AIRPLANE MAINTENANCE MANUAL

CARD 1 OF 6

PA-46-310P
MALIBU
(S/N's 46-8408001 THRU 46-8608067 & 4608001 THRU 4608140)

PA-46-350P
MALIBU MIRAGE
(S/N's 4622001 THRU 4622200)

PIPER AIRCRAFT CORPORATION

PART NUMBER 761 783 **REISSUED: JULY 1, 1998**

CHAPTER

5

TIME LIMITS / MAINTENANCE CHECKS

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CHAPTER 5

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CHAPTER 5 - TIME LIMITS / MAINTENANCE CHECKS

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GENERAL

Piper Aircraft Corporation takes a continuing interest in having the owner get the most efficient use from his airplane, and keeping the airplane in the best mechanical condition. Piper Aircraft will issue Service Bulletins, Service Letters and Service Spares Letters relating to the aircraft.

1. Piper Service Bulletins are of special importance and Piper considers compliance mandatory. These are sent to the latest U.S. registered owners and Piper Service Centers.
2. Service Letters deal with product improvements and service hints pertaining to the aircraft. They are sent to Piper Service Centers and sometimes directly to owners, so they can properly service the aircraft and keep it up to date with the latest changes. Owners should give careful attention to the service letter information.
3. Service Spares Letters, which are sent only to Piper Service Centers, offer improved parts, kits and optional equipment which were not available originally and which may be of interest to the owner.

An owner should periodically check with a Piper Service Center to find out the latest information to keep his aircraft up to date.

Piper Aircraft Corporation has a subscription service for the service bulletins, service letters and service spares letters. This service is offered to owners, pilots and mechanics at a nominal fee and may be obtained through Piper Service Centers.

Service Bulletins, Service Letters, and other manuals are available through Piper Service Centers and Distributors world wide.

The first overhaul or replacement of components should be performed at the given periods. The condition of various components can then be used as criteria for determining subsequent periods applicable to the individual airplane, depending on usage, providing the operator has an approved monitoring system.

The time periods given for inspections of various components is based on average usage and environmental conditions.

NOTE: The listed inspection, overhaul and replacement schedules do not guarantee that particular item will reach the listed time without malfunction, as the above stated conditions cannot be controlled by the manufacturer.

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TIME LIMITS

Airworthiness limitations are F.A.A. approved with specified inspections and maintenance required under Federal Aviation Regulations Parts 91 and 135.

The following limitations, related to fatigue life of the airplane and its components, have been established for the PA-46-310P / 350P:

1. Refer to Chart 1 for Structural Inspection and Replacement.

2. The safe life limit of propeller blades is unlimited.

CHART 1
STRUCTURAL INSPECTION AND REPLACEMENT

COMPONENT	LIFE (Flight Hours)	INSPECTION INTERVALS (Flight Hours)
Wing and Associated Structure	15,580	N/A
Pressurized Structure	10,000	N/A

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A. Scheduled Maintenance

1. General

WARNING: WHEN SERVICING OR INSPECTING VENDOR EQUIPMENT INSTALLED IN PIPER AIRCRAFT, IT IS THE USERS RESPONSIBILITY TO REFER TO THE APPLICABLE VENDOR PUBLICATIONS.

Piper Inspection programs comply with the F.A.A. Federal Aviation Regulations Parts 43, 91 and 135. The owner/operator is primarily responsible for maintaining the airplane in an airworthy condition, including compliance with all applicable Airworthiness Directives and conformity with the requirements in FAR 91.409, 91.411 and 91.413.

The inspection programs are set up in manual form and are available from the Piper Service Centers under Part Numbers 230 1085 (Periodic Inspection) and 761 788 (Progressive 50 Hour Inspection).

Facts you should know:

Service Bulletins, Service Letters, and Instructions are sent to the registered owner of the affected aircraft.

The registered owners name and address used on the Aircraft Registration Certificate is the name and address that Piper Aircraft uses to mail Service Bulletins, Service Letters, and P.O.H. Revisions.

If the aircraft is based and/or operated at a different location and/or by persons other than those recorded on the aircraft registration, then it is the responsibility of the bonafide owner(s) to forward the above Bulletins and Letters to those locations or persons.

Changes in aircraft registration may take a substantial amount of time to be recorded by the Federal Aviation Administration and received by Piper Aircraft to change the mailing address. Owners and operators should make arrangements to keep abreast of service releases during this interim period through their Piper Service Center.

The Federal Aviation Administration (FAA) publishes Airworthiness Directives (AD's) that apply to specific aircraft. They are mandatory changes and are to be complied within a time limit set by the FAA. When an AD is issued, it is sent to the latest registered owner of the affected aircraft and also to subscribers of the service. The owner should periodically check with his Piper Service Center or A & P mechanic to see whether he has the latest issued AD against his airplane. The owner is solely responsible for being aware of and complying with airworthiness directives.

Piper Service Bulletins are of special importance and Piper Considers Compliance mandatory. These are sent to the latest registered owners and Piper Service Centers.

Service Spare Letters which are usually sent to Piper Service Centers, offer improved parts kits and optional equipment which were not available originally and which may be of interest to the owner.

An owner should periodically check with a Piper Service Center to find out the latest information to keep his aircraft up to date.

Piper Aircraft Corporation has a subscription service for the Service Bulletins, Service Letters, and Service Spares Letters. This service is offered to interested persons such as owners, pilots, and mechanics at a nominal fee and may be obtained through Piper Service Centers. Owners residing outside of the United States are urged to subscribe to this service since Piper cannot obtain the addresses of foreign owners. Service Product Support Manuals and revisions are available through Piper Service Centers.

A. Scheduled Maintenance (continued)

2. Definitions:

(a) Inspections - Must be performed only by Certified Mechanics who are qualified on this aircraft, utilizing acceptable methods, techniques and practices to determine physical condition and detect defects.

(b) Checks - Can be performed by pilots and/or mechanics who are qualified on this aircraft and consists of examinations in the form of comparisons with stated standards for the purpose of verifying condition, accuracy and tolerances.

(c) Detailed Inspections - Consists of a thorough examination of the appliances, the aircraft and the components and systems with such disassembly as is necessary to determine condition.

(d) Approved Inspection - Means a continuing airworthiness inspection of an airplane and its various component and systems at scheduled interval in accordance with procedures approved by the Administrator of the Federal Aviation Administration.

(e) Inspection Time Limitations - Late compliance with the inspection interval of 100 hour may be extended by not more than ten (10) hours while enroute and for changing an inspection interval because of service experience. The time used to reach the next inspection facility must be deducted from the next inspection time.

(f) Tests - Operation of aircraft components, appliances or systems to evaluate functional performance.

(g) Operation Test - This test is used to ascertain that a system component is in operable condition and can be performed with the equipment installed in the aircraft. In addition, each operational test must be performed by an FAA Certified Repair Station appropriately rated or by a Certified Mechanic who is qualified on this aircraft. The recording of the above function must be made in the permanent aircraft records by the authorized individual performing the test.

(h) Functional Test - This test is used to ascertain that system or component is functioning properly and is in conformance with minimum acceptable design specifications. This test may require the use of supplemental bench test equipment. In addition, each functional test must be performed by an FAA Certified repair Station with appropriate ratings or by a Certified Mechanic who is qualified on this aircraft. The recording of the above function must be made in the permanent aircraft records by the authorized individual performing the test.

(i) Bench Check - Means removal of component from the aircraft to inspect for cleanliness, impending failure, need for lubrication, repair or replacement of parts and calibration to at least the manufacturers specifications using the manufacturers recommended test equipment or standards or the equivalent.

Each bench test will be performed by a Piper Service Center, FAA Certified Repair Station with appropriate rating or by a certified mechanic. This test will be performed at the scheduled interval regardless of any bench test performed on a particular component while being repaired/overhauled before scheduled interval bench test. After the component is installed into the aircraft, an operational test of the component and its related system should be performed to ensure proper function. Serviceable parts that were issued to the component will be filed in the aircraft permanent records. The person performing the check must make appropriate entries in the aircraft's permanent maintenance record.

(j) Maintenance - The word maintenance as defined by FAR Part 1, means "inspection, overhaul, repair, preservation and the replacement of parts, but excludes preventive maintenance."

A. Scheduled Maintenance (continued)

2. Definitions (continued):

(k) Routine Inspections - Consists of a visual examination or check of the aircraft and its components and systems without disassembly.

(l) Special Inspections - Involve those components, systems or structure which by their application or intended use require an inspection peculiar to, more extensive in scope or at a time period other than that which is normally accomplished during the event inspection.

(m) Time in Service - As used in this procedure is the time from the moment the aircraft leaves the ground until it touches the ground at the next point of landing.

(n) On Condition - Maintenance concept whereby some components of the engine remain in service as long as they appear airworthy at each inspection. The replace-on-condition concept is as opposed to replace after a “life-limited” time interval.

3. Inspection Requirements

The inspection procedures are broken down into major groups which include Propeller, Engine, Turbocharger, Cabin and Cockpit, Landing Gear, Fuselage and Empennage, Wing, Operational, Special, General, and Notes.

(a) Periodic Inspection

The first column in each group lists the inspection or procedure to be performed. The second column is divided into four additional columns indicating the required inspection intervals of 50 hours, 100 hours, 500 hours, and 1000 hours. Inspections must be accomplished by persons authorized by the F.A.A. Each inspection or operation is required at each of the inspection intervals as indicated by a circle (O). If an item is not entirely accessible or must be removed, refer to the applicable chapter of this manual for instructions on how to gain access to remove the item. When performing the inspections, use form (P/N 230 1085) available through Piper Service Centers. In addition to inspection intervals required in Periodic Inspections, preflight inspection must also be performed.

References to maintenance manual applicable areas are per the “chapter - system/sub-system” assignment of subject material numbering system.

(b) Progressive Inspection

The Progressive Inspection was designed to permit the best utilization of the aircraft by scheduling inspections through the use of a planned inspection schedule. This schedule is prepared in a manual form, which is available from Piper Service Sales under P/N 761 788. Refer to Piper Parts Price List Aerofiche for revision checklist to ensure obtaining latest issue.

(c) Overlimits Inspections

If the airplane has been operated so that any of its components have exceeded their maximum operational limits, special inspections may be required by Piper and/or the component manufacturer.

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A. Scheduled Maintenance (continued)

4. Periodic Inspection

NATURE OF INSPECTION	Inspection Time (Hrs) 50	100	500	1000
A. PROPELLER GROUP				
NOTE: Refer to latest Hartzell Service Bulletin.				
1. Remove and inspect spinner and spinner bulkhead for cracks.	O	O	O	O
2. Inspect blades for cracks, nicks and gouges.....	O	O	O	O
3. Inspect for grease and oil leaks.....	O	O	O	O
4. Inspect propeller mounting bolts and safety. (Check torque if safety is broken.).....		O	O	O
5. Inspect hub parts for cracks, corrosion, and wear.....	O	O	O	O
6. Rotate blades and check for tightness in hub pilot tube.....		O	O	O
7. Check condition of propeller deicer system (if installed).....		O	O	O
8. Inspect propeller deice slip rings, brush block and brush length, replace as required. (If installed).		O	O	O
9. Lubricate propeller. (Refer to latest Hartzell Service Bulletin and 12-20-00.)	O	O	O	O
10. Install spinner.	O	O	O	O
11. Overhaul or replace Hartzell propeller and governor. (Refer to latest Hartzell Service Bulletin.)				
B. ENGINE GROUP				
WARNING: GROUND MAGNETO PRIMARY CIRCUIT BEFORE WORKING ON ENGINE.				
NOTE: Operators of PA-46-310P aircraft should verify compliance with AD 89-14-01.				
NOTE: Refer to latest Teledyne Continental or Textron Lycoming Service Bulletins and Operators/Maintenance Manual.				
1. Remove engine cowling.....	O	O	O	O
2. Clean and check cowling for cracks, distortion, and loose or missing fasteners.	O	O	O	O
3. Compression check while engine is warm. (Refer to latest Teledyne Continental or Textron Lycoming Service Bulletins)...		O	O	O
4. Drain oil sump while engine is warm. (Refer to Note 1).....	O	O	O	O
5. Inspect oil temperature sender unit for leaks and security.		O	O	O
6. Inspect cylinder head temperature probe and wires for security.		O	O	O
7. Inspect oil lines and fittings for leaks, security, chafing, dents, and cracks. (Refer to Note 1).....		O	O	O
8. Clean and inspect oil radiator cooling fins.....		O	O	O
CAUTION: DO NOT USE MULTIGRADE OIL UNTIL THE LATEST HARTZELL SERVICE BULLETIN NO. 142 HAS BEEN COMPLIED WITH.				

A. Scheduled Maintenance (continued)

4. Periodic Inspection (continued)

NATURE OF INSPECTION	Inspection Time (Hrs) 50	100	500	1000
B. ENGINE GROUP (continued)				
9. Change full flow (cartridge type) oil filter element, check element for foreign particles. (Refer to 12-20-00 and Note 1)..	O	O	O	O
10. Fill engine with oil. (Refer to 12-20-00)	O	O	O	O
NOTE: PA-46-350P operators, refer to the latest revision of Textron Lycoming Service Bulletin No. 480.				
11. Clean engine. (Refer to Note 2)		O	O	O
12. Inspect condition of spark plugs, clean and adjust gap as required.....		O	O	O
NOTE: If fouling of spark plugs has been apparent, rotate bottom plugs to upper plugs.				
NOTE: Piper Aircraft Corporation does not recommend that Iridium spark plugs be cleaned using abrasive or glass bead materials unless otherwise required by the applicable manufacturer.				
NOTE: Refer to latest revision of Champion Aviation Technical Bulletin 85-10 for servicing Champion Iridium "S" spark plugs.				
13. Inspect spark plug cable, lead spring, and silicone collar for corrosion, deposits, and condition.....		O	O	O
14. Check ignition harnesses and insulators (high tension leakage and continuity).....		O	O	O
15. Check cylinders for cracked or broken fins.(Refer to Note 3)		O	O	O
16. Inspect rocker box covers for evidence of oil leaks, if leaks are detected replace gasket and torque cover screws to 50 in-lbs....	O	O	O	O
17. Inspect wiring to engine and accessories. Replace damaged wires and clamps.....		O	O	O
18. Inspect terminals for security and cleanliness.....		O	O	O
19. Check magneto main points for clearance. (Refer to Chart 1, 6-00-00)		O	O	O
20. Inspect magnetos for oil leaks.....		O	O	O
21. Check magneto vents for obstructions.....		O	O	O
22. Check breaker felts for proper lubrication.		O	O	O
23. Inspect distributor block for cracks, burned areas or corrosion, and height of contact spring.....		O	O	O
24. Check magneto to engine timing. (Refer to Chart 1, 6-00-00 and Note 1)	O	O	O	O
25. Replace magneto pressurization filter.....		O	O	O

NATURE OF INSPECTION	Inspection Time (Hrs) 50	100	500	1000
B. ENGINE GROUP (continued)				
26. Inspect security of injector nozzle and sense line. (Refer to Note 4).....		O	O	O
NOTE: Clean injector nozzles as required. (Clean with acetone only.)				
27. Remove air filter and clean per 12-20-00. (Replace as required, but no later than 500 hours.).....	O	O	O	O
28. Inspect intake ducts for leaks and all wires that form duct must be in place and secure.		O	O	O
29. Inspect condition and operation of alternate air door and box. .		O	O	O
30. Inspect alternate air door assembly (flapper valve plate) for cracks and condition. (Refer to latest Piper Service Bulletin No. 961)		O	O	O
31. Inspect flexible hoses for condition. (Refer to Note 5 and 5-50-00)		O	O	O
32. Inspect fuel system for leaks including flow dividers, lines, and fittings.....	O	O	O	O
33. Check fuel pumps for operation and pressure. (Refer to 28-20-00 and 73-10-00)		O	O	O
34. Check condition of vacuum pumps and security of hoses.		O	O	O
35. Check throttle, mixture, and propeller governor controls for travel and operating condition. (Ensure full stop to stop travel)		O	O	O
36. (PA-46-350P operators.) Check mixture control cable for heat damage and routing. (Refer to latest piper service bulletin No. 951)		O	O	O
37. Inspect exhaust stacks for cracks, hot spots, and security and inspect gaskets for leakage and condition. (Replace gaskets as required).....	O	O	O	O
38. Inspect exhaust pipe and heat exchanger (Refer to 81-20-00).	O	O	O	O
39. Inspect exhaust heat shield and cross-over tubes for cracks and condition.....		O	O	O
40. Inspect breather tube for obstructions, coking, and security.		O	O	O
NOTE: Refer to latest Piper Service Letter No. 1007 for information on installing an improved air/oil separator, which will assist in eliminating abnormal passage of oil from the breather in the form of oil mist.				
41. Check security and condition of oil separator. (Refer to latest Piper Service Letter 1007.)		O	O	O
NOTE: On left-hand tailpipe, disconnect breather tube hose connection. Remove lower tube assembly from tailpipe at slip joint. Remove any contaminate buildup.				
42. Inspect crankcase for cracks, leaks, and security of seam bolts.....		O	O	O

A. Scheduled Maintenance (continued)

4. Periodic Inspection (continued)

NATURE OF INSPECTION	Inspection Time (Hrs) 50	100	500	1000
B. ENGINE GROUP (continued)				
43. Inspect engine mounts for cracks, corrosion, and loose mounting bolts		O	O	O
44 Inspect engine mount heat shield for cracks, corrosion and condition. (Ensure compliance with Piper Service Bulletin No. 960)		O	O	O
45. Check all engine baffles for cracks and security.. (Refer to latest Textron Lycoming Service Bulletin 511 and latest Piper Service Letter 1010)		O	O	O
46. Inspect rubber engine shock (isolator) mounts for deterioration (replace as required)		O	O	O
47. Inspect firewall for cracks, condition, and security		O	O	O
48. Check condition of firewall sealing.		O	O	O
49. Inspect alternator(s) for cracks, condition, and security		O	O	O
50. Inspect condition and tension of alternator drive belts (Refer to 24-30-00)		O	O	O
51. Inspect starter for cracks, condition, and security		O	O	O
52. Check air conditioning system for evidence of freon leakage. (Refer to 21-50-00)		O	O	O
NOTE: If cooling system has leaked freon or is discharged, the compressors oil level must be checked.				
53. Inspect condition and tension of compressor drive belt. (Refer to 21-50-00)		O	O	O
54. Inspect security of compressor mounting		O	O	O
55. Inspect compressor clutch security and condition of wiring.		O	O	O
56. Check engine accessory case and components for leakage, condition, and security		O	O	O
57. Inspect bleed air ducts for condition and security		O	O	O
CAUTION: DO NOT LUBRICATE TEFLON LINERS OF CONTROL CABLES.				
58. Lubricate all controls. (Refer to 12-20-00)		O	O	O
59. Inspect sonic nozzle for condition and security.		O	O	O
60. (PA-46-310P operators.) Inspect condition of clutch drive splines mounted to standby vacuum pump	O	O	O	O
C. TURBOCHARGER GROUP				
1. Visually inspect system for oil leaks, exhaust system leaks and general condition	O	O	O	O
2. Inspect the compressor wheel for nicks, cracks, or broken blades		O	O	O
3. Check for excess bearing drag or wheel rubbing against housing		O	O	O
4. Inspect turbine wheel for broken blades or signs of rubbing. (See Lycoming Service Bulletin No. 531)		O	O	O

NATURE OF INSPECTION	Inspection Time (Hrs) 50	100	500	1000
C. TURBOCHARGER GROUP (continued)				
5. Inspect oil inlet and outlet ports in center housing for leaks.....		O	O	O
6. Inspect turbo gaskets for leaks.....	O	O	O	O
7. Inspect turbo clamp for cracks and torque. (If the clamp nut is removed, replace with a new nut (P/N 755-657) . Torque the nut on installation and recheck torque after first engine run.) ...	O	O	O	O
8. Inspect mounts for cracks, corrosion, clearance, and security..		O	O	O
9. Check wastegate actuator linkage, rod ends, springs, butterfly, and bushings for condition. (Replace as required).....		O	O	O
10. Inspect / replace TIT probe: at cylinder change, engine ovhl, or as required (PA-46-310P); or, each 250 hrs (PA-46-350P). (See Piper Service Bulletin No. 995A and Section 77-20-00.) ..	*	*		
11. Inspect drain line from actuator for presence of oil.	O	O	O	O
12. Inspect induction and exhaust components for worn or damaged areas, loose clamps, cracks, and leaks.....	O	O	O	O
13. Inspect turbo and controller system oil lines for leaks & security. .	O	O	O	O
14. Inspect for oil leakage from controller and sense lines.	O	O	O	O
15. Install engine cowling.	O	O	O	O
D. CABIN AND COCKPIT GROUP				
1. Remove inspection covers and panels (seats and carpet must be removed for access to inspection covers on cabin floor.).....		O	O	O
2. Inspect cabin entrance door and emergency exit door seals....		O	O	O
3. Inspect cabin door and emergency exit for proper rigging, and check retainer pins and striker plates for bending, cracks, proper engagement, pulled or sheared fasteners and bending for the frame web.		O	O	O
CAUTION: WITH CREW SEATS OCCUPIED AND AT THE LOWEST VERTICAL POSITION, CHECK SEATS FOR PROPER ENGAGEMENT OF PINS TO SEAT TRACK.				
4. Inspect crew seats for proper vertical and horizontal operation.		O	O	O
5. Inspect all seats, upholstery for damage, & seat belts (see Note 6), brackets, & bolts for damage, security, & operation. ...	O	O	O	O
6. Inspect electric trim operation and indicators for full travel, binding, damage, and correct control deflection.....		O	O	O
7. Check rudder pedals and toe brakes for travel, binding, and security.		O	O	O
8. Inspect parking brake for condition, security and operation.....		O	O	O
9. Inspect control wheels, column, and switches for damage, operation, and full travel.....		O	O	O
10. Inspect push pull tubes, torque tubes, levers, pillow blocks, bellcranks, and connections for condition and security.		O	O	O
11. Check operation of strobe, landing, navigation, cabin, and instrument lights.	O	O	O	O
12. Inspect condition of instruments, lines, hoses, and attachments.....		O	O	O
13. Check pneumatic and electric gyro instruments (overhaul or replace as required).		O	O	O

A. Scheduled Maintenance (continued)

4. Periodic Inspection (continued)

NATURE OF INSPECTION	Inspection Time (Hrs) 50	100	500	1000
D. CABIN AND COCKPIT GROUP (continued)				
14. Check or replace vacuum regulator filter.....		O	O	O
15. Inspect pitot/static and alternate static lines, hoses for condition and security.....		O	O	O
16. Check that altimeters and transponder are in accordance with latest revision of AC 43.13-1 and certified in accordance with FAR 23 to comply with FAR 91.411 and 91.413.....		O	O	O
17. Check operation and security of fuel selector valve linkage at fuel selector.	O	O	O	O
18. Check condition of safety wire on screw attaching valve cam. .	O	O	O	O
19. Replace central gyro filter. (Replace filter at more frequent intervals if heavy smoking contamination is noted).....			O	O
20. Check operation of cabin heat and defrost controls.....		O	O	O
21. Inspect all knobs, switches, and levers for security of attachment and condition.		O	O	O
22. Check condition of environmental system ducts.		O	O	O
23. Check cabin pressurization system operation. (Refer to 21-00-00)			O	O
WARNING: BE SURE SKIN AND CLOTHING ARE FREE OF GREASE, OIL, OR OTHER PETROLEUM PRODUCTS BEFORE CHECKING OR PERFORMING MAINTENANCE ON ANY COMPONENT OF THE OXYGEN SYSTEM.				
24. Check oxygen masks and connectors, canister, trigger mechanism and mounting.		O	O	O
25. Check landing gear control valve for leaks, operation, and security.		O	O	O
26. Check flap and main landing gear control valve cylinder and lines for leaks, operation, security, and condition.....		O	O	O
27. Check fluid in hydraulic reservoir. Fill as required.....	O	O	O	O
28. Inspect hydraulic power pack for condition, leaks. and security. (Refer to latest Piper Service Bulletins 981 and 985.).....		O	O	O
29. Inspect all fluid lines for leakage, condition, and security.....	O	O	O	O
30. Inspect electrical panel components and circuit breakers for condition and security of installation.....	O	O	O	O
31. Inspect forward side of outflow and safety valves for condition and security. Remove and clean per 21-30-00		O	O	O
NOTE: Outflow and safety valves may require cleaning prior to 100 hour intervals, if heavy smoking or dusty conditions exist.				
32. Inspect filters on controller and safety valve for contamination. Clean or replace as required. (Refer to 21-30-00)		O	O	O
33. Inspect aft face of F.S. 100.00 bulkhead and forward face of F.S. 273.746 bulkhead for bulging, cracks, dents, loose, or missing fasteners, condition and security of components.....		O	O	O

NATURE OF INSPECTION	Inspection Time (Hrs) 50	100	500	1000
D. CABIN AND COCKPIT GROUP (continued)				
34. Check portable fire extinguisher for proper service, condition, and inspection date. (Refer to 26-20-00)		O	O	O
35. Inspect avionics compartment, components, and wiring for condition, security, and operation		O	O	O
36. Inspect control cable boots for condition and security		O	O	O
37. Drain pitot/static lines. (Refer to 34-00-00)		O	O	O
38. Check air conditioning evaporators (if installed)		O	O	O
39. Perform an operational check of the pressurization controller.		O	O	O
40. Lubricate per Lubrication Chart. (Refer to 12-10-00)		O	O	O
41. Install inspection covers and panels.		O	O	O
E. LANDING GEAR GROUP				
CAUTION: WHEN AIRCRAFT HAS OPTIONAL RADAR POD INSTALLED ON RIGHT WING, ENSURE THAT JACK DOES NOT COME INTO CONTACT WITH RADAR POD.				
NOTE: Check for proper strut extension prior to jacking airplane. (Refer to 12-10-00)				
1. Place airplane on jacks. Jack airplane. (Refer to 7-10-00).		O	O	O
2. Remove inspection covers and panels.	O	O	O	O
3. Check struts for maximum extension. (Check for proper fluid level and pressure.).		O	O	O
4. Inspect nose gear steering control and travel.		O	O	O
5. Inspect nose gear installation for condition and security.		O	O	O
6. Inspect nose gear trunnion for cracks and condition. (Refer to latest Piper Service Letter 1011)	O	O	O	O
7. Inspect nose wheel steering cam and rotator for cracks.		O	O	O
8. Check squat switch for security and adjustment.		O	O	O
9 Inspect tires for cuts, uneven or excessive wear, and slippage.	O	O	O	O
10. Remove wheels and clean, check and repack bearings.		O	O	O
11. Inspect wheels for cracks, corrosion, and broken bolts.		O	O	O
12. Inspect brake disc/linings for wear, condition, and security.	O	O	O	O
13. Check tires for proper pressure. (Refer to 12-10-00)	O	O	O	O
14. Check brake hydraulic lines for leakage, condition, and security.		O	O	O
15. Check brake reservoir for proper fluid level, leaks, condition, and security.	O	O	O	O
16. Inspect gear fork for damage.		O	O	O
17. Inspect struts for fluid/pressure leaks and scoring.		O	O	O

A. Scheduled Maintenance (continued)

4. Periodic Inspection (continued)

NATURE OF INSPECTION	Inspection Time (Hrs) 50	100	500	1000
E. LANDING GEAR GROUP (continued)				
18. Check torque links, bolts, and bushings. (Rebush as required.).		O	O	O
19. Check gear struts, trunnion pins and attachments for condition and security.		O	O	O
20. Inspect bolt, bushings, trunnion pins, and attachments for condition and security. (Rebush as required).		O	O	O
21. Check retraction actuators and attachments for condition and security.		O	O	O
22. Check condition and security of flexible hydraulic lines to actuator. (Replace flexible hoses as required, but no later than 1,000 hours of operation or eight years and at engine overhaul).		O	O	O
23. Inspect main and nose gear doors, and rod assemblies for corrosion, security, and freedom of movement.		O	O	O
24. Check locking actuator for operation and adjustment.		O	O	O
25. Inspect nose gear door actuator for operation and adjustment.		O	O	O
26. Check warning horn and lights for operation.		O	O	O
27. Lubricate per Lubrication Chart. (Refer to 12-10-00)		O	O	O
28. Inspect wiring and wiring harness for condition, security, damage, chafing, and corrosion. Check switches for adjustment, security and operation.		O	O	O
29. Check actuating cylinders for leakage and security.		O	O	O
30. Perform operation check. (Refer to 32-00-00)		O	O	O
31. Perform emergency gear extension check.		O	O	O
32. (PA-46-310 operators.) Disconnect gear handle cable. Operate gear handle. Check that there is a slight tension. Connect cable. (S/N's 46-8408001 thru 46-8608067 & 4608001 thru 4608007)		O	O	O
WARNING: DO NOT REMOVE JACKS UNTIL IT HAS BEEN DETERMINED THAT THE LANDING GEAR IS DOWN AND LOCKED AND ANTI-RETRACTION SYSTEM HAS BEEN CHECKED.				
33. Place weight of aircraft on landing gear. (DO NOT REMOVE JACKS.)		O	O	O
34. Check anti-retraction system on gear lever for proper operation.		O	O	O
NOTE Check gear handle bolt to be sure a slight tension is present when operating the gear handle with cable disconnected.				
35. Install inspection covers and panels.	O	O	O	O
36. Ensure all gears are down and locked, then remove jacks.		O	O	O
37. Check wheel alignment.		O	O	O

NATURE OF INSPECTION	Inspection Time (Hrs) 50	100	500	1000
F. FUSELAGE AND EMPENNAGE GROUP				
NOTE: Check that all fuselage and empennage drain holes are clear and open. (Refer to latest Piper Service Bulletin No. 958.)				
1. Remove inspection covers and panels. (See Note 7.)	O	O	O	O
2. Inspect structure for cracks, dents, security of attachments, cleanliness, and loose or pulled fasteners.	O	O	O	O
3. Inspect windshield and windows for nicks, scratches, cracks, crazing, and discoloration.	O	O	O	O
CAUTION: PRESSURIZED FLIGHT IS PROHIBITED WITH DISCOLORATION, CRACKS, OR CRAZING.				
4. Inspect condition of bulkheads, frames, stringers, and longerons for cracks, dents, bending, buckling, sealed areas, and loose or pulled fasteners.		O	O	O
5. Inspect avionics compartment, components, and wiring for condition, security, and operation.		O	O	O
6. Inspect control cable boots for condition and security.		O	O	O
7. Check fuel sump drains for water and proper operation.	O	O	O	O
8. Drain pitot/static lines. (Refer to 34-00-00).		O	O	O
9. Inspect antennas/coaxial cables for condition and security.		O	O	O
10. Inspect dorsal fin for condition and security.		O	O	O
11. Inspect vertical fin and rudder surface for damage.		O	O	O
12. Check rudder hinges and attachments for damage and operation.		O	O	O
13. Check rudder hinge bolts for excessive wear.		O	O	O
14. Check rudder trim mechanism installation.		O	O	O
15. Check vertical fin attach points and wiring.		O	O	O
16. Check forward vertical fin attach fittings for corrosion and damage. (Refer to latest Piper Service Bulletin No. 962.)		O	O	O
17. Inspect condition of deice system. (If installed)		O	O	O
18. Inspect horizontal stabilizer and elevator surface for damage.		O	O	O
19. Check elevator hinge bolts, trim tab hinges, and attachments for damage and operation.		O	O	O
20. Check elevator and trim tab hinge bolts and bearings for excessive wear.		O	O	O
21. Check horizontal stabilizer attachments.	O	O	O	O
22. Check forward and aft horizontal stabilizer attach fittings for corrosion and damage. (Refer to latest Piper Service Bulletin No. 962.)		O	O	O
23. Check elevator trim mechanism installation.		O	O	O
24. Inspect battery, battery compartment, and vent system for corrosion, etching, condition, water, and security. (Check at least every 30 days. Flush compartment as required.)	O	O	O	O
25. Inspect external power supply receptacle, battery relay, fuses, and vent blower assembly for cleanliness, corrosion, condition, and security.		O	O	O

A. Scheduled Maintenance (continued)

4. Periodic Inspection (continued)

NATURE OF INSPECTION	Inspection Time (Hrs) 50	100	500	1000
F. FUSELAGE AND EMPENNAGE GROUP (continued)				
NOTE: Piper kit number 766 250, when installed, will ease fuel filter inspection and replacement.				
26. Check fuel filter. Clean or replace as required.		O	O	O
NOTE: Remove and clean pressure control valve of pneumatic deice system every 400 hours. Refer to latest revision of B.F. Goodrich Service Bulletin D-84-01 and Report No. 85-32-102.				
27. Inspect deice system pneumatic valves and lines for condition and security. (If installed).		O	O	O
28. Check baggage compartment door, latches, and hinge for operation, condition, and security.....		O	O	O
29. Check baggage compartment upholstery for condition.....		O	O	O
30. Check baggage compartment light and switch for operation, condition, and security.....		O	O	O
31. Check emergency locator transmitter (ELT) battery for replacement date/time.....		O	O	O
32. Check fluid level in hydraulic reservoir. Fill as required.....		O	O	O
33. Inspect all fluid lines for leakage, condition, and security.....		O	O	O
34. Check autopilot servo and controls (if installed) per manufacturer's instructions.....		O	O	O
35. Check aileron, rudder, elevator, autopilot trim cables, turnbuckles, guides, and pulleys for safeties, damage, and operation.		O	O	O
NOTE: Examine cables for broken strands by wiping the cable with a cloth along the length of the cable. Visually inspect the cable thoroughly for damage not detected by the cloth. Replace damaged cables. Refer to Advisory Circular 43.13-1A, paragraph 198.				
36. Check all electronic installations for security and operation.....		O	O	O
37. Inspect heater ducting for obstruction, condition, and security..		O	O	O
38. Check air conditioning evaporators (if installed) and clean filter.		O	O	O
39. Inspect electric windshield deice panel for correct fit, distortion, condition, security, and proper operation. (If installed).....		O	O	O
CAUTION: THE FLUX DETECTOR LOCATED UNDER VERTICAL FIN DORSAL FAIRING IS SECURED WITH BRASS SCREWS. ONLY BRASS SCREWS WILL BE USED WHEN INSTALLING THIS COVER.				
40. Inspect flux detector.		O	O	O

NATURE OF INSPECTION	Inspection Time (Hrs) 50	100	500	1000
F. FUSELAGE AND EMPENNAGE GROUP (continued)				
41. Check outflow and safety valves for cleanliness, looseness, and condition.....		O	O	O
NOTE: Outflow and safety valves may require cleaning prior to 100 hour intervals, if heavy smoking or dusty conditions exits.				
42. Inspect all hoses and lines for leakage, condition, and security.		O	O	O
43. Lubricate per Lubrication Chart. (Refer to 12-10-00)		O	O	O
44. Install inspection covers and panels.....	O	O	O	O
G. WING GROUP				
1. Remove inspection covers and panels.....		O	O	O
2. Check surfaces, skins, and tips for damage and loose or missing fasteners. (Refer to latest Piper Service Bulletin No. 796.)	O	O	O	O
3. Inspect forward and aft wing spar to fuselage attach fittings for corrosion and condition. (Refer to latest Piper Service Bulletin No. 962)		O	O	O
4. Check security of ailerons, hinges, and attachments.....		O	O	O
5. Inspect aileron bellcranks for damage and operation.....		O	O	O
6. Inspect aileron for security and condition.....		O	O	O
7. Check condition of aileron control cables, turnbuckles, guides, and pulleys for safeties, damage, and operation.....		O	O	O
NOTE: Examine cables for broken strands by wiping the cable with a cloth along the length of the cable. Visually inspect the cable thoroughly for damage not detected by the cloth. Replace damaged cables. Refer to Advisory Circular 43.13-1A, paragraph 198.				
8. Inspect flaps and attachments for damage and operation.		O	O	O
9. Inspect condition of bolts used with flap rollers and aileron hinges. (Replace as required).				O
10. Inspect flap tracks for security of attachment, damage, condition, and corrosion.				O
11. Check condition of exterior bearings.....			O	O
12. Inspect static discharge wicks for security of attachment and condition.....		O	O	O
WARNING: PHYSICAL MANIPULATION OF LIFT TRANSDUCER ON PA-46-350P AIRPLANES MAY RESULT IN ERRONEOUS STALL WARNINGS NECESSITATING CALIBRATION OF SYSTEM. REFER TO CHAPTER 27.				

A. Scheduled Maintenance (continued)

4. Periodic Inspection (continued)

NATURE OF INSPECTION	Inspection Time (Hrs) 50	100	500	1000
G. WING GROUP (continued)				
13. Inspect lift transducer for security of attachment, spring centering of switch blade, and corrosion. Check heat element for operation (If deice option installed).		O	O	O
14. Inspect wing inspection light for broken lens, security, wiring, and attachment. (If installed)		O	O	O
15. Lubricate per Lubrication Chart. (Refer to 12-10-00).		O	O	O
16. Check condition of hydraulic, fuel, and pneumatic hoses and lines		O	O	O
17. Check condition and security of wiring and connectors.		O	O	O
18. Check fuel tanks and lines for leaks	O	O	O	O
NOTE: Every two years or after 500 hours in service, whichever occurs first, check that fuel transmitter floats (mounted on forward access panels #2 and #5 from the wing tip) are secure and that fuel strainers (two in each wing tank) are secure and unobstructed. Strainers may be inspected by removing the forward and aft access covers, fifth in from the wing tip.				
NOTE: Any fuel leaks within the wing will show at the lower wing root fairing, between wing and fuselage.				
19. Drain wing fuel tanks			O	O
20. Check fuel transmitters and electrical connectors for cleanliness, condition, and security			O	O
21. Check fuel tank sealing material.			O	O
22. Fuel tanks marked for proper octane rating.	O	O	O	O
23. Check radome for erosion, cracks, or delamination. (If installed)		O	O	O
24. Inspect condition of pneumatic deicer. (If installed)		O	O	O
25. Inspect wing tip navigation lights for broken lenses, security, wiring, and attachment.	O	O	O	O
26. Check fuel filler cap, O-ring, and receptacle for condition.	O	O	O	O
27. Install inspection covers and panels		O	O	O
H. OPERATIONAL INSPECTION				
1. Check fuel pump and fuel tank selector.	O	O	O	O
2. Check fuel quantity and flow gauges	O	O	O	O
3. Check oil pressure and temperature.	O	O	O	O
4. Check alternator output on #1 alternator and #2 alternator (If installed)	O	O	O	O
5. Check parking brake and toe brakes	O	O	O	O

NATURE OF INSPECTION	Inspection Time (Hrs) 50	100	500	1000
H. OPERATIONAL INSPECTION (continued)				
6. Check vacuum gauge and standby vacuum pump. (If installed)	O	O	O	O
7. Check gyros for noise and roughness	O	O	O	O
8. Check cabin heat and defroster operation.	O	O	O	O
9. Check magneto switch operation	O	O	O	O
10. Check magneto RPM variation	O	O	O	O
11. Check throttle and mixture operation.	O	O	O	O
12. Check propeller smoothness	O	O	O	O
13. Check constant speed propeller action.	O	O	O	O
14. Check engine idle	O	O	O	O
15. Check alternate air.	O	O	O	O
16. Check electronic equipment operation	O	O	O	O
17. Check air conditioning compressor clutch operation. (If installed)	O	O	O	O
18. Check operation of controls	O	O	O	O
19. Check operation of flaps	O	O	O	O
20. Check manifold pressure	O	O	O	O
21. Check tachometer calibration. (Refer to latest revision of Piper Service Bulletin No. 871).		O	O	O
22. Check bus isolation diodes per 24-30-00 (PA-46-350P).		O	O	O
I. SPECIAL INSPECTION				
1. Inspect Airborne pressure manifold every 400 hours in conjunction with cleaning of B.F. Goodrich pressure control valve. (Refer to 5-50-00 and 30-10-00).				
2. Replace flexible hoses as required, but no later than 1,000 hours of operation or eight years and at engine overhaul. (Refer to 5-50-00).				
J. GENERAL				
1. Aircraft conforms to FAA Specifications.	O	O	O	O
2. All Airworthiness Directives, Service Bulletins, Letters, and Instructions complied with.	O	O	O	O
3. Current FAA Pilot's Operating Handbook is in the aircraft	O	O	O	O
4. Appropriate entries made in the Aircraft and Engine Log books	O	O	O	O
5. Registration Certificate is in the aircraft and properly displayed	O	O	O	O
6. Radio Station FCC Licenses is in the aircraft and properly displayed	O	O	O	O
7. Aircraft Equipment List, Weight and Balance and FAA Form 337 (if applicable) are in the aircraft and in proper order	O	O	O	O
8. Operational inspection and run-up completed	O	O	O	O
9. Aircraft cleaned and lubricated after wash. (As required).	O	O	O	O

A. Scheduled Maintenance (continued)

4. Periodic Inspection (continued)

K. NOTES

1. Check after the first 25 hours of operation, then at each subsequent 50 hour inspection.

2. Cover or remove all filters, plug all openings, cover the ignition lead at the spark plug and magneto. Solvent will contaminate the air and fuel filters and will corrode the springs in the ignition leads.

3. Check cylinders for evidence of excessive heat which is 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 airplane is returned to service.

   Heavy discoloration and the appearance of seepage at the cylinder head and barrel attachment area are 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 a while. 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.

4. Check security of injector nozzles after the first 50 hours of engine operation, then at each subsequent 100 hours of engine operation.

5. Replace flexible hoses as required, but no later than 1,000 hours of operation or eight years and at engine overhaul.

6. Inspect seat belt and shoulder harness ends and attachment points for condition and security. Inspect harness web material for condition and wear over its entire length. Particularly look for wear and fraying where harness web passes in and out of adjustable buckle end and shoulder harness inertial reel. If excessively worn, replace. On lap belts, inspect shoulder harness keeper nylon bushing. If excessively worn or missing, replacement of that half of the lap belt is required.

   For PA-46-350P, S/N's 4622152 - 4622200 only, ensure compliance with Piper Service Bulletin No. 990.

7. For aircraft in normal operation, each 7 years; or, for aircraft in training operations, each 2000 hours time-in-service: remove interior panels and headliner and conduct detailed inspection of aircraft structure (skin, bulkheads, stringers, etc.) for condition and security. Inspection of structure concealed by headliner may be accomplished by alternate means (i.e. - through the use of a borescope) without removing the headliner, providing access is obtained to all concealed areas and borescope provides sufficient detail to adequately accomplish the inspection.

A. Unscheduled Maintenance Checks

1. General

Special inspections are performed at the appropriate times indicated in conjunction with the normal periodic or event inspection. They are also repeated at each specified interval, for example: at 100 hours, perform the 100 hour special inspection; at 200 hours, perform both the 100 hour and 200 hour special inspection; at 400 hours perform the 100 hour, 200 hour, and 400 hour special inspection…etc.

2. 400 HOUR

☐ (a.) Inspect Airborne pressure manifold in conjuction with cleaning of B.F. Goodrich pressure control valve. (Refer to 30-10-00)

3. 1,000 HOUR or EIGHT (8) YEARS

☐ (a.) Replace flexible hoses as required and at engine overhaul.

4. TWELVE (12) YEARS

☐ (a.) Hydrostatic test portable fire extinguisher.

5. Special Condition Inspection

(a.) General

This section contains inspections required in addition to the normal periodic or event schedule; when the aircraft is operated continuously in adverse environmental conditions or subjected to unusual incidents.

The special inspections required under adverse environmental operating conditions should be repeated in accordance with the time intervals specified.

Items indicated in this procedure are guidelines based on past operating experience. Each operator should review his own operating conditions and react accordingly to keep his aircraft airworthy.

NOTE: A log book entry should be made upon completion of any inspections.

(b.) Operation in High Dust or Industrial Pollution

Item	Inspection	Inspection Interval
CAUTION: CHECK THAT LINES ARE DISCONNECTED FROM SYSTEM.		
Pitot/Static system	Check for obstruction. Reverse flow to lines.	100 Hours or as required.
Windows.	Inspect for cracks, erosion, visibility and cleanliness.	Daily.

A. Unscheduled Maintenance Checks (continued)

(c.) Soft or Unusual Terrain

Item	Inspection	Inspection Interval
Landing Gear.	Inspect for cracks, attachment, damage, cleanliness and lubrication.	100 Hours.
Wheels.	Inspect for cracks, damage, chipped rims; bearings for damage, corrosion and lubrication.	100 Hours.
Tires.	Inspect for cuts, wear, inflation and deterioration.	Daily.
Wheel Wells.	Inspect for foreign material, damage and corrosion.	100 Hours.
Brakes.	Inspect for damage, foreign material, cracks and overheating.	Daily.
Flaps, Lower Fuselage and Wing.	Inspect for damage, cracks and corrosion.	100 Hours.

(d.) Lightning Strike

Item	Inspection	Inspection Interval
Propeller.	Refer to latest Hartzell Service Letter.	As required
Engine	Refer to latest Teledyne Continental or Textron Lycoming Service Bulletins and Overhaul Manuals	As required
Electrical and Avionics Systems.	Inspect and check for high voltage damage and operation.	Replace or overhaul at each occurrence.
All exterior surfaces and bearings.	Inspect for burns, evidence of arcing and damage on surfaces and bearings. (especially wheel bearings)	Replace or repair affected areas each occurrence.
Static Wicks.	Replace.	Replace each occurrence.

A. Unscheduled Maintenance Checks (continued)

(e.) Engine Overspeed, Sudden Stoppage, Loss of Oil, or Overtemperature

Item	Inspection	Inspection Interval
Engine.	Refer to latest Teledyne Continental or Textron Lycoming Service Bulletins and Overhaul Manuals	As required
Propeller.	Refer to latest Hartzell Service Letter.	As required

(f.) Severe Turbulence, Hard or Overweight Landing

Item	Inspection	Inspection Interval
CAUTION: MINOR SUPERFICIAL DAMAGE MAY INDICATE A MORE SEVERE CONDITION SOMEWHERE ELSE IN THE STRUCTURE. (a) Place aircraft in a normal level attitude. (b) Make a preliminary inspection of checking alignment, engine, wings, tail, landing gear and doors. (c) Follow Piper, Teledyne Continental, or Textron Lycoming Maintenance Manual procedures. If there are any questions regarding procedures, contact the Piper Aircraft Corporation Customer Service Department. (d) Inspect the following items closely to determine the extent of damage:		
Landing Gear Struts.	Cracks, signs of overstress deformation, loose or damaged trunnion mounts. Axles for cracks, bending or flat spots. Damaged oleos and seals, hydraulic leaks and landing gear alignment.	Hard or overweight landing.
Wheels, Tires, Brakes.	Cracks, chips, loose or cracked mounting bolts, alignment of slippage marks, sidewall distress, hydraulic or air leaks. Dye check or magnaflux wheels and bolts.	Hard or overweight landing.
Wheel Wells and Landing Gear attach points.	Buckling, cracks, overstress, wing skin buckling, actuator damage and condition. Magnaflux landing and gear attachment.	Hard or overweight landing.
Wings.	Wing attach bolts for slippage, damage and overstress. Upper and lower wing skins for wrinkles, cracks, popped or loose rivets.	Hard or overweight landing. Severe turbulence.

A. Unscheduled Maintenance Checks (continued)

(f.) Severe Turbulence, Hard or Overweight Landing (continued)

Item	Inspection	Inspection Interval
Wings (continued)	Remove access plates and inspect for internal damage to ribs, stringers and sparwebs; fuel tanks for damage, attachment, and leaks.	Hard or overweight landing, severe turbulence.
Engine.	Engine mounts for distortion and damage to elastomeric parts. Propeller for evidence of ground strike (hard or overweight landing).	Hard or overweight landing, severe turbulence.
Fuselage.	Loose or missing rivets, door alignment, windows and attachments for overstress, cracks or damage. Stringers,bulkheads, for buckling, cracksor damage. Forward and aft pressure bulk-heads for buckling, cracks and damage. Avionics,instruments and accessories installation for security and operation.	Hard or overweight landing, severe turbulence.
Empennage.	Skins for buckling wrinkles, loose or missing rivets. Elevator, rudder, vertical fins and horizontal stabilizer for security of attachment and overstress of bolts. Ribs, stringers for buckling, cracks and damage.	Hard or overweight landing, severe turbulence.

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