

# BOMBARDIER

Toronto Site

PROPRIETARY INFORMATION

# PPS 21.06

## PRODUCTION PROCESS STANDARD

### SEALING DASH 8 EXTERIOR PAINT EDGES

- Issue 6
- This standard supersedes PPS 21.06, Issue 5.
  - Vertical lines in the left hand margin indicate changes over the previous issue.
  - Direct PPS related questions to [christie.chung@aero.bombardier.com](mailto:christie.chung@aero.bombardier.com) or (416) 375-7641.
  - This PPS is effective as of the distribution date.

Prepared By: \_\_\_\_\_ (Christie Chung) \_\_\_\_\_ February 10, 2015

PPS Group

Approved By: \_\_\_\_\_ (L.K. John) \_\_\_\_\_ February 11, 2015

Materials Technology

\_\_\_\_\_ (D. Dawe) \_\_\_\_\_ February 24, 2015

Quality

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## 1 SCOPE

- 1.1 This Production Process Standard (PPS) specifies the procedure and requirements for sealing DASH 8 exterior paint edges to prevent paint erosion.
  - 1.1.1 This PPS complements the engineering drawings that specify its use as an authorized instruction. The procedure specified in this PPS shall 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, all materials shall be approved and assigned Material Safety Data Sheet (MSDS) numbers by the Bombardier Toronto 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 Environment, Health and Safety Department.

## 3 REFERENCES

- 3.1 [PPS 13.26](#) - General Subcontractor Provisions.
- 3.2 [PPS 13.28](#) - Storage Life of Adhesives, Sealants, Paints and Composite Products.
- 3.3 [PPS 21.20](#) - Mixing and Handling Two-Part Sealants.
- 3.4 [PPS 21.21](#) - General Sealing Practices.
- 3.5 [PPS 31.17](#) - Solvent Usage.
- 3.6 [PPS 34.03](#) - Application of Polyurethane Enamel.
- 3.7 [PPS 34.11](#) - Priming and Painting of DASH 8 Aircraft Exterior Surfaces.
- 3.8 [PPS 40.13](#) - Installation of DASH 8 Static Ports.

## 4 MATERIALS AND EQUIPMENT

### 4.1 Materials

- 4.1.1 Sealant, DHMS S3.01 Type II Class B or BAMS 552-008 as specified in [PPS 21.20](#).
- 4.1.2 Aluminum oxide abrasive paper, 400 grit.
- 4.1.3 Masking tape, 1" width.
- 4.1.4 Isopropyl alcohol (IPA) to Federal Specification TT-I-735, Grade A or B.

### 4.2 Equipment

- 4.2.1 Equipment specified in [PPS 21.21](#).
- 4.2.2 Shop aid shown in [Figure 2](#).
- 4.2.3 Protective gloves (e.g., DSC 422-2).
- 4.2.4 Sealant spatulas (e.g., SD 9164, Mk1, Mk2, Mk3 and Mk4).

## 5 PROCEDURE

### 5.1 General

- 5.1.1 After exterior painting of the aircraft according to [PPS 34.11](#), perform sealing of forward facing paint edges to prevent paint erosion during service.
- 5.1.2 Except as noted in [paragraph 5.1.2.1](#), seal paint edges according to [section 5.3](#).
- 5.1.2.1 Seal the paint edges around DASH 8 static ports according to [section 5.4](#).

### 5.2 Sealant Preparation

- 5.2.1 Prepare sealant as specified in [paragraph 4.1.1](#) according to [PPS 21.20](#).

### 5.3 Sealing Forward Facing Paint Edges

- 5.3.1 After curing of the paint topcoat according to [PPS 34.03](#), seal forward facing paint edges as follows:
  - Step 1. Mask off an area approximately 1/8" wide on both sides of the paint step using masking tape (see [Figure 1](#)).
  - Step 2. Lightly abrade the area to be sealed using 400 grit aluminum oxide abrasive paper.
  - Step 3. Solvent clean the sealing area according to [PPS 31.17](#).

- Step 4. Apply a bead of sealant along the paint edge according to [PPS 21.21](#).
- Step 5. Using the shop aid shown in [Figure 2](#), smooth the sealant along the full length of the bead to form a slightly convex seal (see [Figure 3](#)).
- Step 6. Remove the masking tape. If necessary, within the sealant's application life, smooth out the forward facing sealant step left by the removal of the tape (see [Figure 4](#)) using a spatula or a finger while wearing gloves. The sealant may be then smoothed with a 50/50 mix by volume of isopropyl alcohol and water.

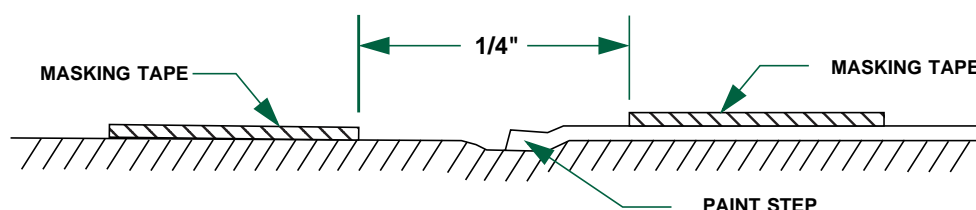


FIGURE 1 - MASKING OFF PAINT STEP

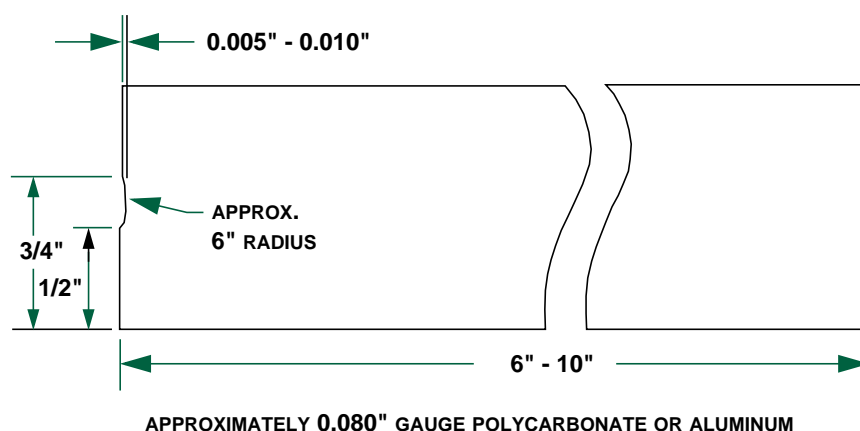


FIGURE 2 - SHOP AID SCHEMATIC

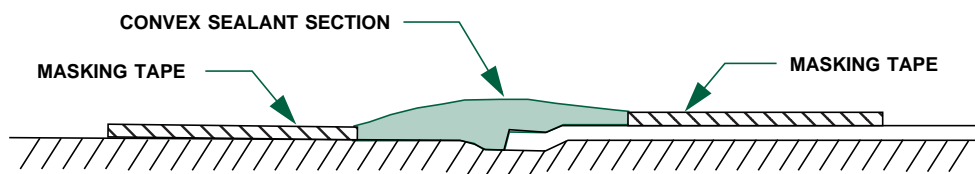


FIGURE 3 - APPLIED SEALANT

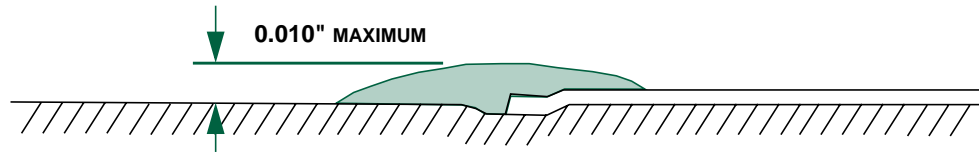


FIGURE 4 - FAIRING IN OF SEALANT STEP

#### 5.4 Sealing Paint Edges around Static Ports

- 5.4.1 After curing of the paint topcoat according to [PPS 34.03](#), seal the paint edges around the static ports by sealing the gaps between the static ports and the fuselage skin according to [PPS 40.13](#) (see [Figure 5](#)).

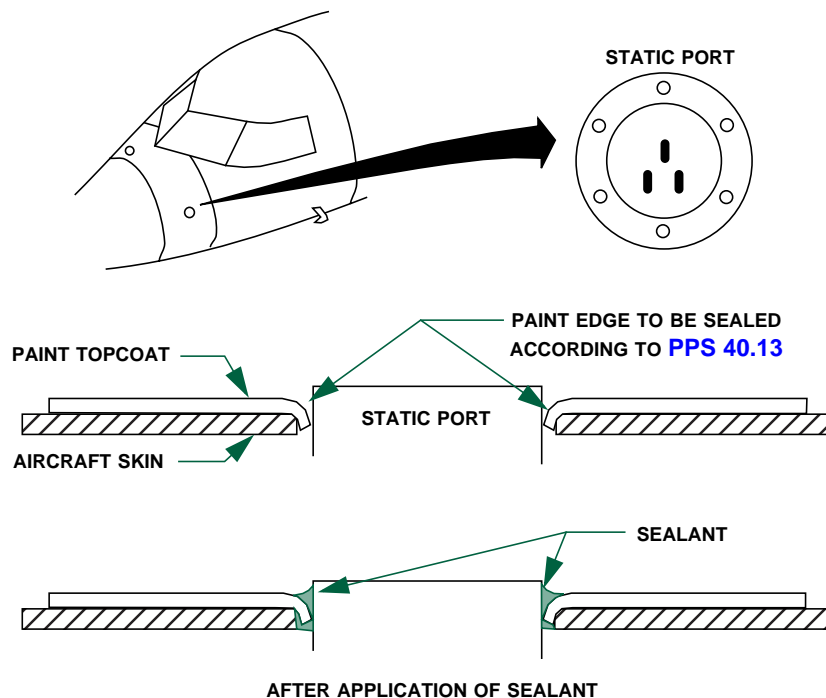


FIGURE 5 - SEALING PAINT EDGES AROUND STATIC PORTS

#### 5.5 Curing of Sealants

- 5.5.1 Allow sealant to cure to tack free according to [PPS 21.20](#) before exposing the aircraft to rain or flight conditions.

- 5.5.2 For aerodynamic sealing, sealant application and curing outside of the temperature and relative humidity specified may result in an unacceptable aerodynamic fillet seal (e.g., excessive shrinkage, etc.) or butt joint seal (e.g., excessive shrinkage, dragging effect on vertical surfaces, etc.).
- 5.5.3 Post “WET SEALANT” warnings on sealed areas susceptible to damage by nearby assembly operations until the sealant cures tack-free.

## 6 REQUIREMENTS

- 6.1 Before application of sealant, areas to be sealed shall be thoroughly cleaned.
- 6.2 Applied sealant shall completely cover the paint edges specified by the engineering drawing or relevant paint PPS.
- 6.3 Applied sealant shall meet the configuration requirements specified herein.
- 6.4 Applied sealant shall cure for the time specified in [paragraph 5.5.1](#) before the aircraft is exposed to rain or flight conditions.

## 7 SAFETY PRECAUTIONS

- 7.1 *Observe standard plant safety precautions when performing the procedure specified herein.*
- 7.2 *Keep sealants away from fire and other sources of ignition.*
- 7.3 *Do not smoke or eat in areas where sealants are being applied. Avoid ingestion of sealants. If ingestion occurs, obtain medical attention immediately.*
- 7.4 *Wash hands thoroughly with soap and water immediately after using sealant.*
- 7.5 *Ensure sufficient ventilation is supplied when using sealants in confined areas.*
- 7.6 *Avoid skin and eye contact with sealant. Wear protective gloves when handling sealants. If skin contact occurs, wash the affected area immediately and thoroughly with soap and water. Do not use protective hand cream as it may cause contamination. If eye contact occurs, immediately flush eyes for 15 minutes minimum with large quantities of water at an eye wash station and report to the Health Centre.*
- 7.7 *Refer to [PPS 31.17](#) for the safety precautions for handling and using solvents.*

## **8 PERSONNEL REQUIREMENTS**

- 8.1 Personnel responsible for sealing DASH 8 exterior paint edges shall have a good working knowledge of the applicable procedure and requirements as specified herein and shall have exhibited their competency to their supervisor.

## **9 STORAGE**

- 9.1 Always use oldest stock first (i.e., first in/first out (FIFO) basis).
- 9.2 Store sealants according to [PPS 21.20](#).
- 9.3 The storage life of the sealant shall be according to [PPS 13.28](#). Keep sealant containers tightly closed when not in use.