



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

MAIN-LANDING-GEAR SHOCK ABSORBER - REPAIR

EFFECTIVITY: ALL

1. General

- A. This section gives the procedures to repair the shock absorber of the main landing gear when you find leakage.
- 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).

<i>TASK NUMBER</i>	<i>DESCRIPTION</i>	<i>EFFECTIVITY</i>
32-10-02-300-801-A	SHOCK ABSORBER - REPAIR	ALL



AIRCRAFT MAINTENANCE MANUAL

TASK 32-10-02-300-801-A

EFFECTIVITY: ALL

2. SHOCK ABSORBER - REPAIR

A. General

- (1) This task gives the procedures to repair the shock absorber of the main landing gear when you find leakage.

B. References

REFERENCE	DESIGNATION
AMM TASK 07-10-00-500-801-A/200	-
AMM TASK 32-00-01-910-801-A/200	LG SAFETY PIN - INSTALLATION AND REMOVAL
AMM TASK 32-10-02-000-801-A/400	SHOCK ABSORBER OF THE MAIN LANDING GEAR - REMOVAL
AMM TASK 32-10-02-400-801-A/400	SHOCK ABSORBER OF THE MAIN LANDING GEAR - INSTALLATION
AMM TASK 32-10-02-600-801-A/300	MLG SHOCK ABSORBER - SERVICING
For the applicable P/N, refer to CMM/IPL 32-10-02	-
SB 145-32-0070	-

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
GSE 492	Torquing Device	To apply torque to the bearing cap	
Commercially available	Torque Wrench	To apply torque to the bearing cap	

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Brush	For cleaning	1
Commercially available	Nonmetallic Tool	To remove sealant	1
Commercially available	Safety Goggles	For eye protection	1
Commercially available	Lint-Free Wiper Cloth	For cleaning	1

F. Consumable Materials

SPECIFICATION (BRAND)	DESCRIPTION	QTY
MEP 09-075	Corrosion-Inhibiting Compound (COR-BAN 27L)	AR

(Continued)

<i>SPECIFICATION (BRAND)</i>	<i>DESCRIPTION</i>	<i>QTY</i>
SAE AMS 3277, Type I, Class B2	Sealant PR1826B2ALO	AR
MIL-PRF-5606	Hydraulic fluid	AR
MIL-PRF-680, TYPE I	Solvent	AR
MS20995C32	Safety Wire	AR
TT-I-735, grade A	Isopropyl Alcohol	AR

G. Expendable Parts

<i>ITEM</i>	<i>IPC REFERENCE (VENDOR REFERENCE)</i>	<i>QTY</i>
Back-Up Ring	For the applicable P/N, refer to CMM/IPL 32-10-02	2
Scraper Ring	For the applicable P/N, refer to CMM/IPL 32-10-02	1
Sealing Ring	For the applicable P/N, refer to CMM/IPL 32-10-02	2
Slydring	For the applicable P/N, refer to CMM/IPL 32-10-02	2
Static Ring	For the applicable P/N, refer to CMM/IPL 32-10-02	1

H. Persons Recommended

<i>QTY</i>	<i>FUNCTION</i>	<i>PLACE</i>
1	Does the task	Shock Absorber
1	Helps the other technician	Shock Absorber

I. Preparation (Figure 801)
SUBTASK 841-002-A

WARNING: MAKE SURE THAT THE AIRCRAFT IS IN A SAFE CONDITION BEFORE YOU DO THE MAINTENANCE PROCEDURES. THIS IS TO PREVENT INJURY TO PERSONNEL AND/OR DAMAGE TO THE EQUIPMENT.

WARNING: USE PERSONAL PROTECTION EQUIPMENT WHILE YOU DO THE TASKS.

NOTE: All related persons must know the correct procedures applicable to solvent handling.

- (1) Make sure that the safety pins of the landing gears are installed ([AMM TASK 32-00-01-910-801-A/200](#)).
- (2) Lift the aircraft on jacks until the wheels are off the ground (AMM TASK 07-10-00-500-801-A/200).
- (3) Put the hydraulic jack under the trailing arm to support it.

- (4) Slowly open the filling/charging valve to release the pressure from the MLG shock absorber, until the shock absorber is fully compressed.
- (5) Remove the sealant from the bearing cap (10) with the aid of a nonmetallic tool. Refer to DET. B, [Figure 801](#).
- (6) Remove the heat-shrinkable wax (14) and safety wire (13) from the bearing cap (10). Refer to [Figure 802](#).
- (7) Move the bearing cap (10) from the installation torque condition (unseating torque) with the aid of GSE 492. Refer to [Figure 801](#).

CAUTION: • BE VERY CAREFUL WHEN YOU HANDLE THE SHOCK ABSORBER TO PREVENT DAMAGE TO THE SWITCHES.
 • DO NOT LET HYDRAULIC FLUID FALL ON THE BRAKE ASSEMBLY. THIS CAN CAUSE CONTAMINATION OF THE SYSTEM.

- (8) Remove the shock absorber from the main landing gear leg, as applicable. Refer to [AMM TASK 32-10-02-000-801-A/400](#).

WARNING: DO THESE TASKS IN AN AREA WITH A GOOD AIRFLOW, WHERE THE SOLVENT VAPORS CANNOT BE COLLECTED AND THERE ARE NO PIECES OF EQUIPMENT WHICH CAN CAUSE FLAMES OR SPARKS.

- (9) Put the shock absorber in the vertical position with the filling/charging valve pointed down into a container. Refer to [Figure 801](#).
- (10) Open the filling/charging valve, then compress and extend the shock absorber several times to remove the hydraulic fluid completely.

NOTE: To drain the hydraulic fluid quickly, it is necessary to remove the filling/charging valve. Be careful not to spurt out hydraulic fluid and soil the work area.

- (11) Put the compressed shock absorber on the table.

J. Repair ([Figure 801](#)) ([Figure 802](#)) ([Figure 803](#))

SUBTASK 370-002-A

- (1) Disassembly of the Shock Absorber.
 - (a) Remove the filling/charging valve, if it is not removed yet.
 - (b) Remove the bearing cap (10) from the shock absorber with the aid of GSE 492. Refer to [Figure 801](#).
 - (c) Remove the piston tube (1) from the cylinder (12).
 - (d) Remove and discard the scraper ring (11) from the bearing cap (10).
 - (e) Remove the slydring (8) and do a check of its outer side for wear.

NOTE: If the slydring (8) shows wear, discard it.

- (f) For aircraft POST-MOD [SB 145-32-0070](#), remove and discard the static ring (9) from the bearing cap (10).
- (g) Remove the bearing (5) from the piston tube (1).
- (h) Remove and discard the sealing rings (7) and (3), and the back-up ring (4) from the bearing (5).
- (i) Remove the slydring (6) and do a check of its inner side for wear.

NOTE: If the slydring (6) shows wear, discard it.

WARNING: ALWAYS OBEY THE MANUFACTURER'S HEALTH AND SAFETY PRECAUTIONS WHEN YOU USE SEALANTS OR SOLVENTS. USE SEALANTS OR SOLVENTS ONLY IN AREAS WHERE THERE IS A GOOD AIRFLOW. DO NOT BREATHE THE FUMES OF THESE MATERIALS AND DO NOT GET THEM ON YOUR SKIN, IN YOUR EYES OR MOUTH. PUT ON APPROVED PROTECTIVE CLOTHING AND GOGGLES. SEALANTS AND SOLVENTS ARE DANGEROUS AND IF YOU DO NOT OBEY THESE PRECAUTIONS, INJURY CAN OCCUR.

(2) Assembly of the Shock Absorber.

(a) Clean the metal parts.

- 1 Wash all metal parts with solvent. Use a brush and/or cloth soaked in solvent to clean the internal surfaces.
- 2 Blow them off with filtered compressed air. If necessary, use a cloth to dry them.
- 3 Repeat the cleaning process, if necessary.

(b) Clean the nonmetallic parts.

WARNING: • **KEEP THE ISOPROPYL ALCOHOL AWAY FROM HEAT AND FLAMES.**
• **USE EYE PROTECTION.**

- 1 Use a brush to wash all nonmetallic parts with isopropyl alcohol.
- 2 Clean the nonmetallic parts with a soft cloth moist with isopropyl alcohol.
- 3 Wait until the isopropyl alcohol evaporates to make sure that the surface is clean.
- 4 Repeat the cleaning process, if necessary.

WARNING: ALWAYS OBEY THE MANUFACTURER'S HEALTH AND SAFETY PRECAUTIONS WHEN YOU USE HYDRAULIC FLUID. DO NOT GET HYDRAULIC FLUID ON YOUR SKIN, IN YOUR EYES OR MOUTH. PUT ON APPROVED PROTECTIVE CLOTHING AND GOGGLES. HYDRAULIC FLUID IS TOXIC AND CAN CAUSE INJURIES.

(c) Lubricate all O-rings with hydraulic fluid.

CAUTION: MAKE SURE THE SEALING RING IS CORRECTLY INSTALLED. REFER TO FIGURE 803.

- (d) Install the slydring (6), new O-ring (3), new back-up rings (4), and sealing ring (7) into the bearing (5). Refer to [Figure 802](#) and [Figure 803](#).
- (e) For aircraft POST-MOD [SB 145-32-0070](#), install the static ring (9) to the bearing cap (10).
- (f) Install the slydring (8) and scraper ring (11) into the bearing cap (10).
- (g) Lubricate the piston tube (1) with hydraulic fluid.
- (h) Put the bearing (5) on the piston tube (1) and slide it to the final installation position.

WARNING: DO NOT GET COR-BAN IN YOUR MOUTH OR EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM COR-BAN. PUT ON A PROTECTIVE SPLASH GOGGLES AND GLOVES WHEN YOU USE COR-BAN. COR-BAN IS A TOXIC MATERIAL. IF YOU DO NOT OBEY THESE PRECAUTIONS, INJURY CAN OCCUR.

- (i) Apply COR-BAN 27L on the external surface of bearing (5).

NOTE: Apply COR-BAN 27L to the upper and lower edges of the bearing.

- (j) Install the piston tube (1) with the bearing (5) into the cylinder (12).
- (k) Apply COR-BAN 27L on the bearing cap (10).

NOTE: • To introduce the bearing (5) into the cylinder (12), it is necessary to push it down with the bearing cap (10).
• Make sure that the bearing (5) touches the bottom of the cylinder (12).

- (l) Attach the bearing cap (10) to the cylinder (12) with GSE 492.

NOTE: • Apply the final torque to the bearing cap (10) only after installation of the shock absorber to the aircraft.
• Make sure that the shock absorber is compressed.

K. Follow-on

SUBTASK 842-002-A

- (1) Install the shock absorber on the main landing gear leg. Refer to [AMM TASK 32-10-02-400-801-A/400](#).
- (2) Apply the final torque of 280 to 320 N.m (2480 to 2830 lb.in) to the bearing cap (10) with the aid of GSE 492 and torque wrench. Refer to [Figure 801](#).
- (3) Install the filling/charging valve.
- (4) Install the new safety wire (13) to the bearing cap (10). Refer to [Figure 802](#).



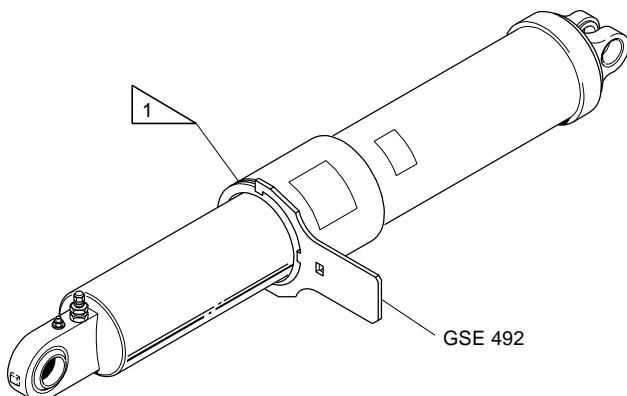
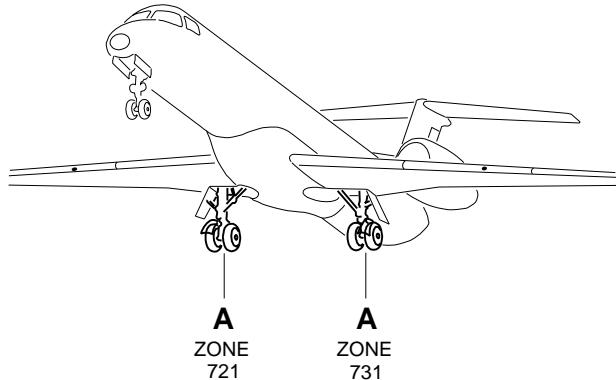
AIRCRAFT
MAINTENANCE MANUAL

- (5) Apply a continuous bead of sealant PR1826B2ALO along the interface of the bearing cap (10) with the cylinder (12). Refer to DET. B, [Figure 801](#).

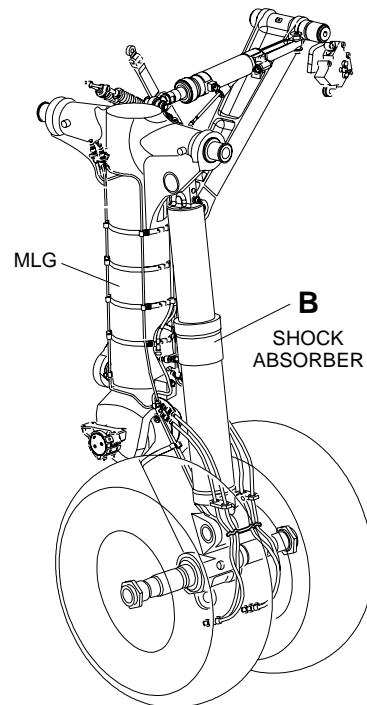
NOTE: Sealant P/S 870B-2 or sealant AC-665 B-2 can be used as alternative to sealant PR1826B2ALO. Either alternative sealant requires a layer of varnish 683-3-2/X-310A after its curing. For curing time, refer to the relevant manufacturer's technical datasheet.

- (6) Do the shock absorber servicing. Refer to [AMM TASK 32-10-02-600-801-A/300](#).

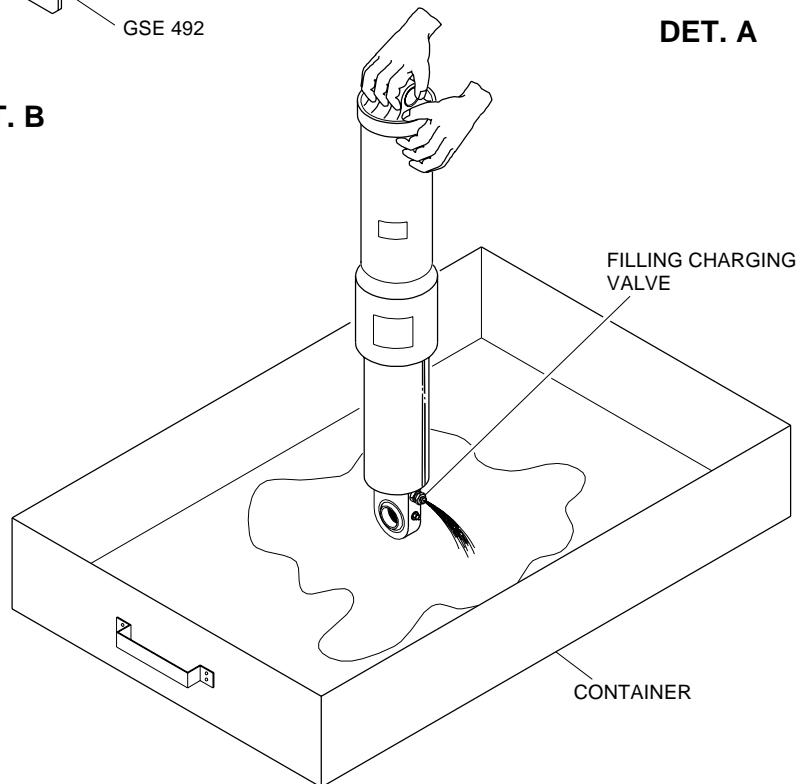
EFFECTIVITY: ALL
Shock Absorber - Repair
Figure 801



DET. B



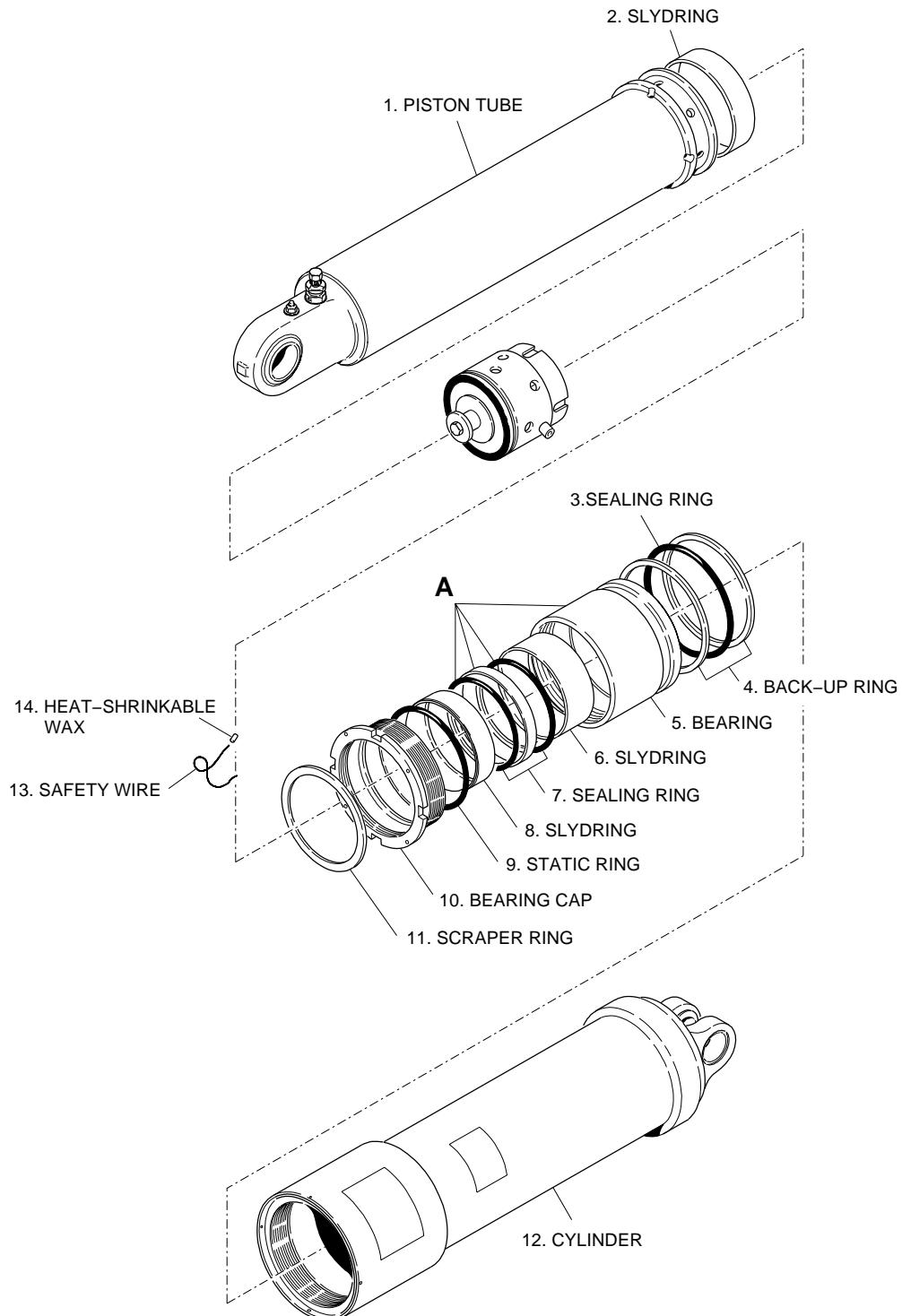
DET. A



1 APPLY SEALANT PR1826B2ALO.

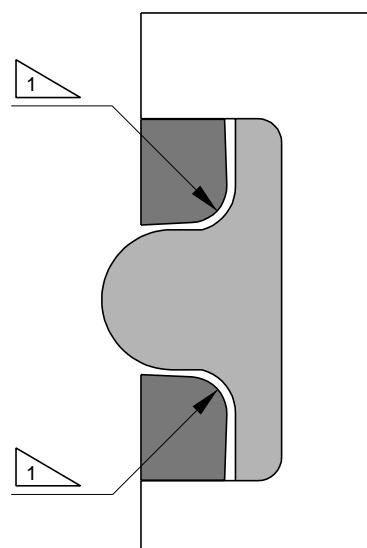
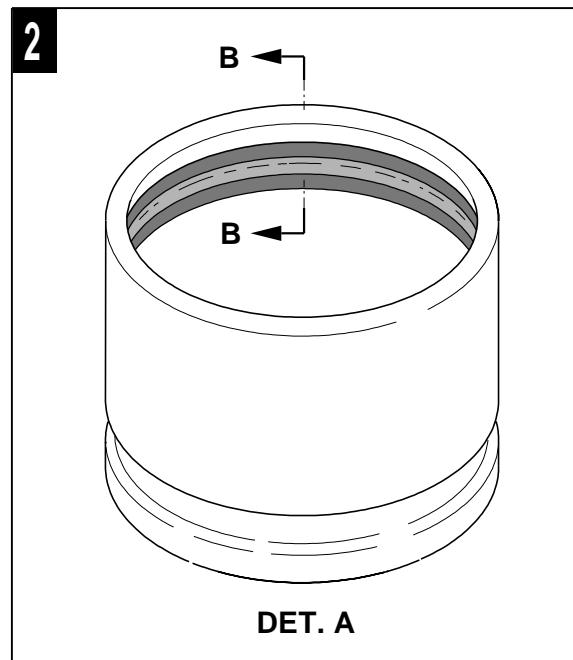
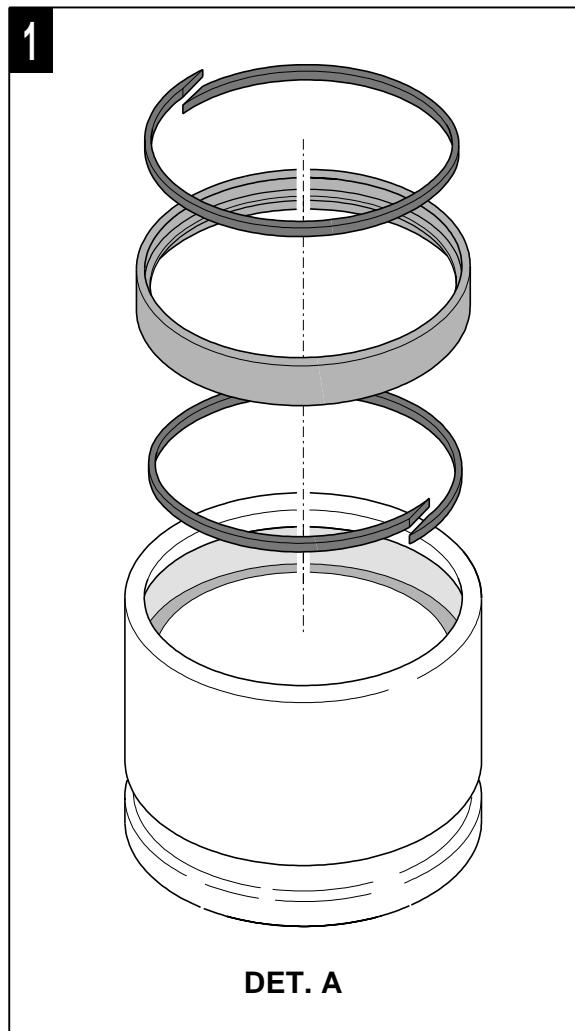
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EFFECTIVITY: ALL
Shock Absorber - Repair
Figure 802



EM145AMM320542B.DGN

EFFECTIVITY: ALL

 Installation of the Sealing Ring into the Bearing
 Figure 803

SECTION B-B

1 MAKE SURE THE FILLET OF THE BACK-UP RING IS TOWARD THE SEAL.

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