

POLISHING OF MIRROR - FINISHED ALUMINUM SHEET SKIN - CLEANING/PAINTING

EFFECTIVITY: ALL

1. General

- A. This section gives the cleaning and polishing procedures for mirror-finished aluminum-sheet skin.
- B. It also gives the repair procedures to get back the surface brightness of mirror-finished aluminum-sheet skin.
- C. The procedures in this section are given in the sequence below. The tasks identified with (◆) are part of the Scheduled Maintenance Requirements Document (SMRD).

TASK NUMBER	DESCRIPTION	EFFECTIVITY
51-21-01-100-801-A	MIRROR-FINISHED ALUMINUM-SHEET SKIN - POLISHING	ALL

TASK 51-21-01-100-801-A

EFFECTIVITY: ALL

2. MIRROR-FINISHED ALUMINUM-SHEET SKIN - POLISHING

A. General

- (1) The polishing process includes mechanical and manual polishing. We recommend that you use the full process only when the surface is fully mat, when it was repaired by one of the methods given in SUBTASK 51-21-01-110-001-A00, or when it has damage which you can repair with the polishing process. If only a cleaning action is necessary to get the original appearance back, it is sufficient to use the manual polishing process, which, if necessary, you can use on all the skin surface of the aircraft.
- (2) Obey the instructions below to clean, repair, and polish the mirror-finished aluminum-sheet skin.

B. References

REFERENCE	DESIGNATION
AMM TASK 12-22-00-600-801-A/300	LIGHT DIRT - SERVICING

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
KARTIDG PAK Model 321-1 Air- craft	Polisher/Buffer (600 rpm) or equivalent	To polish aluminum clad skins	
Commercially available	Plastic or aluminum spatula	To clean aluminum clad skin	
Commercially available	Workstand	To get access to the aircraft surface	

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Soft lint-free cloth (100% cotton, inter- woven pattern flannel)	To clean aluminum clad skin	

F. Consumable Materials

SPECIFICATION (BRAND)	DESCRIPTION	QTY
ASTM D-740	Methyl ethyl ketone (MEK)	AR
	Polyethylene film	AR
	Polyethylene adhesive tape	AR
	Castrol Rustilo DWRL 301 Dehumidifying oil or equivalent	AR
	Aluminum oxide abrasive cloth No. 300, 400, 500 and 600	AR

(Continued)

SPECIFICATION (BRAND)	DESCRIPTION	QTY
	Turco Form First Cut Compound or NUSHINE II - G6 or Schaffner First Cut Compound AS 03853	AR
	Turco Form Finish Cut Compound (for manual or mechanical polishing) or NUSHINE II -S or Van Dusen Met-all-1187 (only for manual polishing)	AR

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Outside the aircraft
1	Helps the other technician	Outside the aircraft

I. Preparation

SUBTASK 841-002-A

- (1) Put the work stand in position and get access to the aircraft.
- (2) Wash the surface to be polished.
- (3) Hand rub the surface with flannel soaked in MEK and, then, apply other clean flannel before the MEK is dry.
- (4) With polyethylene film and adhesive tape, mask off those areas where it is not necessary to polish.

J. Repair of Mirror - Finished Aluminum Sheet (Figure 701)

SUBTASK 110-002-A

- WARNING:** • **BE CAREFUL WHEN USING SOLVENTS BECAUSE THEY ARE A HEALTH AND FIRE HAZARD. USE SAFETY GOGGLES AND PROTECTIVE CLOTHING WHEN HANDLING THEM. DO NOT BREATHE THEIR GASES AND WORK IN A WELL VENTILATED AREA.**
- **MAKE SURE THAT THE DAMAGE DOES NOT GO THROUGH THE SHEET PROTECTIVE LAYER (CLAD). USE THE CHEMICAL SPOT TEST FOR CLAD LAYER INSPECTION (REFER TO NDI - INTRODUCTION). IF THE DAMAGE GOES THROUGH THE SHEET PROTECTIVE LAYER, CONSULT EMBRAER TECHNICAL SUPPORT DEPARTMENT.**
 - **CLEANING PRODUCTS ARE TOXIC AND FLAMMABLE. A GOOD FLOW OF AIR MUST BE AVAILABLE WHEN THE WORK IS DONE IN A CLOSED AREAS.**

CAUTION: • DO NOT PERMIT CLEANING PRODUCTS (SOLVENTS) TO TOUCH PAINT-FINISHED SURFACES, PLASTICS OR SEALANT FILLETS, TO PREVENT DAMAGE TO THEM.

- DO NOT PUT THE REMAINING CLEANING MATERIAL BACK INTO THE ORIGINAL CONTAINERS TO PREVENT CONTAMINATION.
- DO NOT POUR CLEANING PRODUCT DIRECTLY ON THE SURFACE TO BE CLEANED.
- DO NOT PERMIT THE CLEANING PRODUCT TO EVAPORATE BEFORE IT IS DRIED WITH THE LINT-FREE CLOTH.
- DO NOT WEAR CLOTHES WITH ZIP FASTENERS, NOR USE METAL OBJECTS (SUCH AS WATCHES, BRACELETS, AND RINGS) OR METAL TOOLS WHEN YOU CLEAN THE SURFACE.
- DURING THE CLEANING, DO NOT USE ABRASIVE MATERIALS (SCOTCH BRITE SPONGE, SAND PAPER, POLISHING WAX, ACIDS OR ALKALIS) BECAUSE THEY WILL REMOVE THE ANTISTATIC FILM FROM THE OUTER SURFACE.

- (1) To repair the surface damage, smooth out defects to make them very small. Then, two repair methods are given. Initially, apply method 1. If it is not possible to remove the damage, it is a major damage and method 2 must be used.

(a) Method 1 (Minor damage):

- 1 Remove burrs and excess along the damage with the spatula in the damage direction.

NOTE: Use a brush to apply Rustilo oil to the damage to prevent vibration of the spatula.

(b) Method 2 (Major damage):

- 1 Sand the surface with a fine aluminum oxide abrasive cloth (grit No. 400 or finer), or use aluminum wool until all the damage is removed.

NOTE: • The area to be sanded must be as small as possible.

- Install abrasive cloth on a rubber support.
- Do not use steel wool to sand the surface.

K. Polishing of Mirror - Finished Aluminum Sheet (Figure 702)

SUBTASK 110-003-A

CAUTION: DO NOT DO THE COMPLETE POLISHING PROCESS TOO FREQUENTLY NOT TO DECREASE THE THICKNESS OF THE SURFACE PROTECTIVE LAYER (CLADDING) TOO MUCH.

(1) Mechanical Polishing Procedure:

- (a) Use a brush to apply first cut compound to the surface of the sheet to be polished.

NOTE: To make the brush application and buff sliding easier, use a clean cloth to dilute the cut compound.

- (b) Move the polisher in crossed directions vertically to the rotation of the buffs. Try to cover all the sheet surface with a fore-to-aft movement. Complete the polishing in the direction of the length.

NOTE: Apply a light to moderate pressure and move the machine continuously to prevent overheat.

- (c) Continue to add first cut compound until the finish is uniform.
- (d) Remove polishing residues with a clean cloth.

NOTE: After the polishing procedure (mechanical, manual or both), wash the polished area. Refer to [AMM TASK 12-22-00-600-801-A/300](#).

(2) Manual Polishing Procedure:

NOTE: You can use the mechanical polishing procedure with finish cut compound, and not with the first cut compound, as an alternative to this procedure.

- (a) Apply finish cut compound to the surface of the sheet to be polished to form a fine and even layer.
- (b) Polish with a flannel. Use round movements.

NOTE: • Apply a light to moderate pressure to the flannel.
• Replace the flannel when it has too many polishing residues.

- (c) Continue to add the polishing paste until the finish is uniform.
- (d) Remove the polishing residues with a clean cloth.
- (e) Remove masking (if used) from the area adjacent to the polished surface.
- (f) Remove the masking residues with a clean cloth soaked in MEK.
- (g) Use a clean and dry cloth to remove MEK.

NOTE: Continue the process until a uniform polishing is obtained. Complete the polishing in the direction of the length.

L. Follow-on

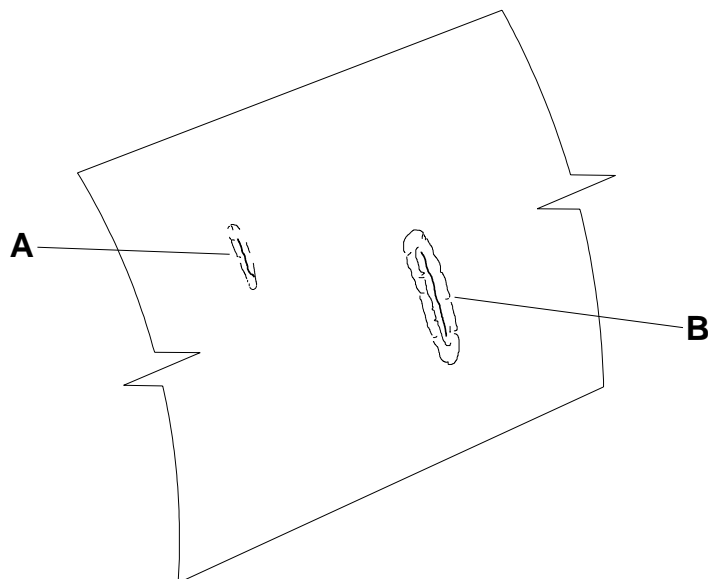
SUBTASK 842-002-A

- (1) Remove the workstand from the work area.
- (2) Remove the adhesive tape and polyethylene film from those masked-off areas.

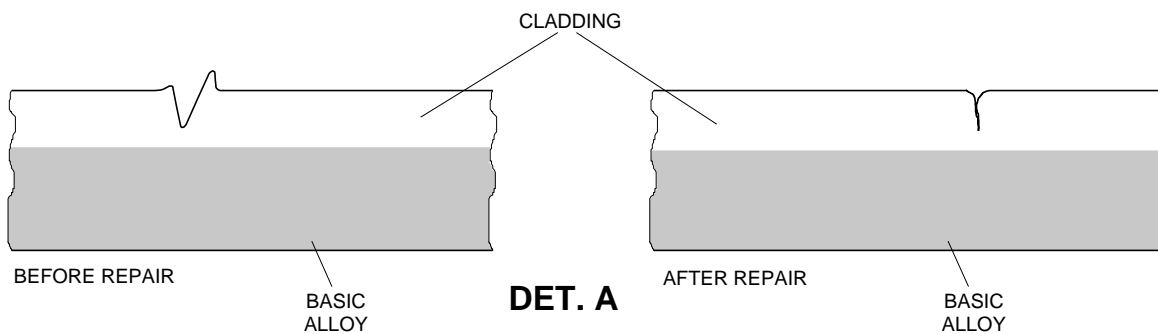
EFFECTIVITY: ALL

Repair of Mirror-Finished Aluminum Sheet

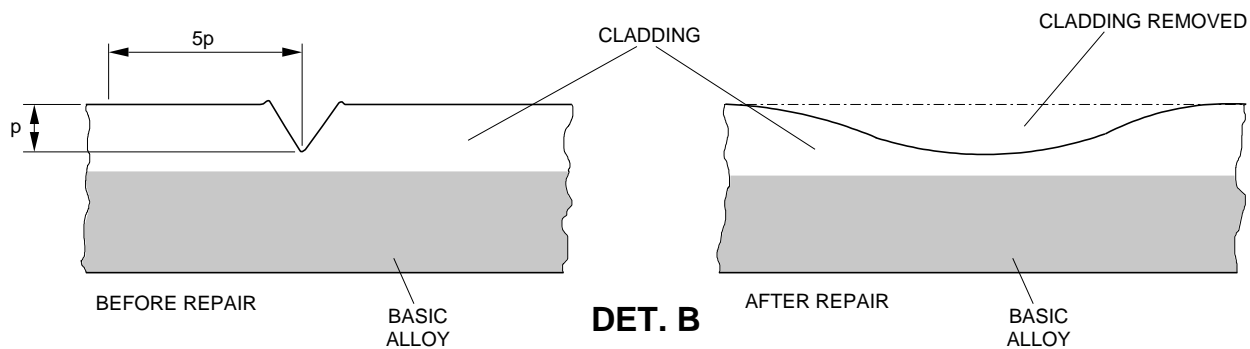
Figure 701



METHOD 1



METHOD 2

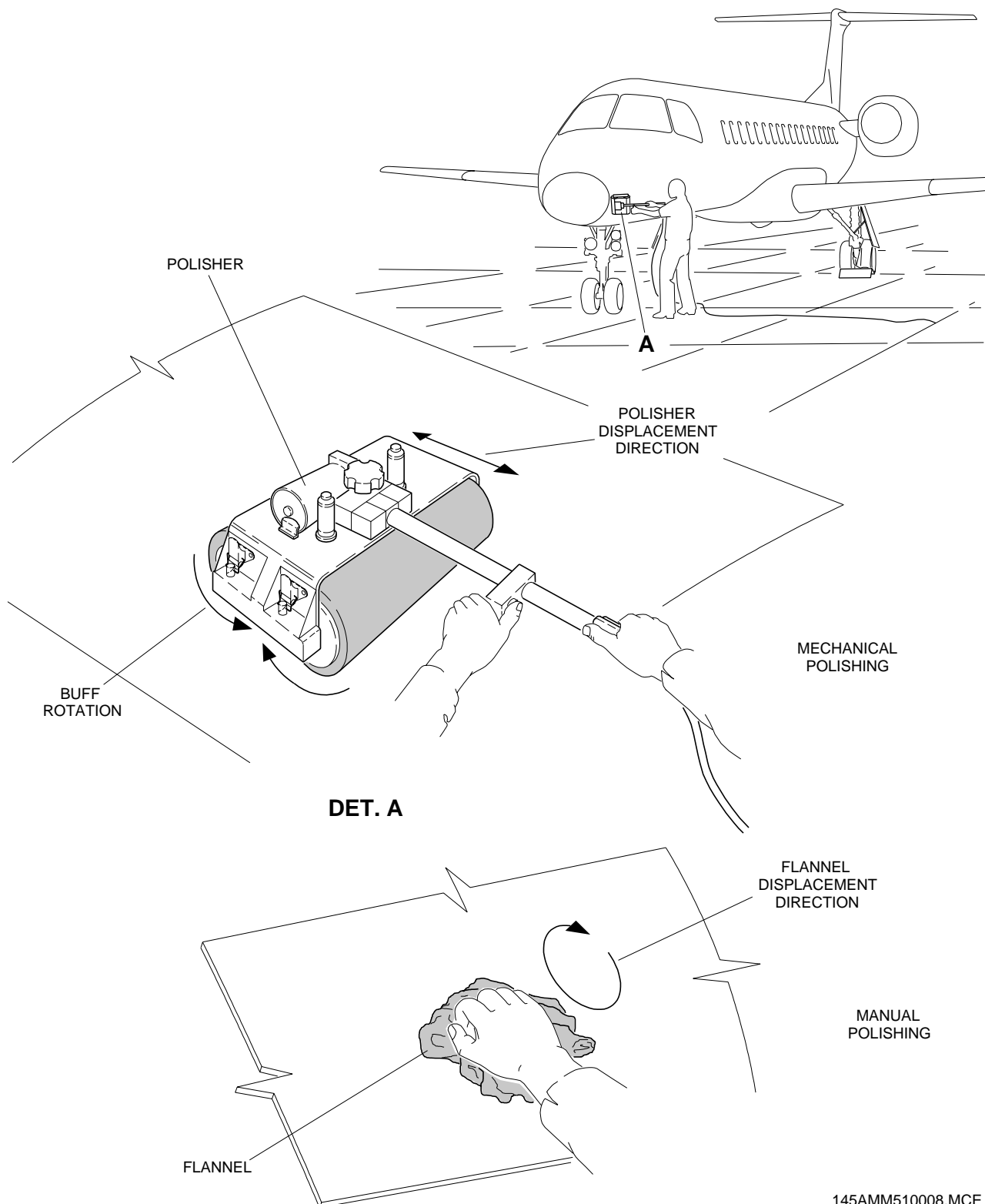


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EFFECTIVITY: ALL

Polishing of Mirror-Finished Aluminum Sheet

Figure 702



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