

OPERATION

FUNCTION OF COMPONENTS

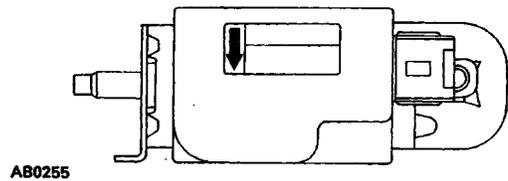
1. FRONT AIRBAG SENSOR

The front airbag sensors are mounted inside of the radiator upper support. The sensor unit is a mechanical type. When the sensor detects deceleration force above a predetermined limit in a collision, the contacts in the sensor make contact, sending a signal to the center airbag sensor assembly.

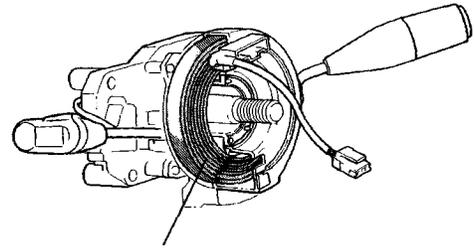
The sensor cannot be disassembled.

2. SPIRAL CABLE (in COMBINATION SWITCH)

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



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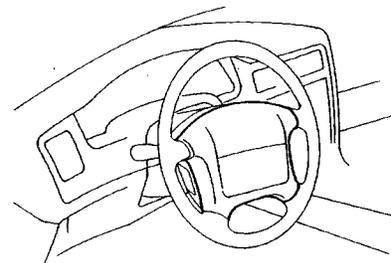
Spiral Cable

AB0258

3. STEERING WHEEL PAD (with AIRBAG)

The inflator and bag of the airbag system are stored in the steering wheel pad and cannot be disassembled.

The inflator contains a squib, igniter charge, gas generator, etc., and inflates the bag in case of a frontal collision.



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4. AIRBAG WARNING LIGHT

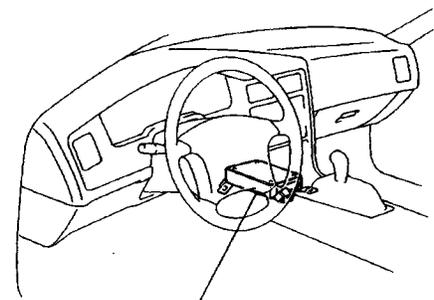
The airbag warning light is located on the combination meter. It goes on to alert the driver of trouble in the system when a malfunction is detected in the center airbag sensor assembly self-diagnosis. In normal operating condition when the ignition switch is turned to the ACC or ON position, the light goes on for about 6 seconds and then goes off.



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5. CENTER AIRBAG SENSOR ASSEMBLY

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

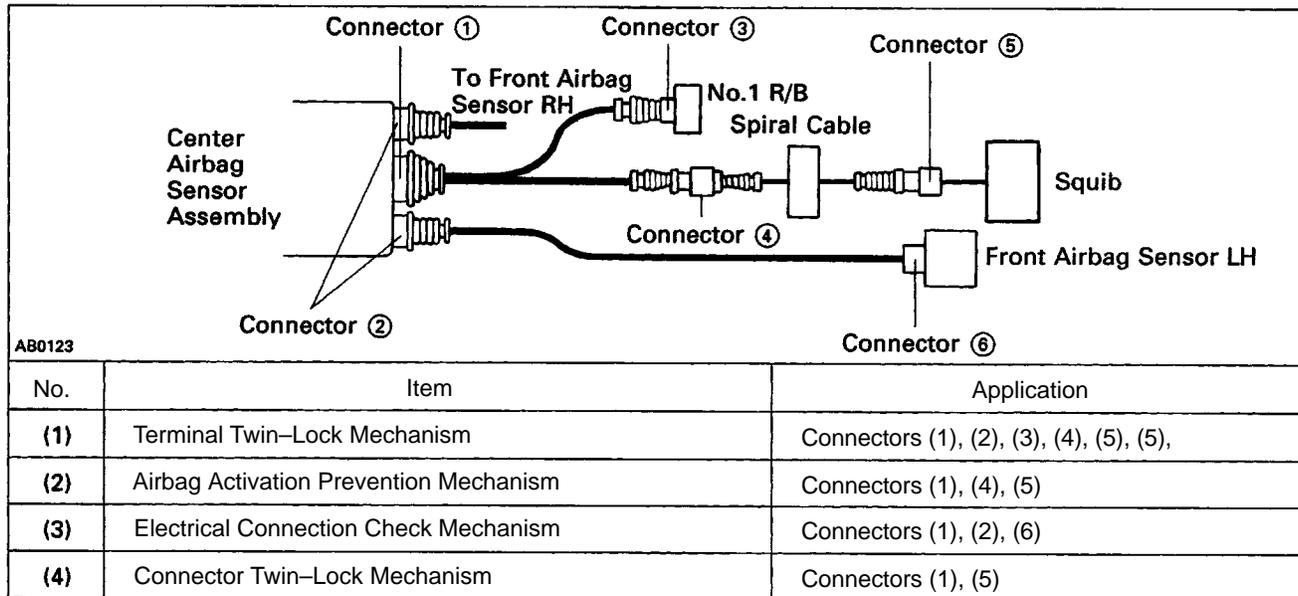


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Center Airbag Sensor Assembly

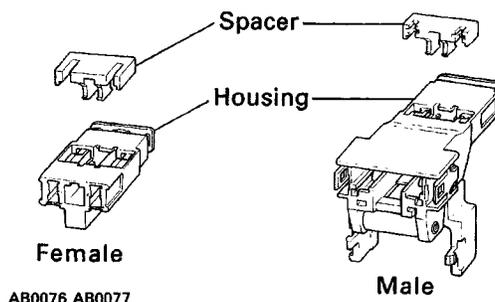
6. AIRBAG CONNECTORS

All connectors in the airbag system are colored yellow. Connectors having special functions and specifically designed for airbags are used in the locations shown below to ensure high reliability. These connectors use durable gold-plated terminals.



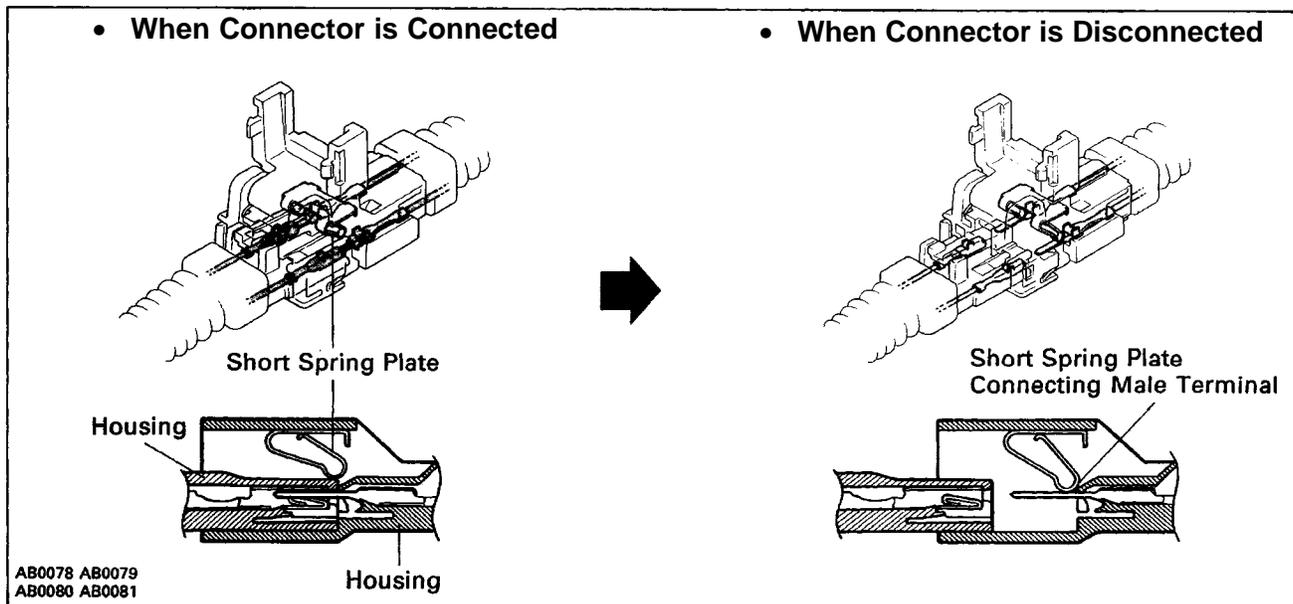
(1) Terminal Twin-Lock Mechanism

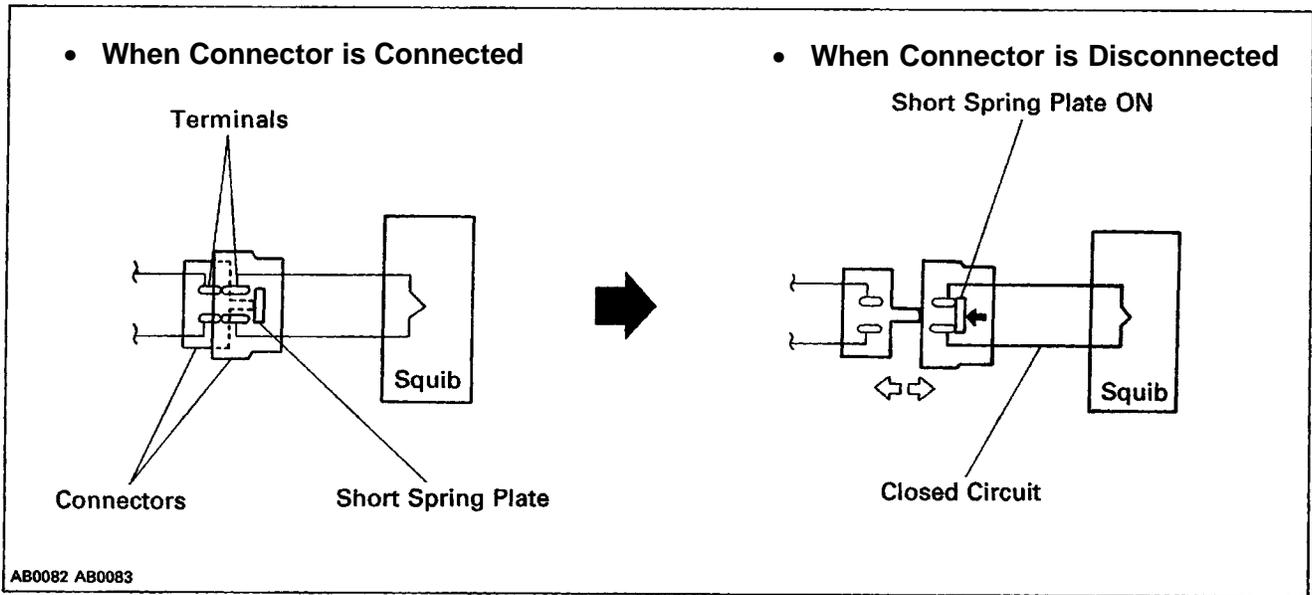
Each connector has a two-piece construction consisting of a housing and a spacer. This design secures the locking of the terminal by two locking devices (the spacer and the lance) to prevent terminals from coming out.



(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.

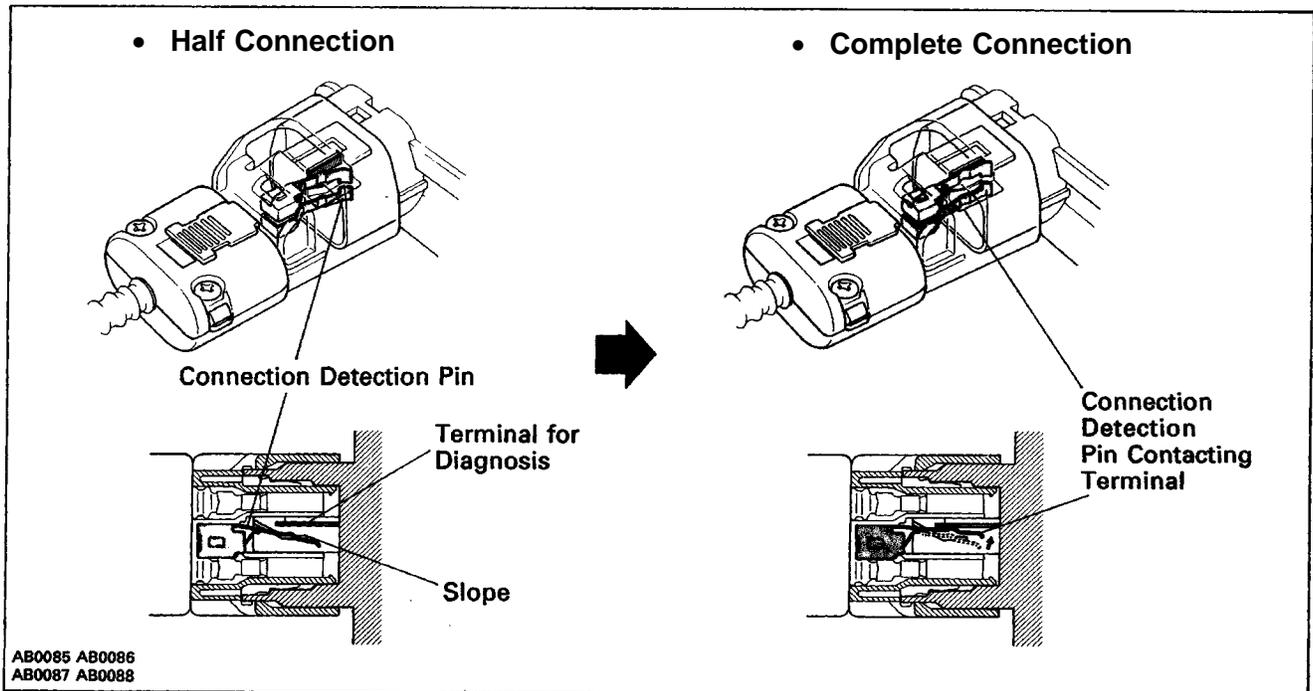
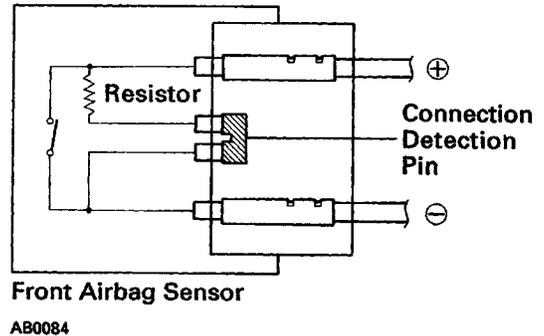




HINT: The illustration shows connectors (4) and (5). Connector (1) has a short spring plate on the female terminal side, but the operating principle is the same.

(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.

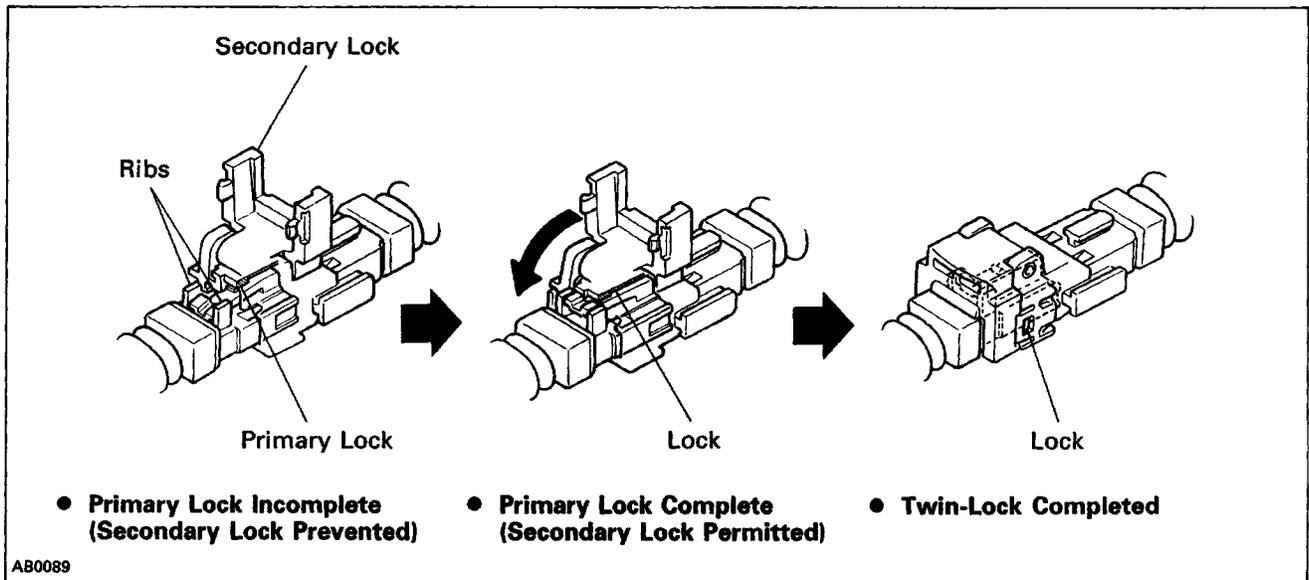


HINT: The illustration shows connector (6). Connectors (1) and (2) also have the same operating principle.

(4) Connector Twin-Lock Mechanism

With this mechanism connectors (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 airbag is activated automatically. Safing sensors are designed to go on at a smaller deceleration rate than the front and center airbag sensors. As illustrated in Fig. 2 below, 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, it causes the squib to ignite. Gas is then generated, increasing the pressure inside the bag rapidly. The inflated bag breaks open the steering wheel pad. Bag inflation then ends, and the gas is discharged through discharge holes provided behind the bag. The bag becomes deflated as a result.

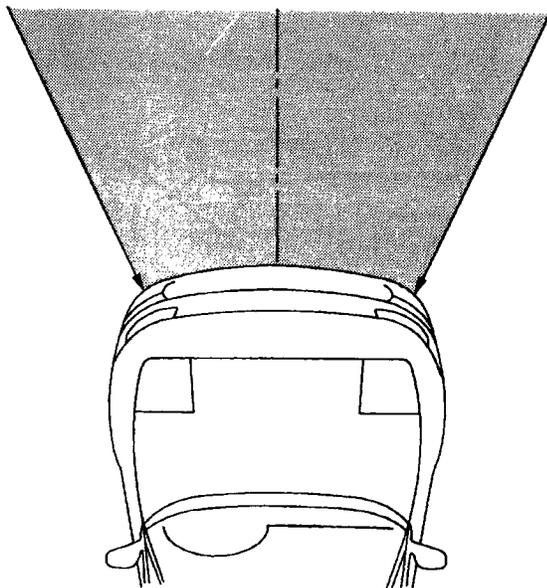


Fig. 1

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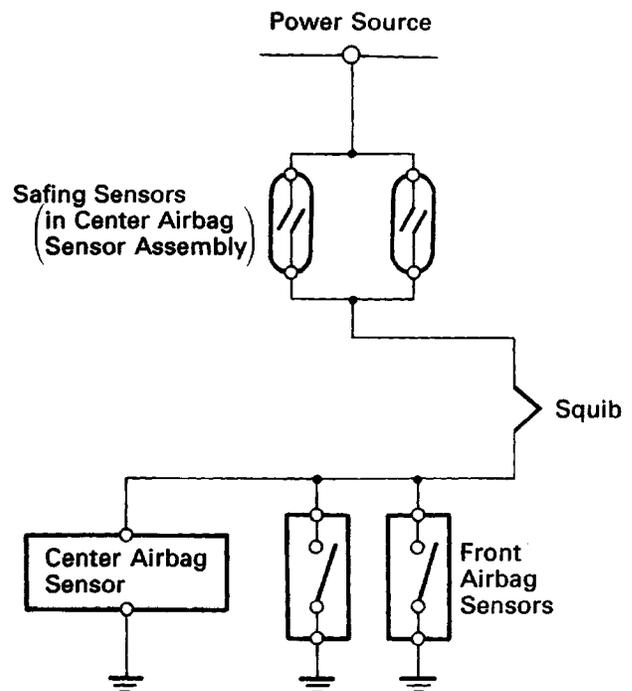


Fig. 2

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