

Rear Seats - System Operation and Component Description

System Operation

Rear Heated Seats

The heated seats operate in a sequence of high, low and off with each press of the heated seat switch. Rear heated seats are equipped with a single heated seat module to control both outboard rear heated seats. The heated seat module is attached to the back of the LH rear seat backrest. The heated seat switch buttons are located in the rear panel of the front floor console. When the heated seat switch is pressed, a momentary ground signal is sent to the heated seat module. The heated seat module then supplies voltage to the appropriate seat heater mat circuit. The seat cushion and backrest heater mats are wired in series and supplied voltage by the same module output. The heated seat module monitors inputs from a temperature sensor, located in each seat's cushion heater mat and maintains seat temperature by cycling the heater feed output as necessary to maintain the setpoint temperature. The heated seat module sends voltage to the separate indicator circuit at the heated seat switch to indicate an on state. The heated seat module remains on until switched off or the ignition is set to OFF. The heated seat module does not time out.

The heated seat module does not report Diagnostic Trouble Codes (DTCs) and does not communicate on any network. If a fault is detected, the affected seat system is disabled. The faults detected are:

- a heater feed circuit short to battery, ground or open.
- sensor circuit short to battery or open.
- heated seat switch stuck closed to ground.

After the fault is corrected, the heated seat module needs to be reset by cycling the ignition OFF and then ON. After the heated seat module has been reset, the module returns to an off state.

Component Description

Heated Seat Switch

The heated seat switch is a momentary contact switch that, when pressed, completes a circuit to chassis ground.

Heated Seat Module

When commanded by the heated seat switch, the heated seat module monitors the appropriate seat cushion temperature sensor(s) and supplies heater current to the seat cushion and backrest heater mats until the desired setpoint temperature is reached. Once the setpoint temperature is reached, the heated seat module cycles the heater circuits on/off as required to maintain the setpoint temperature. The heated seat module does not report Diagnostic Trouble Codes (DTCs) and does not communicate on any network. If the heated seat module detects a fault, the affected seat system is disabled.

Seat Heater Mat

Each seat cushion heater mat is equipped with a temperature sensor (thermistor) which provides feedback to the heated seat module. The cushion and backrest heater mats are connected in series.
