RUBBER SEALS - REPAIR

EFFECTIVITY: ALL

1. General

   A. This section gives the procedures for repair of the thrust-reverser rubber seals.

   B. 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*
78-31-04-300-801-A	RUBBER SEALS - REPAIR	ALL

TASK 78-31-04-300-801-A
EFFECTIVITY: ALL

2. RUBBER SEALS - REPAIR

A. General

(1) The instructions given in these procedures are applicable to the LH and RH thrust reversers.

(2) This task gives the procedures to make a sealing repair or a patch repair. You can choose one of them to repair the rubber seal, but must obey the repair limitations.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 78-31-04/400	- REMOVAL/INSTALLATION
AMM TASK 78-31-01-940-801-A/200	THRUST REVERSER - OPENING PROCEDURE
AMM TASK 78-31-01-940-802-A/200	THRUST REVERSER - CLOSURE PROCEDURE

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
416	LH Thrust Reverser	Engine Nacelle
426	RH Thrust Reverser	Engine Nacelle

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially available	Workstand	To get access to the engine nacelle	

E. Auxiliary Items

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially available	Scotch Brite sponge	To sand mating surfaces	AR
Commercially available	Plastic Spatula	To remove excess adhesive	AR

F. Consumable Materials

SPECIFICATION (BRAND)	*DESCRIPTION*	*QTY*
ASTM-D-740	Solvent (Methyl Ethyl Ketone)	AR
MEP 09-045 or equivalent	Silicone adhesive (RTV 157)	AR

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	Does the task	Thrust reverser

I. Preparation

SUBTASK 841-002-A

(1) Put the workstand under the engine thrust reverser.

(2) Open the thrust-reverser doors (AMM TASK 78-31-01-940-801-A/200).

(3) On the circuit breaker panel, open these circuit breakers and attach a DO-NOT-CLOSE tag to them:

- THRUST REVERSER 1/2.
- HYD. ELEC. PUMP 1/2.

(4) Put a DO-NOT-OPERATE-THE-THRUST-REVERSERS sign on the instrument panel, in the cockpit.

J. Sealing Repair (Figure 801)

SUBTASK 350-002-A

(1) Do an inspection of the rubber seal and measure the damage.

(2) If the damage exceeds the limits that follow, make the patch repair (SUBTASK 350-003-A) or replace the seal (AMM MPP 78-31-04/400).

(a) The maximum permitted cut length is 30mm (1.180 in).

(b) The maximum permitted cut width is 3 mm (0.118 in).

(c) Minimum permitted separation between damaged spots is 50 mm (2.0 in).

(d) The maximum permitted quantity of damaged spots is 5 (five).

(3) If the damage is in the limits, make the sealing repair that follows:

WARNING: USE SEALANT OR SOLVENT IN WELL VENTILATED AREAS. PREVENT VAPOR INHALATION AND LONG SKIN CONTACT WITH THESE PRODUCTS.

(a) Clean all mating surfaces of the damage with solvent.

NOTE: Carefully compress the seal to get access to the damage internal surfaces and clean them.

(b) Compress the rubber to get full access to the damage.

WARNING: USE SEALANT OR SOLVENT IN WELL VENTILATED AREAS. PREVENT VAPOR INHALATION AND LONG SKIN CONTACT WITH THESE PRODUCTS.

(c) Fill the damage void with silicone adhesive.

(d) With a plastic spatula, remove excess silicone adhesive.

(e) Wait the silicone to cure for 6 hours (minimum).

(4) Make sure that there are no cracks in the repaired area.

K. Patch Repair (Figure 802)

SUBTASK 350-003-A

(1) Cut and remove a section of the damaged seal. The section must be a minimum of 40 mm (1.57 in) long.

WARNING: USE SEALANT OR SOLVENT IN WELL VENTILATED AREAS. PREVENT VAPOR INHALATION AND LONG SKIN CONTACT WITH THESE PRODUCTS.

(2) Use solvent to remove all silicone adhesive from the seal support.

(3) Cut a section of a new seal equal to the section removed in step (1).

(4) Cut two 40 mm (1.57 in) long sleeves from the new seal.

NOTE: The repair section (step 3) must be cut from a new seal; other lengths must be cut from the new seal in the same region for you to make sleeves A and B (step 4). These sleeves are then cut along their length and tightened for them to have a smaller diameter than the seal. Thus, they can be put into the seal repair section. But, before the installation of the sleeves, they must have the excess material removed.

(5) With a Scotch Brite sponge, lightly roughen the two mating surfaces of the repair section and of each end (A) and (B) of the cut seal (inner and outer surfaces).

WARNING: USE SEALANT OR SOLVENT IN WELL VENTILATED AREAS. PREVENT VAPOR INHALATION AND LONG SKIN CONTACT WITH THESE PRODUCTS.

(6) Clean all mating surfaces of the repair section with solvent.

(7) Install the first sleeve into the repair section; apply silicone adhesive to one half of the sleeve to a thickness of 1 mm (0.04 in). The sleeve must be halfway out of the repair section. To make sure that there is a good sealing, apply pressure to the seal until the silicone adheres.

(8) Do step (7) again for the second sleeve.

(9) Remove all unwanted silicone.

(10) Let the sealant cure for one hour at 20°C.

(11) Install the repair section as follows: apply silicone adhesive to each half of the sleeves and to the two lips of the seal support. Make sure that the holes in the repair section point to the inside of the thrust reverser before you engage each sleeve inside ends (A) and (B).

(12) Apply a layer of silicone adhesive to the two sides of the seal and fillet the joint.

(13) Remove all unwanted silicone adhesive and let it set for as much time as possible (a minimum of 6 hours).

(14) After setting, compress the section and make sure that there is no crack in the adhesive bead.

L. Follow-on

SUBTASK 842-002-A

(1) On the circuit breaker panel, close these circuit breakers and remove the DO-NOT-CLOSE tag from them:

- THRUST REVERSER 1/2.
- HYD. ELEC. PUMP 1/2.

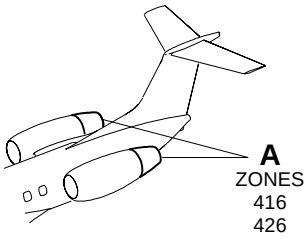
(2) Remove the DO-NOT-OPERATE-THE-THRUST-REVERSERS sign from the instrument panel, in the cockpit.

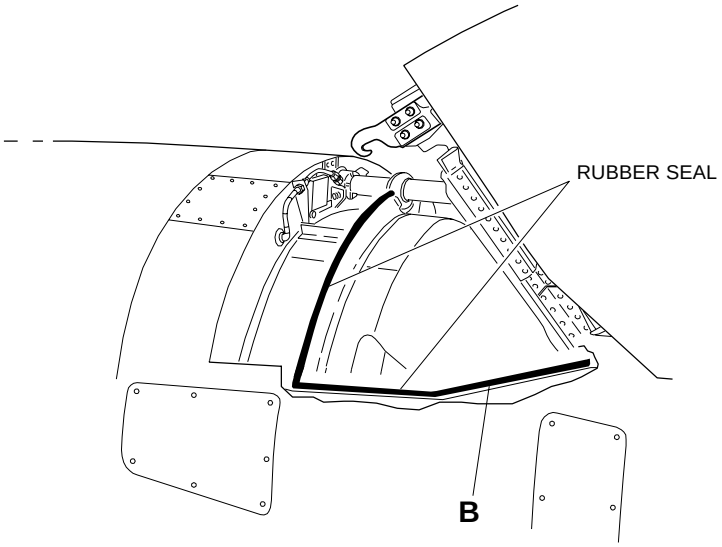
(3) Close the thrust-reverser doors (AMM TASK 78-31-01-940-802-A/200).

(4) Remove the workstand from the work area.

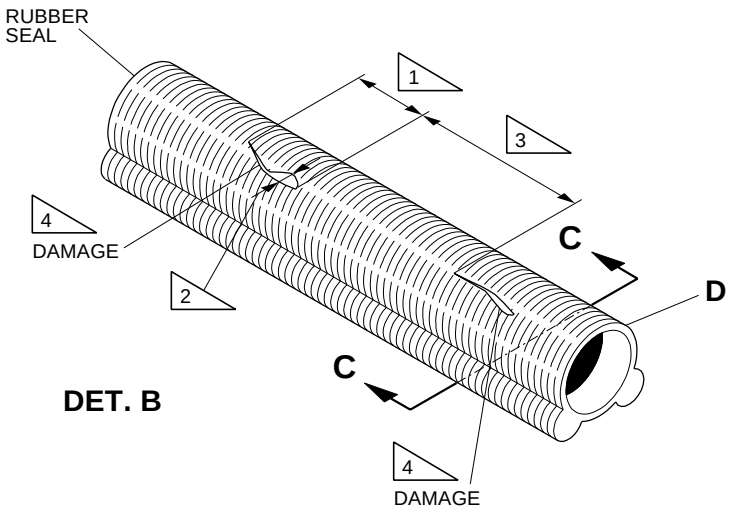
EFFECTIVITY: ALL

Thrust-Reverser Rubber Seal - Sealing Repair
Figure 801 - Sheet 1





DET. A



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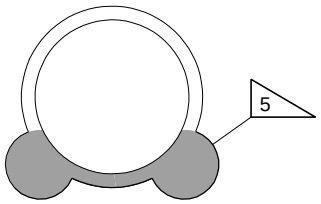

C–C

1. MAXIMUM DAMAGE LENGHT IS 30 mm (1.180 in).
2. MAXIMUM DAMAGE WIDTH IS 3 mm (0.118 in).
3. MINIMUM SEPARATION BETWEEN DAMAGE IS 50 mm (2.0 in).
4. THE MAXIMUM QUANTITY OF DAMAGE SPOTS IS 5.
5. DO THE PATCH REPAIR IF DAMAGE OCCURS IN THE HIGHLIGHTED AREA.

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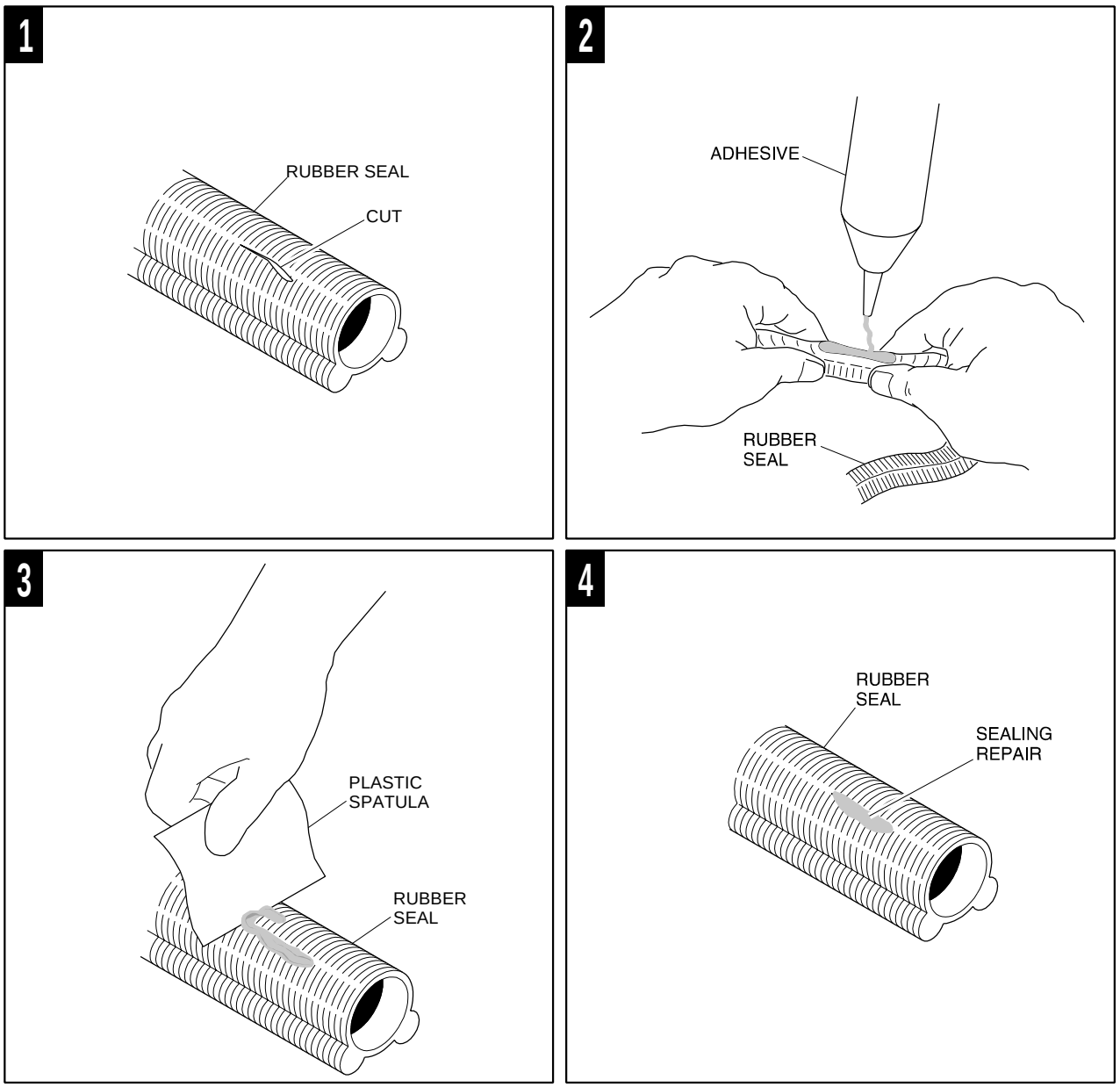
EFFECTIVITY: ALL

Thrust-Reverser Rubber Seal - Sealing Repair
Figure 801 - Sheet 2



DET. D

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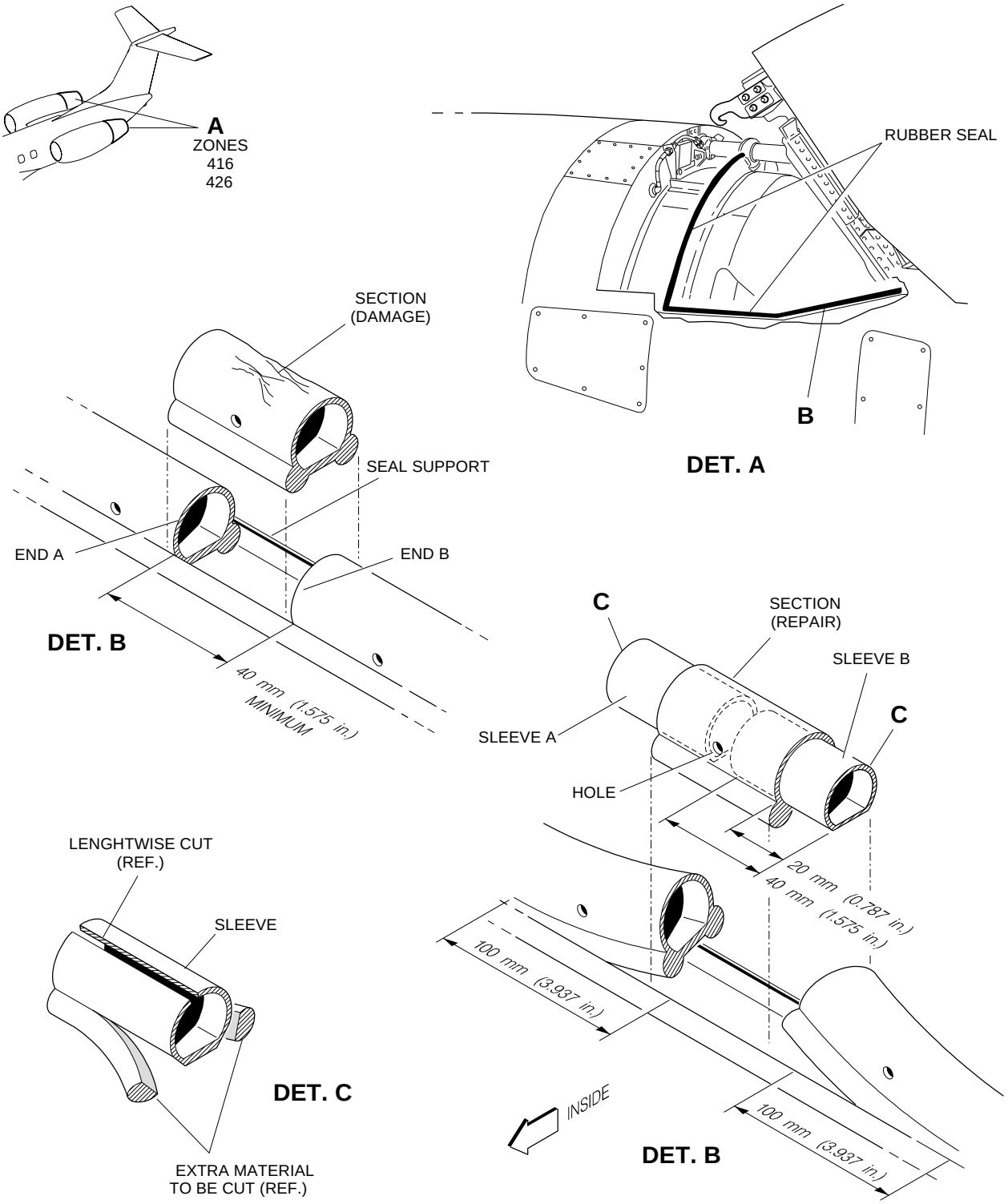
EFFECTIVITY: ALL

Thrust-Reverser Rubber Seal - Patch Repair
Figure 802



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