



SRSCM

The primary purpose of the advanced restraint control module is to discriminate between an event that warrants restraint system deployment and an event that does not. The advanced restraint control module must decide if and when to deploy the restraint system pretensioners and airbags. After determining that pretensioners and/or airbag deployment is required, the advanced restraint control module must supply sufficient power to the pretensioners and airbag igniters to initiate deployment. The advanced restraint control module determines that an impact may require deployment of the pretensioners and airbags from data obtained from buckle switches, seat track position sensors, occupant classification system, front impact sensors and side impact sensors in conjunction with a safing function.

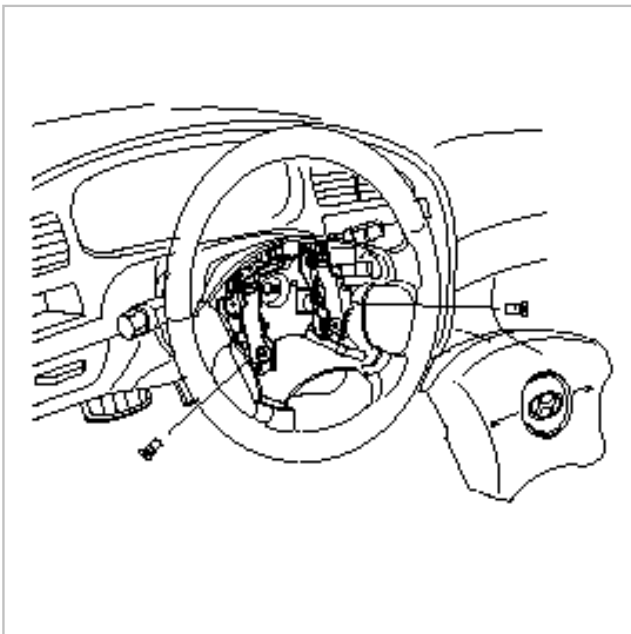
The advanced restraint control module will not be ready to detect a crash or to activate the restraint system devices until the signals in the advanced restraint control module circuitry stabilize. It is possible that the advanced restraint control module could activate the safety restraint devices in approximately 2 seconds but is guaranteed to fully function after prove-out is completed.

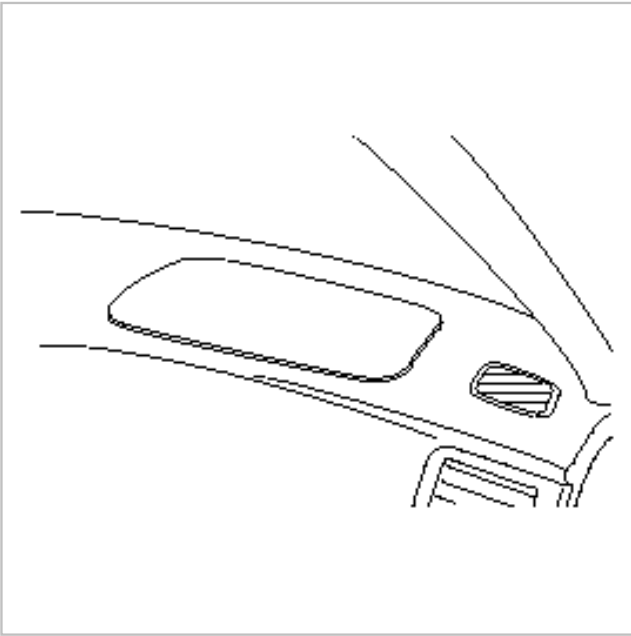
The advanced restraint control module must perform a diagnostic routine and light a system readiness indicator at key-on. The system must perform a continuous diagnostic routine and provide fault annunciation through a warning lamp indicator in the event of fault detection.

A serial diagnostic communication interface will be used to facilitate servicing of the advanced restraint control system.

FRONT AIRBAGS

The Driver and front passenger airbags are two stage devices. If the crash algorithm determines that only the first stage is to be activated, the second stage will be automatically disposed of after a programmable time in 120 milliseconds has elapsed since the first stage deployment. The driver and front passenger firing loops (4 total) are backed up (Back-up Power Supply) for 150ms if the battery connection is lost in a crash.





OC (OCCUPANT CLASSIFICATION) SYSTEM

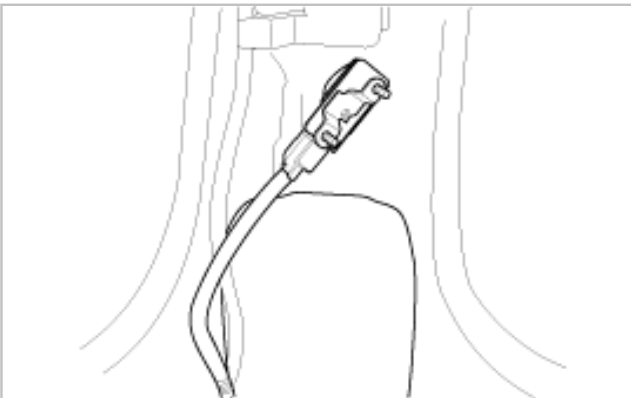
In contrast to the initial one-stage airbag systems, newer restraint systems involve complex logic to select, or alternatively suppress, various levels of safety system deployment.

Inherent to an Advanced Restraint System is the ability to discern information regarding passenger occupancy. It is intended that these inputs be provided through the OCS. The objective of such safety system is to reduce the risk and level of injuries by automatically adapting the airbag(s) and seat belt pretensioner to the driving status of the vehicle, its occupants, and the crash severity.

The current OCS covered in this specification continually senses and classifies the front passenger side seat.

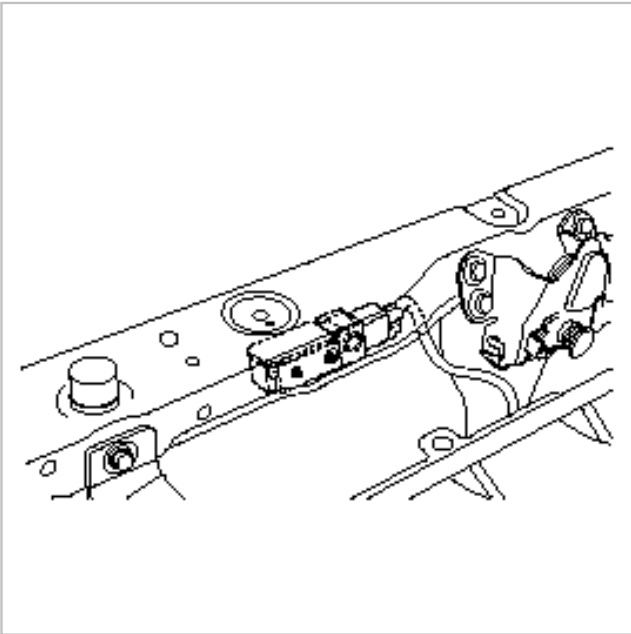
SIDE IMPACT SENSOR

The Side Impact Sensors are remote sensor that detect acceleration due to collision at their mounting locations. The primary purpose of the Side Impact Sensors is to provide an indication of a collision earlier than is possible from a central mounting location. The Side Impact Sensors send acceleration data to the central control module.



FRONT IMPACT SENSOR

The Front Impact Sensor is a remote sensor that provides accelerometer data to the advanced restraint control module to determine if the severity of a frontal impact event warrants a single-stage or dual-stage frontal airbag deployment.



Backup power

The advanced restraint control module must provide deployment power to the Front Impact Sensor for a minimum of 150 ms after loss of vehicle power.

STPS (SEAT TRACK POSITION SENSOR)

The STPS operated via a non-contacting magnetic proximity sensing device combined with a simple electronic circuit resulting in the ability of producing two separate & distinct logic level signals.

The STPS output signal is altered by the proximity of a separate ferro-magnetic shunt, which is linked via the seat track. The logic signal produced is the result of the proximity device being activated (no shunt present) or deactivated (shunt present).

