

WABCO WHEEL SPEED SENSOR REPLACEMENT INSTRUCTIONS

INSTALLATION GUIDE

TP02102

WABCO

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1 General Information

Symbols used in this document

DANGER

Description of an immediate situation which will result in irreversible injury or death if the warning is ignored.

WARNING

Description of a possible situation which may result in irreversible injury or death if the warning is ignored.

CAUTION

Description of a possible situation which may result in irreversible injury if the warning is ignored.

NOTICE

Description of a possible situation which may result in material damage if the warning is ignored.



Important information, notes and/or tips



Reference to information on the internet

1. Action step

- Action step
- ⇒ Consequence of an action

■ List

- List

Note on the use of a tool/WABCO tool

How to Obtain Additional Maintenance, Service and Product Information

If you have any questions about the material covered in this publication, or for more information about the WABCO product line, please contact the WABCO Customer Care Center at 855-228-3203, by email at wnacustomercare@wabco-auto.com, or visit our website: www.wabco-na.com.

WABCO maintenance manuals and technical publications are available on our website at www.wabco-na.com/literature.

General Information

WABCO Academy



<https://www.wabco-academy.com/home/>

WABCO online product catalog



<http://inform.wabco-auto.com/>

Your direct contact to WABCO

WABCO North America
1220 Pacific Drive
Auburn Hills, MI 48326
Customer Care Center: (855) 228-3203
www.wabco-na.com

2 Safety Information

Provisions for a safe work environment

- Only trained and qualified technicians may carry out work on the vehicle.
- Read this publication carefully.
- Follow all warnings, notices and instructions to avoid personal injury and property damage.
- Always abide by the vehicle manufacturer's specifications and instructions.
- Observe all accident regulations of the respective company as well as regional and national regulations.
- The workplace should be dry, sufficiently lit and ventilated.
- Use personal protective equipment if required (safety shoes, protective goggles, respiratory protection and ear protectors).

Read and observe all Danger, Warning and Caution hazard alert messages in this publication. They provide information that can help prevent serious personal injury, damage to components, or both.

WARNING

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

WARNING

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.

WARNING

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

3 Wheel Speed Sensor Replacement

This publication provides instructions for replacing the wheel speed sensors on front and rear axles using WABCO's wheel speed sensor replacement kit. The replacement kit contains the following:

- (1) Sensor with cable lead
- (1) Spring clip
- (1 pkg) WABCO lubricant
- (1) Installation instructions, TP02102

When replacing a WABCO ABS sensor, you **MUST** also replace the spring clip and lubricate the bore of the sensor bushing or mounting block. All parts, as well as the lubricant, are included in this replacement kit. Follow the instructions in this installation guide to replace the front or rear wheel speed sensor and spring clip. If you require technical assistance, contact the WABCO Customer Care Center at 855-228-3203.

Refer to the following manuals for complete service information covering WABCO truck and tractor ABS:

- MM28, C Version Pneumatic ABS
- MM30, D Version Pneumatic ABS
- MM0112, E Version Pneumatic ABS
- MM38, C Version Hydraulic ABS
- MM39, D Version Hydraulic ABS
- MM1543, SmartTrac™ Hydraulic ABS
- MM1719, mBSP™ Braking System Platform

4 Replacement Procedures

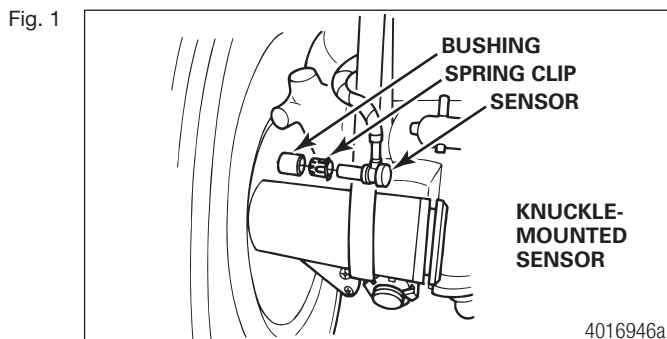
CAUTION

Use the following procedures to avoid damage to the electrical system and ABS/ATC components.

4.1 Front Axle Wheel Speed Sensor Replacement

4.1.1 Remove the Wheel Speed Sensor from the Front Axle

1. Put blocks under the rear tires to stop the vehicle from moving. Apply the parking brake.
2. If necessary, raise the front tires off the ground. Put safety stands under the axle.
3. Disconnect the fasteners that hold the sensor cable to the other components.
4. Disconnect the sensor cable connector from the chassis harness connector.
5. Remove the sensor from the mounting bushing. Use a twisting motion if necessary. **Do not pull on the cable.** Figure 1.
6. Remove and discard the old spring clip from the sensor bushing.



4.1.2 Install the New Spring Clip and Wheel Speed Sensor on the Front Axle

1. Apply the WABCO lubricant included in the replacement kit to the sensor spring clip, sensor and in the bore of the sensor bushing.
2. Install the new sensor spring clip in the bushing. Make sure the spring clip tabs are on the inboard side of the vehicle.
3. Pull the sensor spring clip into the bushing in the steering knuckle until the spring clip tabs contact the bushing.

4. Push the sensor completely into the sensor spring clip until it contacts the tooth wheel.

NOTICE

After installation, there should be no gap between the sensor and the tooth wheel. During normal operation, a gap of up to 0.04-inch is allowable.

5. Use a clean, soft rag to wipe any excess lubricant from the back and front of the sensor.
6. Attach the sensor cable connector to the chassis harness connector. Route the cable along the air hose. Allow sufficient length for steering and suspension travel.
7. Install the fasteners used to hold the sensor cable in place, supporting the cable every 8 to 12 inches (203-305 mm).
8. Secure any excess cable lengthwise in the frame rail. Do not coil the excess cable.
9. Remove the blocks and safety stands.

4.2 Rear Axle Wheel Speed Sensor Replacement

4.2.1 Remove the Wheel Speed Sensor from the Rear Axle

1. Put blocks under the front tires to stop the vehicle from moving. Apply the parking brake.
2. Raise the rear tires off the ground. Put safety stands under the axle.
3. Release the parking brake and back off the slack adjuster to release the brake shoes.
4. Remove the wheel and tire assembly from the axle.
5. Remove the brake drum.
6. Disconnect the fasteners that hold the sensor cable to the other components.
7. Disconnect the sensor cable connector from the chassis harness connector.
8. Remove the sensor from the mounting block on the axle housing. Use a twisting motion if necessary. **Do not pull on the cable.**
9. Remove and discard the sensor spring clip from the mounting block.

4.2.2 Install the Wheel Speed Sensor on the Rear Axle

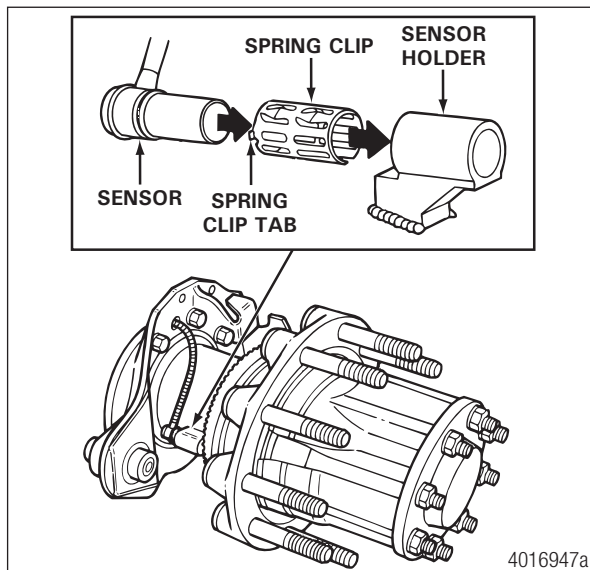
1. Apply the WABCO lubricant included in the replacement kit to the sensor spring clip, sensor and in the bore of the sensor mounting block. This is the bore where the spring clip and sensor will be installed.
2. Install the new sensor spring clip in the mounting block. Make sure the spring clip tabs are on the inboard side of the vehicle.
3. Push the sensor spring clip into the mounting block until the spring clip tabs contact the mounting block.

4. Push the sensor completely into the sensor spring clip until it contacts the tooth wheel. Figure 2.

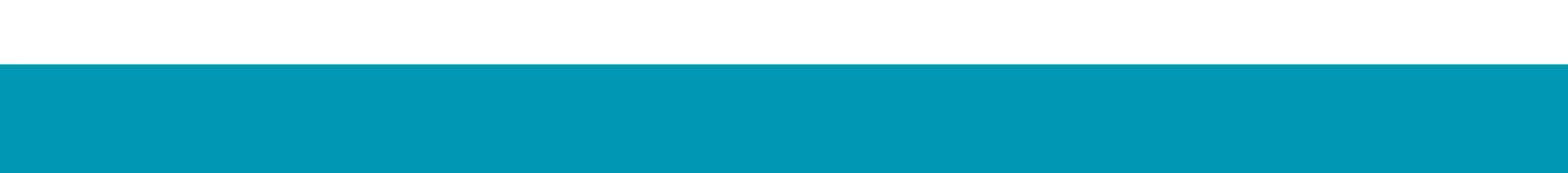
NOTICE

After installation, there should be no gap between the sensor and the tooth wheel. During normal operation, a gap of up to 0.04-inch is allowable.

Fig. 2



5. Use a clean, soft rag to wipe any excess lubricant from the back and front of the sensor.
6. Insert the sensor cable through the hole in the spider and axle housing flange. Route the cable to the frame rail. Be sure to route the cable in a way that will prevent pinching or chafing and will allow sufficient movement for suspension travel.
7. Attach the sensor cable connector to the chassis harness connector.
8. Install the fasteners used to hold the sensor cable in place, supporting the cable every 8 to 12 inches.
9. Secure any excess cable lengthwise in the frame rail. Do not coil the excess cable.
10. Install the brake drum on the wheel hub.
11. Adjust the rear axle brakes per the vehicle manufacturer's specifications.
12. Remove the blocks and safety stands.



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About WABCO

WABCO (NYSE: WBC) is the leading global supplier of braking control systems and other advanced technologies that improve the safety, efficiency and connectivity of commercial vehicles. Originating from the Westinghouse Air Brake Company founded 150 years ago, WABCO is powerfully “Mobilizing Vehicle Intelligence” to support the increasingly autonomous, connected and electric future of the commercial vehicle industry. WABCO continues to pioneer innovations to address key technology milestones in autonomous mobility and apply its extensive expertise to integrate the complex control and fail-safe systems required to efficiently and safely govern vehicle dynamics at every stage of a vehicle’s journey – on the highway, in the city and at the depot. Today, leading truck, bus and trailer brands worldwide rely on WABCO’s differentiating technologies. Powered by its vision for accident-free driving and greener transportation solutions, WABCO is also at the forefront of advanced fleet management systems and digital services that contribute to commercial fleet efficiency. In 2018, WABCO reported sales of over \$3.8 billion and has more than 16,000 employees in 40 countries. For more information, visit www.wabco-na.com.



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