



Piper Aircraft, Inc.
2926 Piper Drive
Vero Beach, Florida, U.S.A. 32960

SERVICE NO. 1258

BULLETIN

PIPER CONSIDERS COMPLIANCE MANDATORY

Date: June 5, 2013

(S)

SUBJECT:

FUEL VENT VALVE INSPECTION

MODELS AFFECTED:

PA-46-310P Malibu

PA-46-350P Mirage

PA-46R-350T Matrix
PA-46-500TP Meridian

SERIAL NUMBERS AFFECTED:

46-8408001 thru 46-8408087,
46-8508001 thru 46-8508109,
46-8608001 thru 46-8608067,
4608001 thru 4608140

4622001 thru 4622200,
4636001 thru 4636591, 4636593

4692001 thru 4692190, 4692192

4697001 thru 4697520

COMPLIANCE TIME:

CAUTION: THE FOLLOWING PRECAUTIONARY PROCEDURES ARE IN EFFECT IMMEDIATELY AND SHALL REMAIN IN EFFECT UNTIL THE INSPECTION DESCRIBED IN PART I OF THIS SERVICE BULLETIN HAS BEEN COMPLETED.

THE OPERATOR SHALL BE RESPONSIBLE FOR ENSURING COMPLIANCE WITH THE FOLLOWING RESTRICTIONS:

- EACH TIME THE PREFLIGHT CHECKLIST IS PERFORMED ACCORDING TO THE NORMAL PROCEDURES SECTION OF THE POH, CHECK CONDITION OF WING SURFACE FOR BUCKLING, SKIN WRINKLING, DISTORTION OR OTHER DAMAGE. IF ANY DAMAGE IS FOUND, NO FURTHER OPERATIONS ARE ALLOWED UNTIL REPAIRS ARE COMPLETED.
- FLIGHTS ARE LIMITED TO THE MINIMUM REQUIRED CREW. NO PASSENGER FLIGHTS ARE ALLOWED.
- OUTSIDE AIR TEMPERATURE MUST NOT BE LOWER THAN -34°C (-30°F), DURING ALL PHASES OF FLIGHT.
- AVOID UNNECESSARY RAPID DESCENT MANEUVERS.

Part I: Operators are allowed one flight to reach an approved repair facility capable of performing the fuel vent valve inspection and modification/replacement mandated by this service bulletin. This flight may include fueling stops, but shall not exceed 10 hours of operation.

Part II: If required as a result of the findings in Part I, Part II is to be accomplished prior to any additional aircraft operation.

Part III: If required as a result of the findings in Part I, Part III is to be accomplished within the next ninety (90) calendar days.

NOTE: Accomplishing Part II or Part III may not be required based on the findings in Part I. However if fuel vent valve modification is required, operators may opt to comply with Part III, subject to the availability of parts, within the time interval for Part II, as stated in the COMPLIANCE TIME section of this service bulletin.

APPROVAL: The engineering aspects of this service document have been shown to comply with the applicable Federal Aviation Regulations and are FAA approved.

PURPOSE: Piper has been notified that the manufacturer of fuel vent valves used in the affected airplanes has changed the material formulation from the original design fluorosilicone polymer, colored orange, hereinafter referred to as "orange fuel vent valve," to a nitrile butadiene rubber, colored black, hereinafter referred to as "black fuel vent valve." As currently installed on the airplane, the black fuel vent valves may not provide the proper ventilation performance at all operating temperatures. This condition, left uncorrected, may result in structural damage to the wing, especially during a rapid descent. Possible structural damage could include loss of limit load capability, and/or loss of control of the aircraft.

Part I of this Service Bulletin provides instructions for identifying the type of fuel vent valves that are installed in the affected airplanes.

If required as a result of the inspection in Part I, Part II of this Service Bulletin provides instructions to accomplish a temporary modification, which will allow continued operation of the aircraft, subject to additional operating limitations.

If required as a result of the inspection in Part I, Part III of this Service Bulletin provides instructions to accomplish a permanent modification, which will allow continued operation of the aircraft without any additional operating limitations.

INSTRUCTIONS

NOTE: The following instructions apply to both left and right fuel vent valves.

Part I. Fuel Vent Valve Inspection

NOTE: This inspection can be accomplished visually, without removal or disassembly of any airplane parts.

The main fuel tank vent assembly, Piper part number 84064-002 or 84064-010, is located on the underside of the outboard section of the wing at Wing Station 224.5, and features a 0.43 inch diameter ventilation opening that is integral to the panel. A portion of the fuel vent valve can be seen at approximately 3 inches deep inside this ventilation opening, by using a bright light source. Identify the color of the fuel vent valve that is installed in the main fuel tank vent assembly.

- If the left and right fuel vent valves are both orange in color, then modification is not required, and there are no changes to the Limitations section of the POH. Proceed to Part IV, Documentation of Compliance.
- If the left and/or right fuel vent valve is black in color, then modification or replacement is required prior to further operation. Proceed to one of the following sections of this service bulletin:
 - Part II Fuel Vent Valve Modification and POH changes (Temporary Corrective Action)
 - OR
 - Part III Fuel Vent Valve Replacement (Permanent Corrective Action)

Part II. Fuel Vent Valve Modification and POH changes (Temporary Corrective Action)

Black fuel vent valves require a modification for continued use.

NOTE: Aircraft in compliance with Part II must also comply with Part III, according to the time intervals stated in the COMPLIANCE TIME section of this service bulletin.

NOTE: Refer to Chapter 28 of the applicable maintenance manual for aircraft specific instructions on the removal and installation of wing access panels.

1. Remove the main fuel tank vent assembly, retaining all screws for later reinstallation.
2. Using a razor blade, scalpel or other suitable sharp tool, carefully slice the duck bill portion of the black fuel vent valve, as shown in Figure 1.

NOTE: Orange fuel vent valves do not require this modification.

NOTE: When properly completed, the existing (prior) opening at the end of the duckbill will reside on the same plane of symmetry as the enlarged (newly cut) opening.

3. Reinstall the main fuel tank vent assembly.
4. Place a copy of this service bulletin in the Limitations Section of the POH.

For airplanes containing one or more black fuel vent valves, regardless of modification history, the following operating limitation shall take precedence over any limitation published in the POH:

OUTSIDE AIR TEMPERATURE (OAT - Free Air Static Temperature) LIMITS

	Starting	In-flight
Minimum	-34°C (-30°F)	-34°C (-30°F)

5. Proceed to Part IV, Documentation of Compliance.

Part III. Fuel Vent Valve Replacement (Permanent Corrective Action)

Black fuel vent valves require eventual replacement, regardless of modification history.

NOTE: Compliance with Part III of this service bulletin is mandatory, regardless of prior compliance history with Part II of this service bulletin.

NOTE: Refer to Chapter 28 of the applicable maintenance manual for aircraft specific instructions on the removal and installation of wing access panels.

NOTE: Refer to Figure 2 of this service bulletin to identify the fuel vent valve features mentioned in the instructions that follow.

1. Order replacement orange fuel vent valve(s), Piper part number 106927-001, quantity 1 or 2, as required.
2. Remove the main fuel tank vent assembly, retaining all screws for later reinstallation.
3. Grip the exposed, duckbill portion of the black fuel vent valve with pliers. Using a pulling/twisting motion, carefully remove the fuel vent valve from the main fuel tank vent assembly, and discard fuel vent valve.

NOTE: The entire black fuel vent valve must be removed from the main fuel tank vent assembly prior to proceeding.
4. Using finger pressure, fold the umbrella valve portion of the replacement orange fuel vent valve towards the duckbill valve, and press the fuel vent valve into the circular opening of the main fuel tank vent assembly, continuing until the umbrella portion is completely through the opening, and no further.
5. Grip the duckbill of the fuel vent valve between the thumb and forefinger, and slowly pull the fuel vent valve out, stopping when the mounting groove seats against the opening of the main fuel tank vent assembly.
6. Reinstall the main fuel tank vent assembly.
7. Verify proper functioning of orange fuel vent valve, by using a manometer to perform the leak evaluation described in section 28-10-00 of the applicable maintenance manual instructions.
8. If a copy of this service bulletin (current revision or previous revision) has been placed in the Limitations section of the POH, remove the service bulletin. The operating limitations specified in Part II no longer apply.
9. Proceed to Part IV, Documentation of Compliance.

Part IV. Documentation of Compliance

Make a logbook entry documenting compliance with this service bulletin.

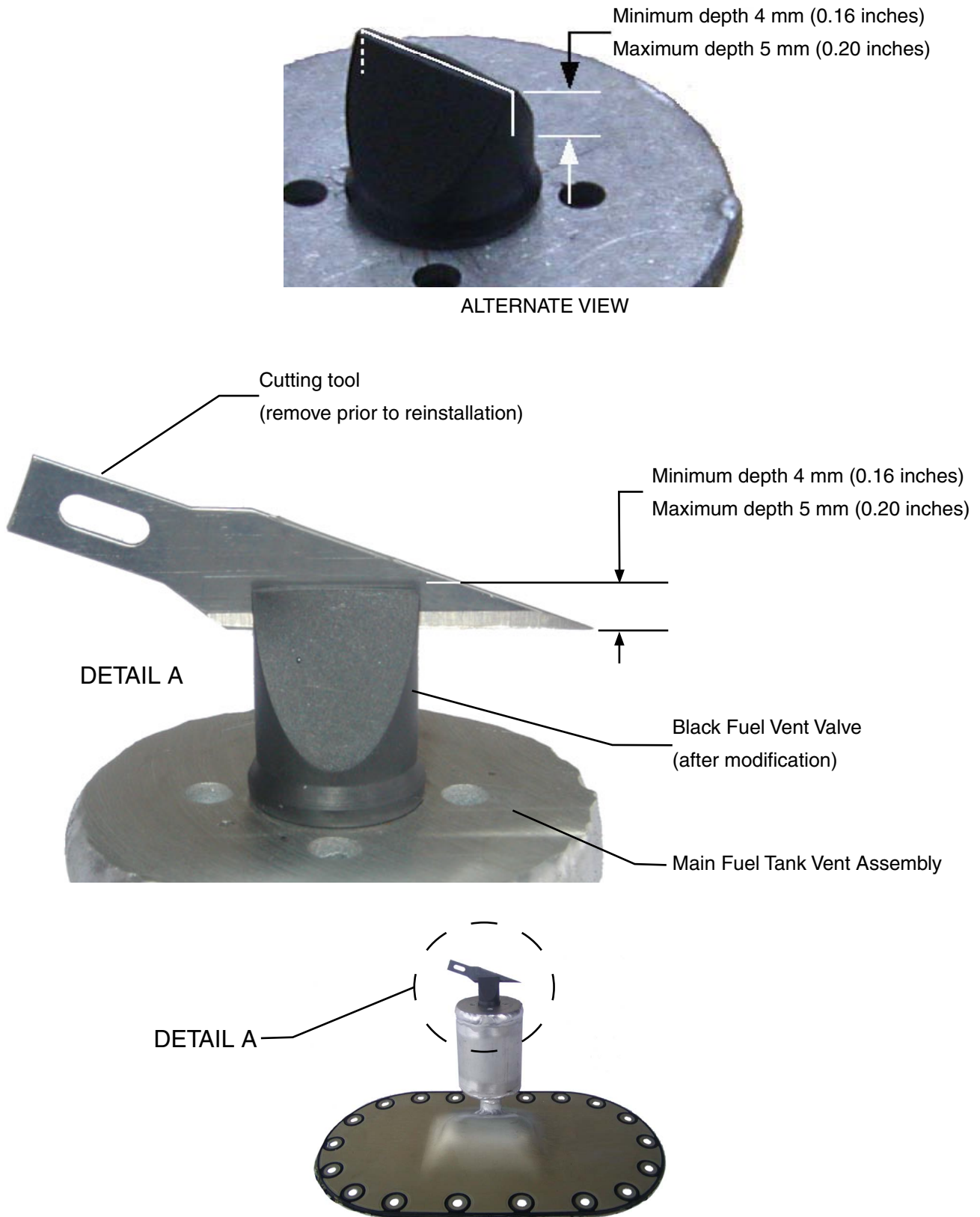


Figure 1

Main fuel tank vent assembly, as removed from aircraft wing.

NOTE: Cutting tool shown for illustration purposes only, to clarify depth of cut. Remove cutting tool prior to reinstalling the main fuel tank vent assembly.

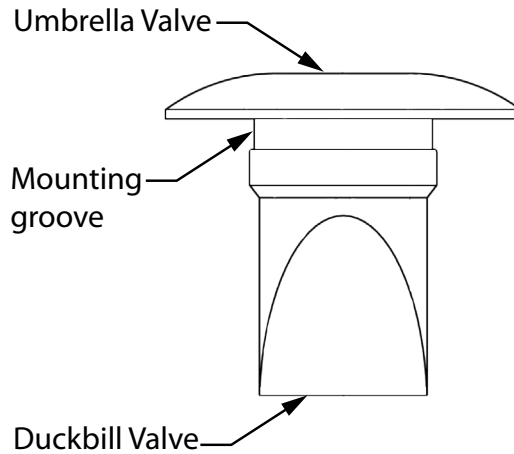


Figure 2
Fuel Vent Valve Features

MATERIAL REQUIRED: One (1) or two (2) each, Umbrella Duckbill Check Valve, Piper P/N 106927-001, per aircraft, on condition.

AVAILABILITY OF PARTS: Your Piper Service Facility.

EFFECTIVITY DATE: This service bulletin is effective upon receipt.

SUMMARY: Please contact your Piper approved service facility to make arrangements for compliance with this service bulletin in accordance with the compliance time indicated.

NOTE: Please notify the factory of any address/ownership corrections. Changes should include aircraft model, serial number, current owner's name and address.

Corrections and/or changes should be directed to:

PIPER AIRCRAFT, INC.
Attn: Customer Service
2926 Piper Drive
Vero Beach, FL 32960