



# AIRPLANE MAINTENANCE MANUAL

CARD 1 OF 9

PA-46-350P

*Malibu*  
*Mirage*

(S/N's 4636001 AND UP)

PA-46R-350T

*Malibu*  
*Matrix*

(S/N's 4692001 AND UP)

## PIPER AIRCRAFT, INC.

**PIPER AIRCRAFT, INC.**  
**PA-46-350P, MALIBU MIRAGE / PA-46R-350T, MALIBU MATRIX**  
**MAINTENANCE MANUAL**

**5. Scheduled Maintenance (continued)**

**NATURE OF INSPECTION**

**Inspection  
Interval (Hrs)**  
**50    100**

**E. FUSELAGE AND EMPENNAGE GROUP (cont.)**

**CAUTION:** THE FLUX DETECTOR IS SECURED TO THE MOUNTING BRACKET WITH BRASS SCREWS. ENSURE ONLY BRASS SCREWS ARE USED WHEN REINSTALLING.

- |   |   |   |
|---|---|---|
| 43. Inspect flux detector .....   | O |   |
| 44. PA-46-350P only, check outflow and safety valves<br>for cleanliness, looseness, and condition ..... |   | O |

**NOTE:** Outflow and safety valves may require cleaning prior to 100 hour intervals, if heavy smoking or dusty conditions exits.

- |   |   |   |
|---|---|---|
| 45. Inspect all hoses and lines for leakage, condition, and security.<br>(See Note 15.) ..... | O |   |
| 46. Lubricate per Lubrication Charts, 12-20-00 .....  |   | O |
| 47. Install inspection covers and panels .....  |   | O |

**NOTE:** Ensure correct hardware is used when reinstalling vertical fin dorsal fairing over flux detector.

**F. LANDING GEAR GROUP**

- |   |   |   |
|---|---|---|
| 1. Check oleo struts for proper extension and evidence of fluid leakage.<br>(See Landing Gear, 12-10-00.) ..... | O | O |
|---|---|---|

**CAUTION:** WHEN AIRCRAFT HAS OPTIONAL RADAR POD INSTALLED ON RIGHT WING, ENSURE THAT JACK DOES NOT COME INTO CONTACT WITH RADAR POD.

- |  |   |   |
|--|---|---|
| 2. Place airplane on jacks. (Refer to 7-10-00.) .....  | O |   |
| 3. Remove inspection covers and panels .....   |   | O |
| 4. Inspect nose gear steering control and travel .....   |   | O |
| 5. Inspect nose gear installation for condition and security.<br>(See Notes 27, 35 and 36.) .....  |   | O |
| 6. Inspect nose gear trunnion for cracks and condition .....   | O | O |
| 7. Inspect nose wheel steering cam and rotator for cracks .....  |   | O |
| 8. Check squat switch for security and adjustment .....  |   | O |
| 9. Inspect tires for cuts, uneven or excessive wear, and slippage .....  | O | O |
| 10. Remove wheels and clean, check and repack bearings .....   |   | O |
| 11. Inspect wheels for cracks, corrosion, and broken bolts .....   |   | O |
| 12. Inspect brake lining and disc for condition and wear .....   | O | O |
| 13. Check tires for proper pressure.<br>(Refer to 12-10-00, Tires and 6-00-00, Chart 1.) .....   | O | O |
| 14. Check brake hydraulic lines for leakage, condition, and security .....   |   | O |
| 15. Inspect hydraulic lines, electrical leads, and attaching parts for<br>condition and security (i.e. - routing, chafing, damage, wear, etc.) ..... |   | O |
| 16. Check brake reservoir for proper fluid level, leaks,<br>condition, and security .....  | O | O |

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**5. Scheduled Maintenance (continued)**

NATURE OF INSPECTION	Inspection Interval (Hrs)	
	50	100
17. Inspect gear fork for damage .....		O
18. Inspect struts for fluid/pressure leaks and scoring .....		O
19. Check torque links, bolts, and bushings. Rebush as required .....		O
20. Check gear struts, trunnion pins and attachments for condition and security .....		O
21. Inspect bolt, bushings, trunnion pins, and attachments for condition and security. Rebush as required .....		O
22. Check retraction actuators and attachments for condition and security .....		O
23. Check condition and security of flexible hydraulic lines to actuator. (Replace flexible hoses as required -- see Note 15.) .....		O
24. Inspect main and nose gear doors, and rod assemblies for corrosion, security, and freedom of movement .....		O
25. Check locking actuator for operation and adjustment. (See Note 23.) .....		O
26. Inspect nose gear door actuator for operation and adjustment .....		O
27. Check warning horn and lights for operation .....		O
28. Lubricate per Lubrication Chart, 12-20-00 .....		O
29. Inspect wiring and wiring harness for condition, security, damage, chafing, and corrosion. Check switches for adjustment, security and operation .....		O
30. Check actuating cylinders for leakage and security. (See Note 23.) .....		O
31. Perform gear retraction and extension operation check. (Per Landing Gear Retraction System Functional Test, 32-30-00.) .....		O
32. Place weight of aircraft on landing gear. (DO NOT REMOVE JACKS.) .....		O
33. Check anti-retraction system on gear lever for proper operation .....		O
34. Install inspection covers and panels .....	O	O
<b>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.</b>		
35. Ensure all gears are down and locked, then remove jacks .....		O
36. Check wheel alignment .....		O

**G. WING GROUP**

1. Remove inspection covers and panels .....		O
2. Check surfaces, skins, and tips for damage and loose or missing fasteners. (See Note 44.) .....	O	O
3. Inspect forward and aft wing spar to fuselage attach fittings for corrosion and condition. (See Note 14 and 57-40-00, Attach Fittings Corrosion Control.) .....		O
4. Inspect aileron for surface damage or irregularities (i.e. - skin cracks, distortion, dents, corrosion and excessive paint build up); structural defects (i.e. - loose or missing rivets); misrigging or structural imbalance; hinge damage, excess wear, freedom of movement and proper lubrication; and attachment points for missing or worn hardware .....		O
5. Inspect aileron bellcranks for damage and operation .....		O
6. Inspect aileron cables and cable terminals, turnbuckles, fittings, guides, pulleys, and bellcranks for safety, condition, and operation. (See Note 16.) .....		O
7. Inspect aileron cable tension per 27-00-00, Chart 2. Use a tensiometer .....		O

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**K. NOTES**

1. Refer to Piper's Customer Service Information Aerofiche P/N 1753-755, for latest revision dates to Piper Inspection Reports/Manuals and this maintenance manual. References to Chapter/Section are to the appropriate Chapter/Section in this manual.

**WARNING: INSTRUCTIONS FOR CONTINUED AIRWORTHINESS (ICA) FOR ALL NON-PIPER APPROVED STC INSTALLATIONS ARE NOT INCLUDED IN THIS MANUAL. WHEN A NON-PIPER APPROVED STC INSTALLATION IS INCORPORATED ON THE AIRPLANE, THOSE PORTIONS OF THE AIRPLANE AFFECTED BY THE INSTALLATION MUST BE INSPECTED IN ACCORDANCE WITH THE ICA PUBLISHED BY THE OWNER OF THE STC. SINCE NON-PIPER APPROVED STC INSTALLATIONS MAY CHANGE SYSTEMS INTERFACE, OPERATING CHARACTERISTICS AND COMPONENT LOADS OR STRESSES ON ADJACENT STRUCTURES, THE PIPER PROVIDED ICA MAY NOT BE VALID FOR AIRPLANES SO MODIFIED.**

2. Inspections or operations are to be performed as indicated by a "O" at the 50 to 100 hour inspection interval. Inspections or operations (i.e. - component overhauls/replacements, etc.) required outside the 100 hour cycle are listed as special inspections in section 5-30-00. Inspections must be accomplished by persons authorized by the FAA.
  - (a) The 50 hour inspection accomplishes preventative maintenance, lubrication and servicing as well as inspecting critical components.
  - (b) The 100 hour inspection is a complete inspection of the airplane, identical to an annual inspection.

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

3. Piper Service Bulletins are of special importance and Piper considers compliance mandatory. In all cases, see Service Bulletin/Service Letter Index P/N 762-332 or Service Bulletin/Service Letter Aerofiche Set P/N 1762-331 to verify latest revision.
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 (Lycoming P/N 60297-27) for this airplane. Any changes issued to the engine manufacturer's operator's manual shall supersede or supplement the inspections outlined in this report. Should fuel other than the specified octane rating for the power plant be used, refer to the latest revision of Lycoming Service Letter No. L185 for additional information and recommended service procedures.
6. **On new engines, check after the first 25 hours of operation, then at each subsequent 50 hour inspection.**
7. 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.
8. 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.

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9. Check security of injector nozzles after the first 50 hours of engine operation, then at each subsequent 100 hours of engine operation.
10. In S/N's 4636001 thru 4636089 only, verify compliance with Piper Service Bulletin No. 1000.
11. In S/N's 4636001 thru 4636110 only, verify compliance with of Piper Service Bulletin No. 1021 or installation of Kit No. 766-654.
12. In S/N's 4636001 thru 4636153 only, verify compliance with Piper Service Bulletin No. 1020.
13. In S/N's 4636001 thru 4636126 only, verify compliance with Piper Service Bulletin No. 1014.
14. In S/N's 4636001 thru 4636175 only, verify compliance with of Piper Service Bulletin No. 1027 or installation of Kit No. 766-656.
15. Flexible hose replacement times are in-service times. In-service dates must be determined by (1) the date the aircraft was licensed, if new or (2) the date entered in the logbook for the replacement hose placed in service. Do not use the date stamped on the hose, as time may be included for shelf life, and not in-service use.
16. Examine cables for broken strands by wiping them with a cloth for their entire length. Visually inspect the cable thoroughly for damage not detected by the cloth. Replace any damage or frayed cables.
  - (a) See Control Cable Inspection, 27-00-00, or the latest edition of FAA AC 43.13-1.
  - (b) At fifteen (15) years time-in-service, begin Cable Fittings 100 Hour Special Inspection, 27-00-00.
17. In S/N's 4636001 thru 4636011 only, verify compliance with Piper Service Bulletin No. 990.
18. In S/N's 4636001 thru 4636131 only, verify compliance with Piper Service Bulletin No. 1017.
19. In S/N's 4636021 thru 4636190 only, verify compliance with Piper Service Letter No. 1023.
20. In S/N's 4636001 thru 4636198 only, verify compliance with Piper Service Bulletin No. 1029 and Lycoming Service Bulletin No. 534.
21. In S/N's 4636001 thru 4636215 only, verify compliance with Piper Service Bulletin No. 1034.
22. In S/N's 4636001 thru 4636221 only, in airplanes which have not installed a Lear Romec P/N RG9080-J4A/M engine-driven fuel pump, verify compliance with latest revisions of Piper Service Bulletin No. 1035, Lycoming Service Bulletin No. 529A, and Crane/Lear Romec Service Bulletin No. 101SB020. See also FAA AD 98-18-12.
23. In S/N's 4636001 thru 4636030 only, verify compliance with Piper Service Bulletin No. 994 or Parker Hannifin Service Bulletin No. 7049.
24. In S/N's 4636001 thru 4636043 only, verify compliance with Piper Service Bulletin No. 964B or Cleveland ESB 7029A or Cleveland SB 7047.
25. In S/N's 4636001 thru 4636013 only, verify installation of Kit No. 766-613 per Piper Service Bulletin No. 993.
26. In S/N's 4636001 thru 4636088 only, verify compliance with Piper Service Bulletin No. 999.
27. In S/N's 4636001 thru 4636093, 4636095, 4636096 and 4636099 only, verify compliance with Piper Service Bulletin No. 1001.
28. In S/N's 4636001 thru 4636284 only, verify compliance with Piper Service Bulletin No. 1041 or Airborne Service Letter No. 56.
29. In S/N's 4636248 thru 4636309 only, verify compliance with Piper Service Bulletin No. 1046.
30. In S/N's 4636001 thru 4636313 only, verify compliance with Piper Service Bulletin No. 1054.
31. In S/N's 4636001 thru 4636313 only, verify compliance with Piper Service Bulletin No. 1060.
32. In S/N's 4636001 thru 4636313 only, verify compliance with Piper Service Bulletin No. 1062.
33. In S/N's 4636021 thru 4636313 only, verify installation of Kit No. 767-305 per Piper Service Bulletin No. 1066.

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**SPECIAL INSPECTIONS**

**WARNING:** FAILURE TO CONSULT APPLICABLE VENDOR PUBLICATION(S), WHEN SERVICING OR INSPECTING VENDOR EQUIPMENT INSTALLED IN PIPER AIRCRAFT, MAY RENDER THE AIRCRAFT UNAIRWORTHY. (SEE INTRODUCTION - SUPPLEMENTARY PUBLICATIONS.)

The following inspections are required in addition to those listed in 5-20-00. These inspections are required at intervals of:

- Flight hours;
- Calendar Year; or
- the specific operation being conducted or the environment being operated in.

Unless otherwise indicated, these inspections are to be repeated at each occurrence of the specified interval. Note that the items listed herein are guidelines based on past operating experience. Each operator should closely monitor his own unique operating conditions/environment and react accordingly to keep his aircraft airworthy.

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

**1. Per Flight Hour**

**First 50 Hours**

- ☐ Check security of injector nozzles.

**Each 250 Hours**

- ☐ Replace Turbine Inlet Temperature (TIT) probe. See TIT Gauge, Probe Replacement, 77-20-00, and FAA Airworthiness Directive (AD) 99-15-04.
- ☐ Each 250 hours time-in-service or annually, whichever comes first, comply with the latest revisions of Lycoming Service Bulletins No. 521 and 531.

**Each 400 Hours**

- ☐ Inspect Airborne pressure manifold every 400 hours. (See Pressure Manifold Check Valve Testing, 30-10-00.)
- ☐ For airplanes equipped with Gill G-243 or G-250S battery, beginning initially at 800 +/- 50 flight hours or 11 +/- 1 calendar months, and each 400 +/- 50 flight hours or 11 +/- 1 calendar months thereafter, the battery should be removed and capacity tested per Battery Capacity Test, 24-30-00.

**Each 500 Hours**

- ☐ If installed, replace the vacuum system inlet air filter (i.e., central air filter, gyro filter, etc.) element each 500 hours time-in-service, annually, or at vacuum pump replacement, whichever comes first.

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**Each 500 Hours (cont.)**

- ☐ PA-46-350P only, check cabin pressurization system operation. (See 21-00-00, Pressurization System Test.)
- ☐ Check condition of exterior bearings.
- ☐ Drain wing fuel tanks.
- ☐ Check fuel transmitters and electrical connectors for cleanliness, condition, and security.
- ☐ Every two (2) years or after 500 hours, 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 (three 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.
- ☐ Check fuel tank sealing material.
- ☐ Remove propeller; remove sludge from propeller and crankshaft.
- ☐ Remove and flush oil radiator.
- ☐ **For airplanes equipped with Slick Magnetos:** inspect and clean magneto(s) per 500 Hour Inspection in the Slick F1100 Master Service Manual, available from Unison Industries, PH: (904) 739-4000, or <http://www.unisonindustries.com/>.
- ☐ Replace engine air filter.
- ☐ Coin-tap erosion shield on composite blades. (See latest revision Hartzell Composite Blade Manual No. 135.)

**Each 600 Hours**

- ☐ **For airplanes equipped with Aero Accessories, Inc. vacuum pump(s) model AA441CC / AA442CW series,** replace each pump as it accumulates 600 hours time-in-service.

**Each 1000 Hours**

- ☐ **Replace engine compartment flexible hoses (fuel, oil, etc.) as required; but not to exceed 1000 hours time-in-service, eight (8) years, or engine overhaul, whichever comes first; except for TSO-C53a - Type D hoses which are replaced on-condition.**
- ☐ Coin-tap the entire blade on composite blades. (See latest revision Hartzell Composite Blade Manual No. 135.)
- ☐ Inspect condition of bolts used with flap rollers and aileron hinges. (Replace as required.)
- ☐ Inspect flap tracks for security of attachment, damage, condition, and corrosion.
- ☐ If installed, remove SpeedBrake cartridges and return to Precise Flight Inc. for clutch lubrication and spring replacement.

**Each 1500 Hours**

- ☐ PA-46-350P only, replace flexible bleed air lines (high temp) each 1500 hours time-in-service or every seven (7) years, whichever occurs first.

**Each 2000 Hours**

- ☐ Each 2000 hours or seven (7) years, whichever occurs first, 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.
- ☐ Each 2000 hours, or as specified in the latest revision of Lycoming Service Instruction No. 1009, overhaul or replace engine.

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**Each 2000 Hours (cont.)**

- ☐ Overhaul or replace Hartzell propellers each five or six years or each 2000 or 2400 hours. (Refer to latest revision of Hartzell Service Letter No. 61 to determine specific requirements for individual airplanes.)
- ☐ At engine overhaul or each 2000 hours, whichever comes first, overhaul or replace alternators.

**Each 2400 Hours**

- ☐ Overhaul or replace Hartzell propeller governors each 2400 hours or at engine overhaul. (Verify TBO in latest revision of Hartzell Service Letter No. 61.)
- ☐ Overhaul or replace Hartzell propellers each five or six years or each 2000 or 2400 hours. (Refer to latest revision of Hartzell Service Letter No. 61 to determine specific requirements for individual airplanes.)

**Each 2700 Hours**

- ☐ Overhaul the Sky Tec Starter Model No. 149-NL each 2700 hours or when major overhaul is performed on the engine on which it is installed. No other maintenance is required or recommended.

**Each 5000 Hours**

- ☐ If installed, remove SpeedBrake cartridges and return to Precise Flight Inc. for drive assembly replacement.

**Each 7500 Hours**

- ☐ Replace engine mount bolts located at the firewall (F.S. 95.00).

**2. Per Calendar Year**

**Each Thirty (30) Days**

- ☐ Check standby attitude indicator emergency power supply (in radar pod aft compartment) for condition and security. Self-test unit using integral test switch - see 34-20-00. Hand-tighten electrical connector.
- ☐ Inspect battery, battery compartment, and vent system for water, corrosion, etching, condition, and security. Flush compartment as required.
- ☐ If installed, check portable fire extinguisher for condition and charge. Verify nozzle is unobstructed and safety seal is intact. Determine charge by "hefting" extinguisher.
- ☐ Perform the appropriate ELT Installed Transmitter Test (Self Test) as found in 25-60-00 each 30 days.

**Each Ninety (90) Days**

- ☐ Check fuel filter. Clean or replace as required.

**Each Four (4) Months**

- ☐ Change the engine oil and full-flow cartridge oil filter each four (4) months or every 50 hours time-in-service, whichever comes first.

**Each Six (6) Months**

- ☐ If annual usage is significantly less than 100 Hours, lubricate Hartzell propeller each six (6) months. See Hartzell Standard Practices Manual No. 202A.



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**Each Eleven (11) Months**

- ☐ For airplanes equipped with Gill G-243 or G-250S battery, beginning initially at 800 +/- 50 flight hours or 11 +/-1 calendar months, and each 400 +/- 50 flight hours or 11 +/-1 calendar months thereafter, the battery should be removed and capacity tested per Battery Capacity Test, 24-30-00.

**Each Twelve (12) Months**

- ☐ Lubricate Hartzell propeller every 100 Hours or annually, whichever comes first. If annual usage is significantly less than 100 Hours, lubricate propeller each six (6) months. See Hartzell Standard Practices Manual No. 202A.
- ☐ If installed, each twelve (12) calendar months, conduct SpeedBrake Annual Inspection per Annual Inspection, 27-60-00.
- ☐ If installed, replace the vacuum system inlet air filter (i.e., central air filter, gyro filter, etc.) element each 500 hours time-in-service, annually, or at vacuum pump replacement, whichever comes first.
- ☐ For vacuum system equipped airplanes, beginning at 5 years from date of check valve manifold manufacture and each 12 months thereafter, inspect the Airborne 1H5 series check valve manifolds per the latest revision of Airborne SL 39A.
- ☐ Each 250 hours time-in-service or annually, whichever comes first, comply with the latest revisions of Lycoming Service Bulletins No. 521 and 531.

**Each Two (2) Years**

- ☐ Every two (2) years or after 500 hours, 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 (three in each wing tank) are secure and unobstructed. Strainers maybe inspected by removing the forward and aft access covers, fifth in from the wing tip.
- ☐ Test and inspect the static pressure system and altimeters. Ensure compliance with the requirements of FAR 43, Appendix E. (See FAR 91.411.) If optional Meggitt EFIS installed, see Appendix 1, grid 4K1.
- ☐ Test and inspect the transponder. Ensure compliance with the requirements of FAR 43, Appendix F. (See FAR 91.413.)
- ☐ For airplanes equipped with the Avidyne FlightMax Entegra EFIS: swing the magnetic compass and recalibrate the magnetometer(s) every (2) years. See Magnetometer(s), 34-20-00.

**Each Five (5) Years**

**WARNING: DO NOT USE GREASE OR ANY TYPE OF GREASE FITTING ON ANY OXYGEN SYSTEM. WHEN WORKING WITH AN OXYGEN SYSTEM MAKE SURE HANDS, CLOTHING, TOOLS, AND IMMEDIATE AREA ARE FREE OF GREASE.**

- ☐ Remove and hydrostatically test oxygen cylinder every five (5) years.
- ☐ Inspect the Attach Fittings and Push Rods listed below. Repair or replace as required and, when finished, reapply Dinitrol AV8 Corrosion Inhibiting Compound (P/N 89500-800).
  - ☐ Fwd and aft wing spar to fuselage attach fittings. (See Attach Fittings Corrosion Control, 57-40-00.)
  - ☐ Fwd vertical fin attach fittings. (See Attach Fittings Corrosion Control, 55-30-00.)
  - ☐ Elevator trim tab push rods. (See Elevator Trim Tab Push Rod Corrosion Control, 55-20-00.)
  - ☐ Fwd and aft horizontal stabilizer attach fittings. (See Attach Fittings Corrosion Control, 55-10-00.)
- ☐ Overhaul or replace Hartzell propellers each five or six years or each 2000 or 2400 hours. (See latest revision of Hartzell Service Letter No. 61 to determine specific requirements for individual airplanes.)

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**Each Six (6) Years**

- ☐ Overhaul or replace Hartzell propellers each five or six years or each 2000 or 2400 hours. (Refer to latest revision of Hartzell Service Letter No. 61 to determine specific requirements for individual airplanes.)
- ☐ For airplanes equipped with Aero Accessories, Inc. vacuum pump(s), replace the shear coupling each six (6) years time-in-service.

**Each Seven (7) Years**

- ☐ Each 2000 hours or seven (7) years, whichever occurs first, 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.
- ☐ PA-46-350P only, replace flexible bleed air lines (high temp) each 1500 hours time-in-service or every seven (7) years, whichever occurs first.

**Each Eight (8) Years**

- ☐ Replace engine compartment flexible hoses (fuel, oil, etc.) as required; but not to exceed 1000 hours time-in-service, eight (8) years, or engine overhaul, whichever comes first; except for TSO-C53a - Type D hoses which are replaced on-condition.

**Each Ten (10) Years**

- ☐ Each ten (10) years time-in-service, test fuselage and wing fluid hoses to system pressure. Visually inspect for leaks. Hoses that pass inspection may remain in service, but must be rechecked each five (5) years additional time-in-service. No fluid hose may exceed twenty (20) years total time-in-service.
- ☐ For airplanes equipped with the Avidyne FlightMax Entegra EFIS: replace the CMOS battery in the multifunction display (MFD) as required, but at least each 10 years. See Multifunction Display, 34-20-00.
- ☐ For vacuum system equipped airplanes, replace Airborne 1H5 series check valve manifolds at 10 years from check valve manifold date of manufacture. See latest revision of Airborne SL 39A.

**Each Twelve (12) Years**

- ☐ PA-46-350P only, replace Fixed Oxygen Generators at twelve (12) years from date of manufacture as indicated on the unit data plate.

**Each Fifteen (15) Years**

- ☐ PA-46-350T only, replace DOT-SP-10945 oxygen cylinder at fifteen (15) years from date of manufacture.

**Each Twenty (20) Years**

- ☐ No fluid hose may exceed 20 years total time-in-service.