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Title: Seat Switch Operation, Testing, Diagnostics and Replacement

Applies To: eStar

DESCRIPTION

The seat switch is one of three signals needed to initialize the the avehicle. Failure of the seat switch will not allow the vehicle to power up.

SYMPTOMS

The vehicle will not power up even though the seat is occupied, the brake switch signal has been sent and the shift position is either park or neutral

PARTS INFORMATION

Part #	Description	Qty.
ESTRS200800	Driver seat switch	1

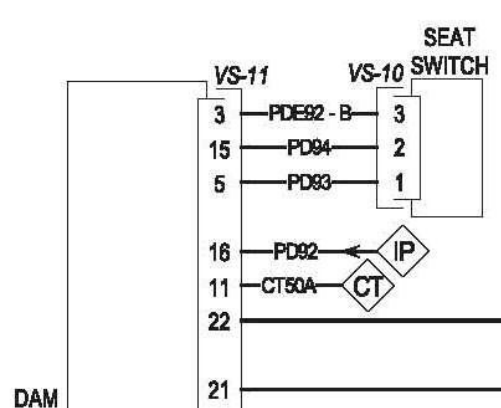
RESOLUTION & CIRCUIT DIAGRAMS

Prior to checking the seat switch inspect the wiring to the switch for damage. The wiring is exposed and may be damaged by material placed on the leads.



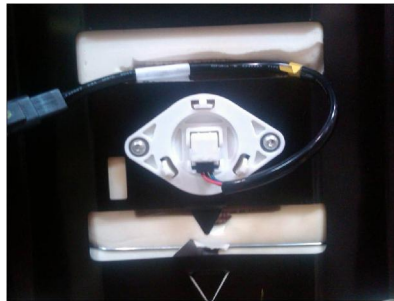
Figure 1

The operation of the seat switch can be checked using the Accutest software on the SJB dashboard. The Status will switch from "Occupied" to "Empty" (Figure 1) as the driver sits or leaves the seat. If the switch is not switching properly use the following procedure to diagnose. The seat switch is one of the three signals needed to initialize the vehicle. The other two are a brake light switch signal and the vehicle in park or neutral. The DAM (Driver Authorization Module) sends a reference voltage to the switch and the switch sends the information about if the seat is occupied (>2.5 to 4.5 V) or unoccupied (.5 to <2.5V) back to the DAM. The seat switch requires over 35kg (77 pounds) to close the hall-effect. The DAM also signals the SJB that the seat has been vacated and goes into power saver mode after five seconds. The switch is located in the center of the seat bottom below the cushion and can be replaced if necessary by unplugging the connector and removing the (2) 4mm Allen head bolts holding it into the seat.





Seat sensor from the front

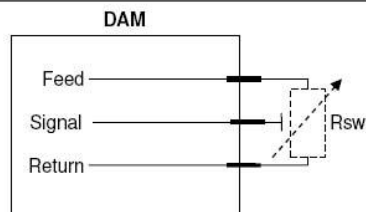


Seat sensor with the seat removed



The DAM is the yellow module located behind the console under the I-Pack. The view is with the console removed.

Seat Switch



The variable resistance shown by Rsw is a Hall Effect Seat Occupancy Sensor with a variable voltage output.

The feed for this sensor should be:

- 5V relative to the return (signal reference) line
- Capable of delivering 50mA
- **Only switched on once the key-switch has been activated**

The interface should then compare the voltages present at Return and Signal to determine whether the seat is occupied or a fault has occurred according to the following table:

Signal voltage range	Condition
$V < 0.5$	Fault
$0.5 \leq V \leq 2.5$	Seat unoccupied
$2.5 < V \leq 4.5$	Seat occupied
$V > 4.5$	Fault

The weight on the seat should exceed 35kg (77 lbs.). A weight of 50 lbs. or greater on the sensor can be used for testing purposes.

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