



**PA-28-181**  
**INSPECTION REPORT**

ARCHER II  
ARCHER III

**PIPER AIRCRAFT CORPORATION**

(PART NUMBER 230 1039)

REISSUED: JULY 30, 1994

PIPER AIRCRAFT CORPORATION

INSPECTION REPORT

This form meets requirements of FAR Part 43 - Inspections must be performed by persons authorized by the FAA.

Make: **ARCHER II AND III** Model PA- **PA-28-181** Serial No. \_\_\_\_\_ Registration No. \_\_\_\_\_

Circle Type of Inspection 50 100 500 1000 Annual	50	100	500	1000	Inspector	Perform all inspections or operations at each of the inspection intervals as indicated by a circle (0)					
						50	100	500	1000	Inspector	
<b>DESCRIPTION</b>						<b>DESCRIPTION</b>					
<b>NOTE: Refer to Notes 1, 2, 3, and 4 before performing inspections.)</b>						<b>B. ENGINE GROUP (continued)</b>					
<b>A. PROPELLER GROUP</b>						15. Inspect cylinders for cracked or broken fins. (See Note 9.)	0	0	0	0	
1. Inspect spinner and back plate	0	0	0	0		16. Inspect rocker box covers for evidence of oil leaks. If found, replace gasket; tighten cover screws to a torque of 50 inch-pounds. (See Note 10.)	0	0	0	0	
2. Inspect blades for nicks and cracks	0	0	0	0		17. Inspect ignition harness and insulators for high tension leakage and continuity.	0	0	0	0	
3. Inspect for grease and oil leaks	0	0	0	0		18. Inspect magneto points for condition and proper clearance.	0	0	0	0	
4. Lubricate propeller. Refer to Maintenance Manual, Chapter 12.)	0	0	0	0		19. Inspect magneto oil leakage.	0	0	0	0	
5. Inspect spinner mounting brackets	0	0	0	0		20. Inspect breaker points for proper lubrication.	0	0	0	0	
6. Inspect propeller mounting bolts and safety. Check torque, if safety is broken.	0	0	0	0		21. Inspect distributor for cracks, burned areas, corrosion, and height of contact springs.	0	0	0	0	
7. Inspect hub parts for cracks and corrosion.	0	0	0	0		22. Check magnetos to engine timing.	0	0	0	0	
8. Inspect complete propeller and spinner assembly for security, chafing, cracks, deterioration, wear, and proper installation.	0	0	0	0		23. Overhaul or replace magnetos. (See Note 11.)	0	0	0	0	
9. Recondition propeller. (See Note 5.)	0	0	0	0		24. Remove and clean fuel filter to remove dirt particles. Replace as required.	0	0	0	0	
<b>B. ENGINE GROUP.</b>						25. Inspect carburetor and clean fuel line fuel strainer.	0	0	0	0	
<b>WARNING: Ground magneto primary circuit prior to beginning any engine work.</b>						26. Inspect condition of carburetor heat air door and box. (See Note 12.)	0	0	0	0	
<b>NOTE: Read note 6 prior to beginning this inspection group.</b>						27. Inspect fuel lines for evidence of fuel or oil seepage.	0	0	0	0	
1. Remove engine cowling. Inspect for damage.	0	0	0	0		28. Inspect inlet seals for leaks and clamps for tightness.	0	0	0	0	
2. Clean and inspect cowling for cracks, distortion, and loose or missing fasteners	0	0	0	0		29. Inspect air inlet duct hoses. (Replace as per latest revision Piper Service Bulletin No. 356.)	0	0	0	0	
3. Drain oil sump. (See Note 7.)	0	0	0	0		30. Inspect flexible fuel lines condition.	0	0	0	0	
4. Clean suction oil strainer at oil change. Inspect strainer for foreign particles.	0	0	0	0		31. Replace flexible fuel lines. (See Note 8.)	0	0	0	0	
5. Clean pressure oil strainer or flow (cartridge type) oil filter element. Clean strainer or element for foreign particles.	0	0	0	0		32. Inspect fuel system for leaks.	0	0	0	0	
6. Inspect oil temperature sender unit for leaks and security.	0	0	0	0		33. Clean fuel pump screen and check operation.	0	0	0	0	
7. Inspect oil lines and fittings for leaks, security, chafing, dents, and damage. (See Note 8.)	0	0	0	0		34. Overhaul or replace engine driven and electric fuel pumps. (See Note 11.)	0	0	0	0	
8. Clean and inspect oil cooler for cooling fins.	0	0	0	0		35. Remove and clean fuel filter bowl and screen. Clean at least every 90 days.	0	0	0	0	
9. Remove and flush oil radiator.	0	0	0	0		36. Inspect vacuum pump and lines.	0	0	0	0	
10. Fill engine with oil per lubrication chart. (Refer to Maintenance Manual, Chapter 12.)	0	0	0	0		37. Overhaul or replace vacuum pump. (See Note 11.)	0	0	0	0	
<b>CAUTION: Use caution not to contaminate vacuum pump with cleaning fluid. (Refer to latest revision Lycoming Service Instruction No. 1221.)</b>						38. Inspect throttle, carburetor heat, mixture, and propeller governor controls for security, travel, and operating conditions.	0	0	0	0	
11. Clean engine.	0	0	0	0		39. Inspect exhaust stacks, connections, and gaskets. Replace gaskets as required. (Refer to Maintenance Manual, Chapter 78.)	0	0	0	0	
12. Inspect condition of spark plugs (clean and adjust gap as required, adjust per latest revision Lycoming Service Instruction no. 1042.	0	0	0	0		40. Inspect muffler, heat exchanger and baffles. (Refer to latest revision of Piper Service Bulletin 879 and Maintenance Manual, Chapter 78.)	0	0	0	0	
<b>NOTE: If fouling of spark plugs are apparent, rotate bottom plugs to upper plugs.</b>						<b>NOTE: It is recommended that all airplanes be fitted with a new muffler at or before 1000 hour period of muffler use.</b>					
13. Inspect spark plug cable leads and ceramics for corrosion and deposits.	0	0	0	0		41. Inspect breather tube for obstructions and security.	0	0	0	0	
14. Check cylinder compression. (Reference: AC 43.13-1A.)	0	0	0	0		42. Inspect crankcase for cracks, leaks, and security of seam bolts.	0	0	0	0	
						43. Inspect engine mounts for cracks and loose mountings.	0	0	0	0	
						44. Inspect all engine baffles.	0	0	0	0	
						45. Inspect all wiring connected to the engine or accessories.	0	0	0	0	

Signature of Owner: \_\_\_\_\_

Circle Type of Inspection					Inspector	Perform all inspections or operations at each of the inspection intervals as indicated by a circle (0)					Inspector
50	100	500	1000	Annual		50	100	500	1000	Inspector	
DESCRIPTION						DESCRIPTION					
<b>B. ENGINE GROUP (continued)</b>						<b>D. FUSELAGE AND EMPENNAGE GROUP (continued)</b>					
46. Inspect rubber engine mount bushings for deterioration. Replace as required.	0	0	0			3a. Archer II - Inspect battery, box, cables, and securing straps. Inspect at least every 30 days. Flush box as required and fill battery per box instructions.	0	0	0	0	
47. Inspect firewall seals.	0	0	0			3b. Archer III - Inspect battery condition and security. Clean and recharge acid recovery (vent) jar. (Refer to Maintenance Manual, Chapter 24)	0	0	0	0	
48. Inspect alternator drive belt condition and tension.	0	0	0			4. Inspect electronic installation.	0	0	0	0	
49. Lubricate alternator idler pulley (if installed) per lubrication chart.	0	0	0			5. Inspect bulkheads and stringers for damage.	0	0	0	0	
50. Inspect condition of alternator and starter, and related electrical connections.	0	0	0			6. Inspect antenna mounts and electric wiring.	0	0	0	0	
51. Inspect security of alternator mounting.	0	0	0			7. Inspect air conditioning system for Freon leaks. (See Note 13.)	0	0	0	0	
52. Inspect air conditioning compressor oil level. (See Note 13.)	0	0	0			8. Inspect Freon level in sight gauge of receiver-dehydrator. (Refer to Maintenance Manual, Chapter 21 and see Note 13.)	0	0	0	0	
53. Inspect compressor belt condition and tension. (90 to 100 lb.)	0	0	0			9. Inspect air conditioning condenser air scoop rigging. (See Note 2)	0	0	0	0	
54. Inspect compressor clutch security and wiring. (See Note 14.)	0	0	0			10. Inspect fuel lines, valves, and gauges for damage and operation.	0	0	0	0	
55. Inspect security of compressor mounting.	0	0	0			11. Clean fuel pump.	0	0	0	0	
56. Check fluid in brake reservoir. Fill as required.	0	0	0			12. Remove, drain, and clean fuel filter bowl, and clean fuel lines.	0	0	0	0	
57. Lubricate all controls. (Refer to Maintenance Manual, Chapter 12.)	0	0	0			13. Inspect security of all lines.	0	0	0	0	
58. Overhaul or replace propeller governor. (See Note 11.)	0	0	0			14. Inspect rudder fin and rudder surfaces for damage and operation.	0	0	0	0	
59. Complete engine overhaul or replace with factory rebuilt. (Refer to latest revision of Textron Lycoming Service Letter 201.)	0	0	0			15. Inspect rudder hinges, horn, and attachments for damage and operation.	0	0	0	0	
60. Install engine cowl.	0	0	0			16. Inspect rudder control stops. Verify stops are not loose and locknuts are tight.	0	0	0	0	
<b>C. CABIN GROUP</b>						<b>E. WING GROUP</b>					
1. Inspect cabin entrance, doors, and windows for damage and operation.	0	0	0			1. Remove inspection plates and fairings.	0	0	0	0	
2. Inspect window sealants for cracks and deterioration. Reseal if necessary.	0	0	0								
3. Inspect upholstery for tears.	0	0	0								
4. Inspect seats, seat belts, security brackets, and bolts.	0	0	0								
5. Check trim operation. (See Note 15.)	0	0	0								
6. Inspect rudder pedals.	0	0	0								
7. Inspect parking brake and brake handle for operation and cylinder condition.	0	0	0								
8. Inspect control wheels, column, pulleys, and cables for condition. (See Note 16.)	0	0	0								
9. Inspect flap control cable attachment bolt. (Refer to latest revision of Piper Service Bulletin 965.)	0	0	0								
10. Inspect landing, navigation, and instrument lights.	0	0	0								
11. Inspect instruments, lines, and connections.	0	0	0								
12. Inspect gyro operated instruments and turn and bank. (Overhaul or replace as required.)	0	0	0								
13. Replace central air filter.	0	0	0								
14. Clean or replace vacuum regulator filter.	0	0	0								
15. Inspect altimeter. Calibrate altimeter system per FAR 91 _____ if appropriate.	0	0	0								
16. Check fuel selector valve operation.	0	0	0								
17. Inspect condition of heater controls and ducts.	0	0	0								
18. Inspect air vents condition and operation.	0	0	0								
19. Inspect condition of air conditioning ducts.	0	0	0								
20. Remove and clean air conditioning evaporator filter.	0	0	0								
<b>D. FUSELAGE AND EMPENNAGE GROUP</b>						<b>E. WING GROUP</b>					
1. Remove inspection plates and panels.	0	0	0								
2. Inspect baggage door, latch, and hinges.	0	0	0								
	0	0	0								

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50	100	500	1000	Annual		50	100	500	1000	Inspector	
<b>E. WING GROUP (continued)</b>						<b>G. FLOAT GROUP (Applicable to float equipped Archer I and Archer II only)</b>					
DESCRIPTION						DESCRIPTION					
2. Inspect surfaces and tips for damage, loose rivets, and condition of walk-way.....						1. Inspect float attachment fittings.....					
3. Inspect tip light shield for cracks, bonds, corrosion, or other damage.....						2. Inspect floats for damage.....					
4. Inspect aileron hinges and attachments.....						3. Inspect pulleys and cables (see Note 16).....					
5. Inspect aileron control stops, verify stops are not loose and locknuts are tight.....						<b>H. OPERATIONAL INSPECTION</b>					
6. Inspect aileron cables, pulleys, and bellcranks for damage and operation. (See Note 16.).....						1. Check fuel pump and fuel tank selector.....					
7. Inspect flaps and attachments for damage and operation.....						2. Check fuel quantity, pressure and flow readings.....					
8. Inspect condition of bolts used with hinges. Replace as required.....						3. Check oil pressure and temperature.....					
9. Lubricate per lubrication chart. (Refer to Maintenance Manual, Chapter 12.).....						4. Check alternator output.....					
10. Inspect wing attachment bolts and brackets.....						5. Check manifold pressure.....					
11. Inspect wing fore and aft attach fittings for security, corrosion and condition. See to note 25.).....						6. Check carburetor air.....					
12. Inspect fuel tanks and lines for leaks and water. (See Note 23.).....						7. Check parking brake.....					
13. Fuel tanks marked for capacity.....						8. Check operation of auxiliary vacuum pump system, if installed. (See note 21.).....					
14. Fuel tanks marked for minimum octane rating.....						9. Check vacuum gauge.....					
15. Inspect fuel cell vents. (See Note 20.).....						10. Check gyros for noise and roughness.....					
16. Inspect all air ducts, electrical leads, lines, and attaching parts for security, routing, chafing, deterioration, wear, and proper installation.....						11. Check cabin heater operation.....					
17. Install inspection plates and fairings.....						12. Check magneto switch operation.....					
<b>F. LANDING GEAR GROUP</b>						13. Check engine rpm variation.....					
1. Inspect oleo struts for proper extension. Check fluid level as required.....						14. Check throttle linkage operation. (See latest revision Piper Service Manual, No. 448.).....					
2. Inspect nose gear steering control and travel.....						15. Check propeller smoothness.....					
3. Inspect wheels for alignment.....						16. Perform maximum power stall form check per Maintenance Manual, Chapter.....					
4. Put airplane on jacks.....						17. Check engine idle.....					
5. Inspect tires for cuts, uneven wear, and slippage.....						18. Check electronic equipment installation.....					
6. Remove wheels, clean hub, and repack bearings.....						19. Check air conditioner compressor clutch operation.....					
7. Inspect wheels for cracks, corrosion, and broken bolts.....						20. Check air conditioner condenser scoop.....					
8. Inspect tire pressure.....						21. Check operation of autopilot, including automatic pilot, and manual electric trim (if installed). (Refer to note 22.).....					
9. Inspect brake lining assembly for condition and wear.....						<b>GENERAL</b>					
10. Inspect brake backing plate for condition and wear.....						1. Verify aircraft conforms to FAA Specifications.....					
11. Inspect brake lines.....						2. Comply with all latest revision FAA Airworthiness Directives.....					
12. Inspect shimmy dampener.....						3. Comply with all latest revision Manufacturers Service Bulletins and Letters.....					
13. Inspect gear forks for damage.....						4. Check for proper flight manual.....					
14. Inspect Archer II cast main landing gear oleo housing torque link attach lugs for cracks. (Refer to Maintenance Manual, Chapter 32 and see note 26).....						5. Verify aircraft papers in proper order.....					
15. Inspect oleo struts for fluid leaks and scoring.....											
16. Inspect gear struts and mounting bolts for condition and security.....											
17. Inspect torque links for cracks, bolts for condition and security. (Serial No's. 28-7690001 thru 28-7890231 refer to latest Piper Service Letter 842.).....											
18. Check torque link assembly for excessive side play.....											
19. Inspect all hydraulic lines, electrical leads, and attaching parts for security, routing, chafing, deterioration, wear, and proper installation.....											
20. Lubricate per lubrication chart. (Refer to Maintenance Manual, Chapter 12.).....											
21. Remove airplane from jacks.....											

— END —

## NOTES

1. Refer to last card of Piper parts price list Aerofiche, for a check list of current revision dates to Piper inspection reports and manuals.
2. All inspections or operations are required each inspection interval as indicated by a (O). Both the annual and 100 hour inspections are complete aircraft inspections, identical in scope. The 500 and 1000 hour inspections are extensions of the annual or 100 hour inspection and require more detailed aircraft examination, overhaul, or replacement of major components. Inspections must be by FAA authorized persons.
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 aircraft servicing, and require careful attention.
5. Recommended flight time between reconditioning of Sensenich fixed-pitch metal propellers is 1000 hours, if propeller has no prior damage. Reconditioning is removal of fatigued surface metal and accumulated small nicks too numerous to repair individually. Contact a Sensenich factory approved repair station. (Refer to latest revision of Sensenich Service Letter no. 80-1.)
6. Power plant inspections are based on the engine manufacturer's operator's manual. Changes to the engine manufacturer's operator's manual will supersede or supplement inspections outlined lined in this report. Refer to latest revision of Textron Lycoming Service Letter No. 114.
7. Intervals between oil changes can be increased as much as 100 percent on engines equipped with full flow cartridge type oil filters, if element is replaced each 50 hours of operation. Refer to latest revision Lycoming Service Bulletin 480 for additional information.
8. Replace engine compartment flexible hoses (fuel, oil, etc.) every 1000 hours, 8 years, or at engine TBO, whichever comes first. Refer to latest revision of Textron Lycoming Service Bulletin 240 and latest revision of Textron Lycoming Service Letter L201B.
9. Check cylinders for evidence of excessive heat (look for burned paint) every 100 hours. This condition indicates internal cylinder damage and, if found, its cause must be found and corrected before aircraft is returned to service.  
Heavy discoloration and appearance of seepage at the head and barrel area is usually due to emission of thread lubricant used during barrel assembly. The cause is usually a slight gas leak at the head after cylinder is in service awhile. This condition is not harmful to engine performance and operation. If leakage exceeds these conditions, replace cylinder.
10. At every 400 hours of engine operation, remove cover box covers and check for freedom of valve rockers when valves are closed. Look for evidence of abnormal wear or broken parts in area of valve tip, valve keeper, springs, and spring seat. If wear is found, remove the cylinder and all components (including piston and connecting rod assembly) and inspect for further damage. Replace all parts not conforming to limits in latest revision for Textron Lycoming Service Table of Limits SSI.
11. Replace (or overhaul, if applicable) engine oil every 1000 hours or 5 years, whichever comes first. (For engine overhaul, refer to latest revision of Textron Lycoming Service Bulletin 110 and Service Letter L201).
12. Check throttle body attaching screws for tightness. Torque in screws to torque of 40 to 50 inch-pounds.
13. Compressor oil level should be checked unless Freon leak has occurred, requiring an addition of Freon to the system. **CAUTION: Environmental regulations may require special equipment and procedures be utilized when conditioning system with Freon.**
14. Clean any traces of oil from clutch.
15. If airplane has electric trim system refer to Piper Service Bulletin no. 556.
16. Examine cables for broken strands by wiping the cable with a cloth along the entire length of the cable. Visually inspect the cable thoroughly for damage not detected by the cloth. Replace damaged or frayed cables. Refer to Chapter 27 and the latest edition of FAA Advisory Circular 43.13-1A, Paragraph 198.
17. Maintain cable tensions specified in Chapter 27.
18. Check security and condition of copilot servo bridle cables, clamps, and shear pin per latest revision of Piper Service Letter No. 695.
19. Replace fuel tank supply hose at engine overhaul.
20. Replace fuel tank vent line fitting connections as required, but no later than 1000 hours time-in-service.
21. The Airborne pump/motor assembly (4A3-1) must be removed from service and replaced at 500 hours operating time indicated on the elapsed time indicator, or at 10 years of installed time in the aircraft, whichever comes first.
22. Refer to Flight Manual Supplement for preflight and flight check for intended function in all modes.
23. Pressure check all fluid hoses in fuselage and wing areas after 10 years time-in-service. Visually check for leaks. Hoses that pass inspection may remain in service and checked thereafter each five years time-in-service.
24. Replace compressor belt each 1000 hours time-in-service, or 3 years, whichever comes first.
25. Inspect area around fore and aft attach fittings for evidence of wet interior insulation. Replace as necessary.
26. On Archer II airplanes used for training, and utilizing cast main gear cylinder housings, inspect the housing radii at the torque link attach lugs for cracks after the first 2000 hours time-in-service. Thereafter, the inspection must be performed each 100 time-in-service. Replacing the cast housings with a forged housings (Piper p/n 65490-0) will eliminate the need for this inspection.