TABLE III-I – INSPECTION REPORT – PA-28-151/161

Refer to Notes 1, 2, 3, and "4" on page III-20 before performing the following inspections.

NATURE OF INSPECTION	Inspection Interval (Hrs) 50	100
A. PROPELLER GROUP		
WARNING: USE EXTREME CAUTION WHEN ROTATING PROPELLER BY HAND; PROPELLER MAY KICK BACK. PRIOR TO ROTATING PROPELLER ENSURE BOTH MAGNETO SWITCHES ARE OFF (GROUNDED). IF MAGNETOS ARE NOT GROUNDED, TURNING PROPELLER MAY START ENGINE.		
1. Inspect spinner and backplate for cracks, dents, missing screws, and security	O	O
2. Inspect blades for nicks and cracks	O	O
3. Inspect spinner mounting brackets for cracks and security		O
4. Inspect propeller mounting bolts for condition and security. If safety is broken, re-torque and safety		O
5. Inspect hub parts for cracks and corrosion		O
6. Inspect complete propeller and spinner assembly for security, chafing, cracks, deterioration, wear, and correct installation		O
B. ENGINE GROUP		
WARNING: IF MAGNETOS ARE NOT GROUNDED, TURNING PROPELLER MAY START ENGINE. USE EXTREME CAUTION WHEN ROTATING PROPELLER BY HAND; PROPELLER MAY KICK BACK. PRIOR TO ROTATING PROPELLER ENSURE BOTH MAGNETO SWITCHES ARE OFF (GROUNDED).		
NOTE: Read Note "5" on page III-20 prior to completing this group.		
1. Remove engine cowling and inspect for internal and external damage	O	O
2. Clean and inspect cowling for cracks, distortion, and loose or missing fasteners. (See Note "6" on page III-20.)		O
3. Drain oil sump. (See Note "7" on page III-20.)	O	O
4. Clean suction oil strainer at oil change; inspect strainer for foreign particles	O	O
5. Clean pressure oil strainer or change full-flow (cartridge-type) oil filter element. Inspect strainer or element for foreign particles	O	O
6. Inspect oil temperature sender unit for leaks and security		O
7. Inspect oil lines and fittings for leaks, security, chafing, dents, and cracks	O	O
8. Clean and inspect oil radiator cooling fins		O
9. Fill engine with oil per information on cowling or in Lubrication Charts, Section II	O	O
CAUTION: DO NOT CONTAMINATE VACUUM PUMP WITH CLEANING FLUID.		
10. Clean engine with approved solvents		O

TABLE III-I – INSPECTION REPORT – PA-28-151/161 (cont.)

NATURE OF INSPECTION	Inspection Interval (Hrs) 50	100
B. ENGINE GROUP (CONT.)		
11. Inspect condition of spark plugs. Clean and adjust gap as required; adjust per latest revision of Lycoming Service Instruction No. 1042		O
NOTE: If fouling of spark plugs is apparent, rotate bottom plugs to upper plugs.		
12. Inspect spark plug cable leads	O	O
13. Test cylinder compression. (Refer to AC 43.13-1, latest revision.)		O
14. Inspect cylinders for cracked or broken fins. (See Note "8" on page III-21.)		O
15. Inspect rocker box covers for evidence of oil leaks. If found, replace gasket; torque cover screws 50 inch-pounds.	O	O
16. Inspect ignition harness and insulators for high tension leakage and continuity		O
17. Inspect magnetos for oil seal leakage (See Note "9" on page III-21.)		O
18. Inspect magnetos to engine timing		O
19. Inspect security of carburetor throttle arm		O
20. Remove air filter from screen housing and clean per Section II. Replace as required	O	O
21. Drain carburetor and clean inlet line fuel strainer	O	O
22. Inspect condition of carburetor heat air door and box. (See Note "10" on page III-21.)	O	O
23. Inspect intake seals for leaks and clamps for tightness. (Torque clamps 40-50 in·lbs.)	O	O
24. Inspect all air inlet ducts and alternate heat duct.	O	O
25. Remove and clean fuel filter bowl and screen on lower left side of firewall. (See Note "26" on page III-22.)	O	O
26. Drain and flush the fuel filter and carburetor bowl completely		O
27. Inspect condition of flexible fuel lines. Replace as required		O
28. Inspect fuel system for leaks	O	O
29. Inspect engine-driven and electric fuel pumps for condition and operation. Replace as required. Clean screens in electric fuel pump(s)	O	O
30. Inspect and operationally test engine-driven vacuum pump and lines. (See Notes "11" and "12" on page III-21.)		O
31. If equipped, inspect auxiliary vacuum pump system hoses, clamps, and electric harness for security. (Optional in PA-28-161, S/N's 28-8616001 and up.)		O
32. Inspect throttle, carburetor heat, and mixture controls for security, travel and operating condition. (See Note "13" on page III-21.)		O
33. Inspect exhaust stacks, connections, and gaskets per "Exhaust System Inspection" on page III-52. Replace gaskets as required	O	O
34. Inspect muffler, heat exchanger, and baffles per "Exhaust System Inspection" on page III-52	O	O
35. Inspect breather tube for obstructions and security		O
36. Inspect crankcase for cracks, leaks, and security of seam bolts		O
37. Inspect engine mounts for cracks and loose mounting		O

TABLE III-I – INSPECTION REPORT – PA-28-151/161 (cont.)

NATURE OF INSPECTION	Inspection Interval (Hrs) 50	100
B. ENGINE GROUP (CONT.)		
38. Inspect all engine baffles		O
39. Inspect engine compartment wiring for condition (chafing, cracked insulation, general deterioration), security, proper routing, and correct installation	O	O
40. Inspect rubber engine-mount bushings for deterioration. Replace as required.		O
41. Inspect firewall seals.		O
42. Inspect condition and tension of alternator drive belt. (See Checking Generator and Alternator Belt Tension, Section XI.)		O
43. Lubricate alternator idler pulley and, if installed, compressor idler pulley; remove front grease seal and add grease per Lubrication Chart, Section II. Disregard if sealed bearing is installed.		O
44. Inspect condition of alternator and starter		O
45. Inspect starter ring gear for broken or chipped teeth and condition of pulley slot. (Refer to Lycoming Service Bulletin No. 486.)		O
46. Inspect security of alternator and mounting		O
47. If installed, inspect condition of A/C compressor belt and tension. (See Adjustment of Drive Belt Tension, Section XIV, Paragraph 14-23.)		O
48. If installed, inspect A/C compressor oil level. (See Note "14" on page III-21.)		O
49. If installed, inspect A/C compressor clutch security and wiring. (See Note "16" on page III-21.)		O
50. If installed, inspect A/C compressor mounting for cracks, corrosion, and security.		O
51. Check fluid in brake reservoir. Fill as required	O	O
52. Inspect and lubricate all controls per Lubrication Chart, Section II		O
53. Install engine cowling.	O	O
C. CABIN AND COCKPIT GROUP		
1. Inspect cabin door latch and hinges, and windows, for damage, operation and security		O
2. Inspect windows for scratches, crazing, and condition		O
3. Check window and door seals for deterioration, cracks, and voids		O
4. Inspect upholstery for tears		O
5. Inspect seats and attaching brackets and hardware for condition, security, and operation.		O
6. Inspect seat belts and shoulder harnesses per Section XIV, Restraint System		O
7. Inspect trim control operation		O
8. Inspect rudder pedals for operation and adjustment. (See Note "25" on page III-22.)		O
9. Inspect parking brake valve and brake handle for operation and cylinder leaks		O
10. Inspect throttle and mixture controls for security, travel and operating condition. (See Note "27" on page III-22.)		O

TABLE III-I - INSPECTION REPORT - PA-28-151/161 (cont.)

J. NOTES

8. Inspect 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 aircraft is returned to service.

   Heavy discoloration and appearance of seepage at the cylinder head and barrel attachment area is usually due to emission of thread lubricant used during assembly of the barrel at the factory, or by slight gas leakage which stops after the cylinder has been in service for awhile. This condition is neither harmful nor detrimental to engine performance and operation. If it can be proven that leakage exceeded these conditions, the cylinder should be replaced.

9. Inspect magnetos:

   (a) For airplanes equipped with Slick Magnetos: inspect magneto(s) per the appropriate 100 Hour Inspection in the Slick F1100 Master Service Manual.

   (b) For airplanes equipped with Continental/TCM/Bendix Magnetos: inspect magneto(s) per the procedures in the Periodic Maintenance section of the applicable Service Support Manual.

10. Inspect carburetor throttle body attaching screws for tightness; the correct torque for these screws is 40 to 50 inch-pounds.

11. For airplanes equipped with Parker Hannifin / Airborne vacuum pump(s), verify compliance with Parker Hannifin / Airborne Service Letter No. 72.

12. For airplanes equipped with an Aero Accessories Inc., Tempest Dry Air Pump only, as indicated by the 600 hour Vane Wear Inspection, inspect vacuum pump vane wear per the latest revision of Aero Accesories Service Bulletin SB-08.

13. During inspection of throttle, determine if there is internal cable ballooning. If so, replace the affected cables.

    CAUTION: ENVIRONMENTAL REGULATIONS MAY REQUIRE SPECIAL EQUIPMENT AND PROCEDURES BE USED WHEN CHARGING AIR CONDITIONING SYSTEMS.

14. The compressor oil level should not be inspected unless a refrigerant leak has occurred or system pressure has been released, requiring an addition of refrigerant to the system.

15. Refer to Section XIV (Paragraphs 14-28 through 14-32) for condenser assembly rigging and adjustment.

16. Clean any traces of oil from the clutch surface.

17. If not accomplished already, create access panels for inspection (refer to Sec. IV, Para. 4-56). Inspect stabilator control cables.

18. Sloshing of fuel tanks not approved. For airplanes with fuel tanks which have previously been sloshed, perform Sloshed Fuel Tank 100 Hour Inspection in Section IX.

19. PA-28-161 Warrior II airplanes, S/N's 28-7716001 thru 28-8416095, may have bungee-type nose wheel steering unless kit 764-975 has been installed. Those airplanes that have kit 764-975 installed will have pushrod type nosewheel steering.

8-13. INSTALLATION OF OIL COOLER.

a. When installing fittings in the oil coolers, care should be used to prevent excessive torque to the cooler. Where a rectangular fitting boss is provided, a backup wrench should be used employing a scissor motion, so that no load is transmitted to the cooler. When the oil cooler has a round fitting boss, care should be taken to prevent excessive torque on the fitting.

b. Apply LUBON 404 sealing compound to all male pipe thread fittings. Do not allow sealant to enter the system.

c. When attaching hoses to the oil cooler a backup wrench should be used.

d. After installation, inspect the cooler for distorted end cup.

e. Oil line routing should provide .50 in, minimum clearance between oil line and engine, engine mount or cowling, except for oil outlet line where it crosses over the engine mount. This area should have a clearance of .75 in. minimum.

f. If a fitting (3/5 inch) cannot be positioned correctly by torquing it from 9 to 15 ft.-lbs., it should be replaced with another.

g. After tightening the fitting, apply an alignment mark to the fitting and oil cooler boss.

h. Run up engine. After run-up, check for oil leaks.

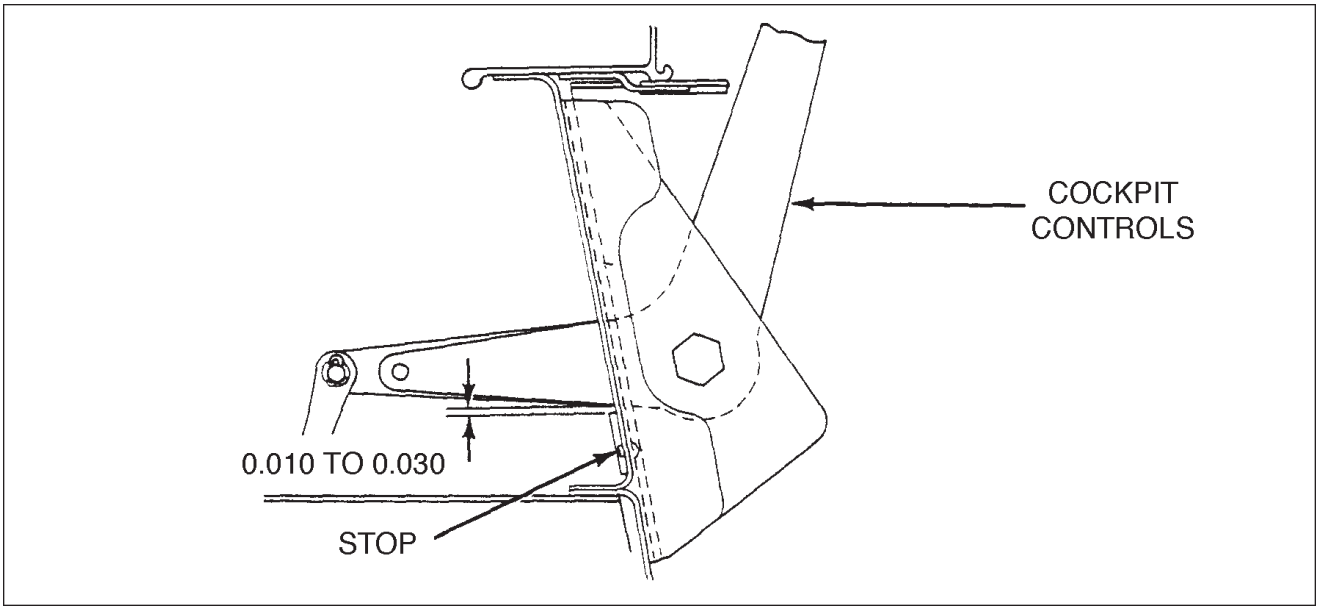

Figure 8-5. Adjustment of Engine Controls

8-14. ADJUSTMENT OF THROTTLE AND MIXTURE CONTROLS. (Refer to Figure 8-5.)

Throttle and mixture controls are adjusted so that when the throttle arm on the carburetor is rotated forward against its full throttle stop and the mixture control is rotated forward against its full rich stop. The cockpit control levers of the throttle and mixture should have 0.010 to 0.030 of an inch spring back on instrument panel stop when in full throttle or full rich position.

a. Adjust the throttle as follows:

1. At the carburetor, disconnect the rod end of the throttle control cable from the control arm. Loosen the jam nut that secures the rod end.

2. Adjust the linkage by rotating the rod end on the cable to obtain 0.010 to 0.030 of an inch spring back on instrument panel stop when in full throttle position.

3. Reconnect the rod end to the control arm and safety.

b. The mixture may be adjusted as follows:

1. At the carburetor, disconnect the rod end of the mixture control cable from the control arm. Loosen the jam nut that secures the rod end.

2. Adjust the linkage by rotating the rod end of the cable to obtain 0.010 to 0.0300 fan inch spring back on the instrument panel stop when in full rich position.

3. Reconnect the rod end to the control arm and safety.

c. Check security of cable casing attachments.

d. Pull the throttle and mixture levers in the cockpit full aft to determine that the idle screw contacts its stop and the mixture control arm contacts its lean position stop.

8-14a. INDUCTION AIR FILTER.

Refer to Section II, Paragraphs 2-47, 2-48 and 2-49 for information regarding removal, service instructions and installation of induction air filter.

8-15. CARBURETOR.

8-16. CARBURETOR MAINTENANCE.

The carburetor requires little attention between overhauls. Check the following items during recommended inspection periods of the engine.

a. Check tightness and safety of all nuts and screws which fasten the carburetor to the engine.
b. Check all fuel lines for tightness and evidence of leakage.
c. Check throttle and mixture control rods and levers for travel, tightness and safety.
d. Clean the fuel inlet screen, (Refer to Figure 8-6.)
e. Remove the plug at the aft position of the carburetor and drain any accumulation of foreign matter.
f. Check carburetor air box for wear and full travel of heat door.
g. Check the adjustment of the idle mixture and idle speed. (Refer to Paragraphs 8-17 and 8-18.)

1. IDLE MIXTURE ADJUSTMENT
2. MIXTURE CONTROL ARM
3. BOWL DRAIN
4. FUEL INLET SCREEN
5. THROTTLE ARM
6. IDLE ADJUSTMENT
7. ARM SET SCREW (TORQUE 20 - 25 IN. LBS. AND SAFETY)

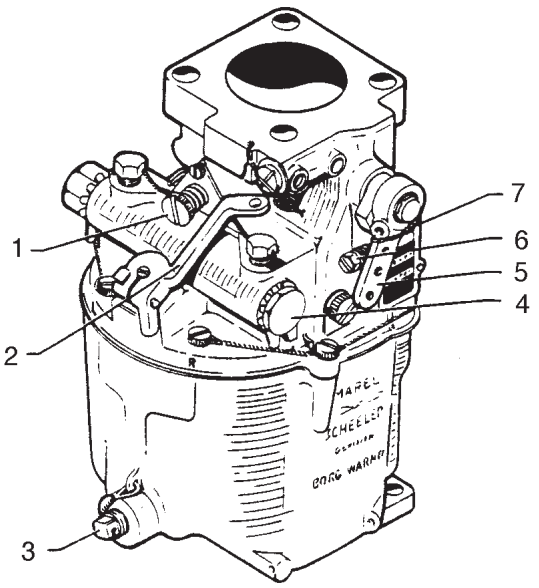

Figure 8-6. Carburetor