting	•		
5.	Safety belts and attaching brackets	•		
6.	Control column bearings, sprockets, pulleys, cables, chains, and turnbuckles		•	
7.	Control lock, control wheel, and control column mechanism		•	
8.	Instruments and markings		•	
9.	Gyro filter and central air filter (Also see paragraph 2-17A)		•	6
10.	Magnetic compass compensation			7
11.	Instrument wiring and plumbing		•	
12.	Instrument panel, shock mounts, ground straps, cover, and decals and labeling		•	
13.	Defrosting, heating, ventilating systems, and controls		•	
14.	Cabin upholstery, trim, sun visors, and ashtrays		•	
15.	Area beneath floor, lines, hoses, wires, and control cables		•	
16.	Electrical horns, lights, switches, circuit breakers, fuses, and spare fuses	•		
17.	Exterior lights	•		

	AS SPECIFIED	EACH 100 HOURS	EACH 50 HOURS
18. Pitot and static systems	•		
19. Stall warning sensing unit and pitot and stall warning heaters	•		
20. Radios, and radio controls	•		
21. Radio antennas	•		
22. Battery, battery box and battery cables.....	•		
23. Battery electrolyte level (Refer to paragraph 2-18.)	•		
24. Oxygen system	•	8	
25. Oxygen supply, masks, and hoses	•	9	
26. Reel type secondary seat stops, make sure the manual lock operates correctly	•		
CONTROL SYSTEMS			
In addition to the items listed below, always check for correct direction of movement, correct travel, and correct cable tension.			
1. Cables, terminals, pulleys, pulley brackets, cable guards, turnbuckles and fairleads	•		
2. Chains, terminals, sprockets and chain guards.....	•		
3. Trim control wheels, indicators, actuator, and bungee	•		
4. Travel stops	•		
5. All decals and labeling.....	•		
6. Flap control lever or switch, flap rollers and tracks, flap position transmitter and linkage, flap position indicator, flap electric motor and transmission, actuating cylinders and synchronizing system.	•		
7. Elevator downspring system.....	•		
8. Rudder pedal assemblies and linkage	•		
9. Skin and structure of control surfaces and trim tabs.....	•		
10. Balance weight attachment.....	•		

		AS SPECIFIED
		EACH 100 HOURS
		EACH 50 HOURS
2. Check landing gear doors for at least ½-inch clearance with any part of landing gear during operation, and for proper fit when closed.	•	
3. Check down position of the main gear struts. (Refer to Figures 5-10 and 5A-8)	•	
4. Check main gear downlock engagement. (Refer to Figures 5-21, 5A-8, and 5A-13)	•	
5. Check overcenter adjustment of retracted main gear downlock. (Refer to Figures 5-21 and 5A-13)	•	
6. Check main gear uplock hook operation. (Refer to paragraphs 5-110, 5A-52, and 5C-47) .	•	
7. Check that main gear snubbing action occurs. (Refer to paragraph 5C-46)	•	
8. Check adjustment and operation of main gear up and down indicator switches, nose gear up and down indicator switches and nose gear safety switch. (Refer to paragraphs 5-109, 5-111, 5-114, 5-116, and 5-118 for Model 210 and 210A) (Refer to paragraphs 5A-103, 5A-104, 5A-108, 5A-109, and 5A-110 for Model 210B and on) Also check indicator lights for proper operation.....	•	
9. Check nose gear downlock adjustments. (Refer to paragraphs 5-113 and 5A-106)	•	
10. Check nose gear uplock operation. (Refer to paragraphs 5-115 and 5A-106)	•	
11. Check adjustment of landing gear handle up-down switch. (Refer to paragraphs 5-31, 5A-28, and 5C-22)	•	
12. Check all hydraulic system components for security, hydraulic leaks and any apparent damage to components or mounting structure.	•	
NOTE: Hydraulic fluid for the brakes passes through the actuator-to-saddle plate attachment and is sealed by an O-ring. After the bolts are checked for tightness, check that no leakage of brake fluid occurs with pressure applied to the brake pedals.		
13. Check gear and door linkage for security, for wear of pivot points and bearings, and for distortion or other damage	•	
14. Check main gear strut-to-saddle attachment	•	
15. Check condition of all springs	•	
16. Clean hydraulic filter. (Refer to paragraphs 5-13, 5A-14, and 5C-10)	•	10
17. Hydraulic fluid contamination check. (Refer to paragraph 2-26)		11

	AS SPECIFIED
	EACH 100 HOURS
	EACH 50 HOURS
18. Check operation of emergency hand pump	•
19. Check accumulator precharge (Models 210 and 210A). (Refer to paragraph 2-25.)	•

SPECIFIED INSPECTION

1. Each 25 hours, if not equipped with an external filter.
2. Each 1000 hours, or to coincide with engine overhauls, replace garter-type filters.
3. Starters and generators each 200 hours; alternators, each 500 hours.
4. First 25 hours; each 100-hour inspection thereafter.
5. Check timing each 200 hours; check breaker compartment each 500 hours, unless timing is off.
6. Central filter, each 500 hours, and gyro filters at instrument overhaul; gyro filters, each 100 hours, without central filter.
7. Each 1000 hours or to coincide with engine overhauls.
8. Refer to Section 15 for details.
9. Refer to paragraphs 2-27 and 2-28 for details.
10. At first 25 hours and first 50 hours of operation; at each 100-hour inspection thereafter.
11. At first 50 and first 100 hours, thereafter at each 500 hours or one year, whichever occurs first.
12. Fuel quantity indicating system operational test is required every 12 months. Refer to Section 16 for detailed accomplishment instructions.
13. At the first 100-hour inspection on new, rebuilt or overhauled engines, remove and clean the fuel injection nozzles. Thereafter the fuel injection nozzles must be cleaned at 300-hour intervals or more frequently if fuel stains are noted.

2-23. HYDRAULIC RESERVOIR (210 SERIES ONLY).
In the 210 and 210A airplanes the hydraulic reservoir should be checked and replenished as necessary every 25 hours. In the 210B and on the reservoir should be filled as necessary whenever the fluid level in the reservoir sight window shows low. Filling is accomplished by using a pressure brake bleeder or Hydro-Fill unit attached to the filler fitting on the firewall. MIL-H-5606 hydraulic fluid should be pumped into the filler until fluid flows from the reservoir overboard vent line. A slower method of filling the reservoir is to remove the filler valve and use gravity-feed from a container at least as high as the top of the firewall.