

Yes	INSTALL a new FCIM. Refer to the appropriate article for the procedure.
No	INSTALL a new HSWM. REFER to: Heated Steering Wheel Module (HSWM) .

DIAGNOSIS AND TESTING > STEERING WHEEL AND COLUMN ELECTRICAL COMPONENTS > PINPOINT TESTS > PINPOINT TEST Q : U210A:11, U210A:15

Refer to Adjustable Steering Column for schematic and connector information.

Normal Operation and Fault Conditions

When steering wheel heat is requested, the HSWM uses a sensor in the steering wheel (integral to the steering wheel) to maintain the heated steering wheel temperature. The resistance of the sensor rises as the temperature falls and the resistance falls as the temperature rises. The resistance can vary from 3, 384 ohms at 50 °C (122 °F) to 34, 699 ohms at 0 °C (32 °F). The HSWM supplies a reference voltage and ground to the temperature sensor and monitors the voltage drop from the temperature sensor for controlling current flow to the heating element. The HSWM is designed to remain on, heating the steering wheel and maintaining temperature, until switched OFF using the FDIM or the ignition is turned OFF.

HSWM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U210A:11	Temperature Sensor: Circuit Short to Ground	Sets when the heated steering wheel is commanded on and the HSWM reads a resistance value less than 627 ohms on the heating element temperature sensor input circuit, indicating a short to ground. When this fault occurs, the steering wheel heating element output is disabled until the ignition is cycled.
U210A:15	Temperature Sensor: Circuit Short to Battery or Open	Sets when the heated steering wheel is commanded on and the HSWM reads a resistance value greater than 670, 000 ohms on the heating element temperature sensor reference circuit for greater than 10 minutes. This indicates a short to voltage, an open circuit or an open heating element temperature sensor. When this fault occurs, the steering wheel heating element output is disabled until the ignition is cycled.

Possible Causes

- Wiring, terminals or connectors