



Piper Aircraft Corporation
Vero Beach, Florida, U.S.A.

SERVICE *No.* 932A BULLETIN

* PIPER CONSIDERS *
* COMPLIANCE MANDATORY *
* August 30, 1990 M *

Date

(Service Bulletin No. 932A supersedes and voids Service Bulletin No. 932 dated January 12, 1990)

REASON FOR REVISION: To improve fuel filter bowl design and installation for Aztec aircraft.

(This Service Bulletin is divided into two PARTS. Check each PART for Subject, Model, Serial Number Effectivity and Instructions.)

SUBJECT: Improved Fuel System Drainage and Fuel Cell System Inspection

MODELS AFFECTED: SERIAL NUMBERS AFFECTED:

PA-23-150/160 Apache	23-1 through 23-2046
PA-23-235 Apache	27-505 through 27-622
PA-23-250/250(6) Aztec	27-1 through 27-8154030

COMPLIANCE TIME: To coincide with the next regularly scheduled inspection, but to not exceed one hundred (100) hours time in service.

PURPOSE: Water in the fuel system can lead to engine roughness or even engine stoppage. Prior Piper publications have addressed the possibility of retaining water in the fuel cell system of Apache and Aztec aircraft. Special draining procedures for all PA-23 Series aircraft and additional quick drains for the Apache (Service Bulletin No. 827A) have been the focus of these publications. Complying with these published procedures, however, is time consuming. Further, Piper has learned that procedures are not always being performed or performed correctly. Therefore, it is necessary to require inspection of the fuel cell system to ascertain its condition and to install kits designed to facilitate complete removal of water from the affected aircraft.

PART I of this Service Bulletin requires installation of internal "wedges" in the forward and aft inboard corners of the fuel tanks installed in Apache and Aztec aircraft with non-baffled fuel tanks. PART II of this Service Bulletin requires installation of larger capacity fuel bowls in Aztec aircraft with baffled fuel tanks.

APPROVAL: The technical contents of this Service Bulletin have been approved by the F.A.A.

(OVER)
ATA: 2815 & 2824

PART I

SUBJECT: Fuel Cell System Inspection and Wedge Kit Installation for Unbaffled Fuel Cells

MODELS AFFECTED:

PA-23-150/160 Apache
PA-23-235 Apache
PA-23-250 Aztec

SERIAL NUMBERS AFFECTED:

23-1 through 2046
27-505 through 27-622
27-1 through 27-7405476

INSTRUCTIONS: NOTE: Over the years, Piper has issued numerous Service Publications to prevent and eliminate water and other contaminants from Apache/Aztec fuel systems. Figure A on Page 5 of this Service Bulletin provides a list of these publications. Before beginning the Instructions below, check each Service Letter and Service Bulletin on the list for applicability and, unless previously accomplished, comply with each one.

1. Drain fuel from aircraft. Refer to Section 2 of the Aztec Service Manual and for Apache Models, refer to Piper Service Bulletin No. 827A.

CAUTION

Extreme care should be taken when working with aircraft fuel.

2. Gain access to fuel cell by removing the fuel cell access panels, fuel filler ports and fuel caps. Refer to Section 9 of the applicable Service Manual.
3. Examine interior of fuel cell and inspect according to Section 9 of the applicable Service Manual. Determine if fuel cell is serviceable. If fuel cell is not serviceable, replace or repair before proceeding with this Service Bulletin.
4. Install the Fuel Tank Wedge Kit, Piper Part Number 599-367. Refer to instructions contained in the kit, except do not close fuel cell access tank at this time. One kit is required for aircraft employing a two-tank fuel system. Two kits are required for aircraft employing a four-tank fuel system.
5. Before closing fuel cell access panels (as called for in the Fuel Tank Wedge Kit), it is important that the fuel tank be checked for the presence of wrinkles. The cell must be adjusted so that no wrinkles are present on the bottom of the tank.
6. Install new hardware and gaskets for access panels and fuel filler panels. Refer to the appropriate Parts Catalog for applicable part numbers.
7. Before installing, inspect fuel filler necks for security and condition. Inspect fuel vent system for leaks, obstructions and condition. Correct all discrepancies.

NOTE

After completion of Instructions 5, 6 and 7, close access panels and fuel filler panels, and complete the Instructions in the Fuel Tank Wedge Kit.

8. Inspect fuel caps for condition and fit. Replace thermos type fuel caps if rubber parts are cracked, hardened or deformed.
9. Perform a fuel quantity check per Section 9 of the Service Manual.

INSTRUCTIONS CONT'D:

10. Fuel aircraft to capacity and assure there are no fuel leaks.
11. Make an appropriate logbook entry of compliance with PART I of this Service Bulletin.

PART II

SUBJECT: Fuel Cell System Inspection and
Enlarged Fuel Bowl Installation
for Baffled Fuel Cells

MODELS AFFECTED: PA-23-250 Aztec

SERIAL NUMBERS AFFECTED: 27-7554001 through 27-8154030

INSTRUCTIONS: NOTE: Over the years, Piper has issued numerous Service Publications to prevent and eliminate water and other contaminants from Aztec fuel systems. Figure A on Page 5 of this Service Bulletin provides a list of these publications. Before beginning the Instructions below, check each Service Letter and Service Bulletin on the list for applicability and unless previously accomplished, comply with each one.

1. Drain aircraft fuel system completely. Refer to Section 2 of the Service Manual for draining procedure.
2. Gain access to the existing engine fuel filter bowls located in the lower aft engine nacelles. Instructions 2 through 16 are to be performed on left and right engine fuel systems.
3. Cut the safety wire and loosen the cap nut at bottom of the fuel filter bowl.
4. Remove the fuel filter bowl.
5. Remove bowl gasket.
6. Inspect the filter assembly per Section 9 of the Service Manual.
7. Install new fuel bowl gasket. (Refer to the appropriate Parts Catalog for part number).
8. Loosen the "B" Nuts at the inlet and outlet side of the filter housing as necessary to swing the housing aside and provide clearance for installation of the new fuel bowl.
9. Install the new fuel bowls on the left and right sides, Piper Part Numbers 89483-009 (left) and 89483-010 (right).
10. Secure cap nut and new Gasket, Piper Part Number 753-205, on bottom of new bowl. Do not safety wire at this point.
11. Close fuel filter access door. Should interference occur between fuel lines and/or fuel drain manifold, loosen cap nut and rotate fuel filter bowl until it clears the access door, fuel lines, and drain manifold. Tighten fuel filter cap nut.
12. Retorque the "B" Nuts at the inlet and outlet side of the filter housing.
13. Safety wire fuel bowl and close access door.
14. Remove all fuel caps.
15. Using a light and mirror, observe the interior of each fuel cell. Should any wrinkles be observed on the floor of the fuel cell, it will be necessary to gain access to the fuel cell and adjust the cell until the wrinkles are removed. If no wrinkles appear, proceed to Instruction 17.
16. If it is necessary to remove or adjust the fuel cell, refer to Section 9 of the Service Manual for details. Assure that new gaskets are used on any fuel cell access panels that have been removed.

(Over)

INSTRUCTIONS CONT'D:

17. Inspect fuel cap for condition. Inspect fuel vent system for leaks, damage, blockage and condition. Replace and repair as required.
 18. Install fuel caps.
 19. If fuel cell access panels have been removed, perform fuel leak check as described in Section 9 of the Aztec Service Manual.
 20. Perform a fuel quantity check per Section 9 of the Aztec Service Manual if fuel cell access panels have been removed.
 21. Open fuel bowl drain access doors and check quick drain for proper operation. Correct any discrepancies and shut fuel bowl drain access door.
 22. Make appropriate logbook entry of compliance with PART II of this Service Bulletin.
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MATERIAL REQUIRED: For PART I, one (1) each Fuel Tank Wedge Kit, Piper Part Number 599-367, for aircraft employing two (2) fuel cells or two (2) each, Fuel Tank Wedge Kit, Piper Part Number 599-367 for aircraft employing four fuel cells. As required by inspection the appropriate gaskets for the fuel access panels and filler necks. See appropriate Piper parts catalog for specific part numbers.

For PART II, one (1) each Fuel Bowl, Piper Part Number 89483-009 and one (1) each Fuel Bowl, Piper Part Number 89483-010. As required by inspection the appropriate gaskets for the fuel access panels and filler necks. See appropriate Piper parts catalog for specific part numbers.

NOTE

The Fuel Drain Access Door, Part Number 15725-02, installed on the affected aircraft incorporates a concave "blister" on the door for additional drain valve clearance.

AVAILABILITY OF PARTS: Your Piper Field Service Facility

EFFECTIVITY DATE: This Service Bulletin is effective upon receipt.

SUMMARY: Please contact your Authorized Piper Field Service Facility to make arrangements for compliance with this Service Bulletin. There is no Factory Participation for this Service Bulletin.

NOTE: If you are no longer in possession of this aircraft, please forward this information to the present owner/operator and notify the Factory of address/ownership corrections. Changes should include aircraft model, serial number, current owner's name and address.

Corrections/Changes should be directed to:

Piper Aircraft Corporation
Attn: Customer Services
P. O. Box 1328
Vero Beach, FL 32961-1328

**RELATED SERVICE BULLETINS AND LETTERS LIST
CHECK FOR COMPLIANCE**

PUB NO.	DATE	SUBJECT	MODEL
SB 340	5-24-71	Fuel Cell Vent/Drain Lines Insp	PA-23-250 Series Aztec; ALL
SB 498	4-5-76	Fuel Cell Vent Line Assembly Inboard, Inspection of	PA-23-250 (6) Aztec; S/N's 27-7654001 thru 27-7654069
SB 797B	9-1-87	Fuel Port Restrictor Installation	PA-23-250(6) Aztec; S/N's 27-7654001 thru 27-8154030
SB 827A	11-4-88	Fuel Draining Procedure/Fuel Installation	PA-23-150/160 Apache; S/N's 23-1 thru 23-2046
SB 855	1-14-87	Use of Automobile Gasoline in Piper Aircraft	PA-23 Series; ALL
SL 319	4-13-59	Draining of Apache Fuel Strainers	PA-23-150/160; ALL
SL 334	6-16-60	Fuel Cell Filler Neck Reinforcement	PA-23-250 Aztec; S/N's 27-2 thru 27-199
SL 340	6-29-60	Sealing of Fuel Cell Filler Neck Riveted Seam	PA-23-250 Aztec; S/N's 27-1 thru 27-153
SL 359	10-30-61	Modification of Fuel Cell Vent Tubes	PA-23-150/160 Apache; S/N's 23-1 thru 23-1026
SL 367	2-1-62	Thermos Bottle Fuel Cell Caps	PA-23 Series, ALL
SL 449A	2-18-69	Fuel Cells	PA-23-235; S/N's 27-563 to 27-607; PA-23-250; S/N's 27-2348 to 27-2771
SL 606A	8-23-72	Fuel System Inspection and Modification	PA-23-235/250 and PA-23-250 (6); S/N's 27-1 through 27-4765

FIGURE "A"