



# **STANDARD OVERHAUL PRACTICES MANUAL**

## **APPLICATION OF BONDED SOLID FILM LUBRICANTS**

**PART NUMBER  
NONE**

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**20-50-08**



## STANDARD OVERHAUL PRACTICES MANUAL

Revision No. 28  
Jul 01/2009

To: All holders of APPLICATION OF BONDED SOLID FILM LUBRICANTS 20-50-08.

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.

For printed manuals, changes are indicated on the List of Effective Pages (LEP). The pages which are revised will be identified on the LEP by an R (Revised), A (Added), O (Overflow, i.e. changes to the document structure and/or page layout), or D (Deleted). Each page in the LEP is identified by Chapter-Section-Subject number, page number and page date.

Pages replaced or made obsolete by this revision should be removed and destroyed.

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# 20-50-08

TRANSMITTAL LETTER

Page 1

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PART NUMBER NONE



## STANDARD OVERHAUL PRACTICES MANUAL

### Location of Change

20-50-08

PGBLK 20-50-08-0

### Description of Change

Added the latest lubricants. Updated callouts.

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HIGHLIGHTS

Page 1

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## STANDARD OVERHAUL PRACTICES MANUAL

Subject/Page	Date	Subject/Page	Date	Subject/Page	Date
TITLE PAGE		20-50-08 SUBJECT (CONT)			
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20-50-08 SUBJECT					
R 1	Jul 01/2009				
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6	Mar 01/2007				
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R 10	Jul 01/2009				
O 11	Jul 01/2009				

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

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EFFECTIVE PAGES

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### TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL
		PRR 75959-188	JAN 01/87

Nov 01/2006

All revisions to this manual will be accompanied by transmittal sheet bearing the revision number. Enter the revision number in numerical order, together with the revision date, the date filed and the initials of the person filing.

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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 BONDED SOLID FILM LUBRICANT

#### 1. INTRODUCTION

- A. The data in this subject comes from Boeing Process Specifications BAC5811 and BAC5814, and from special instructions for application of the other lubricants. The airline has a copy of the Boeing Process Specification manual.
- B. The data is general. Use it as a guide to help you write minimum standards.
- C. Refer to SOPM 20-00-00 for a list of all the vendor names and addresses.

#### 2. DESCRIPTION

- A. A bonded solid film (or dry film) lubricant starts as a mixture of a solvent and resins and solid lubricants such as molybdenum disulfide and graphite. When the liquid is applied to the substrate, the solvent evaporates and the resins, when heated, make a lubricant layer approximately 0.0005 inch thick.
- B. These lubricants are used where other lubricants (such as oils and greases) are not easy to apply to or keep on the surface, or where there could be contamination by dirt or dust. These lubricants can also decrease wear and prevents galling and seizure of metals.
- C. Table 1 compares the different solid or dry film lubricant names you could find in the overhaul instructions.

**Table 1:** Solid Film Lubricant Identification

Current BAC5811 Coating Callout	Lubricant	Obsolete, Superseded, or Previous Coating Callouts
Type 6, Class 1	SAE AS5272, Type 1	MIL-L-46010, Type 1 MIL-L-8937 BAC5811 Method 1 with MIL-L-8937, Form A BAC5811, Type 1
Type 6, Class 2	(Use Type 7, Class 1)	
Type 6, Class 3	SAE AS5272, Type 2	MIL-L-46010, Type 2 MIL-L-46010
Type 6, Class 4	MIL-PRF-46010	MIL-L-46010, Type 3
Type 7, Class 1	MIL-L-23398	BAC5811, Type 6, Class 2 BAC5811 Method 1 with MIL-L-23398 BAC5811, Type 3
Type 7, Class 2	MIL-L-23398	BAC5811 Type 7 (no class) BAC5811 Method 2 with MIL-L-23398 BAC5811, Type 2
Type 8, Class 1	BMS 3-8, Type 1	BAC5811 Method 3 with BMS 3-8, Class A BMS 3-8 BMS 3-3, Type 1
Type 8, Class 2	BMS 3-8, Type 2	(None)

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## STANDARD OVERHAUL PRACTICES MANUAL

**Table 1:** Solid Film Lubricant Identification (Continued)

Current BAC5811 Coating Callout	Lubricant	Obsolete, Superseded, or Previous Coating Callouts
Type 9 (Ref BAC5814)	Vitrolube, NPI-1220 or Vitrolube NPI-1220C (V1P492)	(None)
Type 10 (Ref D6-3488)	Dri-Lube 701D, V06186 Everlox 16B, V11770 Everlox 98, V11770 Oxylube E, Kal-Gard Lubricants	(None)

### 3. MATERIALS AND EQUIPMENT

**NOTE:** Refer to the applicable Qualified Products List, or equivalent list, of the specification listed for approved material part numbers and vendors.

- A. Solid film lubricant, air drying – MIL-L-23398
- B. Solid film lubricant, heat cured, corrosion inhibiting – MIL-PRF-46010.
- C. Solid film lubricant, liquid dispersed – BMS 3-8
- D. Solid film lubricant, heat cured, corrosion inhibiting – SAE AS5272
- E. Other lubricants (SOPM 20-60-03)

- (1) Drilube 700, V06186

**NOTE:** BMS 3-8 is an acceptable substitute up to 500°F.

- (2) Drilube 701D, V06186
- (3) Everlox 16B, V11770
- (4) Everlube 811, V11770
- (5) Vitrolube NPI-1220 or NPI-1220C, V1P492

**NOTE:** This is a vendor-proprietary coating. Only the vendor (V1P492) can apply it.

- F. Solvents (SOPM 20-60-01)
  - (1) Aliphatic Naphtha – TT-N-95 (Replaces BMS 3-2)
  - (2) P-D-680
  - (3) Methyl Ethyl Ketone (MEK) – ASTM D740
  - (4) Ethyl Alcohol (Ethanol) – O-E-760
- G. Wipers – BMS 15-5 (SOPM 20-60-04)
- H. Paper towel, Kraft grade or equivalent
- I. Masking tape
- J. Curing oven (preferred), or quartz or infrared lamps (optional) that can supply controlled heat to 575°F

### 4. LUBRICANT STORAGE AND SHELF LIFE

- A. See Table 2 for details of storage and age requirements.
- B. Do tests on lubricants per BAC5811 or BAC5814 as necessary.
- C. For lubricants not shown, refer to the vendor's instructions for storage and test requirements.

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## STANDARD OVERHAUL PRACTICES MANUAL

**Table 2:** Lubricant Storage and Age Requirements

LUBRICANT	STORAGE TEMPERATURE	DISCARD/DO NOT USE IF OLDER THAN
MIL-L-23398	33-100°F	12 months
MIL-PRF-46010	33-100°F	12 months
SAE AS5272	33-100°F	12 months
BMS 3-8	33-100°F	12 months

### 5. GENERAL

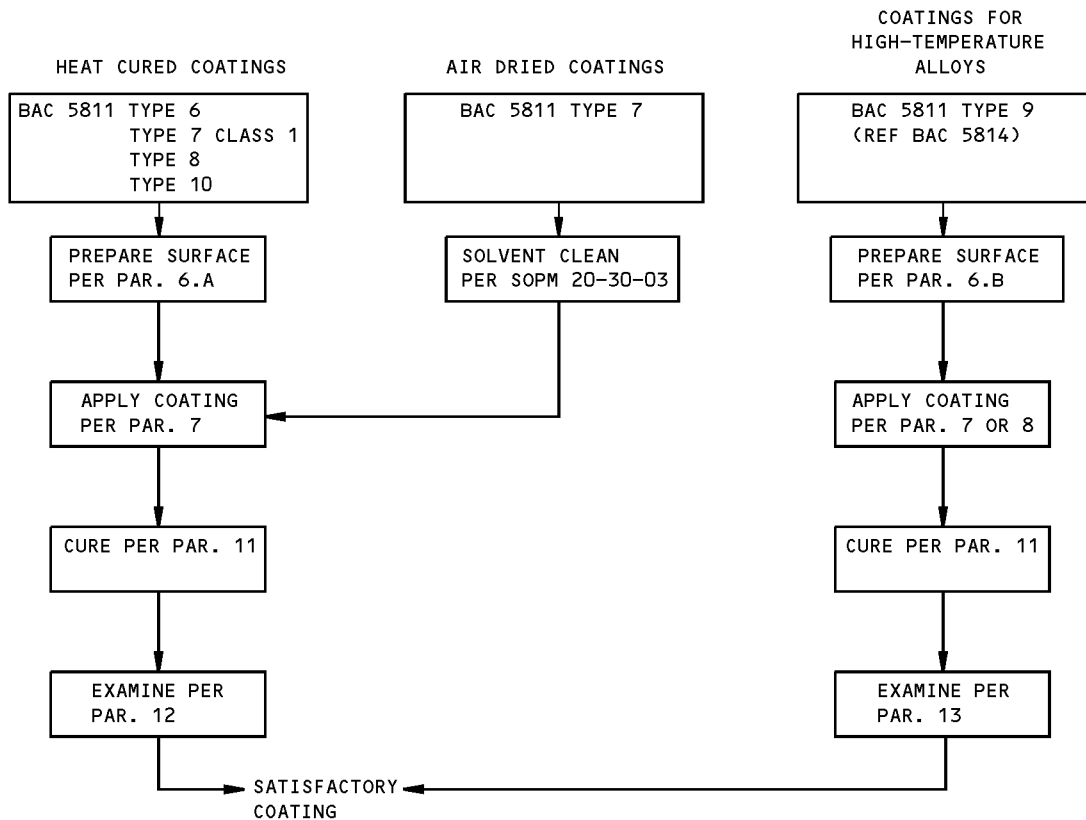
**WARNING:** SOME OF THESE MATERIALS ARE TOXIC, FLAMMABLE AND HAZARDOUS. OBEY THE SAFETY PRECAUTIONS. MAKE SURE THE VENTILATION IS SUFFICIENT. USE PROTECTIVE EQUIPMENT.

- A. See Figure 1 for a general process flow for the application of dry film lubricant.
- B. Do not let the surfaces become contaminated before coating. Use only clean lint free gloves or tongs to prevent fingerprint contamination.
- C. After the pretreatment, give the surfaces protection from dust, handling, abrasion and liquids until you start the coating procedure.
  - (1) Unless the surface is chemically treated or anodized aluminum or is passivated, BAC5811 coating must be applied as quickly as possible after surface pretreatment, and no later than 72 hours afterward.
  - (2) BAC5811 coating can be applied to chemically treated or anodized aluminum or passivated surfaces that waited more than 72 hours, if you solvent clean the surface and make sure there is no visible contamination.
  - (3) On all other surfaces that waited more than 72 hours, strip the surface and apply new pretreatment before you apply BAC5811 coating.
  - (4) Type 9 (BAC5814) coating on titanium must start within 30 minutes after the pretreatment is complete.
- D. Make sure the coating material ingredients are completely and smoothly mixed before you apply the material. Shake or mix the material as necessary.
- E. Apply BAC5811, Type 6 and 8 coatings only when the relative humidity is less than 70%.
- F. Apply Type 9 (BAC5814) coatings only to those materials that will not be damaged by short term exposure (up to 30 minutes) to temperatures of 950-1000°F. Alloys which are not corrosion resistant must be chrome or nickel plated for corrosion protection and to give a satisfactory surface for the lubricant coating. Some approved base materials are:
  - (1) Titanium – CP; 6Al -4V
  - (2) Nickel-based alloys – Alloys 625 and 718
  - (3) CRES (heat-treated to 170 ksi or less) – 15-5PH, 17-4PH, 17-7PH, and A286
  - (4) Low-alloy steel – Tool steel with tempering temperature greater than 1000°F, such as H-11 (220-240 ksi) and M-50; nitrided Nitralloys N and 135M; AISI 4330M and 4340 (170 ksi or less); and BMS 7-182, Type 2 (220-240 ksi)
  - (5) Platings - Chrome (electrolytic); nickel (electrolytic and electroless)

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Process Flow Chart  
Figure 1**20-50-08**



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### 6. SURFACE PRETREATMENT

#### A. BAC5811 Processes

- (1) Types 6, 7 (Class 1), 8, 10 – See Table 3.
- (2) Type 7 – Solvent clean per SOPM 20-30-03.
- (3) Apply masks to surface areas that will not get the solid film lubricant, unless overspray of the lubricant is permitted by the overhaul instructions. Be careful during and after masking to prevent contamination of surfaces to be coated.

**Table 3:** Surface Pretreatment for BAC5811 Types 6, 7 (Class 1), 8 or 10 Coatings

Substrate	Type	Surface Pretreatment <sup>*[1]</sup>
Steels (but not stainless)	<sup>*[2]</sup>	Phosphate coat (F-16.10) <sup>*[3]</sup>
Stainless steel	<sup>*[2]</sup>	Dry abrasive clean, or abrasive blast wet or dry per SOPM 20-30-03
	<sup>*[4]</sup>	Clean per BAC5751, Method 2 or BAC5751, Type 2
All aluminum alloys	<sup>*[2]</sup>	Chemical treat per MIL-C-5541 or SOPM 20-43-03 <sup>*[5]</sup> Sulfuric acid anodize (F-17.03), and seal Chromic acid anodize (F-17.04), and seal Hard anodize (F-17.17), and seal
	<sup>*[4]</sup>	Anodize per BAC5884, Type 2, Class 2, and seal
Titanium	<sup>*[2]</sup>	Abrasive blast wet or dry per SOPM 20-30-03, or phosphate-fluoride treat (F-14.881)
Copper and copper alloys	<sup>*[2]</sup>	Dry abrasive blast per SOPM 20-30-03
Chrome or nickel plate	<sup>*[2]</sup>	Abrasive blast wet or dry per SOPM 20-30-03
Cadmium plate <sup>*[6]</sup>	<sup>*[2]</sup>	Phosphate coat (F-14.14) or BAC5701, Type 3 (SOPM 20-42-05 <sup>*[3]</sup>
	<sup>*[4]</sup>	Phosphate coat (F-14.14) (Replaces BAC5810, Type 2)
Zinc or zinc plate <sup>*[6]</sup>	<sup>*[2]</sup>	Phosphate coat (F-14.14) <sup>*[3]</sup>
Cadmium-titanium plate <sup>*[6]</sup>	<sup>*[2]</sup>	Phosphate coat (F-14.14) <sup>*[3]</sup>

<sup>\*[1]</sup> Refer to SOPM 20-41-01 for explanation of F-codes.

<sup>\*[2]</sup> Types 6, 7 (Class 1), 8

<sup>\*[3]</sup> Without the chromic acid rinse

<sup>\*[4]</sup> Type 10

<sup>\*[5]</sup> Use only when not possible to apply anodizes

<sup>\*[6]</sup> Solid film lubricants on these soft surfaces have shorter wear life and load capacity.

#### B. Type 9 (BAC5814) Process

- (1) The machine finish of the surface area to be coated must be 16 microinch or smoother, unless specified by the overhaul instructions.
- (2) See Table 4 for surface pretreatment.

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**Table 4:** Surface Pretreatment for Type 9 (BAC5814) Process

Substrate	Surface Pretreatment
Chrome or nickel plate; nickel or cobalt-based alloys	1. Vapor degrease per SOPM 20-30-03
	2. Dry abrasive blast per SOPM 20-30-03 <sup>*[1]</sup>
	3. Alkaline clean per SOPM 20-30-03, Method 1. Final rinse with demineralized or distilled water (50,000 ohm-centimeters minimum resistivity) at 150-170°F
Corrosion resistant steel	1. Vapor degrease per SOPM 20-30-03
	2. Dry abrasive blast per SOPM 20-30-03 <sup>*[1]</sup>
	3. Passivate (F-17.25, which replaces F-17.09), except, for 400-series stainless steel, clean per BAC5751, Type 1 (SOPM 20-30-03, Paragraph 12.)
Titanium	1. Dry abrasive blast per SOPM 20-30-03 <sup>*[1]</sup>
	2. Clean per BAC5753, Method 2 (SOPM 20-30-03, Paragraph 13.)

<sup>\*[1]</sup> Use 220 mesh aluminum oxide abrasive. The abrasive you use for this procedure must be used only on nonrusting, high temperature metals such as those given above.

### 7. SPRAY APPLICATION

- A. Use a cup-type spray gun of 1 quart or less capacity, that can continuously shake the lubricant in the cup.
- B. Spray with the gun at a constant distance (6-8 inches) from the work, and move the gun at a constant speed to prevent runs and sags.
- C. Shake the spray gun after each pass to make sure the lubricant stays mixed.
- D. Cure the complete layer per Paragraph 11.

### 8. DIP APPLICATION

- A. This procedure can be used if a smooth layer results.
- B. Start the dip tank agitation 15 minutes before you put in the first part.
- C. Lift the tank cover only to put in or remove parts, to minimize solvent evaporation.
- D. Cure the complete layer per Paragraph 11.

### 9. DRILUBE 700 APPLICATION ON PARTS USED IN HIGH TEMPERATURE AREAS

**NOTE:** BMS 3-8 is an acceptable substitute up to 500°F.

- A. Make sure the surface has no dirt, grease or other unwanted material.
- B. Apply the lubricant to make a layer of the thickness specified in the overhaul instructions.
- C. Bake at 525-575°F for 1 hour.

### 10. EVERLUBE 811 APPLICATION ON PARTS USED IN EXTREME TEMPERATURE AND EXTREME PRESSURE AREAS (-365 to 1200°F)

- A. Make sure the surface has no dirt, grease or other unwanted material.
- B. Apply the lubricant by the spray or dip procedures or with a brush.

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C. Let the layer dry at room temperature. Then bake 2 hours at 150°F and 2 more hours at 400°F.

**11. CURING OF COATINGS**

**CAUTION:** DO NOT INSTALL TEMPERATURE INDICATORS ON LUBRICATED SURFACES.

A. As applicable, give the lubricant coating an air cure at room temperature and a bake, as specified in Figure 2. Obey the limits of Paragraph 11.B.

**Table 5:** Cured Coating Thickness Data

LUBRICANT TYPE	THICKNESS (INCH)
6 (All Classes)	0.0003-0.0005
7	0.0001-0.0005
7 Class 1	0.0002-0.0005
8	0.0002-0.0005
9	0.0005-0.0009
10	0.0003-0.0005













B. Bake Limits

- (1) Do not give aluminum alloys more than two cure cycles.
- (2) Do not give carburized steels more than three cure cycles.
- (3) Bake coatings as applicable per Figure 2 and the lubricant vendor's instructions. Start to measure the cure time when the part gets into the cure temperature range.
- (4) If parts are large but the area to be cured is small, it could be easier to locally heat the coated area with quartz or infrared lamps than to bake all of the item.

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





BASE METAL	LUBRICANT TYPE								CURE CYCLE 		NOTES 
	6-1	6-3	6-4	7	7-1	8	9	10	TEMP °F	TIME MINUTES	
STEELS											
Carburized	X		X	X		X		X	285-315 285-315 285-315 ---	60-180 120-180 90-180 ---	 
52100	X	X X	X	X		X		X	285-315 385-415 285-315 360-390 385-415 ---	60 min 60-180 120 min 60 min 90 min ---	 
440C or 440F, Rc 58 minimum	X		X	X		X		X	285-315 285-315 285-315 ---	60-180 120 min 90-180 ---	 
440C or 440F, Rc 57 minimum	X	X	X	X		X		X	285-315 385-415 360-390 385-415 ---	60 min 60-180 60 min 90 min ---	 
4000-series, 9Ni-4Co-0.20C 9Ni-4Co-0.30C 300-series CRES 400-series (but not 440C) PH CRES 21Cr-6Ni-9Mn	X	X	X	X		X		X	285-315 385-415 --- 360-390 385-415	60 min 60 min --- 60 min 60 min	 





Coating Cure Data  
Figure 2 (Sheet 1 of 2)

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## STANDARD OVERHAUL PRACTICES MANUAL

BASE METAL	LUBRICANT TYPE								CURE CYCLE 		NOTES 
	6-1	6-3	6-4	7	7-1	8	9	10	TEMP °F	TIME MINUTES	
ALUMINUM											
356-T6X 1100 2000-series (T6XXX, T8XXX) 3003 5052 6000-series (T6XXX, T8XXX)	X		X	X		X		X	285-315 285-315 --- 285-315	60-140 120-140 --- 90-140	
7000-series T7XXX	X			X		X			285-315 ---	60-90 ---	
Cadmium plate								X	385-415	60 min	
Ti, Cu, Cd Plate, Cr, Ni, Zn, Cd-Ti	X	X	X	X		X	X		385-415 285-315 --- 360-390	60 min 60 min --- 60 min	

-  Air dry before heat cure is optional.
-  Air dry at 60-100°F for 30 minutes minimum (Types 6, 8 or 10) or 24 hours minimum (Type 7), or flash cure at 225-250°F for 10-15 minutes.
-  Do not flash cure before heat cure on aluminum alloys T3XXX or T4XXX.
-  Cure cycle starts when the part temperature comes into the specified range.

Coating Cure Data  
Figure 2 (Sheet 2 of 2)

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**STANDARD OVERHAUL PRACTICES MANUAL****12. QUALITY CONTROL**

- A. When visually examined without magnification, the cured lubricant coating must be smooth and continuous with no sign of unwanted material such as grit, rough particles, or other contamination. Application defects such as runs, dimples, cracks, or blisters are not acceptable. A slightly rough surface is acceptable if the roughness is caused by lubricant solids that become collected into groups that make a continuous layer.
- B. The cured lubricant layer can be examined for fluid resistance as follows:
- (1) BAC5811, Type 6 (all classes)
    - (a) Rub an area of the layer for one minute with a wiper wet with methyl ethyl ketone. The cured layer is acceptable if there is no more than a trace of fine, powdery material on the wiper, and there is no bare surface in the rubbed area.
    - (b) Put the part in standard hydrocarbon test fluid TT-S-735 for one hour. Then do the dry tape test for adhesion per BSS 7225. Coating must not go to the adhesive tape. Fine, powdery material is acceptable, but there must be no particles larger than one square millimeter or more than two particles per square centimeter of tape. The test must not make the surface bare.
  - (2) BAC5811, Type 7 – These lubricants have no fluid resistance requirements. The test is not necessary.
  - (3) BAC5811, Type 8:
    - (a) Rub the cured layer with methyl ethyl ketone per step (1)(a) above. The visual requirements are the same. Also, with 15-power magnification, there must be no cracks, blisters, or separation when compared to the surface that did not get the test.
    - (b) If a more complete test is necessary, do the 24-hour half-immersion-and-scratch test per BAC5811.
  - (4) BAC5811, Type 9 (Ref BAC5814) – The test for fluid resistance uses test panels and includes wear life and friction coefficient tests. Refer to BAC5814 for details.
  - (5) BAC5811, Type 10
    - (a) Rub the cured layer with a clean cotton swab soaked in water, with fingertip pressure for 7-10 strokes. One complete stroke is movement away from and then back to where you started.
    - (b) Hang the parts in very cold air, -85 to -115°F, for 2.5-3.5 hours.
    - (c) Remove the parts and let them warm back to room temperature. Then examine them for cracks or flakes.
    - (d) Put the parts in distilled water for 23-25 hours.
    - (e) Remove the parts from the water. Wipe them dry with a soft cloth.
    - (f) Make two parallel scratches in the coating, 1 inch apart, with a sharp stylus. Then do a tape test per BSS7225. Ignore the lubricant coating particles made by the stylus.
- C. The cured lubricant layer can be examined for correct bond as follows:
- (1) BAC5811 Types 6, 7, 8 – Do the dry tape test for adhesion per BSS7225. The coating must not go to the adhesive tape. Fine, powdery material is acceptable, but there must be no particles larger than 1 square millimeter or more than two particles per square centimeter of tape. The test must not make the surface bare.
  - (2) BAC5811, Type 9 (Ref BAC5814):

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## STANDARD OVERHAUL PRACTICES MANUAL

- (a) Rub the lubricant layer firmly with a dry paper towel to remove all loose particles. This must not make the surface bare or rub off large amounts of lubricant.
- (b) Rub the lubricant layer firmly with a paper towel wet with ethyl alcohol until the material removed is reduced to only trace quantities.
- (c) Let the surface dry by evaporation at the air temperature or in an oven no warmer than 160°F.
- (d) The cured lubricant layer must stay serviceable without bare metal or other change in appearance, except burnishing. A small amount of coating could come off on the towel during the first rubs, but this must decrease to only a trace as the test continues. Reject the layer if this amount of removed lubricant increases as the test continues.

### 13. REWORK OF COATINGS

- A. Defective dry lubricant layers can be repaired only by removal and application of new coating.
- B. If the layer is not cured, remove it with a wiper wet with the thinner recommended by the vendor.
- C. Remove cured BAC5811, Type 6, 7, 8 or 10 layers with chemical strippers per SOPM 20-30-02 or by abrasive blast per SOPM 20-30-03 if this will not damage the part.
- D. Remove cured BAC5811, Type 9 (Ref BAC5814) layers by dry abrasive blast with 220-mesh aluminum oxide per SOPM 20-30-03. Make sure the abrasive is used only on the metals shown in Table 4.
- E. Dry and examine to make sure all of the lubricant is removed.
- F. Prepare the surface again per Paragraph 6.
- G. Apply the lubricant layer again, as necessary.
- H. Do not apply more layers of lubricant on cured films to build up lubricant thickness or to try to repair defects.
- I. If the applied lubricant layer is too thick to agree with the overhaul instructions, do not decrease the thickness by burnishing or other mechanical means unless permitted by overhaul instructions. When the thickness is too thick, remove the lubricant from the parts and apply a layer of the correct thickness.

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