

MERITOR WABCO

Installation Guide

WARNING

To prevent serious eye injury, always wear safe eye protection when you perform vehicle maintenance or service.

Park the vehicle on a level surface. Block the wheels to prevent the vehicle from moving. Support the vehicle with safety stands. Do not work under a vehicle supported only by jacks. Jacks can slip and fall over. Serious personal injury and damage to components can result.

Release all air from the suspension system before you remove any components. Pressurized air can cause serious personal injury.

CAUTION

To avoid unnecessary down time and to ensure optimum valve performance, Meritor WABCO recommends that all five plates be replaced at the same time.

ECAS valve, part number 472 900 067 0, is used in Meritor WABCO's Electronically Controlled Air Suspension (ECAS) system for Buses. **Figure 1.**

For Complete Maintenance Instructions for Meritor WABCO's ECAS System

Refer to Maintenance Manual 37, Electronically Controlled Air Suspension (ECAS) for Buses. Call ArvinMeritor's Customer Service Center at 800-535-5560 to order this publication or you may download it from our web site:

www.meritorwabco.com

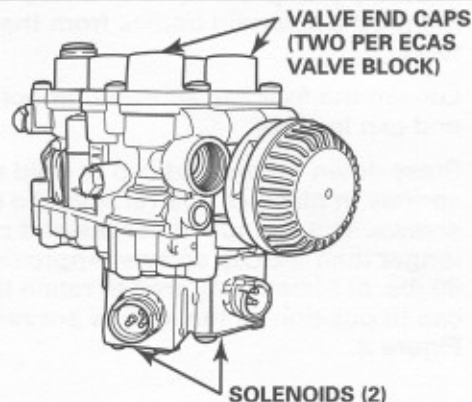
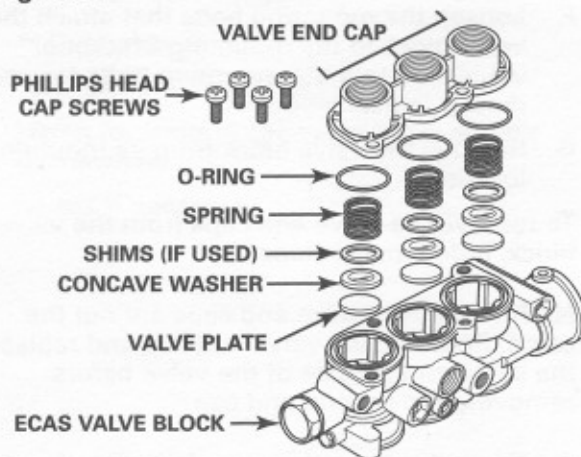
Replacement Kit 472 900 930 2

Instructions for Changing Valve Plates in ECAS Valve Block 472 900 067 0

Replacement Kit 472 900 930 2 contains:

- 8 Phillips head cap screws with thread lock
- 6 O-rings
- 5 ECAS valve plates
- 1 Package grease
- 1 Installation Guide (TP-0281)

Figure 1



ECAS Valve Plate Replacement Procedure

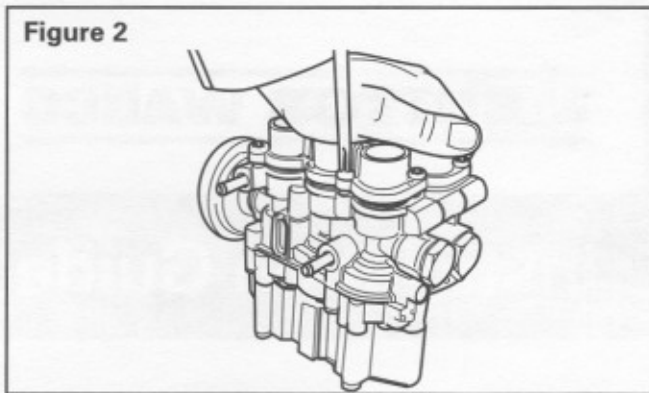
To replace the valve plates you must first remove the ECAS valve block from the vehicle, remove the valve end caps from the valve block, and remove the old valve plates from the ECAS valve.

1. To remove the ECAS solenoid valve block from the vehicle, follow these steps:
 - A. Apply the parking brake.
 - B. Turn ignition to the OFF position.
 - C. If necessary, raise the vehicle off the ground and put safety stands under the chassis.
 - D. Mark the wire connectors for reference when reinstalling the valve block, then disconnect the wiring connectors from the valve block.
 - E. Mark the air lines for reference when reinstalling the valve block, then disconnect the air lines from the valve block.
 - F. Loosen the mounting bolts that attach the valve block to the mounting bracket or vehicle. Retain the mounting bolts for use during reinstallation.
 - G. Remove the valve block from its mounting location.
2. To remove the valve end caps from the valve block, follow these steps:

NOTE: The two valve end caps are not the same. Remove one valve end cap and replace the seats on that side of the valve before removing the second end cap.

- A. Securely clamp the valve in a vise. Protect the plastic solenoid bodies from the vise jaws.
 - B. Loosen the four cap screws that hold the end cap in place.
 - C. Press down on the end cap to hold the springs in place as you remove the cap screws. The springs under the end cap are longer than the cap screws. Approximately 60 lbs. of force is required to retain the end cap in position as the screws are removed.
- Figure 2.**

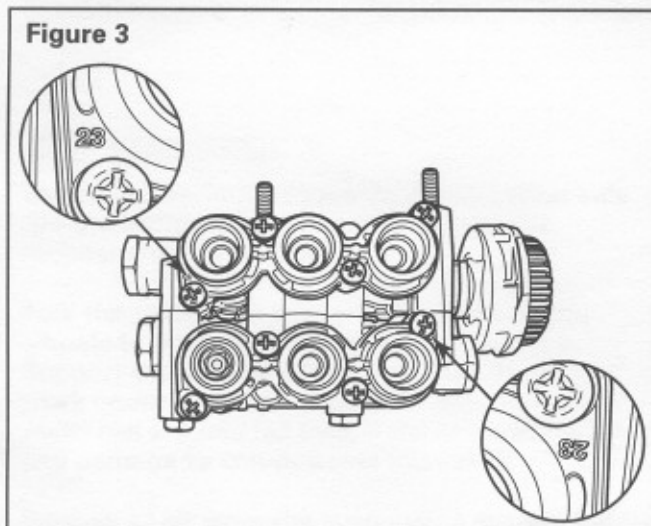
Figure 2



- D. Carefully remove the end cap from the valve body. Leave the springs in the bores.
 - E. Remove and discard the O-rings from each of the bores.
3. To remove the old valve plates from the bores, follow these steps:
 - A. Remove the spring, spring shim (if used), concave washer and valve plate from each bore. Each bore will contain a different size spring. Note the size and bore location of each spring and mark for reference during reinstallation.
- NOTE:** If shims are used, note the location. Shims **MUST** be returned to the same bore.
- B. Retain the springs and washers for use in reassembly. Discard the used valve plates
4. To install the new valve plates in the bores, follow these steps:
 - A. Remove any debris from the empty bores. If necessary, use a mild solvent to clean the bores, springs and washers.
 - B. Use the grease included in the replacement kit to lightly coat both sides of the concave washers, replacement O-rings and replacement valve plates.
 - C. Install a replacement valve plate in each of the bores. Install plate with rubber side **DOWN**.
 - D. Install a concave washer in each of the bores. Install with the domed side of the washer toward the aluminum face of the valve plate (domed side will face the center of the valve block).
 - E. If spring shims were used, install the shims. Shims must be returned to the same bore.

- F. Install springs in each of the bores. Check to ensure the right size spring is installed in each bore.
5. To replace the end caps, follow these steps:
- Place the end cap over the springs.
 - Verify the orientation of the cap based on the numbers cast into the end cap.

Figure 3.



- Press the end cap down. Install the cap screws.
 - Tighten the end cap screws to 4.4 ± 0.2 lb-ft (6.0 ± 0.9 N•m).
 - Repeat Steps 2, 3, 4 and 5 for the second end cap.
6. To replace the ECAS Solenoid Valve Block after the replacement valve plates have been installed:

CAUTION

Do not exceed 44 lb-ft (60 N•m) when tightening the air line connections. Excessive tightening could damage the valve block.

- Attach the new valve block to the mounting bracket (if used) or to the vehicle.
- Install the mounting bolts and tighten to 76 lb-in (8.5 N•m).
- Connect the air lines to the valve block as marked during the removal process.
- Connect the wiring connectors to the valve block.
- Test the ECAS valve block functions. Refer to ECAS Valve Block Test.

ECAS Valve Block Test

After installing a valve block, perform the following test procedure:

- Turn the ignition to the ON position.
- Fully charge the air system.
- Press the NORMAL RECOVER switch on the dash panel to fill the air bags. This will place the ECAS system at the normal level.
- Use the RIDE HEIGHT switch to raise and lower the vehicle height, checking for proper operation under the following conditions:
 - Parking brake released
 - Transmission NOT in neutral (engine running)
 - Door closed
- Use the KNEEL switch to place the vehicle in the kneeling position, checking for proper operation under the following conditions:
 - Parking brake engaged
 - Transmission in neutral
 - Door closed
- Turn the ignition to the OFF position.
- Listen for leaks at the valve block air line connections.
- Repair if necessary.

ArvinMeritor™
Commercial Vehicle Systems

Meritor WABCO
Vehicle Control Systems
3331 West Big Beaver Road, Suite 300
Troy, MI 48064 USA
800-535-5560
meritorwabco.com



Information contained in this publication was in effect at the time the publication was approved for printing and is subject to change without notice or liability. Meritor WABCO reserves the right to revise the information presented or discontinue the production of parts described at any time.

Copyright 2002
ArvinMeritor, Inc.
All Rights Reserved

Printed in the USA

TP-0281
Issued 06-02
16579/24240