

July 20, 2009

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Motor Coach Industries (MCI)  
1475 Clarence Avenue; Door 10, NPD  
Winnipeg, Manitoba R3T 1T5

**Re: Safety Defect Notice** – Certain WABCO Steering Angle Sensors distributed by Meritor WABCO between July 2007 and [February 26, 2009](#); (NHTSA Recall No. 09E--032)  
Meritor WABCO Campaign ID Number C9AB

Dear Meritor WABCO Customer:

This notice is sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act. Meritor WABCO has determined that a defect relating to motor vehicle safety exists in certain steering angle sensors used in Meritor WABCO commercial vehicle Electronic Stability Control (ESC) system applications. These parts were distributed by Meritor WABCO to OEM customers from July 2007 through [February 26, 2009](#). Our records indicate that you may have received some of the suspect steering angle sensors. The purpose of this letter is to notify you of Meritor WABCO's plan for addressing this defect.

### What Products are Affected?

The affected products were distributed by Meritor WABCO for installation as original equipment under the following part numbers:

441 120 004 0	400 850 666 0
400 850 647 0	

These potentially suspect Steering Angle Sensors (SAS) have serial numbers below [3404](#) and were mainly shipped by Meritor WABCO to the steering column assembly supplier. This supplier installed the SAS in the column and then shipped the completed assembly to a number of North American coach and specialty OEMs.

The Steering Angle Sensor is a component of the Meritor WABCO Electronic Stability Control System. The SAS provides the Electronic Stability Control (ESC) system with the driver selected steering angle, a critical input necessary to help detect loss of directional vehicle stability. When a loss of control event occurs, the ESC automatically applies individual foundation brakes on the vehicle to generate a counteractive force to help regain stability and mitigate the risk of a crash.

### What is the Problem?

Meritor WABCO has determined that the original design of the Steering Angle Sensor (SAS) distributed in North America by Meritor WABCO exhibits a weakness in the sensor rotor drive tab that potentially can result in breakage during driving.

The SAS driving tab fits in a groove in the steering column shaft, causing the sensor rotor to turn with the steering wheel. The SAS provides the Electronic Stability Control system with the driver selected

steering angle, a critical input necessary to detect loss of directional stability. With a broken SAS driving tab, the ESC yaw rate sensor and lateral accelerometer will measure a difference in vehicle direction when the driver makes a turn without a corresponding change in steer angle. This could be interpreted by the ESC as a directional instability, requiring intervention by brake activation of a selected wheel. Diagnostics that are integrated in the software may or may not detect a broken SAS driving tab after a period of time during the ignition cycle where the failure occurs. On subsequent ignition cycles, diagnostics will likely prevent the ESC from initializing with a broken SAS drive tab, eliminating the possibility of unnecessary low speed brake activations.

## What are the Risks to Motor Vehicle Safety?

The broken SAS drive tab may result in unnecessary brake activation of a selected wheel during the ignition cycle in which the failure occurs and could pose a safety issue.

## What Should the Vehicle Manufacturer Do?

If the subject products were installed as original equipment on vehicles you manufactured, and you agree that they contain a safety defect, you must notify the National Highway Traffic Safety Administration (NHTSA) in accordance with 49 C.F.R. Part 573. It is critical that the NHTSA guidelines are followed in a timely manner and that your customers are notified to conduct the remedy described below.

Meritor WABCO recommends that owners of vehicles equipped with the suspect steering angle sensors be instructed to inspect the production date code on the sensor and arrange to have any suspect sensors replaced at an authorized repair facility. The attached Meritor WABCO Service Bulletins describe the procedure for Date Code Identification and provide Replacement Instructions.

With respect to suspect products that remain in your inventory, Meritor WABCO will provide replacement parts prior to delivery to your customers, as described below.

## What will Meritor WABCO do?

Parts in Customers' Vehicles. Meritor WABCO will reimburse you for standard labor costs to remove and replace defective steering angle sensors in the field in accordance with the instructions under the heading, "Labor Allowance" (see below). Replacement parts for these repairs should be obtained from Meritor WABCO as described under "Replacement Parts."

## Replacement Parts

Replacement parts are available. Vehicle manufacturers' (OEMs') distribution facilities should obtain replacement steering angle sensor kit, part number 400 850 360 0, by contacting Meritor WABCO by any of the below methods:

**Liz Woodhull**  
Key Customer Manager  
**Meritor WABCO Vehicle Control Systems**  
2135 W. Maple Road, Troy, MI 48084-7121  
Phone: 248-435-3605 Fax: 248-435-8002  
E-Mail: [Elizabeth.Woodhull@MeritorWabco.com](mailto:Elizabeth.Woodhull@MeritorWabco.com)

Dealers should order replacement parts from the vehicle manufacturers parts distribution centers (PDC). Meritor WABCO will ship replacement service kits directly to the locations specified by the vehicle manufacturer.

## Removed Material Disposition

Removed steering angle sensors must be returned to Meritor WABCO at the following address:

**Meritor WABCO Vehicle Control Systems**  
Attention: SAS Recall  
845 Lindbergh Court  
Hebron, KY 41048

For questions relating to parts disposition, please contact Anne Balkcom at:

[Anne.Balkcom@MeritorWABCO.com](mailto:Anne.Balkcom@MeritorWABCO.com)  
Ph 859-525-3676 Fax 859-746-7875

## Labor Allowance

The following are the details of labor allowances available to vehicle manufacturers (OEMs):

- Meritor WABCO will accept the previously agreed upon standard repair time (SRT) with the individual vehicle manufacturer (OEM).
- Vehicle manufacturers are requested to communicate their SRT for this program to Jim Nemeth via Phone: 1-248-435-1279 or Email: [jim.nemeth@arvinmeritor.com](mailto:jim.nemeth@arvinmeritor.com), to ensure proper claim processing.

Dealers should follow their OEM procedures for warranty claims to obtain reimbursement for labor expenses associated with inspection and replacement of these sensors.

To facilitate this process, we request that you provide VIN information and Vehicle In-Service Dates for the corresponding steering angle sensor date codes for tracking field actions. Please forward this information to:

Anne Balkcom  
[Anne.Balkcom@MeritorWABCO.com](mailto:Anne.Balkcom@MeritorWABCO.com)  
Senior Manager – Quality  
Ph 859-525-3676 Fax 859-746-7875

Meritor WABCO will accept warranty claims for inspecting and replacing the suspect sensors associated with this notice directly from the vehicle manufacturers (OEMs). In order to receive proper credit, warranty claims must contain the following information at the time of submission:

- Reference to Meritor WABCO Campaign ID Number: C9AB
- Reference to NHTSA Campaign ID Number : 09E-032
- Reference to the vehicle manufacturer's campaign number (optional)
- 17-digit vehicle identification number (VIN)
- Sensor date code
- Vehicle owner's name, address, and telephone number
- Vehicle in-service date
- Vehicle repair date

# MERITOR WABCO

Meritor WABCO Vehicle Control Systems  
2135 West Maple Road  
Troy, MI 48084-7121  
Telephone 248.435.8001  
Facsimile 248.435.8002  
meritorwabco.com

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- Vehicle mileage at the time of repair
- Dealer work order number
- Repairing facility name, address, and telephone number
- Total labor hours required to perform the work, not to exceed agreed formula
- Repair facilities hourly rate
- Number of sensors replaced and shipped to Meritor WABCO in Hebron, Kentucky.
- Tracking number for shipment of returned suspect steering angle sensors.

Failure to provide complete information will delay processing of the warranty claim.

For questions relating to warranty claims, please contact Jim Nemeth via Phone: 1-248-435-1279 or Email: [jim.nemeth@arvinmeritor.com](mailto:jim.nemeth@arvinmeritor.com).

## Communication

If you conclude that Meritor WABCO has not enabled you to remedy this condition in a reasonable time, you may submit a written complaint to the:

Administrator  
National Highway Traffic Safety Administration  
400 Seventh Street, S.W.  
Washington, D.C. 20590

- or -

Call the toll free Auto Safety Hotline: 1-888-327-4236

We apologize for any inconvenience that this situation may cause. Meritor WABCO wants to assure you that we are concerned for customer safety and endeavor to insure your continued satisfaction with our products.

Sincerely,

**Anne Balkcom**

Sr. Mgr. - Quality Assurance

**Meritor WABCO Vehicle Control Systems**

845 Lindbergh Court

Hebron, KY 41048

Ph 859.525.3676 Cell 859.380.7516

[Anne.Balkcom@MeritorWabco.com](mailto:Anne.Balkcom@MeritorWabco.com)

Attachments:

1. Customer Shipment Information
2. [Meritor WABCO Service Bulletin \(TP-09131\) - Steering Angle Sensor \(SAS\) Replacement on Vehicles Equipped with Electronic Stability Control \(ESC\) - Revised 07-09](#)