



# **STANDARD OVERHAUL PRACTICES MANUAL**

## **APPLICATION OF URETHANE COMPATIBLE PRIMER**

**PART NUMBER  
NONE**

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## STANDARD OVERHAUL PRACTICES MANUAL

Revision No. 7  
Jul 01/2009

To: All holders of APPLICATION OF URETHANE COMPATIBLE PRIMER 20-44-04.

Attached is the current revision to this STANDARD OVERHAUL PRACTICES MANUAL

The STANDARD OVERHAUL PRACTICES MANUAL is furnished either as a printed manual, on microfilm, or digital products, or any combination of the three. This revision replaces all previous microfilm cartridges or digital products. All microfilm and digital products are reissued with all obsolete data deleted and all updated pages added.

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TRANSMITTAL LETTER

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## STANDARD OVERHAUL PRACTICES MANUAL

Location of Change

Description of Change

NO HIGHLIGHTS

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HIGHLIGHTS

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A = Added, R = Revised, D = Deleted, O = Overflow

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## STANDARD OVERHAUL PRACTICES MANUAL

### INTRODUCTION

#### 1. General

- A. The instructions in this manual tell how to do standard shop procedures during maintenance functions from simple checks and replacement to complete shop-type repair.
- B. This manual is divided into separate sections:
  - (1) Title Page
  - (2) Transmittal Letter
  - (3) Highlights
  - (4) Effective Pages
  - (5) Contents
  - (6) Revision Record
  - (7) Record of Temporary Revisions
  - (8) Introduction
  - (9) Procedures
- C. Refer to SOPM 20-00-00 for a definition of standard industry practices, vendor names and addresses, and an explanation of the True Position Dimensioning symbols used.
- D. The data is general. It is not about all situations or specific installations. Use it as a guide to help you write minimum standards.
- E. If the component overhaul instructions are different from the data in this subject, use the component overhaul instructions.

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INTRODUCTION

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## STANDARD OVERHAUL PRACTICES MANUAL

### APPLICATION OF URETHANE COMPATIBLE PRIMER

#### 1. INTRODUCTION

- A. The data in this subject comes from Boeing Process Specification BAC5882. The airline has a copy of the Boeing Process Specifications Manual.
- B. The data is general. It is not about all situations or specific installations. Use this data as a guide to help you write minimum standards.
- C. Classification
  - (1) The BMS 10-79 primer comes in different types, classes, and grades.
    - (a) Type 2 is urethane compatible primer for high erosion areas. Type 3 is urethane compatible primer for high erosion areas with less than 1% aromatic amine in the mixed components.
    - (b) Class A is material for usual application procedures such as air or airless spray. Class B is material for application with electrostatic painting equipment as well as usual air or airless spray.
    - (c) The grade identifies the solvent content and type. Grade A is conventional primer, usually with a volatile organic compound (VOC) approximately 650 grams per liter in mixed components. Grade B is primer with low VOC and exempt solvents, with VOC content 350 grams per liter or less in mixed components. Grade C is primer with low VOC and conventional solvents, but used only for wet installation of parts.
  - (2) If the overhaul or refinish instructions do not specify the type, use Type 3. If the class is not specified, use Class A or B. If the grade is not specified, use Grade A.
- D. Refer to SOPM 20-00-00 for a list of all the vendor names and addresses.

#### 2. MATERIALS

**NOTE:** Equivalent substitutes can be used.

- A. Abrasives
  - (1) Abrasive paper, 240 grit or finer, V76381
  - (2) Aluminum oxide abrasive pads, very fine, V06565
  - (3) Scotch-Brite sheet, Type A, very fine, V76381
- B. Tack Rags
  - (1) C-60, V0EK96
  - (2) 4B, V17359
- C. Solvent - Methyl ethyl ketone (MEK), ASTM D 740
- D. Primers
  - (1) BMS 10-79, Type 2, Grade A or B
  - (2) BMS 10-79, Type 3, Grade A or B

#### 3. SURFACE PREPARATION

- A. Plastic surfaces – Prepare the surfaces per BAC5837 (Ref SOPM 20-10-06).
- B. Surfaces with a layer of primer – Reactivate per BAC5736 (Ref SOPM 20-41-02). Use the same procedure for surfaces with BMS 5-89 or BMS 10-20 Type 2 primer.

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### C. Metal surfaces without paint

**NOTE:** Bare metal surfaces must have a pretreatment such as anodize or chemical conversion coating.

- (1) If the surface is anodized without a seal (BAC5019 Class 5 chromic acid anodize as in SOPM 20-43-01, BAC5022 Class 5 sulfuric acid anodize or BAC5632 Class 5 boric acid - sulfuric acid anodize), be careful because the surface layer is porous and can easily get contamination. A dirty surface will not make a good bond with the primer.
    - (a) Do not solvent clean. Do not touch with fingers or oily surfaces. Remove light surface contamination with compressed air.
    - (b) If the anodize coating will be more than 16 hours old before you can apply the primer, remove the anodize and apply a new anodize.
  - (2) If the surface has pretreatment other than anodize without a seal, and has contamination, solvent clean it. Be careful if the treatment is anodize with a seal, because the top layer is soft and easily damaged. This could cause an unsatisfactory bond with the primer.
- D. After you clean the surfaces, give the parts protection as necessary. Use clean lint-free gloves to prevent contamination. The surfaces must be clean and dry when the BMS 10-79 primer is applied.

### 4. MIXING

- A. Shake or fully stir each ingredient before you mix them together. Base and vehicle components must be smoothly continuous before you add catalyst or curing agent.
- B. Mix and thin materials per Table 1.
  - (1) Put the specified amount of base material into a clean solvent-resistant container. (Metal, polyethylene and polypropylene containers are preferred. Coated and uncoated paper cups are not recommended because these could put contamination in the primer or change its properties.)
  - (2) As you continuously stir the base material, add the specified amount of catalyst and thinner.
  - (3) Let the mix wait 30 minutes before you apply it.
- C. Pot life at 70 - 80°F: Class A materials, 8 hours; Class B materials, 6 hours. Discard all mixed materials remaining after pot life.
- D. Unmixed primer components can be used until 12 months (Grade A) or 9 months (Grade B) from date of manufacture if they were stored with standard industry practices. After that, these components can be used 12 more months (Grade A) or 9 more months (Grade B) if tests show that they agree with specifications.

**Table 1:** BMS 10-79 Primer Mix Proportions

TYPE	CLASS	GRADE	PROPORTIONS BY VOLUME (V85570)
2	A	A	1 part 513X329 base 1 part 910X456 catalyst 0-0.25 part 010-011 thinner
			1 part 513X384 base 1 part 910X456 catalyst 0-0.25 part 010-011 thinner
2	A	B	1 part 513X411 base

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**Table 1:** BMS 10-79 Primer Mix Proportions (Continued)

TYPE	CLASS	GRADE	PROPORTIONS BY VOLUME (V85570)
			1 part 910X811 catalyst 1 part 010X320 thinner
2	B	A	4 parts 513X377 base 1 part 910X482 catalyst 0-0.25 part 020X364 thinner
3	A	A	1 part 513X336 base 1 part 910X458 catalyst 0-0.25 part 010-011 thinner
			1 part 513X349 base 1 part 910X533 catalyst 0-0.25 part 010-011 thinner
3	A	B	4 parts 513X411 base 1 part 910X811 catalyst 1 part 010X320 thinner


### 5. APPLICATION

- A. Apply the primer by spray or brush (spray is preferred).
- B. Apply the primer at 40-100°F air temperature (50-90°F is preferred).
- C. Apply materials to get a dry film thickness of 0.5-1.0 mil for metal parts, and 0.3-0.8 mil for plastic parts.
- D. Let the completed layer wait 30 minutes, to permit solvents to evaporate, before you bake the parts.
- E. Cure coats per Figure 1, Figure 2, Figure 3, as applicable. Grade A primers can be baked a minimum of 15 minutes at 160-180°F (bonded assemblies) or 160-200°F (all other parts) before you touch or mask the parts.

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TYPE	GRADE	BEFORE HANDLING	BEFORE MASKING	BEFORE APPLICATION OF ANOTHER LAYER	
		MINIMUM	MINIMUM	MINIMUM	MAXIMUM 
2	A	4 HRS AT 70-100°F	2 HRS AT 70-100°F	2 HRS AT 70-100°F	48 HRS AT 70-100°F
2	B	SEE FIG. 4	SEE FIG. 4	30 MIN AT 60-100°F	24 HRS AT 60-100°F 60 MIN AT 101-140°F 30 MIN AT 141-180°F
3	A	SEE FIG. 3	SEE FIG. 3	15 MIN AT 60-100°F	48 HRS AT 60-100°F 60 MIN AT 101-140°F 30 MIN AT 141-200°F
3	B	SEE FIG. 4	SEE FIG. 4	30 MIN AT 60-100°F	24 HRS AT 60-100°F 60 MIN AT 101-140°F 30 MIN AT 141-180°F



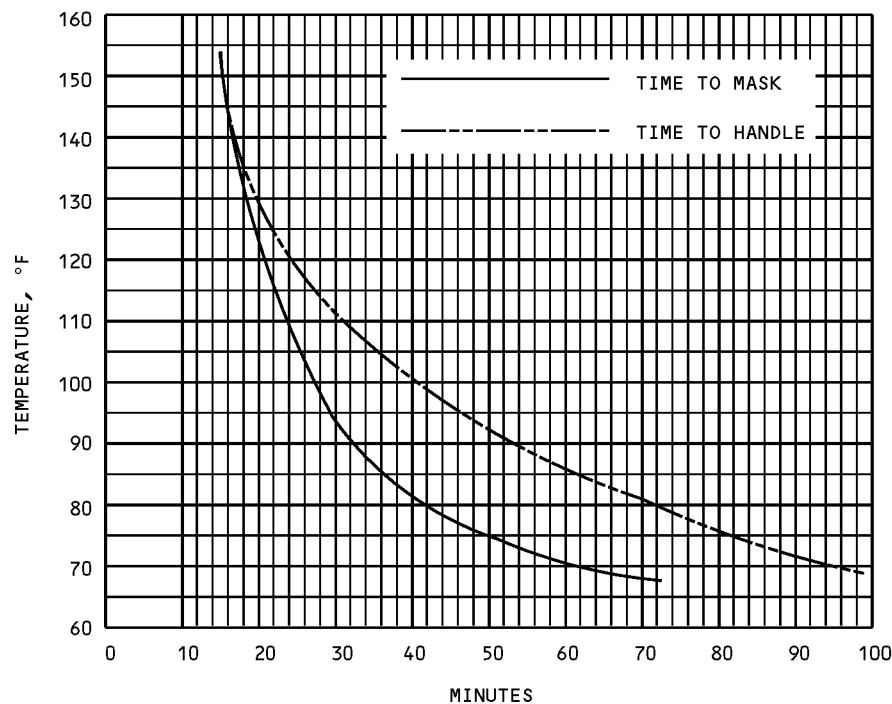
If the layer is older than these limits, reactivate the layer per BAC5736 (Ref SOPM 20-41-02), then apply one more layer of the same type and grade of BMS 10-79 primer. Then apply the specified topcoat.

BMS 10-79 Primer Cure Data  
Figure 1

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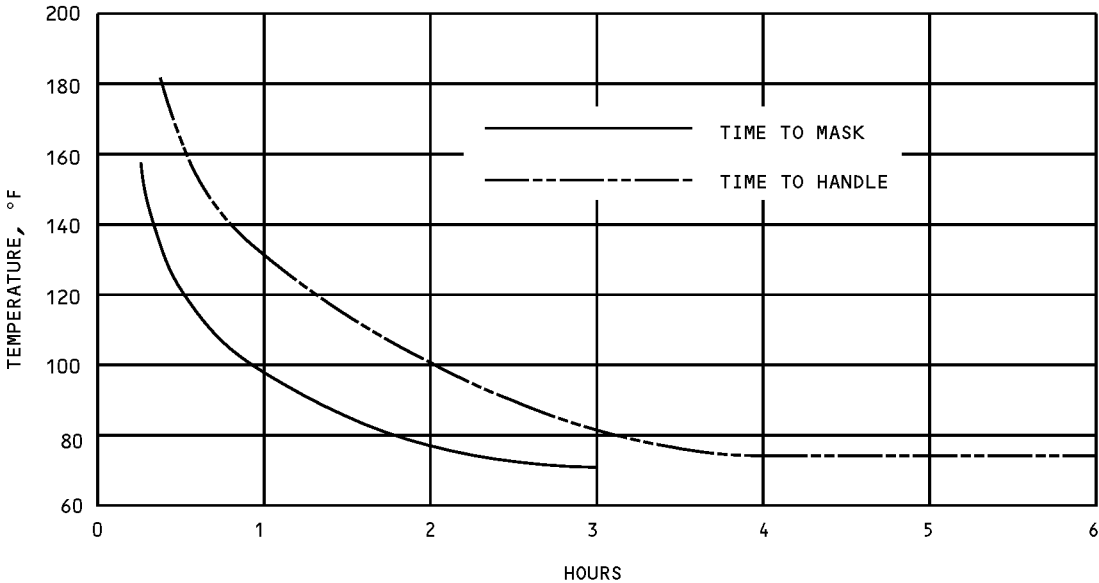


Cure of BMS 10-79 Type 3 Grade A Primer  
Figure 2

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Cure of BMS 10-79 Type 2 or 3 Grade B Primer  
Figure 3

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**STANDARD OVERHAUL PRACTICES MANUAL****6. IN-PROCESS CORRECTIVE ACTION**

- A. Use these procedures when the primer layer becomes scratched or damaged.
- B. Plastic surfaces – Repair per SOPM 20-10-06.
- C. Metal surfaces
  - (1) If the damage goes completely through the primer layer, remove the primer layer from the damaged area by the procedure for removal of organic finishes in SOPM 20-30-02.
  - (2) Solvent clean the surface per SOPM 20-30-03.
  - (3) Lightly sand the area with an abrasive specified in Paragraph 2.A. Do not go down to the bare metal. Remove sand and unwanted matter with a tack rag, or solvent clean per SOPM 20-30-03.
  - (4) Repair the metal surface treatment, such as anodize or chemical treatment.
  - (5) Apply the BMS 10-79 primer layer again.
- D. If the primer layer becomes older than the time limit for application of topcoat in Figure 1, reactivate the primer layer per BAC5736 (Ref SOPM 20-41-02). Then apply one more layer of BMS 10-79 primer. On Type 2 primer, use Type 2 primer for the new layer. On Type 3 primer, you can use Type 2 or 3 primer.

**7. QUALITY CONTROL**

- A. On metal parts, the cured primer layer must be 0.5-1.0 mil (0.0005-0.0010 inch) thick when measured with a nondestructive instrument with a minimum accuracy of +/- 0.1 mil. On shot peened metal parts, the instrument can have a minimum accuracy of +/- 0.3 mil.
- B. On plastic parts, the cured primer layer must be 0.3-0.8 mil (0.0003-0.0008 inch). Refer to BAC5882 for measurement methods.
- C. For tests of the bond between primer and the surface, and resistance to solvents, refer to BAC5882.

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