

RT-2

Restraint

General Information

General Information

The supplemental restraint system (SRS) is designed to supplement the seat belt to help reduce the risk or severity of injury to the driver and passenger by activating and deploying the driver, passenger, side airbag and belt pretensioner in certain frontal or side collisions.

The SRS (Airbag) consists of ; a driver side airbag module located in the center of the steering wheel, which contains the folded cushion and an inflator unit ; a passenger side airbag module located in the passenger side crash pad contains the folded cushion assembled with inflator unit ; side airbag modules located in the front seat contain the folded cushion and an inflator unit ; curtain airbag modules located inside of the headliner which contains folded cushions and inflator units. The impact sensing function of the SRSCM is carried out by electronic accelerometer that continuously measure the vehicle's acceleration and delivers a corresponding signal through amplifying and filtering circuitry to the microprocessor.

SRSCM (SRS Control Module)

SRSCM will detect front impact with front impact sensor, and side impact with side impact sensor, and determine airbag module deployment.

1. DC/DC converter: DC/DC converter in power supply unit includes up/down transformer converter, and provide ignition voltage for 2 front airbag ignition circuits and the internal operation voltage of the SRSCM. If the internal operation voltage is below critical value setting, it will perform resetting.
2. Safety sensor: Safety sensor is located in airbag ignition circuit. Safety sensor will operate airbag circuit at any deployment condition and release airbag circuit safely at normal driving condition. Safety sensor is a double contact electronic switch that will close detecting acceleration above certain criteria.
3. Back up power supply: SRSCM has separate back up power supply, that will supply deployment energy instantly in low voltage condition or upon power failure by front crash.
4. Self diagnosis: SRSCM will constantly monitor current SRS operation status and detect system failure while vehicle power supply is on, system failure may be checked with trouble codes using scan tool. (Hi-Scan)

5. Airbag warning lamp on: Upon detecting error, the module will transmit signal to SRSCM indicator lamp located at cluster. MIL lamp will indicate driver SRS error. Upon ignition key on, SRS lamp will turn on for about six seconds.
6. Trouble code registration: Upon error occurrence in system, SRSCM will store DTC corresponding to the error. DTC can be cleared only by Hi-Scan. However, if an internal fault code is logged or if a crash is recorded the fault clearing should not happen.
7. Self diagnostic connector: Data stored in SRSCM memory will be output to Hi-Scan or other external output devices through connector located below driver side crash pad.
8. Once airbag is deployed, SRSCM should not be used again but replaced.
9. SRSCM will determine whether passenger put on seat belt by the signal from built-in switch in seat belt buckle, and deploy front seat airbag at each set crash speed.
10. Side airbag deployment will be determined by SRSCM that will detect satellite sensor impact signal upon side crash, irrespective to seat belt condition.

General Information

RT-3

Specification

Item	Resistance (Ω)
Driver Airbag (DAB)	1.5 ~ 5.7
Passenger Airbag (PAB)	1.5 ~ 5.7
Side Airbag (SAB)	1.5 ~ 5.7
Curtain Airbag (CAB)	1.5 ~ 5.7
Seat Belt Retractor Pretensioner (BPT)	1.5 ~ 5.7

Tightening Torques

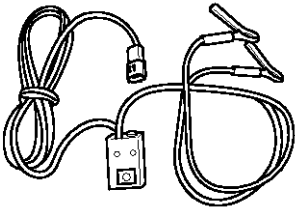
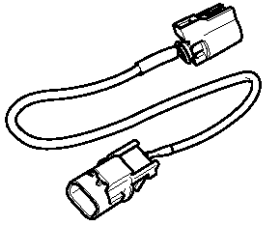
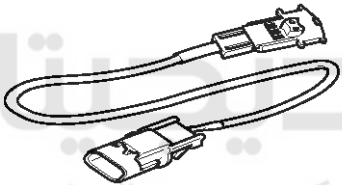
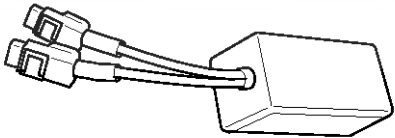
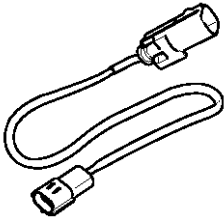
Item	N.m	kgf.m	lb-ft
Driver Airbag (DAB)	7.8 ~ 10.8	0.8 ~ 1.1	5.8 ~ 8.0
Passenger Airbag (PAB)	Bolt : 18.6 ~ 26.5 Nut : 5.9 ~ 6.9	1.9 ~ 2.7 0.6 ~ 0.7	13.7 ~ 19.2 4.3 ~ 5.1
Side Airbag (SAB)	18.6 ~ 26.5	1.9 ~ 2.7	13.7 ~ 19.2
Curtain Airbag (CAB)	6.9 ~ 8.8	0.7 ~ 0.9	5.1 ~ 6.5
Seat Belt Anchor Bolt (BPT)	39.2 ~ 53.9	4.0 ~ 5.5	28.9 ~ 39.8
SRSCM	6.9 ~ 8.8	0.7 ~ 0.9	5.1 ~ 6.5
Front Impact Sensor (FIS) Mounting Nut	6.9 ~ 8.8	0.7 ~ 0.9	5.1 ~ 6.5
Front Side Impact Sensor (FSIS) Mounting Screw	4.9 ~ 6.9	0.5 ~ 0.7	3.6 ~ 5.1
Rear Side Impact Sensor (RSIS) Mounting Bolt	6.9 ~ 8.8	0.7 ~ 0.9	5.1 ~ 6.5

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

RT-4

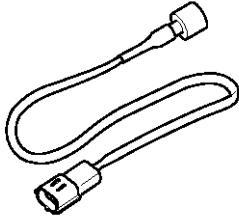
Restraint

Special Service Tools

Tool(Number and Name)	Illustration	Use
Deployment tool 0957A-34100A	 ARIE500A	Airbag deployment tool.
Deployment adapter 0957A-3F100	 ERKD001F	Use with deployment tool. (PAB, SAB)
Deployment adapter 0957A-38500	 ARIE500C	Use with deployment tool. (DAB, CAB, BPT)
Dummy 0957A-38200	 ARIE500D	Simulator to check the resistance of each wiring harness.
Dummy adapter 0957A-3F000	 ERKD001G	Use with dummy (PAB, SAB)

General Information

RT-5

Tool(Number and Name)	Illustration	Use
Dummy adapter 0957A-2G000	 <p>ARIE500F</p>	Use with dummy (DAB, CAB, BPT)

DAB : Driver Airbag

PAB : Passenger Airbag

SAB : Side Airbag

CAB : Curtain Airbag

BPT : Seat Belt Pretensioner

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



RT-6

Restraint

Precautions

General Precautions

Please read the following precautions carefully before performing the airbag system service.

Observe the instructions described in this manual, or the airbags could accidentally deploy and cause damage or injuries.

- Except when performing electrical inspections, always turn the ignition switch OFF and disconnect the negative cable from the battery, and wait at least three minutes before beginning work.

NOTICE

The contents in the memory are not erased even if the ignition switch is turned OFF or the battery cables are disconnected from the battery.

- Use the replacement parts which are manufactured to the same standards as the original parts and quality. Do not install used SRS parts from another vehicle. Use only new parts when making SRS repairs.
- Carefully inspect any SRS part before you install it. Do not install any part that shows signs of being dropped or improperly handled, such as dents, cracks or deformation.



ERKD002V

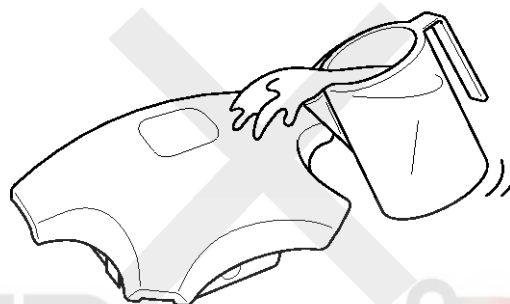
- Before removing any of the SRS parts (including the disconnection of the connectors), always disconnect the SRS connector.

Airbag Handling and Storage

Do not disassemble the airbags; it has no serviceable parts. Once an airbag has been deployed, it cannot be repaired or reused.

For temporary storage of the air bag during service, please observe the following precautions.

- Store the removed airbag with the pad surface up.
- Keep free from any oil, grease, detergent, or water to prevent damage to the airbag assembly.



ERKD002Z

- Store the removed airbag on secure, flat surface away from any high heat source (exceeding 85 C/185 F).
- Never perform electrical inspections to the airbags, such as measuring resistance.
- Do not position yourself in front of the airbag assembly during removal, inspection, or replacement.
- Refer to the scrapping procedures for disposal of the damaged airbag.
- Be careful not to bump or impact the SRS unit or the side impact sensors or front impact sensors whenever the ignition switch is ON, wait at least three minutes after the ignition switch is turned OFF before begin work.
- During installation or replacement, be careful not to bump (by impact wrench, hammer, etc.) the area around the SRS unit and the side impact sensor and the front impact sensors. The airbags could accidentally deploy and cause damage or injury.

General Information

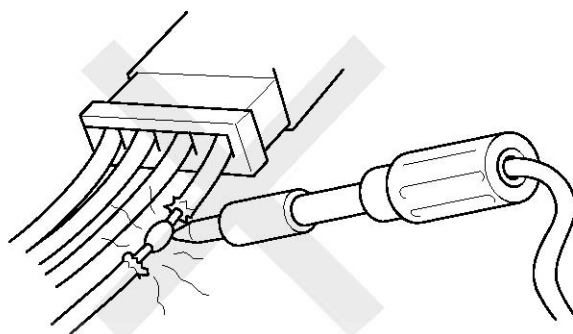
RT-7

- Replace the front airbag module, SRSCM, FIS when deploying the front airbag. Replace the airbag wiring when the airbag wiring get damaged. Replace the side airbag module, the curtain airbag module, SRSCM, SIS when deploying the side airbag. Replace the airbag when the airbag wiring get damaged.
- After a collision in which the airbags or the side air bags did not deploy, inspect for any damage or any deformation on the SRS unit and the side impact sensors. If there is any damage, replace the SRS unit, the front impact sensor and/or the side impact sensors.
- Do not disassemble the SRS unit, the front impact sensor or the side impact sensors.
- Turn the ignition switch OFF, disconnect the battery negative cable and wait at least three minutes before beginning installation or replacement of the SRS unit.
- Be sure the SRS unit, the front impact sensor and side impact sensors are installed securely with the mounting bolts.
- Do not spill water or oil on the SRS unit, or the front impact sensor or the side impact sensors and keep them away from dust.
- Store the SRS unit, the front impact sensor and the side impact sensors in a cool (15 ~ 25°C/ 59 ~ 77°F) and dry (30 ~ 80% relative humidity, no moisture) area.

Wiring Precautions

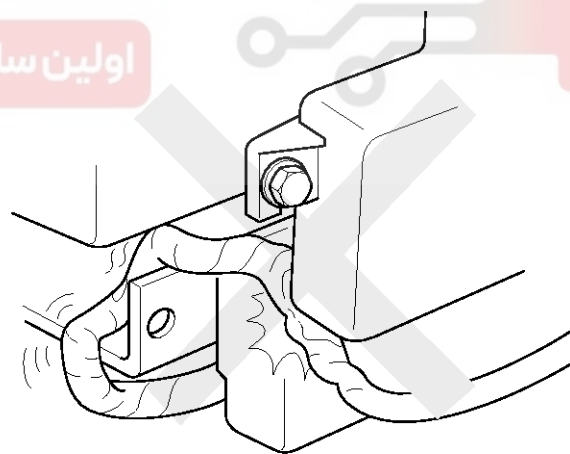
SRS wiring can be identified by special yellow outer covering. Observe the instructions described in this section.

- Never attempt to modify, splice, or repair SRS wiring. If there is an open or damage in SRS wiring, replace the harness.



ERKD002Y

- Be sure to install the harness wires so that they are not pinched, or interfere with other parts.



ERKD002X

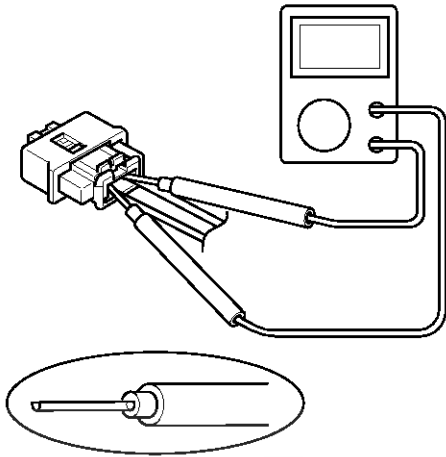
- Make sure all SRS ground locations are clean, and grounds are securely fastened for optimum metal-to-metal contact. Poor grounding can cause intermittent problems that are difficult to diagnose.

RT-8

Restraint

Precautions for Electrical Inspections

- When using electrical test equipment, insert the probe of the tester into the wire side of the connector. Do not insert the probe of the tester into the terminal side of the connector, and do not tamper with the connector.



ERKD002W

- Use a u-shaped probe. Do not insert the probe forcibly.
- Use specified service connectors for troubleshooting. Using improper tools could cause an error in inspection due to poor metal contact.

Spring-laded Lock Connector

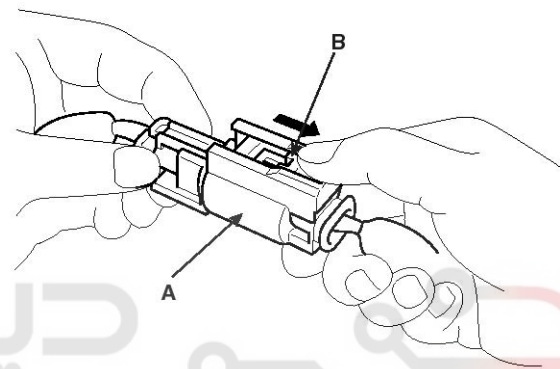
Some SRS system connectors have a spring-loaded lock.

Airbag Connector

Disconnecting

To release the lock, pull the spring-loaded sleeve (A) and the slider (B), while holding the opposite half of the connector.

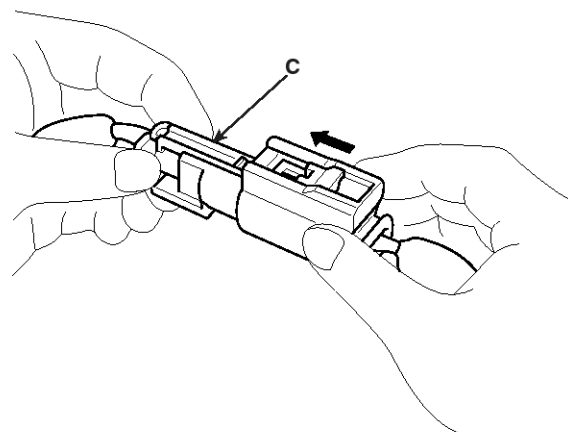
Pull the connector halves apart. Be sure to pull on the sleeve and not on the connector half.



ERKD511D

Connecting

Hold both connector halves and press firmly until the projection (C) of the sleeve-side connector clicks to lock.



ERKD511E

General Information

RT-9

Warning Lamp Activation

Warning Lamp Behavior after Ignition On

As soon as the operating voltage is applied to the SRSCM ignition input, the SRSCM activates the warning lamp for a bulb check.

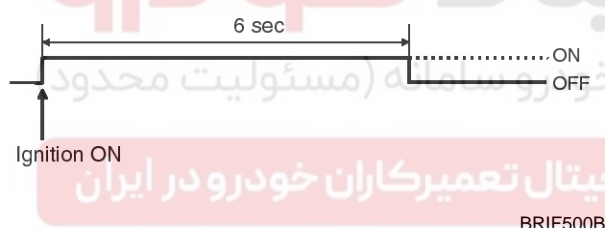
The lamp shall turn on for 6 seconds during the initialization phase and be turned off afterward.

However, in order to indicate the driver, the warning lamp shall turn on for 6 seconds and off for one second then on continuously after the operating voltage is applied if any active fault exists.

1. Active fault or historical fault counter is greater or equal to 10.



2. Normal or historical fault counter is less than 10.



SRSCM Independent Warning Lamp Activation

There are certain fault conditions in which the SRSCM cannot function and thus cannot control the operation of the standard warning lamp. In these cases, the standard warning lamp is directly activated by appropriate circuitry that operates independently of the SRSCM. These cases are:

1. Loss of battery supply to the SRSCM : warning lamp turned on continuously.
2. Loss of internal operating voltage : warning lamp turned on continuously.
3. Loss of Microprocessor operation : warning lamp turned on continuously.
4. SRSCM not connected : warning lamp turned on continuously through the shorting bar.

Component Replacement After Deployment

NOTICE

Before doing any SRS repairs, use the Hi-Scan Pro to check for DTCs. Refer to the Diagnostic Trouble Code list for repairing of the related DTCs.

When the front airbag(s) deployed after a collision, replace the following items.

- SRSCM
- Deployed airbag(s)
- Seat belt pretensioner(s)
- Front impact sensors
- SRS wiring harnesses
- Inspect the clock spring for heat damage.

If any damage found, replace the clock spring.

When the seat belt pretensioner(s) deployed after a collision, replace the following items.

- Seat belt pretensioner(s)
- SRSCM
- Front impact sensors
- SRS wiring harnesses

When the side/curtain airbag(s) deployed after a collision, replace the following items.

- SRSCM
- Deployed airbag(s)
- Side impact sensor(s) for the deployed side(s)
- SRS wiring harnesses

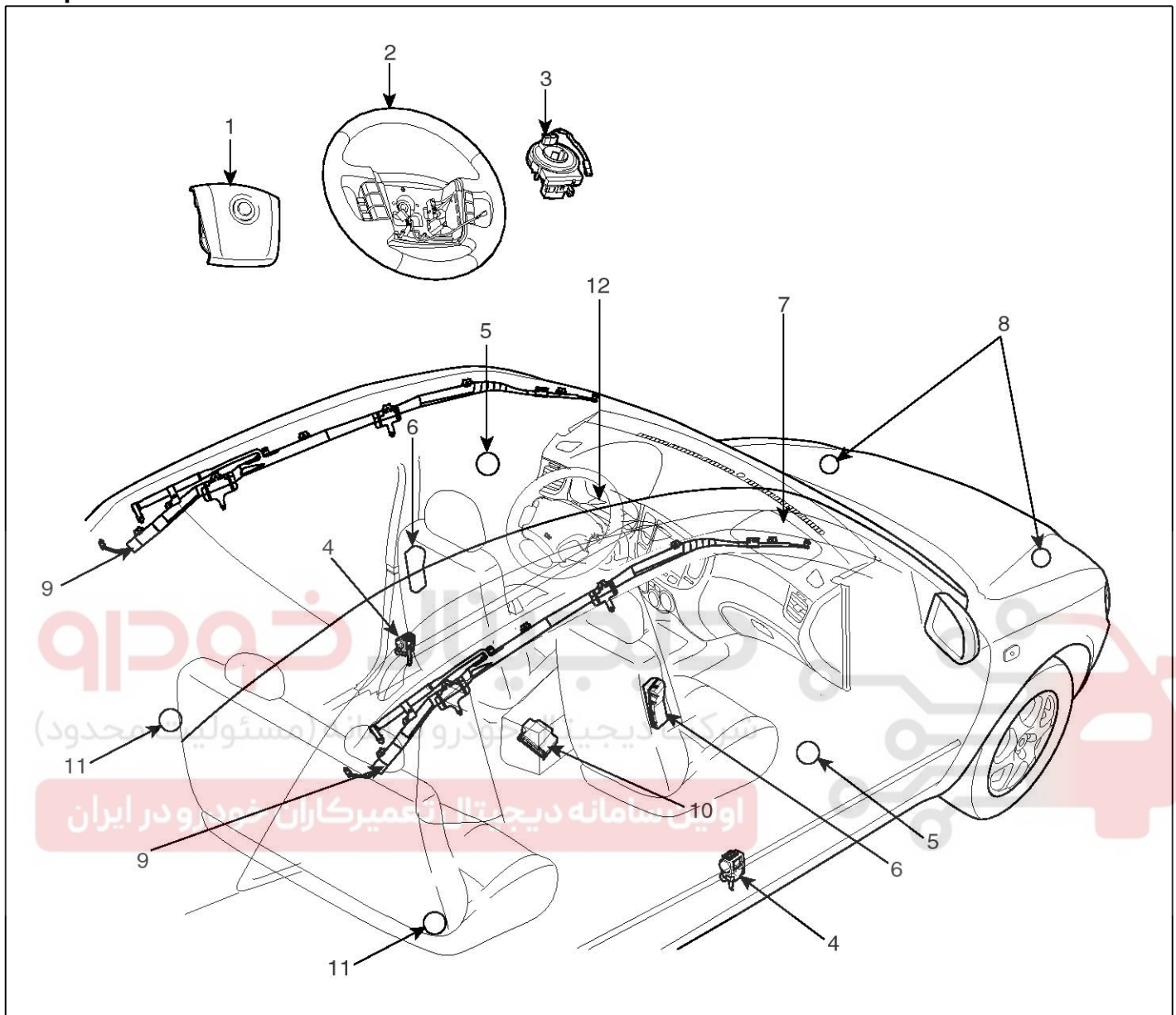
After the vehicle is completely repaired, confirm the SRS airbag system is OK.

- Turn the ignition switch ON; the SRS indicator should come on for about six seconds and then go off.

RT-10

Restraint

Components



SHMRT8100D

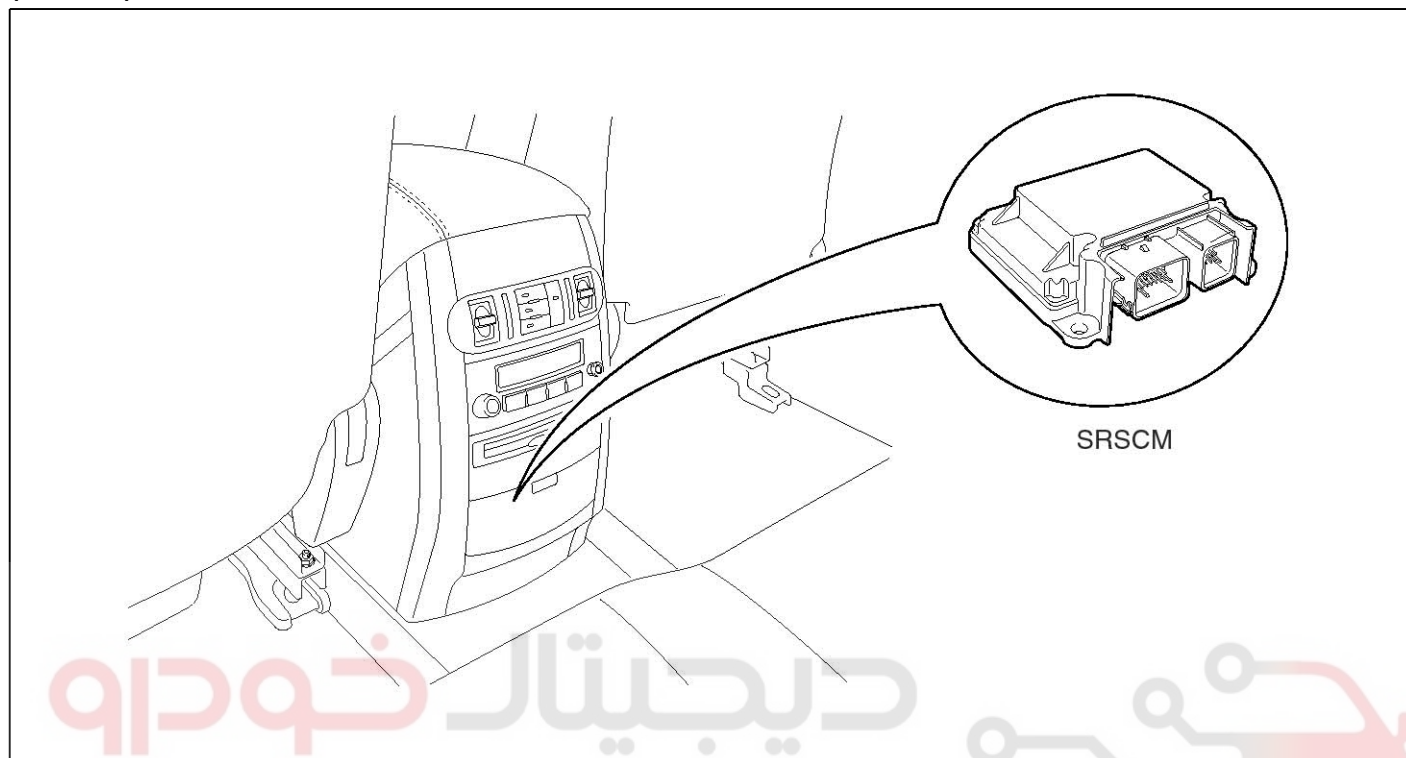
- | | |
|------------------------------------|--|
| 1. Driver Airbag (DAB) | 7. Passenger Airbag (PAB) |
| 2. Steering Wheel | 8. Front Impact Sensor (FIS) |
| 3. Clock Spring | 9. Curtain Airbag (CAB) |
| 4. Seat Belt Pretensioner (BPT) | 10. Supplemental Restraint System Control Module (SRSCM) |
| 5. Front Side Impact Sensor (FSIS) | 11. Rear Side Impact Sensor (RSIS) |
| 6. Side Airbag (SAB) | 12. Airbag Warning Lamp |

General Information

RT-11

Components Location

Supplemental Restraint System Control Module (SRSCM)



SHMRT8150D

Driver Airbag (DAB) / Passenger Airbag (PAB)

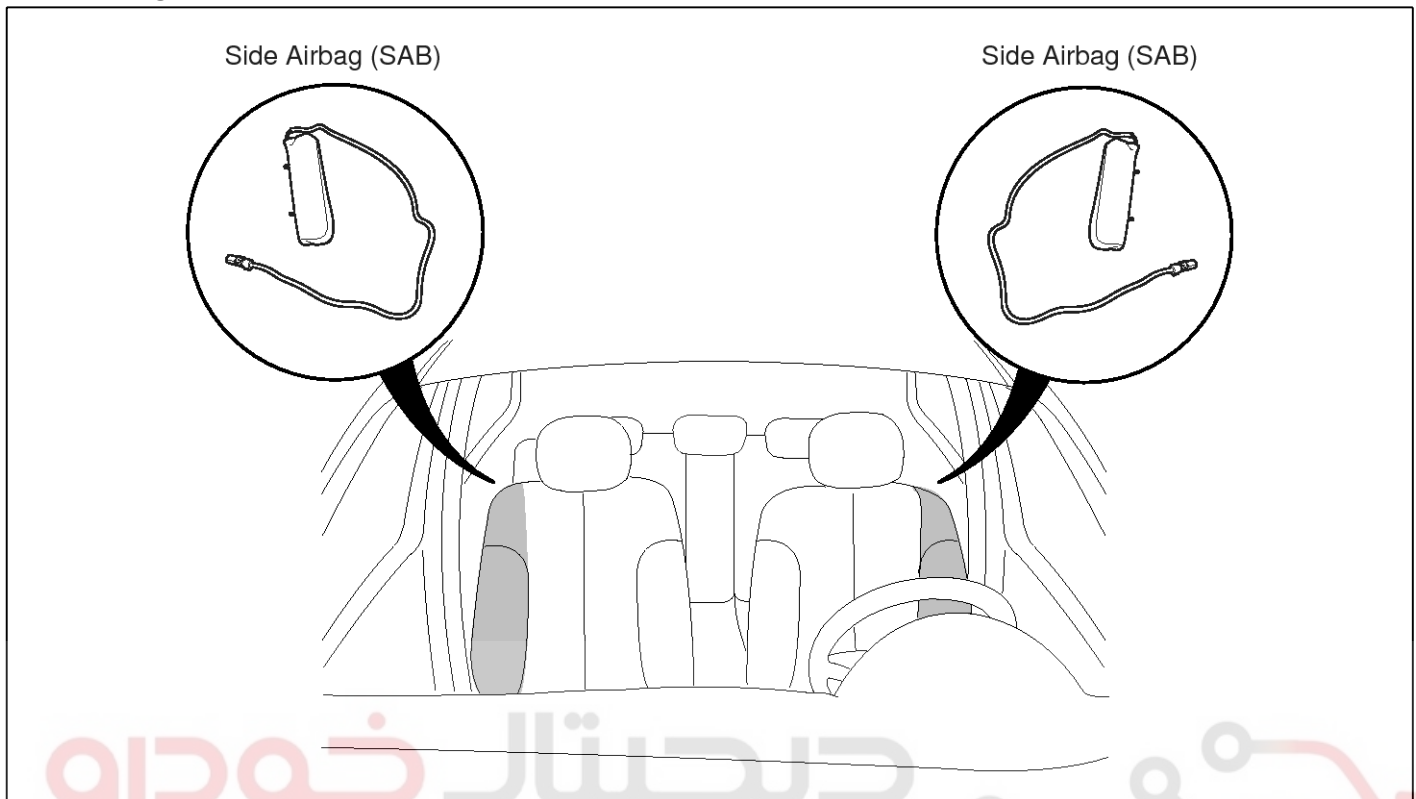


SHMRT9110L

RT-12

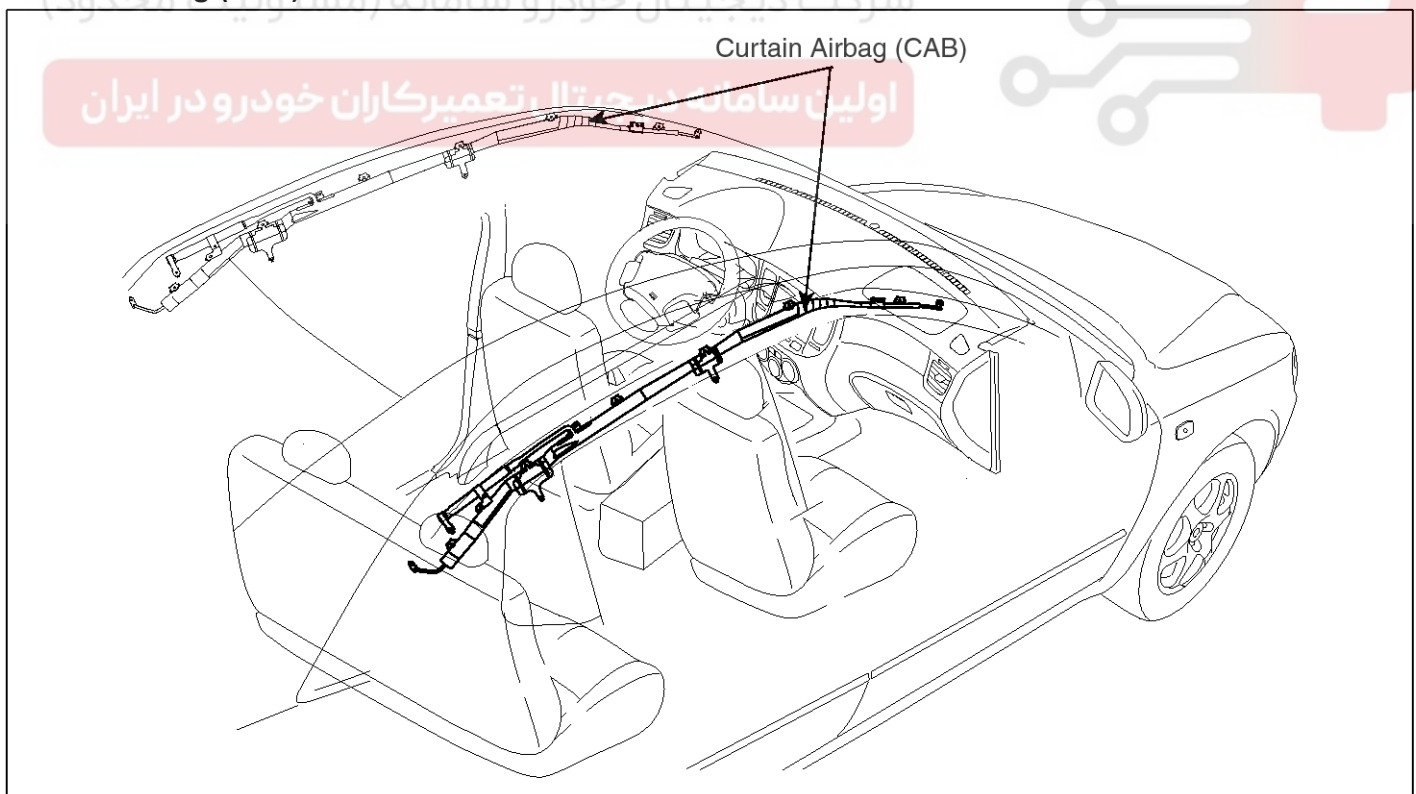
Restraint

Side Airbag (SAB)



SHMRT9120N

Curtain Airbag (CAB)

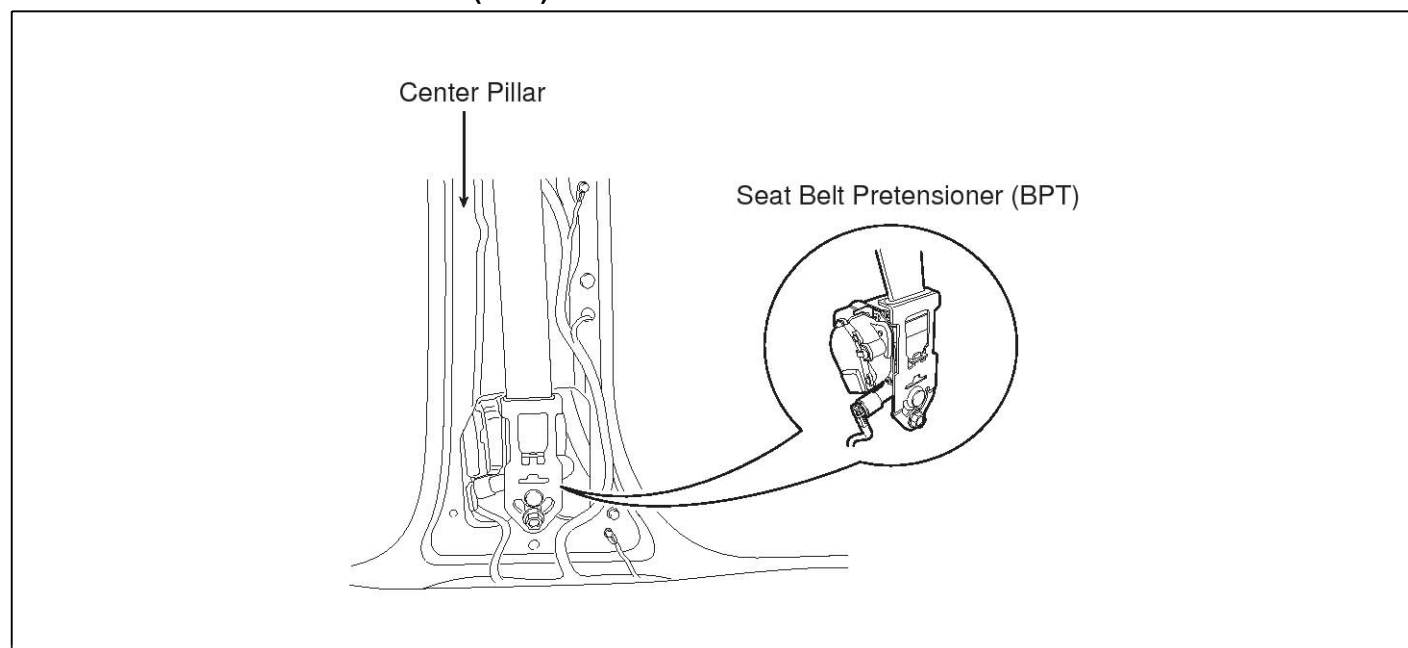


SENRT7130L

General Information

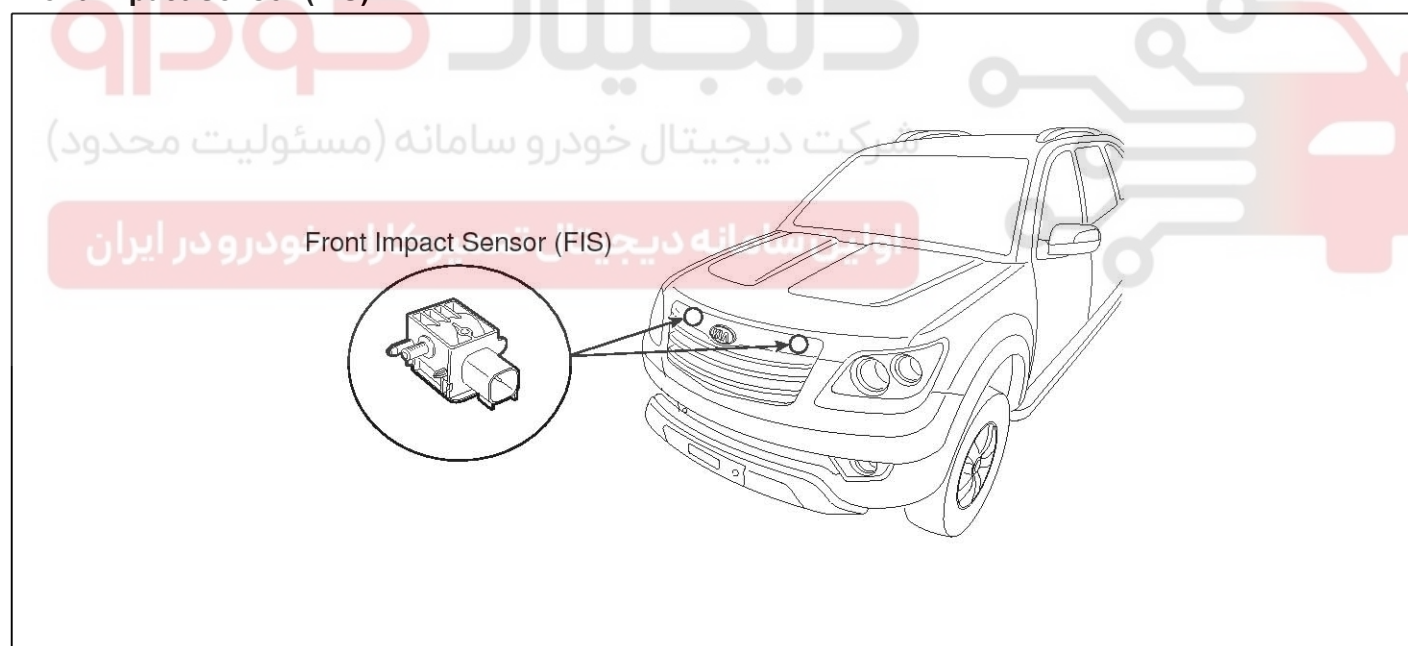
RT-13

Seat Belt Retractor Pretensioner (BPT)



SHMRT9140N

Front Impact Sensor (FIS)



SHMRT9160N

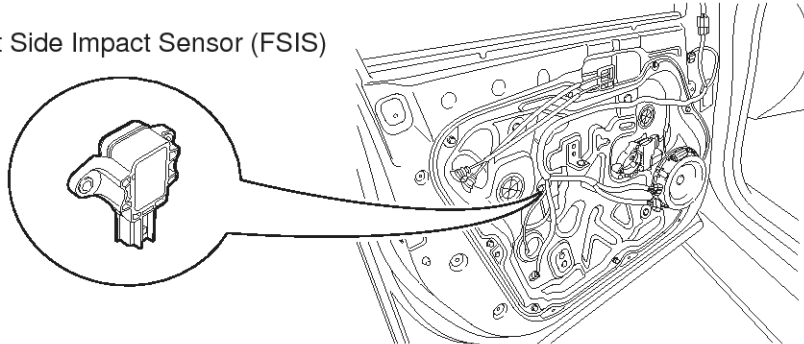
RT-14

Restraint

Side Impact Sensor (SIS)

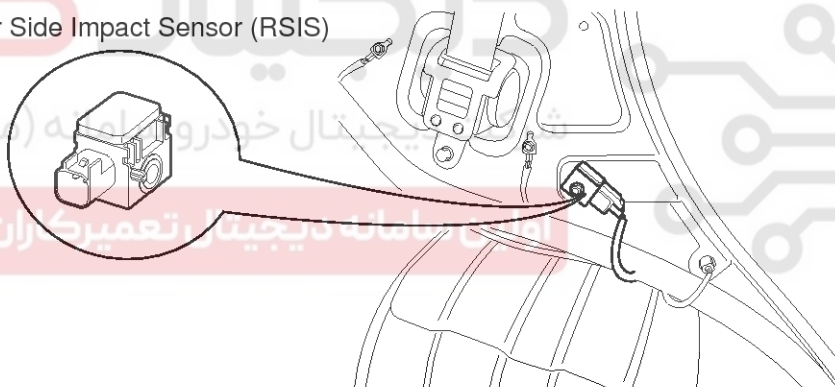
[Front]

Front Side Impact Sensor (FSIS)



[Rear]

Rear Side Impact Sensor (RSIS)



SHMRT9170N

SRSCM

RT-15

SRSCM

SRS Control Module (SRSCM)

Description

The primary purpose of the SRSCM (Supplemental Restraints System Control Module) is to discriminate between an event that warrants restraint system deployment and an event that does not. The SRSCM must decide whether to deploy the restraint system or not. After determining that pretensioners and/or airbag deployment is required, the SRSCM must supply sufficient power to the pretensioners and airbag igniters to initiate deployment.

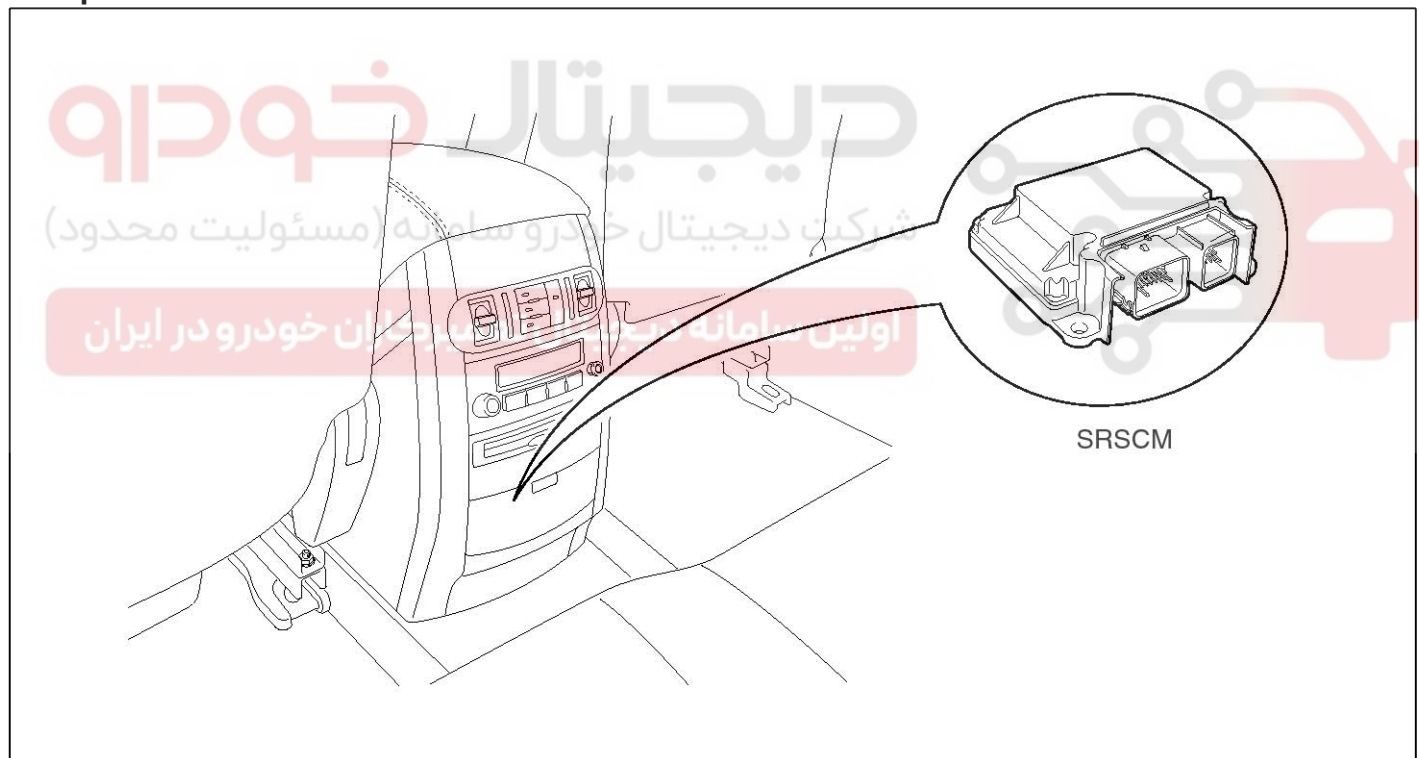
The SRSCM determines that an impact may require deployment of the pretensioners and airbags from data obtained from impact sensors and other components in conjunction with a safing function.

The SRSCM will not be ready to detect a crash or to activate the restraint system devices until the signals in the SRSCM circuitry stabilize.

It is possible that the SRSCM could activate the safety restraint devices in approximately 2 seconds but is guaranteed to fully function after prove-out is completed.

The SRSCM 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 restraint control system.

Components



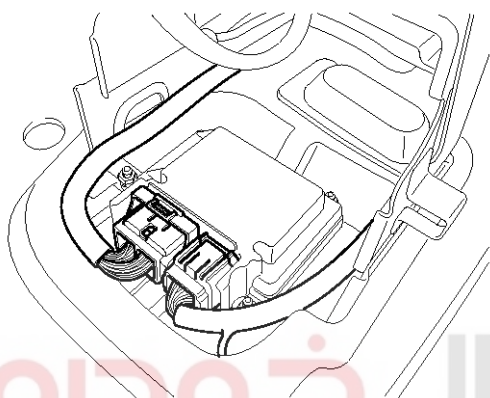
SHMRT8150D

RT-16

Restraint

Removal

1. Remove the ignition key from the vehicle.
2. Disconnect the battery negative cable and wait for at least three minutes before beginning work.
3. Disconnect the DAB, PAB, SAB, CAB and BPT connectors.
4. Remove the floor console. (Refer to the Body group - console)
5. Disconnect the SRSCM harness connector from the SRSCM.



SHMRT8151D

6. Remove the SRSCM mounting bolts(4EA) from the SRSCM, then remove the SRSCM.

CAUTION

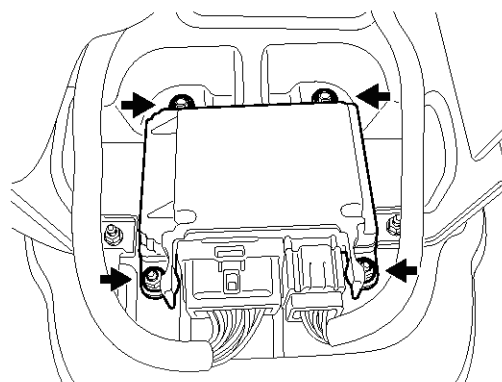
You must remove or install SRSCM at the ignition switch OFF because SRSCM has overturn sensing function. SAB, CAB, BPT may be deployed if you shake SRSCM at the direction of up and down or right and left at the ignition switch ON.

Installation

1. Remove the ignition key from the vehicle.
2. Disconnect the battery negative cable and wait for at least three minutes before beginning work.
3. Install the SRSCM with the SRSCM mounting bolts.

Tightening torque

: 6.9 ~ 8.8 Nm (0.7 ~ 0.9 kgf.m, 5.1 ~ 6.5 lb.ft)



SHMRT8152D

NOTICE

Use new mounting bolts when replacing the SRSCM after a collision.

4. Connect the SRSCM harness connector.
5. Install the heater ducts and floor console. (Refer to the Body group - console)
6. Connect the DAB, PAB, SAB, CAB and BPT connectors.
7. Reconnect the battery negative cable.
8. After installing the SRSCM, confirm proper system operation:
 - Turn the ignition switch ON; the SRS indicator light should be turned on for about six seconds and then go off.

SRSCM

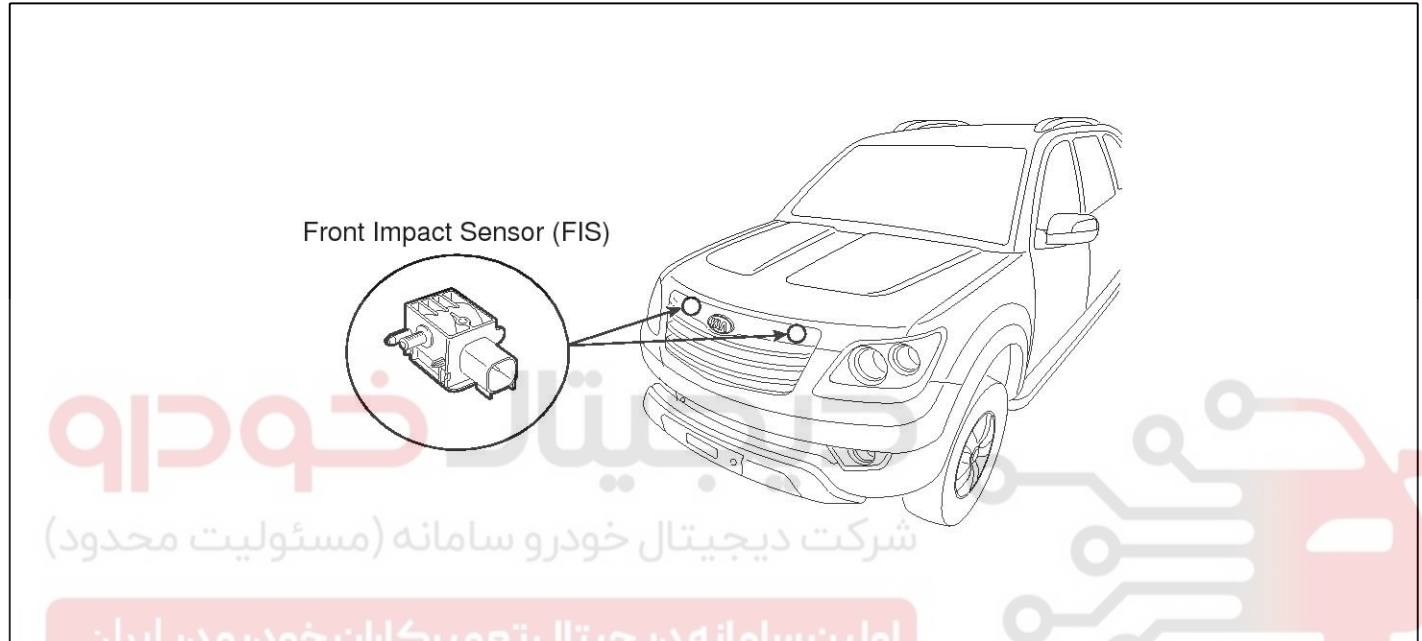
RT-17

Front Impact Sensor (FIS)

Description

The front impact sensor (FIS) is installed in the Front End Module (FEM). They are remote sensors that detect acceleration due to a collision at its mounting location. The primary purpose of the Front Impact Sensor (FIS) is to provide an indication of a collision. The Front Impact Sensor (FIS) sends acceleration data to the SRSCM.

Components



SHMRT9160N

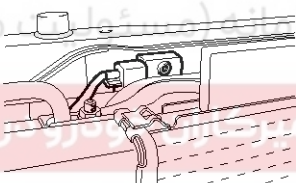
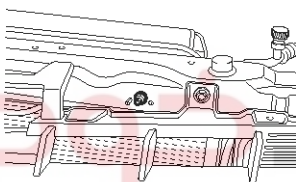
RT-18

Restraint

Removal

⚠CAUTION

- Removal of the airbag must be performed according to the precautions/ procedures described previously.
 - Before disconnecting the front impact sensor connector, disconnect the front airbag connector(s).
 - Do not turn the ignition switch ON and do not connect the battery cable while replacing the front impact sensor.
1. Disconnect the battery negative cable, and wait for at least three minutes before beginning work.
 2. Remove the radiator upper cover. (Refer to the Body group-Bumper)
 3. Disconnect the Front Impact Sensor connector.
 4. Remove the Front Impact Sensor mounting nut.



SHMRT8161D

5. Remove the Front Impact Sensor.

Installation

⚠CAUTION

- Do not turn the ignition switch ON and do not contact the battery cable while replacing the front impact sensor.

1. Install the new Front Impact Sensor.
2. Tighten the Front Impact Sensor mounting nut.

Tightening torque

: 6.9 ~ 8.8 Nm (0.7 ~ 0.9 kgf.m, 5.1 ~ 6.5 lb.ft)

3. Connect the Front Impact Sensor connector and install the radiator upper cover. (Refer to the Body group-Bumper)
4. Reconnect the battery negative cable.
5. After installing the Front Impact Sensor, confirm proper system operation:
 - Turn the ignition switch ON; the SRS indicator light should be turned on for about six seconds and then go off.

SRSCM

RT-19

Side Impact Sensor (SIS)

Description

Side Impact Sensor (SIS) system consists of two Front-SIS which are installed at each center of the front door module (LH and RH) and two Rear-SIS which are installed at each rear pillar nearby (LH and RH).

Front-Side Impact Sensor (F-SIS) is also called P-SIS because that detects pressure due to collision at its mounting location.

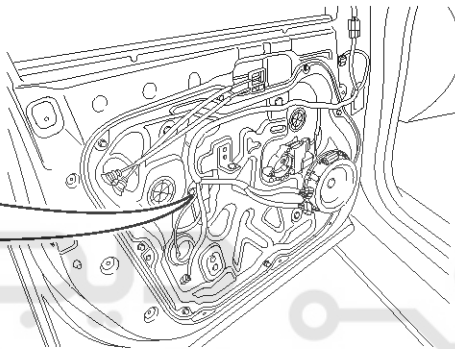
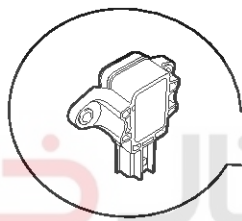
Rear-Side Impact Sensor (R-SIS) is also called A-SIS because that detects acceleration.

SRSCM decides deployment or not of the airbag and the time of deployment through the collision signal of SIS when the collision occurred.

Components

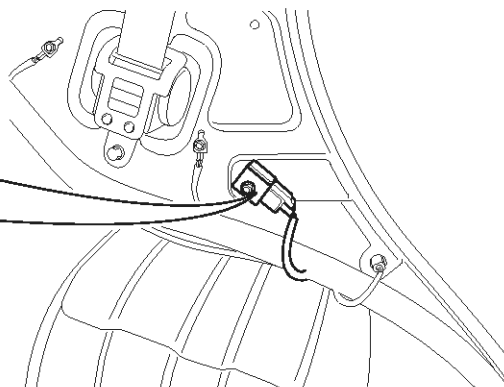
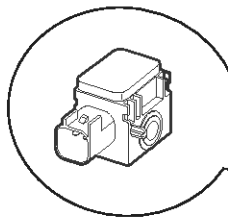
[Front]

Front Side Impact Sensor (FSIS)



[Rear]

Rear Side Impact Sensor (RSIS)



SHMRT9170N

RT-20

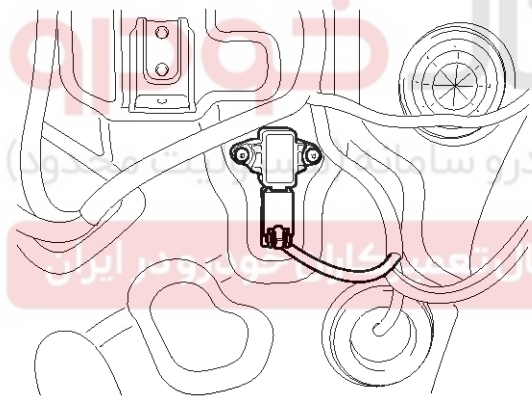
Restraint

Removal

Front Side Impact Sensor

⚠CAUTION

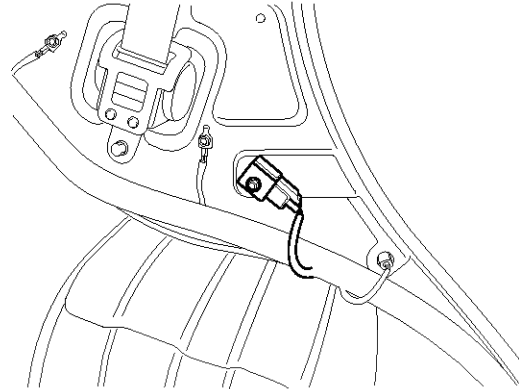
- Removal of the airbag must be performed according to the precautions/procedures described previously.
 - Before disconnecting the side impact sensor connector(s), disconnect the side airbag connector(s).
 - Do not turn the ignition switch ON and do not connect the battery cable while replacing the side impact sensor.
1. Disconnect the battery negative cable, and wait for at least three minutes before beginning work.
 2. Remove the front door trim. (Refer to the Body group-Front door)
 3. Disconnect the front side impact sensor connector and remove the front side impact sensor mounting screws.



SHMRT8171D

Rear Side Impact Sensor

1. Disconnect the battery negative cable and wait for at least three minutes before beginning work.
2. Remove the rear seat. (Refer to the Body group-Seat)
3. Disconnect the rear side impact sensor connector.
4. Loosen the rear side impact sensor mounting bolt and remove the rear side impact sensor.



SHMRT8172D

SRSCM

RT-21

Installation

Front Side Impact Sensor

⚠CAUTION

- Do not turn the ignition switch ON and do not connect the battery cable while replacing the side impact sensor.
1. Install the new front side impact sensor with the bolt then connect the SRS harness connector to the front side impact sensor.

Tightening torque

: 4.9 ~ 6.9 Nm (0.5 ~ 0.7 kgf.m, 3.6 ~ 5.1 lb.ft)

2. Install the front door trim. (Refer to the Body group- Front door)
3. Reconnect the battery negative cable.
4. After installing the front side impact sensor, confirm proper system operation:
 - Turn the ignition switch ON; the SRS indicator light should be turned on for about six seconds and then go off.

⚠CAUTION

- You must comply with the specified tightening torques with the tool specified because Front – Side Impact Sensors (FSIS, P-SIS) may be broken or POP-NUT may be rotated.
- Problems may be occurred in the durability of P-SIS or impact sensing performance may be depreciated if POP-NUT is rotated.
- The door module must not be transformed because SRSCM judges a impact through the pressure sensed in the door module.

Rear Side Impact Sensor

⚠CAUTION

- Do not turn the ignition switch ON and do not connect the battery cable while replacing the side impact sensor.
1. Install the new side impact sensor with the bolt then connect the SRS harness connector to the side impact sensor.

Tightening torque

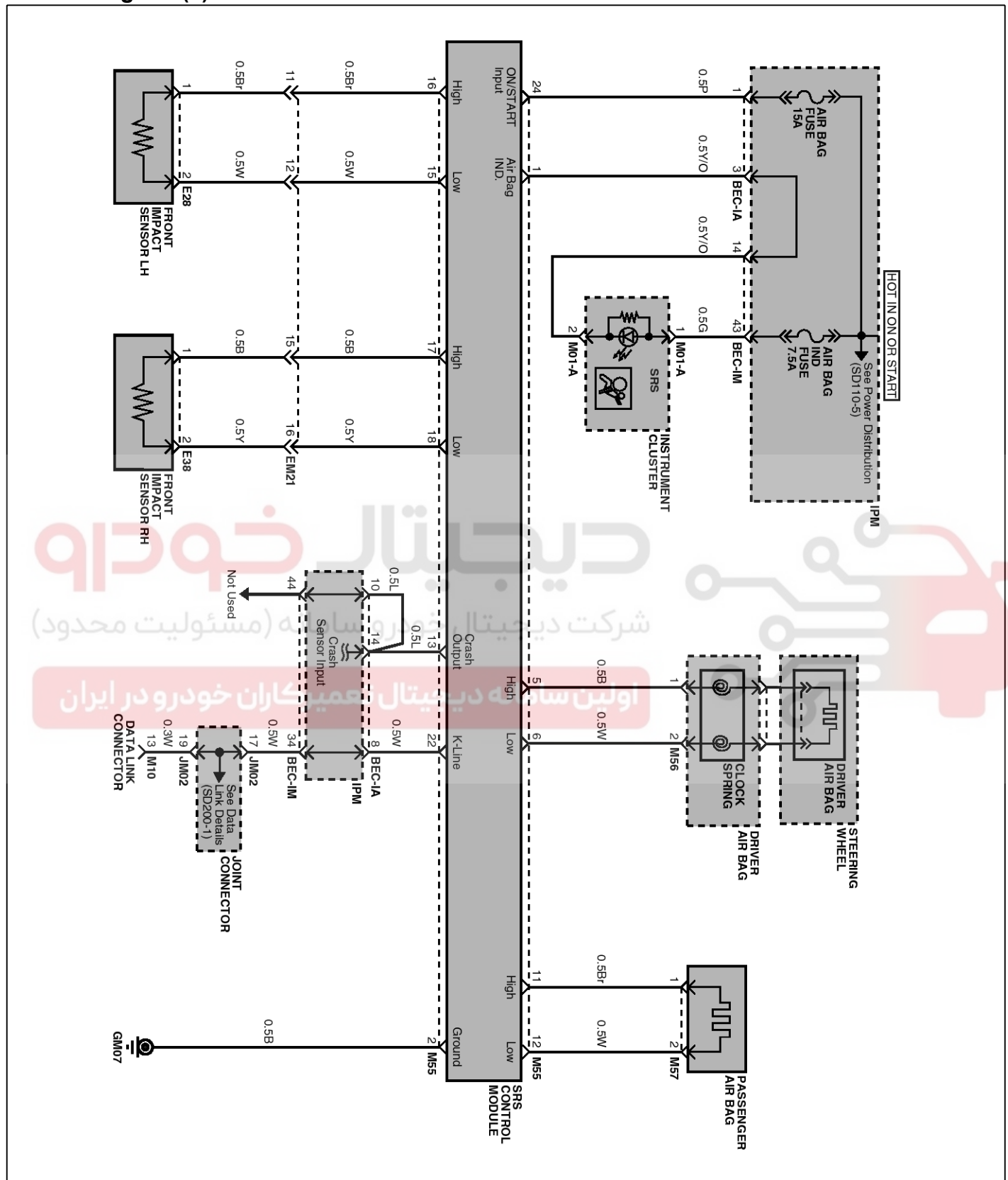
: 6.8 ~ 8.8 Nm (0.7 ~ 0.9 kgf.m, 5.1 ~ 6.5 lb.ft)

2. Install the rear seat . (Refer to the Body group- Seat)
3. Reconnect the battery negative cable.
4. After installing the Side Impact Sensor, confirm proper system operation:
 - Turn the ignition switch ON; the SRS indicator light should be turned on for about six seconds and then go off.

RT-22

Restraint

Circuit Diagram (1)

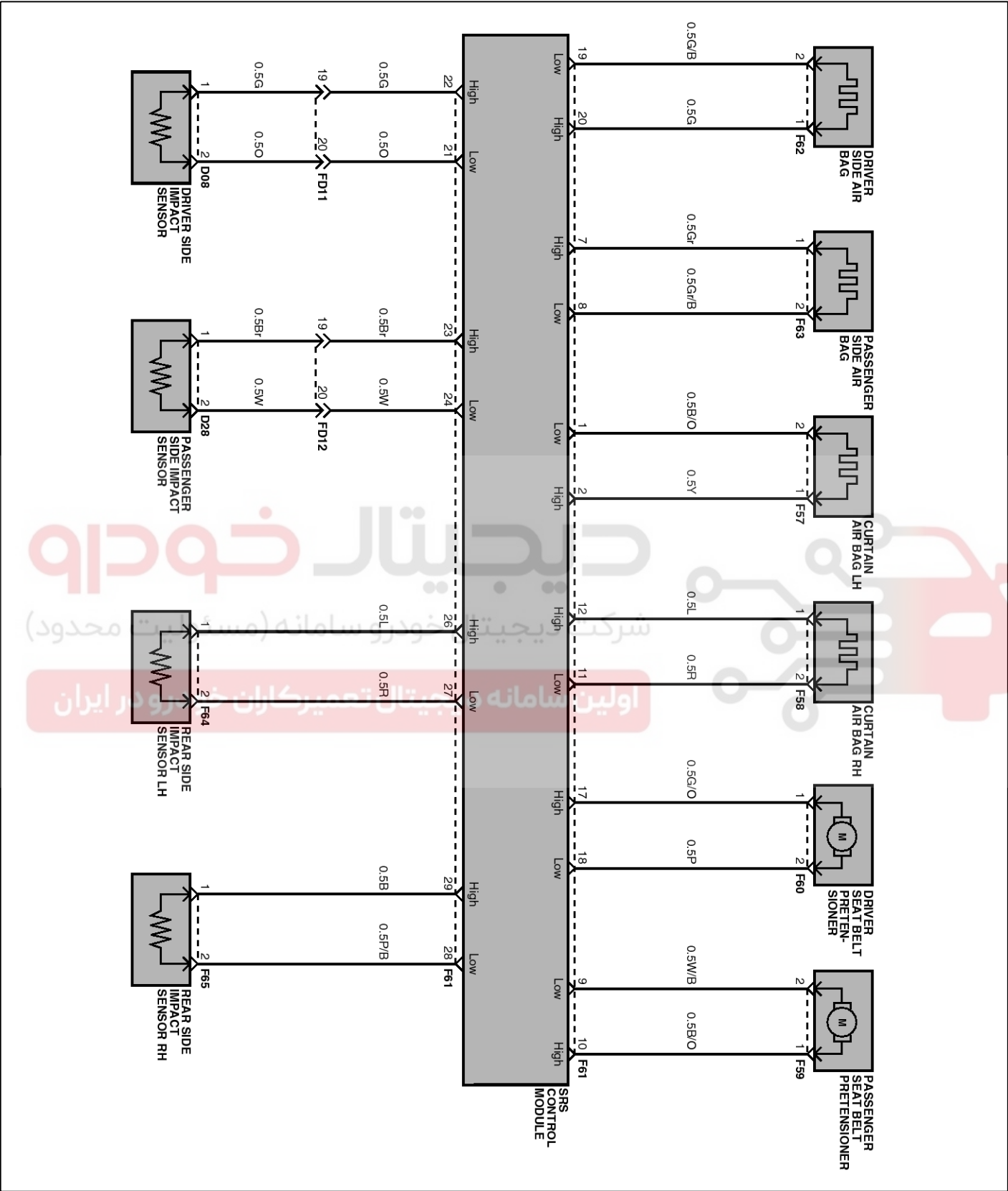


SHMRT9001L

SRSCM

RT-23

Circuit Diagram (2)



SHMRT9002L

RT-24

Restraint

Harness Connector

6	5	4	3	2	1
12	11	10	9	8	7
18	17	16	15	14	13
24	23	22	21	20	19

CONNECTOR A

10	9	8	7	6	5	4	3	2	1
20	19	18	17	16	15	14	13	12	11
30	29	28	27	26	25	24	23	22	21
40	39	38	37	36	35	34	33	32	31

CONNECTOR B

Shorting bar () : located on the upper side of pin 1 and 2 of SRSCM connector A

Note : For short circuit check, shorting bar must be opened. Use a plastic clip as a shorting bar opener for disconnecting shorting bar.

SBHRT9011N

Pin	Function (Connector A)	Pin	Function (Connector B)
1	Airbag Warning Lamp	1	Curtain Airbag [Driver] Low
2	Ground	2	Curtain Airbag [Driver] High
3	-	3~6	-
4	-	7	Side Airbag [Front-Passenger] High
5	(1st stage) Driver Airbag High	8	Side Airbag [Front-Passenger] Low
6	(1st stage) Driver Airbag Low	9	Seat Belt Pretensioner [Front-Passenger] Low
7	-	10	Seat Belt Pretensioner [Front-Passenger] High
8	-	11	Curtain Airbag [Passenger] Low
9	-	12	Curtain Airbag [Passenger] High
10	-	13~16	-
11	(1st stage) Passenger Airbag High	17	Seat Belt Pretensioner [Front-Driver] High
12	(1st stage) Passenger Airbag Low	18	Seat Belt Pretensioner [Front-Driver] Low
13	Crash Output	19	Side Airbag [Front-Driver] Low
14	-	20	Side Airbag [Front-Driver] High
15	Front Impact Sensor [Driver] Low	21	Side Pressure Sensor [Driver] Low
16	Front Impact Sensor [Driver] High	22	Side Pressure Sensor [Driver] High
17	Front Impact Sensor [Passenger] High	23	Side Pressure Sensor [Passenger] High
18	Front Impact Sensor [Passenger] Low	24	Side Pressure Sensor [Passenger] Low
19	-	25	-
20	-	26	Side Impact Sensor [Rear-Driver] High
21	-	27	Side Impact Sensor [Rear-Driver] Low
22	K-Line Diagnostic	28	Side Impact Sensor [Rear-Passenger] Low
23	-	29	Side Impact Sensor [Rear-Passenger] High
24	Ignition	30~40	-

Airbag Module

RT-25

Airbag Module

Airbag Disposal

Special Tool Required

Deployment tool 0957A-34100A

Before scrapping any airbags or side airbags (including those in a whole vehicle to be scrapped), the airbags or side airbags must be deployed. If the vehicle is still within the warranty period, before deploying the airbags or side airbags, the Technical Manager must give approval and/or special instruction. Only after the airbags or side airbags have been deployed (as the result of vehicle collision, for example), can they be scrapped. If the airbags or side airbags appear intact (not deployed), treat them with extreme caution. Follow this procedure.

Deploying Airbags In The Vehicle

If an SRS equipped vehicle is to be entirely scrapped, its airbags or side airbags should be deployed while still in the vehicle. The airbags or side airbags should not be considered as salvageable parts and should never be installed in another vehicle.

1. Turn the ignition switch OFF, and disconnect the battery negative cable and wait at least three minutes.
2. Confirm that each airbag or side airbag is securely mounted.
3. Confirm that the special tool is functioning properly by following the check procedure.

1) Driver's Airbag :

- Remove the driver's airbag and install the SST (0957A-38500).
- Install the driver's airbag on the steering wheel.

2) Front Passenger's Airbag :

- Remove the glove box, and then disconnect the 4P connector between the front passenger's airbag and SRS main harness.
- Install the SST(0957A-3F100).

3) Side Airbag :

- Disconnect the 2P connector between the side airbag and wire harness.
- Install the SST (0957A-3F100).

4) Curtain Airbag :

- Disconnect the 2P connector between the curtain airbag and wire harness.
- Install the SST (0957A-38500).

5) Seat Belt Pretensioner :

- Disconnect the 2P connector from the seat belt pretensioner.
- Install the SST (0957A-38500).

4. Place the deployment tool at least thirty feet (10meters) away from the airbag.
5. Connect a 12 volt battery to the tool.
6. Push the tool's deployment switch. The airbag should deploy (deployment is both highly audible and visible: a loud noise and rapid inflation of the bag, followed by slow deflection)
7. Dispose of the complete airbag. No part of it can be reused. Place it in a sturdy plastic bag and seal it securely.

Deploying the Airbag Out of the Vehicle

If an intact airbag has been removed from a scrapped vehicle, or has been found defective or damage during transit, storage or service, it should be deployed as follows:

1. Confirm that the special is functioning properly by following the check procedure on this page.
2. Position the airbag face up, outdoors on flat ground at least thirty feet (10meters) from any obstacles or people.

Disposal of Damaged Airbag

1. If installed in a vehicle, follow the removal procedure of driver's airbag front passenger's and side airbag.
2. In all cases, make a short circuit by twisting together the two airbag inflator wires.
3. Package the airbag in exactly the same packing that the new replacement part come in.

RT-26

Restraint

Driver Airbag (DAB) Module and Clock Spring

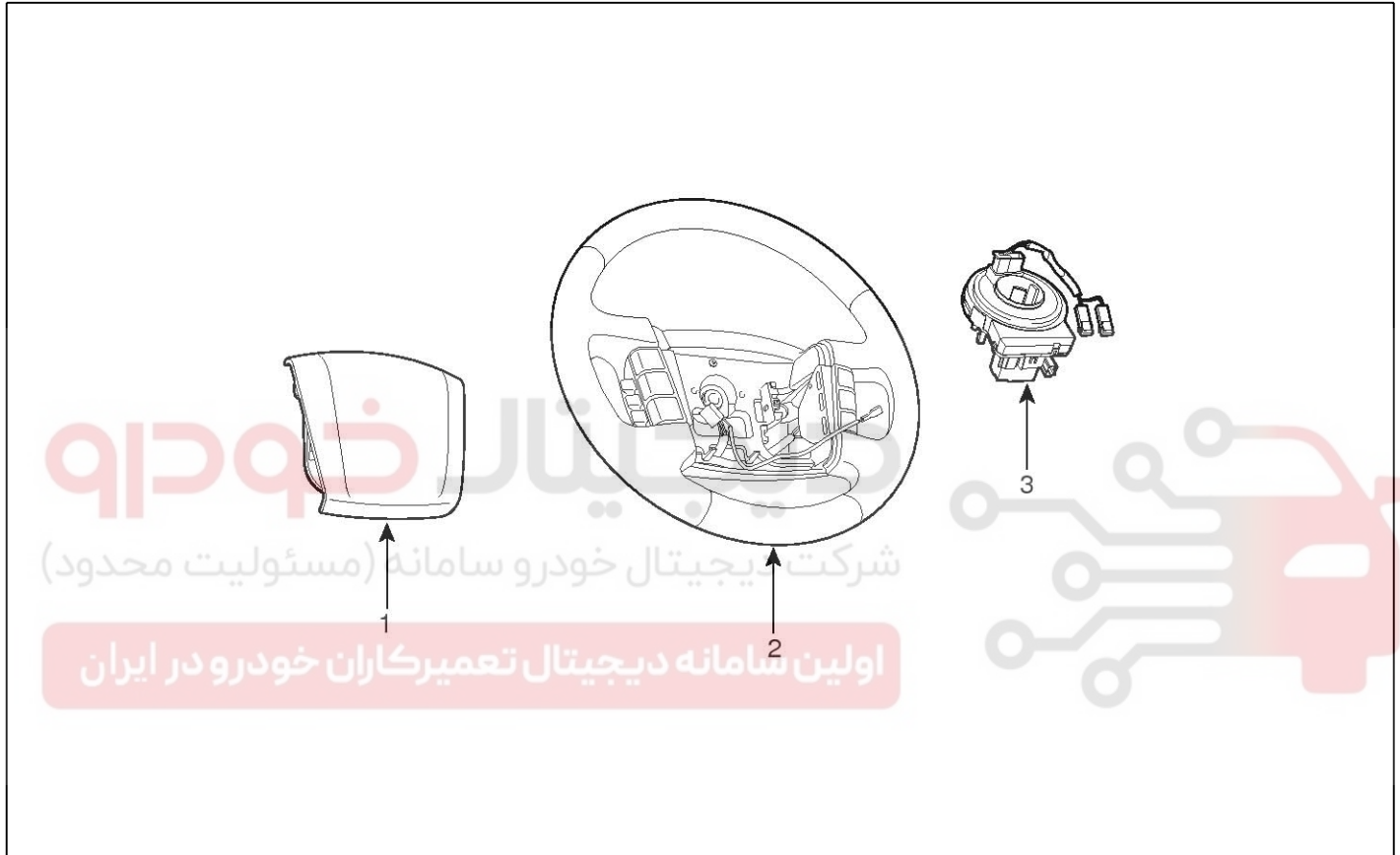
Description

Driver Airbag (DAB) is installed in steering wheel and electrically connected to SRSCM via clock spring. It protects the driver from danger by deploying a bag when frontal crash occurs. The SRSCM determines deployment of Driver Airbag (DAB).

⚠ CAUTION

Never attempt to measure the circuit resistance of the airbag module (squib) even if you are using the specified tester. If the circuit resistance is measured with a tester, accidental airbag deployment will result in serious personal injury.

Components



SHMRT9180N

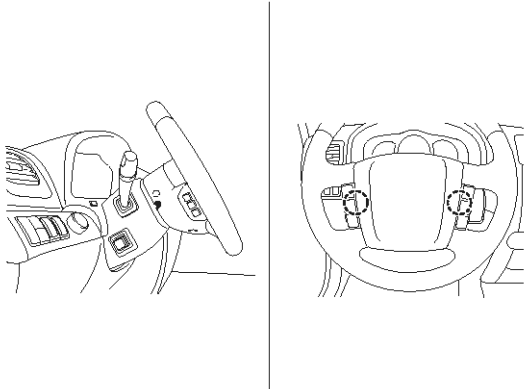
1. Driver Airbag (DAB)
2. Steering Wheel
3. Clock Spring

Airbag Module

RT-27

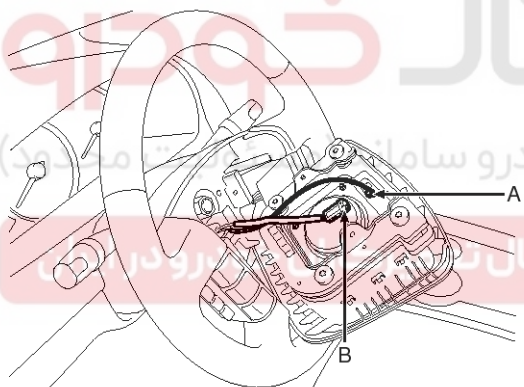
Removal

1. Disconnect the battery negative cable and wait for at least three minutes before beginning work.
2. Remove the airbag module mounting bolts (2EA).



SHMRT9181N

3. Disconnect the horn connector (A).



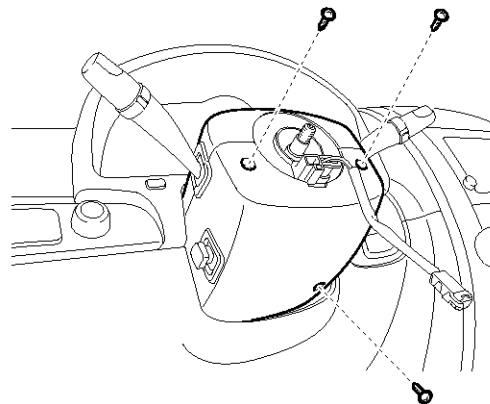
SHMRT8182D

4. Release the connector locking pin, then disconnect the driver airbag module connector(B).

⚠ CAUTION

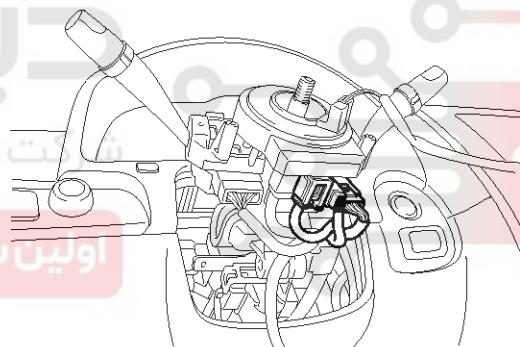
The removed airbag module should be stored in a clean, dry place with the pad cover face up.

5. Remove the steering wheel and steering wheel column cover. (Refer to the Steering System group-Steering Column and Shaft)



SHMRT8183D

6. Disconnect the clock spring and horn connector, then remove the clock spring.



SHMRT8184D

RT-28

Restraint

Inspection

Driver Airbag (DAB)

If any improper parts are found during the following inspection, replace the airbag module with a new one.

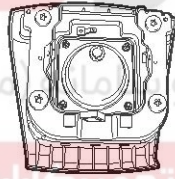
⚠ CAUTION

Never attempt to measure the circuit resistance of the airbag module (squib) even if you are using the specified tester. If the circuit resistance is measured with a tester, accidental airbag deployment will result in serious personal injury.

1. Check pad cover for dents, cracks or deformities.
2. Check the airbag module for denting, cracking or deformation.
3. Check hooks and connectors for damage, terminals for deformities, and harness for binds.
4. Check airbag inflator case for dents, cracks or deformities.

(Front View)

(Rear View)

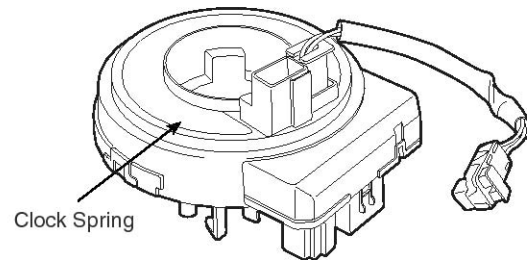


SHMRT9193L

5. Install the airbag module to the steering wheel to check for fit or alignment with the wheel.

Clock Spring

1. If, as a result of the following checks, even one abnormal point is discovered, replace the clock spring with a new one.
2. Check connectors and protective tube for damage, and terminals for deformities.



SHMRT9003L

Airbag Module

RT-29

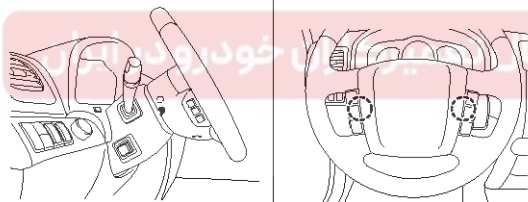
Installation

1. Remove the ignition key from the vehicle.
2. Disconnect the battery negative cable from battery and wait for at least three minutes before beginning work.
3. Connect the clock spring harness connector and horn harness connector to the clock spring.
4. Set the center position by getting marks between the clock spring and the cover into line. Make an array the mark (►◄) by turning the clock spring clockwise to the stop and then 2.4 revolutions counterclockwise.
5. Install the steering wheel column cover and the steering wheel. (Refer to the Steering System group-Steering Column and Shaft)
6. Connect the Driver Airbag (DAB) module connector and horn connector, and then install the Driver Airbag (DAB) module on the steering wheel.
7. Secure the Driver Airbag (DAB) with the new mounting bolts.

Tightening torque

: 7.8 ~ 10.8 Nm (0.8 ~ 1.1 kgf.m, 5.1 ~ 8.0 lb.ft)

8. Connect the battery negative cable.
9. After installing the airbag, confirm proper system operation:
 - Turn the ignition switch ON; the SRS indicator light should be turned on for about six seconds and then go off.
 - Make sure horn button works.



SHMRT9181N

RT-30

Restraint

Passenger Airbag (PAB) Module

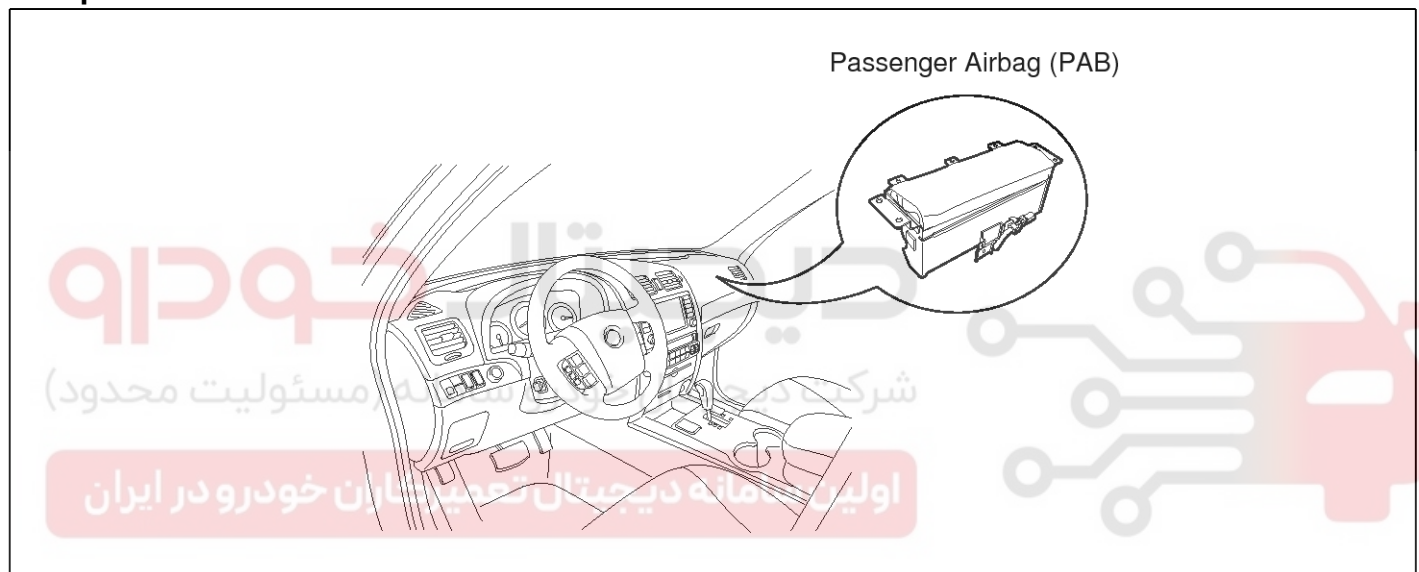
Description

The passenger airbag (PAB) is installed inside the crash pad and protects the front passenger in the event of a frontal crash. The SRSCM determines if and when to deploy the PAB.

⚠CAUTION

Never attempt to measure the circuit resistance of the airbag module (squib) even if you are using the specified tester. If the circuit resistance is measured with a tester, accidental airbag deployment will result in serious personal injury.

Components



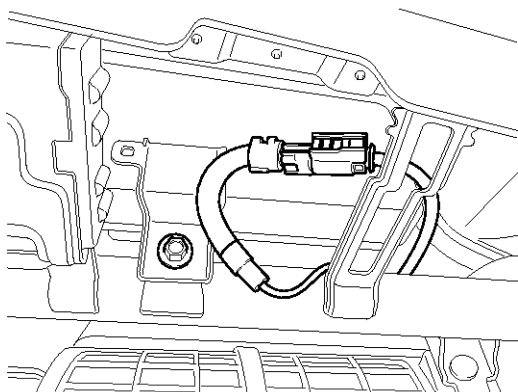
SHMRT9190N

Airbag Module

RT-31

Removal

1. Disconnect the battery negative cable and wait for at least three minutes before beginning work.
2. Remove the glove box housing. (Refer to the Body group- crash pad).
3. Disconnect the passenger airbag connector and remove the PAB mounting bolt.



SHMRT8191D

4. Remove the crash pad. (Refer to the Body group- crash pad).

NOTICE

Replace the crash pad which is damaged while PAB is deployed.

5. Remove the heater duct from the crash pad.
6. Remove the mounting nuts(7EA) from the crash pad. Then remove the passenger airbag.

CAUTION

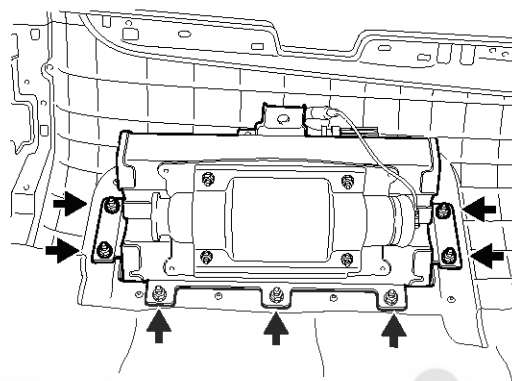
The removed airbag module should be stored in a clean, dry place with the airbag cushion up.

Installation

1. Remove the ignition key from the vehicle.
2. Disconnect the battery negative cable from battery and wait for at least three minutes before beginning work.
3. Place a passenger airbag on the crash pad and tighten the passenger airbag mounting nuts.

Tightening torque

: 5.9 ~ 6.9 Nm (0.6 ~ 0.7 kgf.m, 4.3 ~ 5.1 lb.ft)



SHMRT8192D

4. Install the heater duct to the crash pad.
5. Install the crash pad. (Refer to the Body group- crash pad)
6. Tighten the passenger airbag mounting bolt.

Tightening torque

: 18.6 ~ 26.5 Nm (1.9 ~ 2.7 kgf.m, 13.7 ~ 19.2 lb.ft)

7. Connect the passenger airbag harness connector to the SRS main harness connector.
8. Install the glove box. (Refer to the Body group- crash pad)
9. Reconnect the battery negative cable.
10. After installing the passenger airbag (PAB), confirm proper system operation:
 - Turn the ignition switch ON; the SRS indicator light should be turned on for about six seconds and then go off.

RT-32

Restraint

Side Airbag (SAB) Module

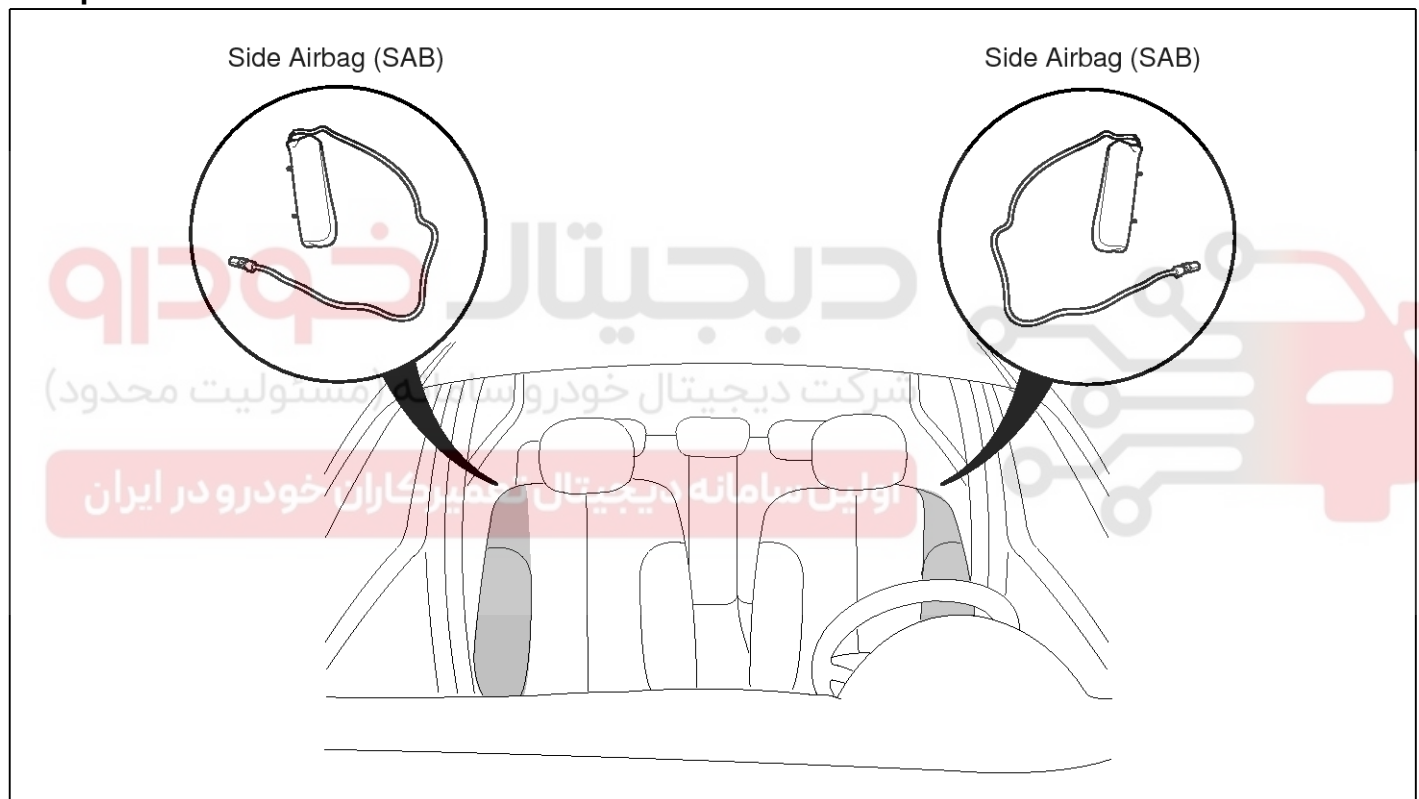
Description

The Side Airbags (SAB) are installed inside the front seat and protects the driver and passenger from danger when side crash occurs. The SRSCM determines deployment of side airbag by using Side Impact Sensor (SIS) signal.

⚠CAUTION

Never attempt to measure the circuit resistance of the airbag module (squib) even if you are using the specified tester. If the circuit resistance is measured with a tester, accidental airbag deployment will result in serious personal injury.

Components



SHMRT9120N

Airbag Module

RT-33

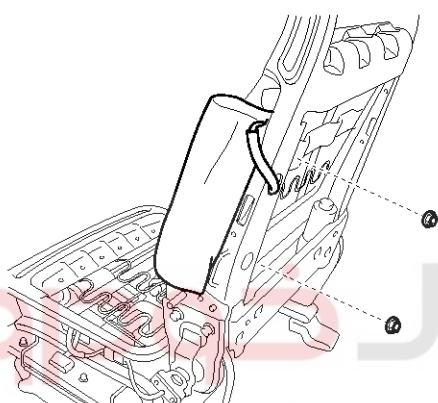
Removal

1. Disconnect the battery negative cable and wait for at least 3 minutes before beginning work.
2. Remove the front seat assembly. (Refer to the Body group- Seat)
3. Remove the seatback cover. (Refer to the Body group- Seat)

NOTICE

When the front side airbag deployed after a collision, replace the seatback as an assembly.

4. Loosen the side airbag mounting nuts and remove the SAB module.



SHMRT8121D

WARNING

The removed airbag module should be stored in a clean and dry place with the cushion side up.

Installation

CAUTION

Be sure to install the harness wires not to be pinched or interfered with other parts.

NOTICE

- Do not open the lid of the side airbag cover.
- Use new mounting nuts when you replace a side airbag.
- Make sure that the airbag assembly cover is installed properly. Improper installation may prevent the proper deployment.

1. Remove the ignition key from the vehicle.
2. Disconnect the battery negative cable and wait for at least three minutes.
3. Place a side airbag on the side airbag frame and tighten the side airbag mounting nuts (2EA).

Tightening torque

: 6.9 ~ 8.8 Nm (0.7 ~ 0.9 kgf.m , 5.1 ~ 6.5 lb.ft)

4. Install the new seatback cover. (Refer to the Body group- Seat)
5. Install the front seat assembly, and then connect the side airbag harness connector.
6. Recline and slide the front seat forward fully, make sure the harness wires are not pinched or interfering with other parts.
7. Reconnect the battery negative cable.
8. After installing the side airbag (SAB), confirm proper system operation:
 - Turn the ignition switch ON; the SRS indicator light should be turned on for about six seconds and then go off.

RT-34

Restraint

Curtain Airbag (CAB) Module

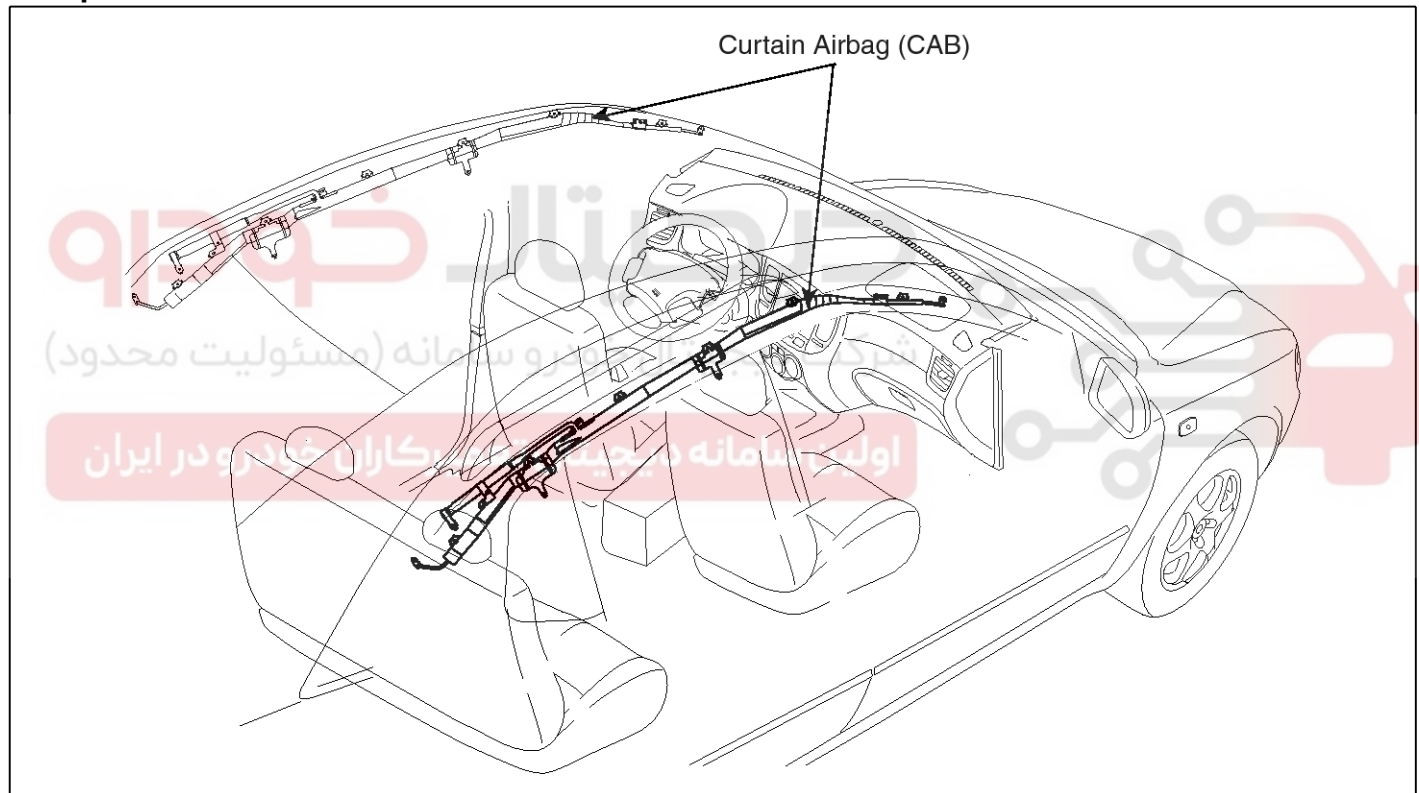
Description

Curtain airbags are installed inside the headliner (LH and RH) and protect the driver and passenger from danger when side crash occurs. The SRSCM determines deployment of curtain airbag by using side impact sensor (SIS) signal.

⚠ CAUTION

Never attempt to measure the circuit resistance of the airbag module even if you are using the specified tester. If the circuit resistance is measured with a tester, accidental airbag deployment will result in serious personal injury.

Components



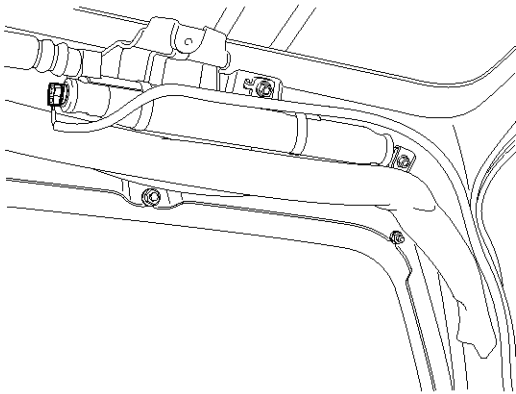
SENRT7130L

Airbag Module

RT-35

Removal

1. Disconnect the battery negative cable and wait for at least 3 minutes before beginning work.
2. Remove the roof trim. (Refer to the Body group-Interior)
3. Disconnect the curtain airbag harness connector.



SHMRT8131D

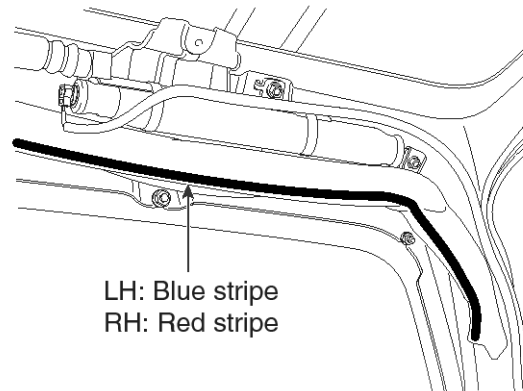
4. After loosening the mounting bolts and nuts remove the curtain airbag.

Installation

1. Remove the ignition key from the vehicle.
2. Disconnect the battery negative cable and wait for at least three minutes.
3. Tighten the curtain airbag mounting bolts.

Tightening torque

: 6.9 ~ 8.8 Nm (0.7 ~ 0.9 kgf.m, 5.1 ~ 6.5 lb.ft)



LH: Blue stripe
RH: Red stripe

SHMRT9133N

CAUTION

- **Never twist the airbag module when installing it. If the module is twisted, airbag module may operate abnormally.**

4. Connect the curtain airbag connector.
5. Install the roof trim. (Refer to the Body group-Interior)
6. Reconnect the battery negative cable.
7. After installing the curtain airbag (CAB), confirm proper system operation:
 - Turn the ignition switch ON; the SRS indicator light should be turned on for about six seconds and then go off.

RT-36

Restraint

Seat Belt Pretensioner

Seat Belt Pretensioner (BPT)

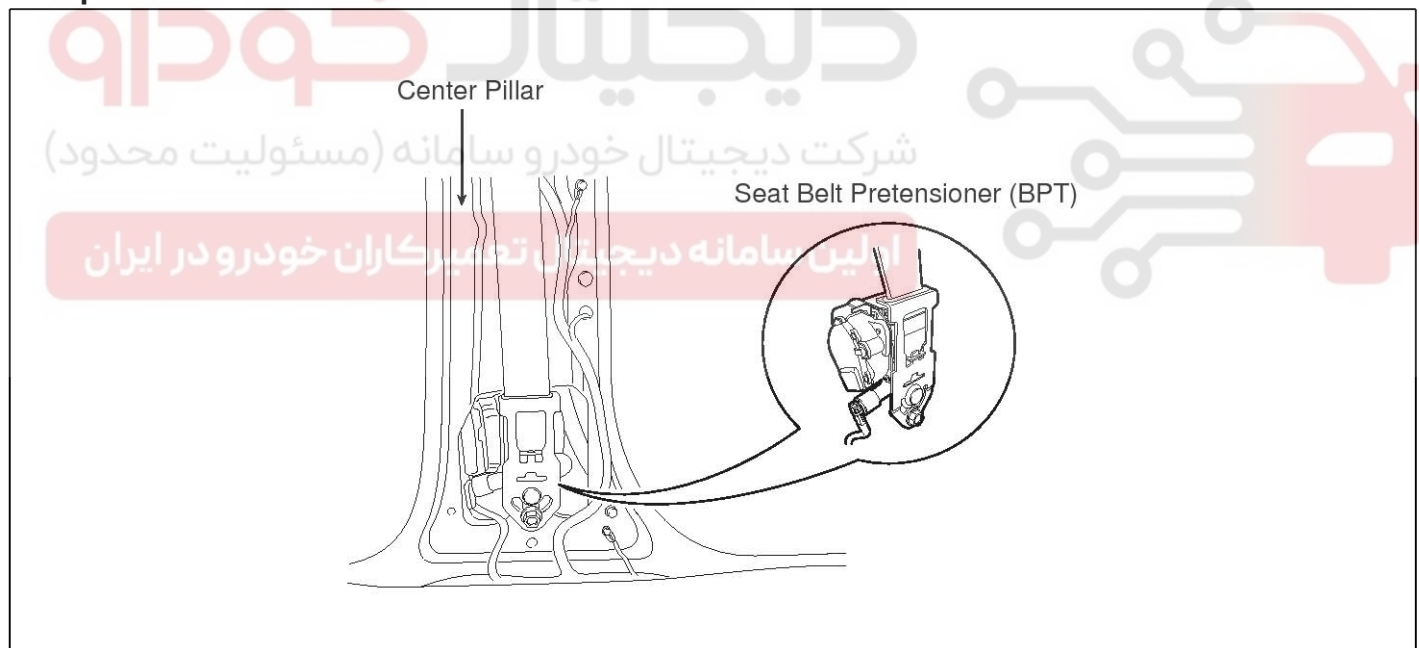
Description

The Seat Belt Pretensioners (BPT) are installed inside Center Pillar (LH & RH). When a vehicle crashes with a certain degree of frontal impact, the pretensioner seat belt helps to reduce the severity of injury to the front seat occupants by retracting the seat belt webbing. This prevents the front occupants from thrusting forward and hitting the steering wheel or the instrument panel when the vehicle crashes.

⚠CAUTION

Never attempt to measure the circuit resistance of the Seat Belt Pretensioner (BPT) even if you are using the specified tester. If the circuit resistance is measured with a tester, the pretensioner will be ignited accidentally. This will result in serious personal injury.

Components



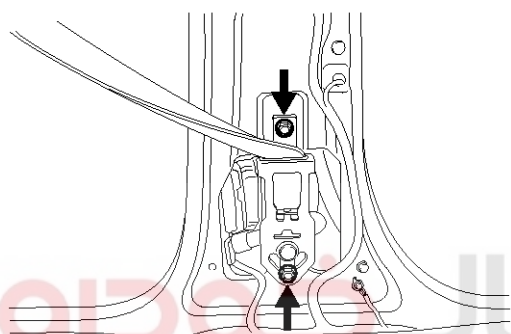
SHMRT9140N

Seat Belt Pretensioner

RT-37

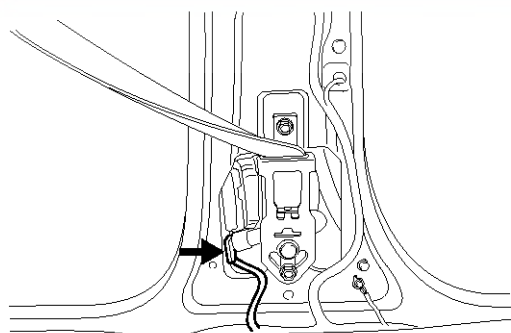
Removal

1. Disconnect the battery negative cable, and wait for at least three minutes before beginning work.
2. Remove the lower anchor bolt.
3. Remove the following parts. (Refer to the Body group- Seat belt)
 - Door scuff trim
 - Center pillar trim
4. Remove the upper anchor bolt.
5. Loosen the Seat Belt Pretensioner mounting bolt and remove the Seat Belt Pretensioner.



SHMRT8142D

6. Disconnect the Seat Belt Pretensioner connector.



SHMRT8141D

Installation

1. Remove the ignition key from the vehicle.
2. Disconnect the battery negative cable and wait for at least three minutes.
3. Connect the Seat Belt Pretensioner (BPT) connector.

Tightening torque

Bolt B: 39.2 ~ 53.9 Nm (4.0 ~ 5.5 kgf.m, 28.9 ~ 39.8 lb.ft)

4. Install the Seat Belt Pretensioner (BPT) with a bolt.
5. Install the upper anchor bolts.

Tightening torque

: 39.2 ~ 53.9 Nm (4.0 ~ 5.5 kgf.m, 28.9 ~ 39.8 lb.ft)

6. Install the following parts. . (Refer to the Body group- Seat belt)
 - Center pillar trim
 - Door scuff trim
7. Install the lower anchor bolts.

Tightening torque

: 39.2 ~ 53.9 Nm (4.0 ~ 5.5 kgf.m, 28.9 ~ 39.8 lb.ft)

8. Reconnect the battery negative cable.
9. After installing the Seat Belt Pretensioner (BPT), confirm proper system operation:
 - Turn the ignition switch ON; the SRS indicator light should be turned on for about six seconds and then go off.