

Bulletin 2024.4 Additional Required Procedures for Water Barrier Filters December 12, 2024



In a Product Safety Awareness Bulletin dated December 2024, Parker Velcon notified the aviation fuel industry that a manufacturing defect affecting a small number of CDFX water barrier elements has been detected. A defect in the black outer sleeve (outer screen) production allows blue dye to wash off the element upon initial fuel exposure, resulting in a bluish fuel discoloration. Jet fuel dyed blue is not acceptable for aviation use.

Parker Velcon has provided the following photo example of fuel discolored with blue dye:



Parker Velcon is recalling elements manufactured prior to December 31, 2023. Those water barrier filter elements shall not be installed after December 12, 2024. In addition, Parker Velcon is directing additional checks for water barrier elements manufactured from January – June 2024.

A4A is immediately modifying the ATA103 to require additional commissioning checks for all water barrier filters, regardless of brand or manufacturing date.

ATA103 Section 3.13 is being modified immediately to the following:

3.13. Filter Element Change Procedures

[...]

All manufacturer instructions for filter element change procedures shall be adhered to. For water barrier filter elements only, the procedures in Section 3.19 shall be followed in addition to the procedures below.

(a) [...]

New paragraph 3.19 of ATA103 will be immediately added as follows:

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3.19. Water Barrier Filter Element Supplemental Change Procedures

The following are additional commissioning requirements for the installation of water barrier filter elements.

- (a) Prior to installation, visually inspect elements for any signs of defects
- (b) Prior to installation, additional water barrier element checks may need to be performed. These checks are not mandatory but may be good practice depending on site-specific operational requirements and constraints. If any discoloration is observed on these pre-checks, elements shall not be used. Performance of these optional pre-checks is in addition to item (c) below
 1. Pre-installation check option 1:
 - i. Fill a clean bucket or other suitable container with jet fuel
 - ii. Take a sample of the pre-soak fuel in a clear glass jar, white bucket, or other suitable container
 - iii. Submerge the entire water barrier element(s) and soak for 20 minutes, minimum. Periodically observe the fuel for any signs of dye leaching from the outer screen
 - iv. After the minimum soak, take a sample of post-soak fuel in a clear glass jar, white bucket, or other suitable container
 - v. Compare the pre-soak and post-soak fuel samples and inspect for fuel discoloration
 2. Pre-installation check option 2:
 - i. Dampen a clean white cloth with jet fuel
 - ii. Vigorously wipe the entire length of the water barrier element for 30 seconds, minimum
 - iii. Inspect the white cloth for any discoloration
- (c) Immediately following the installation of elements and closure of vessel:
 1. Confirm outlet valve remains in the fully closed position
 2. Open shutoff valves and allow the filter vessel to fill slowly, allowing entrapped air to escape
 3. Inspect for leaks. Repair as necessary

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4. Close inlet valve and confirm outlet and inlet valve are both in the fully closed position
5. Let barrier elements soak for a minimum of 20 mins
6. After the minimum soak, take a sample from the upstream sampling port in a suitable container
7. Take a second sample from the sump or low point of the filter vessel into a second suitable container
8. Visually compare the two samples to look for any evidence of color change:
 - i. If color change is observed
 1. Fuel in vessel shall be disposed of (fuel cannot be reclaimed) and the water barrier elements shall not be used
 2. Wash the interior of the vessel, including the sump (if fitted), with clean jet fuel
 3. Affected carrier(s) shall be notified immediately in accordance with Paragraph 2.1.5.
 - ii. If no color change is observed, continue with vessel commissioning procedures

Questions or requests for further information should be submitted to fuel@airlines.org
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