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CAUTION: Follow all recommended safety warnings and cautions. To prevent eye injury, always wear safe eye protection when performing aintenance or service. Do not work under a vehicle supported only by jacks. Jacks can slip or fall over and cause serious personal injury.

To adjust the ABS sensor pickup, gently push the sensor pickup in until it contacts the tooth wheel:

1. On the steering axle, the sensor pickup may be accessible on the in-board side of the steering knuckle.
2. On the drive axle, the wheel and drum assembly must be pulled to gain access to the pickup. Prior to pulling the wheel and drum assembly, observe the output voltage of the pickup while rotating the wheel by hand. The amount of output voltage is dependent upon the sensor pickup gap and wheel speed. Refer to the manufacturer's recommendations for proper voltage levels.

ABS Sensor Pickup Removal & Installation

The following installation and removal procedure is a guideline only. When removing or installing a sensor pickup on your system, always follow the procedures detailed in the manufacturer's maintenance manual

Sensor Pickup Removal—Front Axle

To remove the sensor pickup from the front axle:

1. Put wheel chocks under the rear tires to keep the vehicle from moving. Apply the parking brake.
2. Remove the pickup and spring clip from the steering knuckle. Use a twisting motion if necessary. Never pull or tug on the cable.
3. Disconnect the pickup cable from the chassis harness. Be careful not to criss-cross wiring.

Sensor Pickup Installation—Front Axle

To replace the sensor pickup in the front axle:

1. Connect the sensor cable to the chassis harness. Be careful not to criss-cross wiring.
2. Install the fasteners used to hold the sensor pickup cable in place.
3. Apply lubricant to the sensor spring clip and to the body of the pickup. NOTE: Use a mineral oil-based lubricant that contains molybdenum disulfide. The lubricant should have excellent anti corrosion and adhesion characteristics, and be capable of continuously functioning in a temperature range of -40° to 300°F (-40°- 150° C).
4. Clean and inspect the hole in the steering knuckle. Install the sensor pickup spring clip. Make sure the flange stops are on the inboard side of the vehicle.
5. Push the sensor spring clip into the bushing in the steering knuckle until the clip stops.
6. Push the sensor pickup completely into the sensor spring clip until it contacts the tooth wheel/exciter.
7. Install fasteners and straps to retain the pickup wiring.
8. Remove the wheel chocks.

Sensor Pickup Removal—Rear Axle

To remove the sensor pickup from the rear axle:

1. Put chocks under the front tires to keep the vehicle from moving.
2. Raise the rear tire 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. Remove the pickup from the mounting block in the axle housing. Use a twisting motion if necessary. Never pull or tug on the cable.
7. Remove the sensor spring clip from the mounting block.
8. Disconnect the fasteners that hold the sensor cable and the hose clamp to the other components.
9. Disconnect the pickup cable from the chassis harness.

Sensor Pickup Installation—Rear Axle

To reinstall the sensor pickup in the rear axle:

1. Apply lubricant to the sensor spring clip and to the body of the pickup. Follow manufacturer’s recommended lube Sensor Pickup Removal/ Installation: Front Axle specification (See lubricant recommendation in previous section “Sensor Pickup Installation—Front Axle”.
2. Clean and inspect the hole in the mounting block. Install the sensor spring clip. Make sure the flange stops on the inboard side of the vehicle.
3. Push the sensor spring clip into the mounting block until it stops.
4. Push the pickup completely into the sensor spring clip until it contacts the tooth wheel. See figure at left.
5. Insert the pickup 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.
6. Connect the pickup cable to the chassis harness.
7. Install the fasteners that hold the pickup cable in place.
8. Install the brake drum on the wheel hub.

Proper ABS Sensor Resistance

For most common types of ABS sensors, the sensor circuit resistance is between 700-3000 ohms. Resistance can be measured at the sensor connection when it is removed from the ECU, or right at the sensor when the extension cable is removed. Follow the manufacturer’s specifications to determine the correct sensor resistance.

Modulator Valve/Routine Inspection

As part of a routine vehicle preventive maintenance program, ABS modulator valves should be checked for proper operation and condition. This inspection generally should include:

1. Removal of contaminates and a visual inspection for excessive corrosion and physical damage.
2. Inspection of all air lines and wiring harnesses for signs of wear or physical damage.

3. Testing for leakage and proper operation.

For specific modulator valve inspection and testing procedures, consult the manufacturer’s service information.