

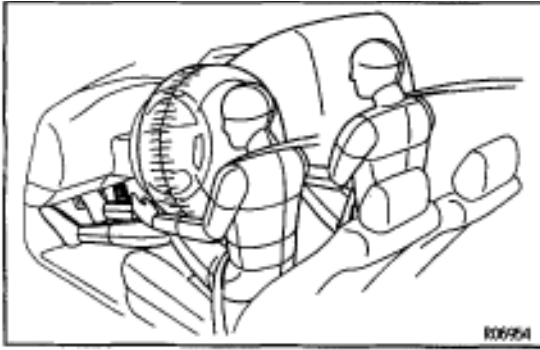
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# SUPPLEMENTAL RESTRAINT SYSTEM

## GENERAL DESCRIPTION

The SUPRA is equipped with an SRS (Supplemental Restraint System), which comprises a driver airbag, and front passenger airbag if fitted. Failure to carry out service operations in the correct sequence could cause the SRS to unexpectedly deploy during servicing, possibly leading to a serious accident. Further, if a mistake is made in servicing the SRS, it is possible the SRS may fail to operate when required. Before performing servicing (including removal or installation of parts, inspection or replacement), be sure to read the following items carefully, then follow the correct procedure described in the repair manual.

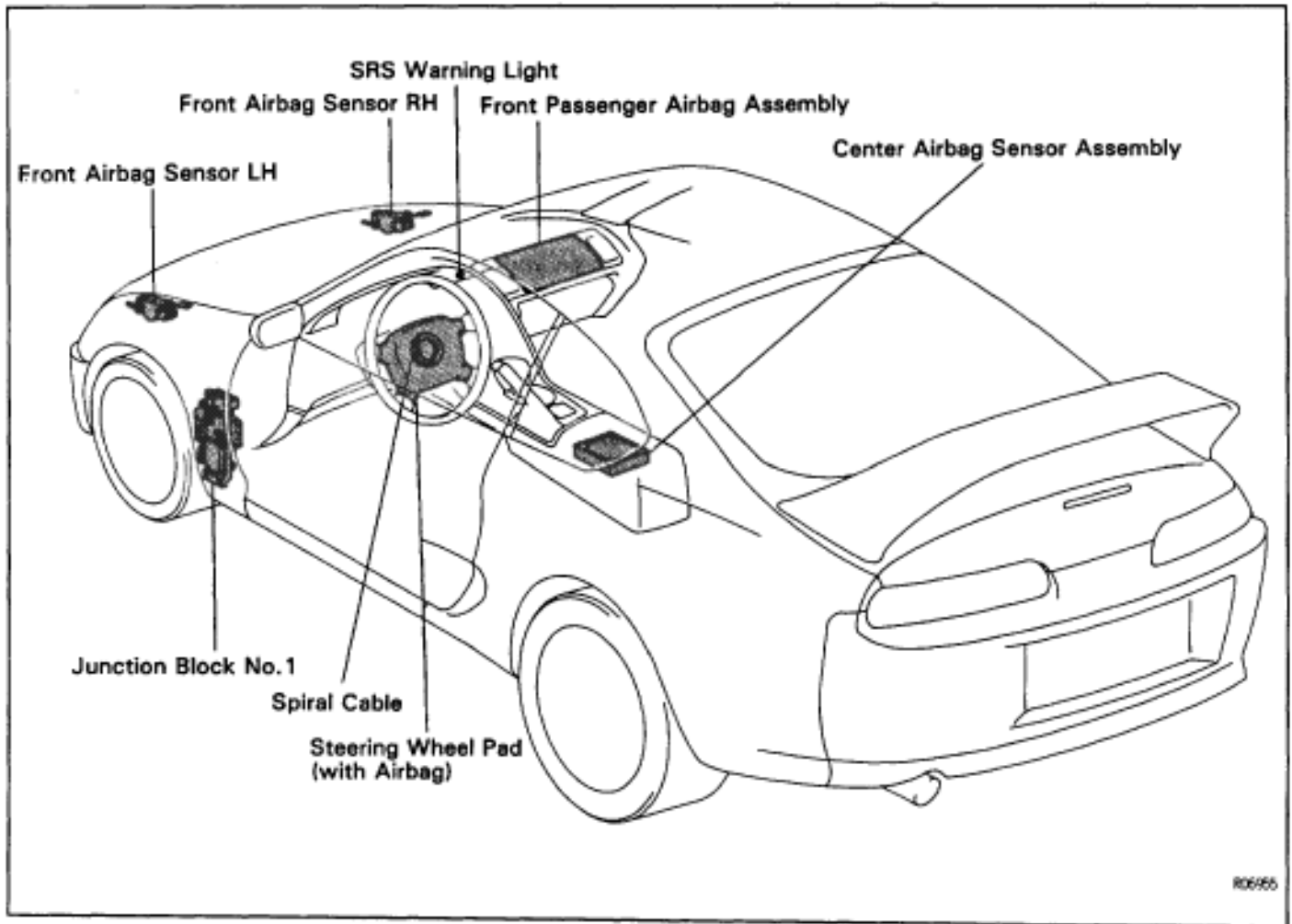
1. Malfunction symptoms of the SRS are difficult to confirm, so the diagnostic trouble codes become the most important source of information when troubleshooting. When troubleshooting the SRS, always inspect the diagnostic trouble codes before disconnecting the battery.  
(See page [RS-44](#))
2. **Work must be started after 90 seconds from the time the ignition switch is turned to the "LOCK" position and the negative (-) terminal cable is disconnected from the battery.**  
**(The SRS is equipped with a back-up power source so that if work is started within 90 seconds of disconnecting the negative (-) terminal cable from the battery, the SRS may deploy.)**  
When the negative (-) terminal cable is disconnected from the battery, memory of the clock and audio systems will be canceled. So before starting work, make a record of the contents memorized by the audio memory system. When work is finished, reset the audio systems as before and adjust the clock. To avoid erasing the memory of each memory system, never use a back-up power supply from outside the vehicle.
3. Even in cases of a minor collision where the SRS does not deploy, the steering wheel pad, front passenger airbag assembly, front airbag sensors and center airbag sensor assembly should be inspected.  
(See pages [RS-10](#), 20, 30, and 33)
4. Never use SRS parts from another vehicle. When replacing parts, replace them with new parts.
5. Before repairs, remove the airbag sensors if shocks are likely to be applied to the sensors during repairs.
6. Never disassemble and repair the steering wheel pad, front passenger airbag assembly, front airbag sensors or center airbag sensor assembly in order to reuse it.
7. If the steering wheel pad, front passenger airbag assembly, front airbag sensors or center airbag sensor assembly have been dropped, or if there are cracks, dents or other defects in the case, bracket or connector, replace them with new ones.
8. Do not expose the steering wheel pad, front passenger airbag assembly, front airbag sensors or center airbag sensor assembly directly to hot air or flames.
9. Use a volt/ohmmeter with high impedance (10 k $\Omega$ /V minimum) for troubleshooting the system's electrical circuits.
10. Information labels are attached to the periphery of the SRS components. Follow the instructions on the notices.
11. After work on the SRS is completed, check the SRS warning light.  
(See page [RS-44](#))
12. If the vehicle is equipped with a mobile communication system, refer to the precaution in the IN section.

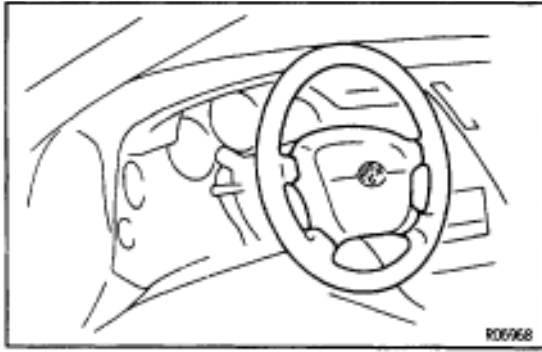


## DESCRIPTION

This vehicle is equipped with an SRS (Supplemental Restraint System) which comprises a driver airbag, and front passenger airbag if fitted. Where fitted, it is designed to be of benefit only in conjunction with the front seat belt(s) being worn. In a collision, if the shock is greater than a specified value, the airbag(s) stored in the steering wheel pad and front passenger airbag assembly are inflated instantaneously.

## LOCATION OF COMPONENTS



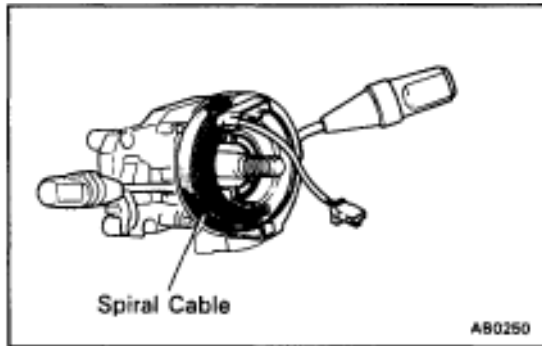


## OPERATION

### FUNCTION OF COMPONENTS

#### 1. STEERING WHEEL PAD (with AIRBAG)

The inflator and bag of the SRS are stored in the steering wheel pad and cannot be disassembled. The inflator contains a squib, igniter charge, gas generant, etc., and inflates the bag when instructed by the center airbag sensor assembly.



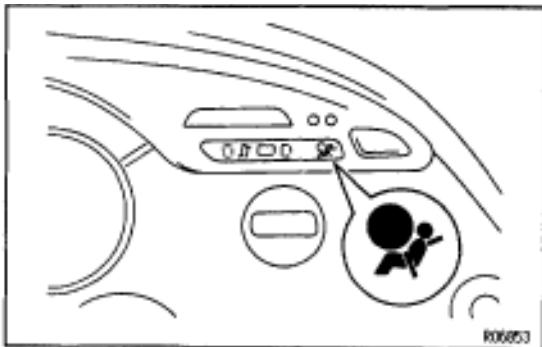
#### 2. SPIRAL CABLE (in COMBINATION SWITCH)

A spiral cable is used as an electrical joint from the vehicle body side to the steering wheel.



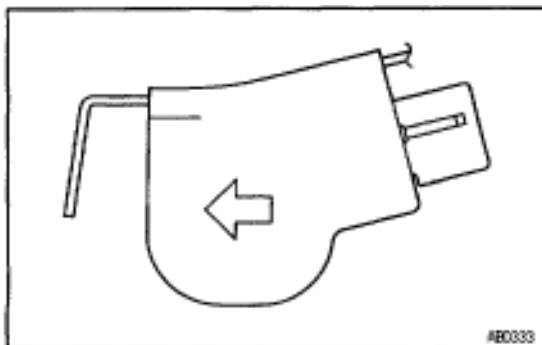
#### 3. FRONT PASSENGER AIRBAG ASSEMBLY

The inflator and bag of the SRS are stored in the front passenger airbag assembly and cannot be disassembled. The inflator contains a squib, igniter charge, gas generant, etc., and inflates the bag when instructed by the center airbag sensor assembly.



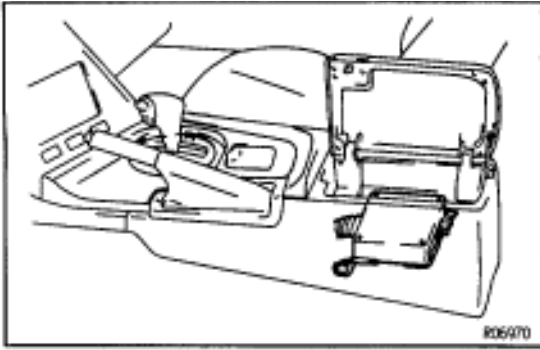
#### 4. SRS WARNING LIGHT

The SRS warning light is located on the cluster finish panel. It goes on to alert the driver of trouble in the system when a malfunction is detected in the center airbag sensor assembly. In normal operating conditions when the ignition switch is turned to the ACC or ON position, the light goes on for about 6 seconds and then goes off.



#### 5. FRONT AIRBAG SENSOR

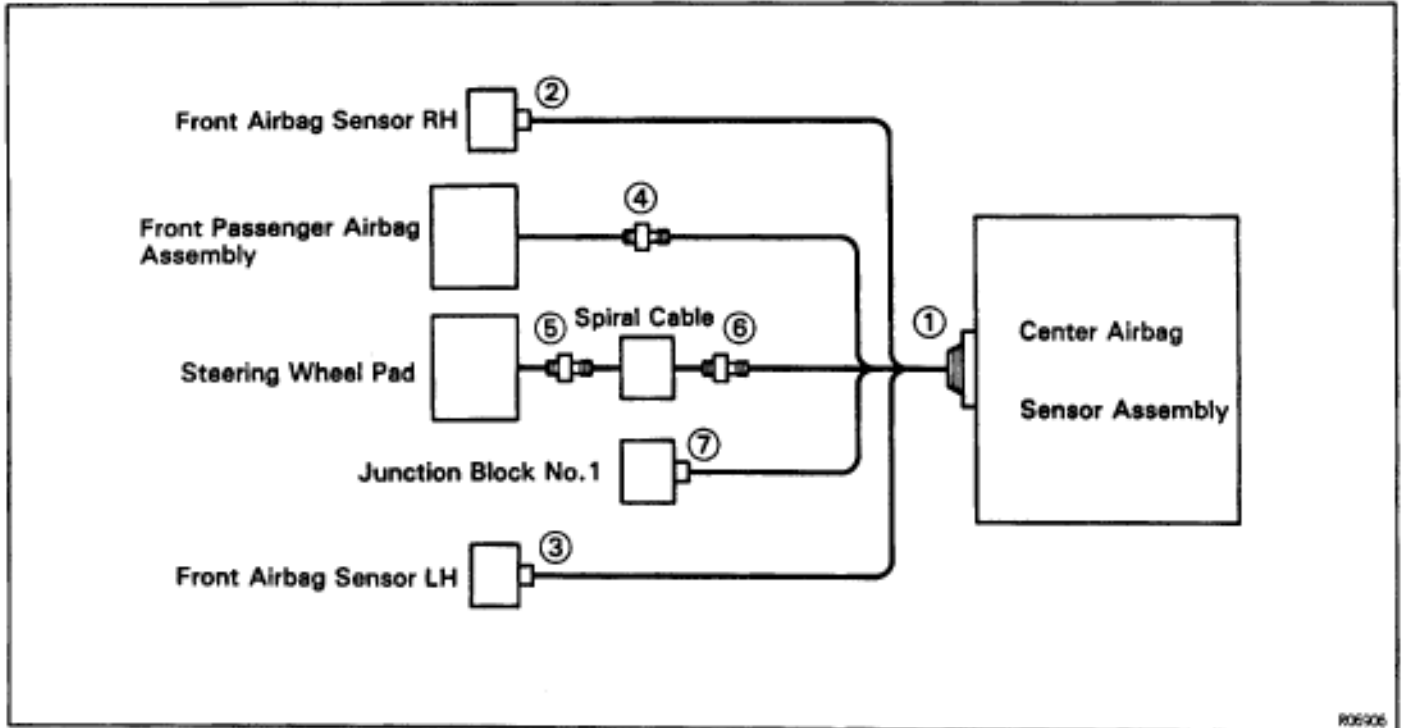
A front airbag sensor is mounted inside each of the front fenders. The sensor unit is a mechanical type. When the sensor detects a deceleration force above a predetermined limit, contacts is made in the sensor, sending a signal to the center airbag sensor assembly. The sensor cannot be disassembled.



**6. CENTER AIRBAG SENSOR ASSEMBLY**

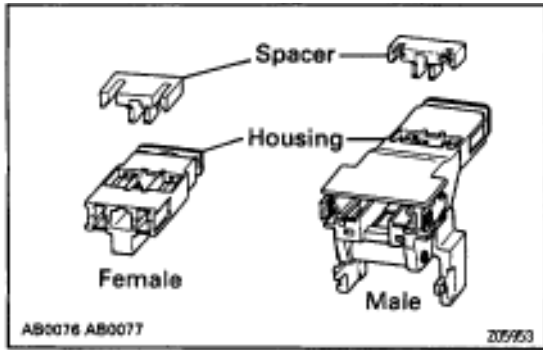
The center airbag sensor assembly is mounted on the floor inside the console box. The center airbag sensor assembly consists of a center airbag sensor, safing sensor, diagnosis circuit and ignition control, drive circuit, etc. It receives signals from the airbag sensors and judges whether the SRS must be activated or not.

**7. SRS CONNECTORS**



No.	Item	Application
(1)	Terminal Twin-Lock Mechanism	Connectors (1), (2), (3), (4), (5), (6), (7)
(2)	Airbag Activation Prevention Mechanism	Connectors (1), (4), (5), (6)
(3)	Electrical Connection Check Mechanism	Connectors (1), (2), (3)
(4)	Connector Twin-Lock Mechanism	Connectors (4), (5), (6)

All connectors in the SRS are colored yellow to distinguish them from other connectors. Connectors having special functions and specifically designed for SRS are used in the locations shown below to ensure high reliability. These connectors use durable gold-plated terminals.

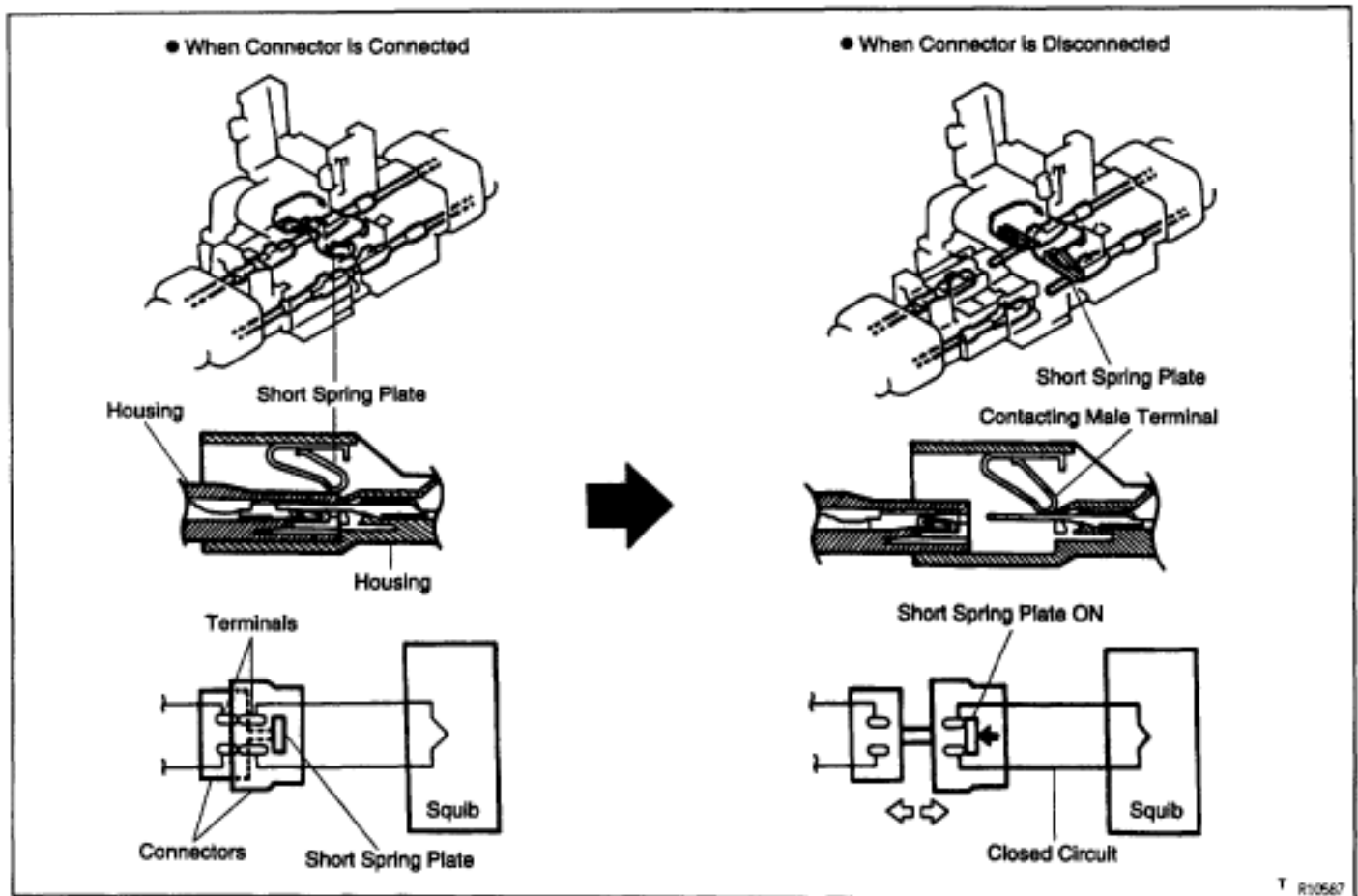


## (1) Terminal Twin-Lock Mechanism

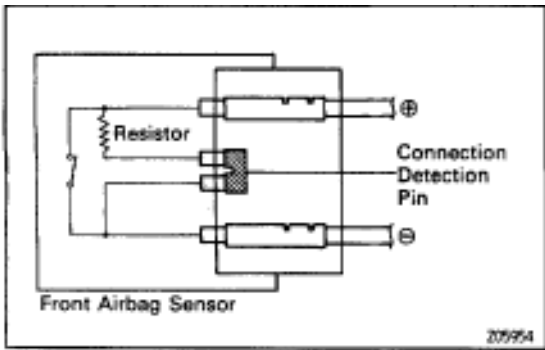
Each connector has a two-piece construction consisting of a housing and a spacer. This design secures the locking of the terminal by two locking devices (the spacer and the lance) to prevent terminals from coming out.

## (2) Airbag Activation Prevention Mechanism

Each connector contains a short spring plate. When the connector is disconnected, the short spring plate automatically connects the power source and grounding terminals of the squib.

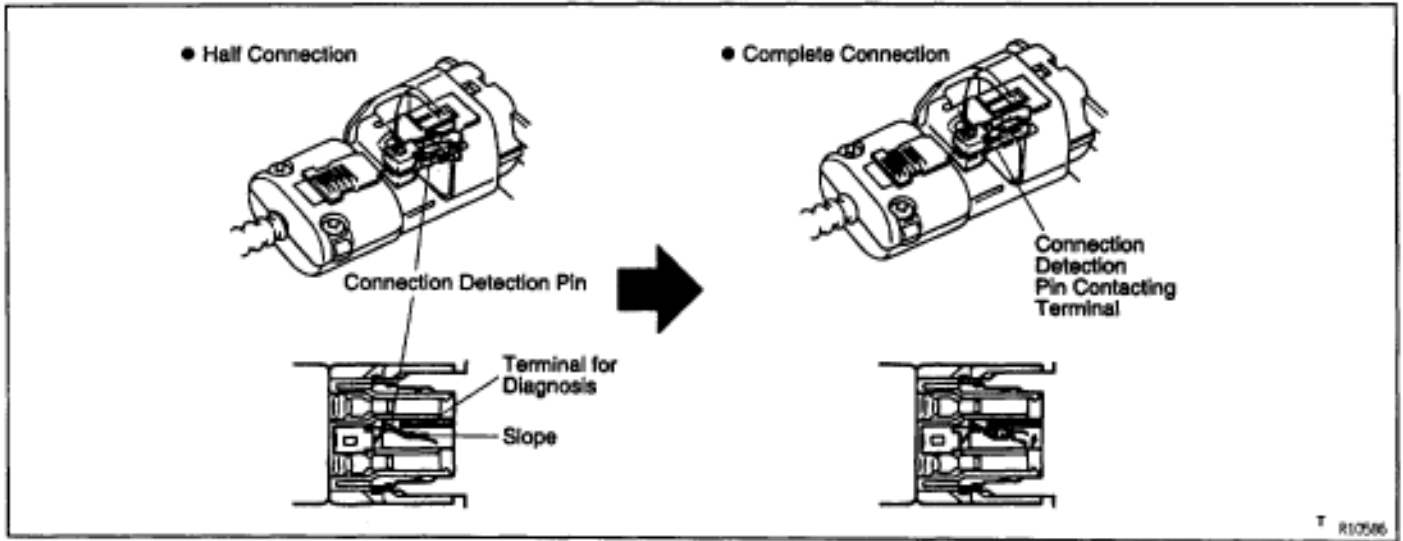


HINT: The illustration shows connectors (4), (5) and (6). Connector (1) has short spring plates on the female terminal side.



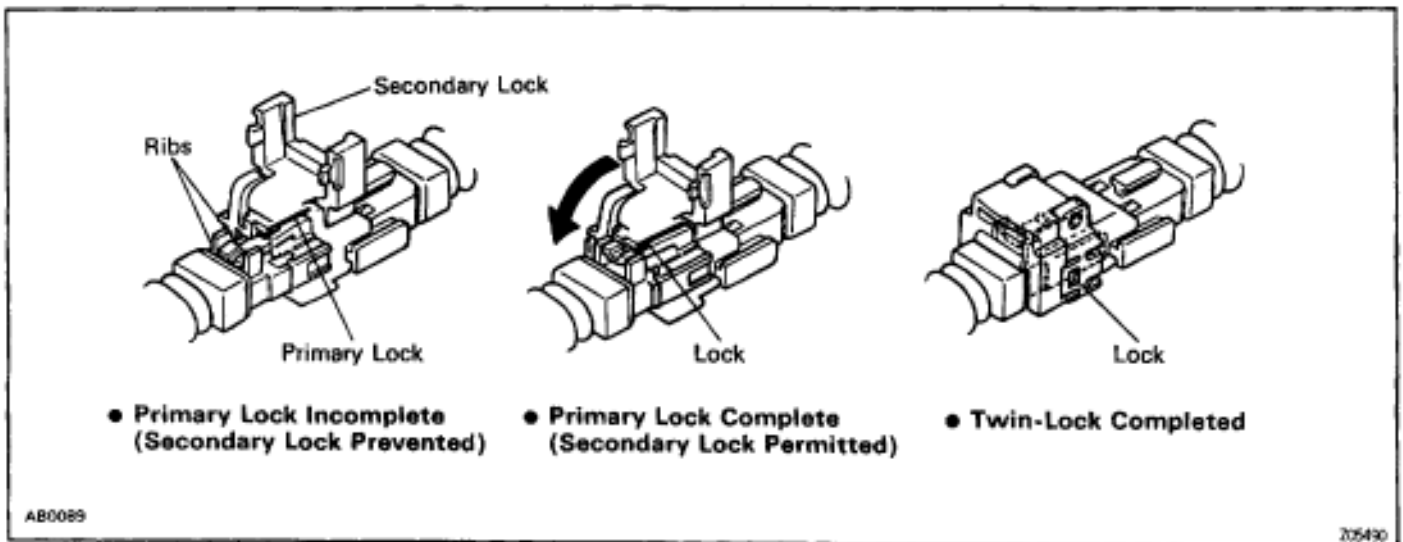
(3) Electrical Connection Check Mechanism

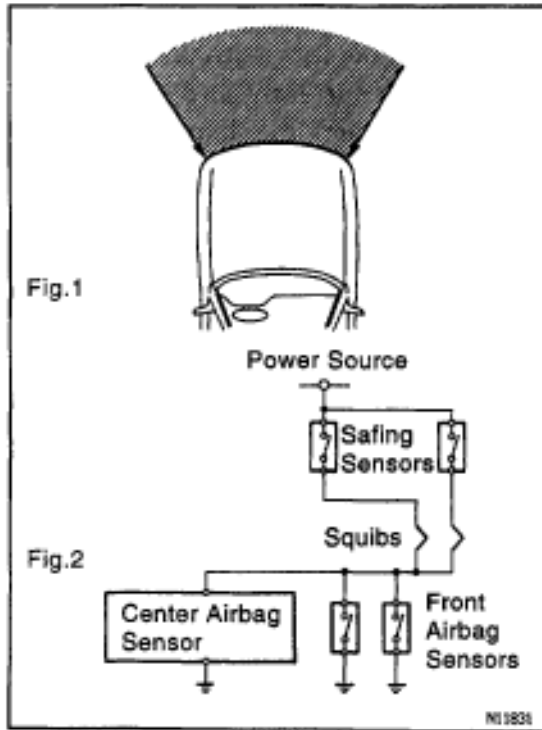
This mechanism is designed to electrically check if connectors are connected correctly and completely. The electrical connection check mechanism is designed so that the connection detection pin connects with the diagnosis terminals when the connector housing lock is in the locked condition.



(4) Connector Twin-Lock Mechanism

With this mechanism the male and female connectors are locked by two locking devices to increase connection reliability. If the primary lock is incomplete, ribs interfere and prevent the secondary lock.








When the vehicle is involved in a frontal collision in the hatched area (Fig. 1) and the shock is larger than a predetermined level, the SRS is activated automatically. A safing sensor is designed to go on at a smaller deceleration rate than the front and center airbag sensors. As illustrated in Fig. 2, ignition is caused when current flows to the squib, which happens when a safing sensor and a front airbag sensor and/or the center airbag sensor go on simultaneously. When a deceleration force acts on the sensors, two squibs in the driver airbag and front passenger airbag ignite and generate gas. The gas discharging into the driver and front passenger airbags rapidly increases the pressure inside the bags, breaking open the steering wheel pad and instrument panel door. Bag inflation then ends, and the bags deflate as the gas is discharged through discharge holes at the bag's rear or side.






## PREPARATION

### SST (SPECIAL SERVICE TOOLS)

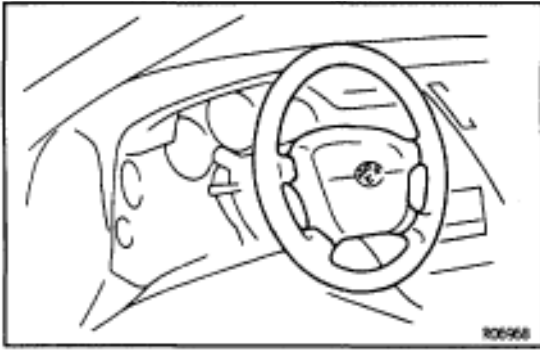
	09082-00700 SRS Airbag Deployment Tool	
	09843-18020 Diagnosis Check Wire	
	09950-50010 Puller C Set	Steering wheel

### RECOMMENDED TOOLS

	09042-00010 Torx Socket T30 ◆	Steering wheel pad
	09042-00020 Torx Socket T40 ◆	Center airbag sensor assembly
	09082-00050 TOYOTA Electrical Tester Set ◆	

### EQUIPMENT

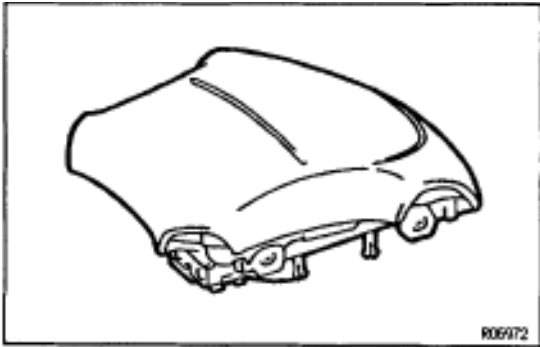
Torque wrench	
Bolt: Length: 35 mm (1.38 in.) Pitch: 1.0 mm (0.039 in.) Diam.: 6.0 mm (0.236 in.)	Airbag disposal
Tire Width: 185 mm (7.28 in.) Inner diam.: 360mm (14.17 in.)	Airbag disposal
Tire with disc wheel Width: 185 mm (7.28 in.) Inner diam.: 360 mm (14.17 in.)	Airbag disposal
Vinyl bag	Airbag disposal



## STEERING WHEEL PAD AND SPIRAL CABLE INSPECTION ITEMS

### 1. VEHICLES NOT INVOLVED IN A COLLISION

- (a) Do a diagnostic system check. (See page [RS-44](#))
- (b) Do a visual check which includes the following items with the steering wheel pad (with airbag) installed in the vehicle.
  - Check for cuts, minute cracks or marked discoloration of the steering wheel pad top surface and grooved portion.



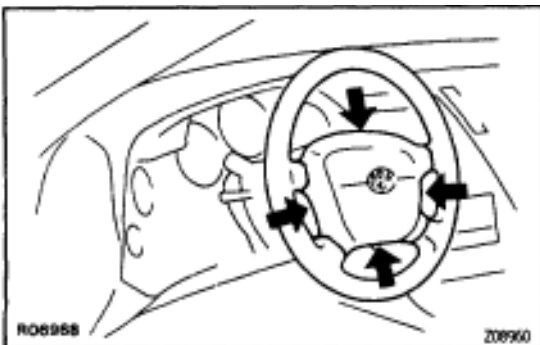
### 2. VEHICLES INVOLVED IN A COLLISION IF THE AIRBAG IS NOT DEPLOYED

- (a) Do a diagnostic system check. (See page [RS-44](#))
- (b) Do a visual check which includes the following items with the steering wheel pad (with airbag) removed from the vehicle.
  - Check for cuts and cracks in, or marked discoloration of the steering wheel pad top surface and its grooved portion.
  - Check for cuts and cracks in wire harnesses, and for chipping in connectors.
  - Check for deformation of the horn button contact plate of the steering wheel.

#### HINT:

- If the horn button contact plate of the steering wheel is deformed, never repair it. Always replace the steering wheel assembly with a new one.
- There should be no interference between the steering wheel pad and the steering wheel, and the clearance should be uniform all the way around when the new steering wheel pad is installed on the steering wheel.

**CAUTION:** For removal and installation of the steering wheel pad, see page [RS-12](#), "STEERING WHEEL PAD AND SPIRAL CABLE REMOVAL AND INSTALLATION" and be sure to follow the correct procedure.



**IF THE AIRBAG IS DEPLOYED**

- (a) Do a diagnostic system check. (See page [RS-44](#))
- (b) Do a visual check which includes the following items with the steering wheel pad (with airbag) removed from the vehicle.
  - Check for deformation of the horn button contact plate of the steering wheel.
  - Check for damage to the spiral cable connector and wire harness.

**HINT:**

- If the horn button contact plate of the steering wheel is deformed, never repair it. Always replace the steering wheel assembly with a new one.
- There should be no interference between the steering wheel pad and the steering wheel, and the clearance should be uniform all the way around when the new steering wheel pad is installed on the steering wheel.

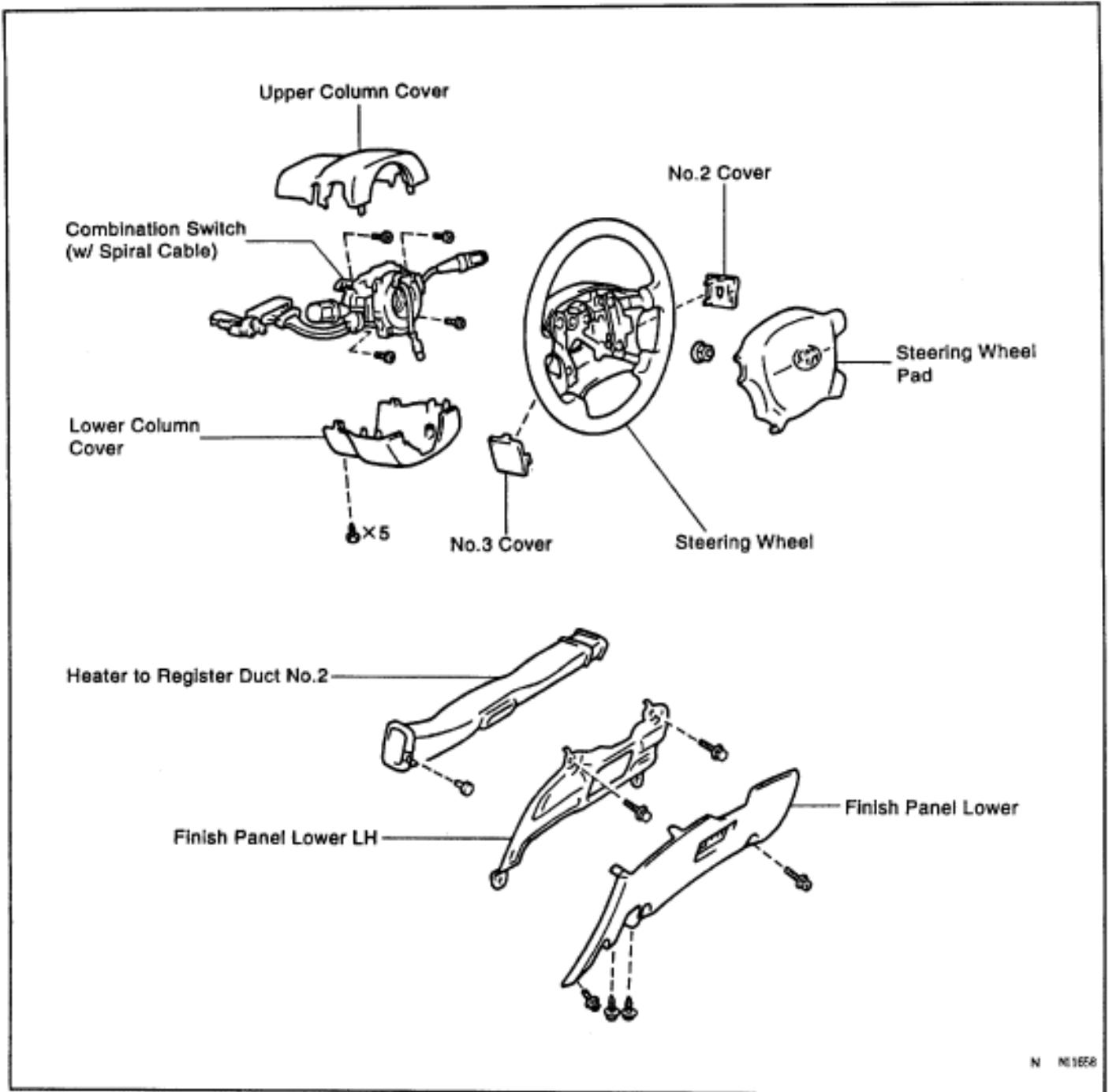
**REPLACEMENT REQUIREMENTS**

In the following cases, replace the steering wheel pad, steering wheel or spiral cable.

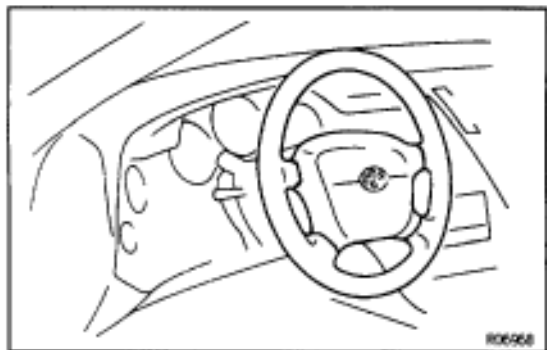
- If the airbag has been deployed.
- If the steering wheel pad or spiral cable has been found to be faulty in troubleshooting.
- If the steering wheel pad, steering wheel or spiral cable has been found to be faulty during the check in items 1–(b) or 2–(b).
- If the steering wheel pad has been dropped.

**CAUTION:** For replacement of the steering wheel pad, see page [RS-12](#), "STEERING WHEEL PAD AND SPIRAL CABLE REMOVAL AND INSTALLATION" and be sure to follow the correct procedure.

## COMPONENTS



### STEERING WHEEL PAD AND SPIRAL CABLE REMOVAL AND INSTALLATION (See SR section)

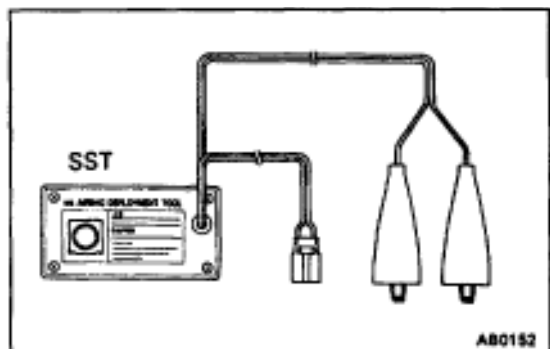


## STEERING WHEEL PAD (WITH AIRBAG) DISPOSAL

When scrapping vehicles equipped with an SRS or disposing of a steering wheel pad (with airbag), always first deploy the airbag in accordance with the procedure described below. If any abnormality occurs with the airbag deployment, contact the SERVICE DEPT. of TOYOTA MOTOR SALES, U.S.A., INC..

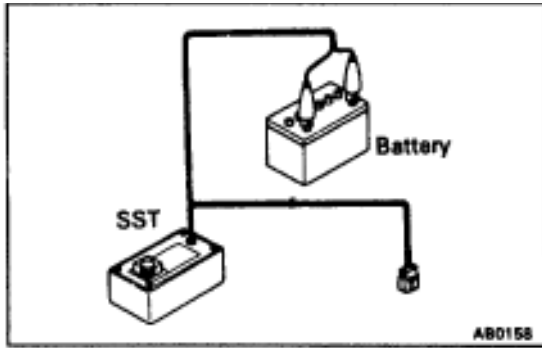
**Never dispose of a steering wheel pad which has an undeployed airbag.**

When disposing of a steering wheel pad with an airbag deployed in a collision, follow the same procedure given under "When scrapping vehicle, step 4. DISPOSAL OF STEERING WHEEL PAD (WITH AIRBAG)".



## PRECAUTIONS FOR AIRBAG DEPLOYMENT

- The airbag produces a sizeable exploding sound when it deploys, so do the operation out-of-doors and where it will not create a nuisance to nearby residents.
- When deploying the airbag, always use the specified SST: SRS AIRBAG DEPLOYMENT TOOL (SST 09082-00700).  
Carry out the operation in a place away from electrical noise.
- When deploying an airbag, do it from at least 10 m (33 ft) away from the steering wheel pad.
- The steering wheel pad is very hot when the airbag is deployed, so leave it alone for at least 30 minutes after deployment.
- Use gloves and safety glasses when handling a steering wheel pad with a deployed airbag.
- Do not apply water, etc. to a steering wheel pad with a deployed airbag.
- Always wash your hands with water after completing the operation.



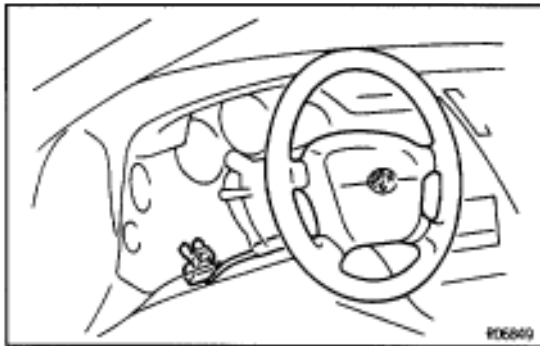
## When scrapping vehicle

HINT: Have a battery ready as the power source to deploy the airbag.

### 1. CONFIRM FUNCTIONING OF SST

(See page RS-19)

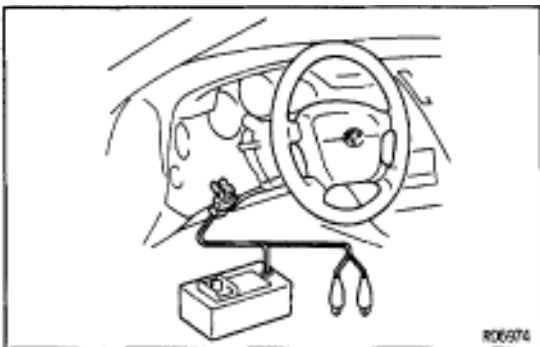
SST 09082-00700



### 2. INSTALL SST

**CAUTION:** Check that there is no looseness in the steering wheel and steering wheel pad.

(a) Disconnect the airbag connector of the spiral cable.



(b) Connect the SST connector to the airbag connector of the spiral cable.

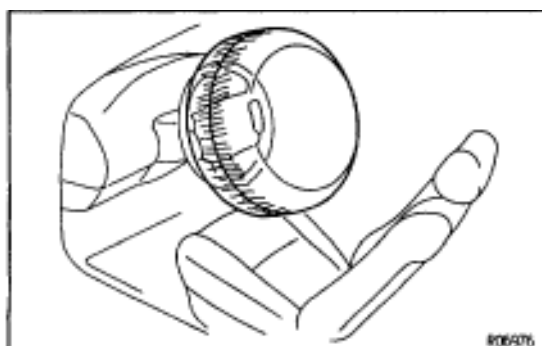
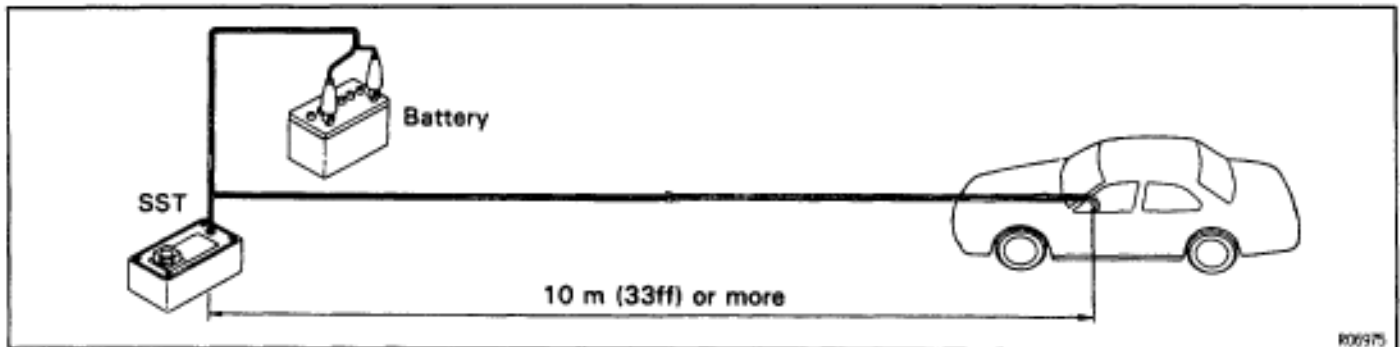
SST 09082-00700

(c) Move the SST to at least 10 m (33 ft) from the front of the vehicle.

(d) Close all the doors and windows of the vehicle.

**NOTICE:** Take care not to damage the SST wire harness.

(e) Connect the SST red clip to the battery positive (+) terminal and the black clip to the battery negative (-) terminal.



### 3. DEPLOY AIRBAG

(a) Confirm that no-one is inside the vehicle or within 10 m (33 ft) of the vehicle.

(b) Press the SST activation switch and deploy the airbag.

HINT: The airbag deploys simultaneously as the LED of the SST activation switch lights up.

**4. DISPOSAL OF STEERING WHEEL PAD (WITH AIRBAG)****CAUTION:**

- The steering wheel pad is very hot when the airbag is deployed, so leave it alone for at least 30 minutes after deployment.
- Use gloves and safety glasses when handling a steering wheel pad with a deployed airbag.
- Do not apply water, etc. to a steering wheel pad with a deployed airbag.
- Always wash your hands with water after completing the operation.

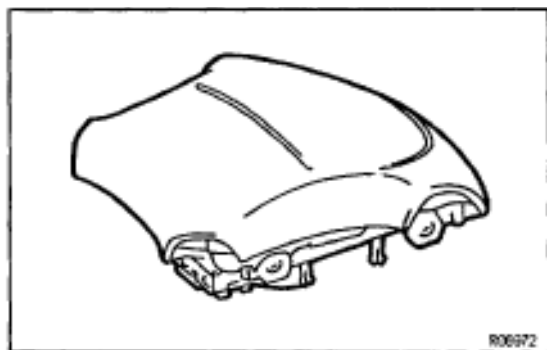
- (a) When scrapping a vehicle, deploy the airbag and scrap the vehicle with the steering wheel pad still installed.
- (b) When moving a vehicle for scrapping which has a steering wheel pad with deployed airbag, use gloves and safety glasses.

**When disposing of steering wheel pad only**

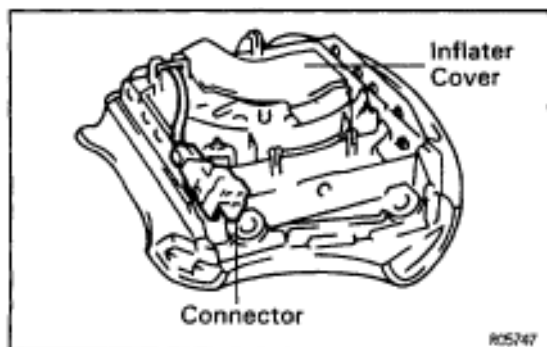
**When disposing of the steering wheel pad (with airbag) only, never use the customer's vehicle to deploy the airbag.**

Remove the steering wheel pad from the vehicle and be sure to follow the procedure given below when deploying the airbag.

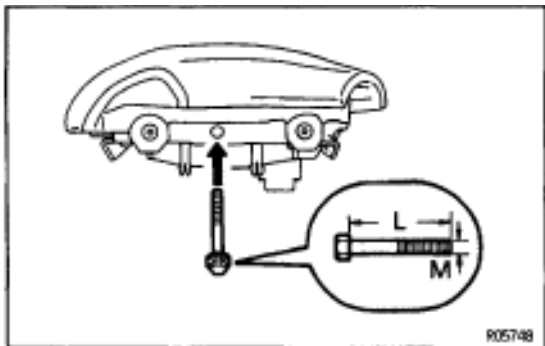
HINT: Have a battery ready as the power source to deploy the airbag.

**1. REMOVE STEERING WHEEL PAD (See SR section)****CAUTION:**

- When removing the steering wheel pad (with airbag), work must be started after 90 seconds from the time the ignition switch is turned to the "LOCK" position and the negative (-) terminal cable is disconnected from the battery.
- When storing the steering wheel pad, keep the upper surface of the pad facing upward.

**2. REMOVE STEERING WHEEL PAD CONNECTOR**

Remove the connector on the steering wheel pad rear surface from the inflator cover.



### 3. FIX STEERING WHEEL PAD TO DISC WHEEL WITH TIRE

- (a) Install the 2 bolts and washers in the 2 bolt holes in the steering wheel pad.

**Bolt:**

L: 35.0 mm (1.378 in.)

M: 6.0 mm (0.236 in.)

Pitch: 1.0 mm (0.039 in.)

**NOTICE:**

- Tighten the bolts by hand until the bolts become difficult to turn.
- Do not tighten the bolts too much.

- (b) Using a service-purpose wire harness for the vehicle tie down the steering wheel pad to the disc wheel.

**Wire harness: Stripped wire harness section**

1.25 mm<sup>2</sup> or more (0.0019 in<sup>2</sup> or more)

HINT: To calculate the square of the stripped wire harness section

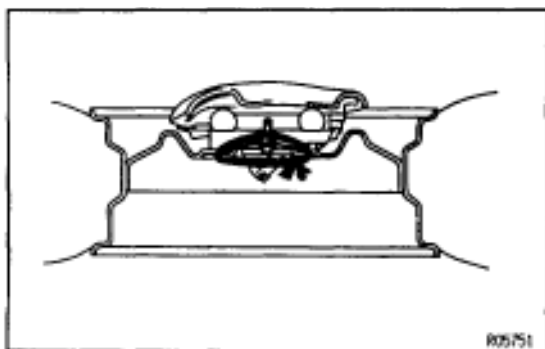
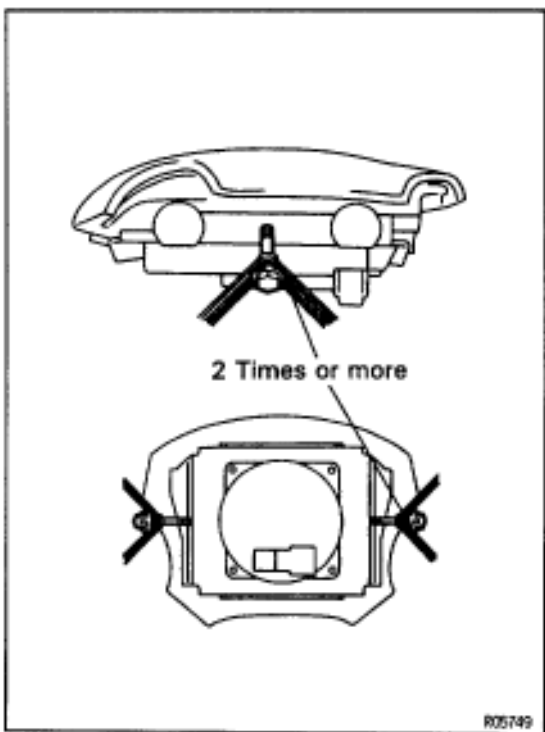
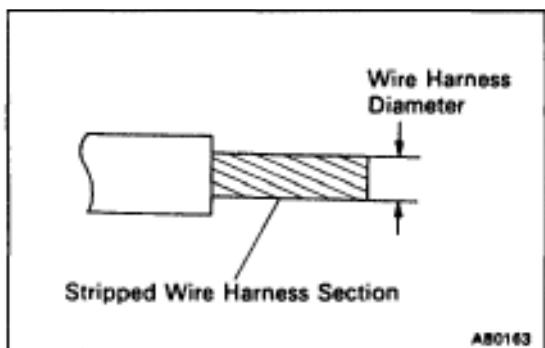
**Square = 3.14 X (Diameter)<sup>2</sup> divided by 4**

**CAUTION:** If a wire harness which is too thin or some other thing is used to tie down the steering wheel pad, it may be snapped by the shock when the airbag is deployed. This is highly dangerous. Always use a wire harness for vehicle use which is at least 1.25 mm<sup>2</sup> (0.0019 in<sup>2</sup>).

- (1) Using 3 wire harnesses, wrap the wire harnesses at least 2 times each around the bolts installed on the left and right sides of the steering wheel pad.

**CAUTION:**

- Tightly wind the wire harness around the bolts so that there is no slack.
- If there is slackness in the wire harness, the steering wheel pad may come loose due to the shock when the airbag is deployed. This is highly dangerous.



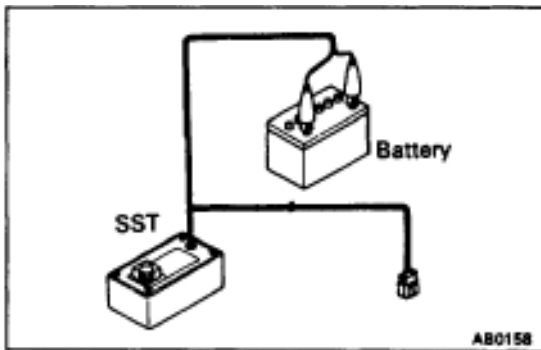
- (2) Face the upper surface of the steering wheel pad upward.
- (3) Separately tie the left and right sides of the steering wheel pad to the disc wheel through the hub nut holes.
- (c) Position the steering wheel pad connector so that it hangs downward through a hub hole in the disc wheel.



**CAUTION:**

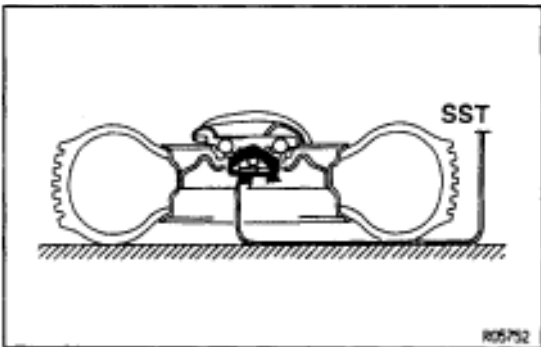
- Make sure that the wire harness is tight. It is very dangerous if looseness in the wire harness results in the steering wheel pad coming free through the shock of the airbag deploying.
- Always tie down the steering wheel pad with the pad side facing upward. It is very dangerous if the steering wheel pad is tied down with the metal surface facing upward as the wire harness will be cut by the shock of the airbag deploying and the steering wheel pad will be thrown into the air.

HINT: The disc wheel will be marked by airbag deployment, so use a redundant disc wheel.

**4. CONFIRM FUNCTIONING OF SST**

(See page [RS-19](#))

SST 09082-00070

**5. INSTALL SST**

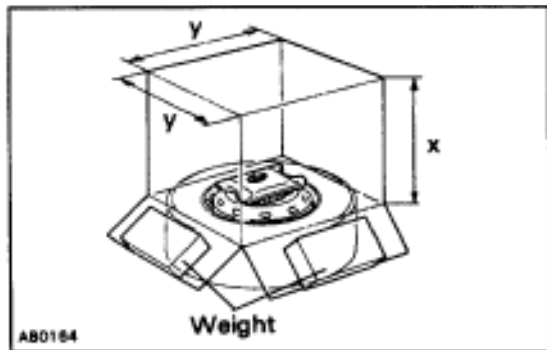
**CAUTION:** Place the disc wheel on level ground.

- (a) Connect the SST connector to the steering wheel pad connector:

SST 09082-00700

**NOTICE:** To avoid damaging the SST connector and wire harness, do not lock the secondary lock of the twin lock. Also, provide some slack for the SST wire harness inside the disc wheel.

- (b) Move the SST to at least 10 m (33 ft) away from the steering wheel pad tied down on the disc wheel.



## 6. COVER STEERING WHEEL PAD WITH CARDBOARD BOX OR TIRES

### (Covering Method Using Cardboard Box)

Cover the steering wheel pad with the cardboard box and weigh the cardboard box down in 4 places with at least 196 N (20 kg, 44 lb).

Size of cardboard box:

Must exceed the following dimensions–

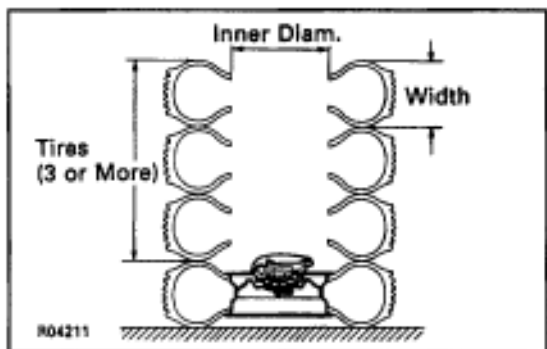
$x = 460 \text{ mm (18.11 in.)}$

When dimension "y" of the cardboard box exceeds the diameter of the disc wheel with tire the steering wheel pad is tied to–

$x = 460 \text{ mm (18.11 in.)} + \text{width of tire}$

$y = 650 \text{ mm (25.59 in.)}$

**NOTICE:** If a cardboard box smaller than the size specified is used, the cardboard box will be broken by the shock of the airbag deployment.



### Covering Method Using Tires:

Place at least 3 tires without disc wheel on top of the disc wheel with tire to which the steering wheel pad is tied.

Tire size: Must exceed the following dimensions–

Width: 185 mm (7.28 in.)

Inner dia.: 360 mm (14.17 in.)

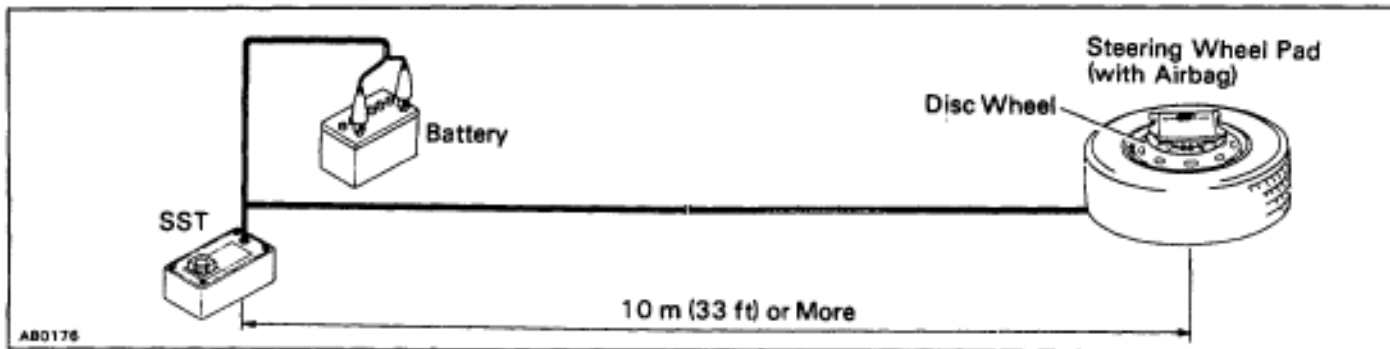
**CAUTION:** Do not use tires with disc wheels.

**NOTICE:** The tires may be marked by the airbag deployment, so use redundant tires.

## 7. AIRBAG DEPLOYMENT

- Connect the SST red clip to the battery positive (+) terminal and the black clip to the battery negative (–) terminal.
- Confirm that no-one is within 10 m (33 ft) of the disc wheel the steering wheel pad is tied to.
- Press the SST activation switch and deploy the airbag.

HINT: The airbag deploys simultaneously as the LED of the SST activation switch lights up.



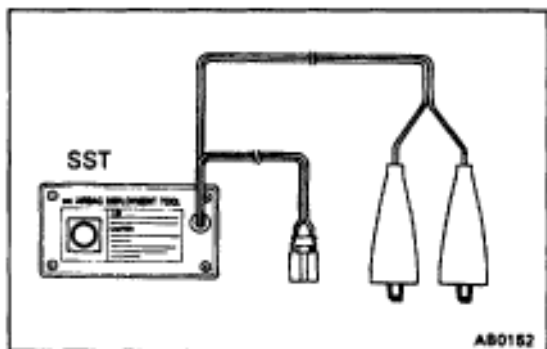


## 8. DISPOSAL OF STEERING WHEEL PAD (WITH AIRBAG)

### CAUTION:

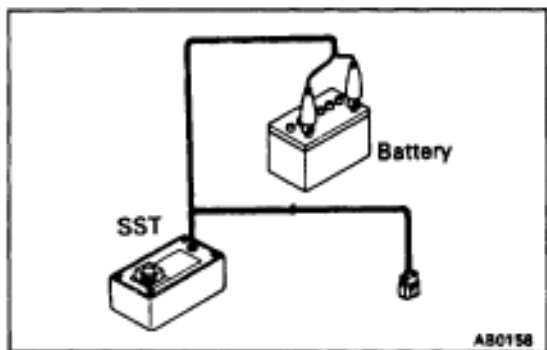
- The steering wheel pad is very hot when the airbag is deployed, so leave it alone for at least 30 minutes after deployment.
- Use gloves and safety glasses when handling a steering wheel pad with a deployed airbag.
- Do not apply water, etc. to a steering wheel pad with a deployed airbag.
- Always wash your hands with water after completing the operation.

- (a) Remove the steering wheel pad from the disc wheel.
- (b) Place the steering wheel pad in a vinyl bag, tie the end tightly and dispose of it the same way as other general parts.



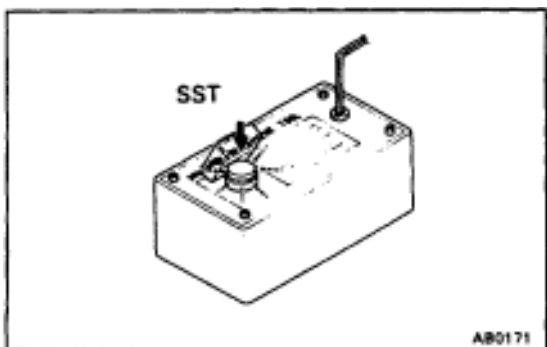
## CONFIRM FUNCTIONING OF SST

When deploying the airbag, always use the specified SST: SRS AIRBAG DEPLOYMENT TOOL. SST 09082-00700



### 1. CONNECT SST TO BATTERY

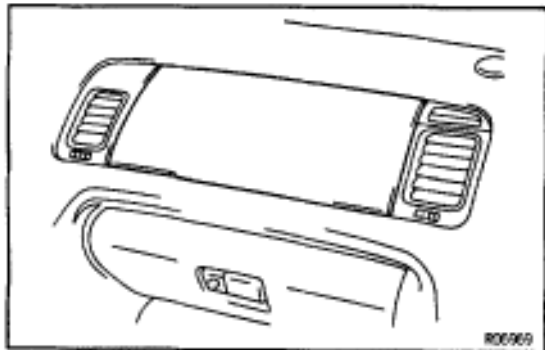
Connect the red clip of the SST to the battery positive (+) terminal and the black clip to the battery negative (-) terminal. HINT: Do not connect the yellow connector which connects with the supplemental restraint system.



### 2. CONFIRM FUNCTIONING OF SST

Press the SST activation switch, and confirm the LED of the SST activation switch lights up.

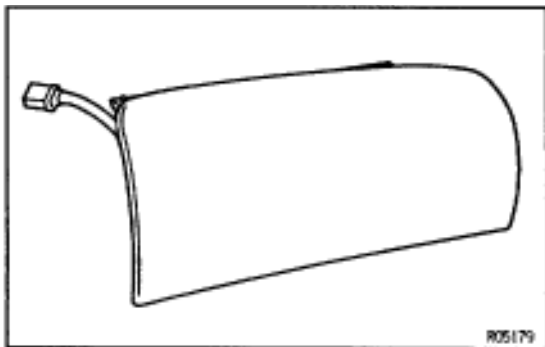
**CAUTION:** If the LED lights up when the activation switch is not being pressed, SST malfunction is probable, so definitely do not use the SST.



## FRONT PASSENGER AIRBAG ASSEMBLY INSPECTION ITEMS

### 1. VEHICLES NOT INVOLVED IN A COLLISION

- (a) Do a diagnostic system check. (See page [RS-44](#))
- (b) Do a visual check which includes the following items with the front passenger airbag assembly installed in the vehicle.
  - Check for cuts, minute cracks or marked discoloration of the front passenger airbag door.

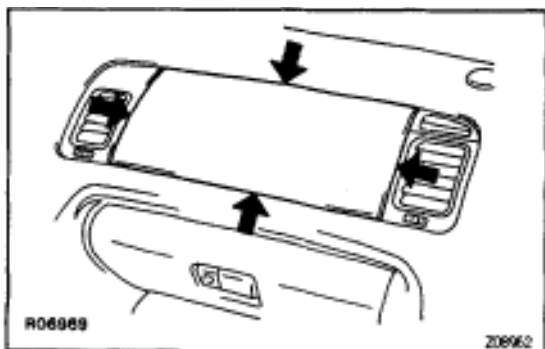
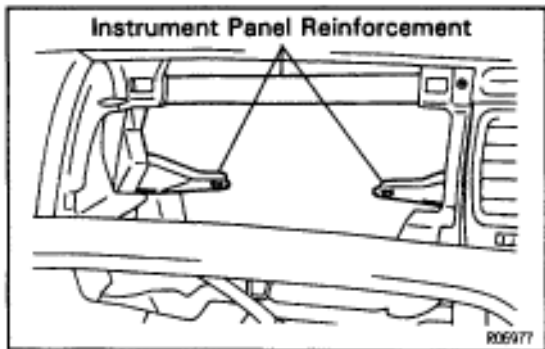


### 2. VEHICLE INVOLVED IN A COLLISION IF THE AIRBAG IS NOT DEPLOYED

- (a) Do a diagnostic system check. (See page [RS-44](#))
- (b) Do a visual check which includes the following items with the airbag assembly removed from the vehicle.
  - Check for cuts and cracks in, or marked discoloration of the front passenger airbag door.
  - Check for cuts and cracks in wire harnesses, and for chipping in connectors.
  - Check for deformation of the instrument panel and instrument panel reinforcement.

#### HINT:

- If the instrument panel or instrument panel reinforcement is deformed, never repair it. Always replace it with a new one.
- There should be no interference between the instrument panel and front passenger airbag door. The clearance should be uniform all the way around when the new airbag assembly is installed on the instrument panel.



**CAUTION:** For removal and installation of the front passenger airbag assembly, see page [RS-23](#), "FRONT PASSENGER AIRBAG ASSEMBLY REMOVAL AND INSTALLATION" and be sure to follow the correct procedure.

**IF THE AIRBAG IS DEPLOYED**

- (a) Do a diagnostic system check. (See page [RS-44](#))
- (b) Do a visual check which includes the following items with the airbag assembly removed from vehicle.
  - Check for deformation of the instrument panel and instrument panel reinforcement.
  - Check for damage to the connector and wire harness.

**HINT:**

- If the instrument panel or instrument panel reinforcement is deformed, never repair it. Always replace it with a new one.
- There should be no interference between the instrument panel and front passenger airbag door. The clearance should be uniform all the way around when the new airbag assembly is installed on the instrument panel.


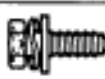
**REPLACEMENT REQUIREMENTS**

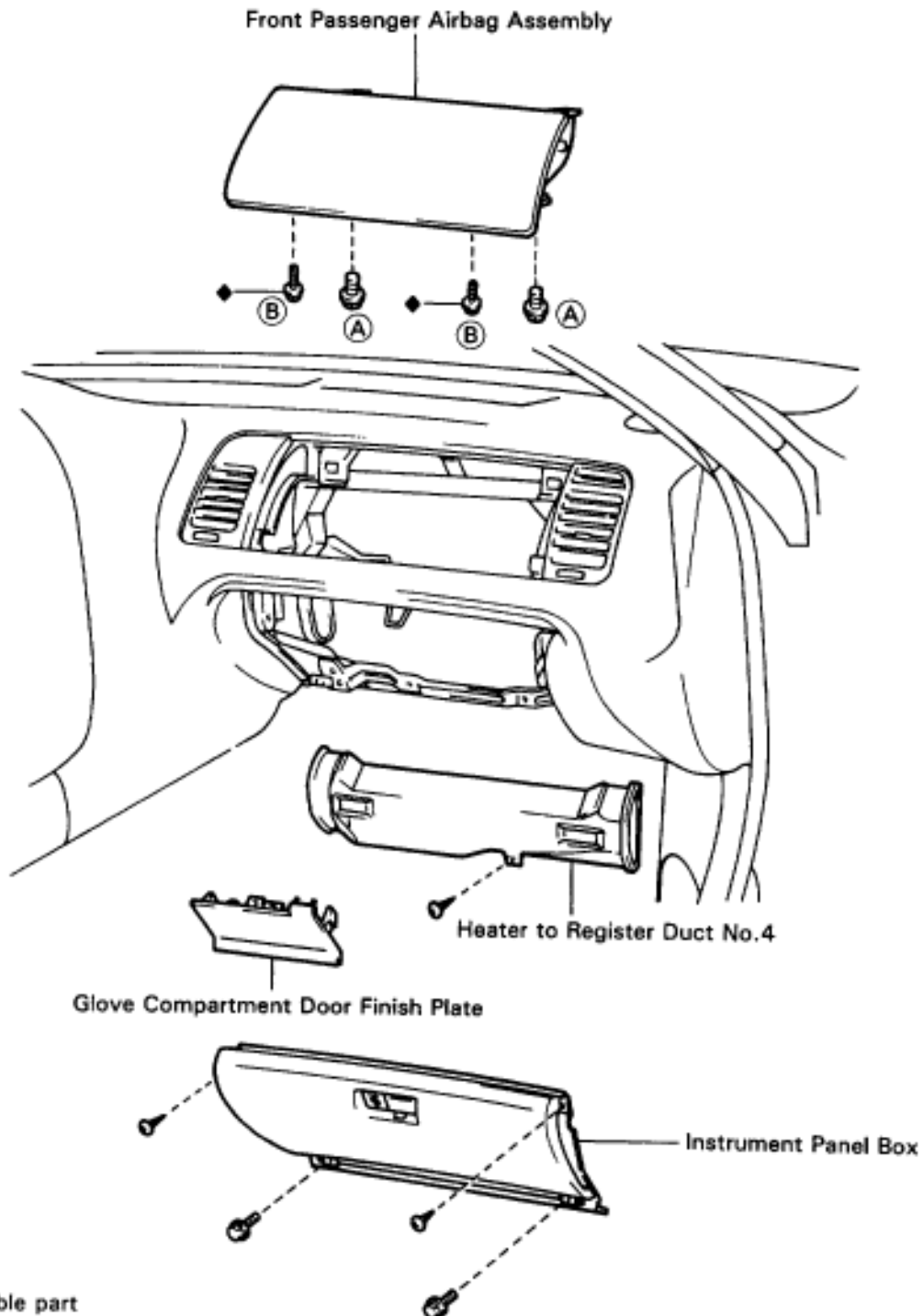
In the following case, replace the front passenger airbag assembly, instrument panel and instrument panel reinforcement.

- If the airbag has been deployed.
- If the front passenger airbag assembly has been found to be faulty in troubleshooting.
- If the front passenger airbag assembly, instrument panel or instrument panel reinforcement has been found to be faulty during the check in items 1-(b) or 2-(b).
- If the front passenger airbag assembly has been dropped.

**CAUTION:** For replacement of the front passenger airbag assembly, see page [RS-23](#), “FRONT PASSENGER AIRBAG ASSEMBLY REMOVAL AND INSTALLATION” and be sure to follow the correct procedure.

# COMPONENTS

mm (in.)					
Code	Shape	Size	Code	Shape	Size
(A)		$\phi=8$ (0.32) L=18 (0.71)	(B)		$\phi=6$ (0.24) L=22 (0.87)

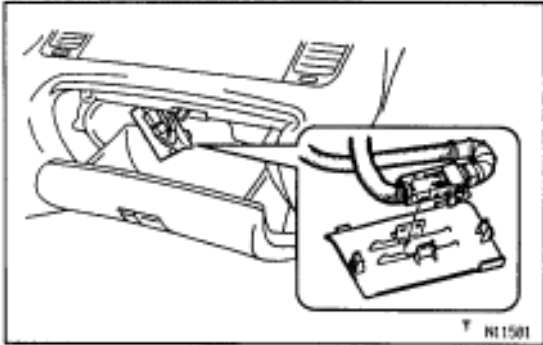


R06957

# FRONT PASSENGER AIRBAG ASSEMBLY REMOVAL AND INSTALLATION

## NOTICE:

- If the wiring connector of the SRS is disconnected with the ignition switch at ON or ACC, diagnostic trouble codes will be recorded.
- Never use airbag parts from another vehicle. When replacing parts, replace with new parts.



## 1. DISCONNECT AIRBAG CONNECTOR

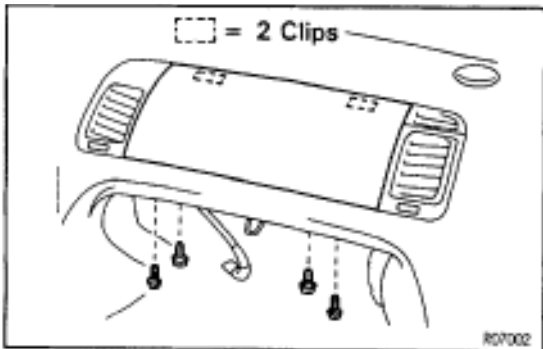
- Remove negative (-) terminal cable from the battery, and wait at least 90 seconds.
- Remove the glove compartment door finish plate inside the instrument panel box.

**NOTICE:** When handling the airbag connector, take care not to damage the airbag wire harness.

- Pull up the connector.
- Disconnect the airbag connector.

## 2. REMOVE THESE PARTS:

- Instrument panel box  
(See page [BO-49](#))
- Heater to register duct No. 4



## 3. REMOVE FRONT PASSENGER AIRBAG ASSEMBLY

- Remove the 4 bolts.
- Pull the front passenger airbag assembly to remove it.

## CAUTION:

- Do not store the front passenger airbag assembly with the airbag door facing down.
- Never disassemble the front passenger airbag assembly.

## 4. INSTALL FRONT PASSENGER AIRBAG ASSEMBLY

- Install the front passenger airbag assembly.
- Install the 2 bolts to instrument panel reinforcement.

**Torque: 21 N·m (210 kgf·cm, 15 ft·lbf)**

- Install the 2 bolts to instrument panel.

**Torque: 8.8 N·m (90 kgf·cm, 78 in·lbf)**

## NOTICE:

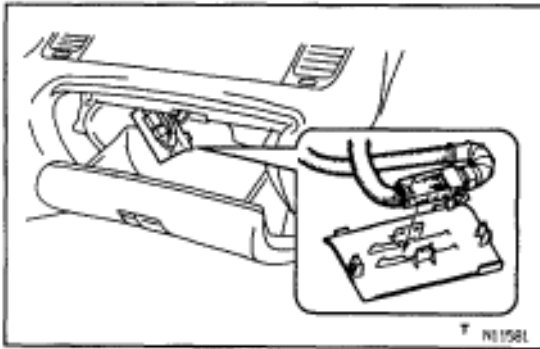
- Make sure the front passenger airbag assembly is installed to the specified torque.

- If the front passenger airbag assembly has been dropped, or there are cracks, dents or other defects in the case or connector, replace the front passenger airbag assembly with a new one.
- Adhesive has been applied to the 2 instrument panel bolts. When the front passenger airbag assembly is removed, always replace the bolts with new ones.
- When installing the front passenger airbag assembly, take care that the wirings do not interfere with other parts and are not pinched between other parts.

#### 5. INSTALL THESE PARTS:

- (a) Heater to register duct No. 4
- (b) Instrument panel box  
(See page [BO-49](#))

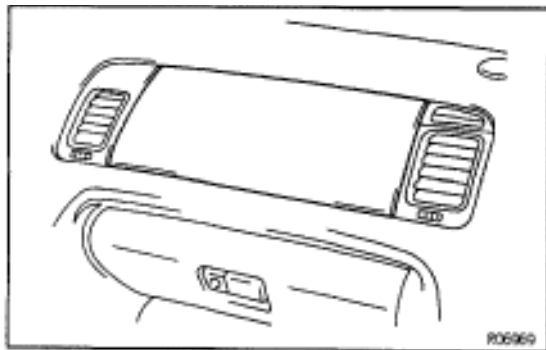
**NOTICE:** When installing the instrument panel box, carefully pull out the airbag wire harness from the glove compartment upper hole.



#### 6. CONNECT AIRBAG CONNECTOR

- (a) Connect the airbag connector.
- (b) Put the connector on the glove compartment door finish plate.
- (c) Install the glove compartment door finish plate to the instrument panel box.



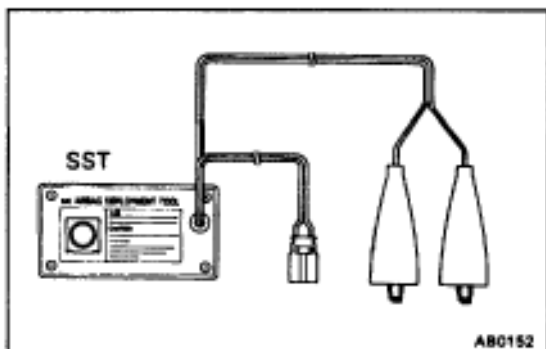


## FRONT PASSENGER AIRBAG ASSEMBLY DISPOSAL

When scrapping vehicles equipped with an SRS or disposing of a front passenger airbag assembly, always first deploy the airbag in accordance with the procedure described below. If any abnormality occurs with the airbag deployment, contact the SERVICE DEPT. of TOYOTA MOTOR SALES, U.S.A., INC..

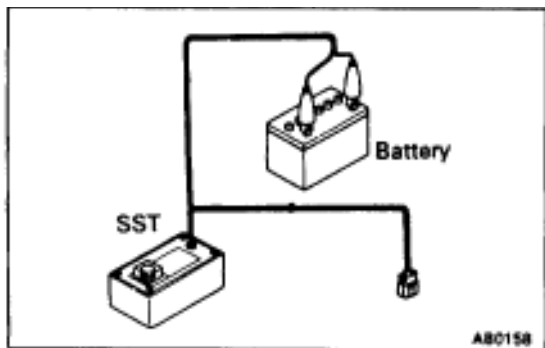
**Never dispose of a front passenger airbag assembly which has an undeployed airbag.**

When disposing of a front passenger airbag assembly with an airbag deployed in a collision, follow the same procedure given under "When scrapping vehicle, step 5. DISPOSAL OF FRONT PASSENGER AIRBAG ASSEMBLY".



### PRECAUTIONS FOR AIRBAG DEPLOYMENT

- The airbag produces a sizeable exploding sound when it deploys, so do the operation out-of-doors and where it will not create a nuisance to nearby residents.
- When deploying the airbag, always use the specified SST: SRS AIRBAG DEPLOYMENT TOOL (SST 09082-00700).  
Carry out the operation in a place away from electrical noise.
- When deploying an airbag, do it at least 10 m (33 ft) away from the front passenger airbag assembly.
- The front passenger airbag assembly is very hot when the airbag is deployed, so leave it alone for at least 30 minutes after deployment.
- Use gloves and safety glasses when handling a front passenger airbag assembly with a deployed airbag.
- Do not apply water, etc., to a front passenger airbag assembly with a deployed airbag.
- Always wash your hands with water after completing the operation.



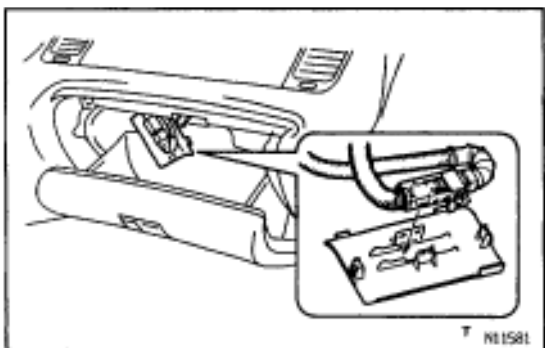
## When scrapping vehicle

HINT: Have a battery ready as the power source to deploy the airbag.

### 1. CONFIRM FUNCTIONING OF SST

(See page RS-19)

SST 09082-00700



### 2. DISCONNECT AIRBAG CONNECTOR

(a) Remove the glove compartment finish plate inside the instrument panel box.

**NOTICE: When handling the airbag connector, take care not to damage the airbag wire harness.**

(b) Pull up the connector.

(c) Disconnect the airbag connector.

### 3. INSTALL SST

(a) Connect the SST connector to the front passenger airbag assembly connector.

SST 09082-00700

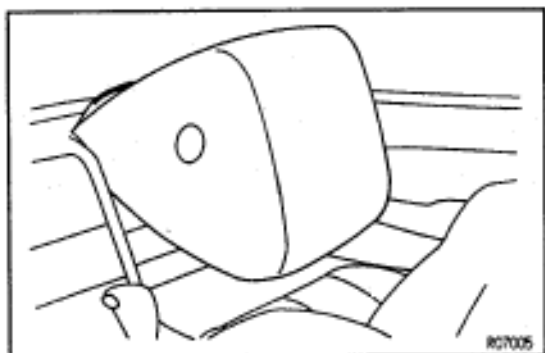
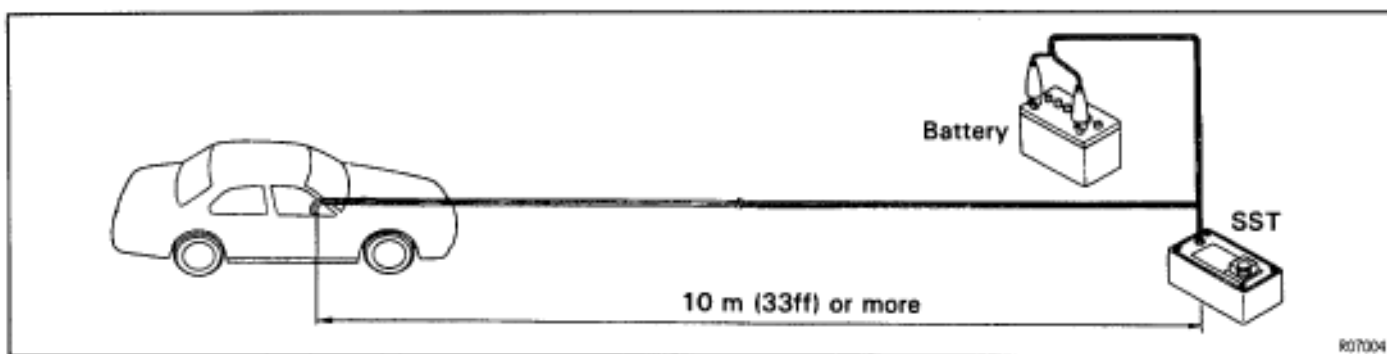
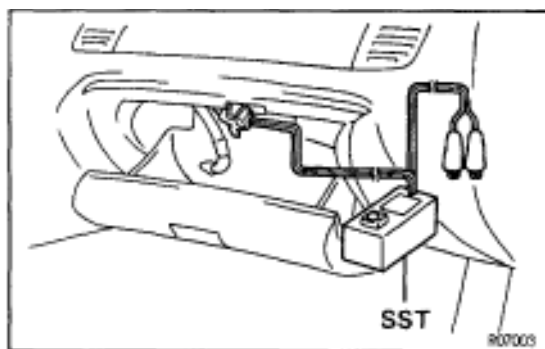
**NOTICE: To avoid damaging the SST connector and wire harness, do not lock the secondary lock of the twin lock.**

(b) Move the SST to at least 10 m (33 ft) from the front of the vehicle.

(c) Close all the doors and windows of the vehicle.

**NOTICE: Take care not to damage the SST wire harness.**

(d) Connect the SST red clip to the battery positive (+) terminal and the black clip to the battery negative (-) terminal.



### 4. DEPLOY AIRBAG

(a) Confirm that no-one is inside the vehicle or within 10 m (33 ft) of the vehicle.

(b) Press the SST activation switch and deploy the airbag.

HINT: The airbag deploys simultaneously as the LED of the SST activation switch lights up.

## 5. DISPOSAL OF FRONT PASSENGER AIRBAG ASSEMBLY

### CAUTION:

- The front passenger airbag assembly is very hot when the airbag is deployed, so leave it alone for at least 30 minutes after deployment.
- Use gloves and safety glasses when handling a front passenger airbag assembly with deployed airbag.
- Do not apply water, etc., to a front passenger airbag assembly with deployed airbag.
- Always wash your hands with water after completing the operation.

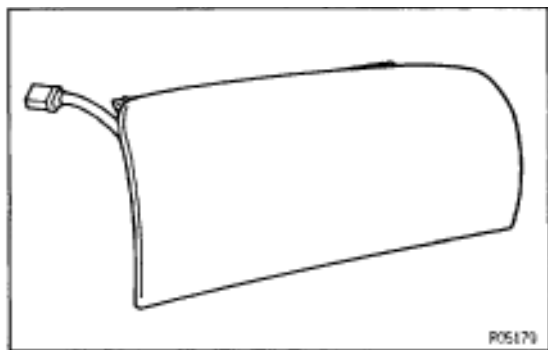
When scrapping a vehicle, deploy the airbag and scrap the vehicle with the front passenger airbag assembly still installed.

### When disposing of front passenger airbag assembly only

**When disposing of the front passenger airbag assembly only, never use the customer's vehicle to deploy the airbag.**

Remove the front passenger airbag assembly from the vehicle and be sure to follow the procedure given below when deploying the airbag.

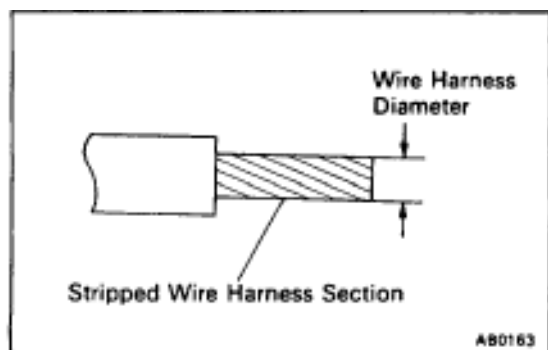
HINT: Have a battery ready as the power source to deploy the airbag.



### 1. REMOVE FRONT PASSENGER AIRBAG ASSEMBLY (See page RS-23)

#### CAUTION:

- When removing the front passenger airbag assembly, work must be started after 90 seconds from the time the ignition switch is turned to the "LOCK" position and the negative (-) terminal cable is disconnected from the battery.
- Store the front passenger airbag assembly with the airbag door facing up.



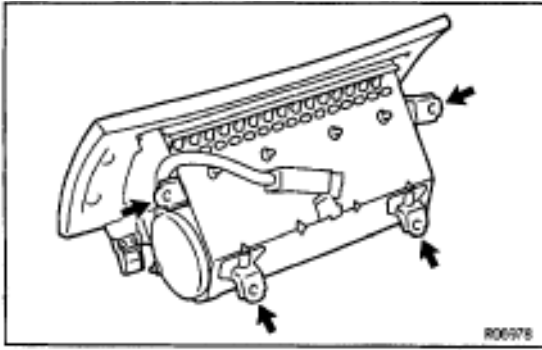
### 2. FIX FRONT PASSENGER AIRBAG ASSEMBLY TO TIRE Using a service-purpose wire harness for vehicle, tie down the front passenger airbag assembly to the tire.

**Wire harness: Stripped wire harness section**

**1.25 mm<sup>2</sup> or more (0.0019 in.<sup>2</sup> or more)**

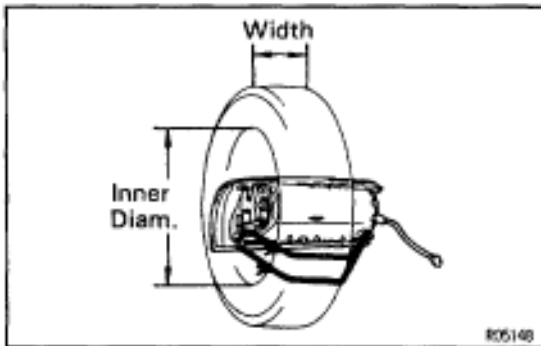
HINT: To calculate the square of the stripped wire harness section

**Square = 3.14 X (Diameter)<sup>2</sup> divided by 4**



**CAUTION:** If the front passenger airbag assembly is tied down by too thin a wire harness, it may snap. This is highly dangerous. Always use a wire harness which is at least 1.25 mm<sup>2</sup> (0.0019 in.<sup>2</sup>).

(1) Wrap the wire harness around the tire, passing the wire harness through the installation holes which are indicated in the illustration by arrows.



(2) Position the front passenger airbag assembly inside the tire with the airbag door facing inside.

**Tire size: Must exceed the following dimensions–**

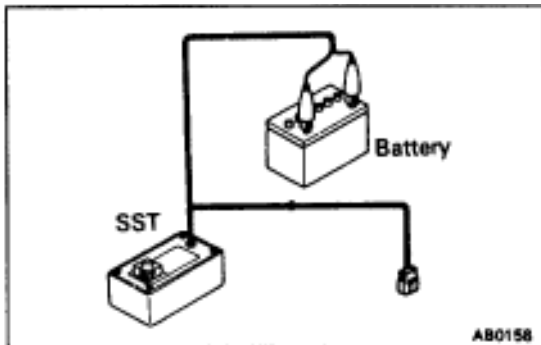
**Width: 185 mm (7.28 in.)**

**Inner dia.: 360 mm (14.17 in.)**

**CAUTION:**

- Make sure the wire harness is tight. It is very dangerous if a loose wire harness results in the front passenger airbag assembly coming free due to the shock of the airbag deploying.
- Always tie down the front passenger airbag assembly with the airbag door facing inside.

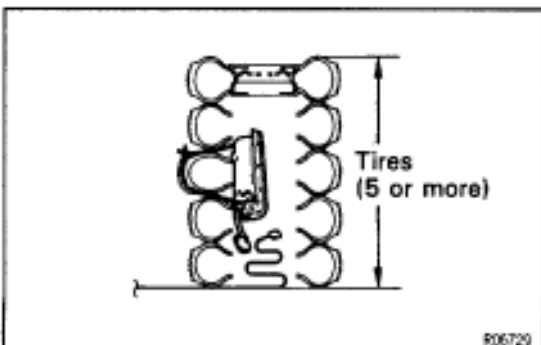
**NOTICE:** The tire will be marked by the airbag deployment, so use a redundant tire.



### 3. CONFIRM FUNCTIONING OF SST

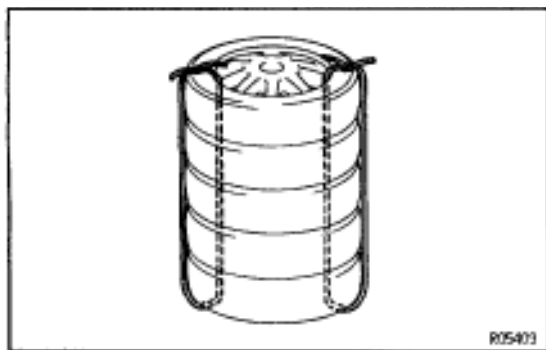
(See page [RS-19](#))

SST 09082-00700



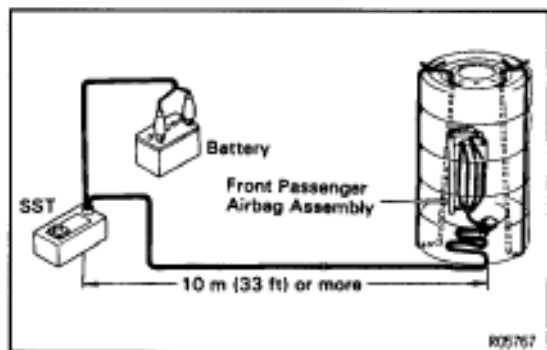
### 4. PLACE TIRES

- Place at least 2 tires under the tire to which the front passenger airbag assembly is tied.
- Place at least 2 tires over the tire to which the front passenger airbag assembly is tied. The top tire should have the wheel installed.
- Tie the tires together by 2 wire harnesses.



**CAUTION:** Make sure that the wire harnesses are tight. It is very dangerous if loose wire harnesses result in the tires coming free due to the shock of the airbag deploying.

**HINT:** Place the SST connector and wire harness inside tires. Provide at least 1 m (3 ft) of slack for the wire harness.



## 5. INSTALL SST

Connect the SST connector to the front passenger airbag assembly connector.

SST 09082-00700

**NOTICE:** To avoid damaging the SST connector and wire harness, do not lock the secondary lock of the twin lock.

## 6. AIRBAG DEPLOYMENT

- Connect the SST red clip to the battery positive (+) terminal and the black clip to the battery negative (-) terminal.
- Confirm that no-one is within 10 m (33 ft) of the tire the front passenger airbag assembly is tied to.
- Press the SST activation switch and deploy the airbag.

**HINT:** The airbag deploys simultaneously as the LED of the SST activation switch lights up.

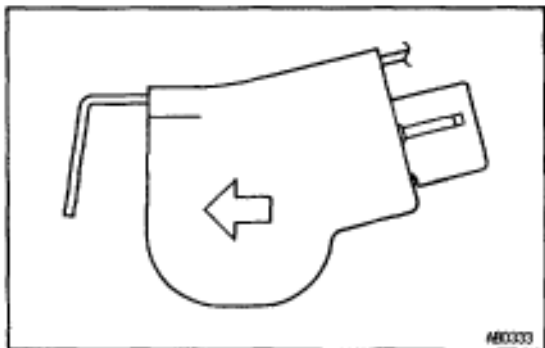
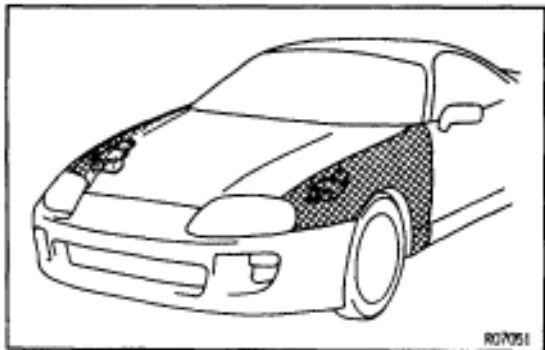


## 7. DISPOSAL OF FRONT PASSENGER AIRBAG ASSEMBLY

### CAUTION:

- The front passenger airbag assembly is very hot when the airbag is deployed, so leave it alone for at least 30 minutes after deployment.
- Use gloves and safety glasses when handling a front passenger airbag assembly with a deployed airbag.
- Do not apply water, etc. to a front passenger airbag assembly with a deployed airbag.
- Always wash your hands with water after completing the operation.

- Remove the front passenger airbag assembly from the tire.
- Place the front passenger airbag assembly in a vinyl bag, tie the end tightly and dispose of it the same way as other general parts.



## FRONT AIRBAG SENSOR INSPECTION ITEMS

### 1. VEHICLES NOT INVOLVED IN A COLLISION

Do a diagnostic system check. (See page [RS-44](#))

### 2. VEHICLES INVOLVED IN A COLLISION

(a) Do a diagnostic system check.

(See page [RS-44](#))

(b) If the front fender of the car or its periphery is damaged, do a visual check for damage to the front airbag sensor, which includes the following items even if the airbag was not deployed:

- Bracket deformation
- Peeling of paint from the bracket
- Cracks, dents or chips in the case
- Cracks and dents in, or chipping and scratches of the connector
- Peeling off of the label or damage to the series number

Also refer to the body dimension drawings in the BODY section and check the dimensions around where the front airbag sensors are mounted.

(The SRS may malfunction, or may not work, if the body area is not repaired or replaced correctly.)

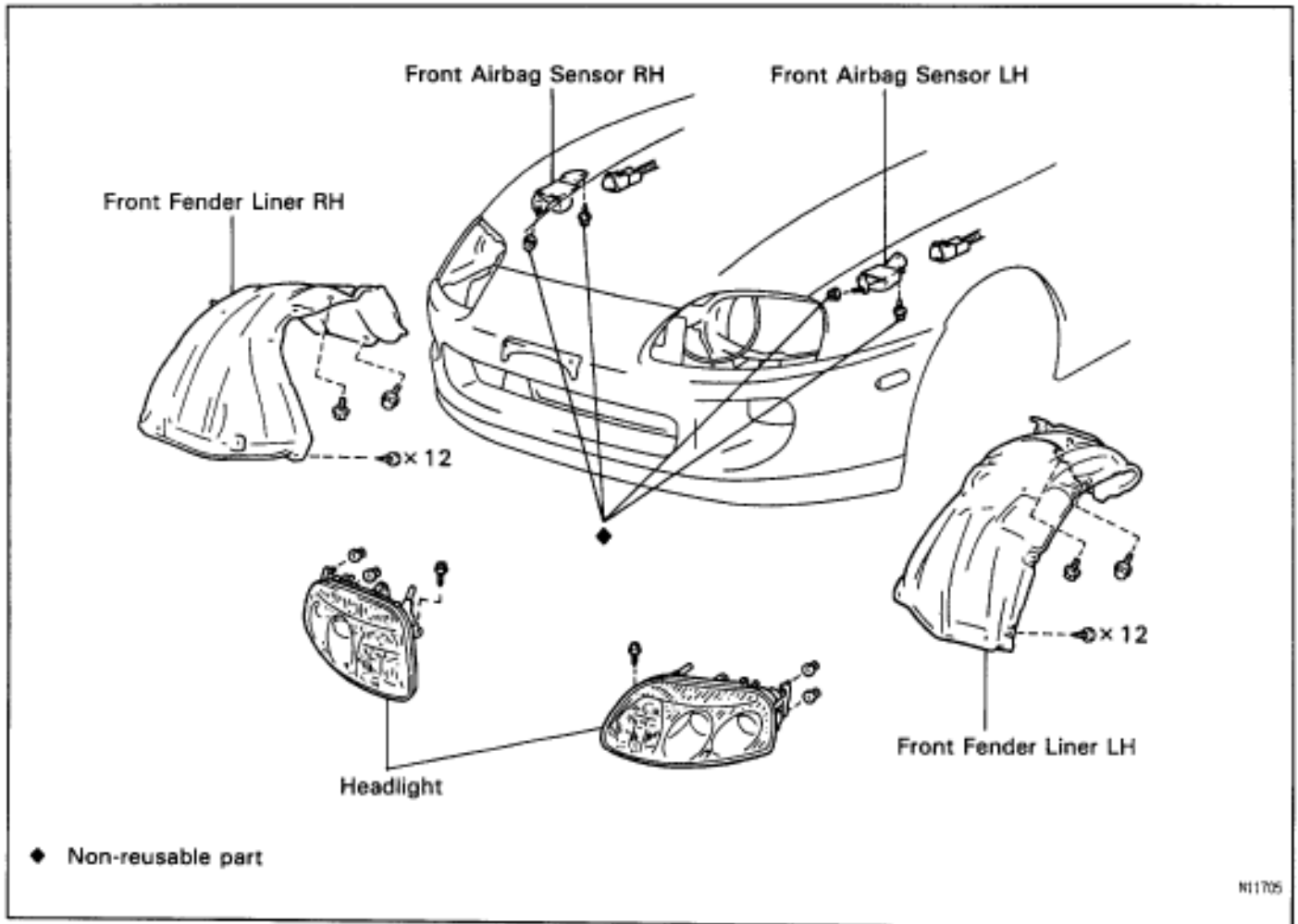
## REPLACEMENT REQUIREMENTS

In the following cases, replace the front airbag sensor.

- If the SRS has been deployed in a collision.  
(Replace both the left and right airbag sensors.)
- If the front airbag sensor has been found to be faulty in troubleshooting.
- If the front airbag sensor has been found to be faulty during the check in item 2-(b).
- If the front airbag sensor has been dropped.

**NOTICE:** For replacement of the front airbag sensor, see page [RS-31](#), "FRONT AIRBAG SENSOR REMOVAL AND INSTALLATION" and be sure to follow the correct procedure.

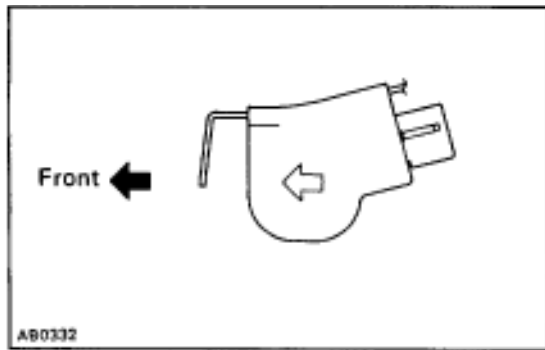
## COMPONENTS



## FRONT AIRBAG SENSOR REMOVAL AND INSTALLATION

### NOTICE:

- If the wiring connector of the SRS is disconnected with the ignition switch at ON or ACC, diagnostic trouble codes will be recorded.
- Never use SRS parts from another vehicle. When replacing parts, replace with new parts.
- Never reuse the sensor involved in a collision when the SRS has deployed.
- Never repair a sensor in order to reuse it.



1. **REMOVE FRONT FENDER LINER AND HEADLIGHT**
2. **REMOVE FRONT AIRBAG SENSOR**
  - (a) Disconnect the connector.
  - (b) Remove the bolt, the nut and the sensor.
3. **INSTALL FRONT AIRBAG SENSOR**

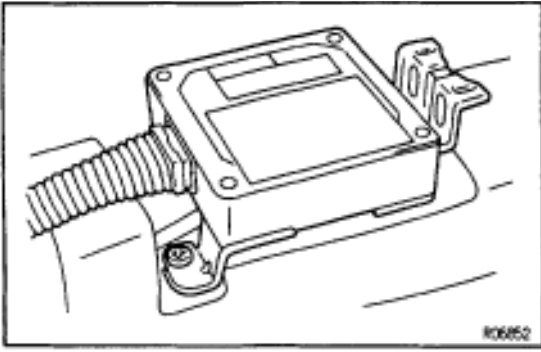
Install the sensor with the arrow on the sensor facing toward the front of the vehicle.

**Torque: 29 N·m (300 kgf·cm, 22 ft·lbf)**

**NOTICE:**

  - Make sure the sensor is installed to the specified torque.
  - If the sensor has been dropped, or there are cracks, dents or other defects in the case, brackets or connector, replace the sensor is removed, always replace the set bolt and the nut with new ones.
  - The sensor set bolt and the nut have been anti-rust treated. When the sensor is removed, always replace the set bolt and the nut with new ones.
  - After installation, shake the sensor to check that there is no looseness.
  - The front sensor is equipped with an electrical connection check mechanism. Be sure to lock this mechanism securely when connecting the connector. If the connector is not securely locked, a malfunction code will be detected by the diagnosis system.
  - Check that the dimensions of the body where the front airbag sensor is installed match those in the body dimension drawings in the BODY section. (The SRS may malfunction, or may not work, if the dimensions of the sensor mount is not correct.)
4. **INSTALL HEADLIGHT AND FRONT FENDER LINER**





## CENTER AIRBAG SENSOR ASSEMBLY

### INSPECTION ITEMS

1. **VEHICLES NOT INVOLVED IN A COLLISION**  
Do a diagnostic system check. (See page [RS-44](#))
2. **VEHICLES INVOLVED IN A COLLISION  
IF THE SRS IS NOT DEPLOYED**  
Do a diagnostic system check.  
(See page [RS-44](#))  
**IF THE SRS IS DEPLOYED**  
Replace the center airbag sensor assembly.

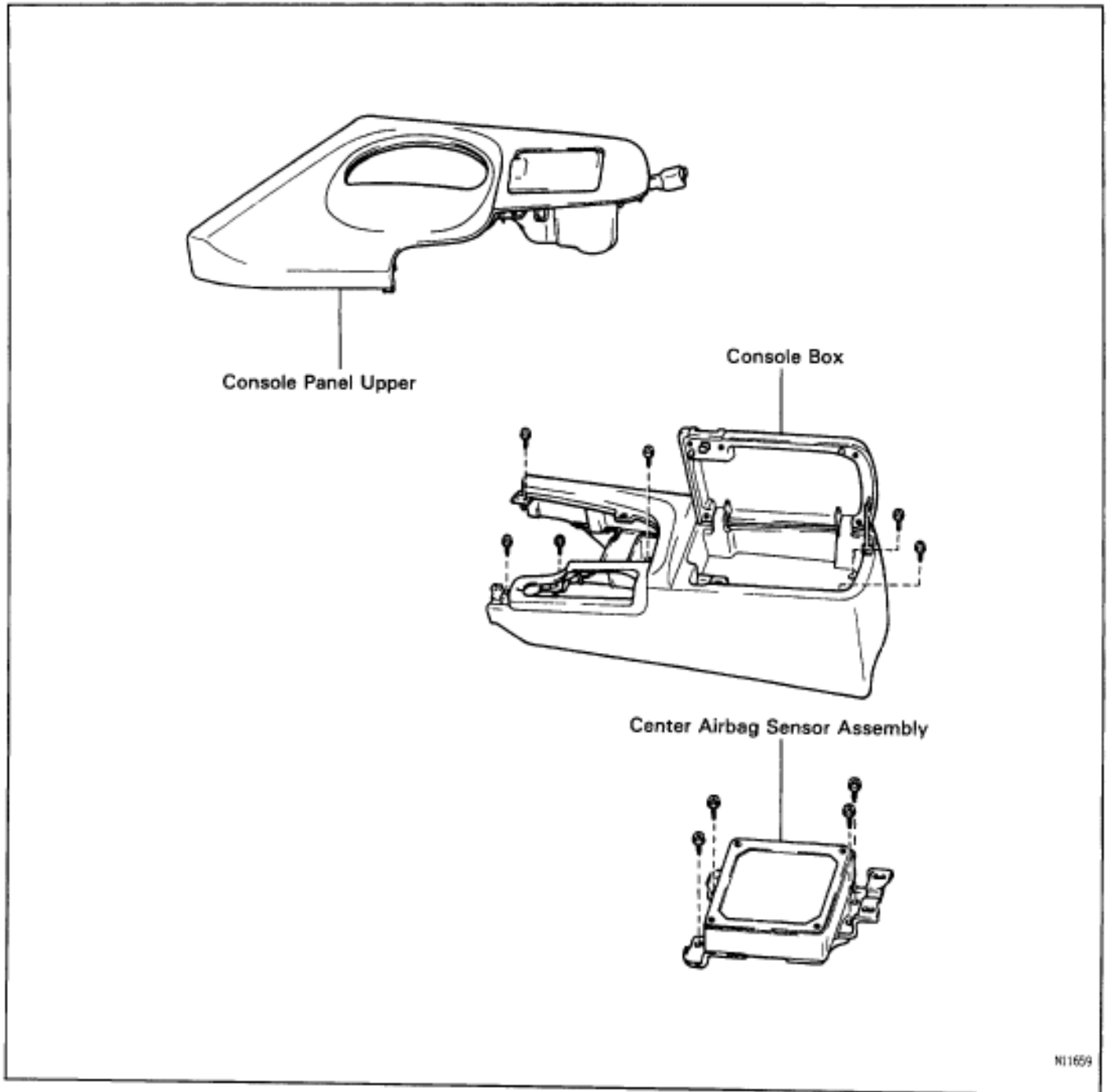
## REPLACEMENT REQUIREMENTS

In the following cases, replace the center airbag sensor assembly.

- If the SRS has been deployed in a collision.
- If the center airbag sensor assembly has been found to be faulty in troubleshooting.
- If the center airbag sensor assembly has been dropped.

**NOTICE:** For replacement of the center airbag sensor assembly, see page [RS-34](#), "CENTER AIRBAG SENSOR ASSEMBLY REMOVAL AND INSTALLATION" and be sure to follow the correct procedure.

## COMPONENTS

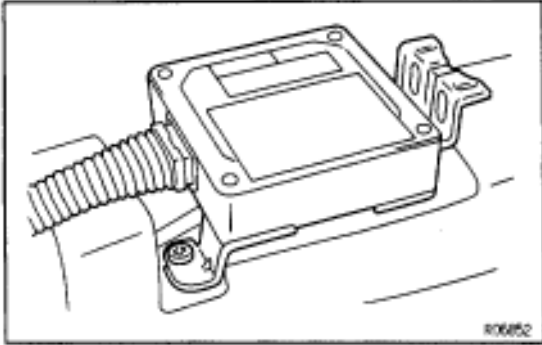


## CENTER AIRBAG SENSOR ASSEMBLY REMOVAL AND INSTALLATION

### NOTICE:

- Do not open the cover or the case of the ECU and various computers unless absolutely necessary. (If the IC terminals are touched, the IC may be destroyed by static electricity.)

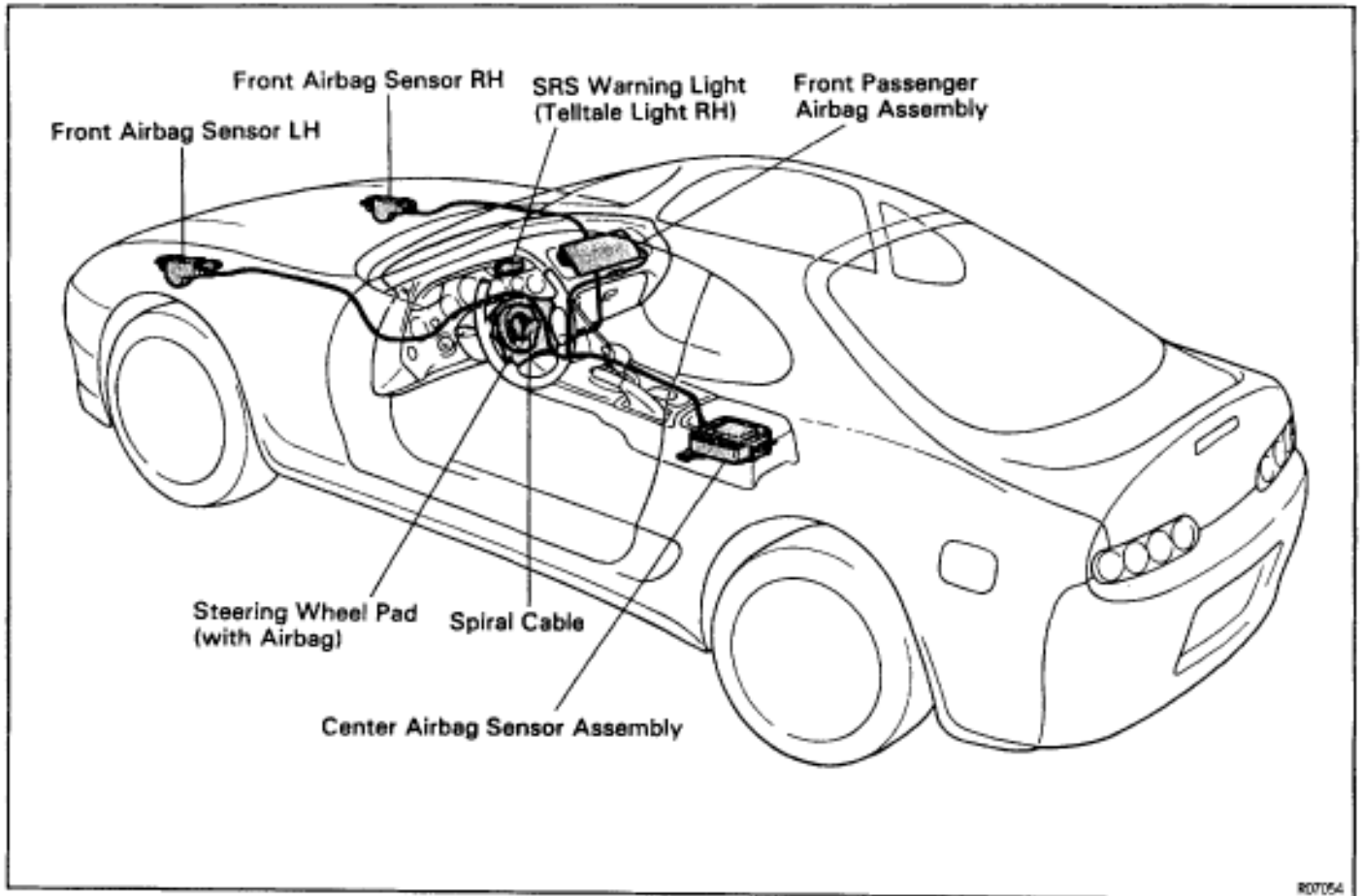
- Never use SRS parts from another vehicle. When replacing parts, replace with new parts.
- Never reuse the center airbag sensor assembly involved in a collision when the airbag has deployed.
- Never repair a sensor in order to reuse it.



1. REMOVE CONSOLE PANEL UPPER AND CONSOLE BOX  
(See page [BO-44](#))
2. REMOVE CENTER AIRBAG SENSOR ASSEMBLY
  - (a) Disconnect the connector.  
**NOTICE:** Removal of the connector is done with the sensor assembly installed.
  - (b) Using a torx wrench, remove the 4 screws and the center airbag sensor assembly.  
Torx wrench: T40 (Part No. 09042-00020 or locally manufactured tool)
3. INSTALL CENTER AIRBAG SENSOR ASSEMBLY
  - (a) Using a torx wrench, install the center airbag sensor assembly with the 4 screws.  
Torx wrench: T40 (Part No. 09042-00020 or locally manufactured tool)  
**Torque: 21 N·m (210 kgf·cm, 15 ft·lbf)**
  - (b) Connect the connector.  
**NOTICE:**
    - Installation of the connector is done with the sensor assembly installed.
    - Make sure the sensor assembly is installed to the specified torque.
    - If the sensor assembly has been dropped, or there are cracks, dents or other defects in the case, bracket or connector, replace the sensor assembly with a new one.
    - When installing the sensor assembly, take care that the SRS wiring does not interfere with other parts and is not pinched between other parts.
    - After installation, shake the sensor assembly to check that there is no looseness.
4. INSTALL CONSOLE BOX AND CONSOLE PANEL UPPER  
(See page [BO-44](#))

## WIRE HARNESS AND CONNECTOR

HINT: The SRS wire harness is integrated with the cowl wire harness assembly and floor wire harness assembly. The wires for the SRS wire harness are encased in a yellow corrugated tube and all the connectors in the system are a standard yellow color.



## INSPECTION ITEMS

1. **VEHICLES NOT INVOLVED IN A COLLISION**  
Do a diagnostic system check. (See page [RS-44](#))
2. **VEHICLES INVOLVED IN A COLLISION**
  - (a) Do a diagnostic system check.  
(See page [RS-44](#))
  - (b) Check for breaks in all wires of the SRS wire harness, and for exposed conductors.
  - (c) Check to see if the SRS wire harness connectors are cracked or chipped.

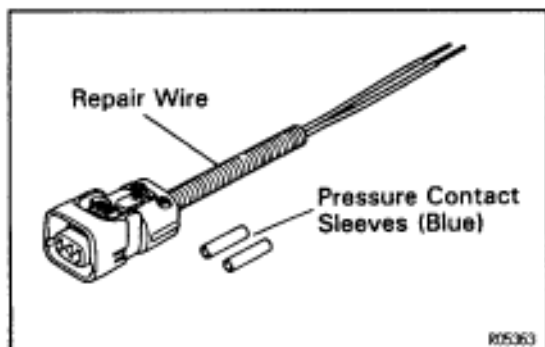
## REPLACEMENT REQUIREMENTS

In the following cases, replace the wire harness or connector.

- If any part of the SRS wire harness or any connector has been found to be faulty in troubleshooting.
- If any part of the SRS wire harness or any connector has been found to be faulty during the check in items 2–(b) or (c).

### NOTICE:

- If the wire harness used in the SRS is damaged, replace the whole wire harness assembly.
- When the connector to the front airbag sensors can be repaired alone (when there is no damage to the wire harness), use the repair wire specially designed for the purpose.



## REPAIR WIRE FOR FRONT AIRBAG SENSOR REPLACEMENT

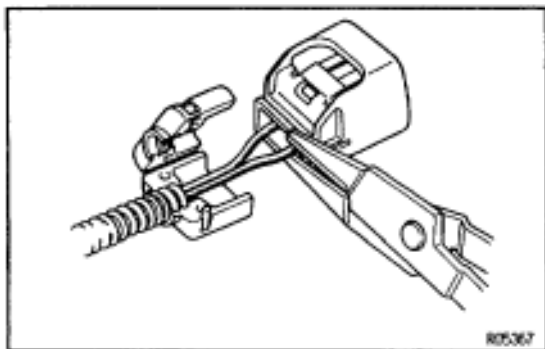
Repair wire with 2 pressure-contact sleeves (Part No. 82988–24010) has been prepared for exclusive use in repairing connector damage etc., caused by frontal collision of the vehicle.

When repairing the front airbag sensor connector on the wire harness side, always use the special repair wire.

**NOTICE: Do not replace the connector housing or terminal only.**

### 1. DISCONNECT WIRE HARNESS AT VEHICLE SIDE

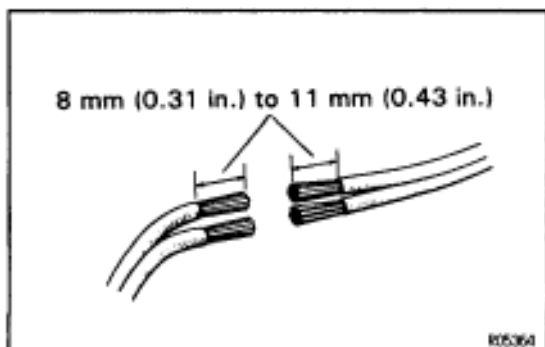
- Remove the cover at the rear of the connector housing and expose the wire harness.
- Cut the wire harness behind the connector housing.  
HINT: The operation is done more easily if the wire harness is left as long as possible.

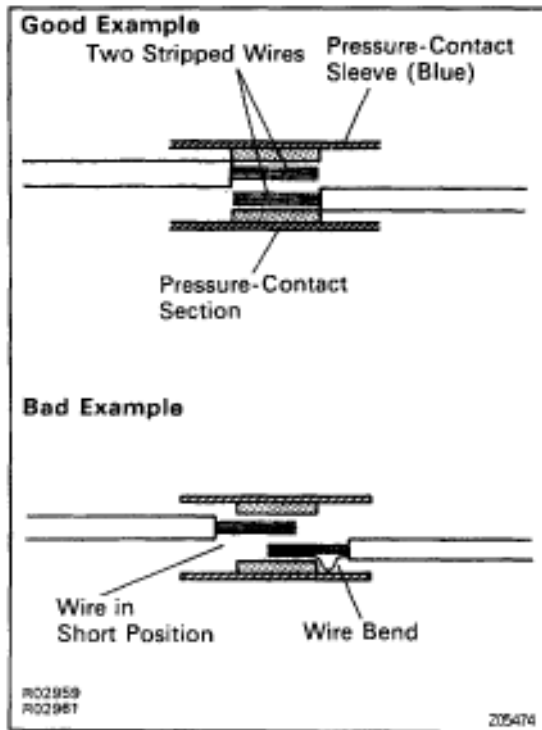


### 2. CONNECT FRONT AIRBAG SENSOR WIRE HARNESS AT VEHICLE SIDE AND REPAIR WIRE

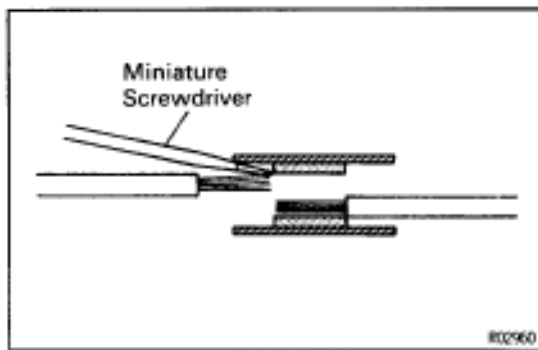
- Start stripping at least 8 mm (0.31 in.) to 11 mm (0.43 in.) away from the end of the existing harness at vehicle side and also from the end of the repair wire.

**NOTICE: Take care not to damage the wire when stripping the wire harness lead. After finishing the operation, visually inspect the wire. If there is any damage, do the operation again.**

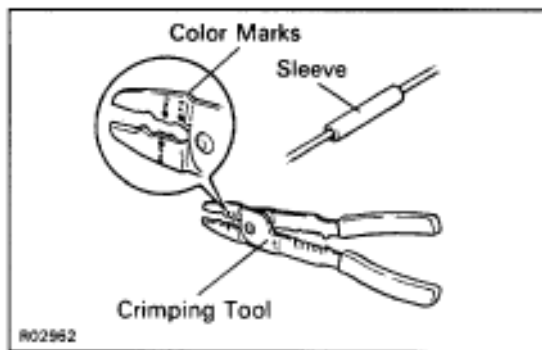




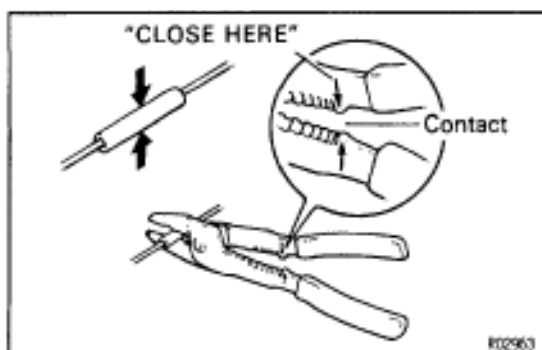
- (b) Overlap the 2 stripped wire ends inside of the pressure-contact sleeve as illustrated in the left.  
HINT: The blue pressure-contact sleeve (Part No. 82999-12020) is available individually.



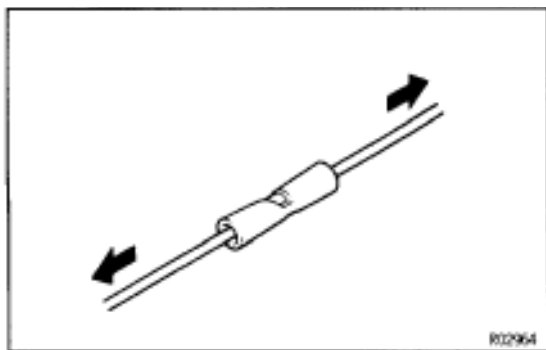
HINT: You might find it easier if you use a miniature screwdriver as a guide as you insert wires into the sleeve.



- (c) The crimping tool (AMP Part No. 169060) has color marks on it. Place the sleeve in the correct section of the tool according to the color of the sleeve itself.

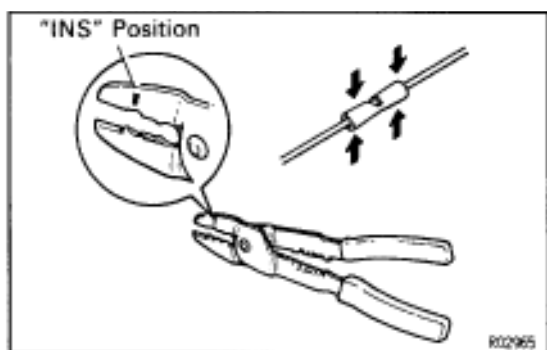


- (d) With the center of the sleeve correctly placed between the crimping jaws, squeeze the crimping tool until either end comes into contact at the section marked by "CLOSE HERE".  
HINT: Check to see that the sleeve and wires are still in the correct position before closing the crimping tool ends with steady pressure.

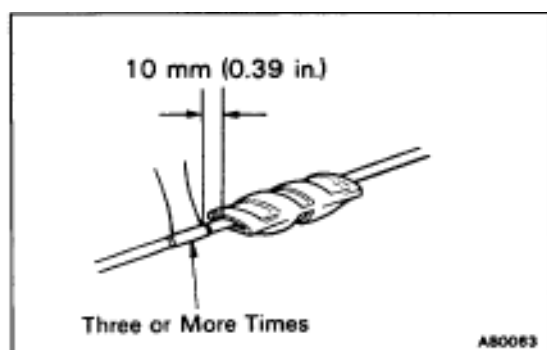


- (e) Pull the joined wires to either end. Make sure that they are joined firmly by the sleeve.

**NOTICE:** If the joined wires come loose the splice is defective, so replace the sleeve and repeat the procedure.



- (f) Crimp both ends of the sleeve with the crimping tool at the "INS" position.



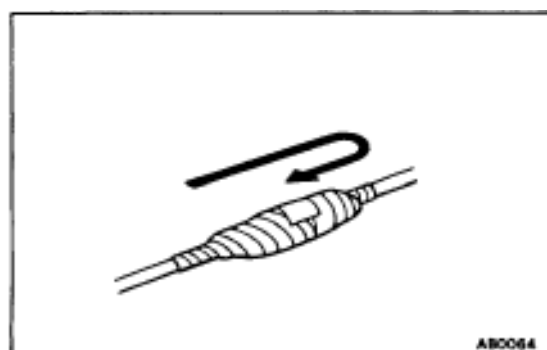
### 3. PROTECT JOINED SECTION

Wrap silicon tape around the joints to protect them from water.

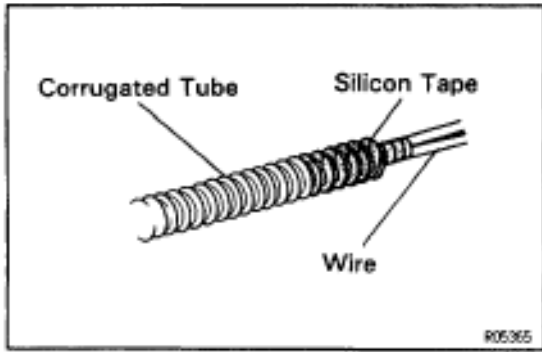
HINT:

- Before starting the operation, thoroughly wipe dirt and grease off the sections to be joined.
- If the adhesive surfaces of 2 tapes come in contact, they will stick together and will not come apart, so do not remove the backing film except when using the tape.
- Do not let oil and dust, etc., get on the tape surface.

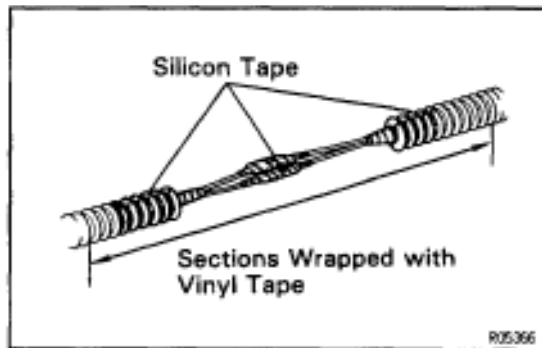
- (a) Ready about 100 mm (3.94 in.) of silicon tape (Part No. 08231-00045) and peel off the film.
- (b) Stretch the silicon tape until its width is reduced by half.
- (c) About 10 mm (0.39 in.) from the end of the pressure contact sleeve, wrap the silicon tape around the sleeve 3 or more times while stretching the tape.



- (d) Wrap the remaining part of sleeve with half of the tape overlapping at each turn.
- (e) Firmly wrap the tape 2 times or more about 10 mm (0.39 in.) from the other end of the pressure-contact sleeve, then wrap the tape back towards the start again and firmly finish winding the tape around the center of the sleeve.



- (f) Fix the corrugated tube to the wire using silicon tape.



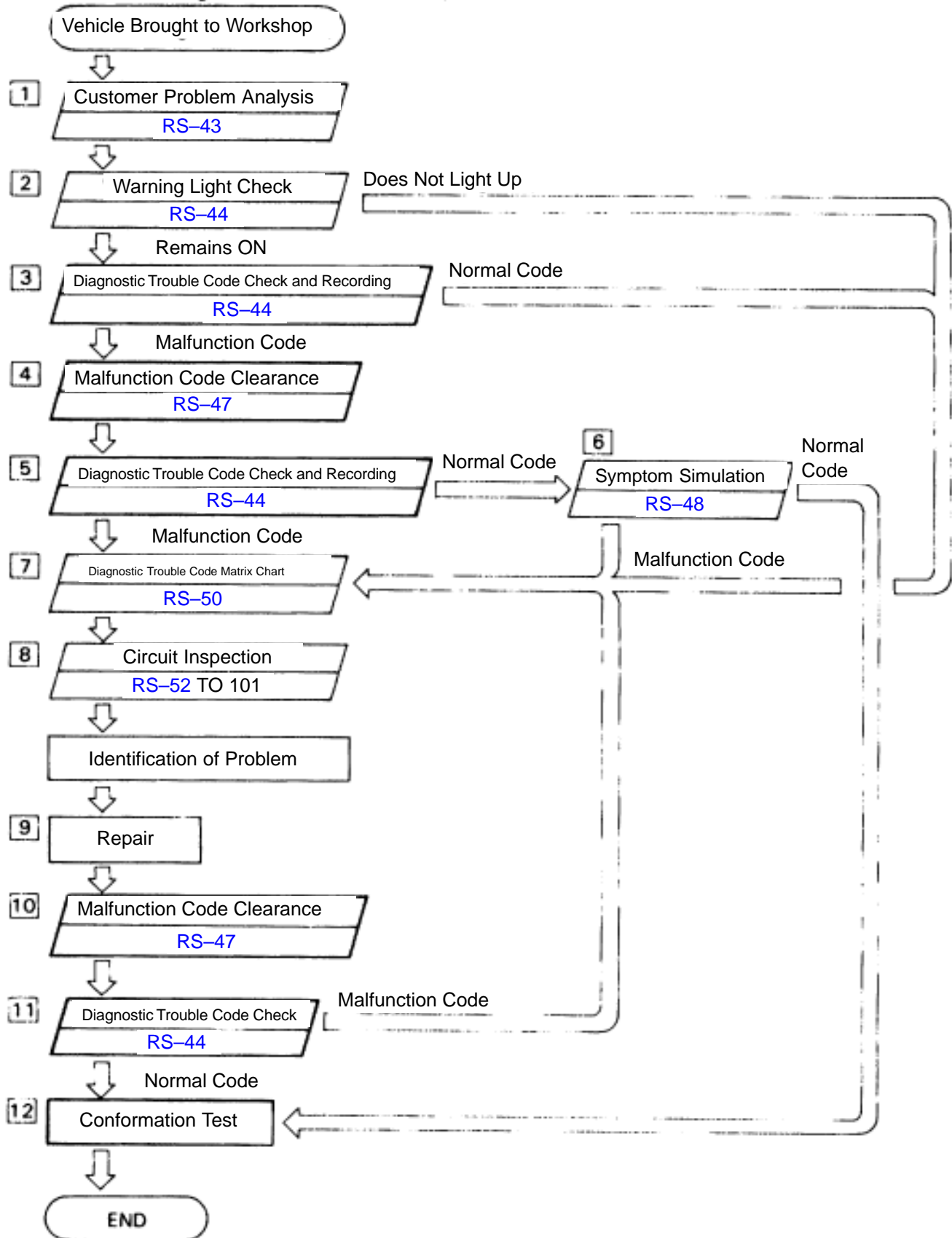
- (g) After applying the silicon tape, apply vinyl tape on the corrugated tube of repair wire side over to the corrugated tube of vehicle wire harness side.



# TROUBLESHOOTING

# HOW TO PROCEED WITH TROUBLESHOOTING

Perform troubleshooting in accordance with the procedure on the following pages.



Step [ 3 ], [ 4 ], [ 5 ], [ 10 ], [ 11 ], [ 12 ] : Diagnostic steps permitting the use of The TOYOTA hand-held tester.

# CUSTOMER PROBLEM ANALYSIS CHECK SHEET

## Supplemental Restraint System Check Sheet

Inspector's

Name: \_\_\_\_\_

Customer's Name		Registration No.	
		Registration Year	/ /
		Frame No.	
Date Vehicle Brought In	/ /	Odometer Reading	km Miles

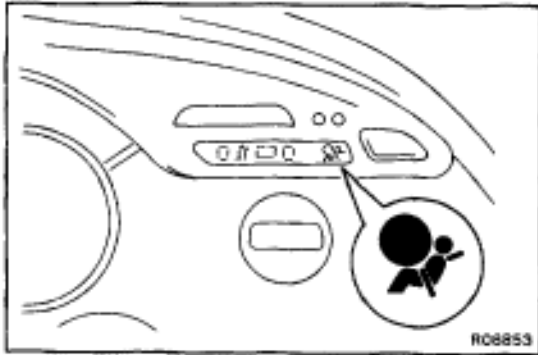
Date Problem First Occurred	/ /
Weather	• Fine • Cloudy • Rainy • Snowy • Other_____
Temperature	Approx. °C (°F)

Vehicle Operation	<ul style="list-style-type: none"> <li>• Starting                      • Idling</li> <li>• Driving [ • Constant speed • Acceleration • Deceleration</li> <li>   • Other_____ ]</li> </ul>
Road Conditions	
Details of Problem	

Vehicle Inspection, Repair History Prior to Occurrence of Malfunction (Including Supplemental Restraint System)	
---	--

### Diagnosis System Inspection

SRS Warning Light Inspection	1st Time	• Remains ON      • Sometimes Lights Up      • Does Not Light Up
	2nd Time	• Remains ON      • Sometimes Lights Up      • Does Not Light Up
Diagnostic Trouble Code Inspection	1st Time	• Normal Code      • Malfunction Code [Code                      ]
	2nd Time	• Normal Code      • Malfunction Code [Code.                      ]



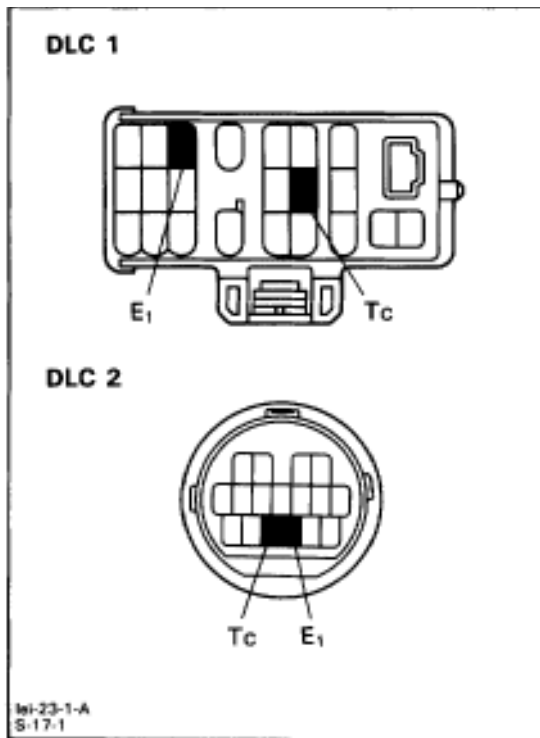
## DIAGNOSIS INSPECTION

### SRS warning light check

- (a) Turn the ignition switch to ACC or ON and check that the SRS warning light lights up.
- (b) Check that the SRS warning light goes out after approx. 6 seconds.

#### HINT:

- When the ignition switch is at ACC or ON and the SRS warning light remains on or flashes, the center airbag sensor assembly has detected a malfunction code.
- If, after approx. 6 seconds have elapsed, the SRS warning light sometimes lights up or the SRS warning light light up even when the ignition switch is OFF, a short in the SRS warning light circuit can be considered likely. Proceed to "SRS warning light system" on page [RS-97](#).



### Diagnostic trouble code check

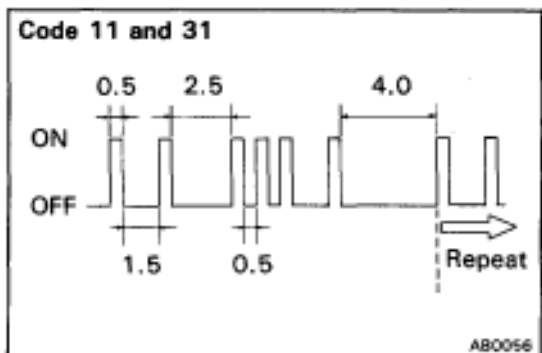
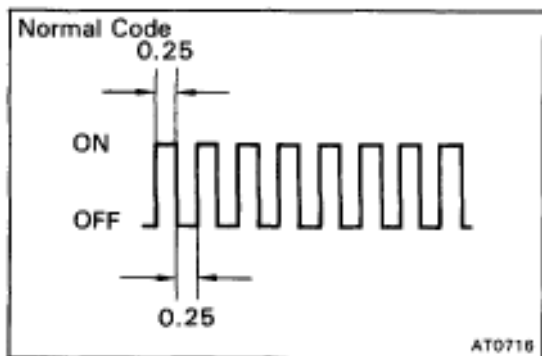
#### Using diagnosis check wire:

#### 1. OUTPUT DIAGNOSTIC TROUBLE CODE

- (a) Turn the ignition switch to ACC or ON position and wait approx. 20 seconds.
- (b) Using SST, connect terminals Tc and E<sub>1</sub> of the DLC1 or DLC2.

SST 09843-18020

**NOTICE:** Never make a mistake with the terminal connection position as this will cause a malfunction.



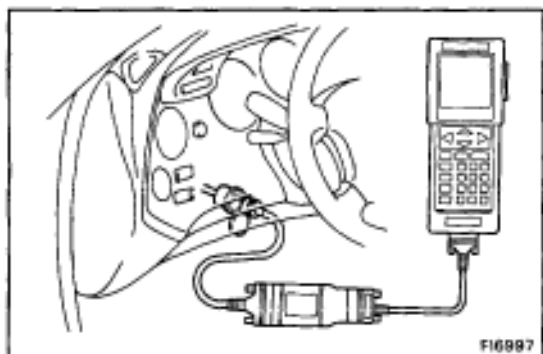
## 2. READ DIAGNOSTIC TROUBLE CODE

Read the 2-digit diagnostic trouble code as indicated by the number of times the SRS warning light blinks. As an example, the blinking patterns, normal, 11 and 31 are as shown on the illustration.

- Normal code indication  
The light will blink 2 times per second.
- Malfunction code indication  
The number represented by the first blinking code output indicates the first digit of a 2-digit diagnostic trouble output.  
After a 1.5 second pause, the second blinking code will indicate the second digit.  
If there are 2 or more codes, there will be a 2.5 second pause between each code. After all the codes have been output, there will be a 4.0 second pause and they will all be repeated.

### HINT:

- In the event of a number of trouble codes, indication will start from the smallest numbered code.
- If it does not output a diagnostic trouble code or outputs a diagnostic trouble code without terminal connection, proceed to the Tc terminal circuit inspection on page [RS-99](#).




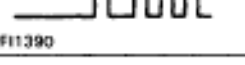

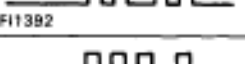

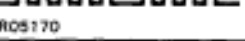




### Using TOYOTA hand-held tester:

- Hook up the TOYOTA hand-held tester to the DLC1 or DLC2.
- Read the diagnostic trouble codes by following the prompts on the tester screen.

HINT: Please refer to the TOYOTA hand-held tester operator's manual for further details.

## Diagnostic trouble codes

DTC No.	Blink Pattern	Diagnosis	Trouble Area	SRS Warning Light
*1 (Normal)	 F11401	<ul style="list-style-type: none"> <li>System normal</li> <li>Source voltage drop</li> </ul>	<ul style="list-style-type: none"> <li>Battery</li> <li>Center airbag sensor assembly</li> </ul>	OFF
11	 AB0057	<ul style="list-style-type: none"> <li>Short in squib circuit or front airbag sensor circuit (to ground)</li> <li>Front airbag sensor center airbag sensor assembly malfunction</li> </ul>	<ul style="list-style-type: none"> <li>Squib (driver airbag and front passenger airbag)</li> <li>Front airbag sensor</li> <li>Spiral cable</li> <li>Center airbag sensor assembly</li> <li>Wire harness</li> </ul>	ON
12	 F11389	<ul style="list-style-type: none"> <li>Short in squib circuit (to B+)</li> <li>Open in front airbag sensor circuits</li> </ul>	<ul style="list-style-type: none"> <li>Squib (driver airbag and front passenger airbag)</li> <li>Front airbag sensor</li> <li>Spiral cable</li> <li>Center airbag sensor assembly</li> <li>Wire harness</li> </ul>	ON
13	 F11390	<ul style="list-style-type: none"> <li>Short in driver airbag squib circuit (between D+ wire harness and D- wire harness)</li> </ul>	<ul style="list-style-type: none"> <li>Steering wheel pad (squib)</li> <li>Spiral cable</li> <li>Center airbag sensor assembly</li> <li>Wire harness</li> </ul>	ON
14	 F11391	<ul style="list-style-type: none"> <li>Open in driver airbag squib circuit</li> </ul>	<ul style="list-style-type: none"> <li>Steering wheel pad (squib)</li> <li>Spiral cable</li> <li>Center airbag sensor assembly</li> <li>Wire harness</li> </ul>	ON
15	 AB0058	<ul style="list-style-type: none"> <li>Open in front airbag sensor circuit</li> </ul>	<ul style="list-style-type: none"> <li>Front airbag sensor</li> <li>Center airbag sensor assembly</li> <li>Wire harness</li> </ul>	ON
*2 22	 F11392	<ul style="list-style-type: none"> <li>SRS warning light system malfunction</li> </ul>	<ul style="list-style-type: none"> <li>SRS warning light</li> <li>Center airbag sensor assembly</li> <li>Wire harness</li> </ul>	ON
31	 F11394	<ul style="list-style-type: none"> <li>Center airbag sensor assembly malfunction</li> </ul>	<ul style="list-style-type: none"> <li>Center airbag sensor assembly</li> </ul>	ON
53	 R05169	<ul style="list-style-type: none"> <li>Short in front passenger airbag squib circuit</li> </ul>	<ul style="list-style-type: none"> <li>Front passenger airbag assembly (squib)</li> <li>Center airbag sensor assembly</li> <li>Wire harness</li> </ul>	ON
54	 R05170	<ul style="list-style-type: none"> <li>Open in front passenger airbag squib circuit</li> </ul>	<ul style="list-style-type: none"> <li>Front passenger airbag assembly (squib)</li> <li>Center airbag sensor assembly</li> <li>Wire harness</li> </ul>	ON

## HINT:

\*1

- When the SRS warning light remains lit up and the diagnostic trouble code is the normal code, this means a source voltage drop. This malfunction is not stored in memory by the center airbag sensor assembly and if the power source voltage returns to normal, after approx. 10 seconds the SRS warning light will automatically go out.

\*2

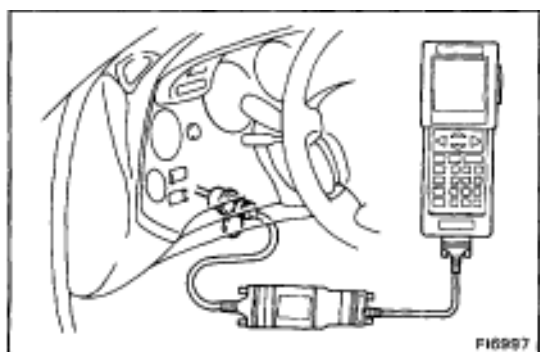
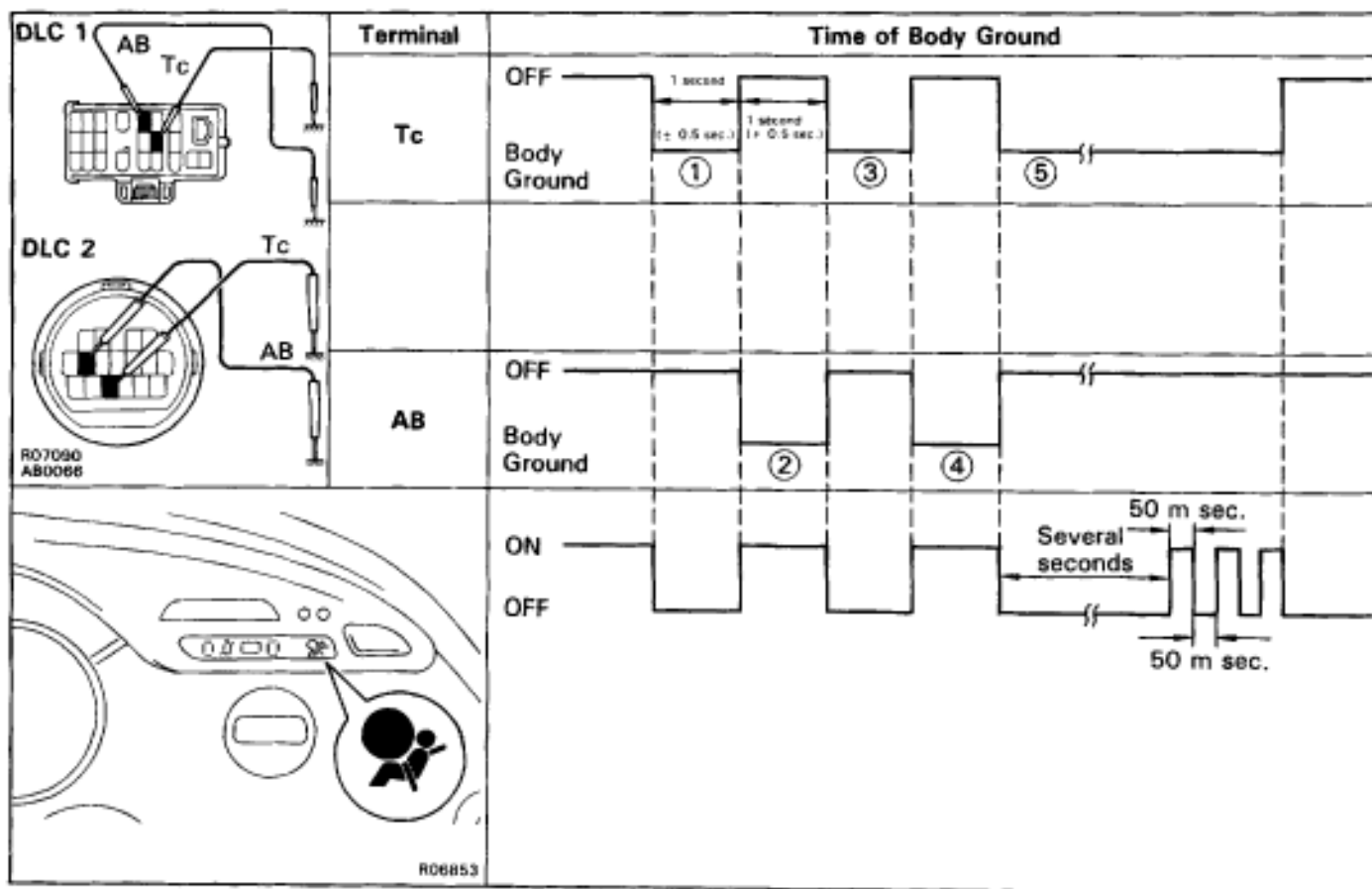
- Code 22 is recorded when a malfunction occurs in the SRS warning light system. If an open malfunction occurs in the SRS warning light system, the SRS warning light does not light up, so that until the malfunction is repaired, the diagnostic trouble codes (including code 22) cannot be confirmed.
- When 2 or more codes are indicated, the lowest numbered code will appear first.
- If a code not listed on the chart is displayed, the center airbag sensor assembly is faulty.

## Diagnostic trouble code clearance

### Using diagnosis check wire:

- Connect the 2 service wires to terminals Tc and AB of DLC1 or DLC2.
- Turn the ignition switch to ACC or ON and wait approx. 6 seconds.
- Starting with the Tc terminal, apply body ground alternately to terminal Tc and terminal AB twice each in cycles of 1.0 seconds. Confirm that body ground is absolute. Finally, keep applying body ground to terminal Tc.

HINT: When alternately grounding terminals Tc and AB, release ground from one terminal and immediately apply it to the other terminal within an interval of 0.2 second. If diagnostic trouble codes do not clear, repeat the above procedure until the codes are cleared.



- Several seconds after doing the clearing procedure, the SRS warning light will blink in a 50 m sec. cycle to indicate the codes have been cleared.

### Using TOYOTA hand-held tester:

- Hook up the TOYOTA hand-held tester to the DLC1 or DLC2.
- Clear the diagnostic trouble codes by following the prompts on the tester screen.

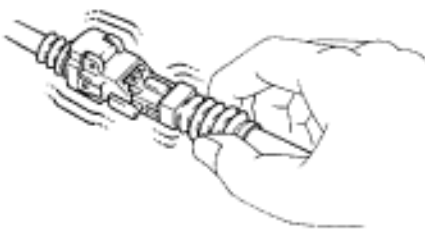
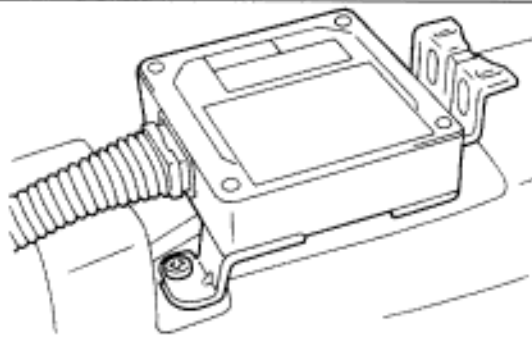
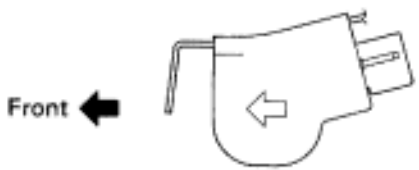
HINT: Please refer to the TOYOTA hand-held tester operator's manual for further details.

## SYMPTOM SIMULATION

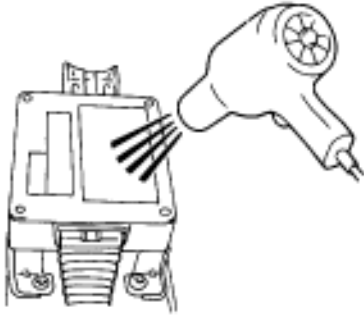
“Intermittent troubles or problems” are the malfunctions about which the customer has a complaint, but which do not occur and cannot be confirmed in the workshop. The intermittent problems also include complaints about the SRS warning light going on and off erratically.

The self-diagnostic system stores the circuit of the intermittent problem in memory even if the ignition switch is turned off.

For accurate diagnosis of the problems, ask the customer to obtain as much information as possible following the customer problem analysis check sheet (See page RS-43) and try to reproduce the intermittent problem. The problem simulation methods described below are the effective ways to reproduce the problem conditions by applying vibration, heat, and humidity.

1 <b>VIBRATION METHOD: When vibration seems to be the major cause.</b>	
 <p style="text-align: right; font-size: small;">AB0245</p>	<p><b>CONNECTORS</b> Slightly shake the connector vertically and horizontally.</p> <p>Inspection of connectors</p> <ul style="list-style-type: none"> <li>(a) Does the wire harness connecting with its corresponding part have insufficient slack?</li> <li>(b) Are the terminals dirty?</li> <li>(c) Are the terminals making loose contact due to terminals spread?</li> </ul>
 <p style="text-align: right; font-size: small;">RO6852</p>	<p><b>WIRE HARNESS</b> Slightly shake the wire harness vertically and horizontally. Thoroughly check the connector joint, the fulcrum of the vibration and the wiring opening in the engine/passenger compartment panel.</p>
 <p style="text-align: right; font-size: small;">AB0332</p>	<p><b>PARTS AND SENSORS</b> Gently tap the part or sensor considered to be the problem caused and check if the malfunction will occur. <b>CAUTION: Do not apply vibration to the center airbag sensor assembly.</b></p>



**2****HEAT METHOD:** When the problem seems to occur when the suspect area is heated.

R06854

Heat the component that is likely the cause of the malfunction with a hair dryer or similar object. Check to see if the malfunction will occur.

**NOTICE:**

- Do not heat to more than 60°C (140°F) (Temperature limit that the component can be touched with a hand.).
- Do not apply heat directly to any part in the ECU.

**3****WATER SPRINKLING METHOD:** When the malfunction seems to occur on a rainy day or in a high-humidity condition.

R06855

Sprinkle water onto the vehicle and check to see if the malfunction will occur.

**NOTICE:** Never apply water directly onto the electronic components.

**HINT:**

- If the vehicle leaks water, the water may contaminate the ECU. When testing a vehicle with a water leakage problem, special caution must be paid.

**4****OTHER:** When the malfunction seems to occur when electrical load is excessive.

AB0234

Turn on all electrical loads including the heater blower, headlights, rear window defogger, etc. and check to see if the malfunction will occur.

## DIAGNOSTIC TROUBLE CODE MATRIX CHART

If a malfunction code is displayed during the diagnostic trouble code check, check the circuit listed for that code in the table below (Proceed to the page given for that circuit.).

DTC No.	Diagnosis	Page
(Normal)* <sup>1</sup>	<ul style="list-style-type: none"> <li>• Source voltage drop</li> </ul>	RS-52
11	<ul style="list-style-type: none"> <li>• Short in squib circuit or front airbag sensor circuit (to ground)</li> <li>• Front airbag sensor or center airbag sensor assembly malfunction</li> </ul>	RS-54
12	<ul style="list-style-type: none"> <li>• Short in squib circuit (to B+)</li> <li>• Open in front airbag sensor circuits</li> </ul>	RS-60
13	<ul style="list-style-type: none"> <li>• Short in D squib circuit (between D<sup>+</sup> wire harness and D<sup>-</sup> wire harness)</li> </ul>	RS-66
14	<ul style="list-style-type: none"> <li>• Open in D squib circuit</li> </ul>	RS-73
15	<ul style="list-style-type: none"> <li>• Open in front airbag sensor circuit</li> </ul>	RS-78
22* <sup>2</sup>	<ul style="list-style-type: none"> <li>• SRS warning light system malfunction</li> </ul>	RS-82
31	<ul style="list-style-type: none"> <li>• Center airbag sensor assembly malfunction</li> </ul>	RS-86
53	<ul style="list-style-type: none"> <li>• Short in P squib circuit</li> </ul>	RS-87
54	<ul style="list-style-type: none"> <li>• Open in P squib circuit</li> </ul>	RS-92

### HINT:

\*<sup>1</sup> When the SRS warning light remains lit up and the diagnostic trouble code is the normal code, this means a source voltage drop.

\*<sup>2</sup> Code 22 is recorded when a malfunction occurs in the SRS warning light system.

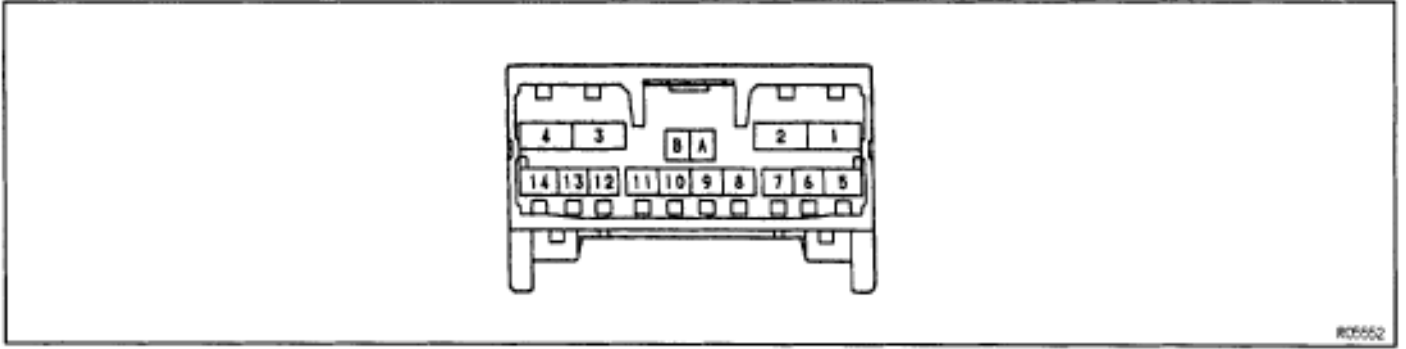
If an open malfunction occurs in the SRS warning light system, the SRS warning light does not light up, so that until the malfunction is repaired, the diagnostic trouble codes (including code 22) cannot be confirmed.

## PROBLEM SYMPTOM CHART

Proceed with troubleshooting of each circuit in the table below.

Problem Symptom	Inspection Item	Page
<ul style="list-style-type: none"> <li>• With the ignition switch at ACC or ON, the SRS warning light sometimes lights up after approx. 6 seconds have elapsed.</li> <li>• SRS warning light is always lit up even when ignition switch is in the LOCK position.</li> </ul>	<ul style="list-style-type: none"> <li>• SRS warning light system ( Always lit up, when ignition switch is in LOCK position. )</li> </ul>	RS-96
<ul style="list-style-type: none"> <li>• Diagnostic trouble code not displayed.</li> <li>• SRS warning light is always lit up with the DTC check procedure.</li> <li>• Diagnostic trouble code displayed without Tc and E<sub>1</sub> terminal correction.</li> </ul>	<ul style="list-style-type: none"> <li>• Tc terminal circuit</li> </ul>	RS-98

## CENTER AIRBAG SENSOR ASSEMBLY CONNECTOR



No.	Symbol	Terminal Name
A	—	Electrical Connection Check Mechanism
B	—	Electrical Connection Check Mechanism
1	P <sup>-</sup>	Squib ⊖ (Front Passenger)
2	P <sup>+</sup>	Squib ⊕ (Front Passenger)
3	D <sup>+</sup>	Squib ⊕ (Driver)
4	D <sup>-</sup>	Squib ⊖ (Driver)
5	E <sub>1</sub>	Ground
6	E <sub>2</sub>	Ground
7	T <sub>c</sub>	Diagnosis
8	+SL	Front Airbag Sensor LH ⊕
9	-SL	Front Airbag Sensor LH ⊖
10	-SR	Front Airbag Sensor RH ⊖
11	+SR	Front Airbag Sensor RH ⊕
12	LA	SRS Warning Light
13	IG <sub>2</sub>	Power Source (IGN Fuse)
14	ACC	Power Source (CIG Fuse)

## CIRCUIT INSPECTION

### DTC (Normal) Source Voltage Drop

#### CIRCUIT DESCRIPTION

The SRS is equipped with a voltage-increase circuit (DC-DC converter) in the center airbag sensor assembly in case the source voltage drops.

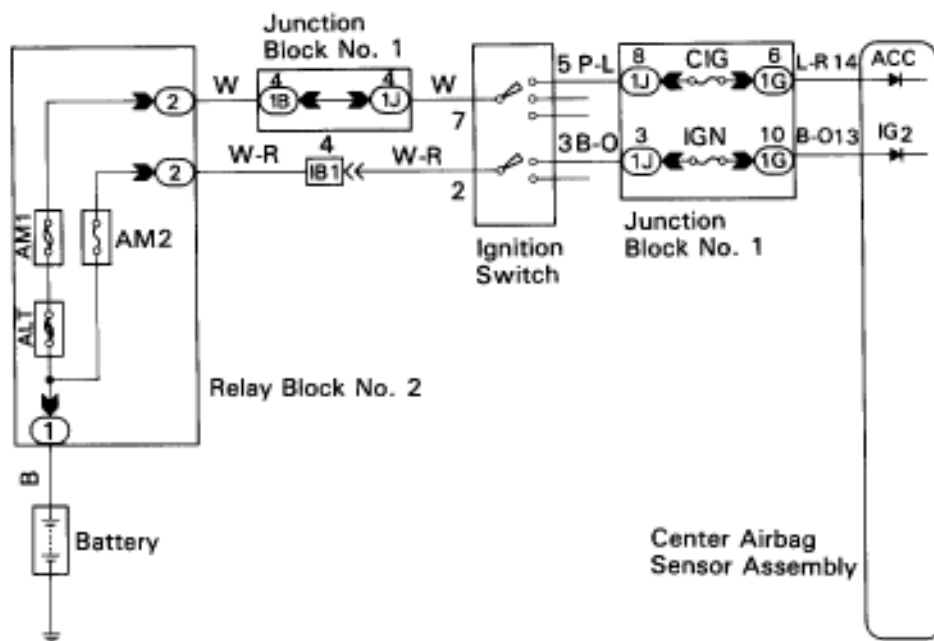
When the battery voltage drops, the voltage-increase circuit (DC-DC converter) functions to increase the voltage of the SRS to normal voltage.

The diagnostic system malfunction display for this circuit is different to other circuits—when the SRS warning light remains lit up and the diagnostic trouble code is a normal code, voltage source drop is indicated.

Malfunction in this circuit is not recorded in the center airbag sensor assembly, and the voltage source returns to normal, after approx. 10 seconds the SRS warning light automatically goes off.

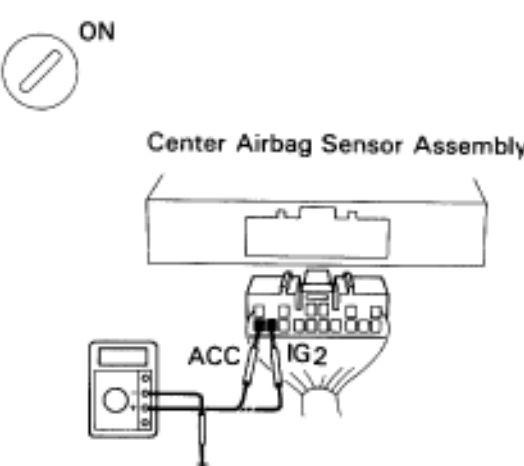
DTC No.	Diagnosis
(Normal)	Voltage source drop.

#### WIRING DIAGRAM




# INSPECTION PROCEDURES

[P] Preparation [C] Check

<b>1</b>	<b>Preparation.</b>
<div style="text-align: center;">  <p style="text-align: center;">Center Airbag Sensor Assembly</p> </div> <p style="font-size: small; margin-top: 10px;">AB0119 R05262</p>	<p><b>P</b></p> <ol style="list-style-type: none"> <li>(1) Turn ignition switch to LOCK.</li> <li>(2) Disconnect center airbag sensor assembly connector.</li> <li>(3) Turn ignition switch ON. But do not start engine.</li> <li>(4) Measure voltage at IG<sub>2</sub> or ACC on connector wire harness side of center airbag sensor assembly and operate electric system (defogger, wiper, headlight, heater blower, etc.). Voltage: 6 V — 11.5 V at IG<sub>2</sub> and ACC.</li> <li>(5) Turn electric system switch OFF.</li> <li>(6) Turn ignition switch to LOCK.</li> <li>(7) Remove voltmeter and connect center sensor assembly connector.</li> </ol>



<b>2</b>	<b>Does SRS warning light turn off?</b>
<div style="text-align: center;">  </div> <p style="font-size: small; margin-top: 10px;">AB0119 AB0234</p>	<p><b>P</b> Turn ignition switch ON.</p> <p><b>C</b> Operate electric system checked in [1] (4) and check that SRA warning light goes off.</p> <p style="margin-top: 10px;">Turn ignition switch ON.</p>
<b>YES</b>	<p><b>NO</b> Check diagnostic trouble code, and if a malfunction code is output, perform troubleshooting according to malfunction code. If a normal code is output, replace center airbag sensor assembly.</p>

**Check battery and charging system.  
(See charging system section)**

## DTC 11 Short in Squib Circuit or Front Airbag Sensor Circuit (to Ground)

### CIRCUIT DESCRIPTION

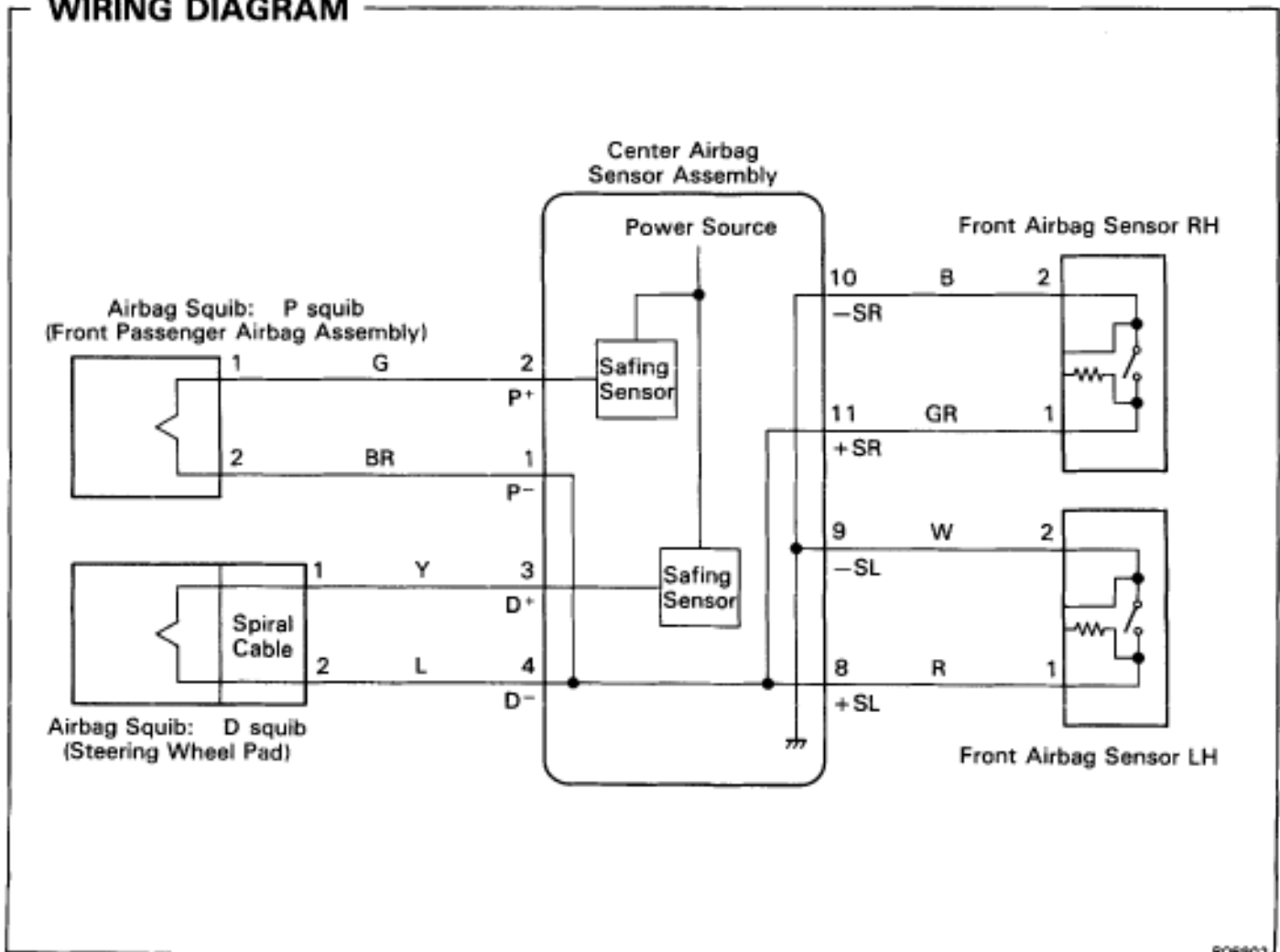
The squib circuit consists of the center airbag sensor assembly, spiral cable, steering wheel pad and front passenger airbag assembly. It causes the SRS to deploy when the SRS deployment conditions are satisfied. The front airbag sensor detects the deceleration force in a frontal collision and is located in the front fender on the left and right sides.

For details of the function of each component see FUNCTION OF COMPONENTS on page RS-4.

Diagnostic trouble code 11 is recorded when ground short is detected in the squib circuit or front airbag sensor circuit.

DTC No.	Diagnosis
11	<ul style="list-style-type: none"> <li>• Short circuit in squib wire harness (to ground).</li> <li>• Squib malfunction.</li> <li>• Short circuit in front airbag sensor + S wire harness (to ground).</li> <li>• Front airbag sensor malfunction.</li> <li>• Short circuit between + S wire harness and – S wire harness of front airbag sensor.</li> <li>• Spiral cable malfunction.</li> <li>• Center airbag sensor assembly malfunction.</li> </ul>

### WIRING DIAGRAM

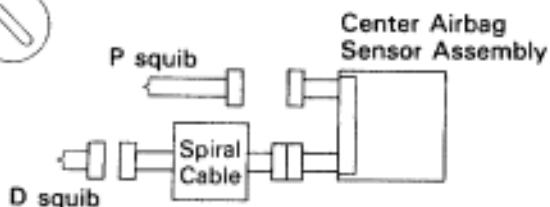


## INSPECTION PROCEDURES

[P] Preparation [C] Check

**1** Preparation.

LOCK

AB0117  
R05902

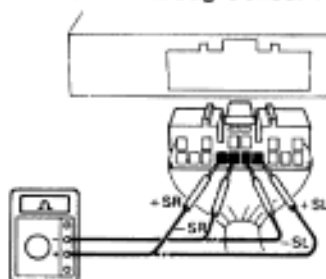
- P** (1) Disconnect negative (-) terminal cable from the battery, and wait at least 90 seconds.  
 (2) remove steering wheel pad (See page RS-10).  
 (3) Disconnect connector of front passenger airbag assembly (See page RS-20).

**Caution**

Store the steering wheel pad with the front surface facing upward.

**2** Check front airbag sensor circuit. (Measure resistance between terminals +SR and -SR, +SL and -SL of center airbag sensor assembly connector.)

Center Airbag Sensor Assembly



R05264

- P** Disconnect center airbag sensor assembly connector.

- C** Measure resistance between terminals +SR and -SR, +SL and -SL of harness side connector of center airbag sensor assembly.

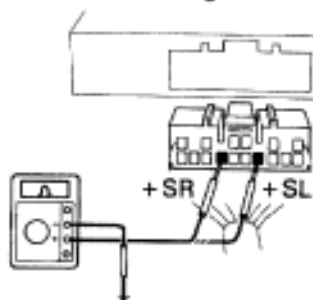
**OK** Resistance: 744  $\Omega$  — 885  $\Omega$

OK

**NG** Go to step **9**.

**3** Check front airbag sensor circuit. (Measure resistance between terminals +SR, +SL of center airbag sensor assembly connector and body ground.)

Center Airbag Sensor Assembly



R05265

- C** Measure resistance between terminals +SR, +SL of harness side connector of center airbag sensor assembly and body ground.

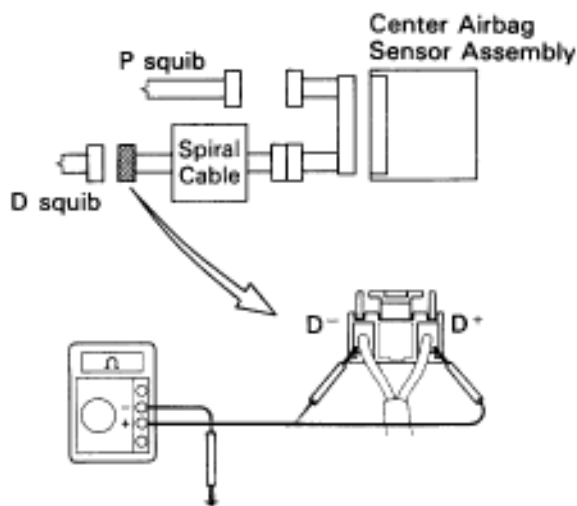
**OK** Resistance: 1 M $\Omega$  Higher

OK

**NG** Repair or replace harness or connector between center airbag sensor assembly and front airbag sensor.

4

## Check D squib circuit.

R05884  
AB0070

**C** For the connector (on the spiral cable side) between the spiral cable and steering wheel pad, measure the resistance between D<sup>+</sup>, D<sup>-</sup> and body ground.

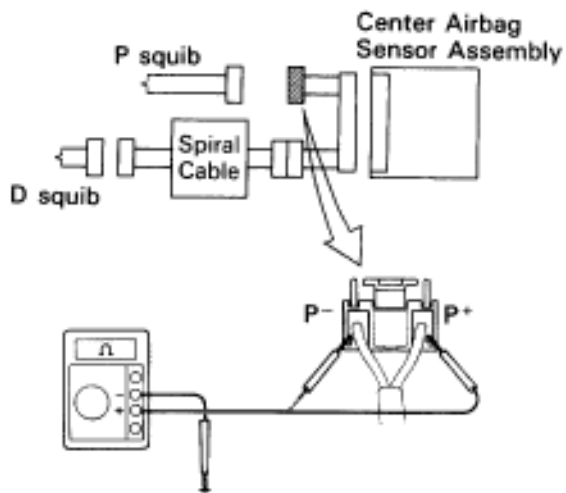
**OK** Resistance: 1 MΩ or Higher

OK

**NG** Go to step **10**.

5

## Check P squib circuit.

R05898  
AB0070

**C** For the connector (on the center airbag sensor assembly side) between the center airbag sensor assembly and front passenger airbag assembly, measure the resistance between P<sup>+</sup>, P<sup>-</sup> and body ground.

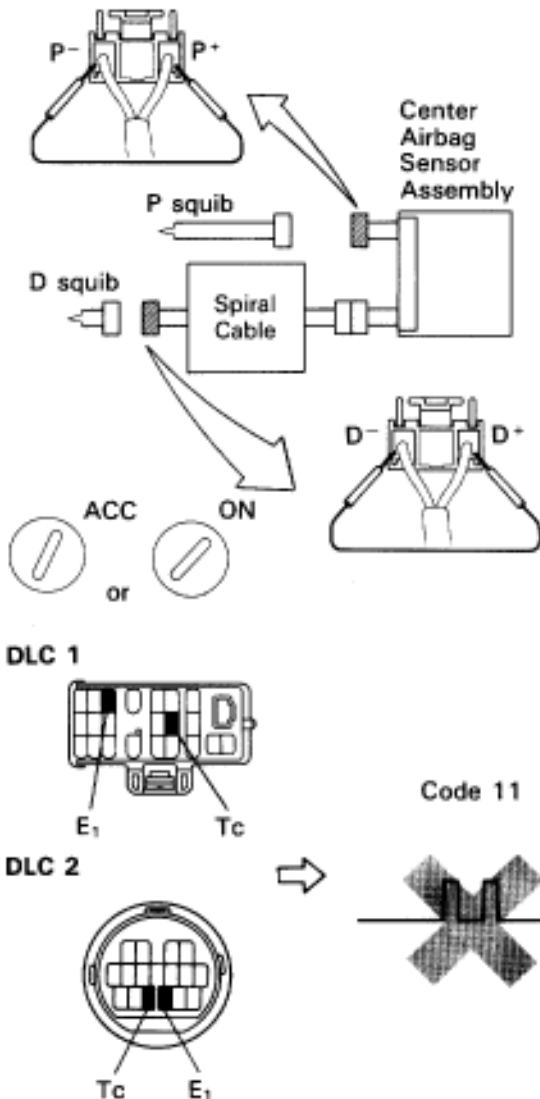
**OK** Resistance: 1 MΩ or Higher

OK

**NG** Repair or replace harness or connector between center airbag sensor assembly and front airbag sensor.



## 6 Check center airbag sensor assembly.



AB0069  
 AB0069 RO6907  
 AB0118 AB0119  
 Iw-23-1-A AB0057  
 S-17.1

- P**
- (1) Connect connector to center airbag sensor assembly.
  - (2) Using a service wire, connect D<sup>-</sup> and D<sup>-</sup> on spiral cable side of connector between spiral cable and steering wheel pad.
  - (3) Using a service wire, connect P<sup>+</sup> and P<sup>-</sup> on center airbag sensor assembly side of connector between center airbag sensor assembly and front passenger airbag assembly.
  - (4) Connect negative(-) terminal cable to battery, and wait at least 2 seconds.
- C**
- (1) Turn ignition switch to ACC or ON and wait at least 20 seconds.
  - (2) Clear malfunction code stored in memory (See page RS-47)
  - (3) Turn ignition switch to LOCK, and wait at least 20 seconds.
  - (4) Turn ignition switch to ACC or ON, and wait at least 20 seconds.
  - (5) Using SST, connect terminals Tc and E<sub>1</sub> of DLC1 or DLC2.  
 SST 09843-18020
  - (6) Check diagnostic trouble code.

**OK** Diagnostic trouble code 11 is not output.

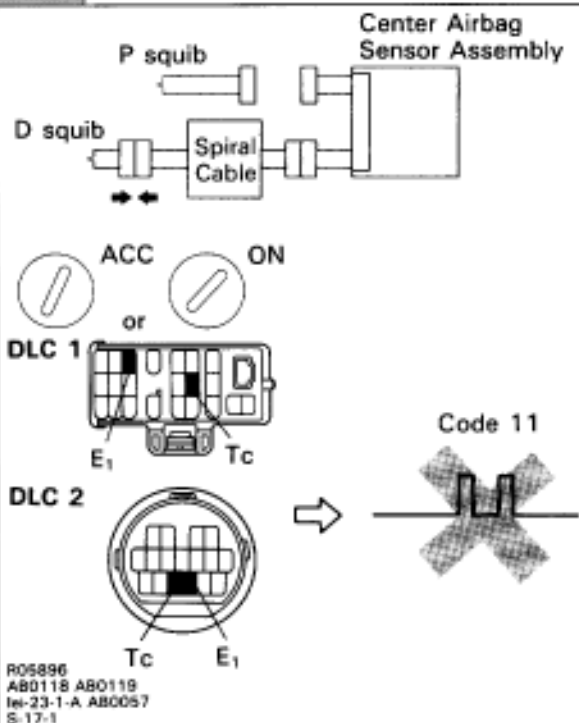
**Hint** Codes other than code 11 may be output at this time, but they are not relevant to this check.

**OK**

**NG** Replace center airbag sensor assembly.

7

## Check D squib.



OK

- P**
- Turn ignition switch to LOCK.
  - Disconnect negative (-) terminal cable from the battery, and wait at least 90 seconds.
  - Connect steering wheel pad connector.
  - Connect negative(-) terminal cable to battery, and wait at least 2 seconds.

- C**
- Turn ignition switch to ACC or ON and wait at least 20 seconds.
  - Clear malfunction code stored in memory. (See page RS-47)
  - Turn ignition switch to LOCK, and wait at least 20 seconds.
  - Turn ignition switch to ACC or ON, and wait at least 20 seconds.
  - Using SST, connect terminals Tc and E<sub>1</sub> of DLC1 or DLC2.  
SST 09843-18020
  - Check diagnostic trouble code.

**OK** Diagnostic trouble code 11 is not output.

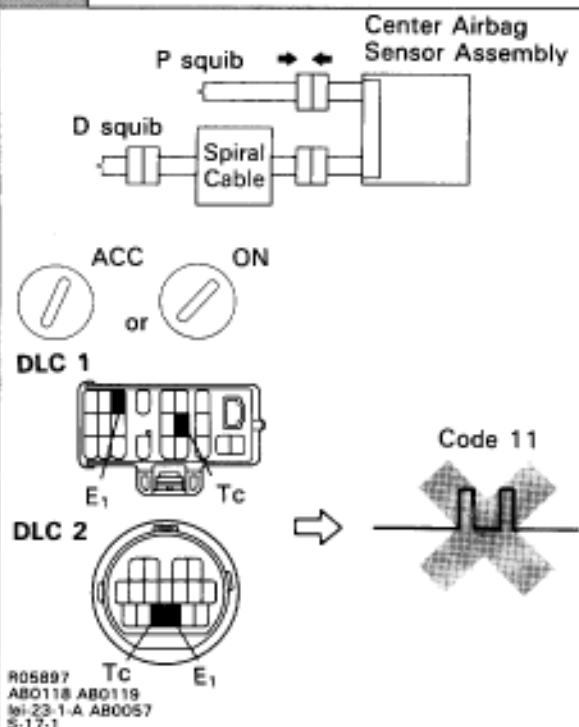
**Hint** Codes other than code 11 may be output at this time, but they are not relevant to this check.

NG

Replace steering wheel pad.

8

## Check P squib.



OK

- P**
- Turn ignition switch to LOCK.
  - Disconnect negative (-) terminal cable from the battery, and wait at least 90 seconds.
  - Connect front passenger airbag assembly connector.
  - Connect negative(-) terminal cable to battery, and wait at least 2 seconds.

- C**
- Turn ignition switch to ACC or ON and wait at least 20 seconds.
  - Clear malfunction code stored in memory. (See page RS-47)
  - Turn ignition switch to LOCK, and wait at least 20 seconds.
  - Turn ignition switch to ACC or ON, and wait at least 20 seconds.
  - Using SST, connect terminals Tc and E<sub>1</sub> of DLC1 or DLC2.  
SST 09843-18020
  - Check diagnostic trouble code.

**OK** Diagnostic trouble code 11 is not output.

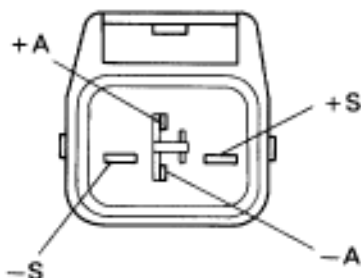
**Hint** Codes other than code 11 may be output at this time, but they are not relevant to this check.

NG

Replace front passenger airbag assembly.

From the results of the above inspection, the malfunctioning part can now be considered normal. To make sure of this, use the simulation method to check. If the malfunctioning part cannot be detected by the simulation method, replace all SRS components including the wire harness.

## 9 Check front airbag sensor.



AB0034

- P** Disconnect front airbag sensor connector.
- C** Measure resistance between each terminal of front airbag sensor.

Terminal	Resistance
⊕ S - ⊕ A	755 Ω - 885 Ω
⊕ S - ⊖ S	1 MΩ or Higher
⊖ S - ⊖ A	Less than 1 Ω

### Notice

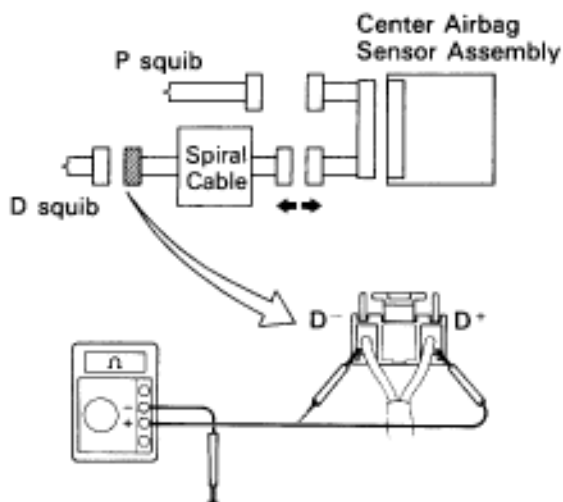
- Do not press ohmmeter probes too strongly against terminals of front airbag sensor.
- Make sure the front airbag sensor connector is properly connected.

OK

**NG** Replace front airbag sensor.

Repair or replace harness or connector between center airbag sensor assembly and front airbag sensor (See page RS-36).

## 10 Check spiral cable.

R05899  
AB0070

- P** Disconnect connector between center airbag sensor assembly and spiral cable.

- C** Measure resistance between D+, D- on spiral cable side of connector between spiral cable and steering wheel pad and body ground.

**OK** Resistance: 1 MΩ or Higher

OK

**NG** Repair or replace spiral cable.

Repair or replace harness or connector between center airbag sensor assembly and spiral cable.

## DTC 12 Short in Squib Circuit (to B+)

### CIRCUIT DESCRIPTION

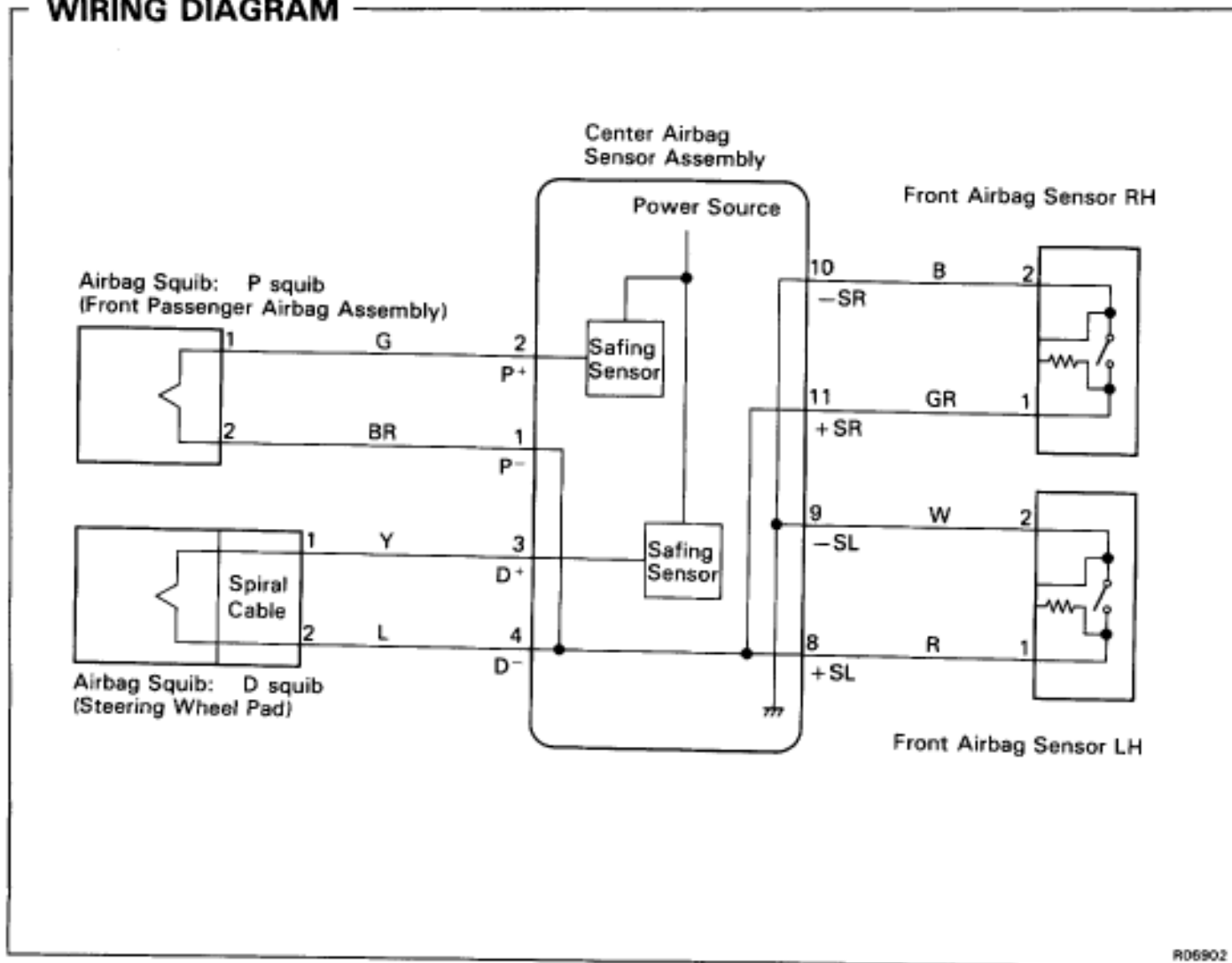
The squib circuit consists of the center airbag sensor assembly, spiral cable, steering wheel pad and front passenger airbag assembly. It causes the SRS to deploy when the SRS deployment conditions are satisfied. The front airbag sensor detects the deceleration force in a frontal collision and is located in the front fender on the left and right sides.

For details of the function of each component, see FUNCTION OF COMPONENTS on page RS-4.

Diagnostic trouble code 12 is recorded when a B+ short is detected in the squib circuit or the front airbag sensor circuit.


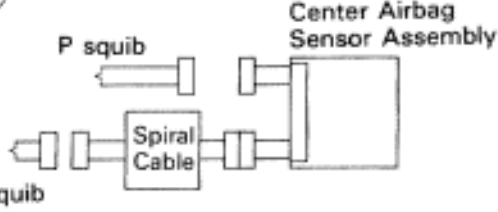
DTC No.	Diagnosis
12	<ul style="list-style-type: none"> <li>• Short circuit in squib wire harness (to B +).</li> <li>• Squib malfunction.</li> <li>• Short circuit in front airbag sensor + S wire harness (to B +).</li> <li>• Front airbag sensors malfunction.</li> <li>• Spiral cable malfunction.</li> <li>• Center airbag sensor assembly malfunction.</li> </ul>

### WIRING DIAGRAM

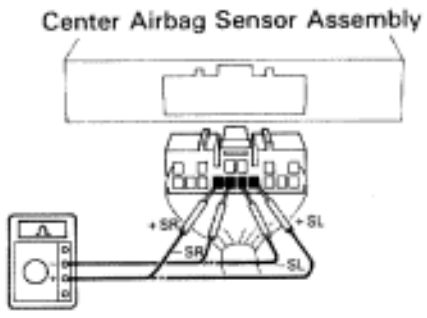


# INSPECTION PROCEDURES


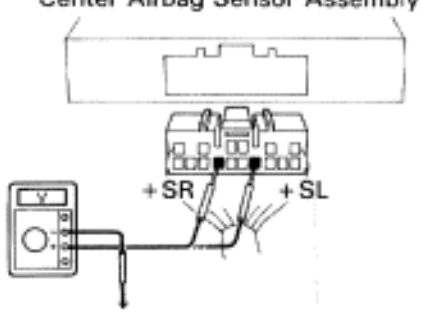
[P] Preparation [C] Check

<b>1</b>	<b>Preparation.</b>	
<p>LOCK</p>   <p style="font-size: small;">AB0117 R05902</p>	<p><b>P</b> (1) Disconnect negative (-) terminal cable from the battery, and wait at least 90 seconds. (2) Remove steering wheel pad (See page RS-10). (3) Disconnect connector of front passenger airbag assembly (See page RS-20).</p> <p><b>Caution</b> Store the steering wheel pad with the front surface facing upward.</p>	



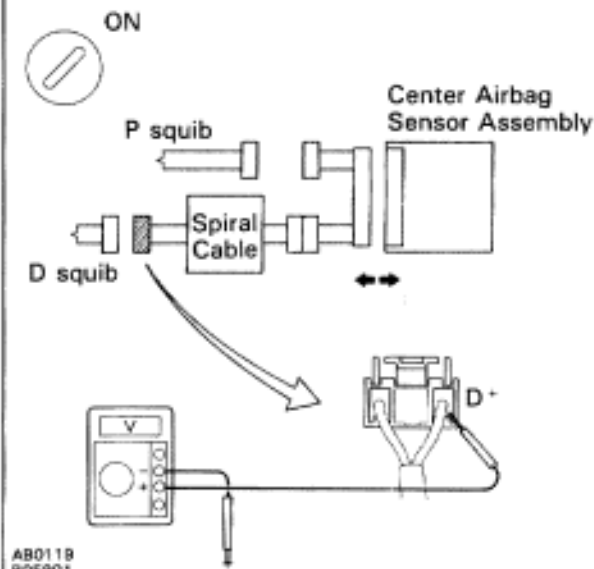
<b>2</b>	<b>Check front airbag sensor circuit. (Measure resistance between terminals +SR and -SR, +SL and -SL of center airbag sensor assembly connector.)</b>	
 <p style="font-size: small;">R05264</p>	<p><b>P</b> Disconnect center airbag sensor assembly connector.</p> <p><b>C</b> Measure resistance between terminals +SR and -SR, +SL and -SL of harness side connector of center airbag sensor assembly.</p> <p><b>OK</b> Resistance: 755 — 855</p>	
<b>OK</b>	<b>NG</b>	Go to code 15.



<b>3</b>	<b>Check front airbag sensor circuit. (Measure resistance between terminals +SR or +SL of center airbag sensor assembly connector and body ground.)</b>	
<p>ON</p>   <p style="font-size: small;">ABD119 R05265</p>	<p><b>P</b> (1) Connect negative (-) terminal cable to battery. (2) Turn ignition switch ON.</p> <p><b>C</b> Measure voltage between terminals +SR or +SL of harness side connector of center airbag sensor assembly and body ground.</p> <p><b>OK</b> Voltage: 0 — 0.1 V</p>	
<b>OK</b>	<b>NG</b>	Repair or replace harness or connector between center airbag sensor assembly and front airbag sensor (See page RS-36).



#### 4 Check D squib circuit.



**P** Disconnect center airbag sensor assembly connector.

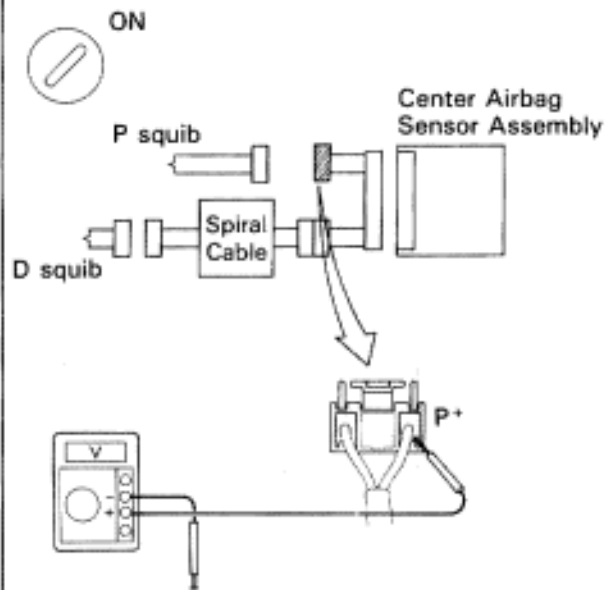
**C** For the connector (on the spiral cable side) between the spiral cable and steering wheel pad, measure the voltage between D<sup>+</sup> and body ground.

**OK** Voltage: 0 V

OK

NG Go to step **9**.

#### 5 Check P squib circuit.



**C** For the connector for the center airbag sensor assembly side) between center airbag sensor assembly and front passenger airbag assembly, measure the voltage between P<sup>+</sup> and body ground.

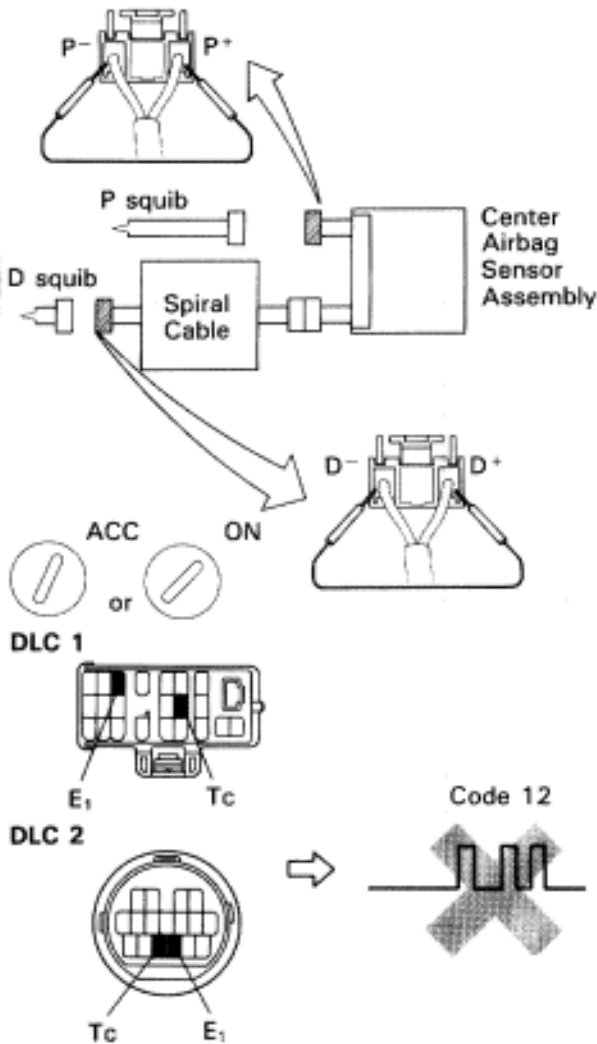
**OK** Voltage: 0 V

OK

NG Repair or replace harness or connector between the center airbag sensor assembly and front passenger airbag sensor assembly.

6

Check center airbag sensor assembly.



A80069  
 A80069 R06907  
 A80118 A80119  
 M-23-1-A FI1389  
 5-17-1

- P**
- (1) Turn ignition switch to LOCK.
  - (2) Disconnect negative (-) terminal cable from the battery.
  - (3) Connect connector to center airbag sensor assembly.
  - (4) Using a service wire, connect P+ and P- on center airbag sensor assembly side of connector between center airbag sensor assembly and from passenger airbag assembly.
  - (5) Using a service wire, connect P+ and P- on center airbag sensor assembly side of connector between center airbag sensor assembly and front passenger airbag assembly.
  - (6) Connect negative (-) terminal cable to battery, and wait at least 2 seconds.

- C**
- (1) Turn ignition switch to ACC or ON and wait at least 20 seconds.
  - (2) Clear malfunction code stored in memory. (See page RS-47)
  - (3) Turn ignition switch to LOCK, and wait at least 20 seconds.
  - (4) Turn ignition switch to ACC or ON, and wait at least 20 seconds.
  - (5) Using SST, connect terminals Tc and E1 of DLC1 or DLC2.
- SST 09843-18020
- (6) Check diagnostic trouble code.

**OK** Diagnostic trouble code 12 is not output.

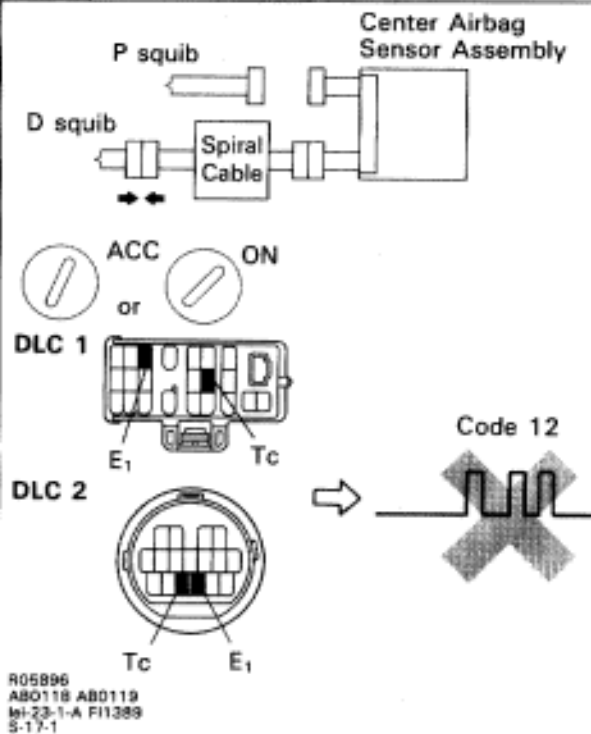
**Hint** Codes other than code 12 may be output at this time, but they are not relevant to this check.

OK

**NG** Replace center airbag sensor assembly.



## 7 Check D squib.



- P**
- Turn ignition switch to LOCK.
  - Disconnect negative (-) terminal cable from the battery, and wait at least 90 seconds.
  - Connect steering wheel pad connector.
  - Connect negative (-) terminal cable to battery, and wait at least 2 seconds.
- C**
- Turn ignition switch to ACC or ON and wait at least 20 seconds.
  - Clear malfunction code stored in memory. (See page RS-47)
  - Turn ignition switch to LOCK, and wait at least 20 seconds.
  - Turn ignition switch to ACC or ON, and wait at least 20 seconds.
  - Using SST, connect terminals Tc and E<sub>1</sub> of DLC1 or DLC2. SST 09843-18020
  - Check diagnostic trouble code.

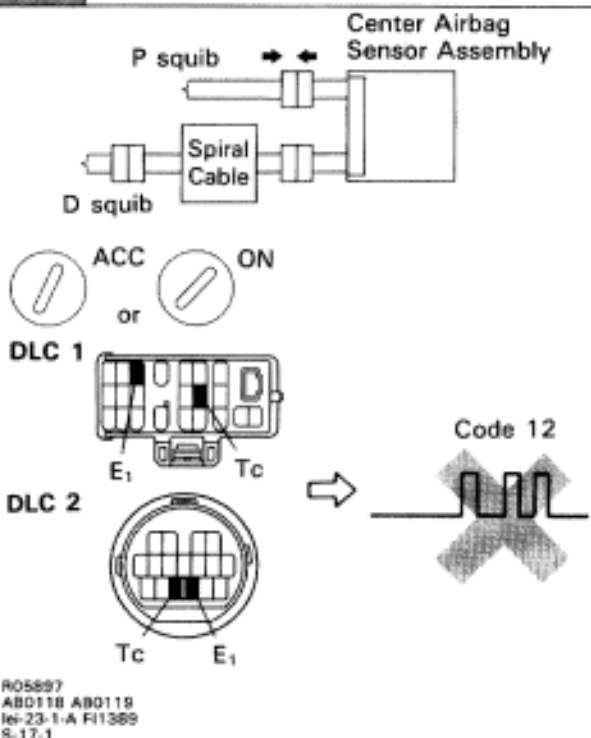
**OK** Diagnostic trouble code 12 is not output.

**Hint** Codes other than code 12 may be output at this time, but they are not relevant to this check.

**OK**

**NG** Replace steering wheel pad.

## 8 Check D squib.



- P**
- Turn ignition switch to LOCK.
  - Disconnect negative (-) terminal cable from the battery, and wait at least 90 seconds.
  - Connect front passenger airbag assembly connector.
  - Connect negative (-) terminal cable to battery, and wait at least 2 seconds.

- C**
- Turn ignition switch to ACC or ON and wait at least 20 seconds.
  - Clear malfunction code stored in memory. (See page RS-47)
  - Turn ignition switch to LOCK, and wait at least 20 seconds.
  - Turn ignition switch to ACC or ON, and wait at least 20 seconds.
  - Using SST, connect terminals Tc and E<sub>1</sub> of DLC1 or DLC2. SST 09843-18020
  - Check diagnostic trouble code.

**OK** Diagnostic trouble code 12 is not output.

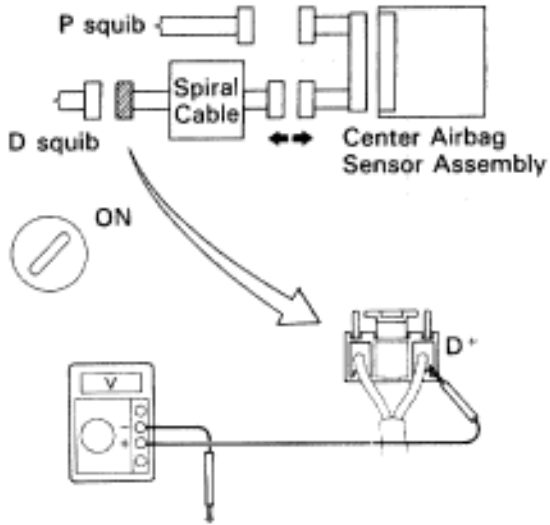
**Hint** Codes other than code 12 may be output at this time, but they are not relevant to this check.

**OK**

**NG** Replace front passenger airbag assembly.



From the results of the above inspection, the malfunctioning part can now be considered normal. To make sure of this, use the simulation method to check.

**9****Check spiral cable.**

R05699  
AB0119 AB0067

- P**
- (1) Turn ignition switch to LOCK.
  - (2) Disconnect connector between center airbag sensor assembly and spiral cable.
  - (3) Turn ignition switch ON.

**C** Measure voltage at D+ on spiral cable side of connector between spiral cable and steering wheel pad.

**OK** Voltage: 0 V

**OK****NG****Repair or replace spiral cable.**

**Repair or replace harness or connector between center airbag sensor assembly and spiral cable.**

## DTC 13 Short in D Squib Circuit (Between D<sup>+</sup> Wire Harness and D<sup>-</sup> Wire Harness)

### CIRCUIT DESCRIPTION

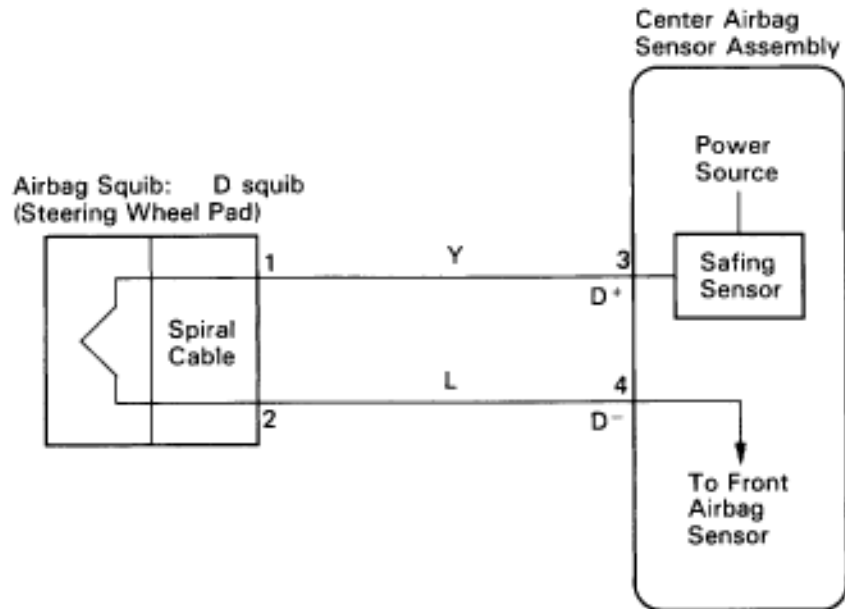
The D squib circuit consists of the center airbag sensor assembly, spiral cable and steering wheel pad. It causes the airbag to deploy when the airbag deployment conditions are satisfied.

For details of the function of each component, see FUNCTION OF COMPONENTS on page RS-4.

Diagnostic trouble code 13 is recorded when a short is detected in the D<sup>+</sup> wire harness and D<sup>-</sup> wire harness of the squib circuit.

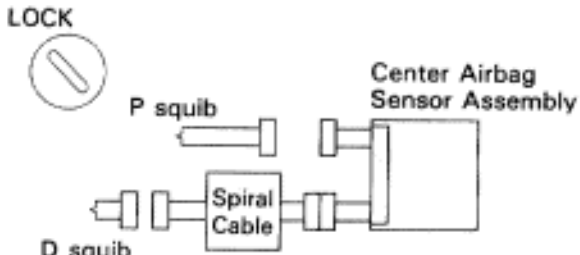
DTC No.	Diagnosis
13	<ul style="list-style-type: none"> <li>• Short circuit between D<sup>+</sup> wire harness and D<sup>-</sup> wire harness of squib.</li> <li>• D squib malfunction.</li> <li>• Spiral cable malfunction.</li> <li>• Center airbag sensor assembly malfunction.</li> </ul>

### WIRING DIAGRAM

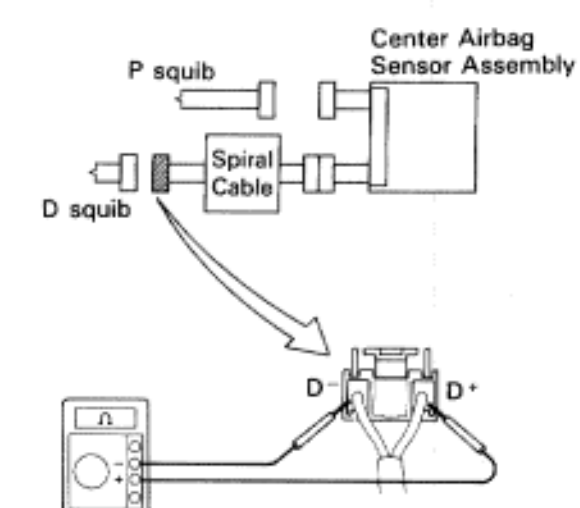


# INSPECTION PROCEDURES

[P] Preparation [C] Check

<b>1</b>	<b>Preparation.</b>	
<p><b>LOCK</b></p>  <p>P squib</p> <p>Center Airbag Sensor Assembly</p> <p>Spiral Cable</p> <p>D squib</p> <p>AB0117 R05902</p>	<p><b>P</b></p> <ol style="list-style-type: none"> <li>(1) Disconnect negative (-) terminal cable from the battery, and wait at least 90 seconds.</li> <li>(2) Remove steering wheel pad (See page RS-10).</li> <li>(3) Disconnect connector of front passenger airbag assembly (See page RS-20).</li> </ol> <p><b>Caution</b></p> <p><b>Store the steering wheel pad with the front surface facing upward.</b></p>	



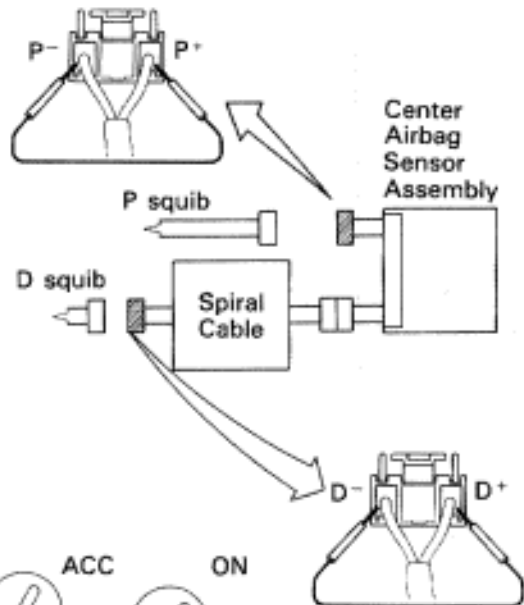
<b>2</b>	<b>Check D squib circuit.</b>	
 <p>P squib</p> <p>Center Airbag Sensor Assembly</p> <p>Spiral Cable</p> <p>D squib</p> <p>D-</p> <p>D+</p> <p>R05902 AB0068</p>	<p><b>C</b> For the connector (on the spiral cable side) between the spiral cable and steering wheel pad, measure the resistance between D<sup>+</sup> and D<sup>-</sup>.</p> <p><b>OK</b> Resistance: 1 k or higher.</p>	



<b>NG</b>	<b>Go to step 5 .</b>
-----------	-----------------------

3

## Check center airbag sensor assembly.



DLC 1



DLC 2



Code 13



- P**
- (1) Using a service wire, connect D+ and D- on spiral cable side of connector between spiral cable and steering wheel pad.
  - (2) Using a service wire, connect P+ and P- on center airbag sensor assembly side of connector between center airbag sensor assembly and front passenger airbag assembly.
  - (3) Connect negative (-) terminal cable to battery, and wait at least 2 seconds.

- C**
- (1) Turn ignition switch to ACC or ON and wait at least 20 seconds.
  - (2) Clear malfunction code stored in memory. (See page RS-47)
  - (3) Turn ignition switch to LOCK, and wait at least 20 seconds.
  - (4) Remove the service wire which connects D+ and D- on spiral cable side of connector between spiral cable and steering wheel pad.
  - (5) Turn ignition switch to ACC or ON, and wait at least 20 seconds.
  - (6) Using SST, connect terminals Tc and E<sub>1</sub> of DLC1 or DLC2.  
SST 09843-18020
  - (7) Check diagnostic trouble code.

**OK** Diagnostic trouble code 13 is not output.

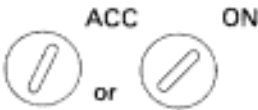
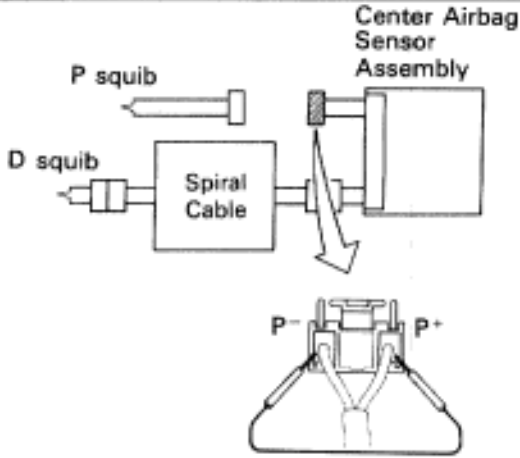
**Hint** Codes other than code 13 may be output at this time, but they are not relevant to this check.

OK

**NG** Replace center airbag sensor assembly.

**4**

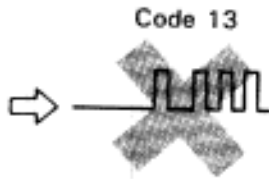
**Check D squib.**



**DLC 1**



**DLC 2**



ROBROS AB0068  
AB0118 AB0119  
Iai-23-1-A F11390  
S-17-1

- P**
- (1) Turn ignition switch to LOCK.
  - (2) Disconnect negative (-) terminal cable from the battery, and wait at least 90 seconds.
  - (3) Connect steering wheel pad connector.
  - (4) Using a service wire, connect P+ and P-.
  - (5) Connect negative (-) terminal cable to battery, and wait at least 2 seconds.

- C**
- (1) Turn ignition switch to LOCK, and wait at least 20 seconds.
  - (2) Turn ignition switch to ACC or ON, and wait at least 20 seconds.
  - (3) Clear malfunction code stored in memory. (See page RS-47)
  - (4) Turn ignition switch to LOCK, and wait at least 20 seconds.
  - (5) Turn ignition switch to ACC or ON, and wait at least 20 seconds.
  - (6) Using SST, connect terminals Tc and E<sub>1</sub> of DLC1 or DLC2.  
SST 09843-18020
  - (7) Check diagnostic trouble code.

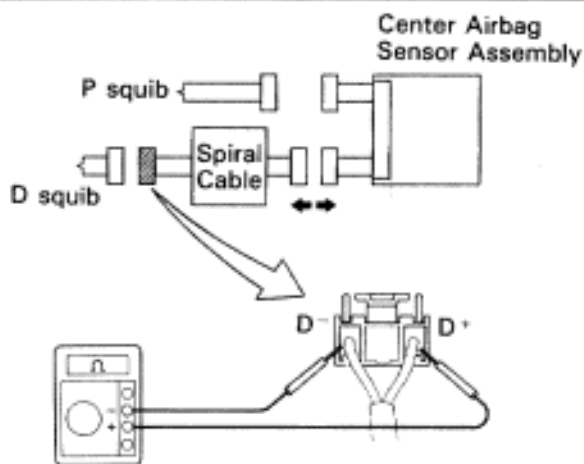
**OK** Diagnostic trouble code 13 is not output.

**Hint** Codes other than code 13 may be output at this time, but they are not relevant to this check.

**OK**

**NG** Replace steering wheel pad.

From the results of the above inspection, the malfunctioning part can now be considered normal. To make sure of this, use the simulation method to check.

**5****Check spiral cable.**R05903  
AB0068

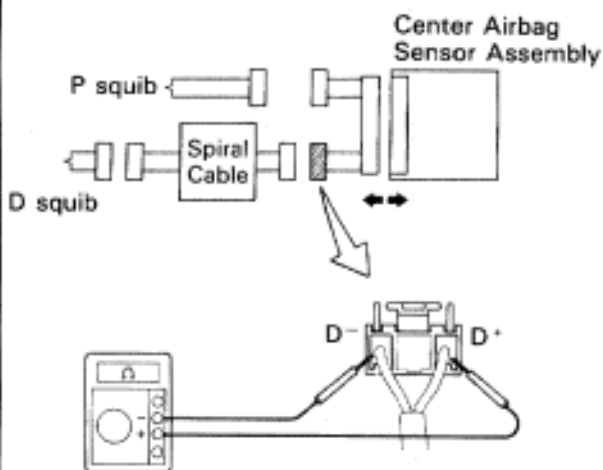
- P** (1) Disconnect connector between center airbag sensor assembly and spiral cable.  
 (2) Release airbag activation prevention mechanism on center airbag sensor assembly side of airbag squib connector (See page [RS-72](#)).

**C** For the connector (on the spiral cable side) between the spiral cable and steering wheel pad, measure the resistance between D<sup>+</sup> and D<sup>-</sup>.

**OK** Resistance: 1 M or higher

OK

**NG** Repair or replace spiral cable.

**6****Check harness between center airbag sensor assembly and spiral cable.**R05904  
AB0068

- P** (1) Disconnect center airbag sensor assembly connector.  
 (2) Release airbag activation prevention mechanism on center airbag sensor assembly connector. (See page [RS-72](#))

**C** For connector (on the center airbag sensor assembly side) between the spiral cable and center airbag sensor assembly, measure the resistance between D<sup>+</sup> and D<sup>-</sup>.

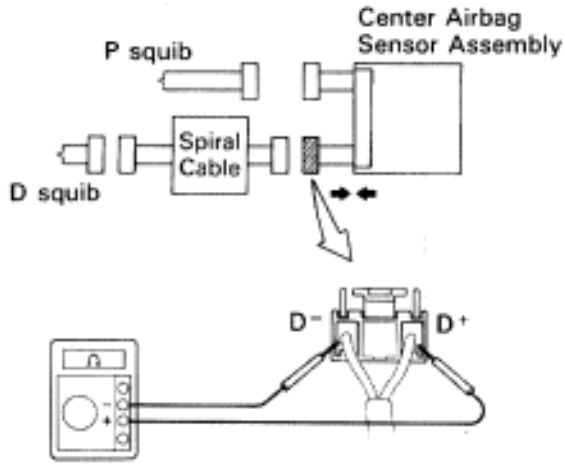
**OK** Resistance: 1 M or higher.

OK

**NG** Repair or replace harness or connector between center airbag sensor assembly and spiral cable.

**7**

**Check center airbag sensor assembly.**



R05905  
AB0068

- P** Connector center airbag sensor assembly connector.
- C** For the connector (on the center airbag sensor assembly side) between the spiral cable and center airbag sensor assembly, measure the resistance between D<sup>+</sup> and D<sup>-</sup>.
- OK** Resistance: 1 k or higher

**OK**

**NG** Replace center airbag sensor assembly.

From the results of the above inspection, the malfunctioning part can now be considered normal. To make sure of this, use the simulation method to check.

## RELEASE METHOD OF AIRBAG ACTIVATION PREVENTION MECHANISM

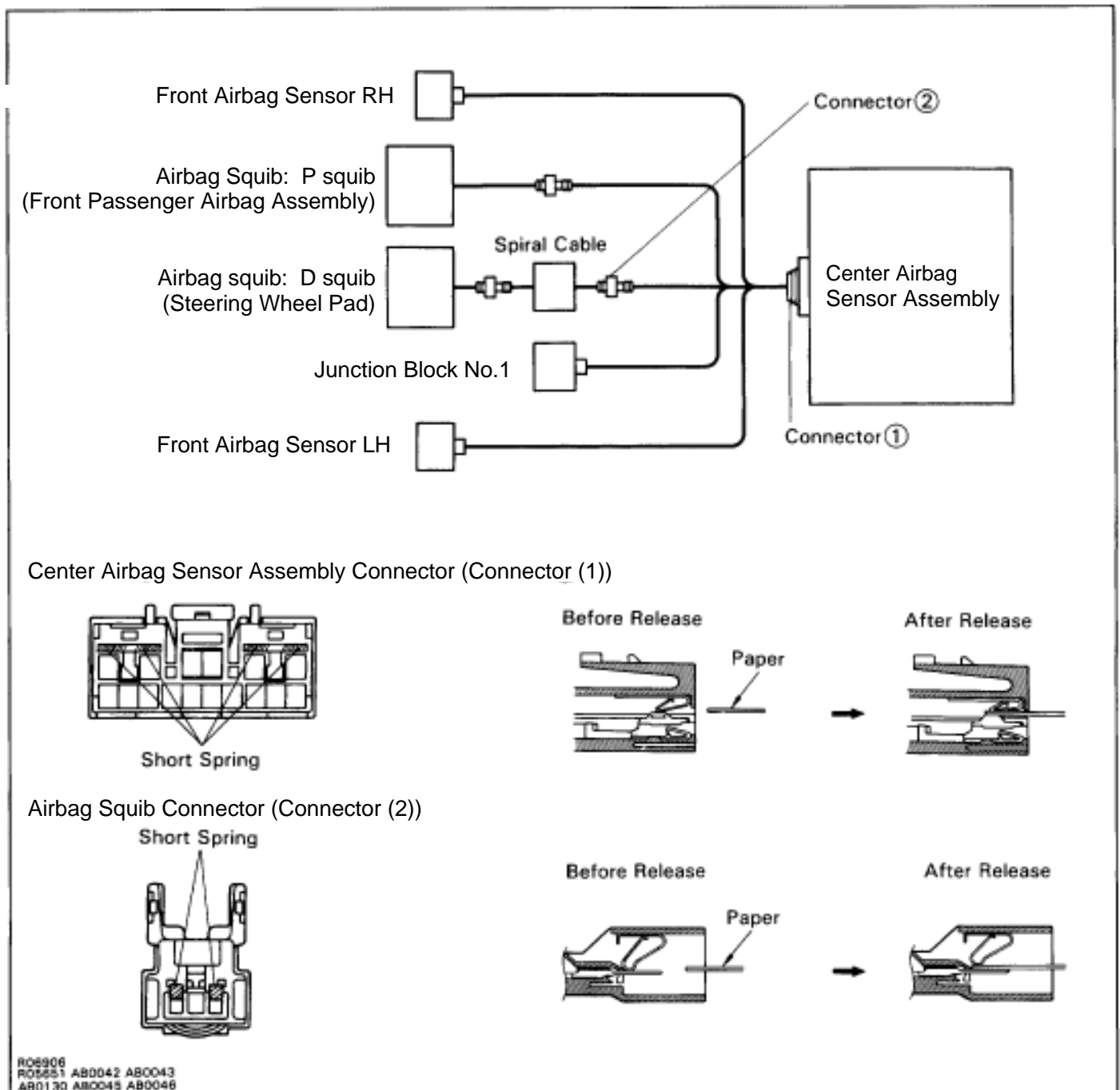
An airbag activation prevention mechanism is built into the connector for the squib circuit of the SRS. When release of the airbag activation prevention mechanism is directed in the troubleshooting procedure, as shown in the illustration of the connector (1) and (2) below, insert paper which is the same thickness as the male terminal, between the terminal and the short spring.

### CAUTION:

- **NEVER RELEASE** the airbag activation prevention mechanism on the steering wheel pad connector and front passenger airbag assembly connector.

### NOTICE:

- Do not release the airbag activation prevention mechanism unless specifically directed by the troubleshooting procedure.
- If the paper inserted is too thick the terminal and short spring may be damaged, so always use paper the same thickness as the male terminal.





## DTC 14 Open in D Squib Circuit

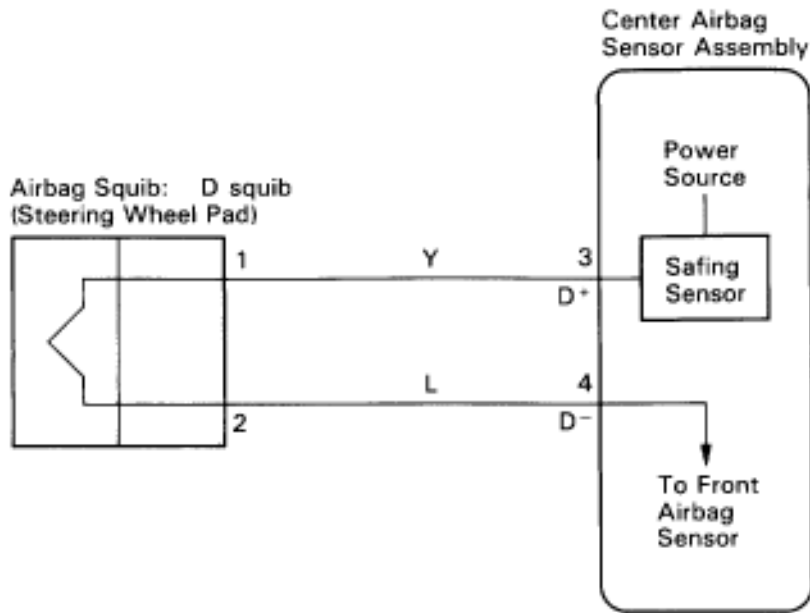
### CIRCUIT DESCRIPTION

The D squib circuit consists of the center airbag sensor assembly, spiral cable and the steering wheel pad. It causes the airbag to deploy when the airbag deployment conditions are satisfied.

For details of the function of each component, see FUNCTION OF COMPONENTS on page RS-4. Diagnostic trouble code 14 is recorded when an open is detected in the squib circuit.

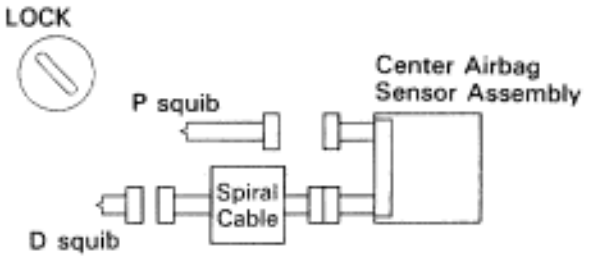
DTC No.	Diagnosis
14	<ul style="list-style-type: none"> <li>• Open circuit in D<sup>+</sup> wire harness or D<sup>-</sup> wire harness of squib.</li> <li>• D Squib malfunction.</li> <li>• Spiral cable malfunction.</li> <li>• Center airbag sensor assembly malfunction.</li> </ul>

### WIRING DIAGRAM

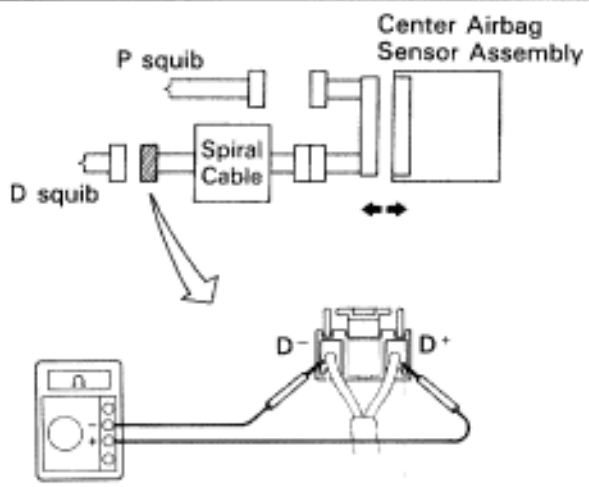
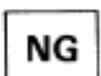


## INSPECTION PROCEDURES

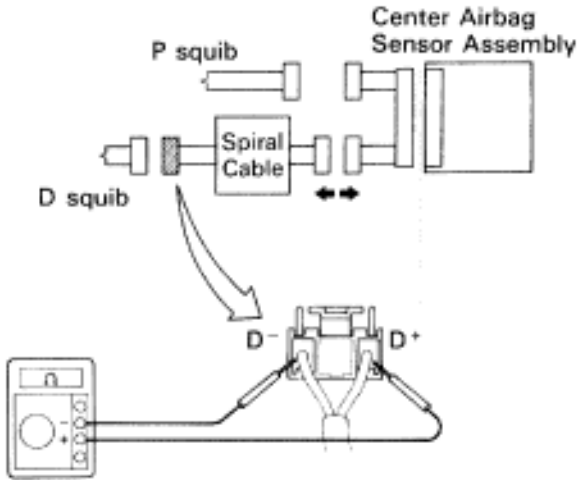
[P] Preparation [C] Check

<b>1</b>	<b>Preparation.</b>
<p>LOCK</p>  <p>AB0117 R05902</p>	<p><b>P</b> (1) Disconnect negative (-) terminal cable from the battery, and wait at least 90 seconds. (2) Remove steering wheel pad (See page RS-10). (3) Disconnect connector of front passenger airbag assembly (See page RS-20).</p> <p><b>Caution</b> Store the steering wheel pad with the front surface facing upward.</p>



<b>2</b>	<b>Check D squib circuit.</b>
 <p>R05901 A80068</p>	<p><b>P</b> Disconnect center airbag sensor assembly connector.</p> <p><b>C</b> For connector (on the spiral cable side) between the spiral cable and steering wheel pad, measure the resistance between D<sup>+</sup> and D<sup>-</sup>.</p> <p><b>OK</b> Resistance: Below 1</p>
	<p><b>OK</b> Go to step <b>5</b>.</p>

### 3 Check spiral cable.



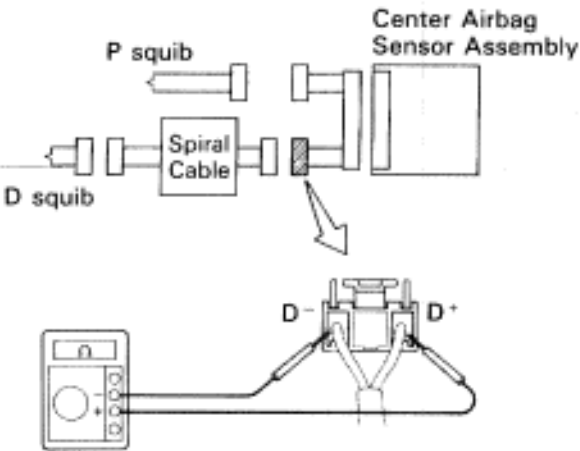
R05899  
AB0068

- P** Disconnect connector between center airbag sensor assembly and spiral cable.
- C** For connector (on the spiral cable side) between the spiral cable and steering wheel pad, measure the resistance between D<sup>+</sup> and D<sup>-</sup>.
- OK** Resistance: Below 1

**OK**

**NG** Repair or replace spiral cable.

### 4 Check harness between center airbag sensor assembly and spiral cable.



R05906  
AB0068

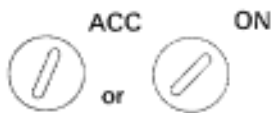
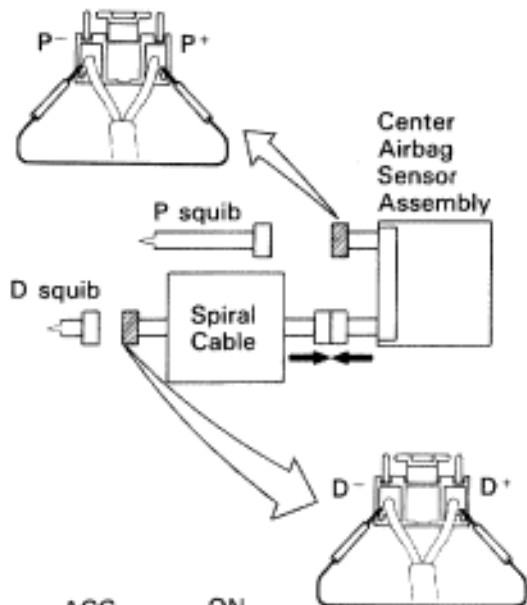
- C** For connector (on the center airbag sensor assembly side) between the center airbag sensor assembly and spiral cable, measure the resistance between D<sup>+</sup> and D<sup>-</sup>.
- OK** Resistance: Below 1

**OK**

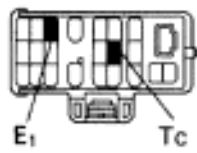
**NG** Repair or replace harness or connector between center airbag sensor assembly and spiral cable.

## 5

## Check center airbag sensor assembly.

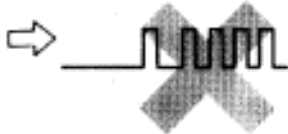


DLC 1



Code 14

DLC 2



AB0089  
 AB0089 R06907  
 AB0118 AB0119  
 1st-23-1-A F11391  
 S-17-1

- P**
- (1) Connect connector to center airbag sensor assembly.
  - (2) Connect connector between center airbag sensor assembly and spiral cable.
  - (3) Using a service wire, connect D<sup>+</sup> and D<sup>-</sup> on spiral cable side of connector between spiral cable and steering wheel pad.
  - (4) Using a service wire, connect P<sup>+</sup> and P<sup>-</sup> on center airbag sensor assembly side of connector between center airbag sensor assembly and front passenger airbag assembly.
  - (5) Connect negative (-) terminal cable to battery, and wait at least 2 seconds.

- C**
- (1) Turn ignition switch to ACC or ON and wait at least 20 seconds.
  - (2) Clear malfunction code stored in memory. (See page RS-47)
  - (3) Turn ignition switch to LOCK, and wait at least 20 seconds.
  - (4) Turn ignition switch to ACC or ON, and wait at least 20 seconds.
  - (5) Using SST, connect terminals Tc and E<sub>1</sub> of DLC1 and DLC2.  
SST 09843-18020
  - (6) Check diagnostic trouble code.

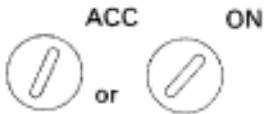
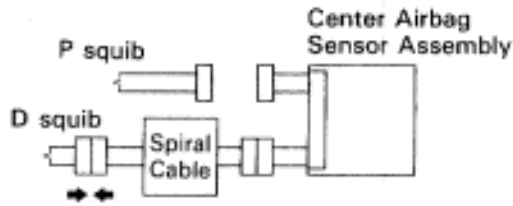
**OK** Diagnostic trouble code 14 is not output.

**Hint** Codes other than code 14 may be output at this time, but they are not relevant to this check.

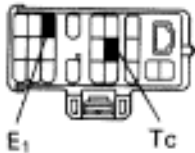
OK

**NG** Replace center airbag sensor assembly.

## 6 Check D squib.

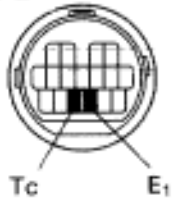


DLC 1



Code 14

DLC 2



R05896  
AB0118 AB0119  
Iw-23-1-A F11391  
S-17-1

- P**
- (1) Turn ignition switch to LOCK.
  - (2) Disconnect negative (-) terminal cable from the battery, and wait at least 90 seconds.
  - (3) Connect steering wheel pad connector.
  - (4) Connect negative (-) terminal cable to battery, and wait at least 2 seconds.

- C**
- (1) Turn ignition switch to ACC or ON and wait at least 20 seconds.
  - (2) Clear malfunction code stored in memory. (See page RS-47)
  - (3) Turn ignition switch to LOCK, and wait at least 20 seconds.
  - (4) Turn ignition switch to ACC or ON, and wait at least 20 seconds.
  - (5) Using SST, connect terminals T<sub>c</sub> and E<sub>1</sub> of DLC1 and DLC2.  
SST 09843-18020
  - (6) Check diagnostic trouble code.

**OK** Diagnostic trouble code 14 is not output.

**Hint** Codes other than code 14 may be output at this time, but they are not relevant to this check.

OK

**NG** Replace steering wheel pad.

From the results of the above inspection, the malfunctioning part can now be considered normal. To make sure of this, use the simulation method to check.

## DTC 15 Open in Front Airbag Sensor Circuit

### CIRCUIT DESCRIPTION

The front airbag sensor detects the deceleration force in a frontal collision and is located in the front fender on the left and right sides.

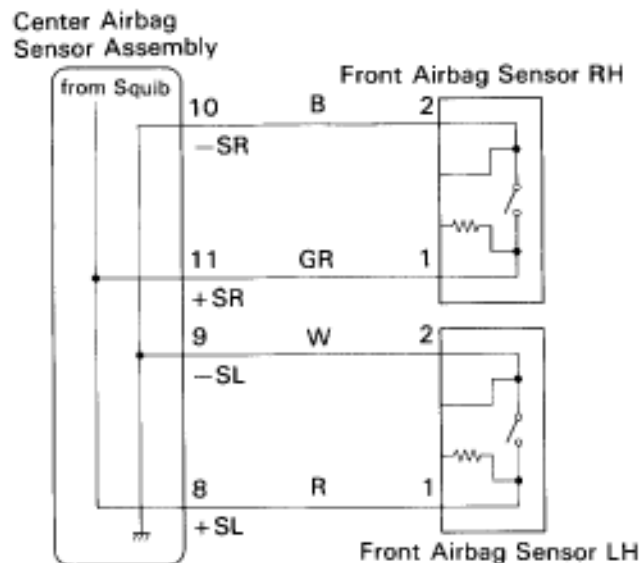
For details of the function of each component, see FUNCTION OF COMPONENTS on page RS-4. Diagnostic trouble code 15 is recorded when an open is detected in the front airbag sensor circuit.

**NOTICE:** The front airbag sensor connector is equipped with an electrical connection check mechanism for the purpose of detecting an open in the front airbag sensor (See page RS-36). This mechanism is constructed so that when the terminals of the front airbag sensor have been connected (when the connector housing lock is in the locked condition), the connection detection pin on the wire harness side connects with the terminals for diagnosis use on the sensor side. If the connector is not properly connected, the diagnostic system may detect only a malfunction code, even though the SRS is functioning normally.

When connecting the front airbag sensor connector, make sure it is connected properly. If diagnostic trouble code 15 is displayed after the front airbag sensor connector has been connected, check again that it is properly connected.


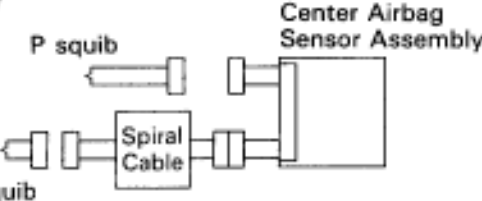
DTC No.	Diagnosis
15	<ul style="list-style-type: none"> <li>• Open circuit in + S wire harness or – S wire harness of front airbag sensor.</li> <li>• Front airbag sensor malfunction.</li> <li>• Malfunction of electrical connection check mechanism of front airbag sensor.</li> <li>• Center airbag sensor assembly malfunction.</li> </ul>

### WIRING DIAGRAM

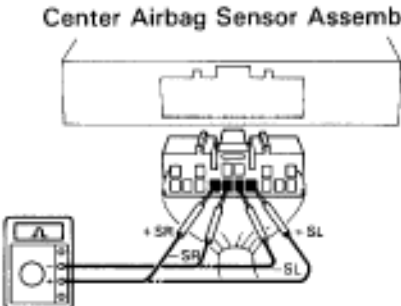


# INSPECTION PROCEDURES

[P] Preparation [C] Check

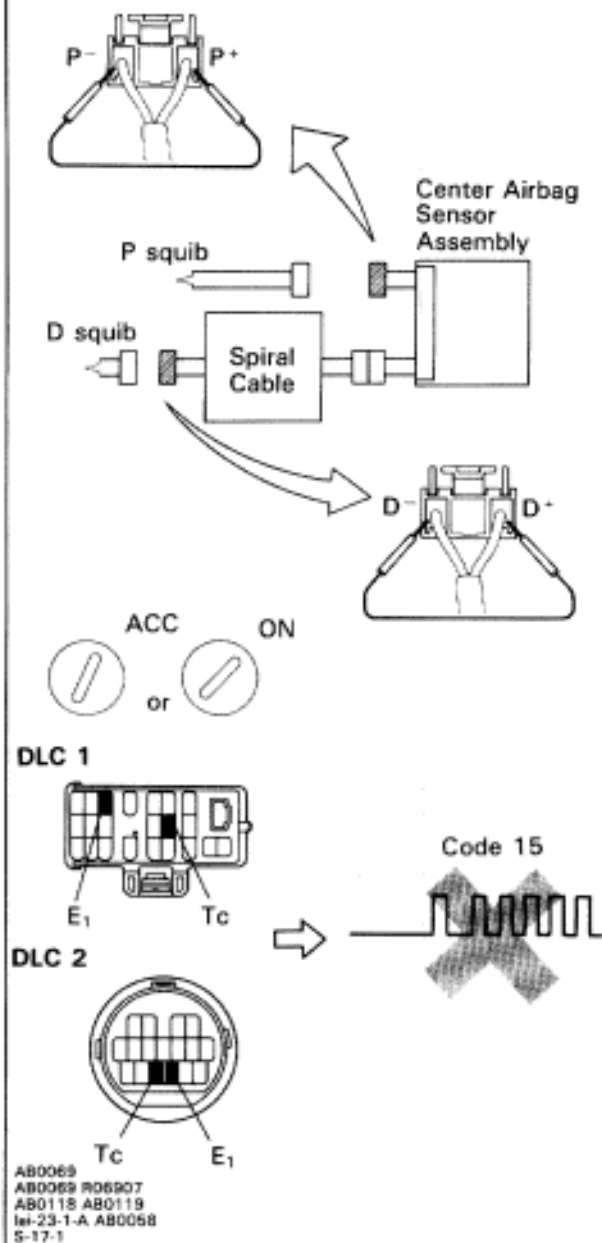
<b>1</b>	<b>Preparation.</b>
<p>LOCK </p>  <p style="font-size: small;">AB0117 R05902</p>	<p><b>P</b> (1) Disconnect negative (-) terminal cable from the battery, and wait at least 20 seconds.                  (2) Remove steering wheel pad (See page RS-10).                  (3) Disconnect connector of front passenger airbag assembly (See RS20).</p> <p><b>Caution</b>  <b>Store the steering wheel pad with the front surface facing upward.</b></p>



<b>2</b>	<b>Check front airbag sensor circuit (Measure resistance between terminals +SR and -SR, +SL and -SL of center airbag sensor assembly connector.).</b>
 <p style="font-size: small; text-align: right;">R05264</p>	<p><b>P</b> Disconnect center airbag sensor assembly connector.</p> <p><b>C</b> Measure resistance between terminals +SR and -SR, +SL and -SL of harness side connector of center airbag sensor assembly.</p> <p><b>OK</b> Resistance: 755 — 885</p>



<b>NG</b>	Go to step <b>4</b> .
-----------	-----------------------

**3****Check center airbag sensor assembly.****OK**

- P**
- (1) Connect connector to center airbag sensor assembly.
  - (2) Using a service wire, connect D<sup>+</sup> and D<sup>-</sup> on spiral cable side of connector between spiral cable and steering wheel pad.
  - (3) Using a service wire, connect P<sup>+</sup> and P<sup>-</sup> on center airbag sensor assembly side of connector between center airbag sensor assembly and front passenger airbag assembly.
  - (4) Connect negative (-) terminal cable to battery, and wait at least 2 seconds.

- C**
- (1) Turn ignition switch to ACC or ON and wait at least 20 seconds.
  - (2) Clear malfunction code stored in memory. (See page RS-47)
  - (3) Turn ignition switch to LOCK, and wait at least 20 seconds.
  - (4) Turn ignition switch to ACC or ON, and wait at least 20 seconds.
  - (5) Using SST, connect terminals Tc and E<sub>1</sub> of DLC1 and DLC2.  
SST 09843-18020
  - (6) Check diagnostic trouble code.

**OK** Diagnostic trouble code 15 is not output.

**Hint** Codes other than code 15 may be output at this time, but they are not relevant to this check.

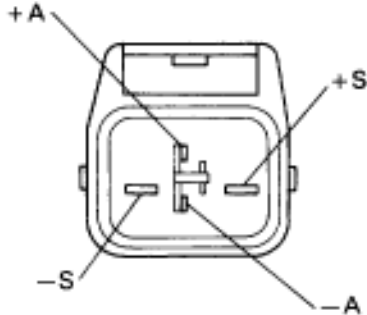
**NG**

Replace center airbag sensor assembly.

From the results of the above inspection, the malfunctioning part can now be considered normal. To make sure of this, use the simulation method to check.



## 4 Check front airbag sensor.



AB0034

- P** Disconnect front airbag sensor connector.
- C** Measure resistance between each terminal of front airbag sensor.

OK	Terminal	Resistance
	⊕ S - ⊕ A	755 Ω - 885 Ω
	⊕ S - ⊖ S	1 MΩ or Higher
	⊖ S - ⊖ A	less than 1 Ω

**Notice**

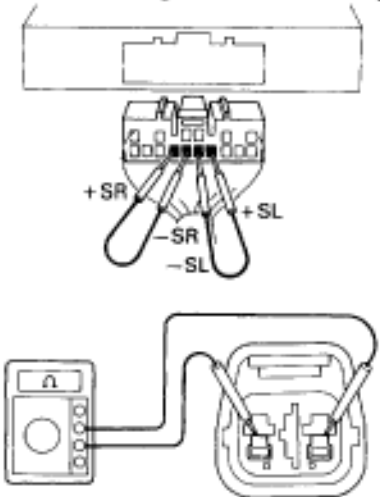
- Do not press ohmmeter probes too strongly against terminals of front airbag sensor.
- Make sure the front airbag sensor connector is properly connected.

**OK**

**NG** Replace front airbag sensor.

## 5 Check harness between center airbag sensor assembly and front airbag sensor.

Center Airbag Sensor Assembly



#05287  
AB0039

- P** (1) Disconnect center airbag sensor assembly connector.  
(2) Using service wires, connect +SR and -SR, +SL and -SL on the wire harness side of the center airbag sensor assembly connectors.

- C** Measure resistance between terminals -SR and -SR, +SL and -SL of harness side connector of front airbag sensor.

**OK** Resistance: Less than 1

**Notice**

- Lightly touch ohmmeter probes at position shown in illustration.
- Make sure the front airbag sensor connector is properly connected.

**OK**

**NG** Repair or replace harness or connector between center airbag sensor assembly and front airbag sensor (See page RS-36).

Replace front airbag sensor connector.  
(See page RS-36)

## DTC 22 SRS Warning Light System Malfunction

### CIRCUIT DESCRIPTION

The SRS warning light is located on the cluster finish panel.

When the SRS is normal, the SRS warning light lights up for approx. 6 seconds after the ignition switch is turned from LOCK position to ACC or ON position, and then turns off automatically.

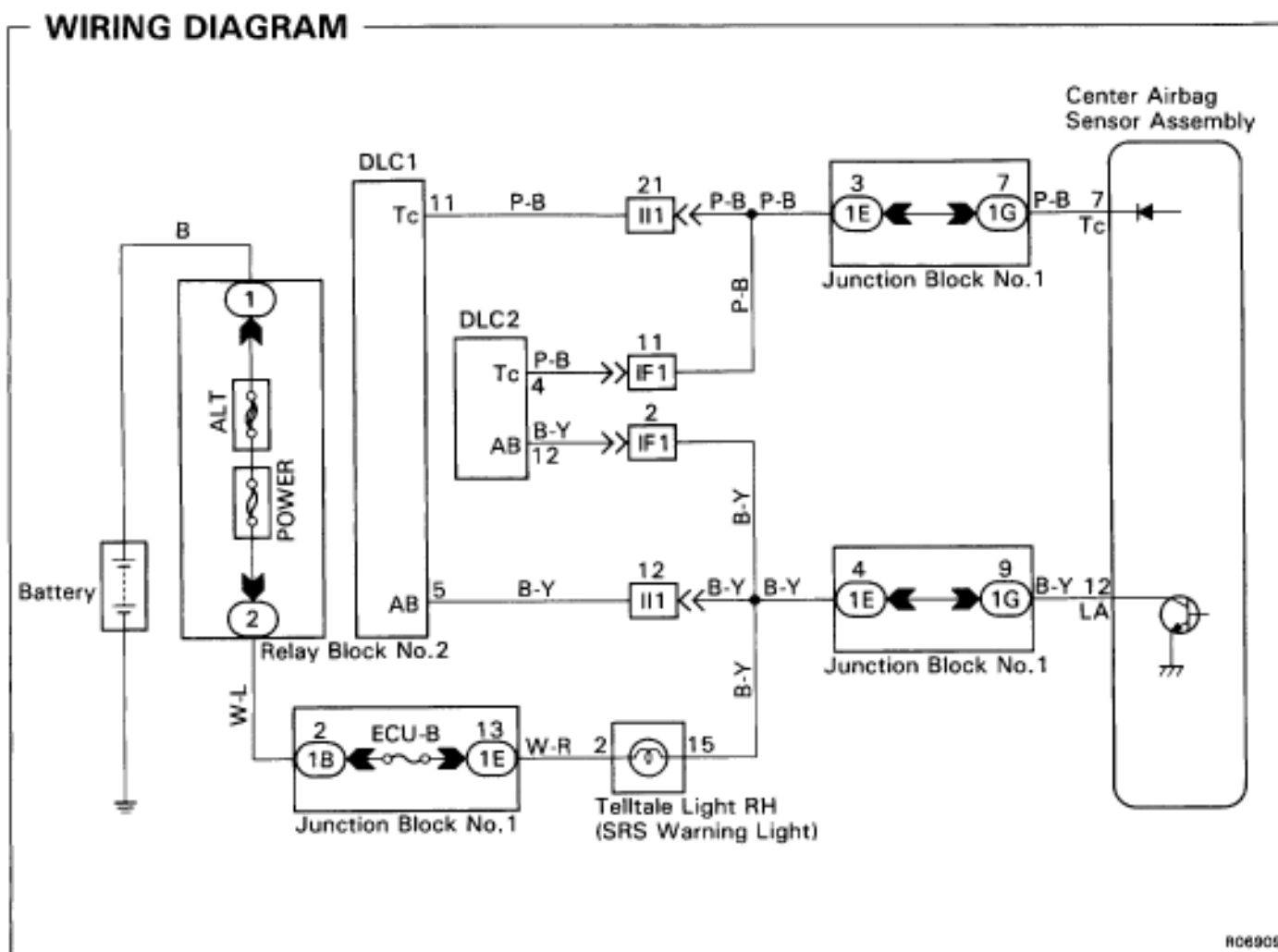
If there is a malfunction in the SRS, the SRS warning light lights up to inform the driver of the abnormality. When terminals Tc and E<sub>1</sub> of the DLC1 or DLC2 are connected, the diagnostic trouble code is displayed by the blinking of the SRS warning light.

The SRS warning light circuit is equipped with an electrical connection check mechanism which detects when the connector to the center airbag sensor assembly is not properly connected.

If the connector to the center airbag sensor assembly is not properly connected, the SRS warning light will not light up.

Diagnostic trouble code 22 is recorded when a malfunction occurs in the SRS warning light system. If an OPEN malfunction occurs in the SRS warning light system, the SRS warning light does not light up, so that until the malfunction is repaired, the diagnostic trouble codes (including code 22) cannot be confirmed.

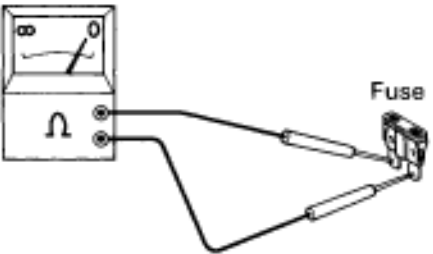
DTC No.	Diagnosis
22	<ul style="list-style-type: none"> <li>• Open circuit in SRS warning light system.</li> <li>• Center airbag sensor assembly malfunction.</li> </ul>




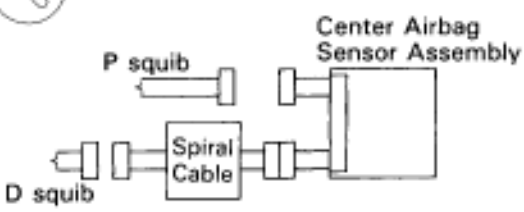
# INSPECTION PROCEDURES

[P] Preparation [C] Check

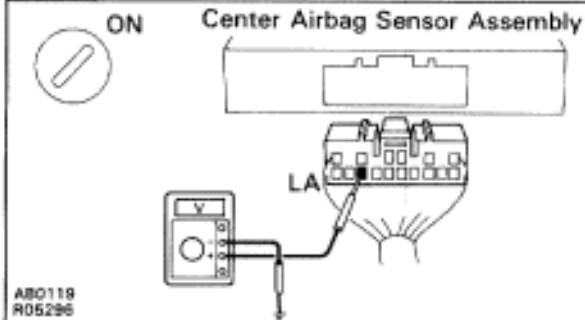
HINT: If SRS warning light does not light up, perform the following troubleshooting:

<b>1</b>	<b>Check ECU-B Fuse.</b>
 <p style="text-align: right; margin-right: 50px;">Fuse</p> <p style="text-align: right; font-size: small;">F0044</p>	<p><b>P</b> Remove ECU-B fuse.</p> <p><b>C</b> Check continuity of ECU-B fuse.</p> <p><b>OK</b> Continuity</p> <p><b>Hint</b></p> <ul style="list-style-type: none"> <li>• Fuse may be burnt out even if it appears to be OK during visual inspection.</li> <li>• If fuse is OK, install it.</li> </ul>
<div style="border: 1px solid black; padding: 5px; width: 40px; margin: auto;">OK</div>	<div style="border: 1px solid black; padding: 5px; width: 100px; margin: auto;"> <b>NG</b> Go to step <b>6</b>.         </div>

<b>2</b>	<b>Check connection of center airbag sensor assembly connector.</b>
<div style="border: 1px solid black; padding: 5px; width: 40px; margin: auto;">OK</div>	<div style="border: 1px solid black; padding: 5px; width: 100px; margin: auto;"> <b>NG</b> Repair.         </div>

<b>3</b>	<b>Preparation.</b>
<p>LOCK </p>  <p style="text-align: right; margin-right: 50px;">Center Airbag Sensor Assembly</p> <p style="text-align: right; font-size: small;">AB0117 R05902</p>	<p><b>P</b></p> <ol style="list-style-type: none"> <li>(1) Disconnect negative (-) terminal cable from the battery, and wait at least 90 seconds.</li> <li>(2) Remove steering wheel pad (See page <a href="#">RS-10</a>).</li> <li>(3) Disconnect connector of front passenger airbag assembly (See page <a href="#">RS-20</a>).</li> </ol> <p><b>Caution</b></p> <p><b>Store the steering wheel pad with the front surface facing upward.</b></p>
<div style="border: 1px solid black; width: 40px; height: 40px; margin: auto;"></div>	

#### 4 Check SRS warning light circuit.

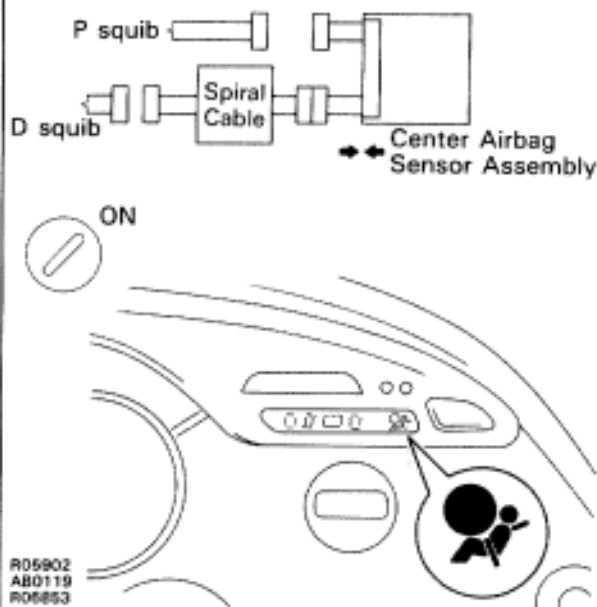


- P** (1) Disconnect center airbag sensor assembly connector.  
 (2) Connect negative (-) terminal cable to battery.  
 (3) Turn ignition switch to ACC or ON.
- C** Measure voltage LA terminal of harness side connector of center airbag sensor assembly.
- OK** **Voltage: Battery positive voltage**

**OK**

**NG** Repair SRS warning light circuit.

#### 5 Does SRS warning light come on?



- P** (1) Disconnect negative (-) terminal cable from the battery.  
 (2) Connect center airbag sensor assembly connector.  
 (3) Connect negative (-) terminal cable to battery, and wait at least 2 seconds.  
 (4) Turn ignition switch to ACC or ON
- C** Check operation of SRS warning light.
- OK** **SRS warning light comes on.**

**YES**

**NO**

Check terminal LA of center airbag sensor assembly and electrical connection check mechanism. If normal, replace center airbag sensor assembly.

From the results of the above inspection, the malfunctioning part can now be considered normal. To make sure of this, use the simulation method to check.

#### 6 Is new ECU-B fuse burnt out again?

**YES**

**NO**

Using simulation method, reproduce malfunction symptoms (See page RS-48).

Check harness between ECU-B fuse and SRS warning light.

HINT: If diagnostic trouble code 22 is output, do the following troubleshooting:

<h1 style="margin: 0;">1 Is diagnostic trouble code 22 output again?</h1>	
<p>The diagram illustrates the procedure for checking diagnostic trouble code 22. At the top, it shows the ignition switch can be turned to either 'ACC' or 'ON'. Below this, two diagrams show the Diagnostic Link Connector (DLC) locations: 'DLC 1' (a rectangular connector) and 'DLC 2' (a circular connector). Both diagrams label terminals 'E1' and 'Tc'. An arrow points from these diagrams to a square-wave pulse waveform labeled 'Code 22'. In the bottom left corner of the diagram area, the following text is present: 'AB011B AB011B', 'Iss-23-1-A FI1392', and 'S-17-1'.</p>	<p><b>C</b></p> <ol style="list-style-type: none"> <li>(1) Turn ignition switch to LOCK, and wait at least 2 seconds.</li> <li>(2) Turn ignition switch to ACC or ON, and wait at least 20 seconds.</li> <li>(3) Clear malfunction code stored in memory. (See page RS-47)</li> <li>(4) Turn ignition switch to LOCK, and wait at least 20 seconds.</li> <li>(5) Turn ignition switch to ACC or ON, and wait at least 20 seconds.</li> <li>(6) Using SST, connect terminals Tc and E1 of DLC1 or DLC2. SST 09843-18020</li> <li>(7) Check diagnostic trouble code.</li> </ol>
<p><b>YES</b></p>	<p><b>NO</b> Using simulation method, reproduce malfunction symptoms (See page RS-48).</p>

Replace center airbag sensor assembly.

## DTC 31 Center Airbag Sensor Assembly Malfunction

### CIRCUIT DESCRIPTION

The center airbag sensor assembly consists of a center airbag sensor, safing sensor, drive circuit, diagnosis circuit and ignition control, etc.

It receives signals from the airbag sensors, judges whether or not the SRS must be deployed, and diagnostic system malfunction.

Diagnostic trouble code 31 is recorded when a occurrence of a malfunction in the center airbag sensor assembly is detected.

DTC No.	Diagnosis
<b>31</b>	• Center airbag sensor assembly malfunction.

### INSPECTION PROCEDURES

HINT: When a malfunction code other than code 31 is displayed at the same time, first repair the malfunction indicated by the malfunction code other than code 31.

[P] Preparation [C] Check

**1** Is diagnostic trouble code 31 output again?

The diagram illustrates the connection between two Diagnostic Link Connector (DLC) ports. At the top, there are two circular symbols representing ignition switch positions: 'ACC' and 'ON', with 'or' between them. Below this, 'DLC1' is shown as a rectangular connector with terminals 'E1' and 'Tc' labeled. 'DLC2' is shown as a circular connector with terminals 'Tc' and 'E1' labeled. An arrow points from the connection between E1 and Tc to a square-wave waveform labeled 'Code 31'. At the bottom left, there is a reference code: 'AB0118 AB0119', 'Ici-23-1-A F11394', and 'S-17-1'.

**P** Clear malfunction code (See page [RS-47](#)).

**C**

- (1) Turn ignition switch to LOCK, and wait at least 20 seconds.
- (2) Turn ignition switch to ACC or ON, and wait at least 20 seconds.
- (3) Repeat step (1) and (2) at least 5 times.
- (4) Using SST, connect terminals TC and E<sub>1</sub> of DLC1 or DLC2.  
SST 09843-18020
- (7) Check diagnostic trouble code.

**YES**

**NO** Using simulation method, reproduce malfunction symptoms (See page [RS-48](#)).

Replace center airbag sensor assembly.

## DTC 53 Short in P Squib Circuit (Between P<sup>+</sup> Wire Harness and P<sup>-</sup> Wire Harness)

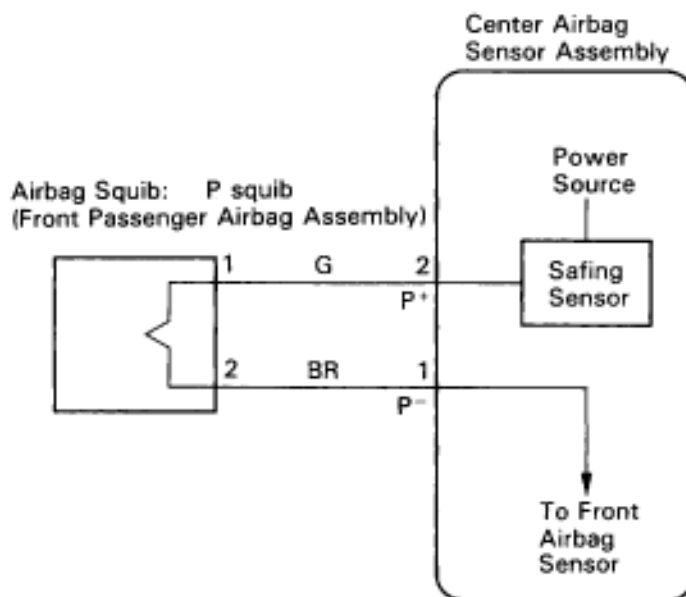
### CIRCUIT DESCRIPTION

The P squib circuit consists of the center airbag sensor assembly and front passenger airbag assembly. It causes the airbag to deploy when the airbag deployment conditions are satisfied.

For details of the function of each component see FUNCTION OF COMPONENTS on page RS-4. Diagnostic trouble code 53 is recorded when a short is detected in the P<sup>+</sup> wire harness and P<sup>-</sup> wire harness of the squib circuit.


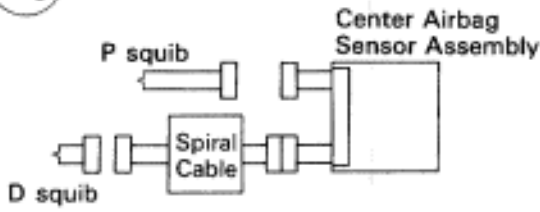
DTC No.	Diagnosis
53	<ul style="list-style-type: none"> <li>• Short circuit between P<sup>+</sup> wire harness P<sup>-</sup> wire harness of squib.</li> <li>• P squib malfunction.</li> <li>• Center airbag sensor assembly malfunction.</li> </ul>

### WIRING DIAGRAM

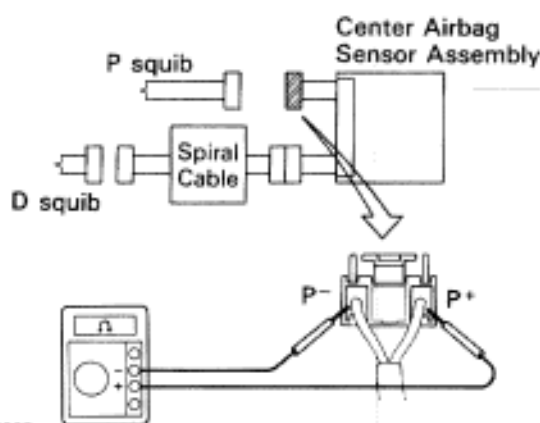



## INSPECTION PROCEDURES

[P] Preparation [C] Check

<b>1</b> Preparation.	
<p>LOCK</p>   <p>AB0117 R05902</p>	<p><b>P</b> (1) Disconnect negative (-) terminal cable from the battery, and wait at least 90 seconds. (2) Remove steering wheel pad (See page RS-10). (3) Disconnect connector of front passenger airbag assembly (See page RS-20).</p> <p><b>Caution</b> Store the steering wheel pad with the front surface facing upward.</p>

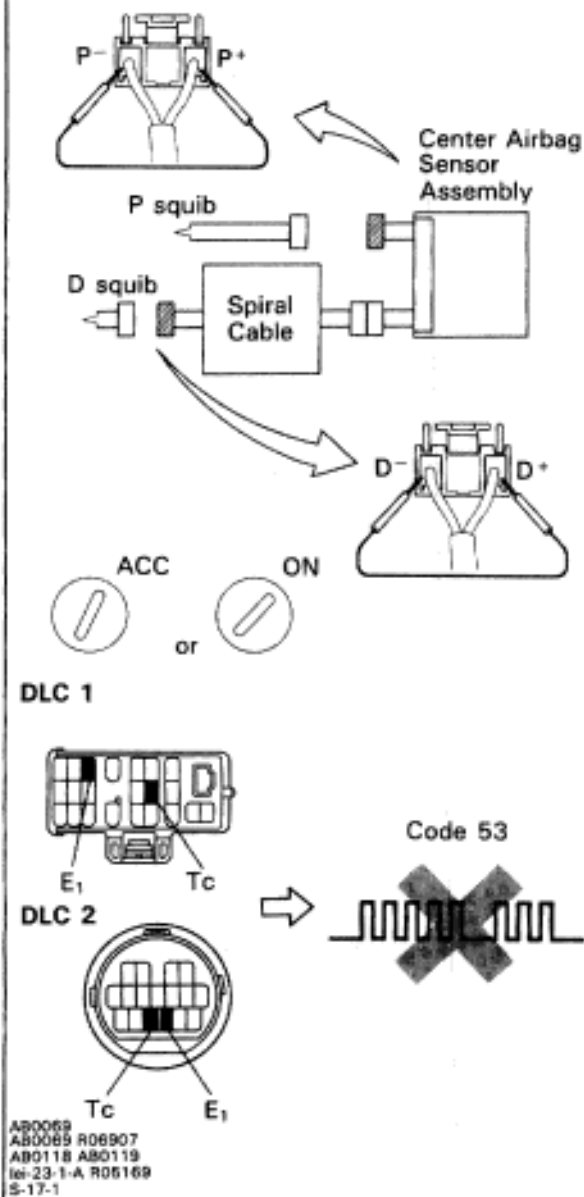


<b>2</b> Check P squib circuit.	
 <p>R05908 AB0068</p>	<p><b>C</b> For the connector (on the center airbag sensor assembly side) between the center airbag sensor assembly and front passenger airbag assembly, measure the resistance between P<sup>+</sup> and P<sup>-</sup>.</p> <p><b>OK</b> Resistance: 1 k or higher</p>
 <p>OK</p>	<p><b>NG</b> Go to step <b>5</b>.</p>



## 3

## Check center airbag sensor assembly.



- P**
- (1) Using a service wire, connect D<sup>+</sup> and D<sup>-</sup> on spiral cable side of connector between spiral cable and steering wheel pad.
  - (2) Using a service wire, connect P<sup>+</sup> and P<sup>-</sup> on center airbag sensor assembly side of connector between center airbag sensor assembly and front passenger airbag assembly.
  - (3) Connect negative (-) terminal cable to battery, and wait at least 2 seconds.

- C**
- (1) Turn ignition switch to LOCK, and wait at least 2 seconds.
  - (2) Turn ignition switch to ACC or ON, wait at least 20 seconds.
  - (3) Clear malfunction code stored in memory. (See page RS-47)
  - (4) Turn ignition switch to LOCK, and wait at least 20 seconds.
  - (5) Remove the service wire which connect P<sup>+</sup> and P<sup>-</sup> on center airbag assembly side of connector between center airbag sensor assembly and front passenger airbag assembly.
  - (6) Using SST, connect terminals T<sub>c</sub> and E<sub>1</sub> of DLC1 or DLC2.  
SST 09843-18020
  - (7) Check diagnostic trouble code.

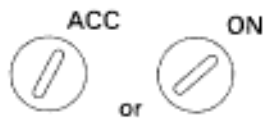
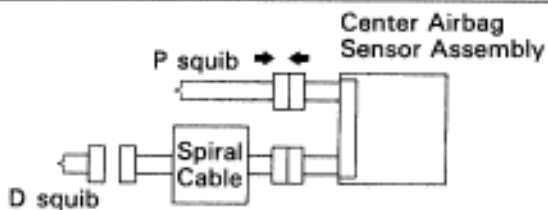
**OK** Diagnostic trouble code 53 is not output.

**Hint** Codes other than code 53 may be output at this time, but they are not relevant to this check.

OK

NG

Replace center airbag sensor assembly.

**4****Check P squib.****DLC 1****DLC 2**

R05908  
AB0118 AB0119  
W-23-1-A R05189  
S-17-1

**OK****P**

- (1) Turn ignition switch to LOCK.
- (2) Disconnect negative (-) terminal cable from the battery, and wait at least 90 seconds.
- (3) Connect front passenger airbag assembly connector.
- (4) Connect negative (-) terminal cable to battery, and wait at least 2 seconds.

**C**

- (1) Turn ignition switch to LOCK, and wait at least 2 seconds.
- (2) Turn ignition switch to ACC or ON, wait at least 20 seconds.
- (3) Clear malfunction code stored in memory. (See page RS-47)
- (4) Turn ignition switch to LOCK, and wait at least 20 seconds.
- (5) Turn ignition switch to ACC or ON, and wait at least 20 seconds.
- (6) Using SST, connect terminals Tc and E1 of DLC1 or DLC2.  
SST 09843-18020
- (7) Check diagnostic trouble code.

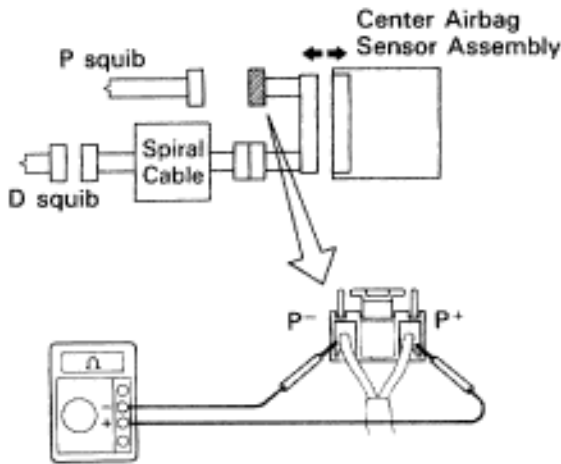
**OK****Diagnostic trouble code 53 is not output.****Hint**

Codes other than code 53 may be output at this time, but they are not relevant to this check.

**NG****Replace front passenger airbag assembly.**

From the results of the above inspection, the malfunctioning part can now be considered normal. To make sure of this, use the simulation method to check.

## 5 Check P squib circuit.

R05911  
AB0068

OK

- P** (1) Disconnect center airbag sensor assembly connector.  
 (2) Release airbag activation prevention mechanism on center airbag sensor assembly connector. (See page [RS-72](#))

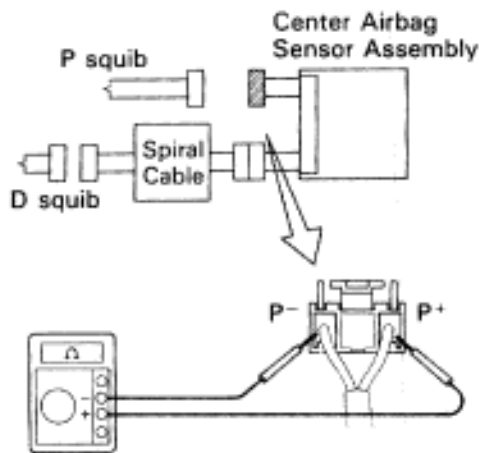
**C** For the connector (on the center airbag sensor assembly side) between the center airbag sensor assembly and front passenger airbag assembly measure the resistance between P<sup>+</sup> and P<sup>-</sup>.

**OK** Resistance: 1 k or higher

NG

Repair or replace harness or connector between center airbag sensor assembly and front passenger airbag assembly.

## 6 Check center airbag sensor assembly.

R05908  
AB0068

OK

- P** Connect center airbag sensor assembly connector.

**C** For the connector (on the center airbag sensor assembly side) between the center airbag sensor assembly and front passenger airbag assembly measure the resistance between P<sup>+</sup> and P<sup>-</sup>.

**OK** Resistance: 1 k or higher

NG

Replace center airbag sensor assembly.

From the results of the above inspection, the malfunctioning part can now be considered normal. To make sure of this, use the simulation method to check.

## DTC 54 Open in P Squib Circuit

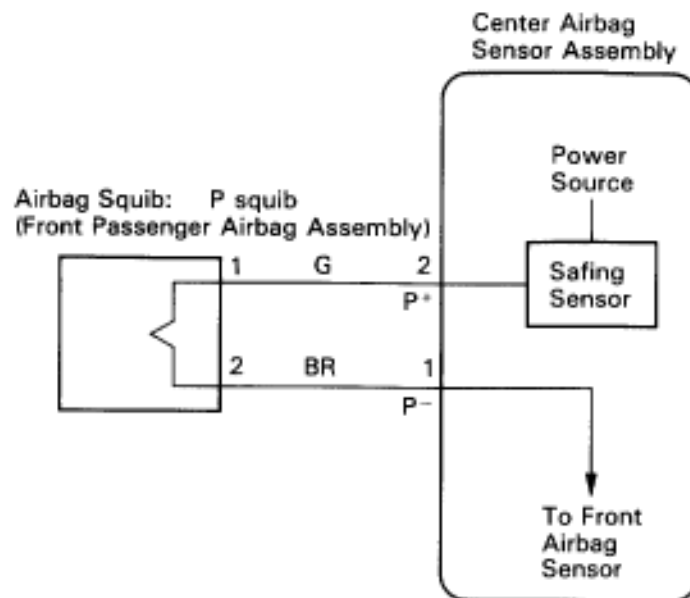
### CIRCUIT DESCRIPTION

The P squib circuit consists of the center airbag sensor assembly and front passenger airbag assembly. It causes the airbag to deploy when the airbag deployment conditions are satisfied.

For details of the function of each component see FUNCTION OF COMPONENTS on page RS-4. Diagnostic trouble code 54 is recorded when an open is detected in the P squib circuit.

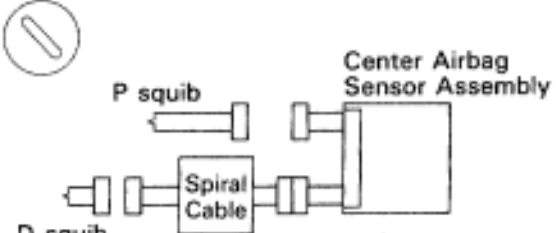
DTC No.	Diagnosis
<b>54</b>	<ul style="list-style-type: none"> <li>• Open circuit in P<sup>+</sup> wire harness P<sup>-</sup> wire harness of squib.</li> <li>• P squib malfunction.</li> <li>• Center airbag sensor assembly malfunction.</li> </ul>

### WIRING DIAGRAM

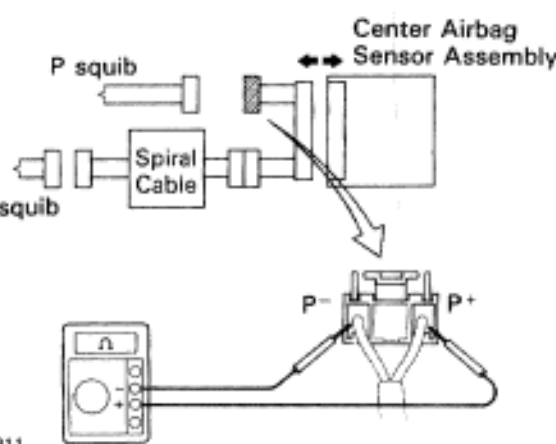


# INSPECTION PROCEDURES

[P] Preparation [C] Check

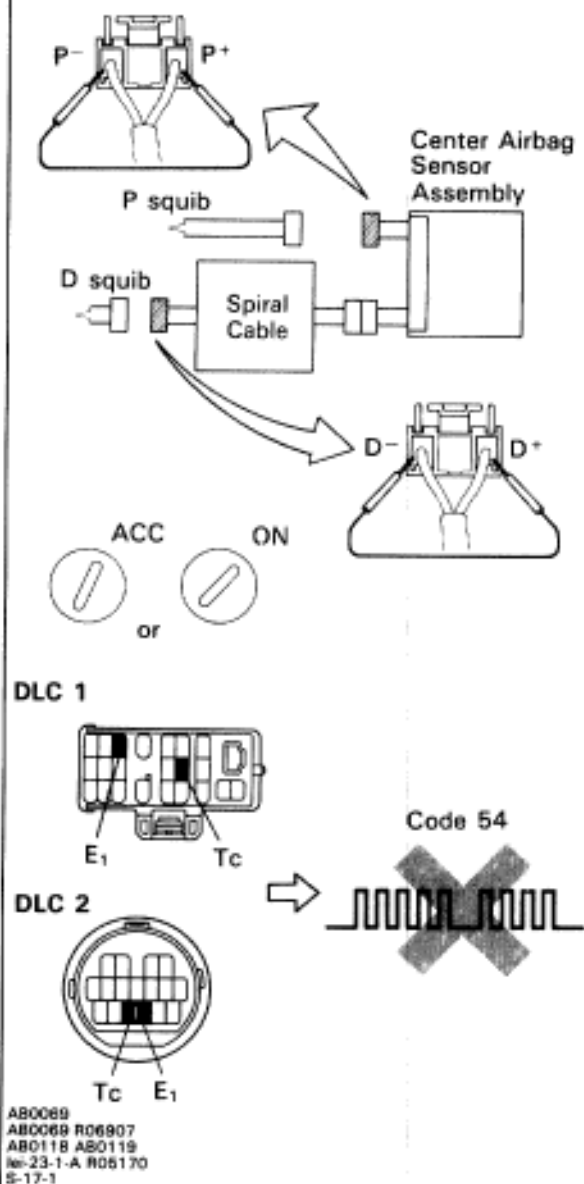
<b>1</b>	<b>Preparation.</b>
<p><b>LOCK</b></p>  <p>AB0117 R05902</p>	<p><b>P</b> (1) Disconnect negative (-) terminal cable from the battery, and wait at least 90 seconds. (2) Remove steering wheel pad. (See RS-10) (3) Disconnect connector of front passenger airbag assembly. (See page Rs-20)</p> <p><b>Caution</b> Store the steering wheel pad with the front surface facing upward.</p>



<b>2</b>	<b>Check P squib circuit.</b>
 <p>R05911 AB0068</p>	<p><b>P</b> Disconnect center airbag sensor assembly connector.</p> <p><b>C</b> For the connector (on the center airbag sensor assembly side) between the center airbag sensor assembly and front passenger airbag assembly measure the resistance between P+ and P-.</p> <p><b>OK</b> Resistance: Less than 1</p>
<b>NG</b>	<b>OK</b> Repair or replace harness or connector between center airbag sensor assembly and front passenger airbag assembly.

3

## Check center airbag sensor assembly.



- P**
- (1) Connect connector to center airbag sensor assembly.
  - (2) Using a service wire, connect D<sup>+</sup> and D<sup>-</sup> on spiral cable side of connector between spiral cable and steering wheel pad.
  - (3) Using a service wire, connect P<sup>+</sup> and P<sup>-</sup> on center airbag sensor assembly side of connector between center airbag sensor assembly and front passenger airbag assembly.
  - (4) Connect negative (-) terminal cable to battery, and wait at least 2 seconds.

- C**
- (1) Turn ignition switch to ACC or ON, and wait at least 2 seconds.
  - (2) Clear malfunction code stored in memory. (See page RS-47)
  - (3) Turn ignition switch to LOCK, and wait at least 20 seconds.
  - (4) Turn ignition switch to ACC or ON, and wait at least 20 seconds.
  - (5) Using SST, connect terminals Tc and E<sub>1</sub> of DLC1 or DLC2.  
SST 09843-18020
  - (6) Check diagnostic trouble code.

**OK** Diagnostic trouble code 54 is not output.

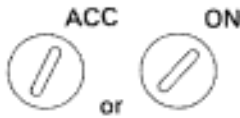
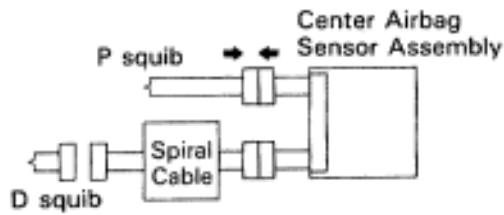
**Hint** Codes other than code 54 may be output at this time, but they are not relevant to this check.

OK

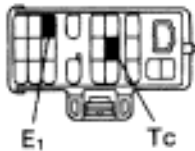
**NG** Replace center airbag sensor assembly.

**4**

**Check P squib.**



**DLC 1**



**DLC 2**



RD5909  
AB0118 AB0118  
Iai-23-1-A RD5170  
S-17-1

- P**
- (1) Turn ignition switch to LOCK.
  - (2) Disconnect negative (-) terminal cable from the battery, and wait at least 90 seconds.
  - (3) Connect front passenger airbag assembly connector.
  - (4) Connect negative (-) terminal cable to battery, and wait at least 2 seconds.
- C**
- (1) Turn ignition switch to ACC or ON, and wait at least 20 seconds.
  - (2) Clear malfunction code stored in memory. (See page RS-47)
  - (3) Turn ignition switch to LOCK, and wait at least 20 seconds.
  - (4) Turn ignition switch to ACC or ON, and wait at least 20 seconds.
  - (5) Using SST, connect terminals Tc and E<sub>1</sub> of DLC1 or DLC2.  
SST 09843-18020
  - (6) Check diagnostic trouble code.

**OK** Diagnostic trouble code 54 is not output.

**Hint** Codes other than code 54 may be output at this time, but they are not relevant to this check.

**OK**

**NG** Replace front passenger airbag assembly.

From the results of the above inspection, the malfunctioning part can now be considered normal. To make sure of this, use the simulation method to check.

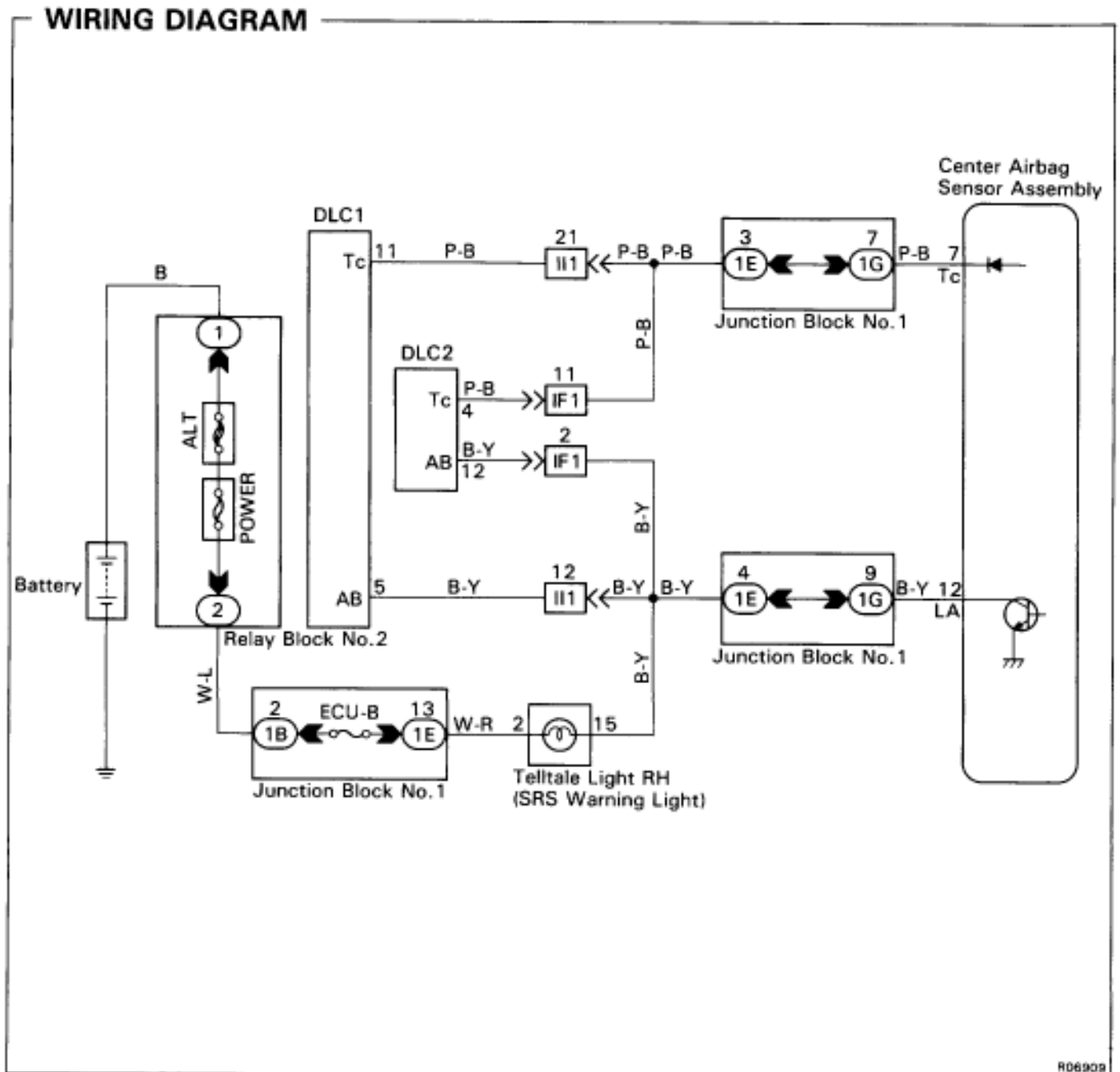
## SRS Warning Light System (Always lit up when ignition switch is in Lock position.)

### CIRCUIT DESCRIPTION

The SRS warning light is located on the cluster finish panel.

When the SRS is normal, the SRS warning light lights up for approx. 6 seconds after the ignition switch is turned from LOCK position to ACC or ON position, and then turns off automatically.

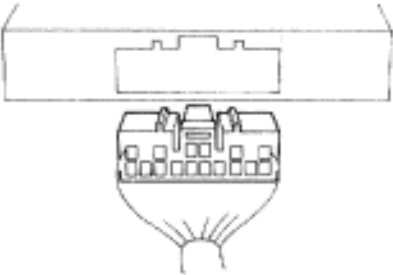
If there is a malfunction in the SRS, the SRS warning light lights up to inform the driver of the abnormality. When terminals Tc and E<sub>1</sub> of the DLC1 or DLC2 are connected, the diagnostic trouble code is displayed by the blinking of the SRS warning light.





# INSPECTION PROCEDURES

[P] Preparation [C] Check

<p><b>1</b></p>	<p><b>Does SRS warning light turn off?</b></p>	
<p>LOCK</p>  <p>Center Airbag Sensor Assembly</p> <p>AB0117 RC6298</p>	<p><b>P</b></p> <ol style="list-style-type: none"> <li>(1) Turn ignition switch to LOCK.</li> <li>(2) Disconnect negative (-) terminal cable from the battery, and wait at least 90 seconds.</li> <li>(3) Disconnect center airbag sensor assembly connector.</li> <li>(4) Connect negative (-) terminal cable to battery.</li> </ol>	<p><b>C</b></p> <p>Check operation of SRS warning light.</p>
<p><b>YES</b></p>	<p><b>NO</b> Check SRS warning light circuit or terminal AB circuit of DLC1 or DLC2.</p>	

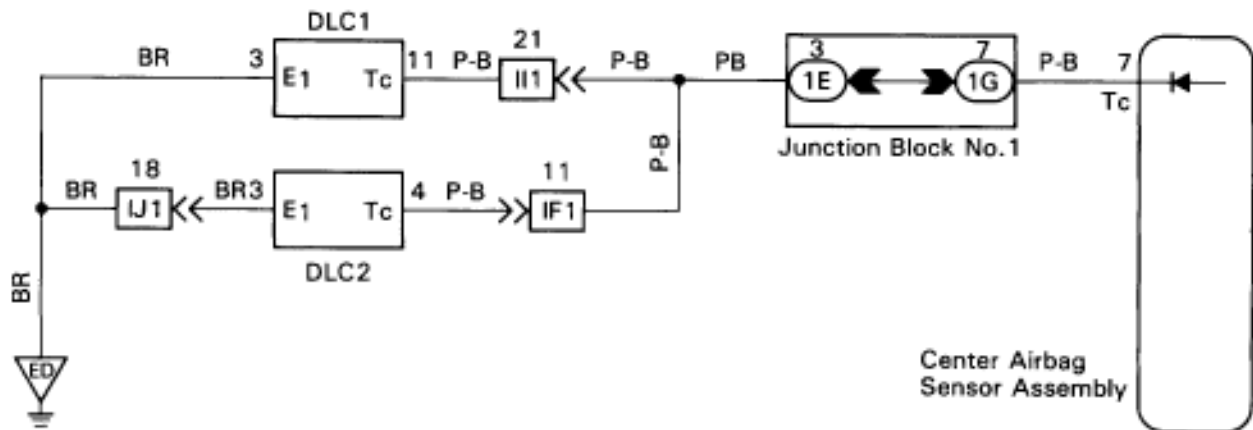
Replace center airbag sensor assembly.

## Tc Terminal Circuit

### CIRCUIT DESCRIPTION

By connecting terminals Tc and E<sub>1</sub> of the DLC1 or DLC2, the center airbag sensor assembly is set in the diagnostic trouble code output mode. The diagnostic trouble codes are displayed by the blinking of the SRS warning light.

#### WIRING DIAGRAM



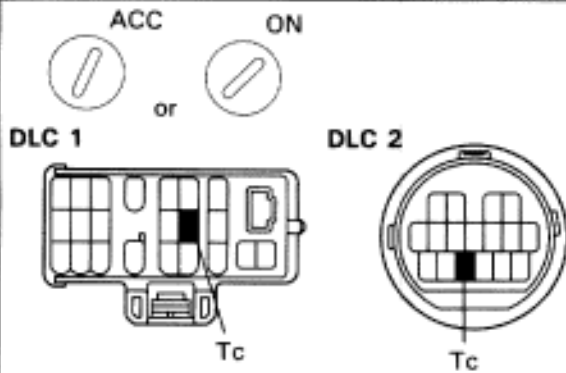
# INSPECTION PROCEDURES

[P] Preparation [C] Check

HINT: If the diagnostic trouble code is not displayed, do the following troubleshooting:

<b>1</b>	<b>Does SRS warning light light up for approx. 6 seconds?</b>
<p>LOCK                      ACC                      ON</p> <p>AB0117 AB0118 AB0119 RO6853</p>	<p><b>C</b> Check operation of SRS warning light after ignition switch turned from LOCK position to ACC or ON position.</p>
<b>YES</b>	<b>NO</b> Check SRS warning light system. (See page <a href="#">RS-44</a> )

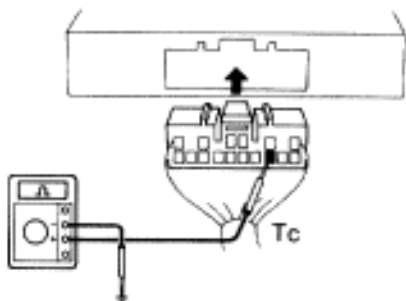
<b>2</b>	<b>Check voltage between terminals Tc and E<sub>1</sub> of DLC1 and DLC2.</b>
<p>ACC                      ON</p> <p>DLC 1                      DLC 2</p> <p>E<sub>1</sub>                      Tc                      Tc                      E<sub>1</sub></p> <p>AB0118 AB0119 Iai-23-1-A 5-17-1</p>	<p><b>P</b> Turn ignition switch to ACC or ON.</p> <p><b>C</b> Measure voltage between terminals Tc and E<sub>1</sub> of DLC1 or DLC2.</p> <p><b>OK</b> Voltage: <b>Battery positive voltage</b></p>
<b>NG</b>	<b>OK</b> Go to step <b>4</b> .

**3****Check voltage between terminals Tc of DLC1 or DLC2 and body ground.**AB0118 AB0119  
Iw-23-1-A 5-17-1**NG****C**

Measure voltage between terminals Tc of DLC1 or DLC2 and body ground.

**OK****Voltage: Battery positive voltage****OK****Check harness between terminals E<sub>1</sub> of DLC1 or DLC2 and body ground.****4****Check center airbag sensor assembly.**

Center Airbag Sensor Assembly

AB0117 AB0118 AB0119  
R05267**NG****P**

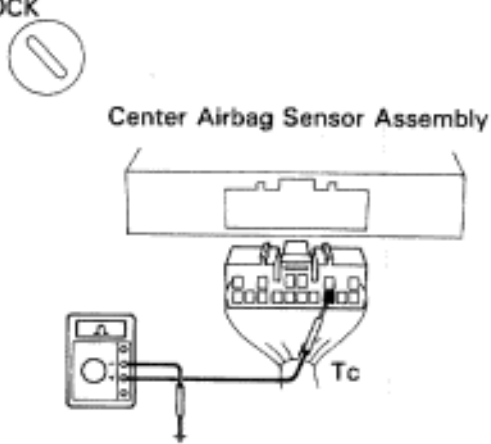
- (1) Turn ignition switch to LOCK.
- (2) Disconnect negative (-) terminal cable from the battery, and wait at least 90 seconds.
- (3) Disconnect center airbag sensor assembly connector.
- (4) Insert test probe into terminal Tc from back side as shown.
- (5) Connect center airbag sensor assembly connector with check pin.
- (6) Connect negative (-) terminal cable to battery.
- (7) Turn ignition switch to ACC or ON and wait at least 20 seconds.
- (8) Using service wire, connect test probe of terminal Tc to body ground.

**C**

Check operation SRS warning light.

**OK****SRS warning light comes on.****NOTICE: Never made a mistake with the terminal connection position as this will cause a malfunction.****OK****Check harness between center airbag sensor assembly and DLC1 or DLC2.****Replace center airbag sensor assembly.**

HINT: If the diagnostic trouble code is displayed without a DTC check procedure, perform the following troubleshooting.

<p><b>1</b></p>	<p><b>Check resistance between terminal Tc of center airbag sensor assembly and body ground.</b></p>
<p><b>LOCK</b></p>  <p>Center Airbag Sensor Assembly</p> <p>Tc</p> <p>AB0117 R05267</p>	<p><b>P</b> (1) Turn ignition switch to LOCK. (2) Disconnect negative (-) terminal cable from the battery, and wait at least 90 seconds. (3) Disconnect center airbag sensor assembly connector.</p> <p><b>C</b> Check resistance between terminal Tc of center airbag sensor assembly connector and body ground.</p> <p><b>OK</b> Resistance: 1 M or Higher</p>
<p><b>NG</b></p>	<p><b>OK</b> Replace center airbag sensor assembly.</p>
<p>Repair or replace harness or connector.</p>	

## SERVICE SPECIFICATIONS SERVICE DATA

FRONT AIRBAG SENSOR	
⊕S – ⊕A	755–885 Ω
⊕S – ⊖S	1 MΩ or Higher
⊖S – ⊖A	Less than 1 Ω

## TORQUE SPECIFICATIONS

Part tightened	N·m	kgf·cm	ft·lbf
Steering wheel	35	360	26
Steering wheel pad	7.1	72	62 in.·lbf
Front passenger airbag assembly x Instrument panel reinforcement	21	210	15
Front passenger airbag assembly x Instrument panel	8.8	90	78 in.·lbf
Front airbag sensor	29	300	22
Airbag sensor assembly	21	210	15