

PIPER AIRCRAFT
PA-38-112
***MAINTENANCE MANUAL**

SCHEDULED MAINTENANCE.

PERIODIC INSPECTIONS.

— NOTE —

Perform all inspections or operations at each of the inspection intervals as indicated by a circle (O).

Nature of Inspection	Inspection Time (hrs)			
	50	100	500	1000
A. PROPELLER GROUP				
1. Inspect spinner and back plate	O	O	O	O
2. Inspect blades for nicks, cracks and corrosion (Refer to Chapter 61)	O	O	O	O
3. Inspect propeller mounting bolts and safety (Check torque if safety is broken)		O	O	O
4. Inspect for loose spinner fit (Refer to latest Piper Service Letter No. 855, Part IV)		O	O	O
5. Inspect complete propeller and spinner assembly for security, chafing, cracks, deterioration, wear and correct installation (See Note 25)		O	O	O
6. Recondition propeller (See Note 17)				
B. ENGINE GROUP				
NOTE: Read Note 5 prior to completing this inspection group.				
CAUTION: Ground Magneto Primary Circuit before working on engine.				
1. Remove engine cowl and inspect for damage	O	O	O	O
2. Clean and inspect cowling for cracks, distortion, and loose or missing fasteners		O	O	O
3. Drain oil sump (See Note 6)	O	O	O	O
4. Clean suction oil strainer at oil change (Inspect strainer for foreign particles)	O	O	O	O
5. Change full flow (cartridge type) oil filter element (Inspect element for foreign particles)	O	O	O	O
6. Inspect oil temperature sender unit for leaks and security		O	O	O
7. Inspect oil lines and fitting for leaks, security, chafing, dents and cracks (See Note 8)	O	O	O	O
8. Clean and inspect oil cooler		O	O	O
9. Fill engine with oil per lubrication chart in Chapter 12	O	O	O	O
10. Clean engine		O	O	O
11. Operate engine up to normal operating temperatures. Inspect for oil leaks after shutdown		O	O	O
CAUTION: Do not contaminate the vacuum pump with cleaning fluid. (Refer to the latest revision of Lycoming Service Instruction No. 1221.)				

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PERIODIC INSPECTIONS. (cont)

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Nature of Inspection	Inspection Time (hrs)			
	50	100	500	1000
B. ENGINE GROUP (cont)				
12. Inspect condition of spark plugs (Clean and adjust gap as required, adjust per latest revision of Lycoming Service Instruction No. 1042)		O	O	O
NOTE: If fouling of spark plugs has been apparent, rotate bottom plugs to upper plugs.				
13. Inspect spark plug cable leads and ceramics for corrosion and deposits....	O	O	O	O
14. Check cylinder compression (Ref: AC 43.13-1A) 1) /80 2) /80 3) /80 4) /80		O	O	O
15. Inspect cylinders for cracked or broken fins		O	O	O
16. Inspect valve rockers for proper clearance (Refer to Note 5)		O	O	O
NOTE: Lycoming requires a Valve Inspection be made after every 400 hours of operation. (See Note 9.)				
17. Inspect rocker box covers for evidence of oil leaks. If found, replace gasket; torque cover screws 50 inch-pounds (See Note 10)	O	O	O	O
18. Inspect ignition harness and insulators for high tension leakage and continuity		O	O	O
19. Check magnetos to engine timing		O	O	O
20. Overhaul or replace magnetos (See Note 12)				
21. Remove air filter and tap gently to remove dirt particles (Replace as required)	O	O	O	O
22. Drain carburetor and clean inlet line fuel strainer	O	O	O	O
23. Inspect condition of carburetor heat air door and box (See Note 11)	O	O	O	O
24. Inspect vent lines for evidence of fuel or oil seepage	O	O	O	O
25. Inspect condition of air intake seals		O	O	O
26. Inspect all air inlet duct hoses (Replace as required)	O	O	O	O
27. Inspect condition of flexible fuel lines		O	O	O
28. Replace flexible fuel lines (See Note 7)				O
29. Inspect fuel system for leaks	O	O	O	O
30. Clean screen in electric fuel pump and check operation (engine driven pump and electric) (See Note 16)	O	O	O	O
31. Overhaul or replace fuel pump (engine driven) (See Note 7)				
32. Remove and clean fuel filter bowl and screen (Clean at least every 90 days)	O	O	O	O
33. Inspect vacuum pump and lines		O	O	O
34. Overhaul or replace vacuum pump (See Note 7)				

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Nature of Inspection	Inspection Time (hrs)			
	50	100	500	1000
B. ENGINE GROUP (cont)				
35. Inspect throttle, carburetor heat, and mixture controls for travel and operating conditions.....		O	O	O
36. Inspect security of carburetor throttle arm			O	O
37. Inspect exhaust stacks, connections and gaskets (Replace gaskets as required).....		O	O	O
38. Inspect muffler, heat exchanger and baffles (Ref: AC 43.13-1A)		O	O	O
39. Inspect breather tube for obstructions and security		O	O	O
40. Inspect crankcase for cracks, leaks, and security of seam bolts		O	O	O
41. Inspect engine mounts for cracks, condition and loose mountings (See Note 24).....		O	O	O
42. Inspect all engine baffles		O	O	O
43. Inspect all wiring connected to the engine or accessories	O	O	O	O
44. Inspect rubber engine mount bushings for deterioration (Replace as required).....		O	O	O
45. Inspect fire wall seals		O	O	O
46. Inspect condition and tension of alternator drive belt (Refer to Chapter 24)		O	O	O
47. Inspect condition of alternator and starter.....		O	O	O
48. Inspect security of alternator mounting		O	O	O
49. Check fluid level in brake reservoir (Fill as required)	O	O	O	O
50. Lubricate all controls (Refer to Chapter 12)		O	O	O
51. Complete overhaul of engine or replace with factory rebuilt (See Note 7).....				
52. Inspect battery, box and cables (Inspect at least every 30 days. Flush box as required and fill battery)	O	O	O	O
53. Reinstall engine cowl	O	O	O	O
C. CABIN GROUP				
1. Inspect cabin entrance, doors and windows for damage and operation		O	O	O
2. Inspect upholstery for tears		O	O	O
3. Inspect seats, seat belts for security of brackets and bolts.....		O	O	O
4. Inspect elevator trim operation		O	O	O
5. Inspect rudder pedals for proper operation		O	O	O
6. Inspect parking brake and brake handle for operation and cylinder leaks		O	O	O

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PA-38-112
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C. CABIN GROUP (cont)				
7. Inspect control wheels, column, pulleys and cables for proper operation (See Note 15).....		O	O	O
8. Inspect flap control attachment bolts for security.....			O	O
9. Check landing, navigation, cabin and instrument lights for proper operation	O	O	O	O
10. Inspect instruments, lines and attachments		O	O	O
11. Inspect gyro operated instruments and electric turn and bank (Overhaul or replace as required)		O	O	O
12. Replace filters on gyro horizon and directional gyro or replace central air filter		O	O	O
13. Clean or replace vacuum regulator filter		O	O	O
14. Check altimeter (Calibrate altimeter system in accordance with FAR 91.170 if appropriate)		O	O	O
15. Check operation of fuel selector valve (See Note 26)		O	O	O
16. Inspect condition of heater controls and ducts		O	O	O
17. Inspect condition and operation of air vents		O	O	O
18. Lubricate per lubrication chart in Chapter 12.....	O	O	O	O
D. FUSELAGE AND EMPENNAGE GROUP				
1. Remove inspection plates and panels		O	O	O
2. Inspect electronic installations		O	O	O
3. Inspect bulkheads and stringers for damage		O	O	O
4. Inspect antenna mounts and electric wiring		O	O	O
5. Inspect fuel lines, valves, and gauges for damage and operation		O	O	O
6. Inspect security of all lines		O	O	O
7. Inspect vertical fin and rudder surfaces for damage		O	O	O
8. Inspect rudder hinges, horn and attachments for damage and operation (See Note 23).....		O	O	O
9. Inspect vertical fin attachments (See Notes 18 and 19)		O	O	O
10. Inspect rudder hinge bolts for excess wear (Replace as required)		O	O	O
11. Inspect elevator and stabilizer surfaces for damage (See Note 13).....		O	O	O
12. Inspect elevator, horn and attachments for damage and operation		O	O	O
13. Inspect elevator balance weight for security and operating clearance		O	O	O
14. Inspect horizontal surface attachments (See Note 19)		O	O	O
15. Inspect elevator bolts and bearings for excess wear (Replace as required).....		O	O	O

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D. FUSELAGE AND EMPENNAGE GROUP (cont)				
16. Inspect emergency locator transmitter battery for replacement date or time per Chapter 23 of Maintenance Manual (See latest revision of Piper Service Letter No. 820)		O	O	O
17. Inspect elevator trim mechanism (See Note 22)		O	O	O
18. Inspect aileron, rudder, elevator, trim cables, turnbuckles, guides and pulleys for safety, damage and operation		O	O	O
19. Check all cable tensions per Chapter 27		O	O	O
20. Inspect strobe lights for security and operation		O	O	O
21. Lubricate per lubrication chart in Chapter 12	O	O	O	O
22. Inspect all control cables, air ducts, electrical leads, lines, radio antenna leads and attaching parts for security, routing, chafing, deterioration, wear, and correct installation		O	O	O
23. Reinstall inspection plates and panels		O	O	O
E. WING GROUP				
1. Remove inspection plates and fairings		O	O	O
2. Inspect surfaces and tips for damage, loose rivets, and condition of walk-way		O	O	O
3. Inspect aileron hinges and attachments		O	O	O
4. Inspect aileron balance weight for security and operating clearance		O	O	O
5. Inspect aileron cables, pulleys and bellcranks for damage and operation		O	O	O
6. Inspect flaps and attachments for damage and operation		O	O	O
7. Inspect flap hinges and attachments		O	O	O
8. Lubricate per lubrication chart in Chapter 12	O	O	O	O
9. Visually inspect wing attachment bolts and fittings for any indication of movement between nuts and bolts (See Note 20)		O	O	O
10. Visually inspect main spar splice plate for any indication of movement between nuts and bolts (See Note 20)				O
11. Inspect fuel tanks and lines for leaks and water		O	O	O
12. Check fuel tanks marked for capacity		O	O	O
13. Check fuel tanks marked for minimum octane rating		O	O	O
14. Inspect fuel tank vents		O	O	O
15. Inspect all control cables, electrical leads, lines and attaching parts for security, routing, chafing, deterioration, wear, and correct installation		O	O	O

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E. WING GROUP (cont.)				
16. Reinstall inspection plates and fairings		O	O	O
17. Replace wing and associated structure (See Note 21).....				
F. LANDING GEAR GROUP				
1. Inspect nose gear oleo strut for proper extension per Chapter 32 (Check fluid level as required)	O	O	O	O
2. Inspect nose gear oleo struts for fluid leaks and scoring		O	O	O
3. Put airplane on jacks		O	O	O
4. Inspect nose gear steering control and travel		O	O	O
5. Inspect tires for cuts, uneven or excessive wear and slippage		O	O	O
6. Remove wheels, clean, inspect and repack bearings		O	O	O
7. Inspect wheels for cracks, corrosion and broken bolts		O	O	O
8. Check tire pressure per Chapter 6	O	O	O	O
9. Inspect brake lining and disc for condition and wear		O	O	O
10. Inspect brake backing plates for condition and wear		O	O	O
11. Inspect brake lines		O	O	O
12. Inspect main gear legs, attachments, and bolts for condition and security		O	O	O
13. Inspect all hydraulic lines and attaching parts for security, routing, chafing, deterioration, wear, and correct installation		O	O	O
14. Inspect wheels for alignment		O	O	O
15. Inspect nose gear fork for damage		O	O	O
16. Inspect nose gear torque links and bolts for wear		O	O	O
17. Lubricate per lubrication chart	O	O	O	O
18. Remove airplane from jacks		O	O	O
H. OPERATIONAL INSPECTION				
1. Check fuel pump and fuel tank selector	O	O	O	O
2. Check fuel quantity and pressure readings (See Note 14)	O	O	O	O
3. Check oil pressure and temperature	O	O	O	O
4. Check alternator output	O	O	O	O
5. Check carburetor heat	O	O	O	O
6. Check compass	O	O	O	O

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H. OPERATIONAL INSPECTION (cont.)				
7. Check parking brake	O	O	O	O
8. Check vacuum gauge	O	O	O	O
9. Check gyros for noise and roughness	O	O	O	O
10. Check cabin heater operation	O	O	O	O
11. Check magneto switch operation	O	O	O	O
12. Check magneto RPM variation	O	O	O	O
13. Check throttle and mixture operation	O	O	O	O
14. Check engine idle	O	O	O	O
15. Check electronic equipment operation	O	O	O	O
I. GENERAL				
1. Aircraft conforms to FAA Specification	O	O	O	O
2. All FAA Airworthiness Directives complied with	O	O	O	O
3. All Manufacturers Service Bulletins and Letters complied with	O	O	O	O
4. Check for proper Flight Manual	O	O	O	O
5. Aircraft papers in proper order	O	O	O	O