# C0710 Steering Position Signal

## Diagnostic Instructions

- Perform the Diagnostic System Check – Vehicle prior to using this diagnostic procedure.
- Review Strategy Based Diagnosis for an overview of the diagnostic approach.
- Diagnostic Procedure Instructions provides an overview of each diagnostic category.

## DTC Descriptors

**DTC C0710 00:** Steering Position Signal
**DTC C0710 5A:** Steering Position Signal Plausibility Failure

## Diagnostic Fault Information

| Circuit | Short to Ground | Open/High Resistance | Short to Voltage | Signal Performance |
|---|---|---|---|---|
| Ignition Voltage | C0710 00, U2142 00 | C0710 00, U2142 00 | — | C0710 5A, C0186 5A, C0196 5A |
| Low Reference | C0710 00, U2142 00 | C0710 00, U2142 00 | C0710 00, U2142 00 | C0710 5A, C0186 5A, C0196 5A |
| CAN Bus High Serial Data | C0710 00, U2100 00, U2142 00, C0196 00 | C0710 00, U2142 00 | C0710 00, U2142 00 | C0710 5A, C0186 5A, C0196 5A |
| CAN Bus Low Serial Data | C0710 00, U2142 00 | C0710 00, U2142 00 | C0710 00, U2100 00, U2142 00 | C0710 5A, C0186 5A, C0196 5A |

## Circuit/System Description

The electronic brake control module (EBCM) receives CAN message inputs from the steering wheel position sensor identifying the position and direction of the steering wheel rotation.

## Conditions for Running the DTC

The engine is running.

## Conditions for Setting the DTC

**C0710 00**

- Open or short to ground on the ignition voltage circuit
- Open, short to ground, or short to voltage on the low reference circuit

**C0710 5A**

- The calculated steering angle does not correlate between the steering angle sensor and the yaw rate sensor.
- The steering wheel is off-center.

## Action Taken When the DTC Sets

- The EBCM disables the VSES for the duration of the ignition cycle.
- A DIC message and/or a warning indicator may be displayed.



## Conditions for Clearing the DTC

- The condition for the DTC is no longer present.
- The EBCM clears the history DTC when a current DTC is not detected in 100 consecutive drive cycles.

## Diagnostic Aids

The car should not pull in either direction causing the steering wheel to be off-center while driving straight on a level surface.

## Reference Information

### Schematic Reference

Antilock Brake System Schematics

## Connector End View Reference

Component Connector End Views

## Description and Operation

ABS Description and Operation

## Electrical Information Reference

- Circuit Testing
- Connector Repairs
- Testing for Intermittent Conditions and Poor Connections
- Wiring Repairs

## Scan Tool Reference

Control Module References for scan tool information



# Circuit/System Verification

1). With the scan tool perform the Steering Angle Sensor Centering.
2). Operate the vehicle within the Conditions for Running the DTC. Verify the DTC does not reset.

# Circuit/System Testing

1). Ignition OFF, disconnect the harness connector at the steering angle sensor.
2). Ignition OFF for 60 seconds, test for less than 5 ohms between the low reference circuit terminal 6 and ground.If greater than the specified range, test the low reference circuit for an open/high resistance. If the circuit tests normal, replace the EBCM.
3). Ignition ON, test for ignition voltage between the ignition voltage circuit terminal 5 and ground.If not within the specified range, test the ignition voltage circuit for a short to ground or open/high resistance. If the circuit tests normal, replace the EBCM.
4). Ignition OFF, disconnect the harness connector at the EBCM.
5). Ignition ON, test for less than 1 volt between the following terminal listed below and ground.
   - CAN Bus High serial data circuit terminal 37

- CAN Bus Low serial data circuit terminal 24 If greater than the specified value, test the appropriate serial data circuit for a short to voltage. If the circuit tests normal, test or replace the steering angle sensor.

6). Ignition OFF, test for infinite resistance between the following terminal listed below and ground.
   - CAN Bus High serial data circuit terminal 37
   - CAN Bus Low serial data circuit terminal 24 If not the specified value, test the appropriate serial data circuit for a short to ground. If the circuit tests normal, test or replace the steering angle sensor.

7). Test for less than 2 ohms between the appropriate serial data circuit terminals listed below.
   - CAN Bus High serial data circuit terminal 37 at the EBCM harness connector and terminal 3 at the steering angle sensor harness connector.
   - CAN Bus Low serial data circuit terminal 24 at the EBCM harness connector and terminal 1 at the steering angle sensor harness connector. If greater than the specified range, test the appropriate serial data circuit for an open/high resistance. If the circuit tests normal, replace the steering angle sensor.

8). Test for infinite resistance between the CAN Bus High serial data circuit terminal 37 and the CAN Bus Low serial data circuit terminal 24. If not the specified value, repair the serial data circuits for a short together.

9). If all circuits test normal, replace the EBCM.



## Repair Instructions

Perform the Diagnostic Repair Verification after completing the diagnostic procedure.

- Steering Angle Sensor Replacement
- Control Module References for EBCM replacement, setup, and programming