



DE HAVILLAND AIRCRAFT
OF CANADA LIMITED

BOMBARDIER
Toronto Site

PPS 15.04 - USE OF MARKERS FOR MARKING AIRCRAFT PARTS AND ASSEMBLIES

- Issue 11 - This standard supersedes PPS 15.04, Issue 10.
- Vertical lines in the left hand margin indicate technical changes over the previous issue.
 - Direct PPS related questions to christie.chung@dehavilland.com or (416) 375-7641.
 - This PPS is effective as of the distribution date.

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**Issue 11 - Summary of Changes (over the previous issue)**

The following summaries are not detailed and are intended only to assist in alerting PPS users to changes which may affect them; refer to the applicable sections of this PPS for detailed procedure and requirements.

- Specified this is a jointly owned PPS by both De Havilland Aircraft of Canada Limited and Bombardier Inc.
- Corrected typo in paragraph referencing in paragraphs 5.1.4.1, 5.3.1 and 6.1 (i.e., reference should be to paragraph 5.1.4, not paragraph 5.1.3).
- Updated part number from C84201 to 84201 for Avery broad Marks-A-Lot Chisel Tip markers. Deleted discontinued part number C85201. Added part number Chisel Tip 86201.
- Deleted discontinued Mark Tex Corp. Action Marker MK DALO 83.
- Newell Brands dropped the Sanford branding and only goes by Sharpie (i.e., Fine Sharpie 13401 (T.E.C) and 30001).
- Deleted discontinued Broad 6000 Faber Castell 6001 non-permanent marker.
- Deleted discontinued Vis-à-Vis Sanford 1601 non-permanent marker. Updated manufacturer name of 16001 non-permanent marker to Newell Brands.
- Specified to refer to PPS 31.17 for safety precautions for handling and usage of solvents.



TABLE OF CONTENTS

Sections	Page
1 SCOPE	4
2 HAZARDOUS MATERIALS.....	4
3 REFERENCES	4
4 MATERIALS.....	4
5 PROCEDURE	5
5.1 General.....	5
5.2 Use of Permanent Type Markers	6
5.3 Use of Non-Permanent Type Markers	6
5.4 Use of “China” Markers.....	6
6 REQUIREMENTS	6
7 DHC/BA SAFETY PRECAUTIONS	7
8 PERSONNEL REQUIREMENTS.....	7

Tables

TABLE I - AUTHORIZED PERMANENT AND NON-PERMANENT FELT TIP MARKER (NOTE 1)	5
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1 SCOPE

- 1.1 This Production Process Standard (PPS) specifies the procedure and requirements for the use of permanent felt tip, non-permanent felt tip and “China” markers on aircraft materials, parts and assemblies.
 - 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.
- 1.2 This PPS is co-owned by De Havilland Aircraft of Canada Limited (DHC) and Bombardier Inc. (BA) due to its applicability for both the DHC DASH 8 and BA Lear 45 programs.

2 HAZARDOUS MATERIALS

- 2.1 Before receipt at DHC or BA, all materials shall be approved and assigned Material Safety Data Sheet (MSDS) numbers by the DHC/BA 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 DHC/BA Environment, Health and Safety Department.

3 REFERENCES

- 3.1 [PPS 6.13](#) - Installation of Externally Swaged (Permaswage Type) Fittings.
- 3.2 [PPS 13.26](#) - General Subcontractor Provisions.
- 3.3 [PPS 15.01](#) - Part Marking.
- 3.4 [PPS 31.17](#) - Solvent Usage.

4 MATERIALS

- 4.1 Markers, felt tip, permanent and non-permanent as specified in [Table I](#).
- 4.2 “China” marker (wax crayon), Dixon Ticonderoga Co., Phano No. 71, Red.



TABLE I - AUTHORIZED PERMANENT AND NON-PERMANENT FELT TIP MARKER (NOTE 1)

TYPE	POINT	MARKER	MANUFACTURER	PART NUMBER	COLOUR
Permanent (solvent soluble)	Broad	Marks-A-Lot Chisel Tip	Avery	84201 or 86201	Black
	Fine	Sharpie	Newell Brands	13401 (T.E.C.)	
				30001	
Non-Permanent (water soluble)	Fine	Expo Vis-à-Vis Wet-Erase Markers	Newell Brands	16001	
Note 1. Use only the markers specified herein or otherwise authorized by DHC/BA Quality. The use of any unauthorized marker is prohibited and may be detrimental to parts.					

5 PROCEDURE

5.1 General

5.1.1 This PPS specifies acceptable markers as well as limitations on marker usage in order to ensure that the markings applied to materials, parts and assemblies during manufacture are not detrimental to the function or appearance of the finished product.

5.1.2 Use only the markers specified herein or otherwise authorized by DHC/BA Quality. The use of any unauthorized marker is prohibited and may be detrimental to parts.

5.1.3 **Do not** use pencils on any aircraft parts, materials or assemblies under **any** circumstances.

5.1.4 Unless the use of markers is specifically specified herein, by another PPS or an engineering drawing, do not use permanent or non-permanent type markers directly on any of the following aircraft parts, materials or assemblies, or directly on polyethylene or thin paper bags containing such parts:

- Titanium
- Plastics (including labels)
- Cured fibre reinforced laminates and composites (fibreglass, Kevlar, etc.)
- Painted surfaces
- Fabrics and upholstery materials

5.1.4.1 If it is necessary to apply markings to aircraft parts, materials or assemblies listed in [paragraph 5.1.4](#), apply the markings to a tag or self-adhesive label and affix the tag or label to the part or bag.

5.1.4.2 For marking of defect indications revealed through non-destructive testing (NDT) only, it is acceptable to use a "China Marker" (ref. [paragraph 4.2](#)) on painted surfaces.



5.2 Use of Permanent Type Markers

5.2.1 Use permanent type felt tip markers in the following situations:

- When marking Permaswage fitting locations, use the markers specified in [PPS 6.13](#).
- When marking laid up pre-impregnated fabric plies, use the markers specified in the applicable composite PPS.
- In those instances where part marking by ink stamping or stencilling is specified in [PPS 15.01](#), it is acceptable to apply the part mark using permanent felt tip markers. However, ink stamping or stencilling is preferred.
- Whenever use of a permanent type marker is specified by the engineering drawing.

5.3 Use of Non-Permanent Type Markers

- 5.3.1 Non-permanent type markers may be used for non-permanent identification, layout, and information purposes on all types of raw material, bare parts, primed parts and assemblies other than those specified in [paragraph 5.1.4](#), provided that the markings are removed when no longer required by wiping with a clean cloth dampened with water. **Do not** use solvents to remove non-permanent markings.

5.4 Use of “China” Markers

- 5.4.1 Use “China” markers only for marking of defect indications revealed through non-destructive testing (NDT) on painted surfaces. Remove marks made using “China” markers when no longer required by solvent cleaning according to [PPS 31.17](#).

6 REQUIREMENTS

- 6.1 Except as noted, neither permanent nor non-permanent type markers may be used on parts, materials or assemblies as specified in [paragraph 5.1.4](#).
- 6.2 Permanent type markers may only be used as specified in [section 5.2](#).
- 6.3 Non-permanent type markers may only be used as specified in [section 5.3](#) and markings shall be removed from parts or assemblies when no longer required.
- 6.4 “China” markers may only be used as specified in [section 5.4](#) and markings shall be removed from parts or assemblies when no longer required.



7 DHC/BA SAFETY PRECAUTIONS

- 7.1 *The safety precautions specified herein are specific to DHC/BA to meet Canadian Federal and Provincial government environmental, health and safety regulations. It is strongly recommended that other facilities consider these safety precautions; however, suppliers, subcontractors and partners are responsible for ensuring that their own environmental, health and safety precautions satisfy the appropriate local government regulations.*
- 7.2 *Observe standard plant safety precautions when performing the procedure specified herein.*
- 7.3 *Refer to [PPS 31.17](#) for the safety precautions for handling and using solvents.*

8 PERSONNEL REQUIREMENTS

- 8.1 Personnel shall have a good working knowledge of the applicable procedure and requirements as specified herein and shall have exhibited their competency to their supervisor.