BOMBARDIER
Toronto (de Havilland)
PROPRIETARY INFORMATION

PPS 4.21

PRODUCTION PROCESS STANDARD

Cleanliness Testing of DASH 8 High Pressure Fuel Pump Outlet Filters

Issue 4
- This standard supersedes PPS 4.21, Issue 3.
- Vertical lines in the left hand margin indicate changes over the previous issue.
- Direct PPS related questions to PPS.Group@aero.bombardier.com or (416) 375-4365.
- This PPS is effective as of the distribution date.

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1 Scope

1.1 This Production Process Standard (PPS) specifies the procedure and requirements for cleanliness testing of DASH 8 high pressure fuel pump outlet filters.

1.1.1 This PPS complements the engineering drawings that specify its use as an authorized instruction. The procedure specified in this PPS must be followed to ensure compliance with all applicable specifications. In general, if this PPS conflicts with the engineering drawing, follow the engineering drawing. The requirements specified in this PPS are necessary to fulfil the engineering design and reliability objectives.

1.1.2 Refer to PPS 13.26 for the subcontractor provisions applicable to this PPS.

1.1.3 Procedure or requirements specified in a Bombardier BAPS, MPS, LES or P. Spec. **do not** supersede the procedure or requirements specified in this PPS. Similarly, the procedure and requirements specified in this PPS are not applicable when use of a BAPS, MPS, LES or P. Spec. is specified.

2 Hazardous Materials

2.1 Before receipt at Bombardier Toronto (de Havilland), all materials must be approved and assigned Material Safety Data Sheet (MSDS) numbers by the Bombardier Toronto (de Havilland) Environment, Health and Safety Department. Refer to the manufacturer's MSDS for specific safety data on any of the materials specified in this PPS. If the MSDS is not available, contact the Bombardier Toronto (de Havilland) Environment, Health and Safety Department.

3 References

3.1 DH5054 - Materials Laboratory - DHC-8 High Pressure Fuel Filters - *Bombardier Toronto (de Havilland) internal operating procedure form*.

3.2 DHLP 9043 - Determination of Contaminants, DHC-8 Fuel Filters - *Bombardier Toronto (de Havilland) internal laboratory procedure*.

3.3 PPS 4.19 - Cleaning of Fuel Tanks.

3.4 PPS 13.26 - General Subcontractor Provisions.

4 Materials and Equipment

4.1 Materials

4.1.1 Polyethylene bags, sealable.

4.2 Equipment

4.2.1 Perform filter cleanliness testing using the equipment specified in DHLP 9043.

5 Procedure

5.1 The fuel filter cleanliness testing procedure specified herein is intended to verify the cleanliness level of integral fuel tanks that have been cleaned according to PPS 4.19. It is important to verify fuel tank cleanliness as excess contamination may cause high pressure fuel filter clogging which results in opening of the filter bypass valve and allows un-filtered fuel into the hydro mechanical unit.

5.2 Unless otherwise specified, perform cleanliness testing as specified herein after completion of ground runs before starting flight testing.

5.3 Perform fuel filter cleanliness testing as follows:

Step 1. After ground engine runs have been completed, remove the fuel pump outlet filters (10 micron) from each engine.

Step 2. Place the used filters into suitable sealable polyethylene bags to prevent them from exposure to additional contamination. Identify the bags containing the filters with the appropriate aircraft number, engine number and running time. Also, include a filled-out form DH5054 with the used filters.

Step 3. Install cleaned or new 10 micron filters to replace the removed filters.

Step 4. Submit the used filters to cleanliness testing as specified in DHLP 9043.

Step 5. If the level of contamination of any filter exceeds 0.075 grams, determine the cause of excessive contamination and take corrective action until acceptable results are obtained. For all filters tested, keep records of the amount of contamination detected and any corrective actions taken.

Step 6. Seal the cleaned filters into polyethylene bags identified as containing “Cleaned Filters”. Attach a suitable tag to the cleaned filters marked with the appropriate stamp and date. The cleaned filters may be re-used on subsequent aircraft.

6 Requirements

6.1 The maximum acceptable level of contamination of any fuel filter after a ground run is 0.075 grams.

7 Safety Precautions

7.1 Observe general shop safety precautions when performing the procedure specified herein.

7.2 Smoking or any other kind of open flame is prohibited within 100 feet of fuelled aircraft.

7.3 Avoid fuel spillage as this will greatly increase the fire hazard. If fuel is spilled, cease all operations in the vicinity until the spill is cleaned up.

7.4 Dispose of rags, wipers or paper contaminated with fuel in specially marked containers.

7.5 Ensure aircraft are electrically grounded when the filters are removed and replaced.

8 Personnel Requirements

8.1 Personnel responsible for cleanliness testing of DASH 8 high pressure fuel pump outlet filters must have a good working knowledge of the procedure and requirements as specified herein and must have exhibited their competency to their supervisor.