

PIPER AZTEC SERVICE MANUAL

TABLE III-I. INSPECTION REPORT (cont.)

NATURE OF INSPECTION	Inspection Interval (Hrs)	
	50	100
E. FUSELAGE AND EMPENNAGE GROUP (CONT.)		
38. Inspect ELT battery for condition/date per FAR 91.207		O
39. Inspect ELT installation and antenna for condition and security. Replace antenna if bent or damaged		O
40. Install inspection plates and panels		O
F. WING GROUP		
1. Remove inspection plates and fairings		O
2. Inspect wing surfaces and tips for damage, loose rivets, and condition of walkway and step		O
3. Inspect ailerons 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, excessive wear, freedom of movement and proper lubrication; and attachment points for missing or worn hardware		O
4. Inspect aileron attachments for damage, security, and operation		O
5. Inspect aileron hinge bolts for condition and security. Replace as required.		O
6. Inspect aileron control stops to ensure stops have not loosened and locknuts are tight		O
7. Inspect aileron cables, cable terminals, turnbuckles, fittings, guides, pulleys, and bellcranks for safety, condition, and operation. (See Note 9.)		O
8. Inspect aileron cable tension per Table V-I. Use a tensiometer.		O
9. Inspect aileron balance weight and arm for security and operation		O
10. Inspect pitot tube for damage and condition		O
CAUTION: SEVERE BURNS CAN RESULT FROM COMING IN CONTACT WITH A HEATED PITOT TUBE.		
11. Check pitot heat		O
12. Inspect flaps 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, excessive wear, freedom of movement and proper lubrication; and attachment points for missing or worn hardware. (See Notes 18 and 29.)		O
13. Inspect flap attachments for damage, security, and operation		O
14. Inspect flap hinge bolts for condition and security. Replace as required.		O

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TABLE III-I. INSPECTION REPORT (cont.)

NATURE OF INSPECTION	Inspection Interval (Hrs)	
	50	100
F. WING GROUP (CONT.)		
15. Lubricate per Lubrication Chart, Section II	O	O
16. Inspect wing attachment bolts and brackets		O
17. Inspect engine mount attaching structure		O
18. Inspect fuel cells and lines for leaks and water	O	O
19. Remove, drain, and clean fuel strainer bowl and screen		O
20. Inspect fuel fillers for minimum octane markings		O
21. Inspect fuel fillers marked for capacity		O
22. Inspect fuel quantity indicator switches for condition, security, and rigging		O
23. Inspect fuel cell vents and vent lines per Fuel Cell Vent 100 Hour Inspection. (See Special Inspections, Procedures.)		O
24. Inspect all controls, air ducts, electrical leads, lines, and attaching parts for security, routing, chafing, deterioration, wear, and correct installation		O
25. If installed, inspect condition of pneumatic deicers		O
26. If installed, inspect security of Autopilot roll servo bridle cable clamps. (See Note 17.)		O
27. Install inspection plates and fairings		O
G. LANDING GEAR GROUP		
1. Check oleo struts for proper extension and evidence of fluid leakage. (See Paragraph 2-52.)	O	O
2. Inspect nose gear steering control and travel		O
3. Inspect wheel alignment		O
4. Put airplane on jacks. (Refer to Section II.)		O
5. Inspect tires for cuts, uneven or excessive wear, and slippage		O
6. Remove wheels, clean, inspect, and repack bearings		O
7. Inspect wheels for cracks, corrosion, and broken bolts. (Refer to Figure 7-22.)		O
8. Check tire pressure per Table II-I	O	O
9. Inspect brake linings and discs for condition and wear.	O	O
10. Inspect brake backing plates for cracks		O
11. Inspect condition of brake and hydraulic lines		O
12. Inspect shimmy dampener operation		O
13. Inspect gear forks for damage		O
14. Inspect gear struts, attachments, torque links, retraction links, and bolts for condition and security		O
15. Inspect downlocks for operation and adjustment		O
16. Inspect gear doors and attachments		O
17. Check warning horn and light for operation		O
18. Retract gear - Inspect operation. (See Note 23.)		O

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TABLE III-I. INSPECTION REPORT (cont.)

NATURE OF INSPECTION	Inspection Interval (Hrs)			
	L	R	50	100
G. LANDING GEAR GROUP (CONT)				
19. Retract gear - Inspect doors for clearance and operation.....				O
20. Inspect anti-retraction system				O
21. In S/N's 27-2505 and up, inspect Emergency Gear Extender Cable for correct rigging per Paragraph 6-129				O
22. Inspect actuating cylinders for leaking and security				O
23. Inspect position indicating switches and electrical leads for security				O
24. Inspect hydraulic lines, electrical leads, and attaching parts for condition and security, (i.e. - routing, chafing, damage, wear, etc.)				O
25. Lubricate per Lubrication Chart, Section II			O	O
26. Remove airplane from jacks				O
H. SPECIAL INSPECTIONS				
See Special Inspections, Requirements, below.				
I. OPERATIONAL INSPECTION				
NOTE: Refer to Note 12 prior to starting engines or taxiing airplane.				
1. Check fuel pump, fuel cell selector and crossfeed operation	O	O	O	O
2. Check fuel quantity, pressure and flow readings	O	O	O	O
3. Check oil pressure and temperatures	O	O	O	O
4. Check generator or alternator output	O	O	O	O
5. Check manifold pressure	O	O	O	O
6. Check operation of carburetor heat or alternate air.....	O	O	O	O
7. Check operation of parking brake			O	O
8. Check vacuum gauge			O	O
9. Check gyros for noise and roughness			O	O
10. Check cabin heater operation			O	O
11. Check magneto switch operation	O	O	O	O
12. Check magneto RPM variation	O	O	O	O
13. Check throttle and mixture operation.....	O	O	O	O
14. Check propeller smoothness	O	O	O	O
15. Check propeller governor action	O	O	O	O
16. Check engine idle.....	O	O	O	O
17. Check electronic equipment operation			O	O
18. If installed, check operation of Autopilot, including automatic pitch trim, and manual electric trim. (See Note 13.).....			O	O
19. If installed, check operation of pneumatic deicer system			O	O

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TABLE III-I. INSPECTION REPORT (cont.)

NATURE OF INSPECTION	Inspection Interval (Hrs)	
	50	100
J. GENERAL		
1. Aircraft conforms to FAA Specifications	O	O
2. Latest revision of applicable FAA Airworthiness Directives complied with	O	O
3. Current and correct Pilot's Operating Handbook or Airplane Flight Manual is in the airplane	O	O
4. Appropriate entries made in the Aircraft and Engine Log books	O	O
5. Registration Certificate is in the aircraft and properly displayed	O	O
6. Aircraft Equipment List, Weight and Balance and FAA Form(s) 337 (if applicable) are in the aircraft and in proper order	O	O
7. Operational inspection and run-up completed	O	O
8. Aircraft cleaned and lubricated after wash (as required)	O	O

K. NOTES

1. Refer to Piper's Customer Service Information File P/N 1753-755 for latest revision dates to Piper Inspection Reports/Manuals and this Service manual. References to Section are to the appropriate 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 or 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 paragraph 8, below. Inspections must be accomplished by persons authorized by the FAA.
 - (a) The 50 hour inspection accomplishes preventive 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.

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TABLE III-I. INSPECTION REPORT (cont.)

K. NOTES (CONT.)

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 to verify latest revision. See also Table III-II.
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 Part No. 60927-10 or 60297-23, as appropriate) for these airplanes. 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. Overhaul as required and at engine overhaul.
7. Check cylinders for evidence of excessive heat indicated by burned paint on the cylinders. This condition is indicative of internal damage to the cylinder and, if found, its cause must be determined and corrected before the airplane is returned to service. Heavy discoloration and appearance of seepage at the cylinder head and barrel attachment area is usually due to emission of thread lubricant used during assembly of the barrel at the factory, or by slight gas leakage which stops after the cylinder has been in service for 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 must be replaced.
8. Refer to latest revision of Lycoming Service Bulletin No. 480.
9. 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 damaged or frayed cables.
 - (a) See Control Cable Inspection, in Special Inspections, Procedures, below, 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 (see Special Inspections, Procedures).
10. Not used.
11. Applies only to IO-540-J4A5 engines adapted with AirResearch Turbocharger Unit.
12. Refer to Section 4 of the Pilot's Operating Handbook for preflight and flight check lists.
13. Refer to Airplane Flight Manual or Pilot's Operating Handbook Supplement for preflight and flight check and for intended function in all modes.
14. Does not apply to propellers with spring backup kit installed.
15. For airplanes with turbine housing(s) which have accumulated 700 hours time-in-service or more, see latest revision of Lycoming Service Bulletin No. 347.

TABLE III-I. INSPECTION REPORT (cont.)

K. NOTES (CONT.)

16. Inspect rubber mount for severe cracking, signs of high temperature or burning, separation of rubber from metal surfaces, excessive “sag” or permanent deflection resulting in internal bottoming with spacer, engine and cowl interference, unusual vibration.
17. In PA-23-250 S/N’s 27-3457 and up, if installed, inspect Piper AutoControl III, AltiMatic III, AltiMatic IIIB, and AltiMatic IIIB-1 autopilot servo and bridle cable installations per 100 Hour AutoControl III/AltiMatic III Autopilot Inspection (see Special Inspections, Procedures).
18. In PA-23-250 S/N’s 27-3154 thru 27-7405330 and 27-3050 only, for those airplanes which have not installed Piper Kits No. 760-861 (right) and 760-817 (left), conduct Outboard Flap Hinge 100 Hour Inspection (see Special Inspections, Procedures).
19. In PA-23-250 S/N’s 27-1 thru 27-140 only, for those airplanes which have not installed the improved Engine Controls Support Bracket Assembly, P/N 16975-00, conduct 100 Hour Engine Controls Support Bracket Inspection (see Special Inspections, Procedures).
20. In all PA-23-235’s; and PA-23-250 S/N’s 27-1 thru 27-7954089 only, inspect fuel selector valve control cable wires per Fuel Selector Control Cable Wire 100 Hour Inspection (see Special Inspections, Procedures).
21. In PA-23-250 Aztec “F” S/N’s 27-7654001 thru 27-7954121 only, inspect stabilator tip tube and weight assemblies per Stabilator Tip Tube and Weight Assembly 100 Hour Inspection (see Special Inspections, Procedures).
22. In PA-23-250 Aztec “F” S/N’s 27-7654001 thru 27-7954044 with unmodified stabilator serial numbers 0336-L thru 0340-L and 0401-L thru 0607-L and 0337-R thru 0341-R and 0402-R thru 0609-R only, inspect stabilator lower surface rivets and rib attachment per Stabilator Lower Surface Rivets and Rib Attachment 100 Hour Inspection (see Special Inspections, Procedures).

NOTE: The stabilator serial number plate is located on the stabilator rear spar.

23. In all PA-23-235’s; and PA-23-250 S/N’s 27-1 thru 27-7854139 only, for airplanes which have not installed the heavy duty landing gear selector lever P/N 761-213 (i.e. - 28468-002), inspect the landing gear selector lever per Landing Gear Selector Lever 100 Hour Inspection (see Special Inspections, Procedures).
24. In all PA-23-235’s; and PA-23-250 S/N’s 27-1 thru 27-8054059 only, for airplanes which have accumulated at least 1000 hours total time-in-service, have initially completed Piper Service Bulletin No. 671, and have not installed the improved flap bellcrank P/N 16423-006; inspect the flap bellcrank per Flap Bellcrank 100 Hour Inspection (see Special Inspections, Procedures).
25. In all PA-23-235’s; and PA-23-250 S/N’s 27-1 thru 27-8054049 only, for airplanes which have accumulated at least 500 hours total time-in-service and have not installed the Footstep Reinforcement Brackets per Piper Service Bulletin No. 672A; inspect the fuselage frame per Fuselage Frame 100 Hour Inspection (see Special Inspections, Procedures).
26. For airplanes which have accumulated at least 2500 hours total time-in-service and have not installed a steel flap torque tube (P/N 17634-002, 104622-002, or 104622-004); inspect the flap torque tube per Flap Torque Tube 100 Hour Inspection (see Special Inspections, Procedures).

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TABLE III-I. INSPECTION REPORT (cont.)

K. NOTES (CONT.)

27. For airplanes equipped with Aero Accessories Inc., Tempest Dry Air Pumps only:
- (a) For 215/216 (3215/3216) series pumps which have accumulated 500 hours time-in-service or more, inspect vacuum pump vane wear per Vacuum Pump Vane Wear Inspection (see Special Inspections, Procedures).
 - (b) For 400 series pumps:
 - (1) for airplanes with frequent de-ice cycles, beginning at 200 hours time-in-service, and each 100 hours thereafter;
 - (2) for airplanes with normal de-ice cycles, beginning at 300 hours time-in-service, and each 100 hours thereafter;inspect per Vacuum Pump Vane Wear Inspection (see Special Inspections, Procedures).
28. For airplanes equipped with Parker Hannifin / Airborne vacuum pump(s), verify compliance with Parker Hannifin / Airborne Service Letter No. 72.
29. In PA-23-235's; and PA-23-250 S/N's 27-1 thru 27-7405300, for airplanes which have accumulated at least 2000 hours total time-in-service and have not installed improved flap assemblies (P/N's 17104-071 right and 17104-072 left; 17104-073 right and 17104-074 left; or, 17104-069 right and 17104-068 left; as appropriate); inspect the flap spars per Flap Spar 100 Hour Inspection (see Special Inspections, Procedures).
30. For airplanes equipped with TCM/Bendix (Scintilla) Magnetos: inspect magneto(s) per the procedures in the Periodic Maintenance section of the applicable Service Support Manual, available from Teledyne Continental Motors, Inc., PH: (800) 718-3411, or <http://www.tcmlink.com/>.
31. For All aircraft with RSA-5 or RSA-10 series Fuel Injection Servos which have had a new, rebuilt, overhauled, or repaired engine and/or servo installed since August 22, 2006 inspect to assure that the brass regulator hex plug is not loose.
32. In PA-23-250's 27-2000 thru 27-8154030, and in PA-E23-250 Aztec 27-2505 thru 27-7554168, review maintenance records and verify one of the following:
- (1) initial compliance with Piper Service Bulletin No. 1194; or
 - (2) previous accomplishment of the Forward Baggage Door 1000 Hour Inspection in paragraph 4-56A.
- If compliance with either of the above is confirmed, inspect n according to the 100 Hour Inspection in paragraph 4-56A. If neither can be confirmed, perform the Forward Baggage Door 1000 Hour Inspection in paragraph 4-56A, in lieu of the 100 Hour Inspection.

- (13) **CONTROL CABLE INSPECTION.** Aircraft control cable systems are subject to a variety of environmental conditions and forms of deterioration that, with time, may be easy to recognize as wire/strand breakage or the not-so-readily visible types of wear, corrosion, and/or distortion. The following data may help in detecting the presence of these conditions:

(a) **Cable Damage**

Critical areas for wire breakage are sections of the cable which pass through fairleads and around pulleys. To inspect each section which passes over a pulley or through a fairlead, remove cable from aircraft to the extent necessary to expose that particular section. Examine cables for broken wires by passing a cloth along length of cable. This will clean the cable for a visual inspection, and detect broken wires, if the cloth snags on cable. When snags are found, closely examine cable to determine full extent of damage.

The absence of snags is not positive evidence that broken wires do not exist. Figure 3-10, Item A, shows a cable with broken wires that were not detected by wiping, but were found during a visual inspection. The damage became readily apparent (Figure 3-10, Item B) when the cable was removed and bent using the techniques depicted in Figure 3-10, Item C.

(b) **External Wear Patterns**

Wear will normally extend along cable equal to the distance cable moves at that location. Wear may occur on one side of the cable only or on its entire circumference. Replace flexible and non-flexible cables when individual wires in each strand appear to blend together (outer wires worn 40-50 percent) as depicted in Figure 3-11.

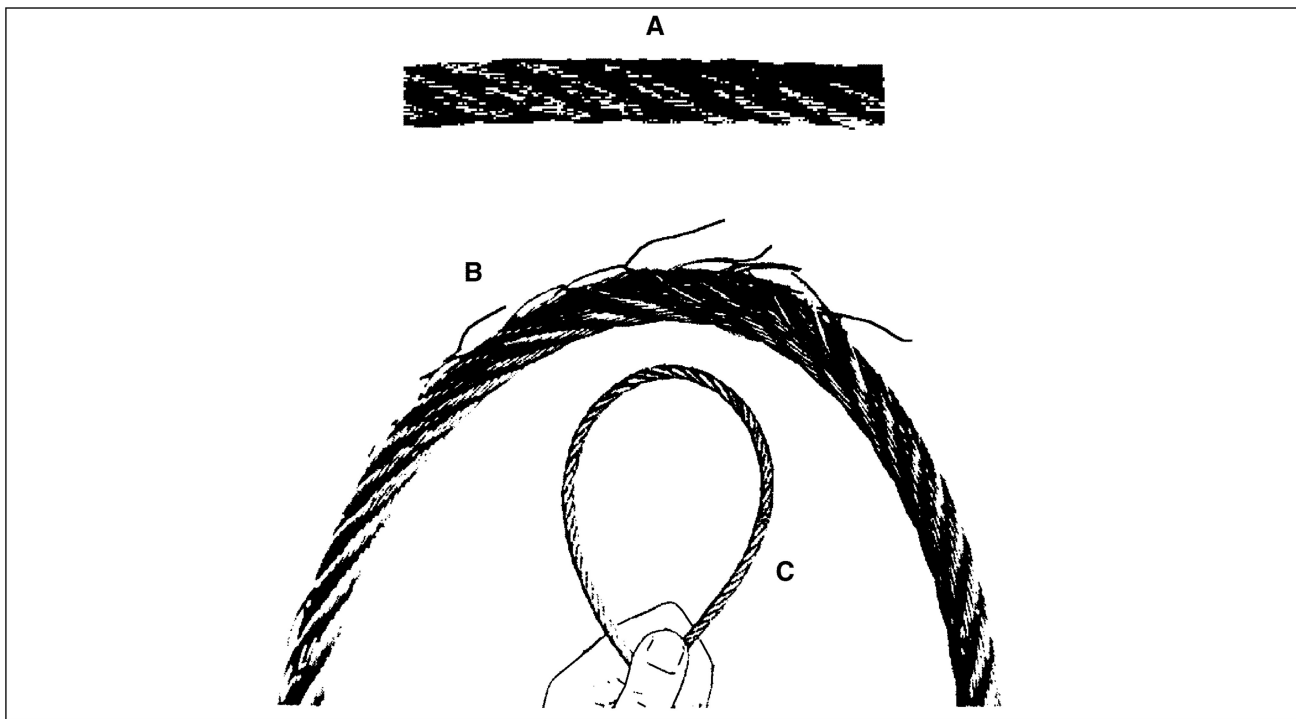


Figure 3-10. Control Cable Inspection

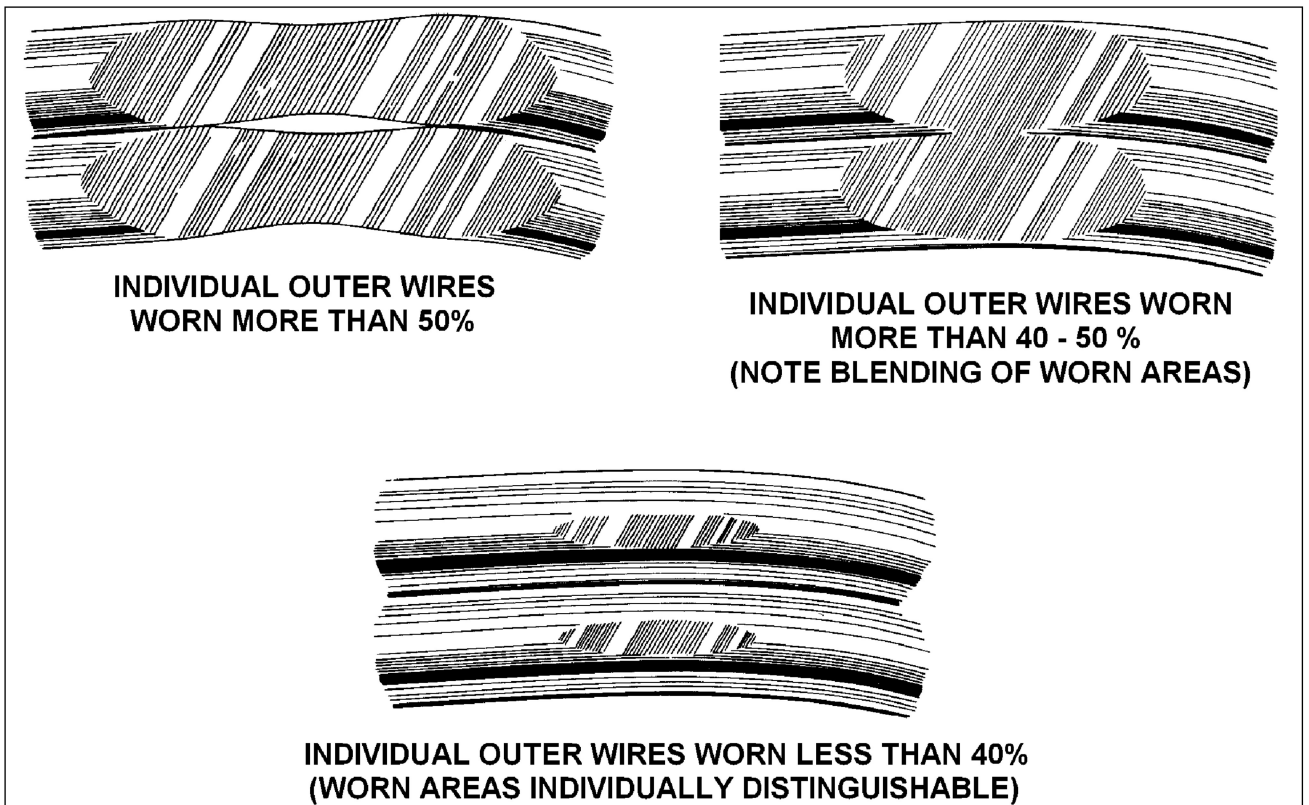


Figure 3-11. External Wear Patterns

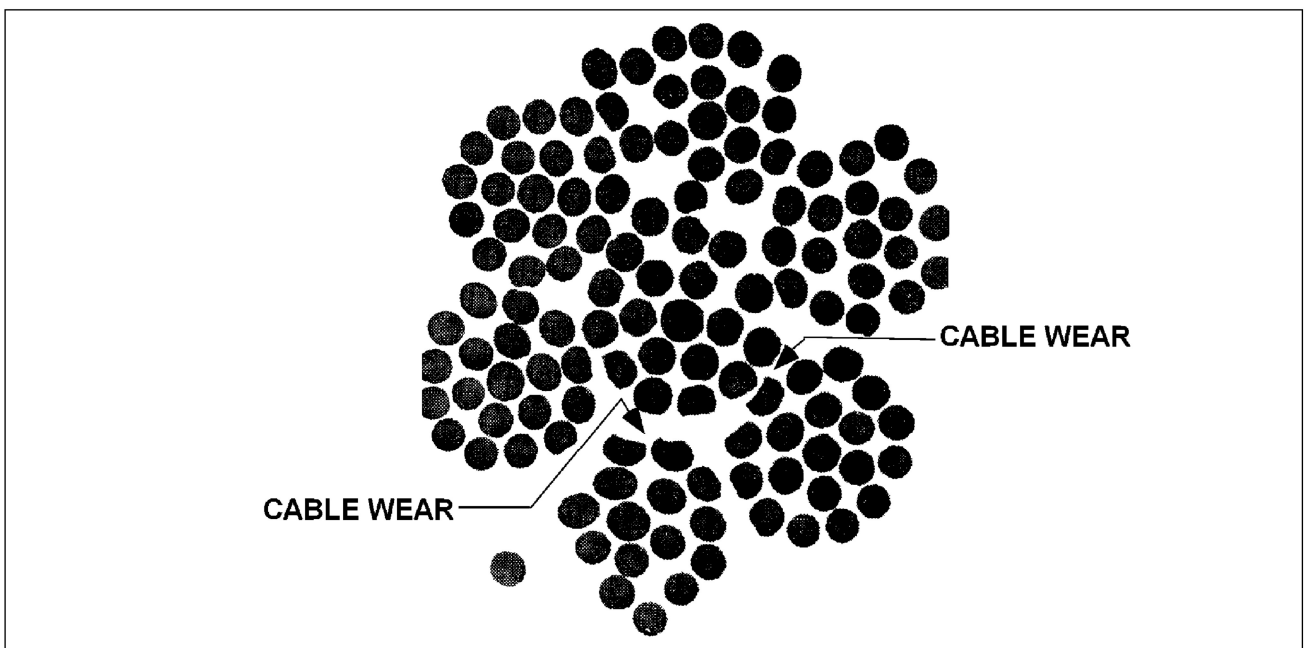


Figure 3-12. Internal Cable Wear

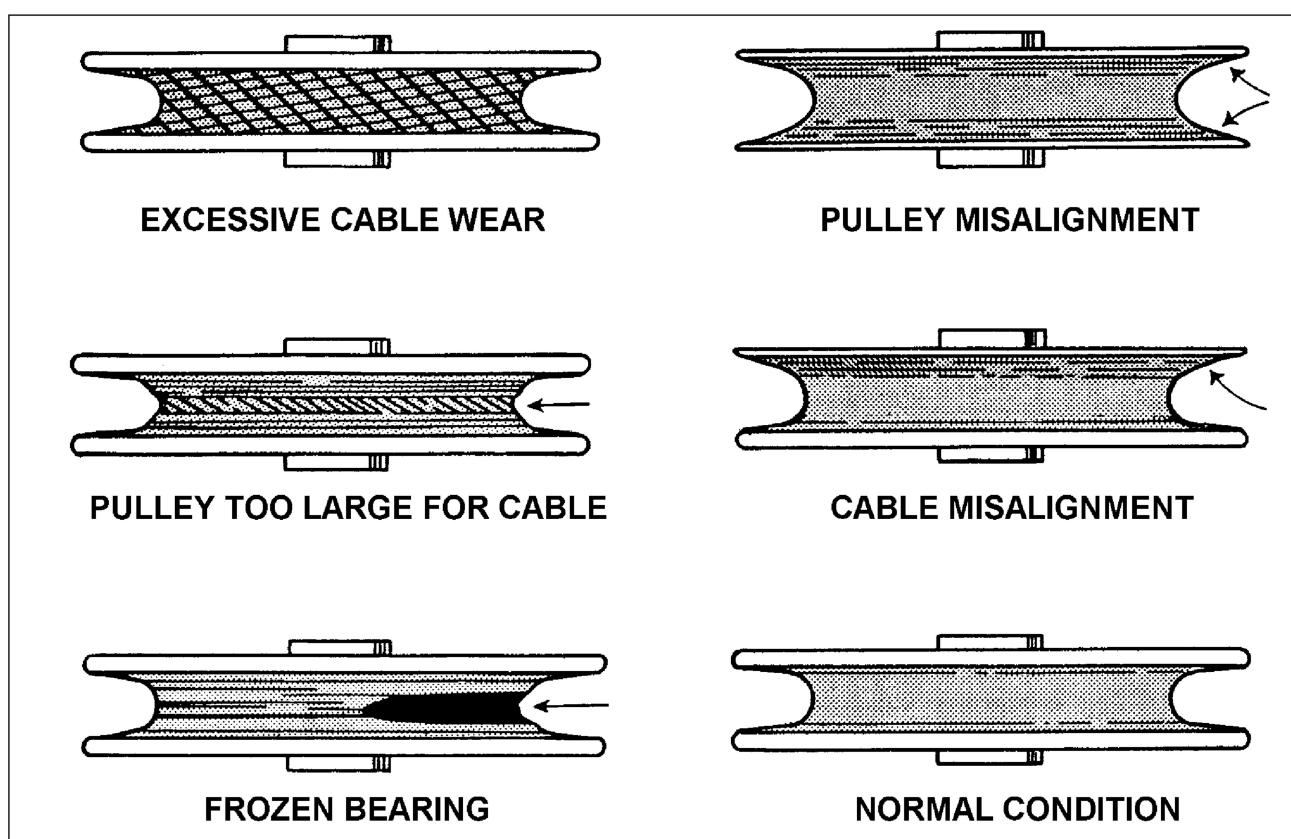


Figure 3-13. Cable Pulley Wear

(c) Internal Cable Wear

As wear is taking place on the exterior surface of a cable, the same condition is taking place internally, particularly in the sections of the cable which pass over pulleys and quadrants. This condition, shown in Figure 3-12, is not easily detected unless the strands of the cable are separated. Wear of this type is a result of the relative motion between inner wire surfaces. Under certain conditions the rate of this type wear can be greater than that occurring on the surface.

(d) Corrosion

Carefully examine any cable for corrosion that has a broken wire in a section not in contact with wear producing airframe components such as pulleys, fairleads, etc. It may be necessary to remove and bend the cable to properly inspect it for internal strand corrosion as this condition is usually not evident on the outer surface of the cable. Replace cable segments if internal strand rust or corrosion is found.

Areas especially conducive to cable corrosion are battery compartments, lavatories, wheel wells, etc., where concentrations of corrosive fumes, vapors, and liquids can accumulate.

NOTE: Check all exposed sections of cable for corrosion after a cleaning and/or metal-brightening operation has been accomplished in that area.

(e) Cable Maintenance

CAUTION: TO AVOID REMOVAL OF CORROSION-PREVENTATIVE COMPOUNDS AND CABLE INTERNAL LUBRICANT, DO NOT USE VAPOR DEGREASING, STEAM CLEANING, METHYLETHYLKETONE (MEK) OR OTHER SOLVENTS.

CAUTION: DO NOT OIL CONTROL CABLES.

Frequent inspections and preservation measures such as rust prevention treatments for bare cable areas will help to extend cable service life. Where cables pass through fairleads, pressure seals, or over pulleys, remove accumulated heavy coatings of corrosion prevention compound. Provide corrosion protection for these cable sections by lubricating as specified in the Lubrication Chart, Section II.

(f) Cable Fittings

1 100 Hour Standard Inspection

Check swaged terminal reference marks for any indication of cable slippage within fitting. Inspect fitting assembly for distortion and/or broken strands at the terminal. Check that all bearings and swivel fittings (bolted or pinned) pivot freely to prevent binding and subsequent failure. Check turnbuckles for proper thread exposure and broken or missing safety wires/clips.

Pay particular attention to corrosion and “pitting” on cable terminals, turnbuckles and cable fittings. Any corrosion or pitting found requires replacement of the corroded fitting and/or cable.

2 100 Hour Special Inspection

For airplanes 15 years old or older, using a 10X magnifier, visually inspect the entire surface of each cable terminal, turnbuckle, or other cable fitting for corrosion or cracking. Inspect under safety wire or clips wrapped around the cable or fitting. Any evidence of corrosion or cracking, however minute, is cause for replacement. A logbook entry documenting the replacement of a cable terminal, turnbuckle, or other cable fitting relieves the inspection requirement for that fitting only, until such time as that fitting has been in service for 15 years.

(g) Pulleys

Inspect pulleys for roughness, sharp edges, and presence of foreign material embedded in the grooves. Examine pulley bearings to assure proper lubrication, smooth rotation, freedom from flat spots, dirt, and paint spray. Periodically rotate pulleys, which turn through a small arc, to provide a new bearing surface for the cable. Maintain pulley alignment to prevent the cable from riding on flanges and chafing against guards, covers, or adjacent structure. Check all pulley brackets and guards for damage, alignment, and security.