BRAKE ASSEMBLY - INSPECTION/CHECK

EFFECTIVITY: ALL

1. General

   A. This section gives the procedure to do an inspection on the brake assembly for general conditions.

   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*
32-49-03-200-801-A ♦	BRAKE ASSEMBLY - INSPECTION	ALL
32-49-03-200-803-A	BRAKE ASSEMBLY - DETAILED INSPECTION	ALL

TASK 32-49-03-200-801-A
EFFECTIVITY: ALL

2. BRAKE ASSEMBLY - INSPECTION

A. General

(1) This procedure is applicable to all four brake assemblies.

B. References

REFERENCE	*DESIGNATION*
AMM TASK 10-10-01-500-801-A/200	AIRCRAFT NORMAL PARKING
AMM TASK 32-00-01-910-801-A/200	LG SAFETY PIN - INSTALLATION AND REMOVAL
AMM TASK 32-00-02-910-801-A/200	SAFETY PIN OF THE NLG DOORS SOLENOID VALVE - INSTALLATION AND REMOVAL
AMM TASK 32-49-03-000-801-A/400	BRAKE ASSEMBLY OF THE MAIN LANDING GEAR - REMOVAL
AMM TASK 32-49-03-200-803-A/600	BRAKE ASSEMBLY - DETAILED INSPECTION
AMM TASK 32-49-03-400-801-A/400	BRAKE ASSEMBLY OF THE MAIN LANDING GEAR - INSTALLATION
SB 145-32-0036	-

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	Does the task	RH and LH MLG

I. Preparation

SUBTASK 841-002-A

(1) Put chocks against the landing gear wheels (AMM TASK 10-10-01-500-801-A/200).

(2) Make sure that the emergency/parking brake handle is released (brakes off).

NOTE: To prevent hydraulic fluid transference from system 1 to system 2 or vice versa, first apply brakes with the pedals and then pull or release the emergency/parking brake handle.

(3) For aircraft PRE-MOD SB 145-32-0036, make sure that the pressure in hydraulic system No. 1 is fully released AMM TASK 32-00-01-910-801-A/200.

(4) For aircraft POST-MOD SB 145-32-0036, install safety pin of the NLG doors solenoid valve AMM TASK 32-00-02-910-801-A/200.

(5) Make sure that the landing-gear safety pins are installed AMM TASK 32-00-01-910-801-A/200.

J. Visual Inspection of the Brake Assembly for General Conditions

SUBTASK 212-002-A

(1) For aircraft with brake assembly that have two bleeder valves do as follows:

(a) Examine the brake assembly for external leakage through the bleeder valves (1) and bleeder plugs (2). Refer to Figure 601.

(2) For aircraft with brake assembly that have four bleeder valves do as follows:

(a) Examine the brake assembly for external leakage through the bleeder valves (1). Refer to Figure 602.

(3) Examine the brake assembly for external leakage through the pistons (2). Refer to Figure 603.

(4) Examine the piston housing (3) for visual cracks. Refer to Figure 603.

(5) Visually examine each brake shuttle valve assembly (4) for hydraulic fluid leakage or cracks. Refer to Figure 603.

(6) Examine the lock pin (1) that attaches the brake assembly to the leg of the main landing gear for general condition. Refer to Figure 603.

(7) Operate the emergency/parking brake handle and do a visual check to make sure that all the pistons (2) of the brake assembly operate correctly. Refer to Figure 603.

(8) If one or more of the piston(s) (2) do(es) not come out from the piston housing (3), replace the brake assembly (AMM TASK 32-49-03-000-801-A/400) and (AMM TASK 32-49-03-400-801-A/400). Refer to Figure 603.

(9) If the wheel is removed, visually inspect:

NOTE: Make sure that the emergency/parking brake handle is released (brakes off).

(a) The stator, rotor assemblies, pressure plate and end plate for cracks and oxidized surface. Refer to Figure 604 and Figure 605 - sheet 1.

(b) The drive slots for damage. Refer to Figure 605 - sheet 1.

(c) The end plate for damage. Refer to Figure 604.

NOTE: Broken away or chipped material in the end plate edge is permitted. Refer to Figure 604.

(d) The torque button, insulator, tie bolts, nuts, and washers for general conditions.

K. Detailed Inspection of the Brake Wear Indicator (Figure 603)

SUBTASK 220-002-A

(1) Make sure that the emergency/parking brake handle is set and do a visual check to make sure that all the pistons (2) of the brake assembly are operated.

NOTE: Do the check of the brake wear-indicator positions with the brake applied (brakes on).

(2) Examine the brake wear indicators (6) for visual cracks.

NOTE: If the wear pin is missing, do the AMM TASK 32-49-03-200-803-A/600 to inspect if the pressure plate is oxidized.

(3) Examine the brake wear-indicator length. When the indicator rod is flat with the hexagonal insert, the brakes are fully worn and must be replaced (AMM TASK 32-49-03-000-801-A/400) and (AMM TASK 32-49-03-400-801-A/400).

(4) If the brake wear indicators (6) do not come out from the wear indicator sleeve (5), replace the related brake assembly (AMM TASK 32-49-03-000-801-A/400) and (AMM TASK 32-49-03-400-801-A/400).

NOTE: The brake is fully worn when the end of a wear indicator pin (6) is flush with a wear indicator sleeve (5).

L. Follow on

SUBTASK 842-002-A

(1) Make sure that the emergency/parking brake handle is set (brakes on).

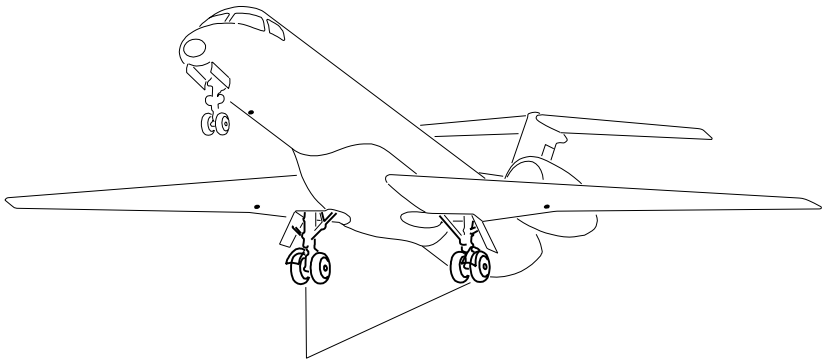
(2) Remove the chocks from the landing gears wheels.

(3) For aircraft POST-MOD SB 145-32-0036, remove the safety pin from the NLG doors solenoid valve AMM TASK 32-00-02-910-801-A/200.

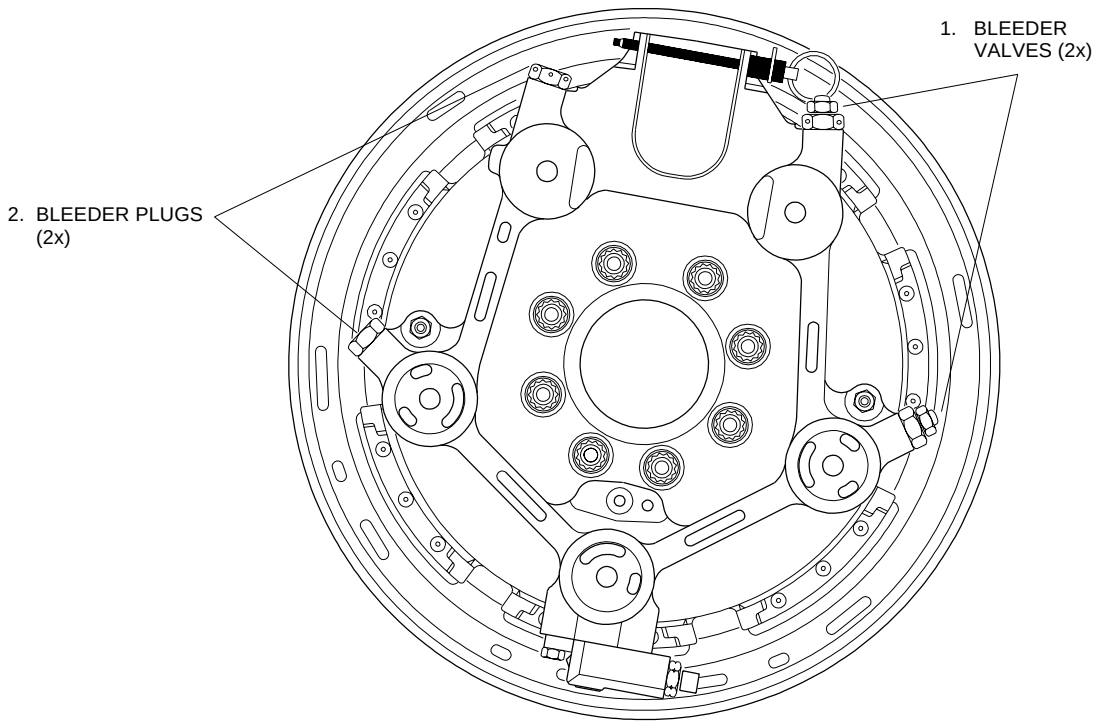
EFFECTIVITY: FOR AIRCRAFT WITH BRAKE ASSEMBLY THAT HAVE TWO BLEEDER VALVES

Brake Assembly - Inspection

Figure 601



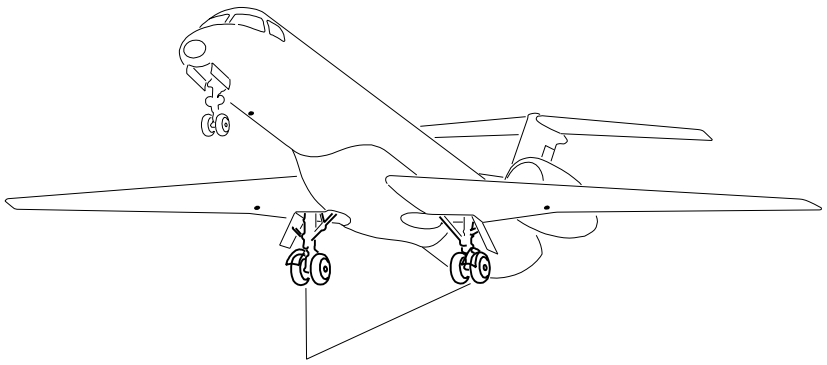
A
ZONE
721
731



DET. A

EM145AMM320663A.DGN

EFFECTIVITY: FOR AIRCRAFT WITH BRAKE ASSEMBLY THAT HAVE FOUR BLEEDER VALVES
Brake Assembly - Inspection
Figure 602



A
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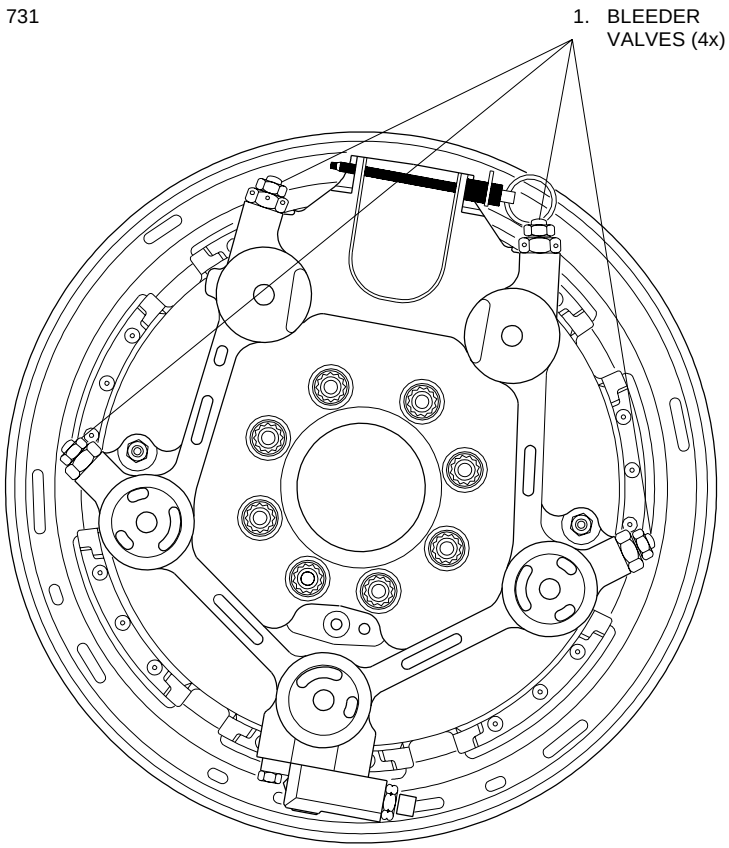
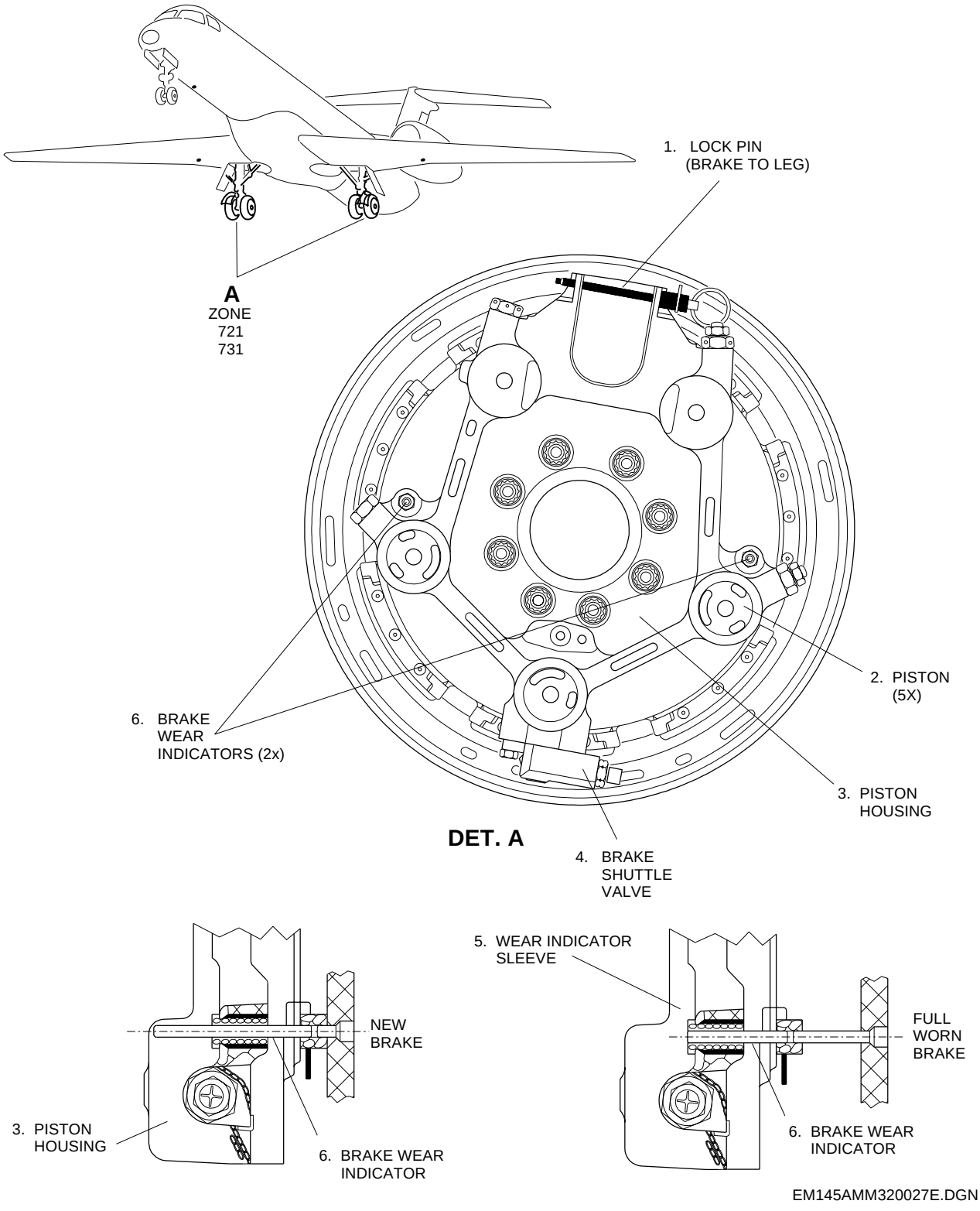


DET. A

EM145AMM320666A.DGN

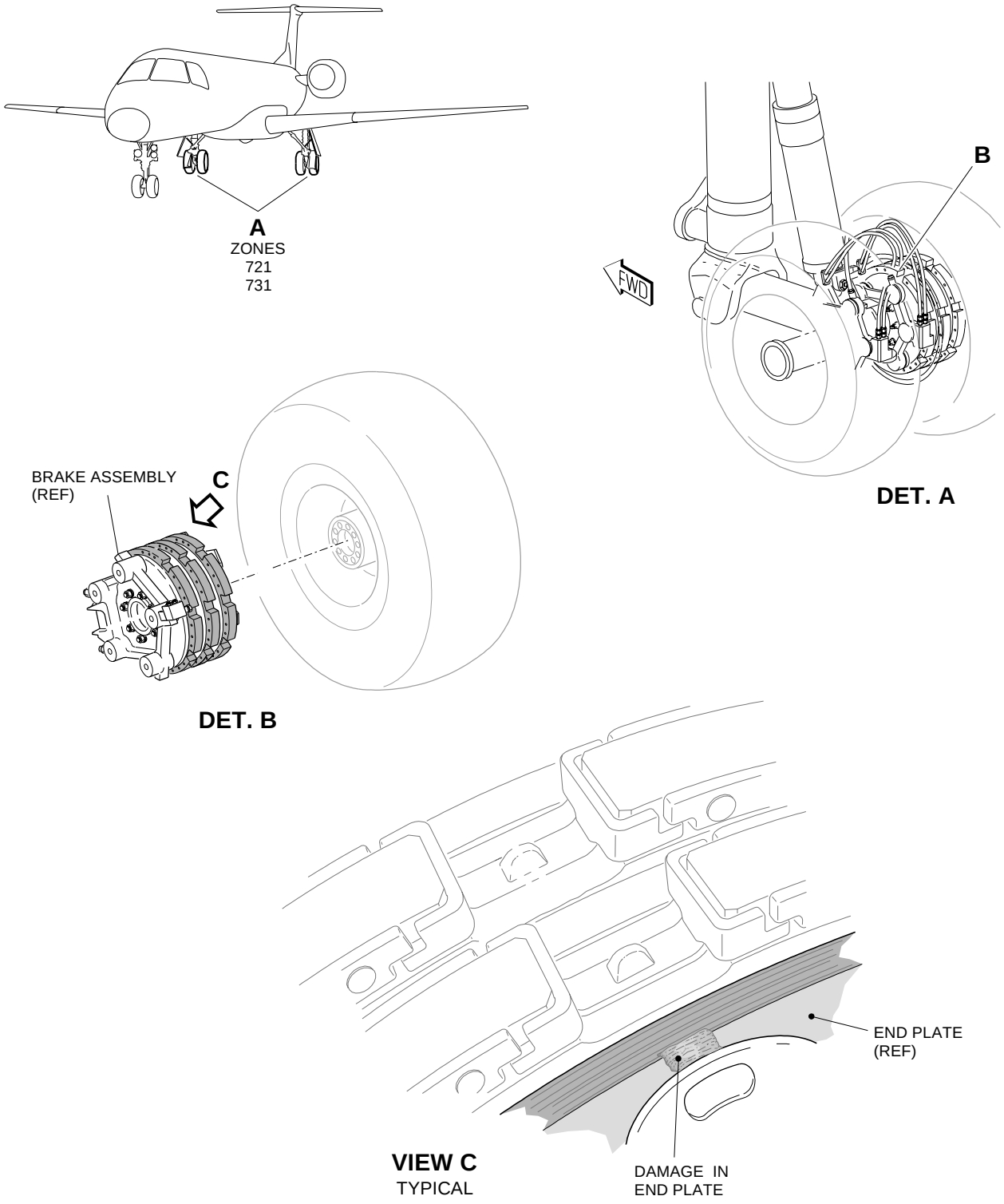
EFFECTIVITY: ALL

Brake Assembly - Inspection
Figure 603



EFFECTIVITY: ALL

Brake Assembly - Inspection
Figure 604



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TASK 32-49-03-200-803-A
EFFECTIVITY: ALL

3. BRAKE ASSEMBLY - DETAILED INSPECTION

A. General

(1) This task gives the procedure to do a detailed inspection of all four brake assemblies.

B. References

REFERENCE	*DESIGNATION*
AMM TASK 10-10-01-500-801-A/200	AIRCRAFT NORMAL PARKING
AMM TASK 32-00-01-910-801-A/200	LG SAFETY PIN - INSTALLATION AND REMOVAL
AMM TASK 32-00-02-910-801-A/200	SAFETY PIN OF THE NLG DOORS SOLENOID VALVE - INSTALLATION AND REMOVAL
AMM TASK 32-49-03-000-801-A/400	BRAKE ASSEMBLY OF THE MAIN LANDING GEAR - REMOVAL
AMM TASK 32-49-03-400-801-A/400	BRAKE ASSEMBLY OF THE MAIN LANDING GEAR - INSTALLATION
SB 145-32-0036	-

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially Available	Sharp Plastic Pick	To do a check for oxidation on the carbon disks	

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	Does the task	RH and LH MLGs

I. Preparation

SUBTASK 841-004-A

(1) Put chocks (GSE 012) against the main landing gear wheels. Refer to AMM TASK 10-10-01-500-801-A/200.

(2) Make sure that the emergency/parking brake handle is released (brakes off).

NOTE: To prevent hydraulic fluid transference from system 1 to system 2 or vice versa, first apply brakes with the pedals and then pull or release the emergency/parking brake handle.

(3) For aircraft PRE-MOD SB 145-32-0036, make sure that the pressure in hydraulic system No. 1 is fully released. Refer to AMM TASK 32-00-01-910-801-A/200.

(4) For aircraft POST-MOD SB 145-32-0036, install the safety pin of the NLG-doors solenoid valve. Refer to AMM TASK 32-00-02-910-801-A/200.

(5) Make sure that the landing-gear safety pins are installed. Refer to AMM TASK 32-00-01-910-801-A/200.

J. Detailed Inspection of the Brake Assembly

SUBTASK 220-003-A

(1) For aircraft with brake assembly that have two bleeder valves do as follows:

(a) Examine the brake assembly for external leakage through the bleeder valves (1) and bleeder plugs (2). Refer to Figure 601.

(2) For aircraft with brake assembly that have four bleeder valves do as follows:

(a) Examine the brake assembly for external leakage through the bleeder valves (1). Refer to Figure 602.

(3) Examine the brake assembly for external leakage through the pistons (2). Refer to Figure 603.

(4) Examine the piston housing (3) for visual cracks. Refer to Figure 603.

(5) With your eyes, do a visual inspection on each brake shuttle-valve assembly (4) for hydraulic fluid leakage or cracks. Refer to Figure 603.

(6) Examine the lock pin (1) that attaches the brake assembly to the leg of the main landing gear for general condition. Refer to Figure 603.

(7) Operate the emergency/parking brake handle and do a visual check to make sure that all the pistons (2) of the brake assembly operate correctly. Refer to Refer to Figure 603.

(8) If one or more of the piston(s) (2) do(es) not come out from the piston housing (3), replace the brake assembly (AMM TASK 32-49-03-000-801-A/400) and (AMM TASK 32-49-03-400-801-A/400). Refer to Figure 603.

(9) If the wheel is removed, examine:

NOTE: Make sure that the emergency/parking brake handle is released (brakes off).

(a) The brake assembly for oxidation.

1 With a sharp plastic pick, lightly scratch the following areas to know if the carbon disks show soft areas, erosion, fraying or crumbling. Refer to Figure 605 - sheet 1, 2 and 3.

a At multiple points along the outer diameter. Refer to Figure 605 - sheet 3 - det E.

NOTE: Rotate rotor disk to ease access.

b Beneath the rotor clips. Refer to Figure 605 - sheet 2 - det D.

c Across the pressure plate -multiple locations. Refer to Figure 605 - sheet 2 - det C.

d Pressure plate surface around the pistons and insulators for any signs of oxidation, fraying, indentations, or soft spots. Refer to Figure 605 - sheet 6.

e With the brakes released, the piston insulator (cap) will move slightly. Using the pick, scratch slightly under the insulator to ensure there is no ridge or groove from the insulator digging into the pressure plate. Refer to Figure 605 - sheet 6.

2 Normal wear can occur at the edges of the carbon disks from the friction surface to the non friction surfaces. Normal wear is less than 1/8 inches (3,1mm) wide around the circumference of the two friction and non-friction surfaces (corners). Refer to Figure 605 - sheet 5 - det G and FF.

a Replace the brake assembly (AMM TASK 32-49-03-000-801-A/400) and (AMM TASK 32-49-03-400-801-A/400) if the wear is more than 1/8 inches (3,1mm) wide. Refer to Figure 605 - sheet 5 - det G and FF.

3 There is no allowable limit for soft areas, erosion, fraying or crumbling located outside the normal wear area detailed in the step J. (9) (a) 2.

a If you find any sign of these damage, replace the brake assembly (AMM TASK 32-49-03-000-801-A/400) and (AMM TASK 32-49-03-400-801-A/400).

b Beading on the outer diameter edges of the carbons disk surface is normal and not a reason for removal. Refer to Figure 605 - sheet 5 - det H.

4 Examine the outer diameter of the stator for horizontal impressions. Refer to Figure 605 - sheet 3 - det F.

a If you find any sign of impressions, replace the brake assembly (AMM TASK 32-49-03-000-801-A/400) and (AMM TASK 32-49-03-400-801-A/400).

(b) The stator, rotator assembly, pressure plate and end plate for cracks.

(c) The end plate for damage. Refer to Figure 604.

NOTE: Broken away or chipped material in the end plate edge is permitted. Refer to Figure 604.

(d) The drive slots for damage.

(e) The torque button, insulator, tie bolts, nuts, and washers for general condition.

(f) The brake assembly for uneven wear.

1 Do a general visual inspection on the outer diameter of the stator for step. Refer to Figure 605 - sheet 4.

a If you find a step at the outer diameter of the stator disk, as a result of contact with the metal rotor clip of the rotor, replace the brake assembly.

K. Follow-on

SUBTASK 842-004-A

(1) If all wheels are installed:

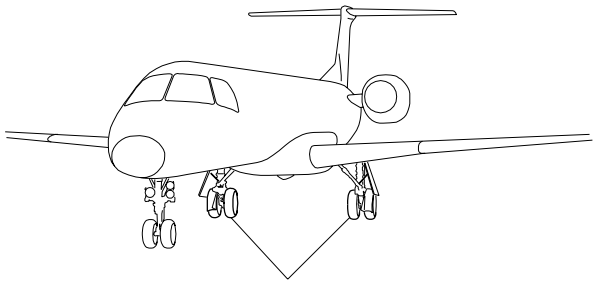
(a) Set the parking brake handle to the park position (brakes on).

NOTE: To prevent hydraulic fluid transference from system 1 to system 2 or vice versa, first apply brakes with the pedals and then pull or release the emergency/parking brake handle.

(b) Remove the chocks from the main landing gear wheels.

(2) For aircraft POST-MOD SB 145-32-0036, remove the safety pin from the NLG-doors solenoid valve. Refer to AMM TASK 32-00-02-910-801-A/200.

EFFECTIVITY: ALL
Brake Assembly - Inspection
Figure 605 - Sheet 1



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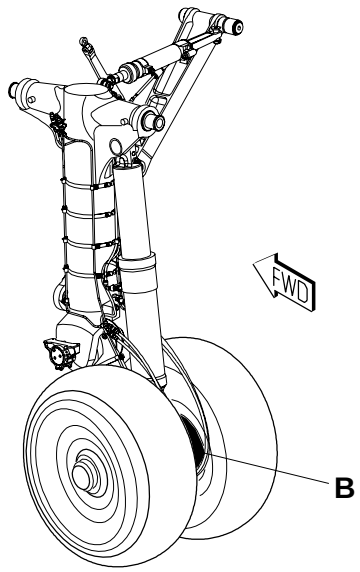
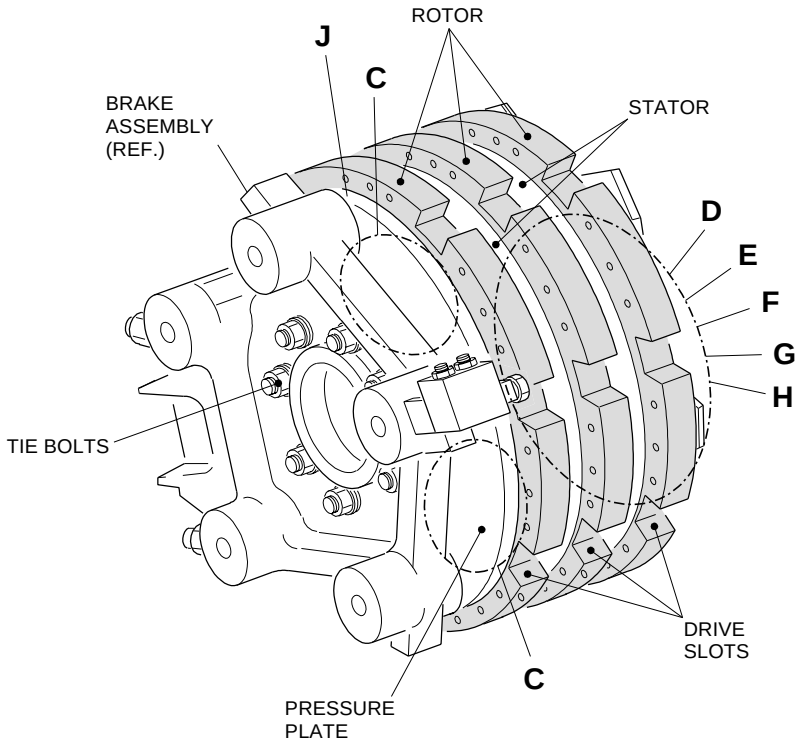


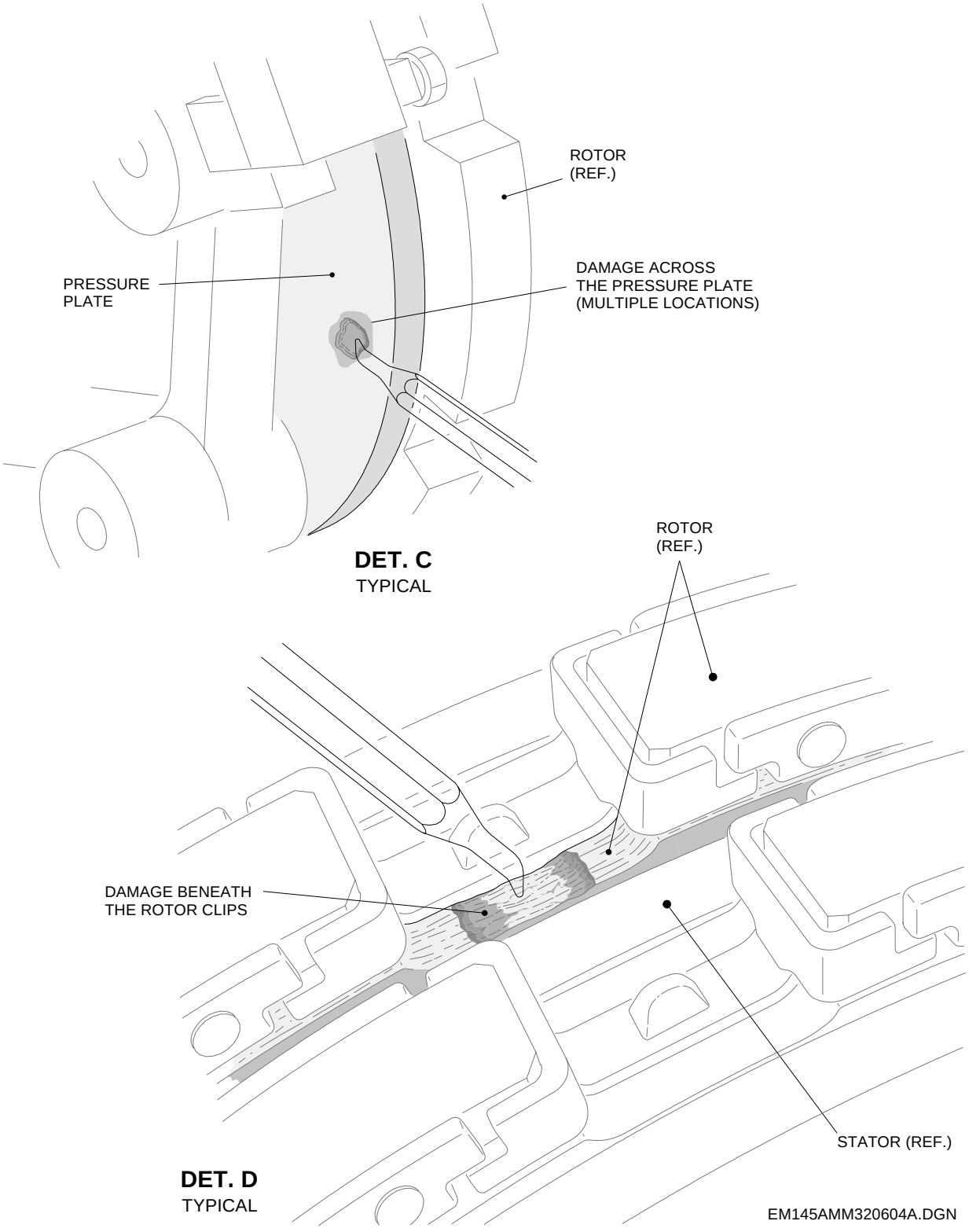
DET. A



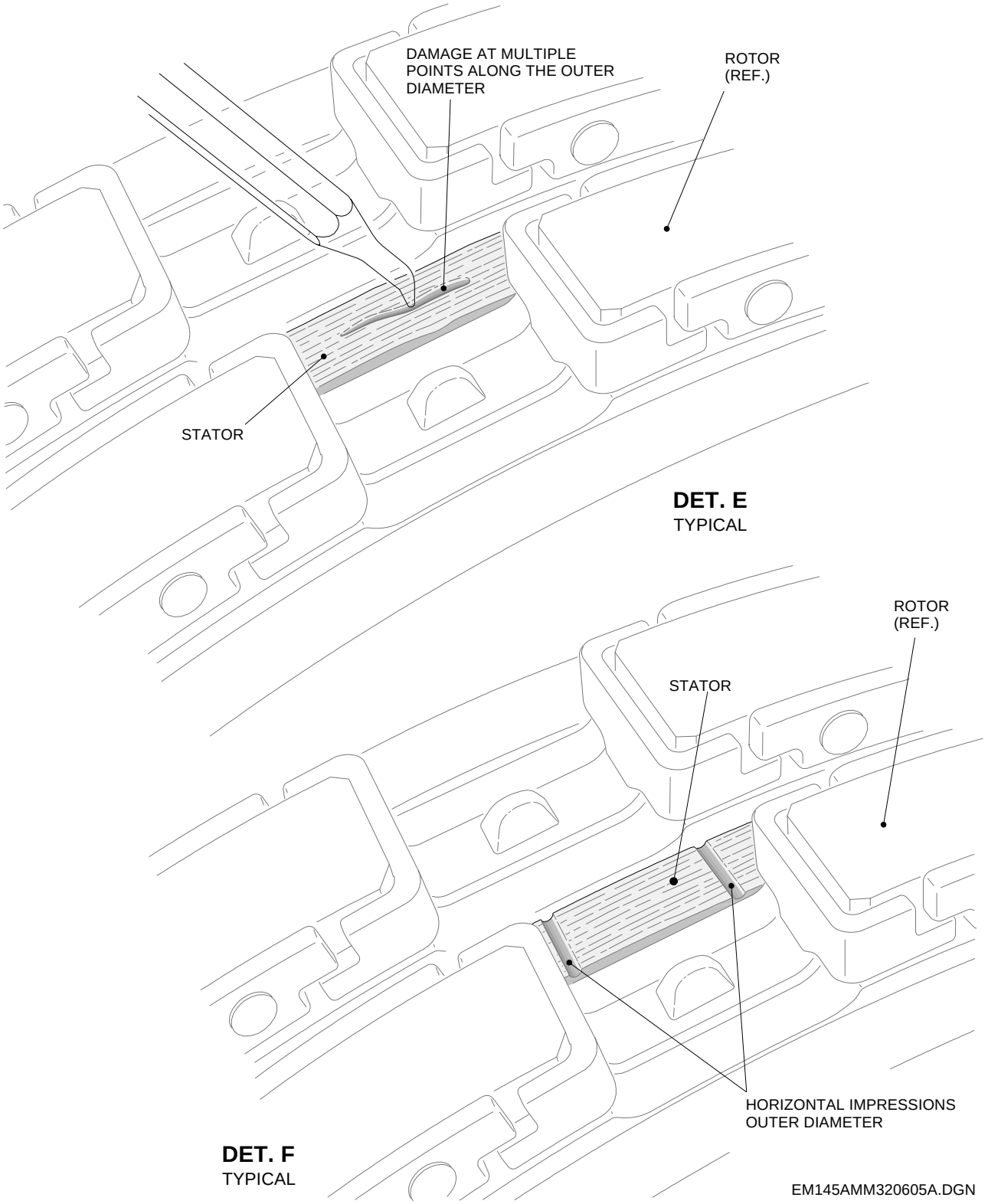
DET. B
TYPICAL

EM145AMM320603C.DGN

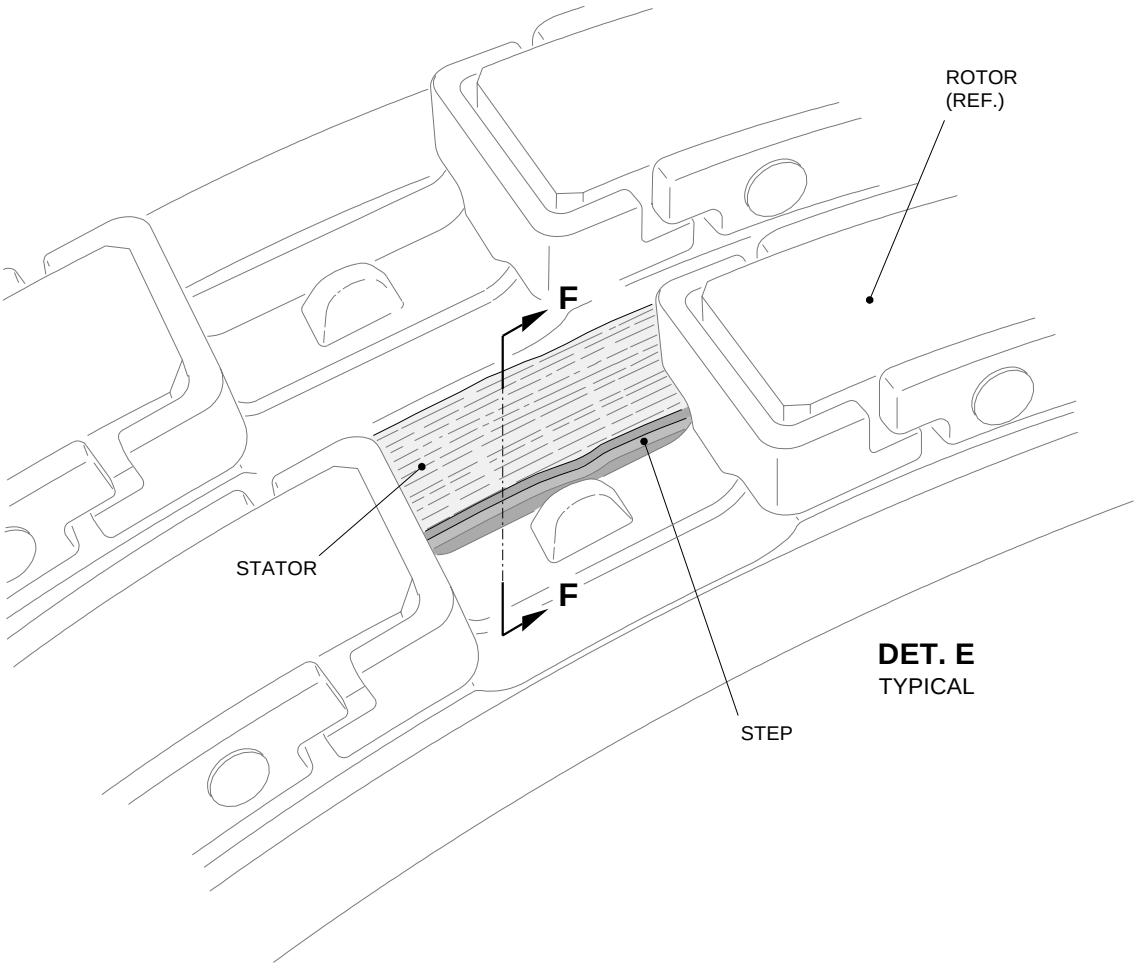
EFFECTIVITY: ALL
Brake Assembly - Inspection
Figure 605 - Sheet 2



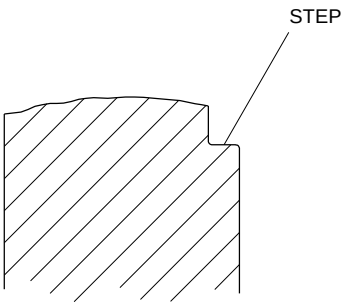
EFFECTIVITY: ALL
Brake Assembly - Inspection
Figure 605 - Sheet 3



EFFECTIVITY: ALL
Brake Assembly - Inspection
Figure 605 - Sheet 4



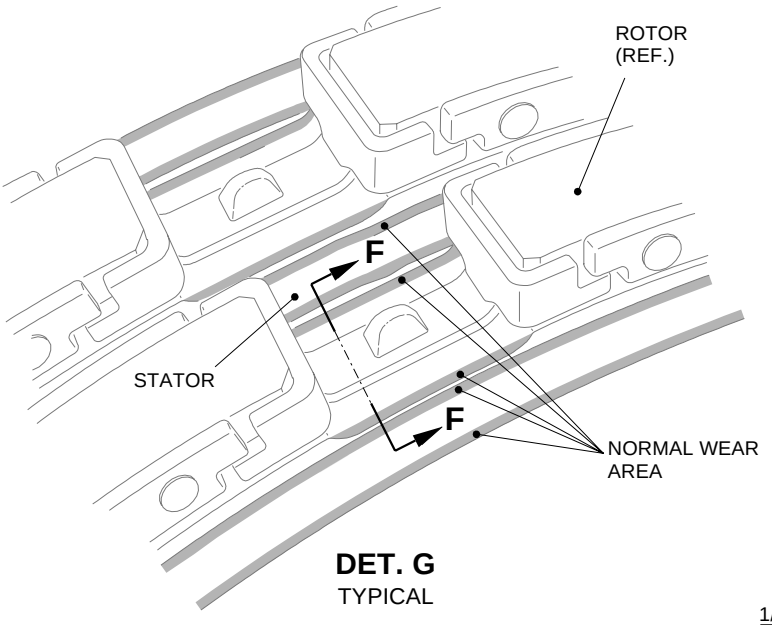
DET. E
TYPICAL



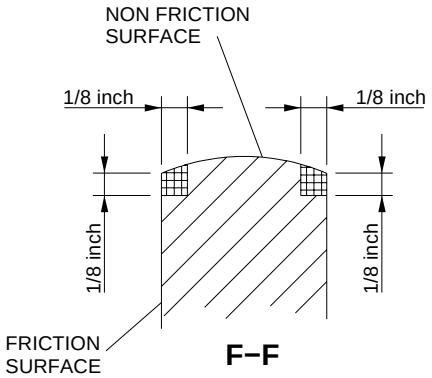
F–F

EM145AMM320629A.DGN

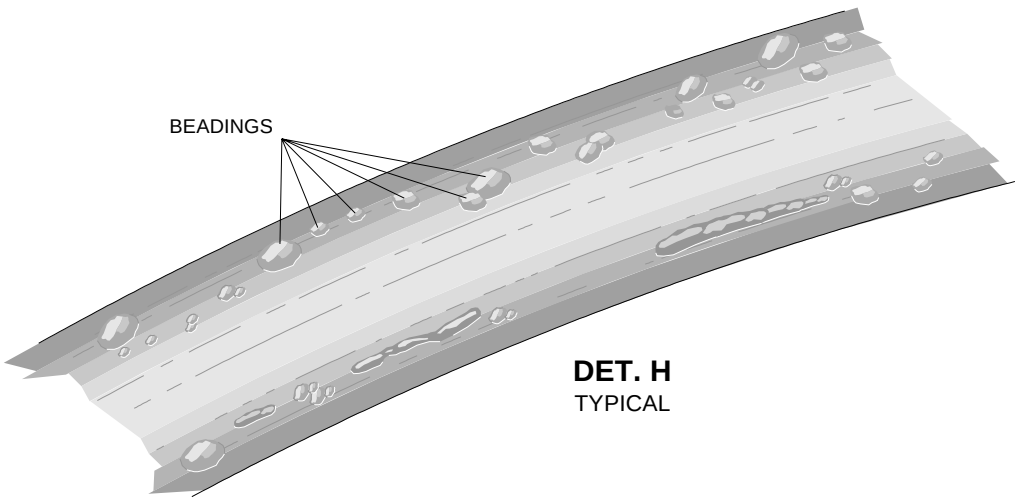
EFFECTIVITY: ALL
Brake Assembly - Inspection
Figure 605 - Sheet 5



DET. G
TYPICAL



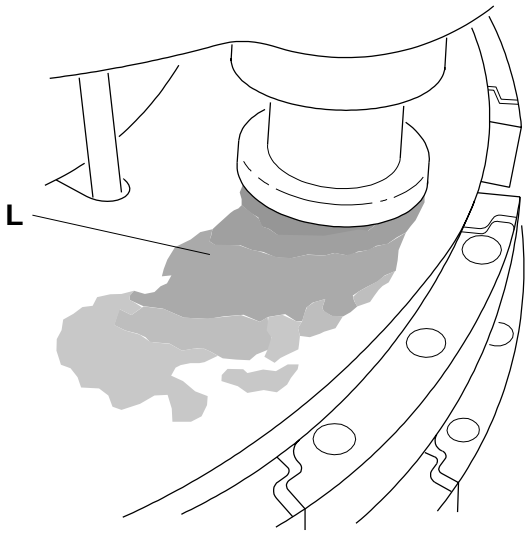
F–F



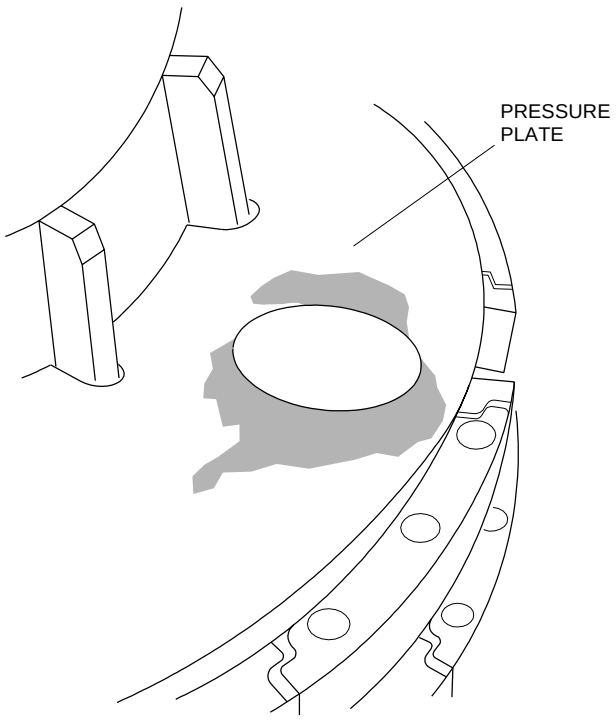
DET. H
TYPICAL

EM145AMM320643B.DGN

EFFECTIVITY: ALL
Brake Assembly - Inspection
Figure 605 - Sheet 6



DET. J



DET. L

EM145AMM320721A.DGN