
Trailer ABS Diagnostic Code Retrieval and Sensor Cleaning

1.0 Objective & Scope

The objective of this procedure is to ensure that all trailer ABS diagnostic codes are accurately retrieved, documented, and cleared in accordance with manufacturer specifications and Transport Canada compliance standards. This SOP applies to all fleet trailers equipped with electronic ABS systems and is the responsibility of the Fleet Technician or Lead Installer.

Proper sensor cleaning is critical to prevent false fault codes that can lead to unnecessary downtime and roadside inspections. This procedure covers both diagnostic code retrieval and the cleaning of wheel speed sensors to maintain optimal braking performance.

2.0 Required Equipment & Tools

- Mobile tablet or laptop with ABS diagnostic software (e.g., Bendix ACom, WABCO Toolbox) installed
- ABS diagnostic cable (e.g., 6-pin or 9-pin Deutsch connector) compatible with trailer system
- Digital multimeter for sensor resistance checks
- Brake cleaner (non-chlorinated) and clean lint-free rags
- Small wire brush (brass or nylon) for sensor tip cleaning
- Dielectric grease for sensor reinstallation
- Torque wrench (calibrated) for sensor mounting bolts
- Personal protective equipment (PPE): safety glasses, nitrile gloves, high-visibility vest
- SiteQueue application for digital documentation and sign-off

3.0 Site Safety & Hazard Assessment

- High-visibility vest and steel-toed boots required when working in active yard or roadside environments.
- Chock trailer wheels and engage parking brakes before any under-vehicle work.
- Use jack stands if trailer is lifted; never rely solely on a hydraulic jack.
- Ensure the trailer is on level, stable ground to prevent shifting.
- Beware of hot brake components; allow system to cool for at least 15 minutes after operation.
- Brake cleaner is flammable; work in a well-ventilated area away from ignition sources.
- Wear nitrile gloves to avoid skin contact with brake dust and cleaning solvents.

4.0 Step-by-Step Execution Procedure

1. Park the trailer on a level surface, chock the wheels, and engage the parking brakes. Verify the trailer is stable before proceeding.
2. Connect the ABS diagnostic cable to the trailer's diagnostic port (typically located near the front of the trailer frame or in the battery box). Ensure the connection is secure.

3. Launch the ABS diagnostic software on the mobile tablet or laptop. Select the appropriate trailer make and model from the software menu.
4. Initiate a system scan to retrieve all active and stored diagnostic trouble codes (DTCs). Record each code along with its description in the SiteQueue work order.
5. Interpret the codes to identify which wheel end(s) are reporting faults. Common codes include sensor circuit open, short to ground, or erratic signal.
6. Locate the affected wheel speed sensor(s) on the trailer axle. Remove the sensor mounting bolt using the appropriate socket and torque wrench.
7. Carefully extract the sensor from the mounting hole. Inspect the sensor tip for metal debris, rust, or heavy contamination. Use a clean rag and brake cleaner to wipe the sensor tip clean. For stubborn deposits, gently use a brass wire brush.
8. Inspect the sensor wiring harness for cuts, abrasions, or corrosion. Use a digital multimeter to check sensor resistance (typically 1000-2000 ohms depending on manufacturer). Replace the sensor if resistance is out of specification.
9. Apply a thin layer of dielectric grease to the sensor body (not the tip) to ease future removal and prevent corrosion. Reinstall the sensor and torque the mounting bolt to manufacturer specification (typically 8-12 ft-lbs).
10. Reconnect the diagnostic cable and perform a second system scan to verify that the fault codes have cleared or become inactive. If codes persist, repeat the cleaning process or replace the sensor.
11. Disconnect the diagnostic equipment and stow all tools. Perform a final visual inspection of the wheel end to ensure no tools or debris remain.
12. Document the completed work in SiteQueue, including before and after photos of the sensor, the list of codes retrieved, and any parts replaced.

5.0 Verification, Sign-off & Reporting

1. Verify that all diagnostic codes have been cleared and the ABS warning lamp on the trailer dash is off (if applicable).
2. Conduct a short test drive (if safe and permitted) to confirm the ABS system operates without fault.
3. Complete the SiteQueue work order by uploading all diagnostic screenshots, sensor photos, and the final code report.
4. Obtain a digital signature from the fleet supervisor or site manager confirming the work meets company standards.
5. Close the work order in SiteQueue and note any recurring issues for future preventive maintenance scheduling.

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