

# PIPER CHEROKEE SERVICE MANUAL

TABLE III-II. INSPECTION REPORT  
PA-28R

**NOTE**

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

Nature of Inspection	Inspection time (hrs)			
	50	100	500	1000
<b>A. PROPELLER GROUP</b>				
1. Inspect spinner and back plate. ....	O	O	O	O
2. Inspect blades for nicks and cracks. ....	O	O	O	O
3. Inspect for grease and oil leaks. ....	O	O	O	O
4. Lubricate propeller per lubrication chart in Service Manual (Section II) .....	O	O	O	O
5. Inspect spinner mounting brackets. ....		O	O	O
6. Inspect propeller mounting bolts and safety. (Check torque if safety is broken).....		O	O	O
7. Inspect hub parts for cracks and corrosion. ....		O	O	O
8. Rotate blades of constant speed propeller and check for tightness in hub pilot tube....		O	O	O
9. Remove constant speed propeller; remove sludge from propeller and crankshaft. ....			O	O
10. Inspect complete propeller and spinner assembly for security, chafing, cracks, deterioration, wear, and correct installation.....		O	O	O
11. Overhaul propeller. (See Note 22).....				
<b>B. ENGINE GROUP.</b>				
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 (See Note 23).....		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. Clean pressure oil strainer or change full flow (cartridge type) oil filter element. (Inspect strainer or 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 radiator cooling fins. ....		O	O	O
9. Remove and flush oil radiator. ....			O	O
10. Fill engine with oil per lubrication chart in Service Manual (Section II) .....	O	O	O	O
11. Clean engine .....		O	O	O
CAUTION: Do not contaminate the vacuum pump with cleaning fluid. (Ref: Latest revision of Lycoming Service Instruction No. 1221.)				

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Nature of Inspection	Inspection Time (hrs)			
	50	100	500	1000
<b>B. ENGINE GROUP (cont.)</b>				
12. Inspect condition of spark plugs (Clean and adjust gap as required; adjust per the latest revision of Lycoming Service Instruction No. 1042) .....		0	0	0
NOTE: If fouling of spark plugs has been apparent, rotate bottom plugs to upper plugs. (Refer to the latest revision of Lycoming Service Instruction No. 1070 for additional information and recommended service procedures when using alternate fuels.)				
13. Inspect spark plug cable leads and ceramics for corrosion and deposits ...	0	0	0	0
14. Check cylinder compression (Ref: AC 43.13-1A) .....		0	0	0
15. Inspect cylinders for cracked or broken fins .....		0	0	0
16. Inspect rocker box covers for evidence of oil leaks. If found, replace gasket; torque cover screws 50 inch-pounds (See Note 12) .....	0	0	0	0
NOTE: Lycoming requires a Valve Inspection be made after every 400 hours of operation. (See Note 11)				
17. Inspect ignition harness and insulators (high tension leakage and continuity) .....		0	0	0
18. Inspect magneto points for condition and proper clearance (Refer to Service Manual) .....		0	0	0
19. Inspect magneto for oil leakage .....		0	0	0
20. Inspect breaker felts for proper lubrication .....		0	0	0
21. Inspect distributor block for cracks, burned areas or corrosion and height of contact springs .....			0	0
22. Check magnetos to engine timing (Refer to Service Manual) .....		0	0	0
23. Overhaul or replace magnetos (See Note 7) .....				
24. Remove air filter and tap gently to remove dirt particles (Replace as required) .....	0	0	0	0
25. Clean fuel injector inlet line screen (Clean injector nozzles as required) (Clean with acetone only) .....	0	0	0	0
26. Inspect condition of injector alternate air door and box (See Note 13) ...	0	0	0	0
27. Inspect vent lines for evidence of fuel or oil seepage .....	0	0	0	0
28. Inspect intake seals for leaks and clamps for tightness .....	0	0	0	0
29. Inspect all air inlet duct hoses (Replace as required) .....	0	0	0	0
30. Inspect condition of flexible fuel lines .....		0	0	0
31. Replace flexible fuel lines .....				0
32. Inspect fuel system for leaks .....	0	0	0	0
33. Inspect fuel pumps for operation (engine driven and electric) .....		0	0	0
34. Overhaul or replace fuel pumps (engine driven and electric) (See Note 7) ..				
35. Clean gascolator bowl and screens (Clean at least every 90 days) .....	0	0	0	0
36. Inspect vacuum pump and lines .....		0	0	0
37. Overhaul or replace vacuum pump (See Note 7) .....				
38. Inspect throttle, alternate air, mixture and propeller governor controls for security, travel and operating condition (Refer to the latest revision of Piper Service Bulletin No. 448 and Service Letter No. 747) .....		0	0	0
39. Inspect exhaust stacks, connections and gaskets (Replace gaskets as required) .....		0	0	0
40. Inspect muffler, heat exchange and baffles (Refer to the latest revision of Piper S/B No. 691) .....		0	0	0

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TABLE III-II. INSPECTION REPORT (cont.)  
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Nature of Inspection	Inspection Time (hrs)			
	50	100	500	1000
<b>B. ENGINE GROUP (cont)</b>				
41. Inspect breather tube for obstructions and security .....		○	○	○
42. Inspect crankcase for cracks, leaks, and security of seam bolts .....		○	○	○
43. Inspect engine mounts for cracks and loose mountings .....		○	○	○
44. Inspect condition of all engine baffles .....		○	○	○
45. Inspect condition of all wiring connected to the engine or accessories .....		○	○	○
46. Inspect rubber engine mount bushings for deterioration (Replace as required) .....		○	○	○
47. Inspect condition of fire wall seals .....		○	○	○
48. Inspect condition and tension of alternator drive belt (Refer to Service Manual Section XI.) .....		○	○	○
49. Lubricate idler pulley (if installed) per lubrication chart in Service Manual .....		○	○	○
50. Inspect condition of alternator and starter .....		○	○	○
51. Inspect security of alternator mounting .....		○	○	○
52. Inspect air conditioning compressor oil level (See Note 9) .....		○	○	○
53. Inspect condition of compressor belt and tension (Refer to Service Manual Section XIV.) .....		○	○	○
54. Inspect compressor clutch security and wiring (See Note 10) .....		○	○	○
55. Inspect security of compressor mounting .....		○	○	○
56. Check fluid in brake reservoir (Fill as required) .....	○	○	○	○
57. Lubricate all controls per lubrication chart in Service Manual (Section II) .....		○	○	○
58. Overhaul or replace propeller governor (See Note 7) (Refer to the latest revision of Hartzell Service Letter 61) .....				
59. Complete overhaul of engine or replace with factory rebuilt (See Note 7) .....				
60. Reinstall engine cowl .....	○	○	○	○
<b>C. CABIN GROUP</b>				
1. Inspect cabin entrance door and windows for damage, operation and security .....	○	○	○	○
2. Inspect upholstery for tears .....		○	○	○
3. Inspect seats, seat belts, security brackets and bolts .....		○	○	○
4. Inspect trim operation (See Note 17) .....		○	○	○
5. Inspect rudder pedals .....		○	○	○
6. Inspect parking brake and brake handle for operation and cylinder leaks .....		○	○	○
7. Inspect control wheels, column, pulleys and cables .....		○	○	○
8. Inspect flap control cable attachment bolt .....		○	○	○
9. Inspect landing, navigation, cabin and instrument lights .....	○	○	○	○
10. Inspect instruments, lines and attachments .....		○	○	○
11. Inspect gyro operated instruments and electric turn and bank (Overhaul or replace as required) .....		○	○	○

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TABLE III-II. INSPECTION REPORT (cont.)  
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Nature of Inspection	Inspection Time (hrs)			
	50	100	500	1000
<b>C. CABIN GROUP (cont)</b>				
12. Replace filters on gyro horizon and directional gyro or replace central air filter .....		0	0	0
13. Clean or replace vacuum regulator filter .....		0	0	0
14. Inspect altimeter (Calibrate altimeter system in accordance with FAR 91.170, if appropriate) .....		0	0	0
15. Check operation of fuel selector valve (See Note 20) .....		0	0	0
16. Inspect condition of heater controls and ducts .....		0	0	0
17. Inspect condition and operation of air vents .....		0	0	0
18. Inspect condition of air conditioning ducts .....		0	0	0
19. Remove and clean air conditioning evaporator filter .....		0	0	0
<b>D. FUSELAGE AND EMPENNAGE GROUP</b>				
1. Remove inspection plates and panels .....		0	0	0
2. Inspect baggage door, latch and hinges for condition, operation and security .....		0	0	0
3. Inspect battery, box and cables (Inspect at least every 30 days. Flush box as required and fill battery per instructions on box) .....	0	0	0	0
4. Inspect electronic installations .....		0	0	0
5. Inspect bulkheads and stringers for damage .....		0	0	0
6. Inspect antenna mounts and electric wiring for security and corrosion in plugs .....		0	0	0
7. Inspect hydraulic pump motor brushes (See Note 19) .....		0	0	0
8. Inspect hydraulic pump fluid level (Fill as required) .....	0	0	0	0
9. Inspect hydraulic pump lines for damage and leaks .....		0	0	0
10. Inspect for obstructions and contamination in inlet of backup landing gear extender actuator inlet head .....	0	0	0	0
11. Inspect air conditioning system for freon leaks .....		0	0	0
12. Check freon level in sight gauge of receiver-dehydrator (Refer to Service Manual) .....	0	0	0	0
13. Inspect air conditioner condenser air scoop rigging .....	0	0	0	0
14. Inspect fuel lines, valves, sender units, and gauges for damage and operation .....		0	0	0
15. Inspect security of all lines .....		0	0	0
16. Inspect vertical fin and rudder surfaces for damage .....		0	0	0
17. Inspect rudder hinges, horn and attachments for damage and operation .....		0	0	0
18. Inspect rudder control stop to insure stop has not loosened and lock nut is tight .....		0	0	0
19. Inspect vertical fin attachments .....		0	0	0
20. Inspect rudder hinge bolts for excess wear (Replace as required) .....		0	0	0
21. Inspect stabilator surfaces for damage .....		0	0	0
22. Inspect stabilator, tab hinges, horn and attachments for damage and operation .....		0	0	0

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TABLE III-II. INSPECTION REPORT (cont)  
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Nature of Inspection	Inspection time (hrs)			
	50	100	500	1000
<b>D. FUSELAGE AND EMPENNAGE GROUP (cont.)</b>				
23. Inspect stabilator control stops to insure stops have not loosened and locknut is tight.		0		
24. Inspect stabilator attachments (see latest revision of Piper Service Bulletin 856).....		0	0	0
25. Inspect stabilator and tab hinge bolts and bearings for excess wear (Replace as required) .....		0	0	0
26. Inspect stabilator trim mechanism.....		0	0	0
27. Check all cable tensions (use tensiometer) (See Note 18) .....		0	0	0
28. Inspect aileron, rudder, stabilator, stabilator trim cables, turnbuckles, guides and pulleys for safety, damage and operation (See Note 24).....		0	0	0
29. Clean and lubricate stabilator trim drum screw (Refer to lubrication chart in Service Manual) .....			0	0
30. Inspect stabilator balance weight attachments and arm for security and condition .....		0	0	0
31. Inspect emergency locator transmitter battery for replacement date per Service Manual (Refer to the latest revision of Piper S/L No. 820) .....		0	0	0
32. Clean and lubricate all exterior needle bearings .....				0
33. Lubricate per lubrication chart in Service Manual.....	0	0	0	0
34. Inspect anti-collision light for security and operation .....		0	0	0
35. Inspect security of Autopilot bridle cable clamps.....		0	0	0
36. Inspect all control cables, air ducts, electrical leads, lines, radio antenna leads and attaching parts for security, routing, chafing, deterioration, wear and correct installation .....		0	0	0
37. Reinstall inspection plates and panels.....		0	0	0
<b>E. WING GROUP</b>				
1. Remove inspection plates and fairings .....		0	0	0
2. Inspect surfaces and tips for damage, loose rivets, and condition of walk-way .....		0	0	0
3. Inspect aileron hinges and attachments .....		0	0	0
4. Inspect aileron control stops to insure stop has not loosened and lock nut is tight.....		0		
5. Inspect aileron balance weight and arm for security and condition .....		0	0	0
6. Inspect aileron cables, pulleys and bellcranks for damage and operation .....		0	0	0
7. Inspect flaps and attachments for damage and operation .....		0	0	0
8. Inspect condition of bolts used with hinges (Replace as required).....				0
9. Lubricate per lubrication chart in Service Manual (Section II) .....	0	0	0	0
10. Inspect wing attachment bolts and brackets.....		0	0	0
11. Inspect fuel tanks and lines for leaks and water (See Note 15).....		0	0	0
12. Fuel tanks marked for capacity .....		0	0	0
13. Fuel tanks marked for minimum octane rating .....		0	0	0
14. Inspect fuel cell vents (See Note 16) .....		0	0	0

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Nature of Inspection	Inspection Time (hrs)			
	50	100	500	1000
<b>E. WING GROUP (cont)</b>				
15. Inspect all control cables, air ducts, electrical leads, lines and attaching parts for security, routing, chafing, deterioration, wear and correct installation .....		○	○	○
16. Reinstall inspection plates and fairings .....		○	○	○
<b>F. LANDING GEAR GROUP</b>				
1. Inspect oleo struts for proper extension (N-2.75 in./ M-2.0 in.) Check fluid level as required) .....	○	○	○	○
2. Inspect nose gear steering control and travel .....		○	○	○
3. Inspect wheels for alignment .....		○	○	○
4. Put airplane on jacks .....		○	○	○
5. Inspect tires for cuts, uneven or excessive wear and slippage .....		○	○	○
6. Remove wheels, clean, check and repack bearings .....		○	○	○
7. Inspect wheels for cracks, corrosion and broken bolts .....		○	○	○
8. Check tire pressure (N-30 psi M-27 psi) .....	○	○	○	○
9. Inspect brake lining and disc .....		○	○	○
10. Inspect brake backing plates .....		○	○	○
11. Inspect brake and hydraulic lines .....		○	○	○
12. Inspect shimmy dampener .....		○	○	○
13. Inspect gear forks for damage .....		○	○	○
14. Inspect oleo struts for fluid leaks and scoring .....		○	○	○
15. Inspect gear struts, attachments, torque links, retraction links and bolts for condition and security .....		○	○	○
16. Inspect downlock for operation and adjustment .....		○	○	○
17. Inspect torque link bolts and bushings (Rebush as required) .....			○	○
18. Inspect drag and side brace link bolts (Replace as required) .....			○	○
19. Inspect gear doors and attachments .....		○	○	○
20. Inspect warning horn and light for operation .....		○	○	○
21. Retract gear - check operation .....		○	○	○
22. Retract gear - check doors for clearance and operation .....		○	○	○
23. Inspect anti-retraction system .....		○	○	○
24. Inspect actuating cylinders for leaks and security .....		○	○	○
25. Inspect all hydraulic lines, electrical leads, and attaching parts for security, routing, chafing, deterioration, wear and correct installation (See the latest revision of Piper S.L No. 808 and 810) .....		○	○	○
26. Inspect position indicator switch and electrical leads for security .....		○	○	○
27. Lubricate per lubrication chart in Service Manual (Section II) .....	○	○	○	○
28. Remove airplane from jacks .....		○	○	○
<b>G. OPERATIONAL INSPECTION</b>				
1. Check fuel pump and fuel tank selector .....	○	○	○	○
2. Check fuel quantity, pressure and flow readings .....	○	○	○	○

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Nature of Inspection	Inspection Time (hrs)			
	50	100	500	1000
<b>G. OPERATIONAL INSPECTION (cont)</b>				
3. Check oil pressure and temperature .....	0	0	0	0
4. Check alternator output .....	0	0	0	0
5. Check manifold pressure .....	0	0	0	0
6. Check alternate air .....	0	0	0	0
7. Check parking brake .....	0	0	0	0
8. Check vacuum gauge .....	0	0	0	0
9. Check gyros for noise and roughness .....	0	0	0	0
10. Check cabin heater operation .....	0	0	0	0
11. Check magneto switch operation .....	0	0	0	0
12. Check magneto RPM variation .....	0	0	0	0
13. Check throttle and mixture operation (See the latest revision of Piper Service Bulletin No. 448) .....	0	0	0	0
14. Check propeller smoothness .....	0	0	0	0
15. Check propeller governor action .....	0	0	0	0
16. Check engine idle .....	0	0	0	0
17. Check electronic equipment operation .....	0	0	0	0
18. Check operation of Autopilot, including automatic pitch trim, and Manual Electric Trim (See Note 21.) .....	0	0	0	0
19. Check air conditioner compressor clutch operation .....	0	0	0	0
20. Check air conditioner condenser scoop operation .....	0	0	0	0
21. Check (FLY Aircraft) Landing Gear System (See Note 14) .....		0	0	0
<b>H. GENERAL</b>				
1. Aircraft conforms to FAA Specification .....	0	0	0	0
2. All latest FAA Airworthiness Directives complied with .....	0	0	0	0
3. All latest Manufacturers Service Bulletins and Letters complied with .....	0	0	0	0
4. Check for proper Flight Manual .....	0	0	0	0
5. Aircraft papers in proper order .....	0	0	0	0

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### NOTES:

1. Refer to the last card of the Piper Parts Price List - Aerofiche, for a checklist of current revision dates to Piper Inspection Reports and Manuals.
2. All inspections or operations are required at each of the inspection intervals as indicated by a (O). Both the annual and 100 hour inspections are complete inspections of the airplane, identical in scope, while both the 500 and 1000 hour inspections are extensions of the annual or 100 hour inspections, which require a more detailed examination of the airplane, and overhaul or replacement of some major components. Inspections must be accomplished by persons authorized by the FAA.
3. Piper Service Bulletins are of special importance and Piper considers compliance mandatory.
4. Piper Service Letters are product improvements and service hints pertaining to servicing the airplane and should be given careful attention.
5. Inspections given for the power plant are based on the engine manufacturer's operator's manual for the particular airplane. Any changes issued to the engine manufacturer's operator's manual shall supersede or supplement the inspections outlined in this report.
6. Intervals between oil changes can be increased as much as 100% on engines equipped with full flow (cartridge type) oil filters, provided the element is replaced each 50 hours of operation. (Refer to latest revision of Lycoming Service Instruction No. 1070, for additional information and recommended service procedures when using alternate fuels.)
7. Replace or overhaul as required or at engine overhaul. (For engine overhaul, refer to latest revision of Lycoming Service Instruction No. 1009.)
8. Replace flexible oil lines as required, but no later than 1000 hours.
9. The compressor oil level should not be checked unless a freon leak has occurred which requires an addition of freon to the system.
10. Clean any traces of oil from the clutch surface.
11. At every 400 hours of engine operation, remove the rocker box covers and check for freedom of valve rockers when valves are closed. Look for evidence of abnormal wear or broken parts in the area of the valve tips, valve keeper, springs and spring seat. If any indications are found, the cylinder and all of its components should be removed (including the piston and connecting rod assembly) and inspected for further damage. Replace any parts that do not conform with limits shown in the latest revision for Lycoming Special Service Publication No. SSP1776.
12. Check cylinders for evidence of excessive heat indicated by burned paint on the cylinders. This condition is indicative of internal damage to the cylinder and, if found, its cause must be determined and corrected before the aircraft is returned to service.

Heavy discoloration and appearance of seepage at the cylinder head and barrel attachment area is usually due to emission of thread lubricant used during assembly of the barrel at the factory, or by slight gas leakage which stops after the cylinder has been in service for awhile. This condition is neither harmful nor detrimental to engine performance and operation. If it can be proven that leakage exceeds these conditions, the cylinder should be replaced.
13. Check throttle body attaching screws for tightness; the correct torque for these screws is 40 to 50 inch-pounds.

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NOTES:

14. Fly aircraft to check landing gear system in accordance with instructions given in Section VI, Paragraph 6-14, of PA-28 Service Manual 753 586. (Refer to the latest revision of Piper Service Letter No. 810.)
15. Replace flexible fuel tank supply hose at time of engine overhaul.
16. Replace fuel tank vent line flexible connections as required, but no later than 1000 hours of service.
17. If airplane has electric trim, refer to the latest revision of Piper Service Bulletin No. 556.
18. Maintain cable tensions specified in Section V of Service Manual.
19. Inspect brushes every 100 hours on airplanes used for training or every 500 hours on airplanes used for normal service. (Refer to Service Manual, Section VI.)
20. Refer to latest revision of Piper Service Bulletin No. 355.
21. Refer to Flight Manual Supplement for preflight and flight checks, for intended function in all modes.
22. Refer to latest information for the particular propeller being inspected:  
Hartzell Service Letter No. 61  
McCauley Service Bulletin No. 137.
23. Inspect Teflon bushing (lower to upper cowling attachment) for condition at each 100 hours. Replace bushing on condition, but no later than 500 hours time in service. Inspect pin for condition and replace as necessary.
24. If not already installed, add access panels, see Paragraph 4-57a. Inspect stabilator control cables, see Paragraph 3-11a.