



Installation Instructions

Bendix® YAS-70X™ Yaw Rate Sensor

⚠ WARNING: Follow all industry safe maintenance practices including those shown on page two of this document.

CAUTION: When removing or installing the sensor, care must be used to prevent damage. Do not strike or pry the sensor. Do not use an impact tool to install the mounting hardware.

Sensor Location

⚠ WARNING: The location of the Yaw Rate Sensor on the vehicle, the means of fastening the unit to the vehicle, and the sensor's orientation, **MUST NOT BE ALTERED**. When servicing, an identical component must be used in the same orientation (using OEM brackets & torque requirements). During installation, follow the OEM leveling guidelines. If any of these requirements are not followed, the advanced ABS control system may not function properly, which can result in incidents leading to loss of vehicle control.

Service Checks

1. Inspect all wiring and connectors for visible damage, cuts, abrasions, etc.
2. Inspect the sensor, its mounting bolts, and the mounting bracket for damage.
3. Before running a diagnostic test on this sensor, check that the underbody of the sensor housing is free of paint, debris, etc.

Diagnostics

The yaw rate sensor is only operational in conjunction with a Bendix® advanced ABS ECU. No independent diagnostics can be performed on the sensor.

Removal

CAUTION: When removing or installing the sensor, care must be used to prevent damage to the sensor and/or mounting surfaces. Do not strike or pry the sensor. Do not use an impact tool to install the mounting hardware. **Switch off the Ignition Power before connecting or disconnecting the sensor.**

Note: Depending on the vehicle, the sensor may have been installed directly to the vehicle frame, or to a cross-member. Some installations use a bracket.

1. To unplug the sensor cable assembly from the sensor body, rotate the connector sleeve approximately 90 degrees counter-clockwise as you release the connector from the sensor.
2. Make a note of the orientation of the sensor and its connector, since the replacement sensor will need to be installed in the same arrangement.

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FIGURE 1 - YAW RATE SENSOR

3. If the sensor on the vehicle has a mounting bracket, inspect it to see if the way the sensor is mounted allows for it to be removed without also removing the mounting bracket. Where this is possible, remove just the sensor. Otherwise, carefully mark the position of the bracket and then remove the entire bracket/sensor assembly and then detach the sensor from the bracket. Retain the bracket/sensor mounting hardware.
4. Inspect the mounting bracket. If it needs to be replaced, use only an OEM-approved bracket.

Note: The sensor is not repairable in the field.

Installation

1. Clean the vehicle mounting area as necessary.
2. In cases where it was necessary to replace the bracket, check that the part obtained is the same as was used originally.
3. Line up the new sensor with the mounting holes on the vehicle or bracket. Do not attempt to force the sensor into position if interference is present. In cases of interference, remove the sensor and correct the issue causing the interference, before continuing with the installation.
4. Using two M10 size bolts (1.5 mm pitch, Class 8.8), or OEM-supplied hardware — and making sure that the new sensor is installed in the same orientation as noted during

SAFE MAINTENANCE PRACTICES

▲ WARNING! PLEASE READ AND FOLLOW THESE INSTRUCTIONS TO AVOID PERSONAL INJURY OR DEATH:

When working on or around a vehicle, the following general precautions should be observed at all times:

1. Park the vehicle on a level surface, apply the parking brakes, and always block the wheels. Always wear safety glasses. Where specifically directed, the parking brakes may have to be released, and/or spring brakes caged, and this will require that the vehicle be prevented from moving by other means for the duration of these tests/procedures.
2. Stop the engine and remove ignition key when working under or around the vehicle. When working in the engine compartment, the engine should be shut off and the ignition key should be removed. Where circumstances require that the engine be in operation, **EXTREME CAUTION** should be used to prevent personal injury resulting from contact with moving, rotating, leaking, heated or electrically charged components.
3. Do not attempt to install, remove, disassemble or assemble a component until you have read and thoroughly understand the recommended procedures. Use only the proper tools and observe all precautions pertaining to use of those tools.
4. If the work is being performed on the vehicle's air brake system, or any auxiliary pressurized air systems, make certain to drain the air pressure from all reservoirs before beginning ANY work on the vehicle. If the vehicle is equipped with a Bendix® AD-IS® air dryer system or a dryer reservoir module, be sure to drain the purge reservoir.
5. Following the vehicle manufacturer's recommended procedures, deactivate the electrical system in a manner that safely removes all electrical power from the vehicle.
6. Never exceed manufacturer's recommended pressures.
7. Never connect or disconnect a hose or line containing pressure; it may whip. Never remove a component or plug unless you are certain all system pressure has been depleted.
8. Use only genuine Bendix® brand replacement parts, components and kits. Replacement hardware, tubing, hose, fittings, etc. must be of equivalent size, type and strength as original equipment and be designed specifically for such applications and systems.
9. Components with stripped threads or damaged parts should be replaced rather than repaired. Do not attempt repairs requiring machining or welding unless specifically stated and approved by the vehicle and component manufacturer.
10. Prior to returning the vehicle to service, make certain all components and systems are restored to their proper operating condition.
11. For vehicles with Automatic Traction Control (ATC), the ATC function must be disabled (ATC indicator lamp should be ON) prior to performing any vehicle maintenance where one or more wheels on a drive axle are lifted off the ground and moving.

disassembly — attach the sensor to the mounting bracket. (In cases where it was necessary to remove both the mounting bracket and sensor, assemble these together before installing them on the vehicle, using the marks made during disassembly to be sure that the new sensor is mounted in the same position. Check to make sure that the orientation of the bracket is the same as before.)

5. The final torque applied to the sensor mounting bolts should be 46Nm (± 9 Nm).
6. Visually inspect that the sensor is level and parallel to the road surface when installed on the vehicle.
7. Reconnect the connector. Ensure that the connector wiring is routed so that, when installed, there will be no pulling force applied to the sensor because of insufficient connector wiring.

Calibration: Yaw Rate Sensors are factory pre-set and, if installed in the same place on the vehicle with the same orientation and bracket, etc., the sensor should not typically need to be re-calibrated. See the Warning below for information on what to do if the ABS ECU detects that the Yaw Rate Sensor is not installed to spec.

▲ WARNING! A non-calibrated Yaw Rate Sensor will cause the ATC indicator lamp to illuminate. If the ATC (or ABS) indicator lamp illuminates, consult the troubleshooting section of the Bendix Service Data Sheet SD-13-4869 (available for free download on www.bendix.com.)

Note: Calibrating the Yaw Rate/Lateral Accelerator Sensor, requires the vehicle be connected to a computer with the Bendix® ACom® Diagnostic Software (V6.3 or higher). The diagnostic software communicates with the Advanced ABS ECU and takes the technician through the steps required for calibration.

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Bendix Technical Assistance Team

For direct telephone technical support, call the Bendix technical assistance team at:

1-800-AIR-BRAKE (1-800-247-2725),

Monday through Friday, 8:00 A.M. to 6:00 P.M. EST, and follow the instructions in the recorded message.

Or, you may e-mail the Bendix technical assistance team at: techteam@bendix.com.

