Restraints

GENERAL

GENERAL E10B9FDB

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 pre-tensioner 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 driver and passenger seat contain the folded cushion and an inflator unit. SRSCM located on the floor under the heater core which monitors the system, an accelerometer which senses the vehicle deceleration, a spring interconnection (clock spring) located within the steering column ; system wiring and wiring connector; and a knee bolster located under the steering column. 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 circuity to the microprocessor.

SRSCM (SRS CONTROL MODULE)

The SRS airbag system consists of electrical and electronic. Be cautious in the airbag parts.
SRSCM will detect front impact with inside sensor, and side impact with side impact sensor, detect airbag deployment request signal, 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 inside operation voltage. If inside operation voltage is below critical value setting, it will perform re-setting.

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 electro-mechanical switch that will close detecting deceleration 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 during vehicle power supply is on, system failure may be checked with trouble codes using scan too. (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 be turned on about 6 seconds, then will be turned off.

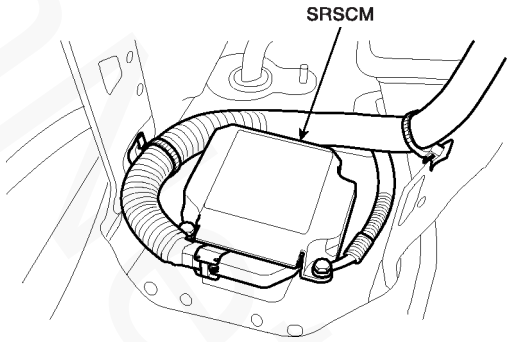
6. Trouble code registration: Upon error occurrence in system, SRSCM will store DTC corresponding to the error. DTC can be cleared only by Hi-Scan.

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 seat crash pad.

8. Once airbag is deployed, SRSCM should not be used again but replaced.

9. SRSCM will determine whether passenger has put on seat belt using built-in switch signal 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.



KRQE220A

PRECAUTIONS EB41BF9F

GENERAL PRECAUTIONS

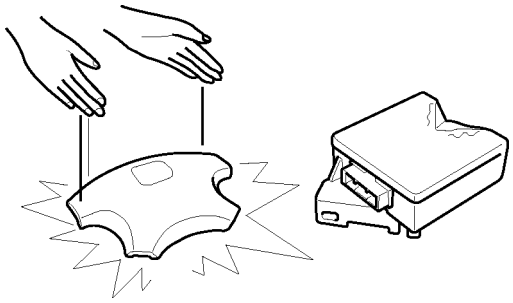
Please read the following precautions carefully before performing the airbag system service. Observe the instructions described in this manual, or the airbags could accidentally deploy and cause damage or injuries.

- 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.

  NOTE

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

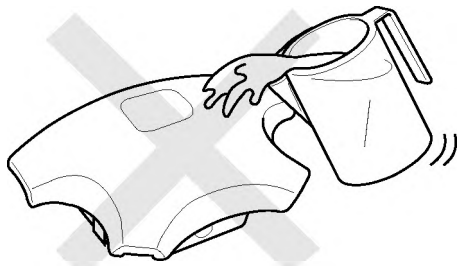
- Before removing any of the SRS parts (including the disconnection of the connectors), always disconnect the SRS connector.

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

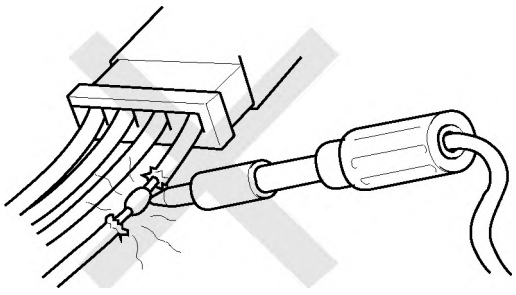
- Store the removed airbag on secure, flat surface away from f high heat source (exceeding 200°F/93°C).
- Never perform electrical inspections to the airbags, such as measuring resistance.
- Do not position yourself in front of the airbag assembly during removal, inspection, or replacement.
- Refer to the scrapping procedures for disposal of the damaged airbag.
- Be careful not to bump or impact the SRS unit or the side impact sensors 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. The airbags could accidentally deploy and cause damage or injury.

- After a collision in which the airbags were deployed, replace the front airbags and the SRS unit. After a collision in which the side airbag was deployed, replace the side airbag, side impact sensor on the side where the side airbag deployed and the SRS unit. 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 and/or the side impact sensors.
- Do not disassemble the SRS unit, 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 and side impact sensors are installed securely with the mounting bolts.
- Do not spill water or oil on the SRS unit or the side impact sensors and keep them away from dust.
- Store the SRS unit and the side impact sensors in a cool (less than 104°F/40°C) and dry (less than 80% relative humidity, no moisture) area.

WIRING PRECAUTIONS

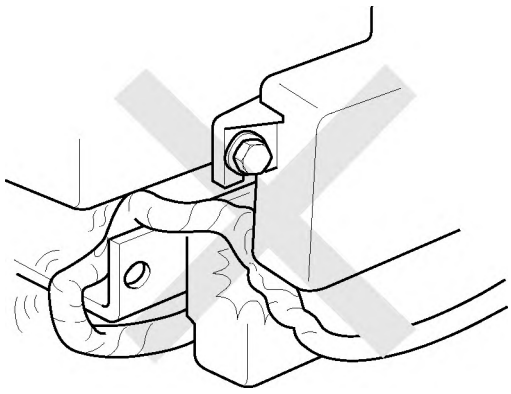
SRS wiring can be identified by special yellow outer covering (except the SRS circuits under the front seats). Observe the instructions described in this section.

- 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.

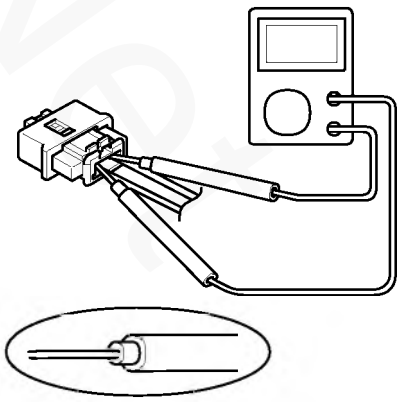


ERKD002X

- 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.

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 specificed service connectors for troubleshooting.
  Using improper tools could cause an error in inspection due to poor metal contact.

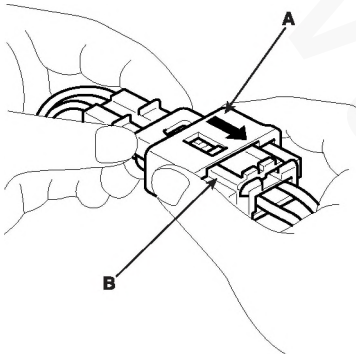
SPRING-LOADED LOCK CONNECTOR

Some SRS system connectors have a spring-loaded lock.

AIRBAG CONNECTOR(I)

DISCONNECTING

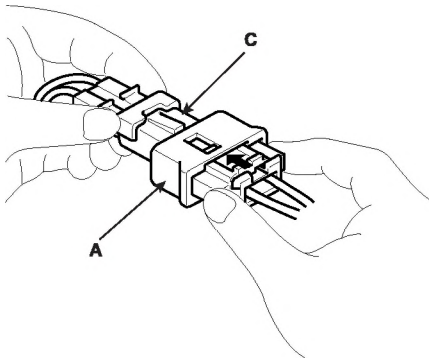
To release the lock, pull the spring-loaded sleeve (A) toward the stop (B) while holding the opposite half of the connector. Then pull the connector halves apart. Be sure to pull on the sleeve and not on the connector half.



ERKD511A

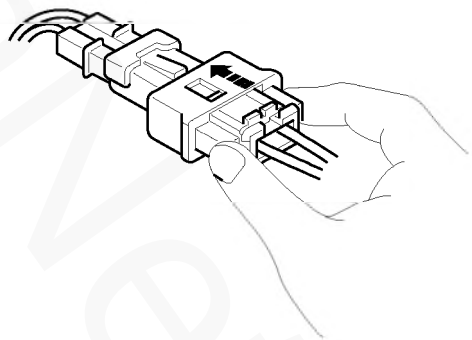
CONNECTING

1. To reconnect, hold the pawl-side connector half, and press on the back of the sleeve-side connector half in the direction shown. As the two connectpr halves are pressed together, the sleeve (A) is pushed back by the pawl (C). Do not touch the sleeve.



ERKD511B

2. When the connector halves are completely connected, the pawl is released, and the spring-loaded sleeve locks the connector.

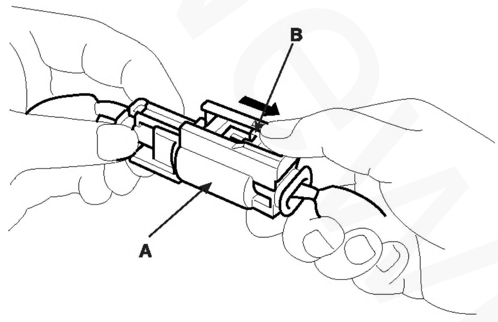


ERKD511C

AIRBAG CONNECTOR(II)

DISCONNECTING

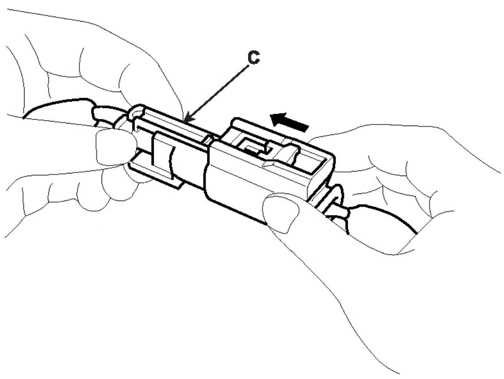
To release the lock, pull the spring-loaded sleeve (A) witile pressing the slider (B), while holding the opposite half of the connector. Pull the connector halves apart. Be sure to pull on the sleeve and not on the connector half.



ERKD511D

CONNECTING

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

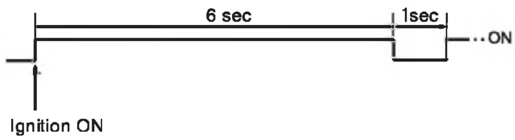


ERKD511E

WARNING LAMP ACTIVATION

CASE 1

When the active fault(including crash) is qualified,10 different faults are recorded or the number of times of same fault is greater than or equal to 10-The warning lamp is turned on for 6 seconds after ignition on and turned off for 1 second and turned on continuously.

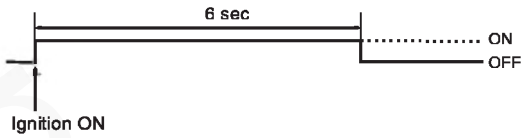


EROF600A

CASE 2

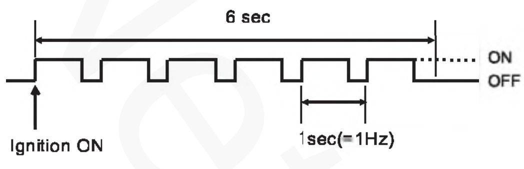
When neither active fault nor historic fault exists (below 10 different faults are recorded or the number of times of same fault is less than 10) ("Battery Too Low" fault shall not be applied for this case)

a. The warning lamp is turned on for 6 seconds and is turned off afterwards.



LRIF500B

b. **(Optional)** The warning lamp blinks for 6 seconds at 1 Hz for 6 seconds and be turned off afterwards (when Neither active fault nor historical fault exists)



EROF600B

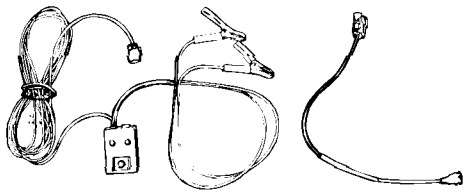
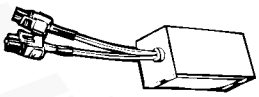
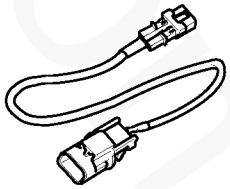
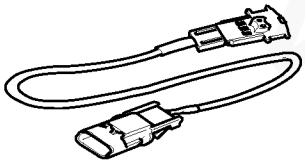
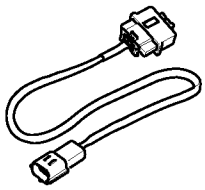
SPECIFICATION EC76A6E2

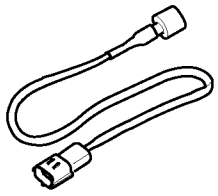
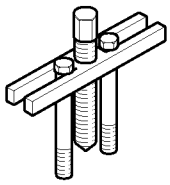
ITEM	SPECIFICATION	
Driver Airbag (DAB)	Resistance(Ω)	1.8~2.2Ω
Passenger Airbag(PAB)	Resistance(Ω)	1.7~2.3Ω
Side Airbag(SAB)	Resistance(Ω)	1.9~2.5Ω
Seat Belt Pretensioner (BPT)	Resistance(Ω)	1.8~2.5Ω
Seat Belt Buckle Switch(BS)	Resistance(Ω)	Belted: 630~770Ω
		Unbelted : 360~440Ω

TIGHTENING TORQUES EDF0A1B9

ITEM	kgf·m	N·m	lbf·ft
Driver Airbag (DAB)	0.7~0.76	7~7.5	5.16~5.53
Passenger Airbag(PAB)	0.7~1.12	7~11	5.16~5.53
Seat Belt Lower Anchor Bolt (BPT)	4~5.5	39.23~53.94	5.16~5.53
SRSCM Mounting Bolt	0.611~0.816	6~8	4.4~5.9
Side Impact Sensor (SIS) Mounting Bolt	0.611~0.816	6~8	4.4~5.9

SPECIAL SERVICE TOOL EFCFEB5E

Tool (Number and name)	Illustration	Use
0957A-34100A Deployment tool	 ERHA010A	Airbag deployment tool PAB, SAB : 0957A-38100 DAB, BPT : 0957A-38500
0957A-38200 Dummy	 ERHA010C	Simulator to check the resistance of each wiring harness Dummy adapter PAB, SAB : 0957A-38300 DAB, BPT : 0957A-1C000
0957A-38100 Deployment adapter	 ERKD001B	Use with deployment tool. (PAB, SAB)
0957A-38500 Deployment adapter	 ERKD001C	Use with deployment tool. (DAB, BPT)
0957A-38300 Dummy adapter	 ERKD001D	Use with dummy. (PAB, SAB)

Tool (Number and name)	Illustration	Use
0957A-1C000 Dummy adapter	 ERKD001E	Use with dummy. (DAB, BPT)
09561-11002 Steering Wheel puller	 E6111002	Removing the steering wheel.

SUPPLEMENTAL RESTRAINTS SYSTEM CONTROL MODULE(SRSCM)

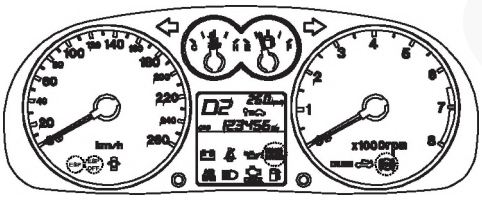
SRS CONTROL MODULE

SRS HARNESS E8908B59

The SRS harness is wrapped in a yellow tube to be distinguished from other system harnesses. A shorting bar is included inside the wiring connectors of DAB, PAB, SAB and BPT inflator side. The shorting bar shorts the current flow the DAB, PAB, SAB and BPT module circuits when the connectors are disconnected. The circuits to the inflator module are shorted in this way to help prevent unwanted deployment of the airbag when servicing the airbag module.

SRSCM INDEPENDENT LAMP ACTIVATION

The SRS malfunction indicator lamp (MIL) is located in the cluster giving information of SRS operating conditions by control signals from the SRSCM.



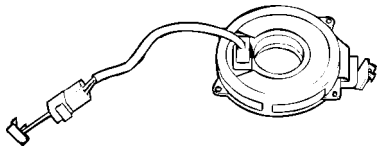
EROF600C

There are certain fault conditions in which the SRSCM (SRS Control Module) cannot function and thus cannot control the operation of the lamp. In these cases, the lamp is directly activated by appropriate circuitry that operatesindependently of the SRSCM, as follow :

1. Loss of ignition voltage supply to the SRSCM : lamp turned on continuously.
2. Loss of internal operating voltage : lamp turned on continuously.
3. SRSCM not connected : lamp turned on through shorting bar in wiring harness connector.

CLOCK SPRING

The clock spring (coil spring) consists of two current carrying coils. It is attached between the steering column and the steering wheel. It allows rotation of the steering wheel while maintaining continuous contact of the deployment loop through the inflator module.



ERJA010E

The steering wheel must be fitted correctly to the steering column with the clock spring at the neutral position, otherwise cable disconnection andother troubles may result.

SIDE IMPACT SENSOR(SIS)

The release system for the side airbag consists of a SRSCM installed in the middle of the vehicle and two SIS - one on the left-hand side and one on the right. Only the SRSCM is capable of deploying the airbags or the seat-belt pretensioners systems in the vehicle. In the dialog between the SRSCM and the SIS, it is the SRSCM that makes the deployment decision.

The SRSCM is supported with the side airbag function by two SIS, which act as intelligent acceleration sensors and as such back up the central airbag controller. Both the SIS continuously report the system statuson the left and right-hand sides of the vehicle to the SRSCM.

It monitors the acceleration sensor continuously. The test results are reported to the SRSCM by means of periodic status signals.

WARNING

When the ignition is ON, never cause a sudden shock around the installation area of the satellite sensor by a hammer, etc. Otherwise it could cause the airbag system to unexpectedly deploy during servicing.

SRSCM

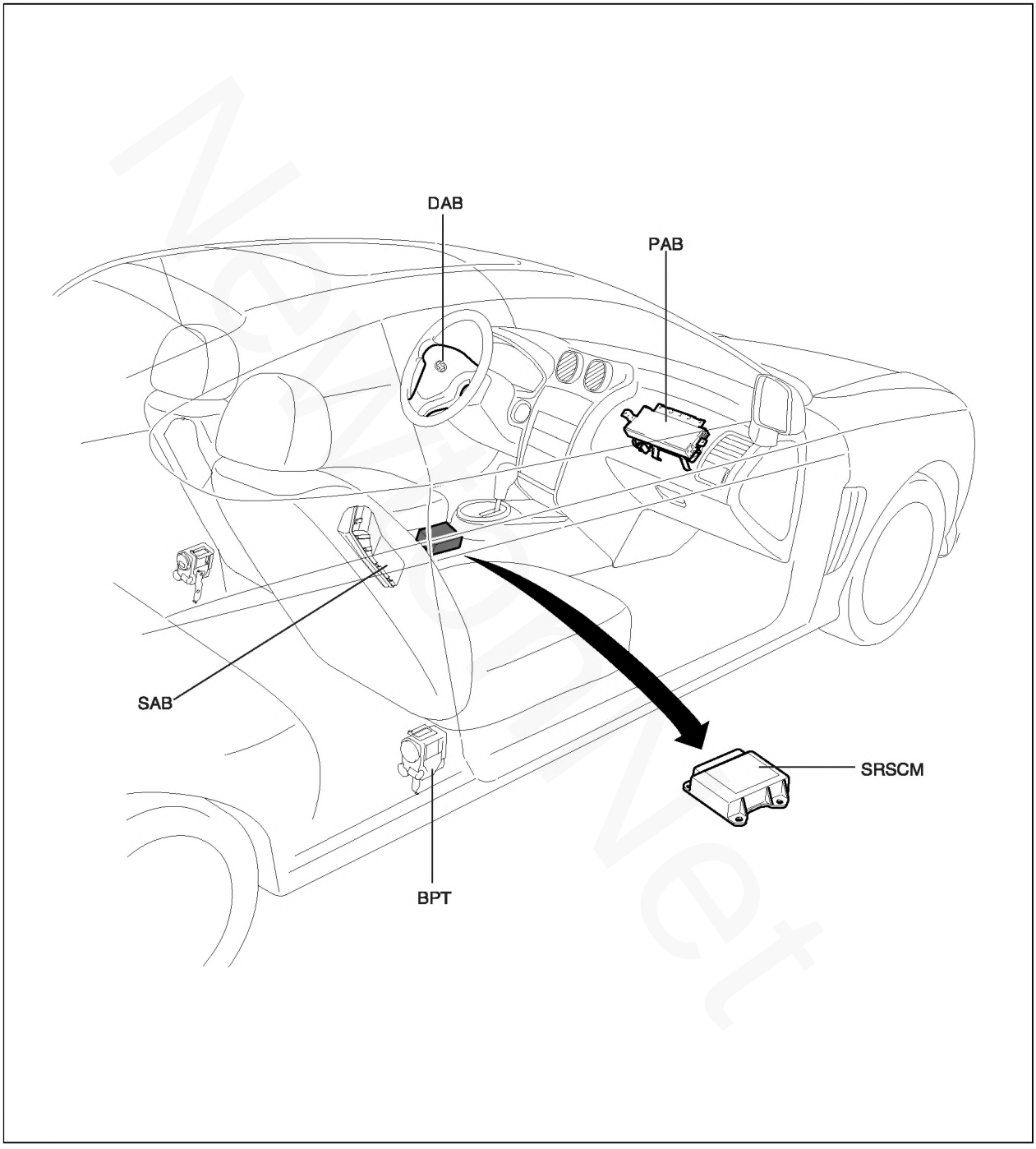
The SRS airbag system has sophisticated electrical and electronic components. Therefore the airbag operating components should be handled very carefully.

SRSCM (Supplement Restraint System Control Module)

The SRSCM will deploy the airbag modules by sensing the frontal impact sensed by the sensor built in to the SRSCM.

1. DC/DC convertor : The DC/DC converter in the power supply includes a step-up and a step-down converter, which provides the firing voltage for four firing circuits and the internal operating voltage. If the internal operating voltage falls below a defined threshold, a reset is executed.
2. Arming sensor/safing sensor : The arming/safing sensor built in to the airbag firing circuit has the function of arming the airbag circuit under all required deployment conditions and maintaining the airbag firing circuits unarmed under normal driving conditions. The safing sensor is a dual-contact electro mechanical switch that closes if it experiences a deceleration exceeding a specified threshold.
3. Back-up power : The SRSCM reserves an energy reserve to provide deployment energy for a short period when the vehicle voltage is low or if lost in a vehicle frontal crash.
4. Malfunction detection : The SRSCM continuously monitors SRS operating status while the ignition key is turned on and detects possible malfunctions in the system. The malfunction can be displayed in the form of a diagnostic trouble code using the Hi-Scan Pro.
5. MIL (Malfunction Indication Lamp) notification : If any fault is detected, the SRSCM sends a signal to the indicator lamp on the instrument cluster to warn the vehicle driver.
   The MIL indicator is the key item in notifying the driver of SRS faults. It verifies lamp and SRSCM operation by flashing 6 times when the ignition switch is first turned on.
6. Malfunction recording : Once a fault occurs in the system, the SRSCM records the fault in memory in the form of a DTC, which can only be erased by the Hi-Scan Pro.
7. Data link connector : SRSCM memory stored is linked through this connector located under neath the driver side crash pad to an external output device such as the Hi-Scan Pro.
8. What if only BPT's deploy.
9. Crash output
   The crash output is used to unlock the doors in case of a crash. The crash output is : 0 ~ 200 ㎂ A in OFF mode and 200mA in ON mode. During the unlock command, the switch is closed for 200 mS.

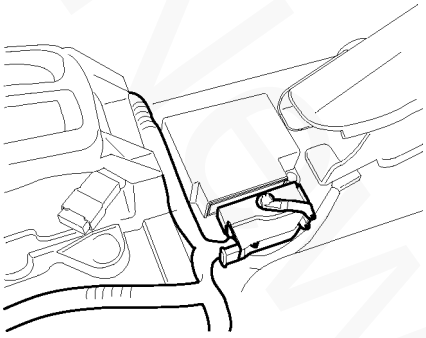
SYSTEM COMPONENT AND LAYOUT E1880FBF



EROE001A

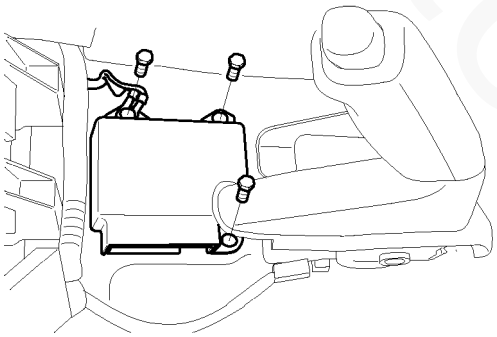
REMOVAL ECDBCEBD

1. Disconnect the battery negative cable, and wait at least 3 minutesbefore begining work.
2. Disconnect the airbag connectors.
3. Remove the center console. (Refer to BD group).
4. Disconnect the connector from the SRS unit.



KRKD600B

5. Remove the three bolts from the SRS unit, then pull out the SRS unit from the bracket.

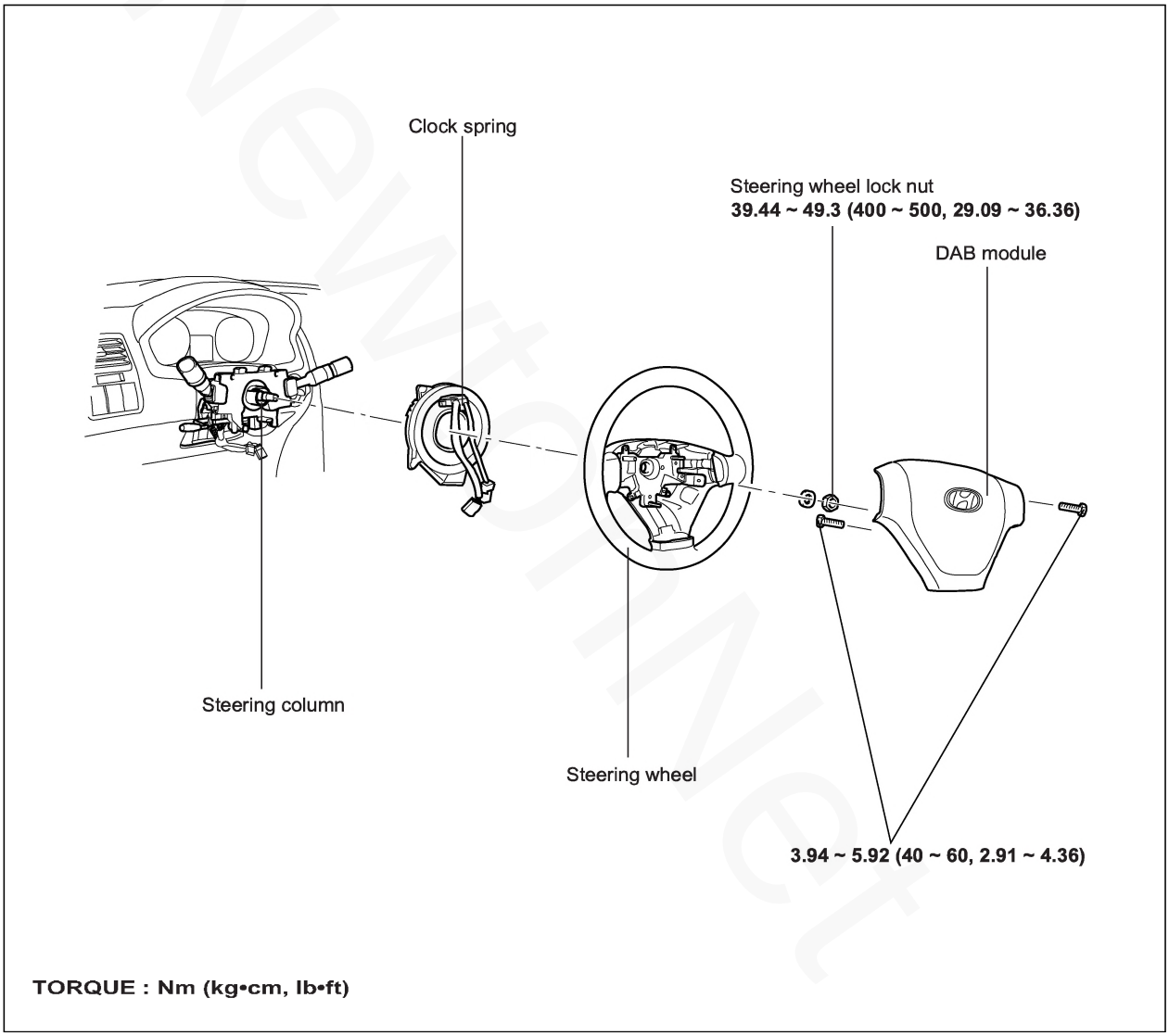


KRKD600D

AIR BAG MODULE (DRIVE SIDE)

AIR BAG MODULE AND CLOCK SPRING

COMPONENTS E91FF5DE



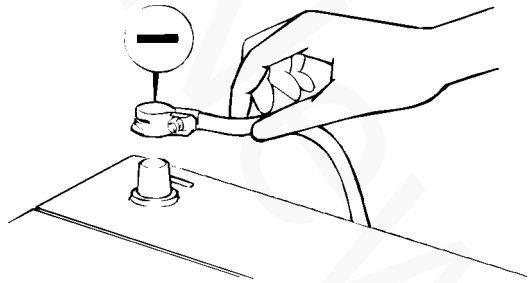
EROF600E

REMOVAL E9F67EAF

1. Disconnect the negative battery cable and keep secure from battery.

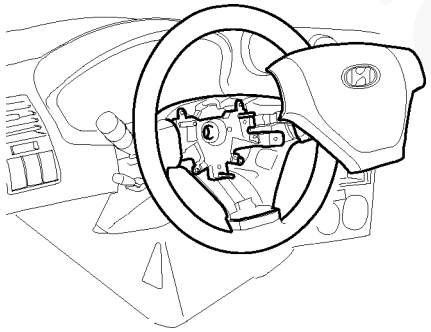
⚠ ***CAUTION***

Wait at least 3 minutes after disconnecting the battery cable before doing any further work.



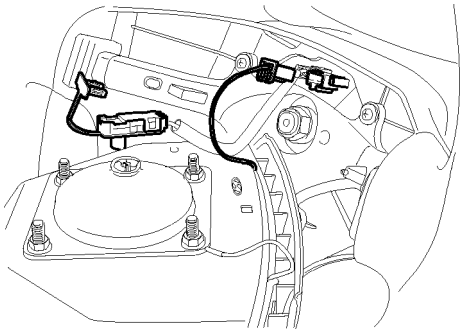
EADA011A

2. Remove the side protect cover of steering wheel and airbag module mounting bolts using a hexagonal wrench.



KROB210B

3. When disconnecting the connector of the clock spring from the airbag module, pull the airbag's lock toward the outer side to spread it open.



KRPC017B

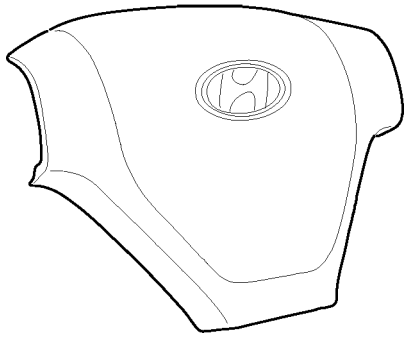
⚠ ***CAUTION***

When disconnecting the airbag module-clock spring connector, take care not to apply excessive force to it.

4. Remove the drive airbag module.

⚠ ***CAUTION***

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

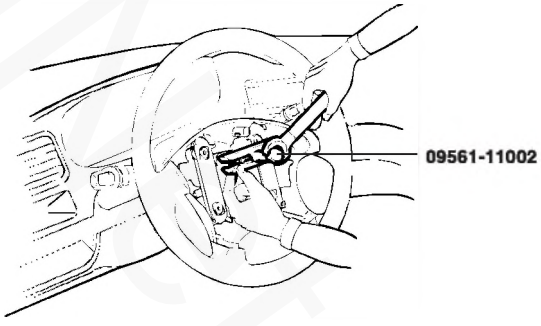


KROB210C

5. Remove the steering wheel using SST (09561-11002).

⚠ ***CAUTION***

Do not hammer on the steering wheel. Doing so may damage the collapsible column mechanism.



KPKA014A

INSPECTION ED2E49ED

AIRBAG MODULE

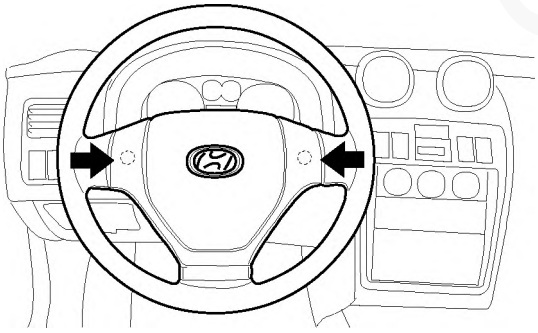
If any improper parts are found during the following inspection, replace the airbag module with a new one.

Dispose the old one according to the specified procedure.

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.

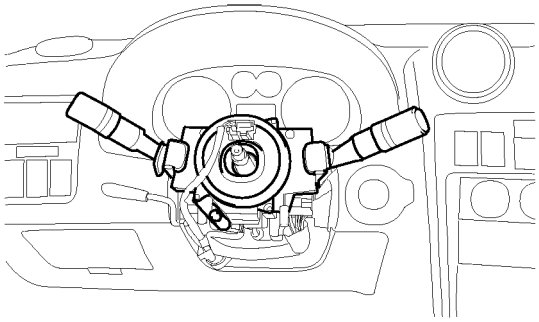
1. Check pad cover for dents, cracks or deformities.
2. Check the airbag module for denting, cracking or deformation.
3. Check hooks and connectors for damage, terminals for deformities, and harness for binds.
4. Check airbag inflator case for dents, cracks or deformities.
5. Install the airbag module to the steering wheel to check for fit or alignment with the wheel.



KPOB060B

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.



KPOB060F

AIR BAG MODULE (PASSENGER SIDE)

AIR BAG MODULE

REMOVAL EDFF722A

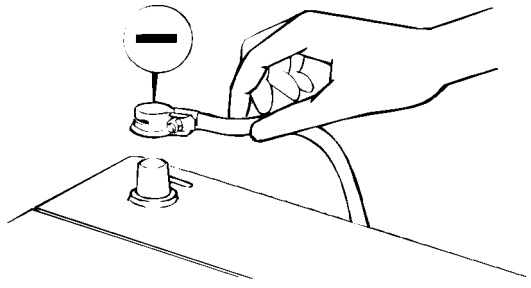
NOTE

1. *Never attempt to disassemble or repair the airbag module.*
2. *Do not drop the airbag module or allow contact with water, grease or oil. Replace it if a dent, crack, deformation or rust are detected.*
3. *The airbag module should be stored on a flat surface and placed so that the pad surface is facing upward. Do not place anything on top of it.*
4. *Do not expose the airbag module to temperature over 93°C (200°F)*
5. *An undeployed airbag module should only be disposed in accordance with the procedures.*
6. *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 seriouspersonal injury.*
7. *Whenever the PAB is deployed it should be replaced with a new one assembled with an extension wire. The squib is melt down if the PAB is deployed makingthe extension wire useless.*

1. Disconnect the battery negative (-) terminal cable.

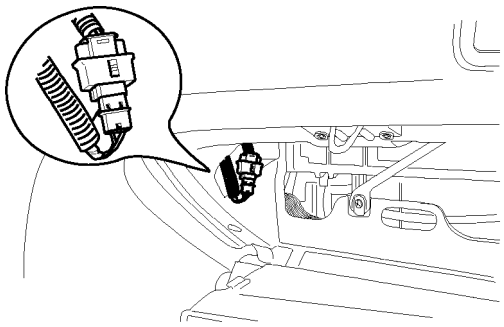
CAUTION

Wait at least 3 minutes.



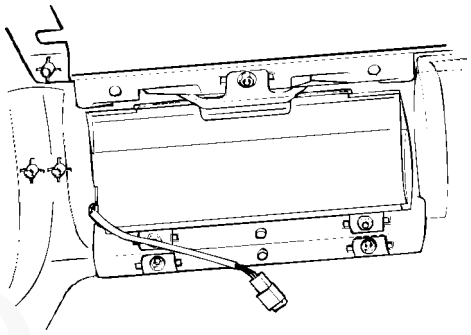
EADA011A

2. Remove the glove box.
3. Disconnect the PAB module connector.



ERKD010E

4. Remove the crash pad assembly and then undo the PAB module. (Refer to the BD section)



ERJA010G

5. The skin of the passenger airbag module is integrated with the crash pad, therefore, the crash pad must be replaced if the PAB deploys.

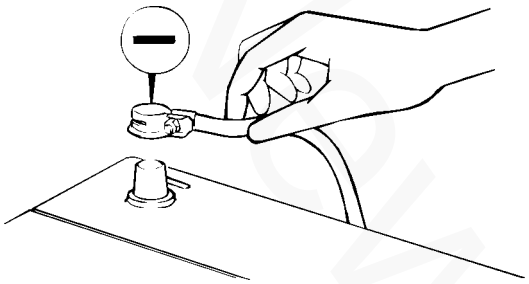
PRETENSIONER SEAT BELT

REMOVAL E5D5D82C

1. Disconnect the battery negative (-) terminal.

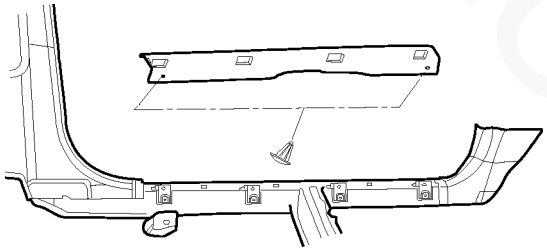
CAUTION

Wait at least 3 minutes.



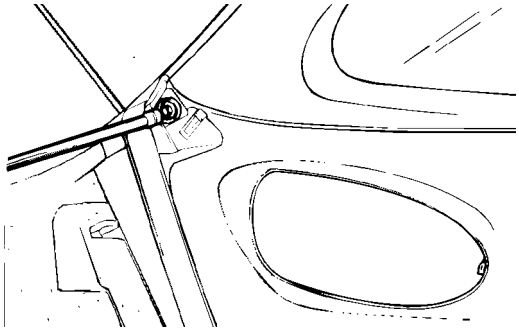
EADA011A

2. Remove the door scuff trim.



KSOB170B

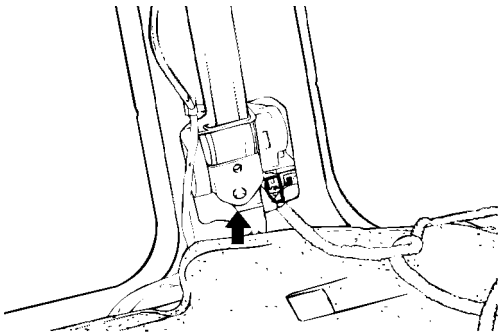
3. Remove the quarter trim after removing seat belt lower anchor bolt.



KSOB170F

4. Remove the upper anchor plate cover and upper anchor plate.

5. Remove the lower anchor plate and front seat belt.



ESHA040J

CAUTION

1. ***Never attempt to disassemble or repair the BPT.***
2. ***Do not drop the BPT or allow contact with water, grease, oil.***
   Replace it if a dent, crack, deformation or rust are detected.
3. ***Do not place anything on the BPT.***
4. ***Do not expose the BPT to temperature over 93°C(200°F).***
5. ***BPT functions one time only. Be sure to replace the BPT after it is deployed.***
6. ***Be sure to wear gloves and safety goggles when handling the deployed BPT.***

AIR BAG MODULE (SIDE AIR BAG)

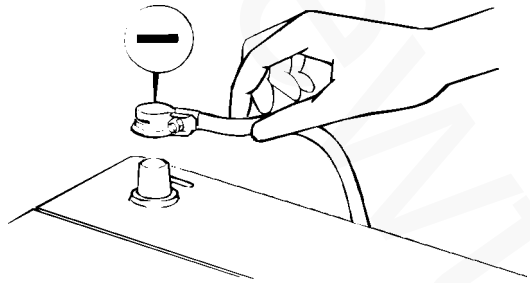
AIR BAG MODULE

REMOVAL EFF912DD

1. Disconnect the battery negative (-) terminal cable.

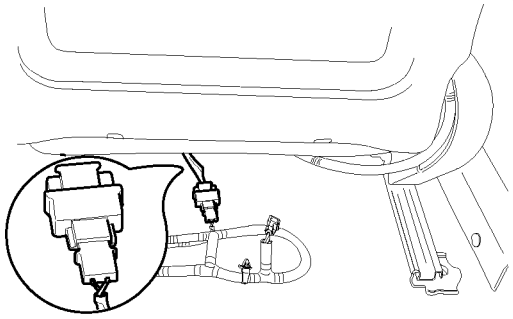
CAUTION

Wait at least 3 minutes.



EADA011A

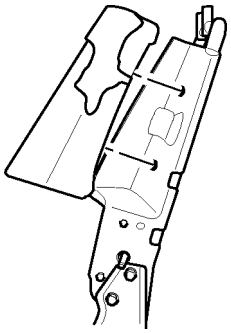
2. Disconnect the side airbag harness 2p connector.



ERKD010H

3. Remove the seat assembly and seat-back cover.

4. Remove the two mounting nuts and the side airbag.



KRDC006D

WARNING

1. **Never attempt to disassemble or repair the airbag module.**
2. **Do not drop the airbag module or allow contact with water, grease or oil. Replace it if a dent, crack, deformation or rust are detected.**
3. **The airbag module should be stored on a flat surface and placed so that the pad surface is facing upward. Do not place anything on top of it.**
4. **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.**

SRS CONTROL SYSTEM

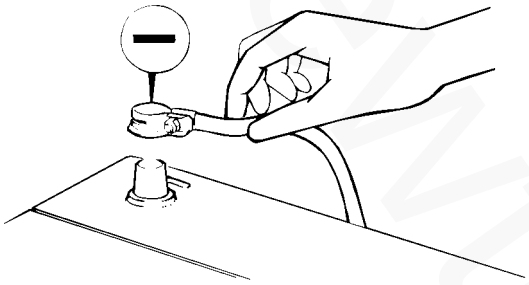
SIDE IMPACT SENSOR (SIS)

REMOVAL EABCFFFF

1. Disconnect the negative battery cable and keep secure from battery.

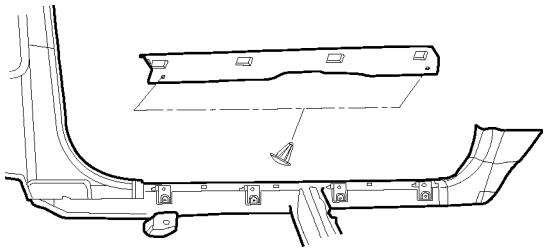
CAUTION

Wait at least 3 minutes after disconnecting the battery cable before doing any further work.



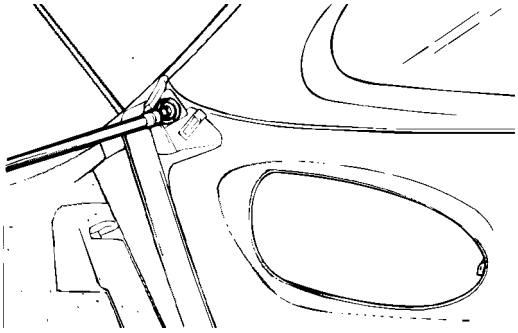
EADA011A

2. Remove the front seat.
3. Remove the door scuff trim.



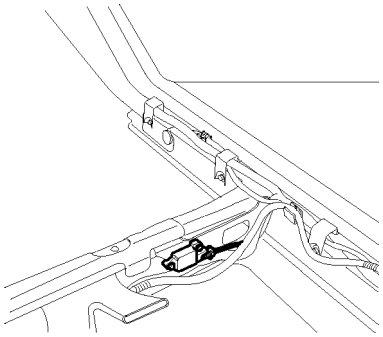
KSOB170B

4. Remove the guarter trim. After removing seat belt lower anchor bolt.



KSOB170F

5. Remove the floor carpet.
6. Disconnect the SIS connector and remove the SIS.

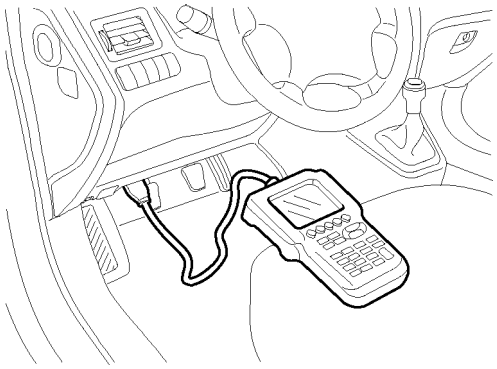


ERQE001B

TROUBLESHOOTING

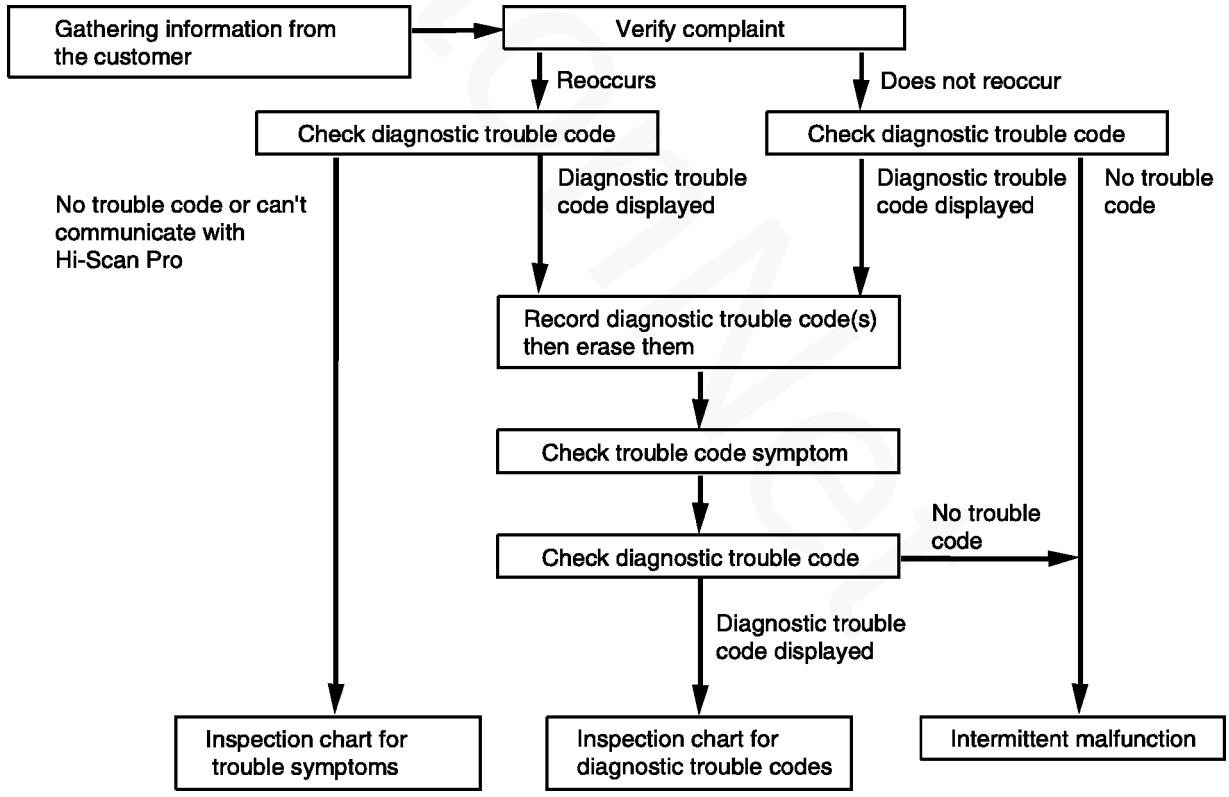
HI-SCAN CHECK E9DBA3C1

1. Turn the ignition switch off.
2. Connect the Hi-Scan Pro connector to the datalink connector located under the crash pad.
3. Connect the Hi-Scan Pro power cable.
4. Turn the ignition switch on and power on the Hi-Scan Pro.
5. Read DTCs.
6. Find and repair the trouble, and clear the DTCs using Hi-Scan Pro.
7. Disconnect the Hi-Scan Pro.



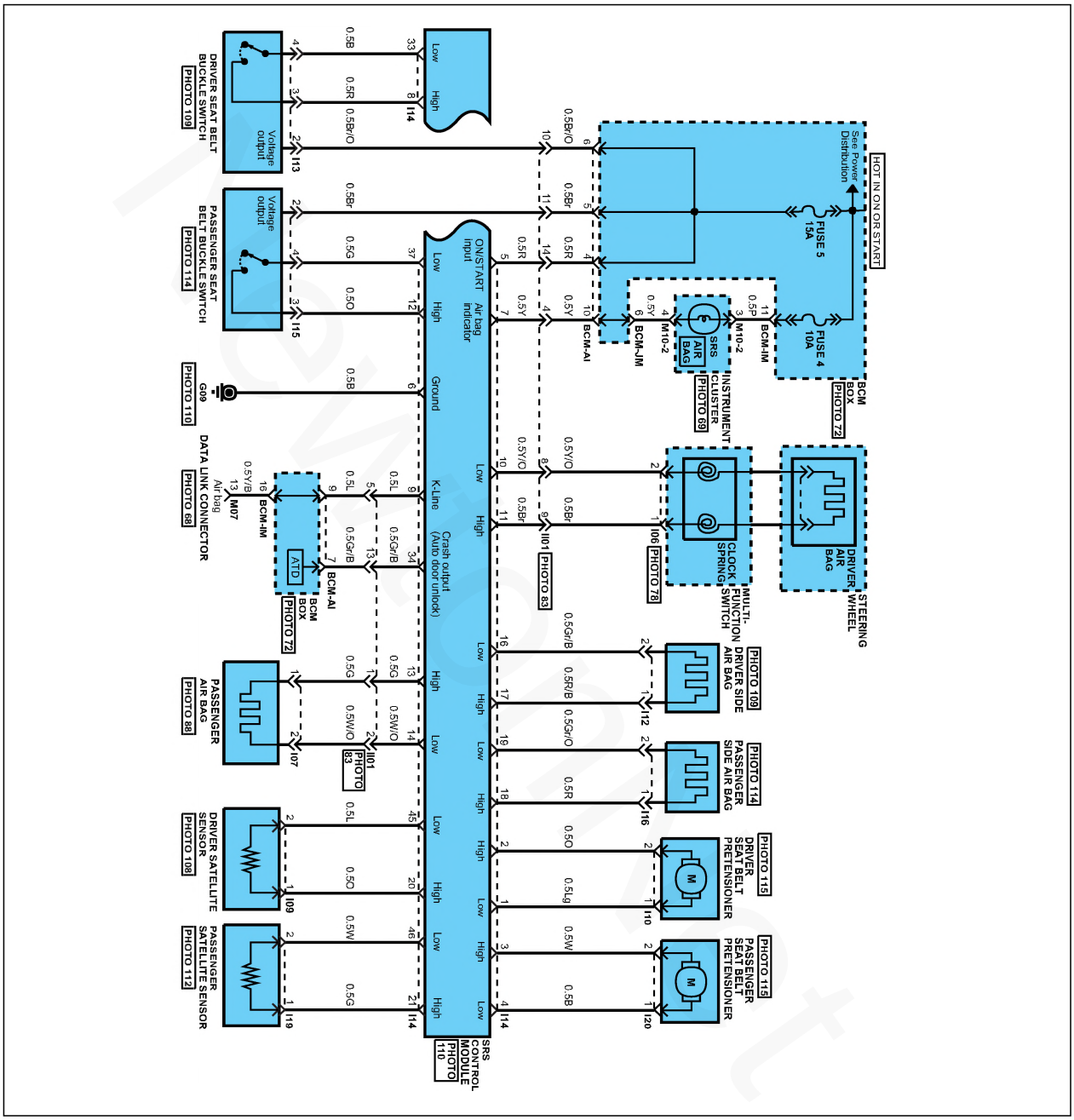
KRQE900A

DIAGNOSTIC TROUBLESHOOTING FLOW



ERA9035A

CIRCUIT DIAGRAM E2B475CB



EROF600D

* Satellite Sensor = side impact sensor(SIS)

SRSCM CONNECTOR TERMINAL EDD23B5C

SRSCM HARNESS CONNECTOR

1	2	3	4	5	6	7	8	9	10	11	12	13	14	*	16	17	18	19	20	21	*	*	*	*
*	*	*	*	*	*	*	33	34	*	*	37	*	*	*	*	*	*	*	45	46			*	*

** Shorting Bar

EROF501C

Pin	Function	input/ output	Pin	Function	input/ output
1	Belt-pretensioner, Low (Driver Side)	output	26		
2	Belt-pretensioner, High (Driver Side)	output	27		
3	Belt-pretensioner, High (Passenger Side)	output	28		
4	Belt-pretensioner, Low (Passenger Side)	output	29		
5	Battery Voltage	input	30		
6	GND	-	31		
7	Airbag Warning Lamp	output	32		
8	Seat-belt Buckle Switch, High (Driver Side)	input	33	Seat-belt Buckle Switch, Low (Driver Side)	input
9	Diagnostic Serial Data I/O (K-line)	input/out-put	34	Crash Output	
10	Front Airbag, Low (Driver Side)	output	35		
11	Front Airbag, High (Driver Side)	output	36		
12	Seat-belt Buckle Switch, High (Passenger Side)	input	37	Seat-belt Buckle Switch, Low (Passenger Side)	input
13	Front Airbag, High (Passenger Side)	output	38		
14	Front Airbag, Low (Passenger Side)	output	39		
15			40		
16	Side Airbag, Low (Driver Side)	output	41		
17	Side Airbag, High (Driver Side)	output	42		
18	Side Airbag, High (Passenger Side)	output	43		
19	Side Airbag, Low (Passenger Side)	output	44		
20	Side Impact Sensor, High (Driver Side)	input	45	Side Impact Sensor, Low (Driver Side)	input
21	Side Impact Sensor, High (Passenger Side)	input	46	Side Impact Sensor, Low (Passenger Side)	input
22			47		
23			48		
24			49		
25			50		

DIAGNOSTIC TROUBLE CODES(DTC)

DTC	FAULT DESCRIPTION	Page
B1101	Battery Voltage Too High	RT - 26
B1102	Battery Voltage Too Low	RT - 26
B1345	Firing Circuit 1(Driver Front Airbag), Open	RT - 27
B1346	Firing Circuit 1(Driver Front Airbag), Resistance too High	RT - 27
B1347	Firing Circuit 1(Driver Front Airbag), Resistance too Low or Short	RT - 27
B1348	Firing Circuit 1(Driver Front Airbag), Short to GND	RT -30
B1349	Firing Circuit 1(Driver Front Airbag), Short to Battery	RT - 36
B1351	Firing Circuit 2(Passenger Front Airbag), Open	RT - 43
B1352	Firing Circuit 2(Passenger Front Airbag), Resistance too High	RT - 43
B1353	Firing Circuit 2(Passenger Front Airbag), Resistance too Low or Short	RT - 43
B1354	Firing Circuit 2(Passenger Front Airbag), Short to GND	RT - 30
B1355	Firing Circuit 2(Passenger Front Airbag), Short to Battery	RT - 36
B1360	Firing Circuit 3(Driver Belt-pretensioner), Open	RT - 46
B1361	Firing Circuit 3(Driver Belt-pretensioner), Resistance too High	RT - 46
B1362	Firing Circuit 3(Driver Belt-pretensioner), Resistance too Low or Short	RT - 46
B1363	Firing Circuit 3(Driver Belt-pretensioner), Short to GND	RT - 30
B1364	Firing Circuit 3(Driver Belt-pretensioner), Short to Battery	RT - 36
B1366	Firing Circuit 4(Passenger Belt-pretensioner), Open	RT - 46
B1367	Firing Circuit 4(Passenger Belt-pretensioner), Resistance too High	RT - 46
B1368	Firing Circuit 4(Passenger Belt-pretensioner), Resistance too Low or Short	RT - 46
B1369	Firing Circuit 4(Passenger Belt-pretensioner), Short to GND	RT - 30
B1370	Firing Circuit 4(Passenger Belt-pretensioner), Short to Battery	RT - 36
B1377	Firing Circuit 5(Driver Side Airbag), Open	RT - 49
B1378	Firing Circuit 5(Driver Side Airbag), Resistance too High	RT - 49
B1379	Firing Circuit 5(Driver Side Airbag), Resistance too Low or Short	RT - 49
B1380	Firing Circuit 5(Driver Side Airbag), Short to GND	RT - 30
B1381	Firing Circuit 5(Driver Side Airbag), Short to Battery	RT - 36
B1382	Firing Circuit 6(Passenger Side Airbag), Resistance too High	RT - 49
B1383	Firing Circuit 6(Passenger Side Airbag), Resistance too Low or Short	RT - 49
B1384	Firing Circuit 6(Passenger Side Airbag), Short to GND	RT - 30
B1385	Firing Circuit 6(Passenger Side Airbag), Short to Battery	RT - 36
B1386	Firing Circuit 6(Passenger Side Airbag), Open	RT - 49
B1400	Driver Side Impact Sensor(SIS) defect	RT - 52
B1401	Driver Side Impact Sensor(SIS) Short to GND	RT - 30
B1402	Driver Side Impact Sensor(SIS) Short to Battery	RT - 36
B1403	Passenger Side Impact Sensor(SIS) defect	RT - 52
B1404	Passenger Side Impact Sensor(SIS) Short to GND	RT - 30
B1405	Passenger Side Impact Sensor(SIS) Short to Battery	RT - 36

DTC	FAULT DESCRIPTION	Page
B1409	Driver SIS Communication Error	RT - 52
B1410	Passenger SIS Communication Error	RT - 52
B1414	Driver SIS Wrong ID	RT - 54
B1415	Passenger SIS Wrong ID	RT - 54
B1511	Driver Seat-belt Buckle Switch, Short to Battery or Open	RT - 55
B1512	Driver Seat-belt Buckle Switch, Short to GND or Short	RT - 55
B1513	Passenger Seat-belt Buckle Switch, Short to Battery or Open	RT - 55
B1514	Passenger Seat-belt Buckle Switch, Short to GND or Short	RT - 55
B1515	Driver Seat-belt Buckle Switch, Settle fail(Switch Defect)	RT - 56
B1516	Passenger Seat-belt Buckle Switch, Settle fail(Switch Defect)	RT - 56
B1620	Internal Fault	RT - 57
B1650	Front Crash Recording	RT - 57
B1651	Driver Side Crash Recording	RT - 57
B1652	Passenger Side Crash Recording	RT - 57
B1657	Belt-Pretensioner Only Fire	RT - 57
B2501	Warning Lamp Fault - Bulb Open	RT - 58
B2503	Warning Lamp Fault - Short to Battery or Bulb Short	RT - 58
B2504	Warning Lamp Fault - Short to GND or Bulb open	RT - 58

CIRCUIT INSPECTION E777A51F

DTC	B1101 Battery voltage too high (V ≥ 16.5V) B1102 Battery voltage too low (V ≤ 9.0V)

CIRCUIT DESCRIPTION

The diagnosis system malfunction display for this circuit is different to other circuits. When the SRS warning lamp remains lit up and the DTC is a B1101 or B1102 code, battery voltage too high or low is indicated. When voltage returns to normal, the SRS warning light automatically goes off and a malfunction is no longer indicated.

INSPECTION PROCEDURE

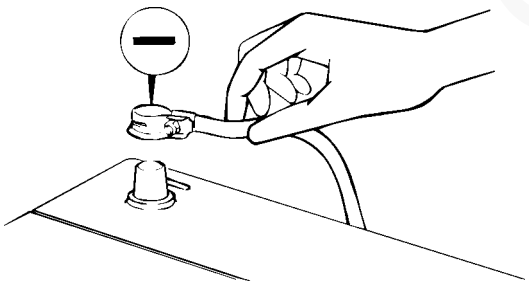
1. Preparation

   1) Disconnect the negative (-) terminal cable from the battery, and wait at least 3 minutes.

   2) Remove the DAB module.

   3) Disconnect the connectors of the PAB, left and right side airbags, belt pretensioners and Side Impact Sensor(SIS).

   4) Disconnect the SRSCM connector.



EADA011A

CAUTION

Place the DAB with the front surface facing upward.

2. Check source voltage.

   1) Connect the negative (-) terminal cable to the battery.

   2) Turn the ignition switch ON.

[CHECK]

Measure voltage between the battery supply terminal 21 of the SRS connector and body ground.

LIMIT : 9 ~ 16.5V

NG ➔ Check the harness between the battery and the SRSCM. Check the battery and charging system

OK ↓

ERJB040A

3. Does the SRS warning lamp turn off ?

[PREPARATION]

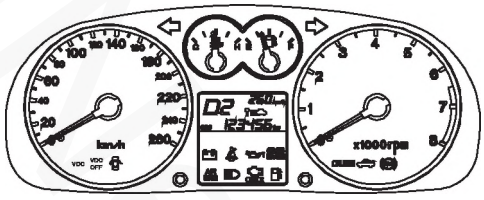
1) Turn the ignition switch to LOCK.

2) Connect the DAB module.

3) Connect the PAB connector, left and right side airbag, belt pretensioner and SIS.

4) Connect the SRSCM connector.

5) Turn the ignition switch ON.



KROF501E

[CHECK]

Check that the SRS warning lamp goes off.

NG ➔ Check for DTCs. If a DTC is output, perform troubleshooting for the DTC. If B1101 or B1102 is output, replace the SRSCM.

OK ↓

From the results of the above inspection, the malfunctioning part can now be considered normal.

EROF500Y

CIRCUIT INSPECTION EBDFB247

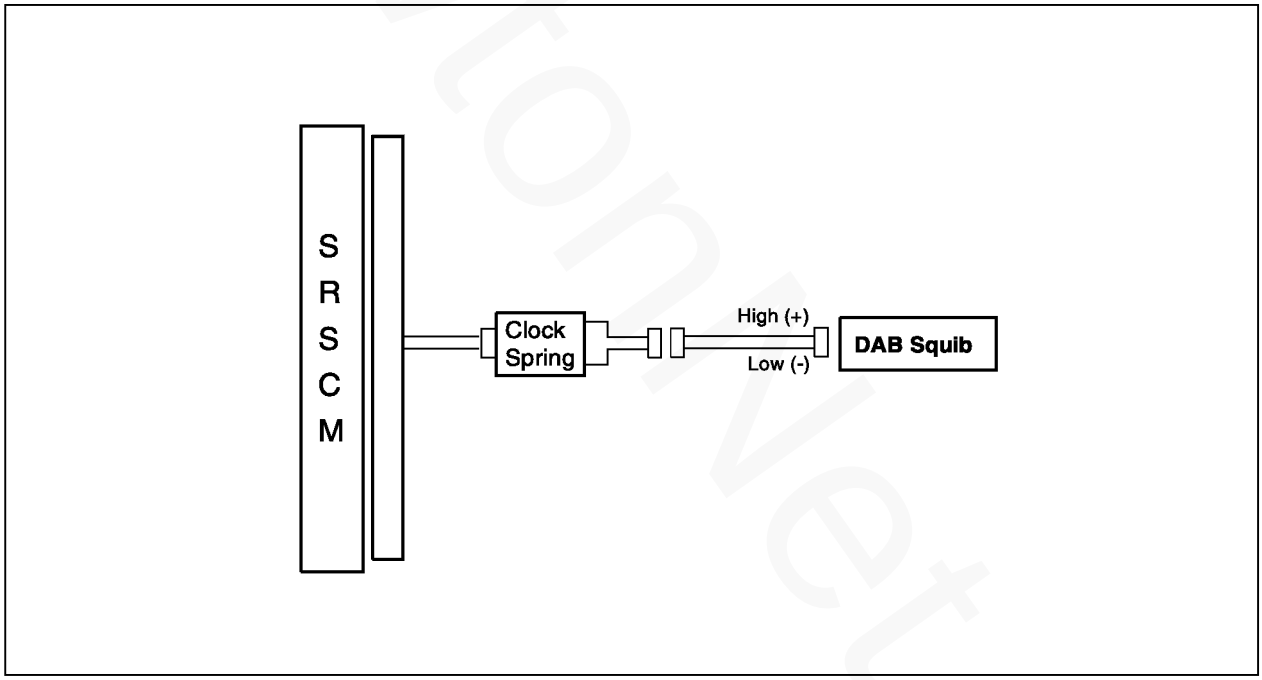
DTC	B1345 DAB open B1346 DAB resistance too high (R ≥ 2.2Ω) B1347 DAB resistance too low or short (R ≤ 1.8Ω)

CIRCUIT DESCRIPTION

The DAB squib circuit consists of the SRSCM, the clock spring, the DAB. It causes the airbag to deploy when the airbag deployment conditions are satisfied. The above DTCs are recorded when the DAB circuit is open or the DAB resistance too high or low is detected in the DAB squib circuit.

DTC Detecting Condition	Trouble Area
• Too high or low resistance between DAB high (+) wiring harness and DAB low (-) wiring harness of squib. • DAB malfunction • Clock spring malfunction • SRSCM malfunction	• DAB squib • Clock spring • SRSCM • Wire harness

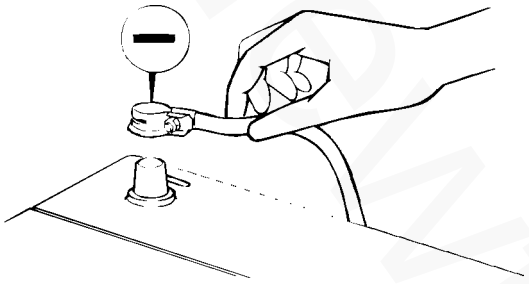
WIRING DIAGRAM



ERA9012A

INSPECTION PROCEDURE

1. Preparation
   1) Disconnect the negative (-) terminal cable from the battery, and wait at least 30 seconds.
   2) Remove the DAB module.
   3) Disconnect the connectors of the PAB, left and right side airbags, belt pretensioners and SIS.
   4) Disconnect the SRSCM connector.



EADA011A

CAUTION

Place the DAB with the front surface facing upward.

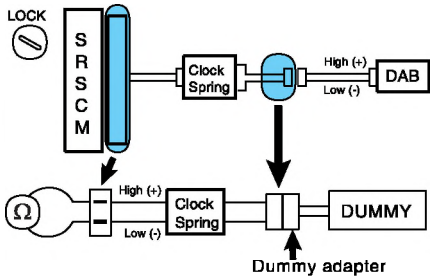
2. Check the DAB resistance.
   [PREPARATION]
   Release the airbag activation prevention mechanism on SRSCM side of airbag squib side. Connect the dummy (0957A-38200) and dummy adapter (0957A-38400) to the clock spring side connector.

CAUTION

Never attempt to measure the circuit resistance of the airbag module (squib) even if you are using the specified tester.

NOTE

Before checking the resistance, you have to insert the shorting bar insert plastic that is attached to the diagnosis checker into the SRSCM connector.



ERKB010C

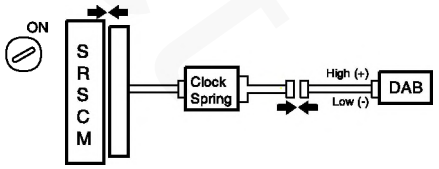
[CHECK]
Measure the resistance between the DAB high (+) and low (-).
1.80Ω ≤ R ≤ 2.2Ω

NG ➔ Go to step "4"

OK

ERJB043A

3. Check the DAB squib.
   [PREPARATION]
   1. Turn the ignition switch to LOCK.
   2. Disconnect the negative (-) terminal cable from the battery, and wait for 30 seconds.
   3. Connect the DAB connector.
   4. Connect the negative (-) terminal cable to the battery, and wait for 30 seconds.



ERA9011U

[CHECK]

1. Turn the ignition switch to ON, and wait for at least 30 seconds.
2. Clear the malfunction code stored in the memory with the Hi-Scan Pro.
3. Turn the ignition switch to LOCK, and wait for 30 seconds.
4. Turn the ignition switch to ON, and wait for 30 seconds.
5. Using Hi-Scan Pro, check the DTC.
   There is no DTC.

[HINT]
Codes other than these may be output at this time, but they are not relevant to this procedure.

NG ➔ Replace the PAB.

OK ↓

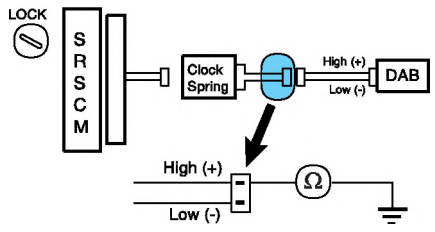
From the results of the above inspection, the malfunctioning part can now be considered normal.

ERJB041H

4. Check the clock spring.
   [PREPARAION]
   Disconnect the connector between the SRSCM clock spring, and connect the dummy connector (0957A-38200) and dummy adapter (0957A-38400) to the clock spring side connector.

   NOTE

   Before checking the resistance, you have to insert the shorting bar insert plastic that is attached to the diagnosis checker into the SRSCM connector.



ERKB010D

[CHECK]
Measure the resistance between the DAB high (+) and low (-).
1.80Ω ≤ **R** ≤ **2.2**Ω

NG ➔ Replace the clock spring.

OK ↓

Repair or replace the harness or the connector between the SRSCM and the clock spring.

ERDA027R

CIRCUIT INSPECTION E5EC083E

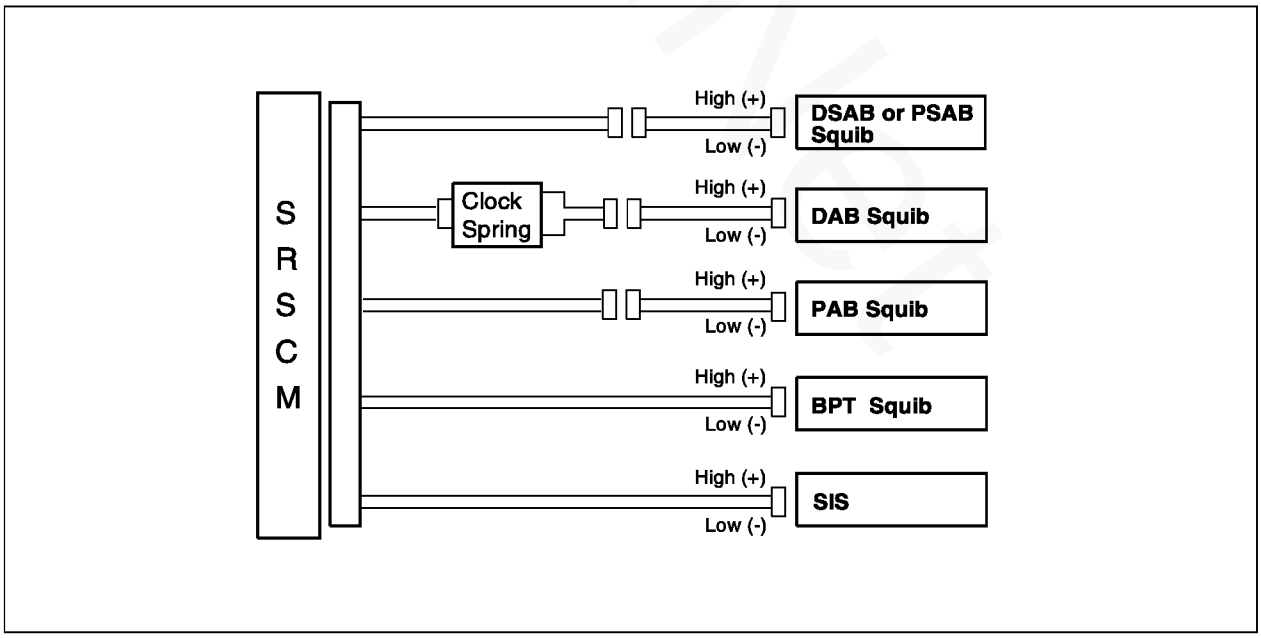
DTC	B1348 DAB short to ground B1354 PAB short to ground B1363 DBPT short to ground B1369 PBPT short to ground B1380 DSAB short to ground B1384 PSAB short to ground B1401 Side Impact Sensor(SIS) driver side short to ground B1404 Side Impact Sensor(SIS) passenger side short to ground

CIRCUIT DESCRIPTION

The squib circuit consists of the SRSCM, clock spring, DAB, PAB, SAB, BPT, and SIS. It causes the SRS to deploy when the SRS deployment conditions are satisfied. The above DTCs are recorded when a short to ground is detected in a squib circuit.

DTC Detecting Condition	Trouble Area
• Short circuit in squib wire harness (to ground) • Squib malfunction • Clock spring malfunction • SRSCM malfunction	• DAB squib • PAB squib • DSAB squib • PSAB squib • BPT squib • SIS • Clock spring • SRSCM • Wire harness

WIRING DIAGRAM



EROF500C

INSPECTION PROCEDURE

1. Preparation

   1) Disconnect negative (-) terminal cable from the battery, and wait at least 30 seconds.

   2) Remove the DAB module.

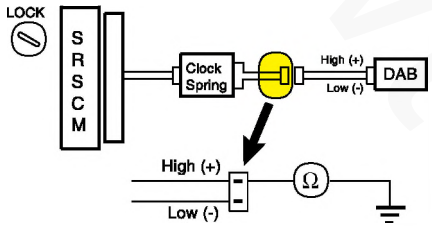
   3) Disconnect the connectors of the PAB, left and right side airbag, space belt pretensioner and SIS.

   4) Disconnect the connector of the SRSCM.

   CAUTION

   Place the DAB with the front surface facing upward.

2. Check DAB squib circuit.



ERA9011B

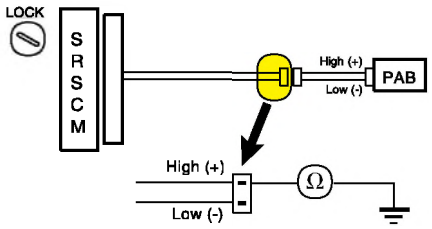
[CHECK]
For the connector (on the clock spring side) between clock spring and DAB, measure the resistance between DAB high and body ground.
Resistance : ∞

NG ➔ Go to step "13"

OK
↓
Go to step "8"

ERJB041A

3. Check the PAB squib circuit.



ERA9011C

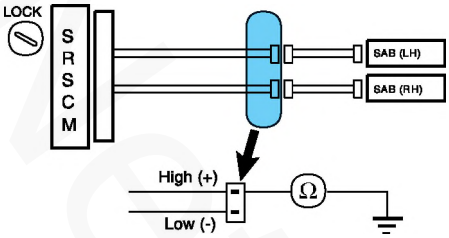
[CHECK]
For the connector (on the SRSCM side) between SRSCM and PAB, measure the resistance between PAB high and body ground.
Resistance : ∞

NG ➔ Repair or replace harness or connector between the SRSCM and the PAB.

OK
↓
Go to step "9"

ERJB041B

4. Check PSAB and DSAB squib circuits.



ERA9011D

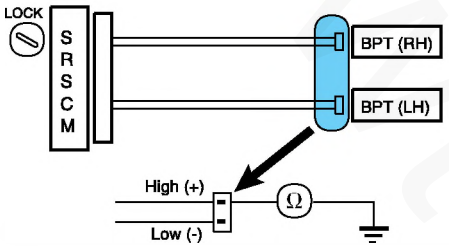
[CHECK]
For the connector (on the SRSCM side) between SRSCM and the SABs, measure the resistance between the SABs high and body ground.
Resistance : ∞

NG ➔ Repair or replace the harness between the SRSCM and the SAB.

OK ↓
Go to step "10"

ERJB041C

5. Check the BPTs squib circuit.



ERA9011E

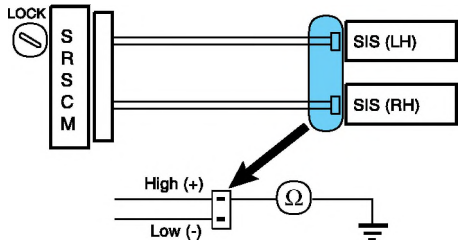
[CHECK]
For the connector (on the SRSCM side) between the SRSCM and BPT, measure the resistance between the BPTs high and body ground.
Resistance : ∞

NG ➔ Repair or replace the harness between the SRSCM and the BPTs.

OK ↓
Go to step "11"

ERJB041D

6. Check the SIS circuit.



EROF500D

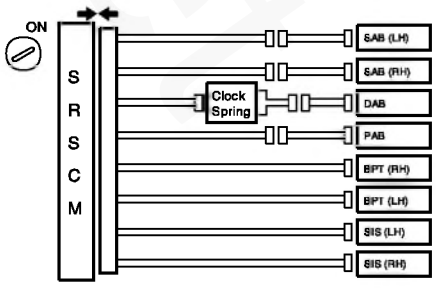
[CHECK]
For the connector (on the SRSCM side) between the SRSCM and the SIS, measure the resistance between the SIS high and body ground.
Resistance : ∞

NG ➔ Repair or replace the harness between the SRSCM and the SIS.

OK ↓
Go to step "12"

EROF500Z

7. Check the SRSCM.
[PREPARATION]
1. Connect the connector to SRSCM.
2. Using a service wire, connect the DAB high and DAB low on the clock spring side of connector.
3. Using a service wire, connect the PAB high and low on SRSCM side of connector.
4. Connect the SABs and BPT using the same method.
5. Connect the negative (-) terminal cable to battery, and wait it least 30 seconds.



EROF500E

[CHECK]
1. Turn ignition switch to ON, and wait for at least 30 seconds.
2. Clear any codes stored in the memory with the Hi-Scan Pro.
3. Turn the ignition switch to LOCK, and wait for 30 seconds.
4. Turn the ignition switch to ON, and wait for 30 seconds.
5. Using the Hi-Sacn Pro, check for DTCs.
   There is no DTC.

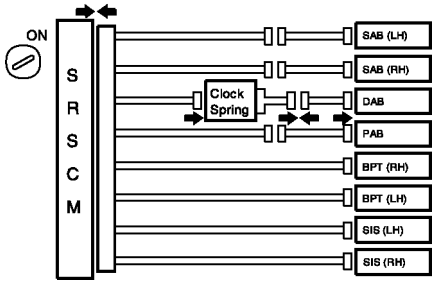
[HINT]
Codes other than these may be output at this time, but they are not relevant to this check.

NG ➔ Replace the SRSCM.

OK
↓
From the results of the above inspection, the malfunctioning part can now be considered normal.

ERJB041F

8. Check the DAB squib.
   [PREPARATION]
   1. Turn the ignition switch to LOCK.
   2. Disconnect the negative (-) terminal cable from the battery, and wait for 30 seconds.
   3. Connect the DAB connector.
   4. Connect the negative (-) terminal cable to the battery, and wait for 30 seconds.



EROF500F

[CHECK]
1. Turn the ignition switch to ON, and wait for at least 30 seconds.
2. Clear the malfunction code stored in the memory of the Hi-Scan Pro.
3. Turn the ignition switch to LOCK, and wait for 30 seconds.
4. Turn the ignition switch to ON, and wait for 30 seconds.
5. Using the Hi-Scan Pro, check for DTCs.
   There is no DTC.

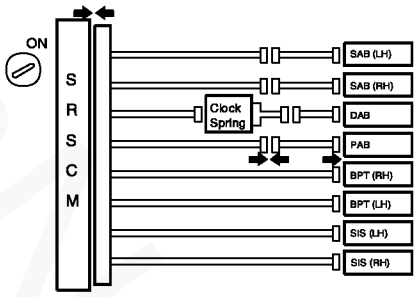
[HINT]
Codes other than these may be output at this time, but they are not relevant to this procedure.

NG ➔ Replace the DAB.

OK
↓
From the results of the above inspection, the malfunctioning part can now be considered normal.

ERJB041G

9. Check the PAB squib.
   [PREPARTION]
   1. Turn the ignition switch to LOCK.
   2. Disconnect the negative (-) terminal cable from the battery, and wait for 30 seconds.
   3. Connect the PAB connector.
   4. Connect the negative (-) terminal cable from the battery, and wait for 30 seconds.



EROF500G

[CHECK]
1. Turn the ignition switch to ON, and wait for at least 30 seconds.
2. Clear the malfunction code stored in the memory with the Hi-Scan Pro.
3. Turn the ignition switch to LOCK, and wait for 30 seconds.
4. Turn the ignition switch to ON, and wait for 30 seconds.
5. Using the Hi-Sacn Pro, check for DTCs.
   There is no DTC.

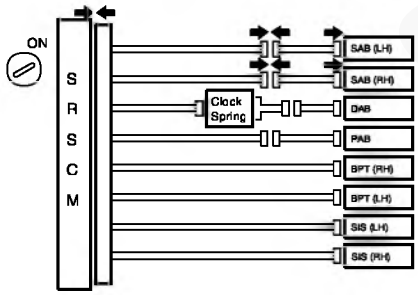
[HINT]
Codes other than these may be output at this time, but they are not relevant to this procedure.

NG ➔ Replace the PAB.

OK
↓
From the results of the above inspection, the malfunctioning part can now be considered normal.

ERJB041H

10. Check the SABs squib.
[PREPARATION]
1. Turn ignition switch to LOCK.
2. Disconnect negative (-) terminal cable from the battery, and wait at least 30 seconds.
3. Connect the Satellite sensor connector.
4. Connect the negative (-) terminal vable from the battery and wait at least 30 seconds.



EROF500H

[CHECK]
1. Turn the ignition switch to ON, and wait at least 30 seconds.
2. Cleat the malfunction code stored in memory with the Hi-scan Pro.
3. Turn the ignition witch to LOCK, and wait at least 30 seconds.
4. Turn the ignition switch to ON, and wait at least 30 seconds.
5. Using the Hi-scan Pro, check for DTCs.
There is no DTC.

[HINT]
Codes other than these ones may be output at this time, but they are not relevant to this checking procedure.

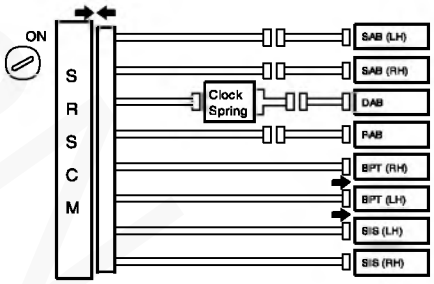
NOTE
Check the DSAB using the same procedure.

NG ➔ Replace the SAB.

OK
↓
From the results of the above inspection, the malfunctioning part can now be considered normal.

ERJB041I

11. Check the BPT squib.
[PREPARATION]
1. Turn ignition switch to LOCK.
2. Disconnect the engine negative (-) terminal cable from the battery, and wait for 30 seconds.
3. Connect the BPTs connector.
4. Connect the negative (-) terminal cable from the battery and wait for 30 seconds.



EROF500I

[CHECK]
1. Trun the ignition switch to ON, and wait for 30 seconds.
2. Clear the malfunction code stored in the memory with the Hi-scan Pro.
3. Turn the ignition switch to LOCK, and wait for 30 seconds.
4. Trun the ignition switch to ON, and wait for 30 seconds.
5. Using the Hi-scan Pro, check for DTCs.
There is no DTC.

[HINT]
Codes other than these may be output at this time, but they are not relevant to this procedure.

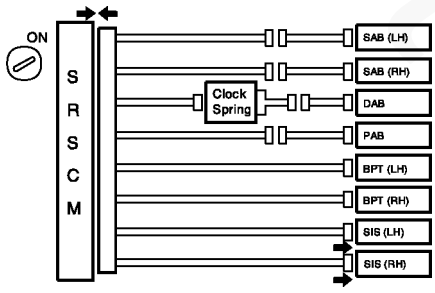
NG ➔ Replace the BPT.

OK

From the results of the above inspection, the malfunctioning part can now be considered normal.

ERJB041J

12. Check the SIS.
[PREPARATION]
1. Turn ignition switch to LOCK.
2. Disconnect negative (-)terminal cable from the battery, and wait at least 30 seconds.
3. Connect the Satellite sensor connector.
4. Connect the negative (-) terminal cable from the battery amd wait at least 30 seconds.



EROF500J

[CHECK]
1. Turn the ignition switch to ON, and wait at least 30 seconds.
2. Clear the malfunction code stored in memory with the Hi-scan Pro.
3. Turn the ignition switch to LOCK, and wait at least 30 seconds.
4. Turn the ignition switch to ON, and wait at least 30 seconds.
5. Using the Hi-scan Pro, check for DTCs.
There is no DTC.

[HINT]
Codes other than there may be output at this time, but they are not relevant to this procedure.

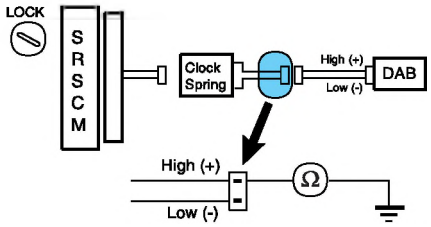
NG ➔ Replace the SIS.

OK

From the results of the above inspection, the malfunctioning part can now be considered normal.

EROF501A

13. Check clock spring circuit.
[PREPARION]
Disconnect connector between SRSCM and clock spring.



ERKB010B

[CHECK]
Measure resistance between the DAB high on the clock spring side of connector between clock spring and DAB and body ground.
Resistance : ∞

NG ➔ Replace the clock spring.

OK

Repair or replace the harness or the connector between the SRSCM and the clock spring.

ERDA027R

CIRCUIT INSPECTION E41E9C29

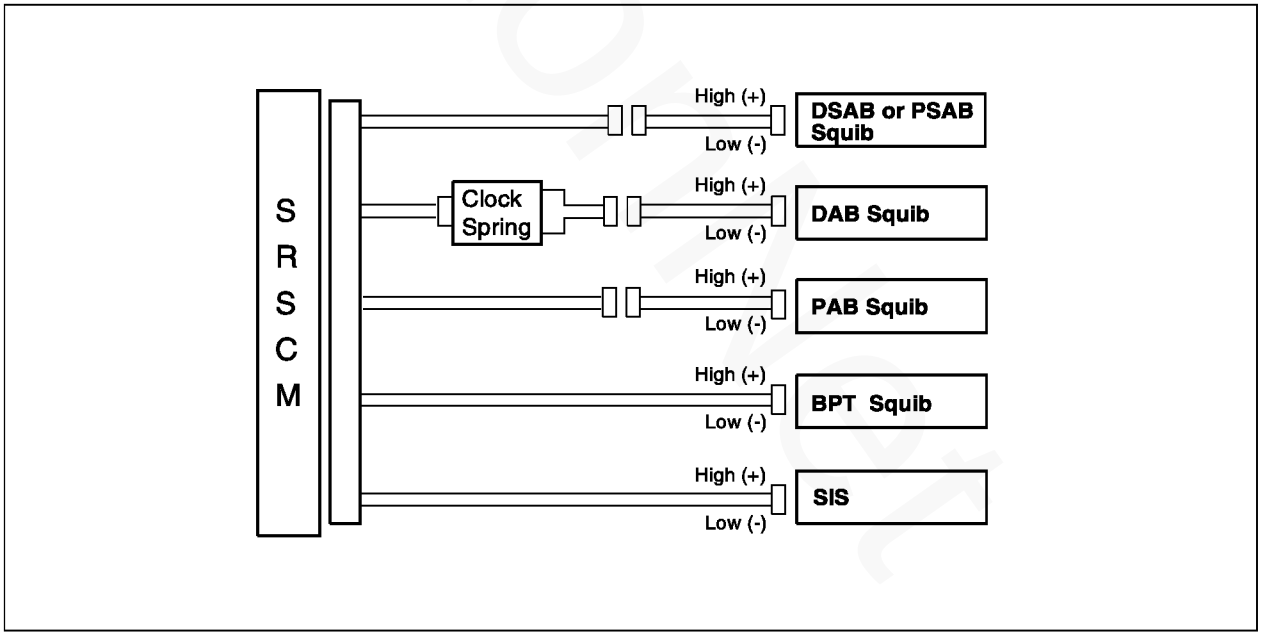
DTC	B 1349 DAB short to battery B 1355 PAB short to battery B 1364 DBPT short to battery B 1370 PBPT short to battery B 1381 DSAB short to battery B 1385 PSAB short to battery B 1402 Side Impact Sensor(SIS) driver side short to battery B 1405 Side Impact Sensor(SIS) passenger side short to battery

CIRCUIT DESCRIPTION

The squib circuit consists of the SRSCM, clock spring, DAB, PAB, DSAB, PSAB, BPT and SIS. If it causes the SRS to deploy when the SRS deployment conditions are satisfied. The above DTCs are recorded when a B+ short is detected in the squib circuit.

DTC Detecting Condition	Trouble Area
• Short circuit in squib wire harness (to B+) • Squib malfunction • Clock spring cable malfunction • SRSCM malfunction	• DAB squib • PAB squib • DSAB or PSAB squib • BPT squib • SIS • Wire harness

WIRING DIAGRAM



EROF500K

INSPECTION PROCEDURE

1. Preparation

   1) Disconnect negative (-) terminal cable from the battery, and wait at least 30 seconds.

   2) Remove the DAB module.

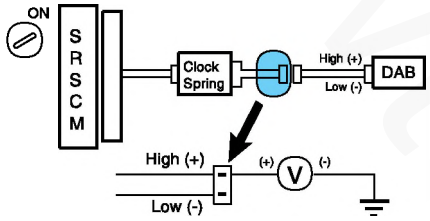
   3) Disconnect the connectors of the PAB, left and right side airbag, belt pretensioner and SIS.

   4) Disconnect the connector of the SRSCM.

   ⚠ ***CAUTION***

   Place the DAB with the front surface facing upward.

2. Check the DAB squib circuit.



ERAC042A

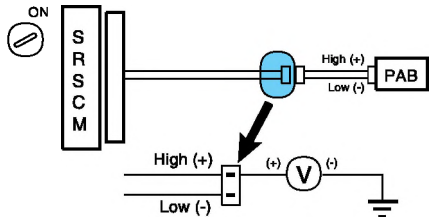
[CHECK]
For the connector (on the clock spring side) between the clock spring and DAB, measure the voltage between the DAB high and body ground.
Voltage : 0 V

NG ➔ Go to step "13"

OK
↓
Go to step "8"

ERJB041A

3. Check the PAB squib circuit.



ERA9011P

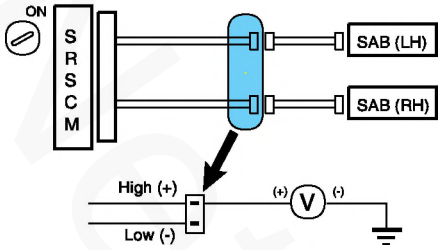
[CHECK]
For the connector (on the SRSCM side) between the SRSCM and PAB, measure the voltage between the PAB high and body ground.
Voltage : 0 V

NG ➔ Repair or replace the harness between the SRSCM and the PAB.

OK
↓
Go to step "9"

ERJB042A

4. Check the SAB squib circuit.



ERA9011Q

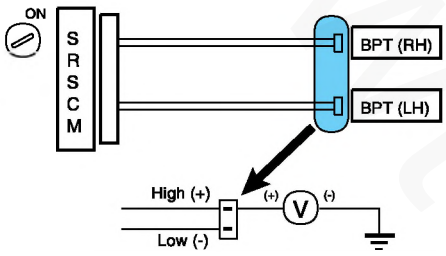
[CHECK]
For the connector (on the SRSCM side) between the SRSCM and SAB, measure the voltage between the SAB high and **body ground.**
Voltage : 0 V

NG ➔ Repair or replace the harness between the SRSCM and the SAB.

OK ↓
Go to step "10"

ERJB041C

5. Check the BPTs squib circuits.



ERA9011R

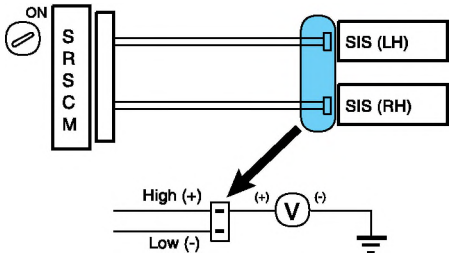
[CHECK]
For the connector between SRSCM and the BPTs, measure the voltage between the BPTs high and body ground.
Voltage : 0 V

NG ➔ Repair or replace the harness between the SRSCM and the BPTs.

OK ↓
Go to step "11"

ERJB041D

6. Check the SIS circuit.



EROF500L

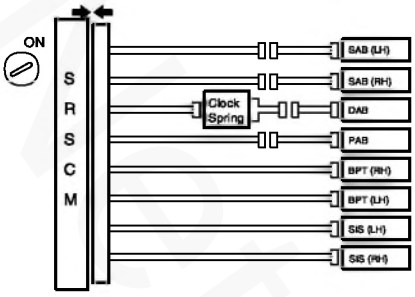
[CHECK]
For the connector between the SRSCM and the SIS, measure the voltage between the SIS high and body ground.
Voltage : 0 V

NG ➔ Repair or replace the harness between the SRSCM and the SIS.

OK ↓
Go to step "12"

EROF500M

7. Check the SRSCM.



EROF500N

[PREPARATION]
1. Connect the connector to the SRSCM.
2. Using a service wire, connect the DAB high and low on the clock spring side of connector between the clock spring and the DAB.
3. Using a service wire, connect the PAB high and low on the SRSCM side of the connector between the SRSCM and the PAB.
4. Using a service wire, connect the SAB high and low on the SRSCM side connector between the SRSCM and the SAB.
5. Using a service wire, connect the BPT high and low on the SRSCM side connector between the SRSCM and the BPT.
6. Using a service wire, connect the satellite high and low on the SRSCM side connector between the SRSCM and the satellite sensor.
7. Connect negative (-) terminal cable to battery, and wait at least 30 seconds.

[CHECK]
1. Turn the ignition switch to ON, and wait at least 30 seconds.
2. Clear the malfunction code stored in memory with the Hi-Scan Pro.
3. Turn the ignition switch to LOCK, and wait at least 30 seconds
4. Turn the ignition switch to ON, and wait at least 30 seconds.
5. Using the Hi-Scan Pro, check for DTCs.
   There is no DTC.

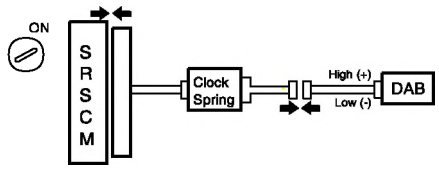
[HINT]
Codes other than these may be output at this time, but they are not relevant to this check.

NG ➔ Replace the SRSCM.

OK
↓
From the results of the above inspection, the malfunctioning part can now be considered normal.

ERJB041F

8. Check the DAB squib.
   [PREPARATION]
   1. Turn the ignition switch to LOCK.
   2. Disconnect the negative (-) terminal cable from the battery, and wait for 30 seconds.
   3. Connect the DAB connector.
   4. Connect the negative (-) terminal cable to the battery, and wait for 30 seconds.



ERA9011U

[CHECK]
1. Turn the ignition switch ON, and wait for at least 30 seconds.
2. Clear the malfunction code stored in the memory of the Hi-Scan Pro.
3. Turn the ignition switch to LOCK, and wait for 30 seconds.
4. Turn the ignition switch to ON, and wait for 30 seconds.
5. Using the Hi-Scan Pro, check for DTCs.
   There is no DTC.

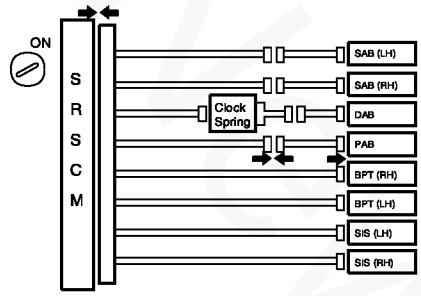
[HINT]
Codes other than these may be output at this time, but they are not relevant to this procedure.

NG ➔ Replace the DAB.

OK
↓
From the results of the above inspection, the malfunctioning part can now be considered normal.

ERJB041G

9. Check the PAB squib.
[PREPARATION]
1. Turn the ignition switch to LOCK.
2. Disconnect the negative (-) terminal cable from the battery, and wait for 30 seconds.
3. Connect the PAB connector.
4. Connect the negative (-) terminal cable from the battery, and wait for 30 seconds.



EROF500O

[CHECK]
1. Turn the ignition switch to ON, and wait for at least 30 seconds.
2. Clear the malfunction code stored in the memory with the Hi-Scan Pro.
3. Turn the ignition switch to LOCK, and wait for 30 seconds.
4. Turn the ignition switch ON, and wait for 30 seconds.
5. Using the Hi-Sacn Pro, check for DTCs.
There is no DTC.

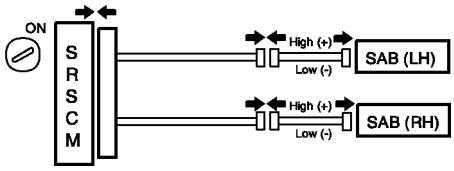
[HINT]
Codes other than these may be output at this time, but they are not relevant to this procedure.

NG ➔ Replace the PAB.

OK
↓
From the results of the above inspection, the malfunctioning part can now be considered normal.

ERJB041H

10. Check the SAB squib.
[PREPARATION]
1. Turn the ignition switch to LOCK.
2. Disconnect the negative (-) terminal cable from the battery, and wait for 30 seconds.
3. Connect the SAB connector.
4. Connect the negative (-) terminal cable from the battery, and wait for 30 seconds.



ERA9011W

[CHECK]
1. Turn the ignition switch to ON, and wait for at least 30 seconds.
2. Clear the malfunction code stored in the memory with the Hi-Scan Pro.
3. Turn the ignition switch to LOCK, and wait for 30 seconds.
4. Turn the ignition switch ON, and wait for 30 seconds.
5. Using the Hi-Sacn Pro, check for DTCs.
There is no DTC.

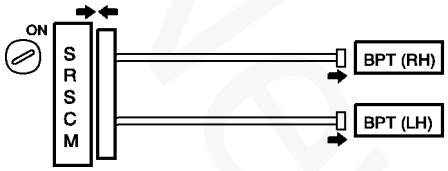
[HINT]
Codes other than these may be output at this time, but they are not relevant to this procedure.

NG ➔ Replace the SAB.

OK
↓
From the results of the above inspection, the malfunctioning part can now be considered normal.

ERJB041I

11. Check the BPTs squib.
[PREPARATION]
1. Turn the ignition swich to LOCK.
2. Disconnect the negative (-) terminal cable from the battery, and wait for 30 seconds.
3. Connect the BPTs connector.
4. Connect the negative (-) terminal cable from the battery, and wait for 30 seconds.



ERA9011X

[CHECK]
1. Turn the ignition switch to ON, and wait for 30 seconds.
2. Clear the malfunction code stored in the memory with the Hi-Scan Pro.
3. Turn the ignition switch to LOCK, and wait for 30 seconds.
4. Turn the ignition switch to ON, and wait for 30 seconds.
5. Using the Hi-Scan Pro, check for DTCs.
There is no DTC.

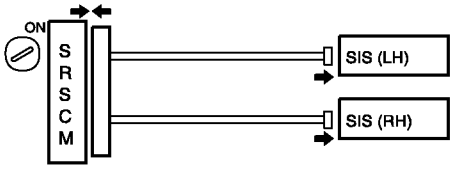
[HINT]
Codes other than these may be output at this time, but they are not relevant to this procedure.

NG ➔ Replace the BPT.

OK
↓
From the results of the above inspection, the malfunctioning part can now be considered normal.

ERJB041J

12. Check the SIS.
[PREPARATION]
1. Turn ignition switch to LOCK.
2. Disconnect the negative (-) terminal cable from the battery, and wait at least 30 seconds.
3. Connect the SIS sensor connector.
4. Connect the negative (-) terminal cable from the battery, and wait at least 30 seconds.



EROF500P

[CHECK]
1. Turn the ignition switch to ON, and wait at least 30 seconds.
2. Clear the malfunction code stored in memory with Hi-scan.
3. Turn the ignition switch to LOCK, and wait at least 30 seconds.
4. Turn the ignition switch to ON, and wait at least 30 seconds.
5. Using the Hi-Scan Pro, check for DTCs.
There is no DTC.

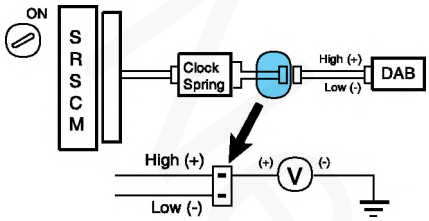
[HINT]
Codes other than these may be output at this time, but they are not relevant to this procedure.

NG ➔ Replace the SIS.

OK
↓
From the results of the above inspection, the malfunctioning part can now be considered normal.

EROF500Q

13. Check the Clock spring.
[PREPARAION]
1. Turn the ignition switch to LOCK.
2. Disconnect the connector between the SRSCM and the clock spring.



ERAC042A

[CHECK]
Turn the ignition switch ON, and measure the voltage between the DAB high side and the body ground.
Voltage : 0V

NG ➔ Replace the clock spring.

OK
↓
Repair or replace the harness or the connector between the SRSCM and the clock spring.

ERDA027R

CIRCUIT INSPECTION EEDDFACB

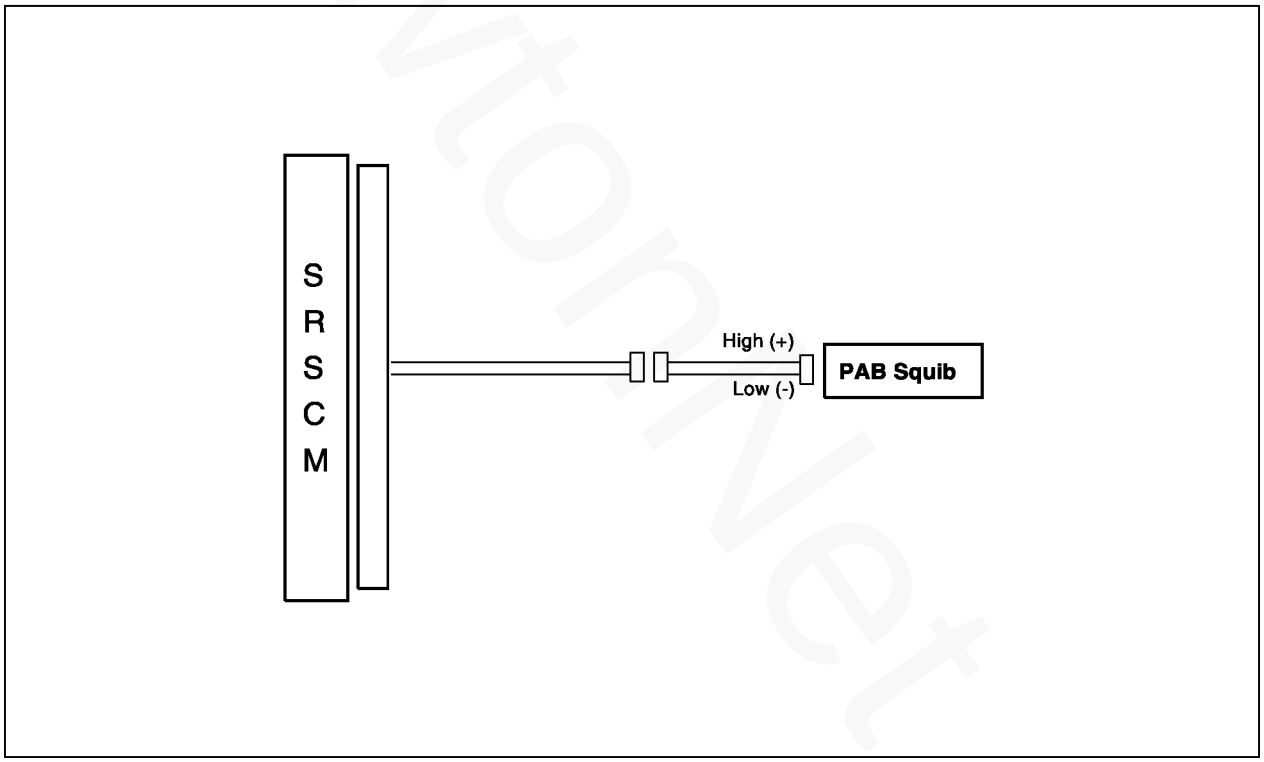
DTC	B1351 PAB open B1352 PAB resistance too high (R ≥ 2.3Ω) B1353 PAB resistance too low or short (R ≤ 1.7Ω)

CIRCUIT DESCRIPTION

The PAB squib circuit consists of the SRSCM and PAB. It causes the airbag to deploy when the airbag deployment conditions are satisfied. The above DTCs are recorded when the PAB circuit is open or the PAB resistance too high or low is detected in the PAB squib circuit.

DTC Detecting Condition	Trouble Area
• Too high or low resistance between PAB high (+) wiring harness and PAB low (-) wiring harness of squib. • PAB malfunction • SRSCM malfunction	• PAB squib • SRSCM • Wire harness

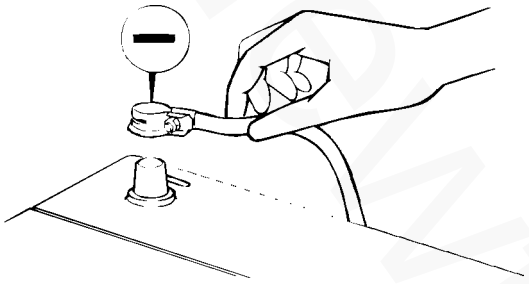
WIRING DIAGRAM



ERA9012E

INSPECTION PROCEDURE

1. Preparation
   1) Disconnect the negative (-) terminal cable from the battery, and wait at least 30 seconds.
   2) Remove the DAB module.
   3) Disconnect the connectors of the PAB, left and right side airbags, belt pretensioners and SIS.
   4) Disconnect the SRSCM connector.



EADA011A

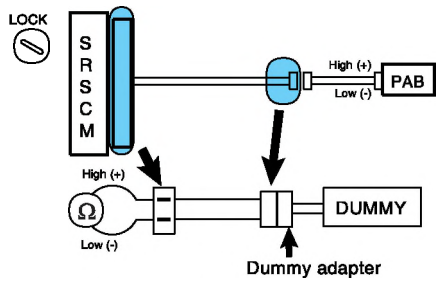
CAUTION

Place the DAB with the front surface facing upward.

2. Check the PAB resistance.
   [PREPARATION]
   Release the airbag activation prevention mechanism on the SRSCM side of the airbag squib side. Connect the dummy (0957A-38200) and dummy adapter (0957A-38300) to PAB connector of the SRSCM connector side.

NOTE

Before checking the resistance, you have to insert the shorting bar insert plastic that is attached to the diagnosis checker into the SRSCM connector.



ERKB010E

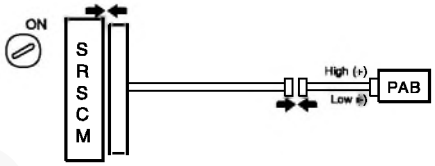
[CHECK]
Measure the resistance between the PAB high (+) and the PAB low (-).
1.7Ω ≤ R ≤ 2.3Ω

NG ➔ Repair or replace the harness between the SRSCM and the PAB.

OK ↓

ERJB044A

3. Check the PAB squib.
   [PREPARATION]
   1. Turn the ignition switch to LOCK.
   2. Disconnect the negative (-) terminal cable from the battery, and wait for 30 seconds.
   3. Connect the PAB connector.
   4. Connect the negative (-) terminal cable to the battery, and wait for 30 seconds.



ERA9011V

[CHECK]
1. Turn the ignition switch to ON, and wait for at least 30 seconds.
2. Clear the malfunction code stored in the memory with the Hi-Scan Pro.
3. Turn the ignition switch to LOCK, and wait for 30 seconds.
4. Turn the ignition switch to ON, and wait for 30 seconds.
5. Using Hi-Scan Pro, check the DTC.
   There is no DTC.

[HINT]
Codes other than these may be output at this time, but they are not relevant to this procedure.

NG ➔ Replace the PAB.

OK
↓
From the results of the above inspection, the malfunctioning part can now be considered normal.

ERJB041H

CIRCUIT INSPECTION ED753FA0

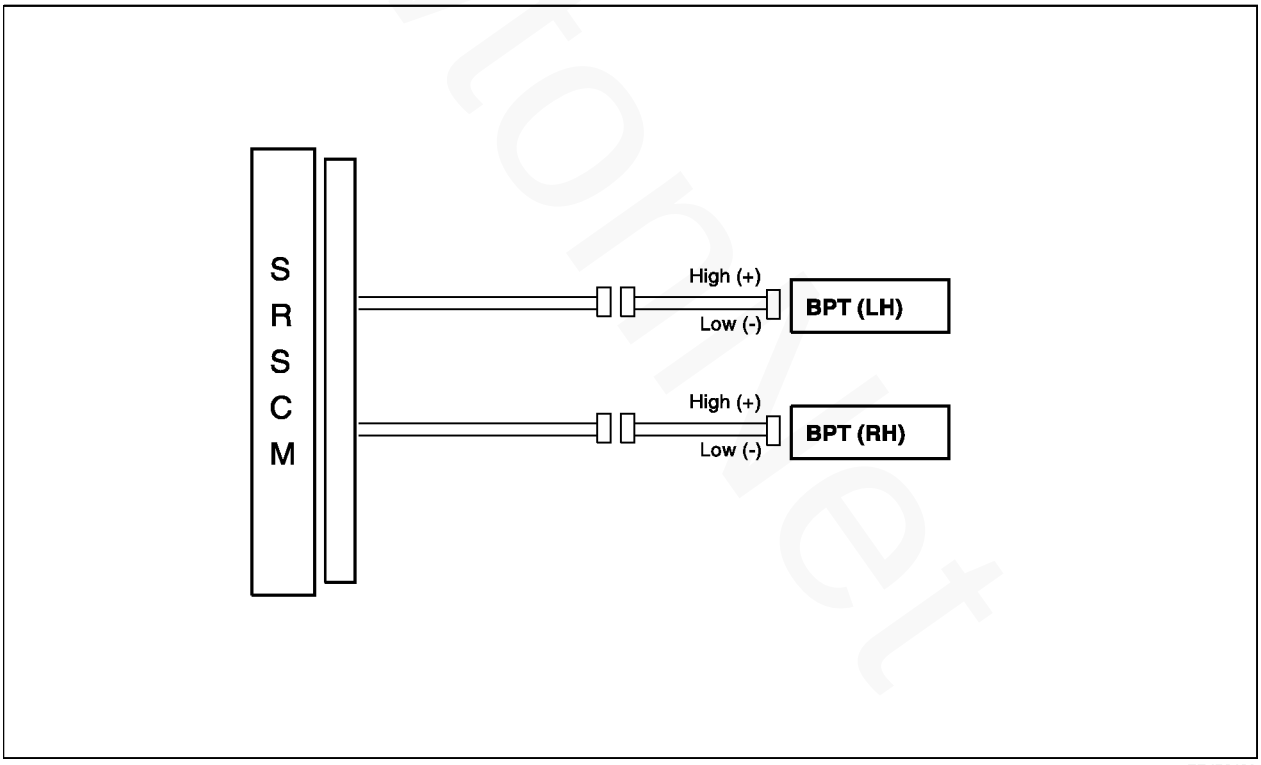
DTC	B1360 DBPT open B1361 DBPT Resistance too high (R ≥ 2.5Ω) B1362 DBPT Resistance too low or short (R ≤ 1.8Ω) B1366 PBPT open B1367 PBPT Resistance too high (R ≥ 2.5Ω) B1368 PBPT Resistance too low or short (R ≤ 1.8Ω)

CIRCUIT DESCRIPTION

The BPT squib circuit consists of the SRSCM and BPT. It causes the airbag to deploy when the airbag deployment conditions are satisfied. The above DTCs are recorded when the BPT circuit is open or the BPT resistance too high or low is detected in the BPT squib circuit.

DTC Detecting Condition	Trouble Area
• Too high or low resistane between BPT high (+) wiring harness and BPT low (-) wiring harness of squib. • BPT malfunction • SRSCM malfunction	• BPT squib • SRSCM • Wire harness

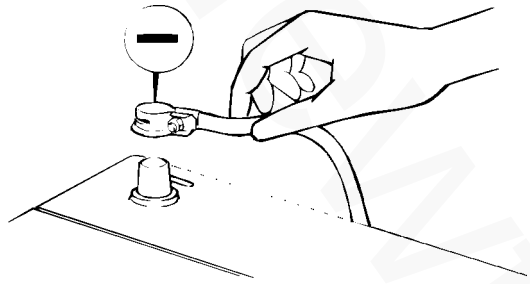
WIRING DIAGRAM



ERJB046A

INSPECTION PROCEDURE

1. Preparation
   1) Disconnect the negative (-) terminal cable from the battery, and wait at least 30 seconds.
   2) Remove the DAB module.
   3) Disconnect the connectors of the PAB, left and right side airbags, belt pretensioners and SIS.
   4) Disconnect the SRSCM connector.



EADA011A

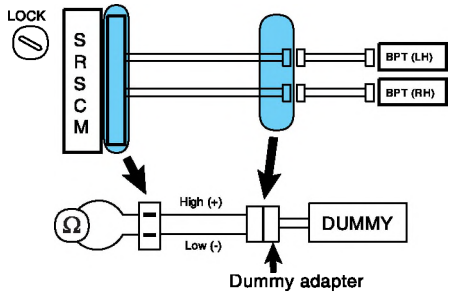
CAUTION

Place the DAB with the front surface facing upward.

2. Check the BPT resistance.
   [PREPARATION]
   Release the airbag activation prevention mechanism on the SRSCM side of the airbag squib side. Connect the dummy (0957A-38200) and dummy adapter (0957A-38300) to the BPT connector of the SRSCM connector side.

NOTE

Before checking the resistance, you have to insert the shorting bar insert plastic that is attached to the diagnosis checker into the SRSCM connector.



ERJB046D

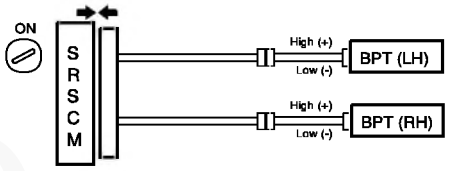
[CHECK]
Measure the resistance between the BPT high (+) and the BPT low (-).
1.8Ω ≤ R ≤ 2.5Ω

NG → Repair or replace the harness between the SRSCM and the BPT.

OK ↓

ERJB046B

3. Check the BPT squib.
   [PREPARATION]
   1. Turn the ignition switch to LOCK.
   2. Disconnect the negative (-) terminal cable from the battery, and wait for 30 seconds.
   3. Connect the BPT connector.
   4. Connect the negative (-) terminal cable to the battery, and wait for 30 seconds.



ERJB046C

[CHECK]
1. Turn the ignition switch to ON, and wait for at least 30 seconds.
2. Clear the malfunction code stored in the memory with the Hi-Scan Pro.
3. Turn the ignition switch to LOCK, and wait for 30 seconds.
4. Turn the ignition switch to ON, and wait for 30 seconds.
5. Using Hi-Scan Pro, check the DTC.
   There is no DTC.

[HINT]
Codes other than these may be output at this time, but they are not relevant to this procedure.

NG ➔ Replace the BPT.

OK
↓
From the results of the above inspection, the malfunctioning part can now be considered normal.

ERJB041J

CIRCUIT INSPECTION EB819AC4

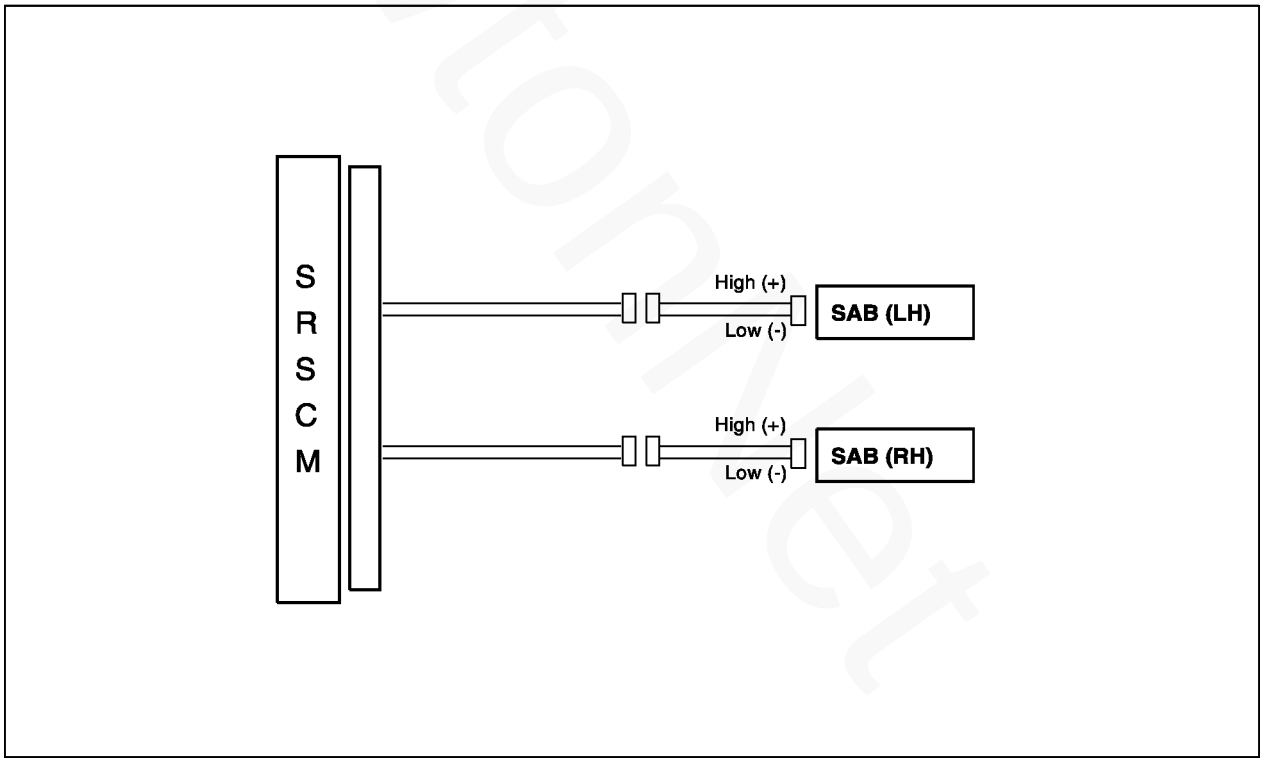
DTC	B1377 DSAB open B1378 DSAB Resistance too high (R ≥ 2.5Ω) B1379 DSAB Resistance too low or short (R ≤ 1.9Ω) B1382 PSAB Resistance too high (R ≥ 2.5Ω) B1383 PSAB Resistance too low or short (R ≤ 1.9Ω) B1386 PSAB open

CIRCUIT DESCRIPTION

The SAB squib circuit consists of the SRSCM and SAB. It causes the airbag to deploy when the airbag deployment conditions are satisfied. The above DTCs are recorded when the SAB circuit is open or the SAB resistance too high or low is detected in the SAB squib circuit.

DTC Detecting Condition	Trouble Area
• Too high or low resistane between SAB high (+) wiring harness and SAB low (-) wiring harness of squib. • SAB malfunction • SRSCM malfunction	• SAB squib • SRSCM • Wire harness

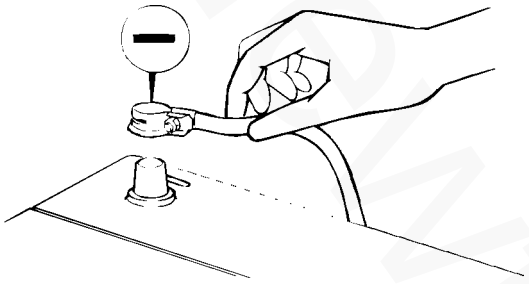
WIRING DIAGRAM



ERJB045B

INSPECTION PROCEDURE

1. Preparation
   1) Disconnect the negative (-) terminal cable from the battery, and wait at least 30 seconds.
   2) Remove the DAB module.
   3) Disconnect the connectors of the PAB, left and right side airbags, belt pretensioners and SIS.
   4) Disconnect the SRSCM connector.

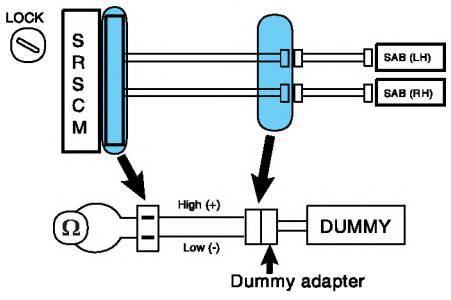


EADA011A

CAUTION

Place the DAB with the front surface facing upward.

2. Check the SAB resistance.
   [PREPARATION]
   Release the airbag activation prevention mechanism on the SRSCM side of the airbag squib side. Connect the dummy (0957A-38200) and dummy adapter (0957A-38300) to the SAB connector of the SRSCM connector side.



ERKB020A

NOTE

Before checking the resistance, you have to insert the shorting bar insert plastic that is attached to the diagnosis checker into the SRSCM connector.

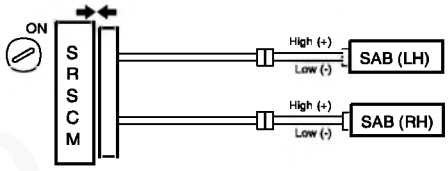
[CHECK]
Measure the resistance between the SAB high (+) and the SAB low (-).
1.9Ω ≤ R ≤ 2.5Ω

NG ➔ Repair or replace the harness between the SRSCM and the SAB.

OK ↓

ERJB045A

3. Check the SAB squib.
   [PREPARATION]
   1. Turn the ignition switch to LOCK.
   2. Disconnect the negative (-) terminal cable from the battery, and wait for 30 seconds.
   3. Connect the SAB connector.
   4. Connect the negative (-) terminal cable to the battery, and wait for 30 seconds.



ERA9012K

[CHECK]
1. Turn the ignition switch to ON, and wait for at least 30 seconds.
2. Clear the malfunction code stored in the memory with the Hi-Scan Pro.
3. Turn the ignition switch to LOCK, and wait for 30 seconds.
4. Turn the ignition switch to ON, and wait for 30 seconds.
5. Using Hi-Scan Pro, check the DTC.
   There is no DTC.

[HINT]
Codes other than these may be output at this time, but they are not relevant to this procedure.

NG ➔ Replace the SAB.

OK
↓
From the results of the above inspection, the malfunctioning part can now be considered normal.

ERJB041I

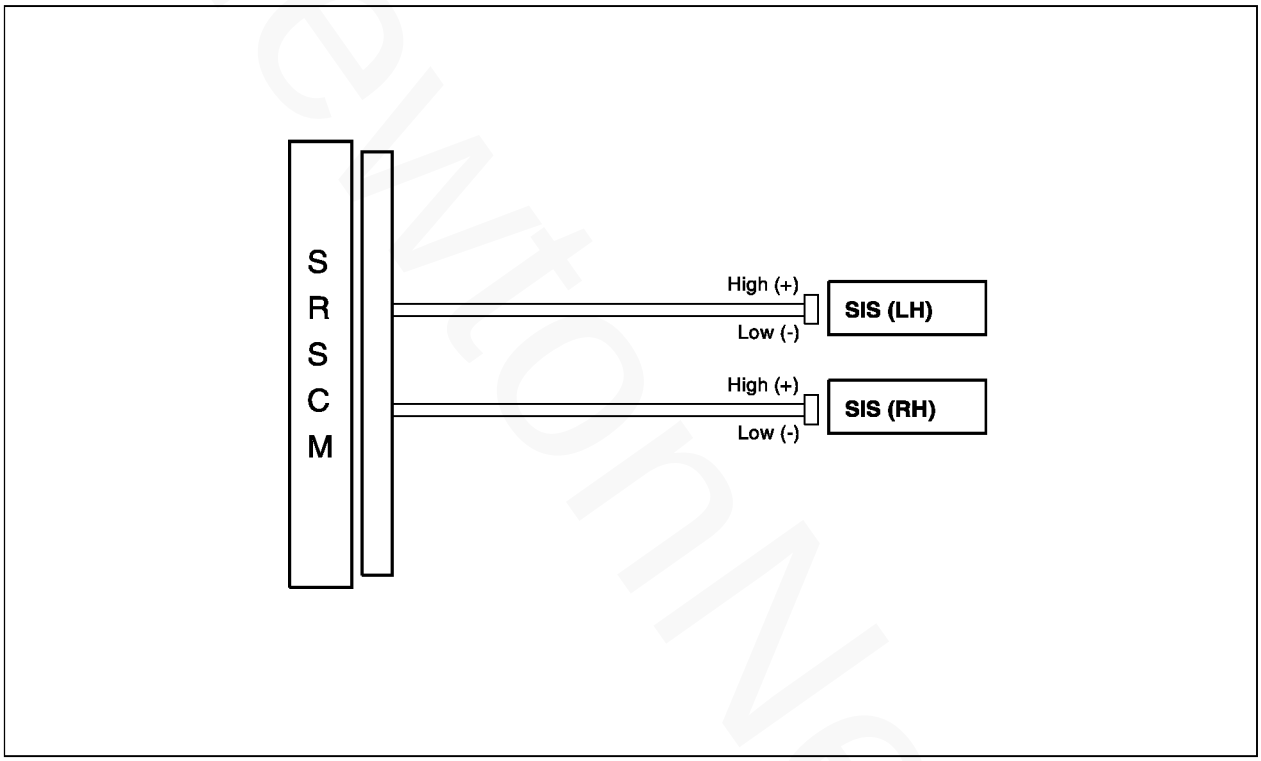
CIRCUIT INSPECTION EEF3C797

DTC	B1400 Side Impact Sensor(SIS) driver side defect B1403 Side Impact Sensor(SIS) passenger side defect B1409 Side Impact Sensor(SIS) driver communication error B1410 Side Impact Sensor(SIS) passenger communication error

CIRCUIT DESCRIPTION

The release system for the airbag consists of the SRSCM and two SIS - one on the left - hand side and one on the right. The above DTCs are recorded when a defect or communication error of the SIS is detected in the SIS circuit.

WIRING DIAGRAM



EROF500R

INSPECTION PROCEDURE

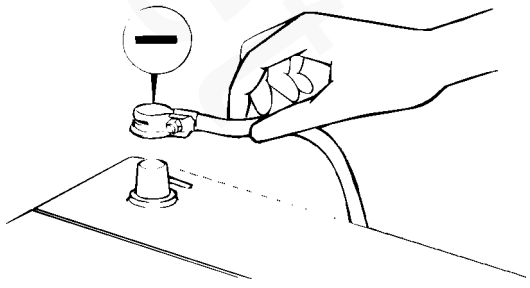
1. Preparation

   1) Disconnect the negative (-) terminal cable from the battery, and wait at least 30 seconds.

   2) Remove the DAB module.

   3) Disconnect the connectors of the PAB, left and right side airbags, belt pretensioners and SIS.

   4) Disconnect the SRSCM connector.

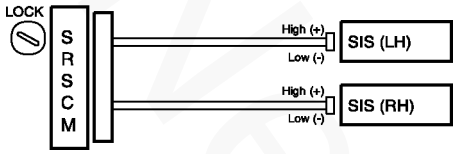


EADA011A

⚠ ***CAUTION***

Place the DAB with the front surface facing upward.

2. Check SIS circuit (communication error).



EROF500S

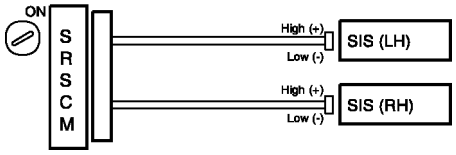
[PREPARATION]
Check continuity between the SRSCM connector and the SIS connector as high (+) and high, low (-) and low (-).
OK : Continuity

NG ➔ Repair or replace the harness between the SRSCM and the SIS.

OK ↓

EROF500T

3. Check the SIS (defect).
[PREPARATION]
1. Turn the ignition switch to LOCK.
2. Disconnect the negative (-) terminal cable from the battery, and wait for 30 seconds.
3. Connect the SIS connector.
4. Connect the negative (-) terminal cable to the battery, and wait for 30 seconds.



EROF500U

[CHECK]
1. Turn the ignition switch to ON, and wait for at least 30 seconds.
2. Clear the malfunction code stored in the memory of the Hi-Scan Pro.
3. Turn the ignition switch to LOCK, and wait for 30 seconds.
4. Turn the ignition switch to ON, and wait for 30 seconds.
5. Using the Hi-Scan Pro, check DTC.
There is no DTC.

[HINT]
Codes other than these may be output at this time, but they are not relevant to this check.

NG ➔ Replace the SIS.

OK ↓

From the results of the above inspection, the malfunctioning part can now be considered normal.

EROF500V

CIRCUIT INSPECTION EAF0EE2C

DTC	B1414 DSIS Wrong ID B1415 PSIS Wrong ID

CIRCUIT DESCRIPTION

The detecting system for side crash consists of the SRSCM and two SideImpact Sensor(SIS). The SRSCM sets above DTC(s) if it detects SIS wrong ID.

INSPECTION PROCEDURE

If above DTC is detected, replace Side Impact Sensors(SIS).

CIRCUIT INSPECTION EC3C5F4D

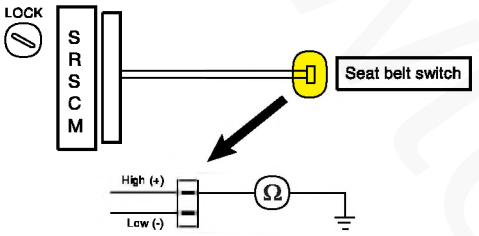
DTC	B1511 Driver seat belt switch open/short to Battery B1512 Driver seat belt switch short to GND B1513 Passenger seat belt switch open/short to Battery B1514 Passenger seat belt switch short to GND

CIRCUIT DESCRIPTION

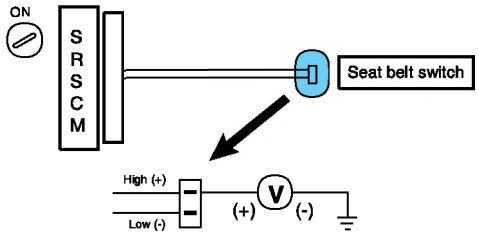
This system decides whether the seat belt of the driver or passenger are locked and then prevent the belt pretensioner from deploying on crash.

INSPECTION PROCEDURE

1. Preparation
2. Check buckle switch sensor circuit (Short to GND/Battery).



EROC048A



ERKB030C

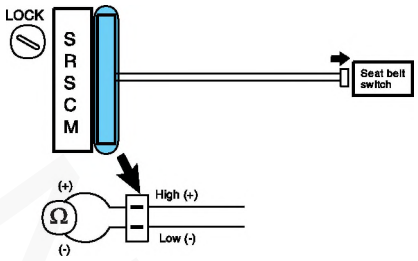
[CHECK]
Measure the voltage and resistance of the seat belt switch high and body ground between the SRSCM connector and the seat belt switch connector.
Resistance : ∞
Voltage : 0V

NG ➔ Repair or replace the harness between the SRSCM and the seat belt swtich.

OK ↓

ERKB049B

3. Check the seat belt switch



ERKB030D

[CHECK]
Check the resistance with the switch on and off.
SWITCH OPEN : R = 630Ω ~ 770Ω (Belted)
SWITCH OPEN : R = 360Ω ~ 440Ω (Unbelted)

NG ➔ Replace the seat belt switch

OK ↓

From the results of the above inspection the malfunctioning part can now be considered normal.

ERKB049C

CIRCUIT INSPECTION ED750032

DTC	B1515 Driver seat belt switch defect B1516 Passenger seat belt switch defect

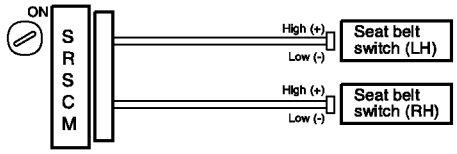
CIRCUIT DESCRIPTION

This system decides whether the seat belt of the driver or passenger are locked and then prevent the belt pretensioner from deploying on crash.

INSPECTION PROCEDURE

1. Preparation
   1. Disconnect the negative (-) terminal cable from the battery, and wait 3 minutes.
   2. Remove the DAB module.
   3. Disconnect the connectors of the PAB, SAB, BPT, FIS and SIS.
   4. Disconnect the SRSCM connector.

2. Check the seat belt switch (defect).



EROF500W

[PREPARATION]
1. Turn the ignition switch to LOCK.
2. Disconnect the negative (-) terminal cable from the battery, and wait for 30 seconds.
3. Connect the seat belt switch connector.
4. Connect the negative (-) terminal cable to the battery, and wait for 30 seconds.

[CHECK]
1. Trun the ignition switch to ON, and wair for at least 30 seconds.
2. Clear the malfunction code stroed in the memory with the Hi-Scan Pro.
3. Trun the ignition switch to LOCK, and wait for 30 seconds.
4. Trun the ignition switch to ON, and wait for 30 seconds.
5. Using Hi-Scan Pro, check the DTC.
   There is no DTC.

[HINT]
Codes other than these may be output at this time, but they are not relevant to this check.

NG ➔ Replace the seat belt switch.

OK
↓
From the results of the above inspection, the malfunctioning part can now be considered normal.

EROF500X

CIRCUIT INSPECTION E785701A

DTC	B1620 Airbag unit internal failure B1650 SRSCM crash recorded B1651 Driver side crash recording B1652 Passenger side crash recording B1657 Crash recorded-belt oretensioner only

CIRCUIT DESCRIPTION

SRSCM MALFUNCTION

The SRSCM shall also cyclically monitor the following:

1. Functional readiness of the firing circuit activation transistor.
2. Aduquacy of deployment energy reserves.
3. Safing sensor integrity : detection of faulty closure.
4. Plausibility of accelerometer signal.
5. Operation of SRSCM components.

The timely completion of all tests is monitored by a separate hardware watchdog. During normal operation, the watchdog is triggered periodically by the SRSCM : If the SRSCM fails to trigger the watchdog, the watchdog will reset the SRSCM and activate the SRI (Service Reminder Indicator). The SRSCM must be replaced once the fault codes except B1657 mentioned above are confirmed. Be able to reuse SRSCM 5 times, when B1657 is only monitored.

CIRCUIT INSPECTION EAFE9F21

DTC	B2501 Warning Lamp Fault - Bulb open B2503 Warning Lamp Fault - Short to Battery or Bulb short B2504 Warning Lamp Fault - Short to GND or Bulb open

CIRCUIT DESCRIPTION

The SRS warning lamp is located in the cluster. When the airbag system is normal, the SRI flashes for approx. 6 seconds after the ignition switch is turned ON, and then turns off automatically. If there is a malfunction in the airbag system, the SRI lights up to inform the driver of the abnormality. The SRSCM shall measure the voltage at the airbag SRI (Malfunction Indicator Lamp) output pin, both when the lamp is on and when the lamp is off, to detect whether the commanded state matches the actual state.

INSPECTION PROCEDURE

1. Check the fuse.
   [PREPARATION]
   1. Remove airbag fuse and airbag warning lamp fuse from the junction block.
   2. Inspect the state of the fuses.
   3. Replace if necessary.
2. Check the SRS warning lamp circuit.
   [PREPARATION]
   1. Connect the negative (-) terminal cable to the battery.
   2. Turn the ignition switch to ON.

   [CHECK]
   1. Measure voltage at the harness side connector of the SRSCM.
      Voltage : 9 ~ 16V

NG ➔ Check the SRS warning light bulb/repair the SRS warning light circuit.

OK ↓

ERDA032A

2. Check the SRS SRI (Service Reminder Indicator).
   OK : SRS SRI ON

NG ➔ If no fault is found in wiring or connector, replace the SRSCM.

OK ↓

From the results of the above inspection, the part can now be considered to be normal.

ERDA032B

AIR BAG MODULE DISPOSAL

AIRBAG DISPOSAL EB167594

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 thevehicle. 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 are securely mounted.
3. Confirm that the special tool is functioning properly by following the check procedure.

DRIVER'S AIRBAG :

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

FRONT PASSENGER'S AIRBAG :

1. Remove the glove box, then disconnect the 2P connector between the front passenger's airbag and SRS main harness.
2. Install the SST(0957A-38100).

SIDE AIRBAG :

1. Disconnect the 2P connector between the side airbag and side wire harness.
2. Install the SST (0957A-38100).
3. Place the deployment tool at least thirty feet (10 meters) away from the airbag.
4. Connect a 12 volt battery to the tool.
5. Push the tool's deployment switch. The airbag should deploy (deployment is both highly audible and visible: a loud noiseand rapid inflation of the bag, followed by slow deflection)
6. Dispose of the complete airbag. No part of it can be reused. Place it in a sturdy plastic bag and seal it securely.

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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.

DISPOSEL 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.