TOYOTA

REPAIR MANUAL SUPPLEMENT

FOR CHASSIS & BODY

LAND CRUISER/ LAND CRUISER PRADO

RZJ9_, VZJ9_ series
KZJ9_, LJ9_ series

Jan., 1998

Pub. No. RM627E

FOREWORD

This supplement has been prepared to provide information covering general service repairs for the chassis and body of the TOYOTA LAND CRUISER/LAND CRUISER PRADO which underwent changes in January, 1998.

Applicable models: RZJ90, 95 series
VZJ90, 95 series
KZJ90, 95 series
LJ90, 95 series

For the service specifications and repair procedures of the above model other than those listed in this supplement, refer to the following manuals.

Manual Name	Pub.No.
• LAND CRUISER/LAND CRUISER PRADO Chassis and Body Repair Manual	RM517E
• 3RZ–F, 3RZ–FE Engine Repair Manual	RM521E
• 5VZ–FE Engine Repair Manual	RM519E
• 1KZ–T Engine Repair Manual	RM353E
• 1KZ–T, 1KZ–TE Engine Repair Manual Supplement	RM522E
• 2L, 3L Engine Repair Manual	RM520E
• A343F Automatic Transmission Repair Manual	RM528E
• LAND CRUISER/LAND CRUISER PRADO Electrical Wiring Diagram	EWD269F
• LAND CRUISER/LAND CRUISER PRADO Electrical Wiring Diagram Supplement	EWD340F

All information in this manual is based on the latest product information at the time of publication. However, specifications and procedures are subject to change without notice.

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CAUTION

This manual does not include all the necessary items about repair and service. This manual is made for the purpose of the use for the persons who have special techniques and certifications. In the cases that non–specialized or uncertified technicians perform repair or service only using this manual or without proper equipment or tool, that may cause severe injury to you or other people around and also cause damage to your customer's vehicle.

In order to prevent dangerous operation and damages to your customer's vehicle, be sure to follow the instruction shown below.

- Must read this manual thoroughly. It is especially important to have good understanding all the contents written in the PRECAUTION of "IN" section.
- The service method written in this manual is very effective to perform repair and service. When performing the operations following the procedures using this manual, be sure to use tools specified and recommended. If using non–specified or recommended tools and service method, be sure to confirm safety of the technicians and any possibility of causing personal injury or damage to the customer's vehicle before starting the operation.
- If part replacement is necessary, must replace the part with the same part number or equivalent part. Do not replace it with inferior quality.
- It is important to note that this manual contains various "Cautions" and "Notices" that must be carefully observed in order to reduce the risk of personal injury during service or repair, or the possibility that improper service or repair may damage the vehicle or render it unsafe. It is also important to understand that these "Cautions" and "Notices" are not exhaustive, because it is important to warn of all the possible hazardous consequences that might result from failure to follow these instructions.

INTRODUCTION IN
PREPARATION PP
SERVICE SPECIFICATIONS SS
DIAGNOSTICS DI
STEERING SR
SUPPLEMENTAL RESTRAINT SYSTEM RS
BODY ELECTRICAL BE
BODY BO
ALPHABETICAL INDEX ID

INTRODUCTION

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HOW TO USE THIS MANUAL

GENERAL INFORMATION

IN00U–10

1. INDEX

An INDEX is provided on the first page of each section to guide you to the item to be repaired. To assist you in finding your way through the manual, the Section Title and major heading are given at the top of every page.

2. GENERAL DESCRIPTION

At the beginning of each section, a General Description is given that pertains to all repair operations contained in that section.
Read these precautions before starting any repair task.

3. TROUBLESHOOTING

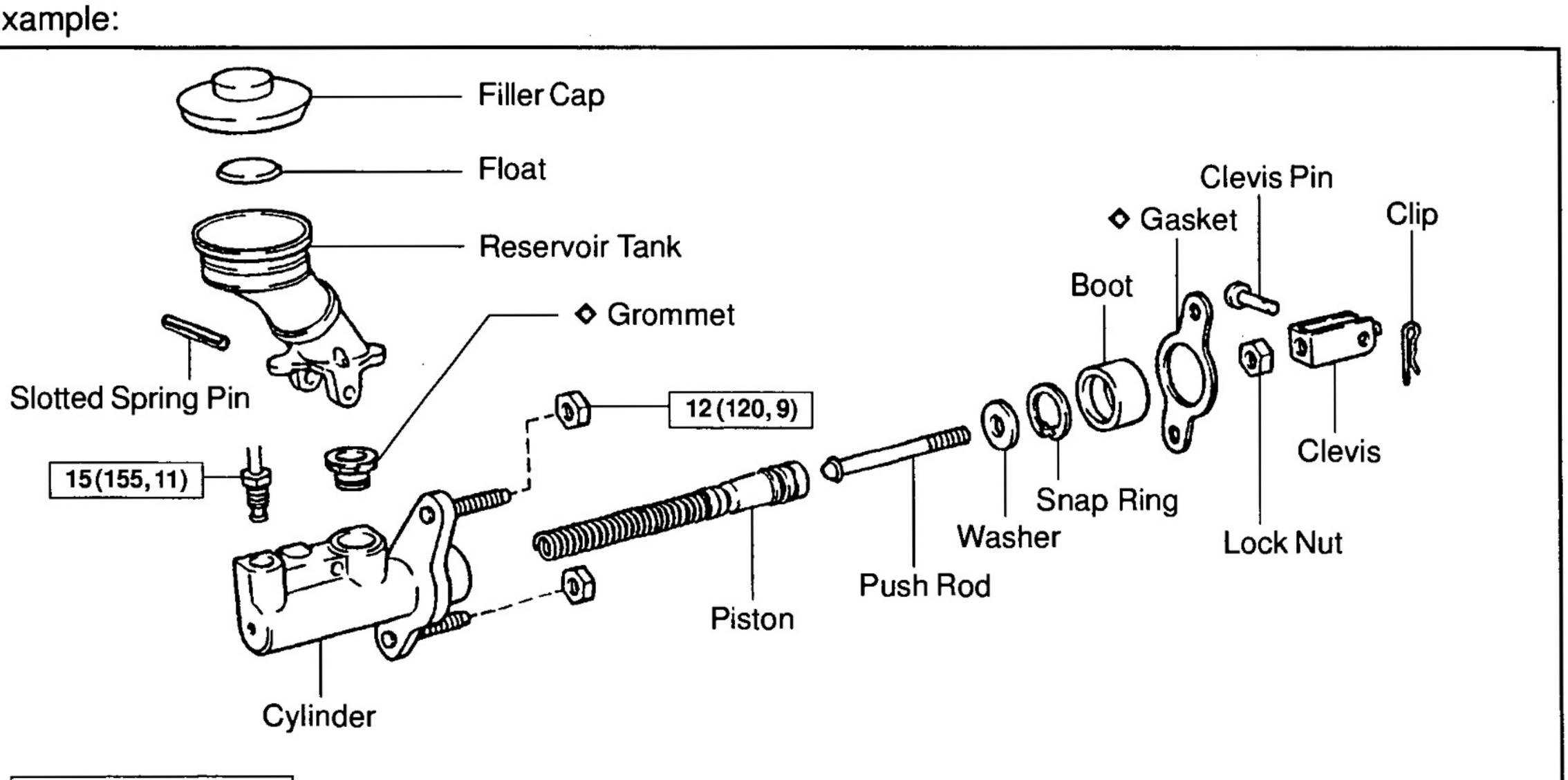
TROUBLESHOOTING tables are included for each system to help you diagnose the problem and find the cause. The fundamentals of how to proceed with troubleshooting are described on page IN–21.
Be sure to read this before performing troubleshooting.

4. PREPARATION

Preparation lists the SST (Special Service Tools), recommended tools, equipment, lubricant and SSM (Special Service Materials) which should be prepared before beginning the operation and explains the purpose of each one.

5. REPAIR PROCEDURES

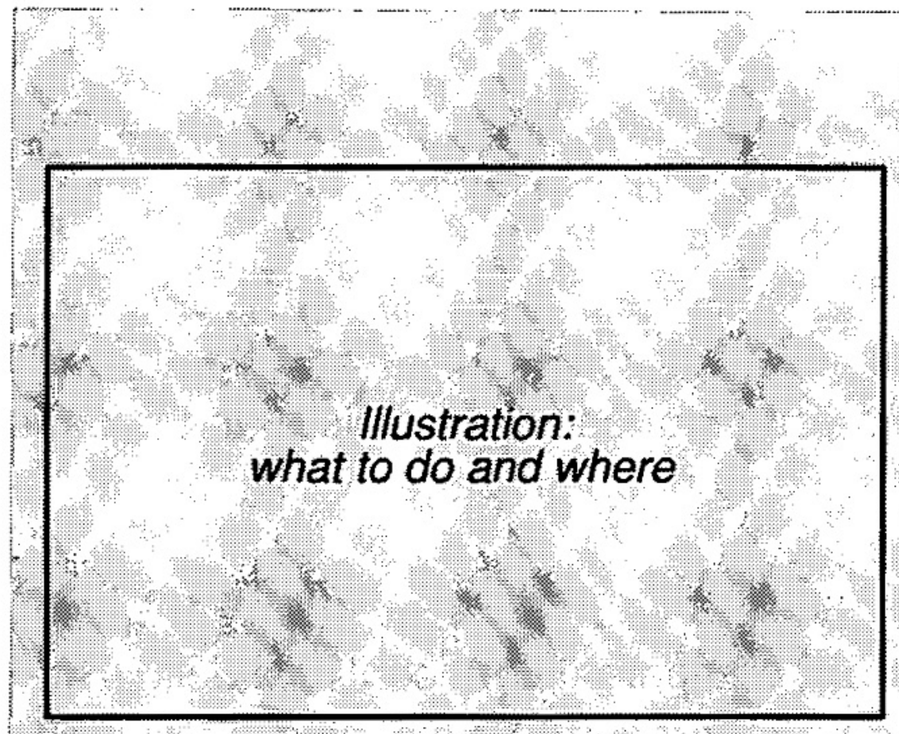
Most repair operations begin with an overview illustration. It identifies the components and shows how the parts fit together.
Example:



The procedures are presented in a step–by–step format:

- The illustration shows what to do and where to do it.
- The task heading tells what to do.
- The detailed text tells how to perform the task and gives other information such as specifications and warnings.

Example :



Task heading : what to do

21. CHECK PISTON STROKE OF OVERDRIVE BRAKE

(a) Place SST and a dial indicator onto the overdrive brake piston as shown in the illustration.

SST 09350–30020 (09350–06120)

Set part No. *Component part No.*

Detailed text : how to do task

(b) Measure the stroke applying and releasing the compressed air (392 — 785 kPa, 4 — 8 kgf/cm^2 or 57 — 114 psi) as shown in the illustration.

Piston stroke: 1.40 — 1.70 mm (0.0551 — 0.0669 in.)

Specification

This format provides the experienced technician with a FAST TRACK to the information needed. The upper case task heading can be read at a glance when necessary, and the text below it provides detailed information. Important specifications and warnings always stand out in bold type.

6. REFERENCES

References have been kept to a minimum. However, when they are required you are given the page to refer to.

7. SPECIFICATIONS

Specifications are presented in bold type throughout the text where needed. You never have to leave the procedure to look up your specifications. They are also found in Service Specifications section, for quick reference.

8. CAUTIONS, NOTICES, HINTS:

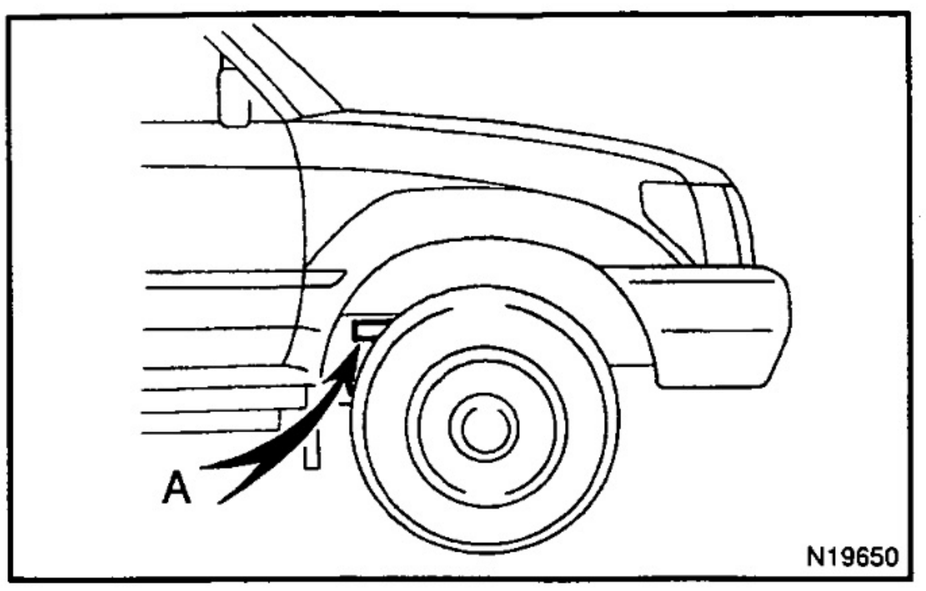
- CAUTIONS are presented in bold type, and indicate there is a possibility of injury to you or other people.
- NOTICES are also presented in bold type, and indicate the possibility of damage to the components being repaired.
- HINTS are separated from the text but do not appear in bold. They provide additional information to help you perform the repair efficiently.

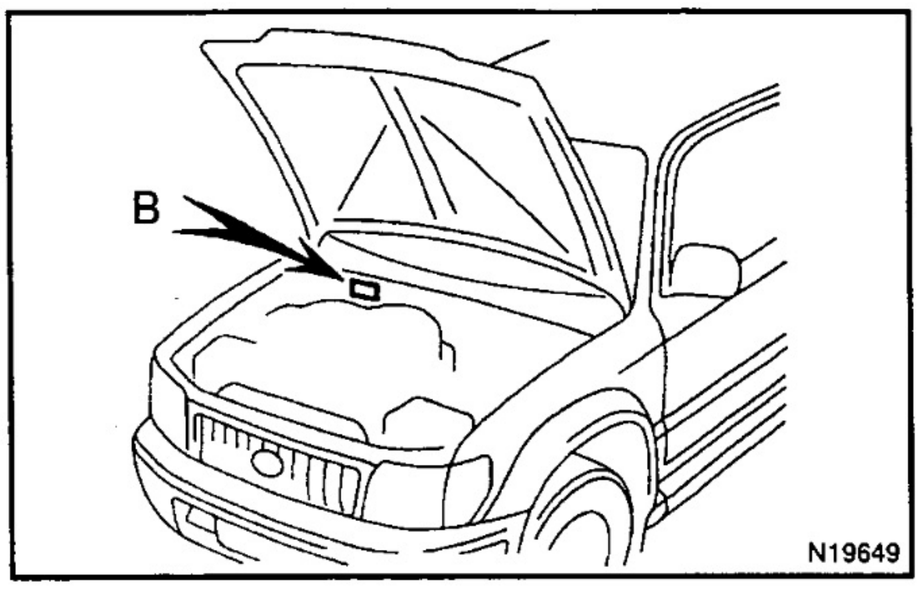
9. SI UNIT

The UNITS given in this manual are primarily expressed according to the SI UNIT (International System of Unit), and alternately expressed in the metric system and in the English System.

Example:

Torque: 30 N·m (310 kgf·cm, 22 ft·lbf)





IDENTIFICATION INFORMATION

IN09T–01

VEHICLE IDENTIFICATION AND ENGINE SERIAL NUMBER

1. VEHICLE IDENTIFICATION NUMBER

The vehicle identification number is stamped on the outer surface of the front right side frame. This number is also stamped on the manufacture's plate.

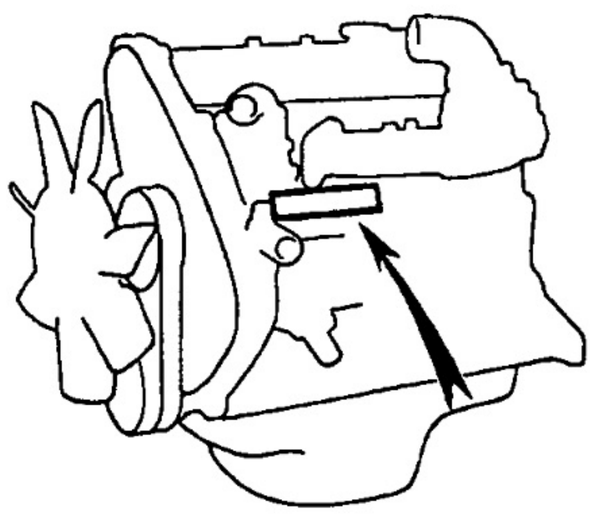
A: Vehicle Identification Number

B: Manufacturer's Plate

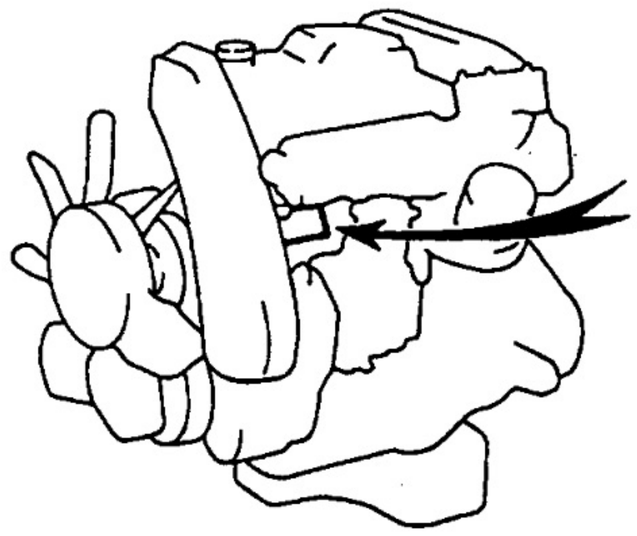
2. ENGINE SERIAL NUMBER

The engine serial number is stamped on the engine block, as shown in the illustration.

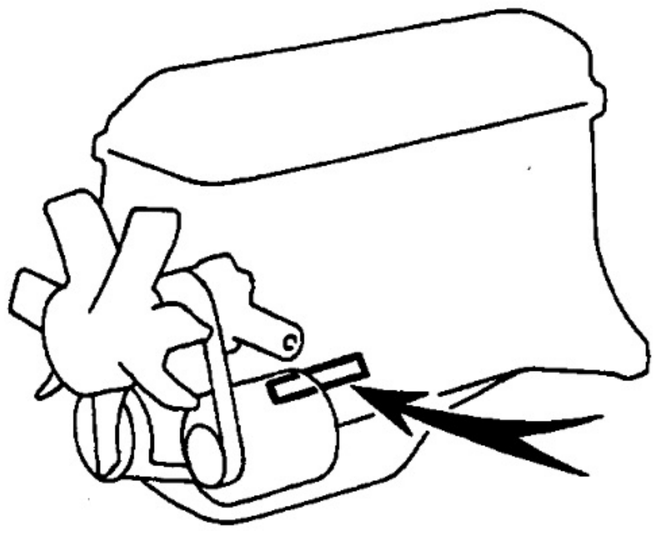
3L Engine



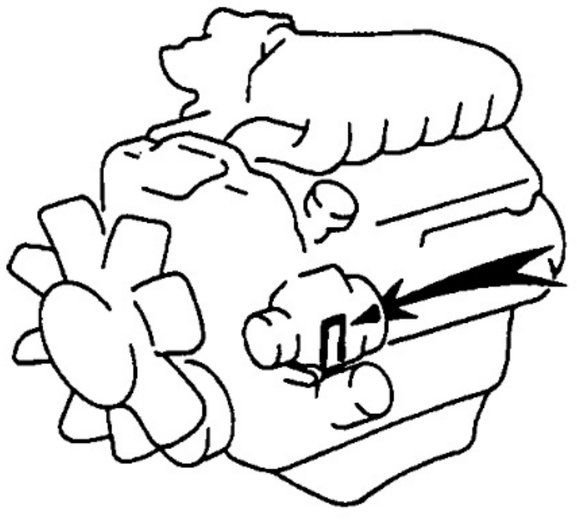
1KZ–T, 1KZ–TE Engine



3RZ–F, 3RZ–FE Engine

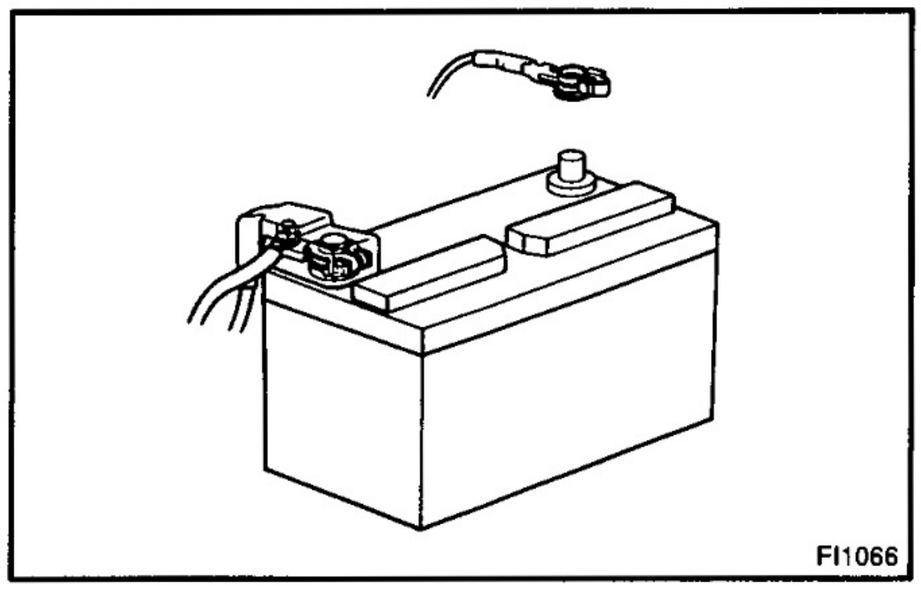


5VZ–FE Engine



N19545 N09034
N17730 N17731

Z18427


FI1066

IN

REPAIR INSTRUCTIONS

GENERAL INFORMATION

IN09U–01

BASIC REPAIR HINT

(a) Use fender, seat and floor covers to keep the vehicle clean and prevent damage.

(b) During disassembly, keep parts in the appropriate order to facilitate reassembly.

(c) Observe the following operations:

(1) Before performing electrical work, disconnect the negative (–) terminal cable from the battery.

(2) If it is necessary to disconnect the battery for inspection or repair, always disconnect the negative (–) terminal cable which is grounded to the vehicle body.

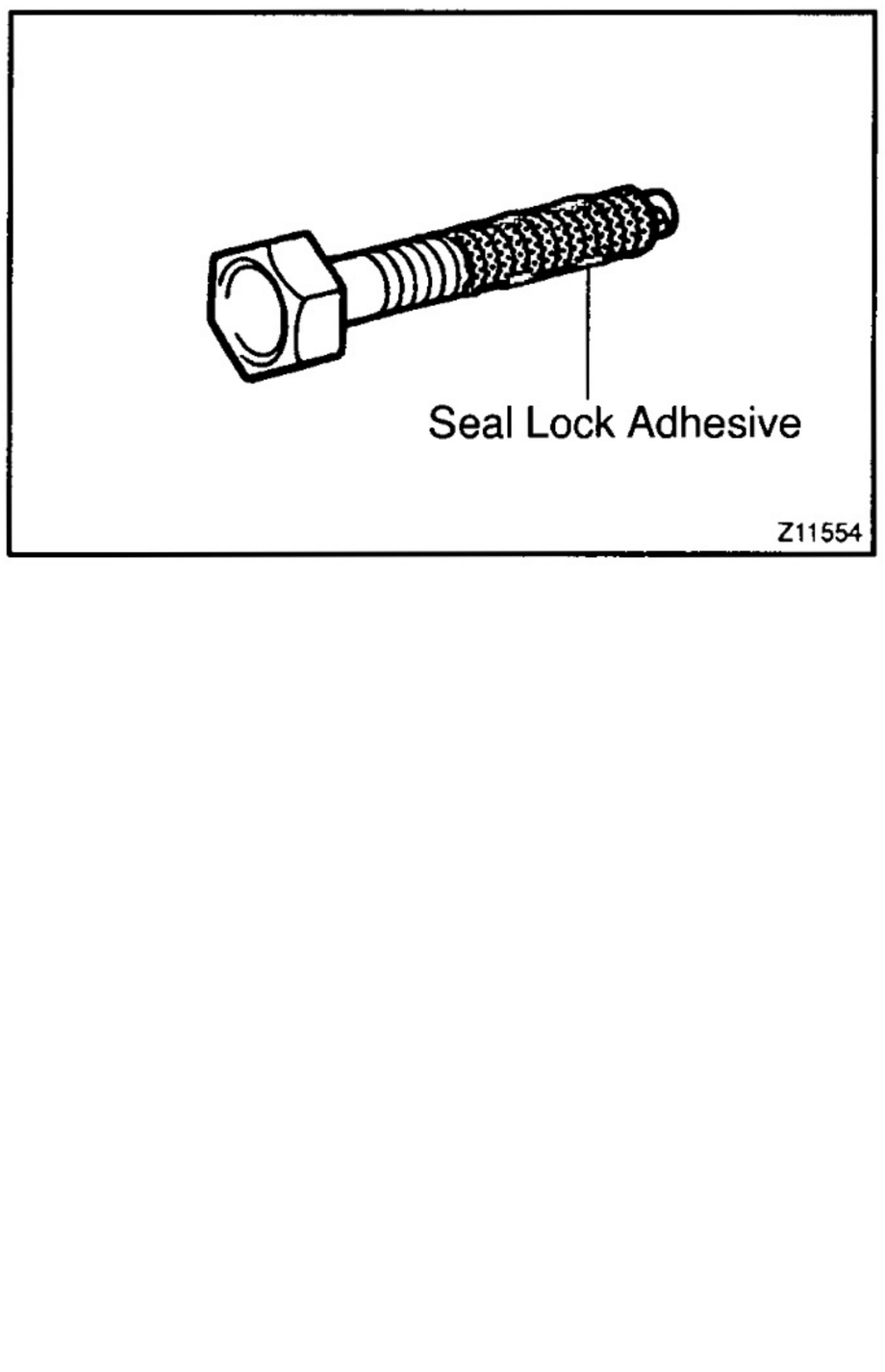
(3) To prevent damage to the battery terminal, loosen the cable nut and raise the cable straight up without twisting or prying it.

(4) Clean the battery terminals and cable ends with a clean shop rag. Do not scrape them with a file or other abrasive objects.

(5) Install the cable ends to the battery terminals with the nut loose, and tighten the nut after installation. Do not use a hammer to tap the cable ends onto the terminals.

(6) Be sure the cover for the positive (+) terminal is properly in place.

(d) Check hose and wiring connectors to make sure that they are secure and correct.



Z11554

(e) Non–reusable parts

(1) Always replace cotter pins, gaskets, O–rings, oil seals, etc. with new ones.

(2) Non–reusable parts are indicated in the component illustrations by the "◇" symbol.

(f) Precoated parts

Precoated parts are bolts and nuts, etc. that are coated with a seal lock adhesive at the factory.

(1) If a precoated parts is retightened, loosened or caused to move in any way, it must be precoated with the specified adhesive.

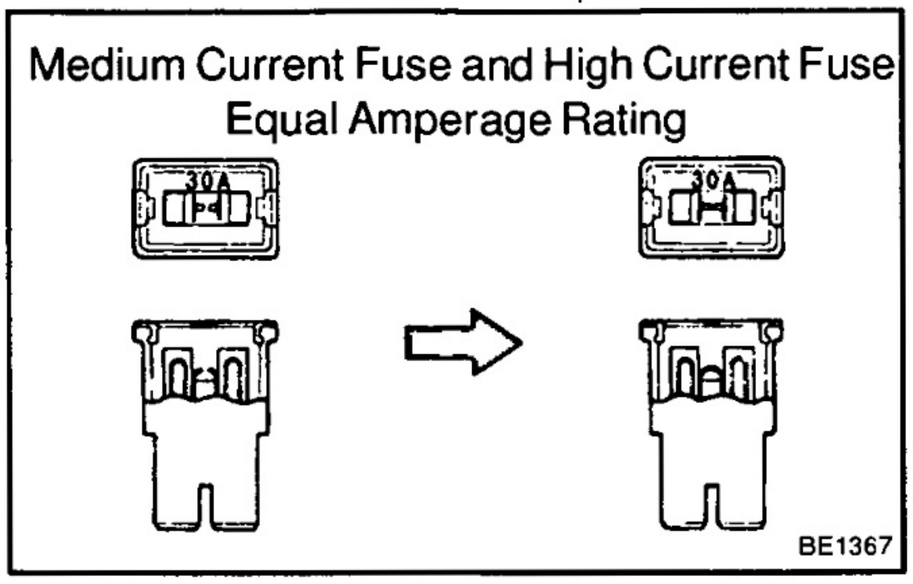
(2) When reusing precoated parts, clean off the old adhesive and dry with compressed air. Then apply the specified seal lock adhesive to the bolt, nut or threads.

(3) Precoated parts are indicated in the component illustrations by the "★" symbol.

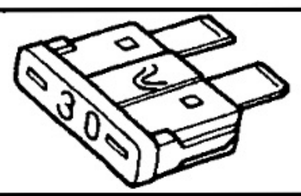
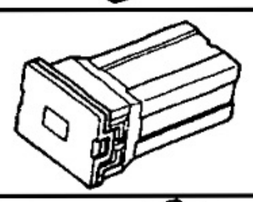
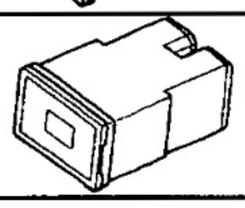
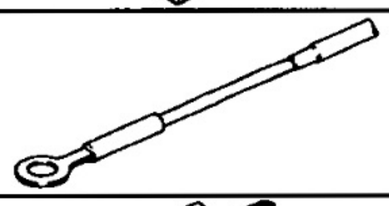
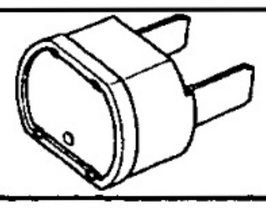
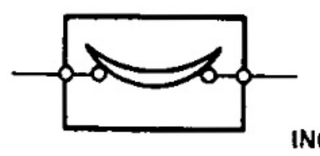
(g) When necessary, use a sealer on gaskets to prevent leaks.

(h) Carefully observe all specifications for bolt tightening torques. Always use a torque wrench.

(i) Use of special service tools (SST) and special service materials (SSM) may be required, depending on the nature of the repair. Be sure to use SST and SSM where specified and follow the proper work procedure. A list of SST and SSM can be found in Preparation section in this manual.



(j) When replacing fuses, be sure the new fuse has the correct amperage rating. DO NOT exceed the rating or use one with a lower rating.

Illustration	Symbol	Part Name	Abbreviation
 BE5594	IN0365	FUSE	FUSE
 BE5595	IN0366	MEDIUM CURRENT FUSE	M–FUSE
 BE5596	IN0367	HIGH CURRENT FUSE	H–FUSE
 BE5597	IN0367	FUSIBLE LINK	FL
 BE5598	 IN0368	CIRCUIT BREAKER	CB

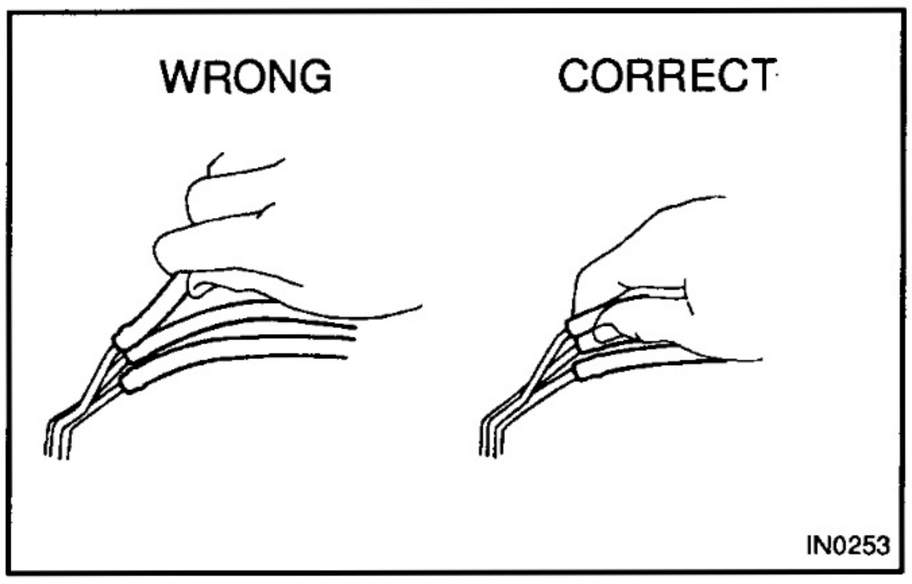
V00076

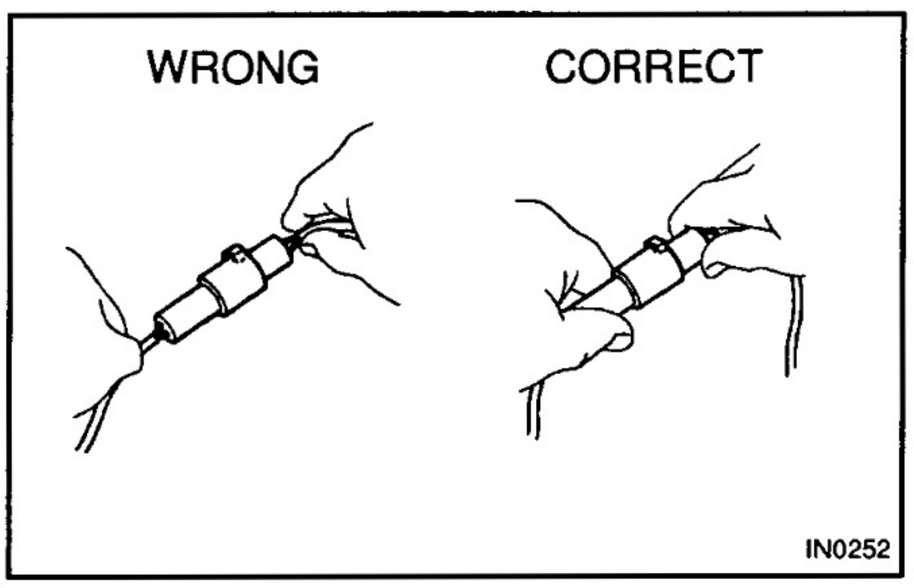
(k) Care must be taken when jacking up and supporting the vehicle. Be sure to lift and support the vehicle at the proper locations (See page IN–7).

(1) If the vehicle is to be jacked up only at the front or rear end, be sure to block the wheels at the opposite end in order to ensure safety.

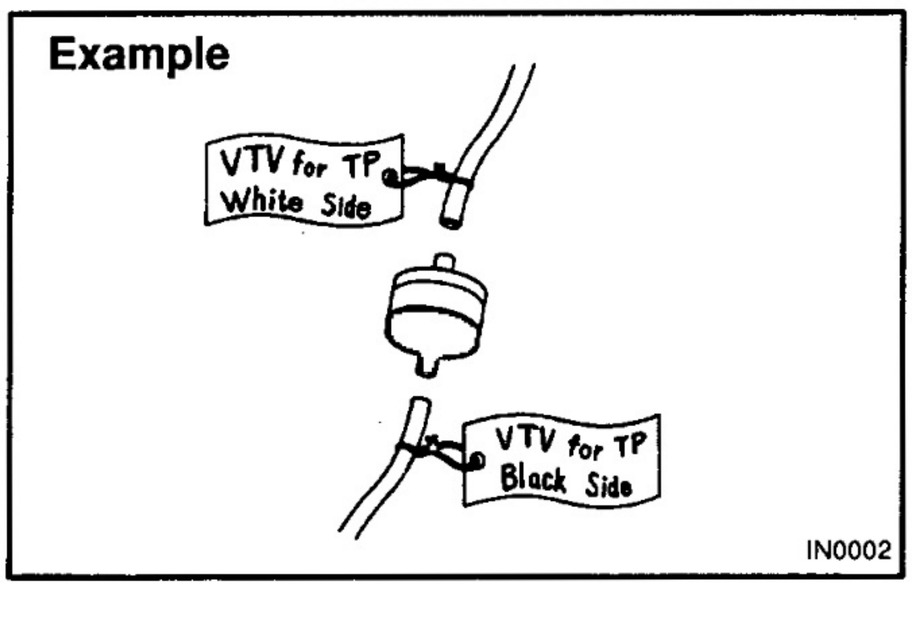
(2) After the vehicle is jacked up, be sure to support it on stands. It is extremely dangerous to do any work on a vehicle raised on a jack alone, even for a small job that can be finished quickly.

(l) Observe the following precautions to avoid damage to the following parts:
(1) Do not open the cover or case of the ECU unless absolutely necessary. (If the IC terminals are touched, the IC may be destroyed by static electricity.)





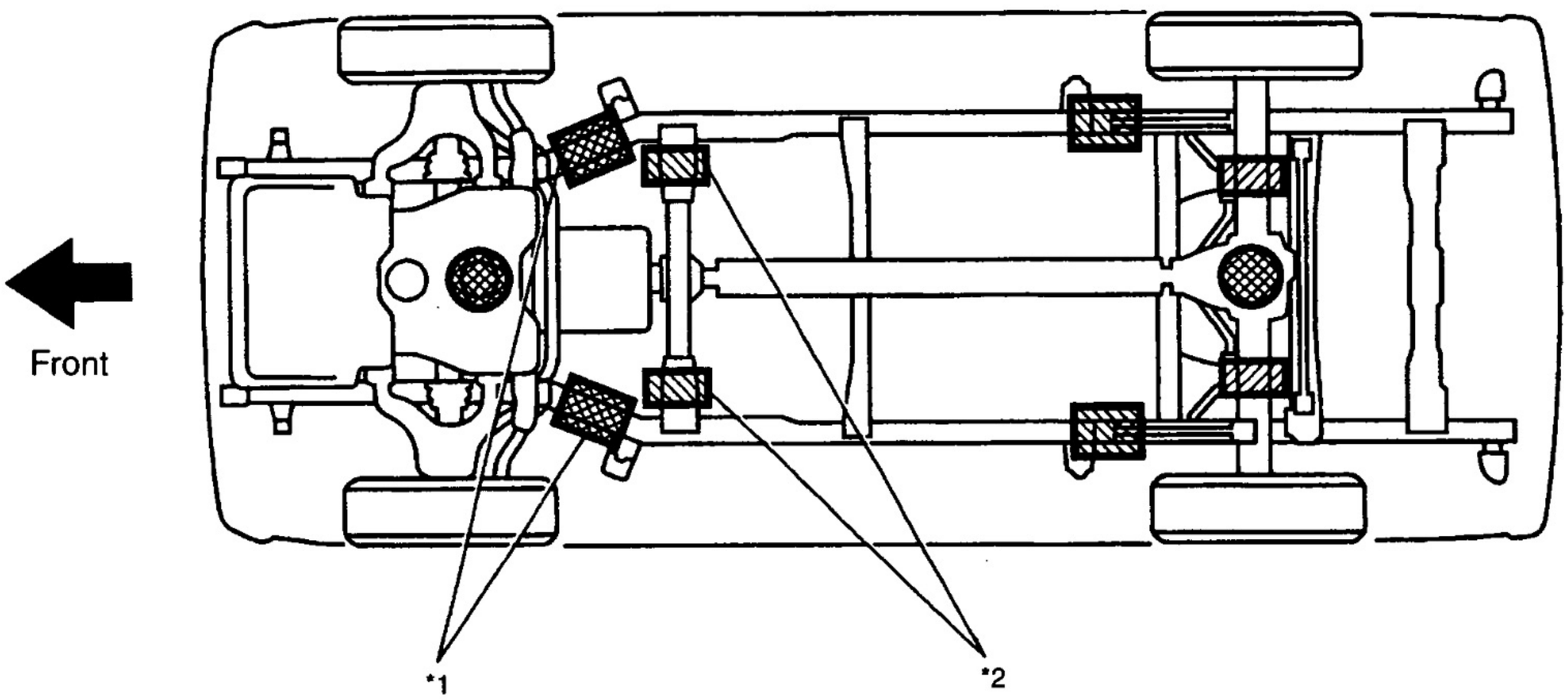
(2) To disconnect vacuum hoses, pull off the end, not the middle of the hose.
(3) To pull apart electrical connectors, pull on the connector itself, not the wires.
(4) Be careful not to drop electrical components, such as sensors or relays. If they are dropped on a hard floor, they should be replaced and not reused.
(5) When steam cleaning an engine, protect the electronic components, air filter and emission–related components from water.
(6) Never use an impact wrench to remove or install temperature switches or temperature sensors.
(7) When checking continuity at the wire connector, insert the tester probe carefully to prevent terminals from bending.
(8) When using a vacuum gauge, never force the hose onto a connector that is too large. Use a step–down adapter instead. Once the hose has been stretched, it may leak.



(m) Tag hoses before disconnecting them:
(1) When disconnecting vacuum hoses, use tags to identify how they should be reconnected.
(2) After completing a job, double check that the vacuum hoses are properly connected. A label under the hood shows the proper layout.
(n) Unless otherwise stated, all resistance is measured at an ambient temperature of 20°C (68°F). Because the resistance may be outside specifications if measured at high temperatures immediately after the vehicle has been running, measurement should be made when the engine has cooled down.

IN09V–01

VEHICLE LIFT AND SUPPORT LOCATIONS



JACK POSITION . . . . . ●

Front . . . . . Center of crossmember
Rear . . . . . Center of rear axle housing

SUPPORT POSITION

Safety stand . . . . . ▨
Swing arm type lift . . . . . ▨

*1 : Support position when equipping without side step.

*2 : Support position when equipping with side step.

CAUTION : For 3 door models, do not use the swing arm type lift as this type lift may not support the short wheel based models securely.

B01542

FOR ALL OF VEHICLES

PRECAUTION

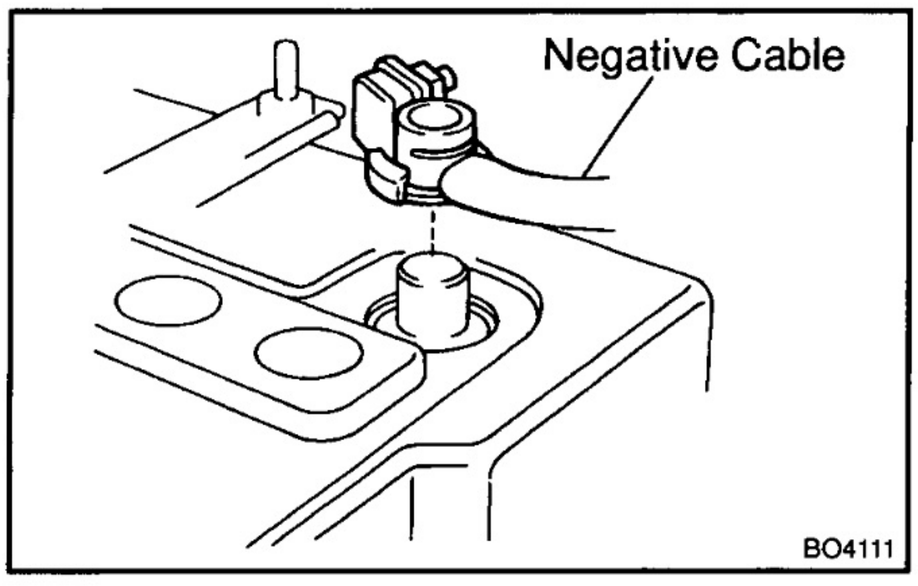
IN09W–01

1. FOR VEHICLES EQUIPPED WITH SRS AIRBAG AND SEAT BELT PRETENSIONER

(a) The LAND CRUISER/LAND CRUISER PRADO is equipped with an SRS (Supplemental Restraint System), such as the driver airbag, front passenger airbag and seat belt pretensioners.

Failure to carry out service operations in the correct sequence could cause the supplemental restraint system to unexpectedly deploy during servicing, possibly leading to a serious accident.

Further, if a mistake is made in servicing the supplemental restraint system, it is possible the SRS may fail to operate when required. Before 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 this manual.



(b) GENERAL NOTICE

(1) Malfunction symptoms of the supplemental restraint system are difficult to confirm, so the diagnostic trouble codes become the most important source of information when troubleshooting. When troubleshooting the supplemental restraint system, always inspect the diagnostic trouble codes before disconnecting the battery (See page DI–3).

(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 supplemental restraint system 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 cancelled. So before starting work, make a record of the contents memorized by the each memory system. Then when work is finished, reset the clock and audio systems as before. 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 passenger's airbag assembly, seat belt pretensioner and the steering wheel pad should be inspected (See page RS–13, RS–27, BO–24).

(4) Never use SRS parts from another vehicle. When replacing parts, replace them with new parts.

(5) Before repairs, remove the airbag sensor if shocks are likely to be applied to the sensor during repairs.

(6) Never disassemble and repair the airbag sensor assembly, steering wheel pad, front passenger airbag or seat belt pretensioner in order to reuse it.

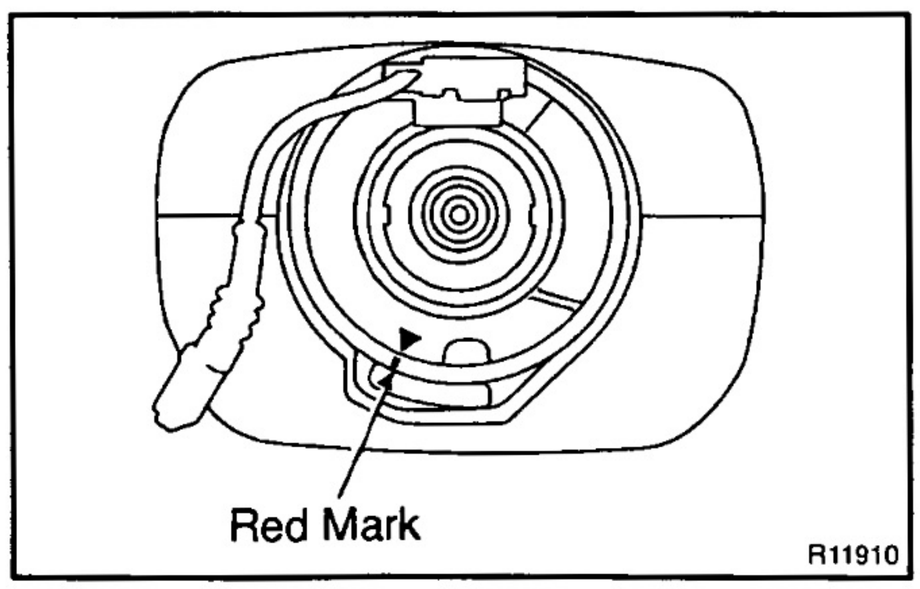
(7) If the airbag sensor assembly, steering wheel pad, front passenger airbag or seat belt pretensioner have been dropped, or if there are cracks, dents or other defects in the case, bracket or connector, replace them with new ones.

(8) Do not expose the airbag sensor assembly, steering wheel pad directly to hot air or flames.

(9) Use a volt/ohmmeter with high impedance (10 kΩ/V minimum) for troubleshooting of the electrical circuit.

(10) Information labels are attached to the periphery of the SRS components. Follow the instructions on the notices.

(11) After work on the supplemental restraint system is completed, check the SRS warning light (See page DI–3).



(c) SPIRAL CABLE (in Combination Switch)
The steering wheel must be fitted correctly to the steering column with the spiral cable at the neutral position, otherwise cable disconnection and other troubles may result. Refer to SR–4 of this manual concerning correct steering wheel installation.

(d) STEERING WHEEL PAD (with Airbag)

(1) When removing the steering wheel pad or handling a new steering wheel pad, it should be placed with the pad top surface facing up.
In addition do not store a steering wheel pad on top of another one. Storing the pad with its metallic surface facing upward may lead to a serious accident if the airbag inflates for some reason.

(2) Never measure the resistance of the airbag squib. (This may cause the airbag to deploy, which is very dangerous.)

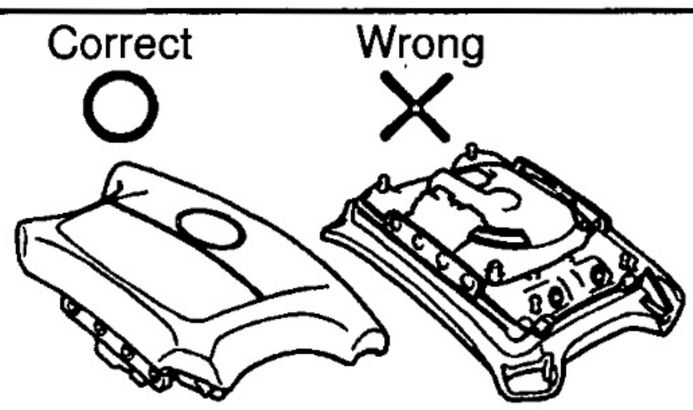
(3) Grease should not be applied to the steering wheel pad and the pad should not be cleaned with detergents of any kind.

(4) Store the steering wheel pad where the ambient temperature remains below 93°C (200°F), without high humidity and away from electrical noise.

(5) When using electric welding, first disconnect the airbag connector (yellow color and 2 pins) under the steering column near the combination switch connector before starting work.

(6) When disposing of a vehicle or the steering wheel pad alone, the airbag should be deployed using an SST before disposal (See page RS–15).
Carry out the operation in a safe place away from electrical noise.

Example:



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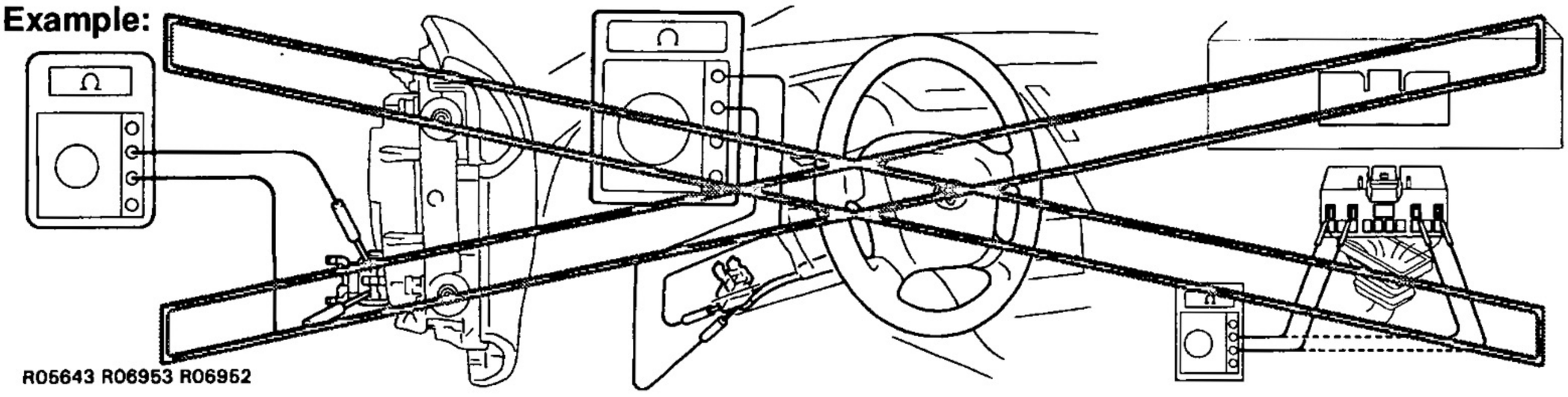
Example:



R05643 R06953 R06952 Z13950

(e) FRONT PASSENGER AIRBAG ASSEMBLY

(1) Always store a removed or new front passenger airbag assembly with the airbag deployment direction facing up.
Storing the airbag assembly with the airbag deployment direction facing down could cause a serious accident if the airbag inflates.

(2) Never measure the resistance of the airbag squib. (This may cause the airbag deploy, which is very dangerous.)

(3) Grease should not be applied to the front passenger airbag assembly and the airbag door should not be cleaned with detergents of any kind.

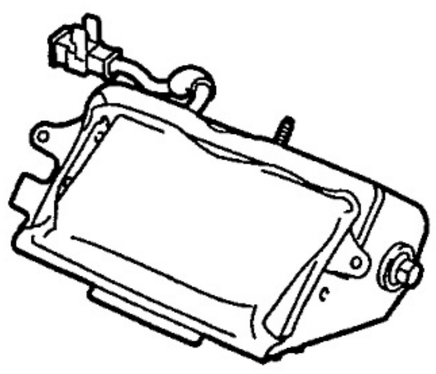
(4) Store the airbag assembly where the ambient temperature remains below 93°C (200°F), without high humidity and away from electrical noise.

(5) When using electric welding, first disconnect the airbag connector (yellow color and 2 pins) installed on the glove compartment finish plate at the left side of the glove compartment before starting work.

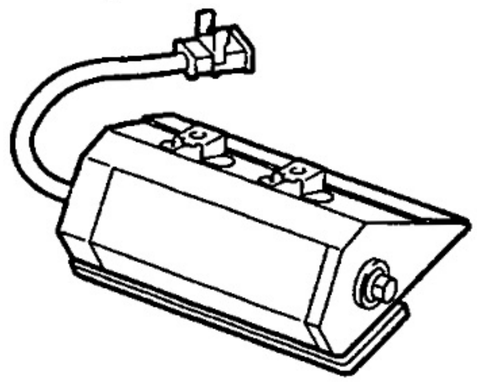
(6) When disposing of a vehicle or the airbag assembly alone, the airbag should be deployed using an SST before disposal (See page RS–29).
Perform the operation in a safe place away from electrical noise.

Example:

○ Correct

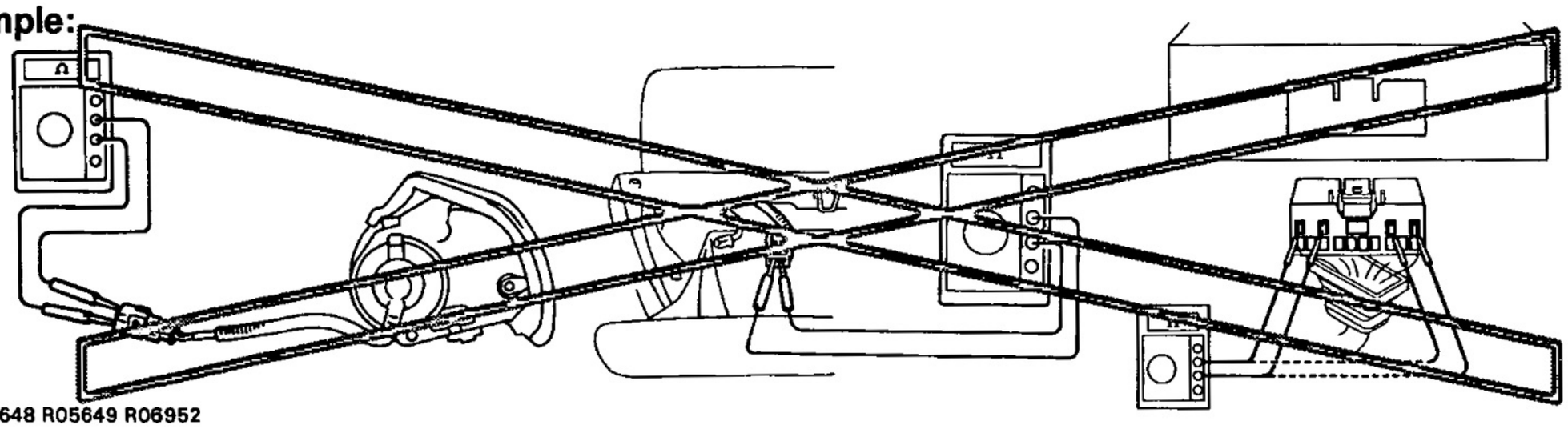


✕ Wrong



B01927

Example:



R05648 R05649 R06952

Z13951

(f) SEAT BELT PRETENSIONER (MECHANICAL TYPE)

(1) Before doing any operation which will apply a strong shock to the vehicle, or before removing the seat belt pretensioner, be sure to apply the sensor shock.

(2) Never disassemble the seat belt pretensioner.

(3) Do not subject the seat belt pretensioner to shocks or bring magnets close to it.

(4) Do not expose the seat belt pretensioner to hight temperature or fire.

(5) Do not drop the seat belt pretensioner. Never use a seat belt pretensioner which has been dropped.

(6) Never install the seat belt pretensioner in another vehicle.

(7) Store removed seat belt pretensioner on a flat, stable surface.

(8) After frontal collision, always check whether the seat belt pretensioners have been activated.

(9) When disposing of a vehicle or the pretensioner by itself, always activate the pretensioner before disposal (Refer to Pub. No. RM517E).

(10) The seat belt pretensioner is hot when activated, so let it cool down fully before you dispose of it. Never apply water to the seat belt pretensioner.

(g) SEAT BELT PRETENSIONER (ELECTRICAL TYPE)

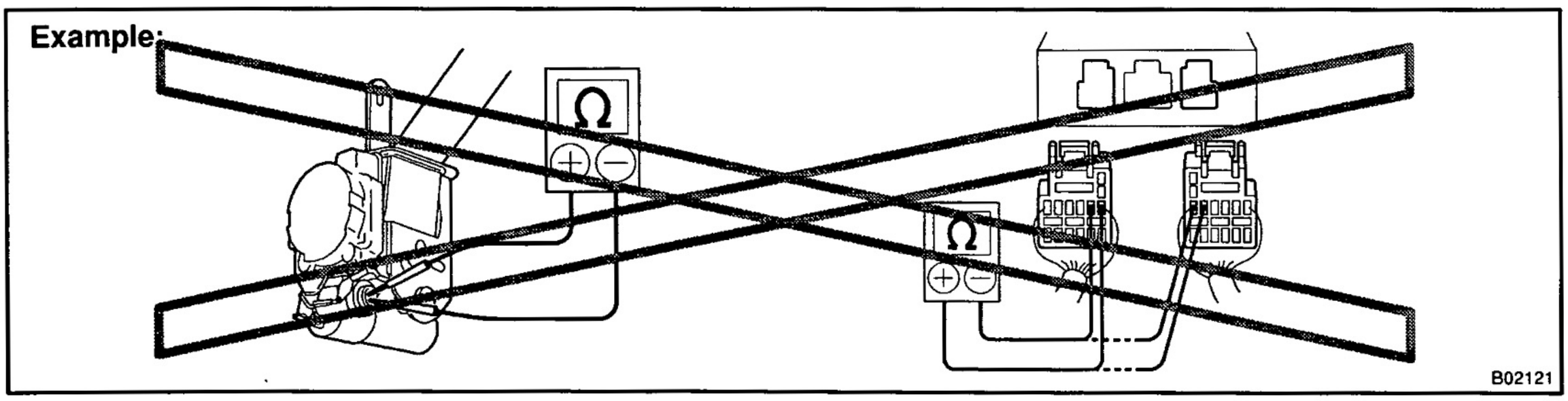
(1) Never measure the resistance of the seat belt pretensioner. (This may cause the pretensioner operates, which is very dangerous.)

(2) Oil or water should not be put the front seat outer belt and the front seat outer belt should not be cleaned with detergents of any kind.

(3) Store the front seat outer belt where the ambient temperature remains below 80°C (176°F), without high humidity and away from electrical noise.

(4) When using electric welding, first disconnect the connector (yellow color and 2 pins) before starting work.

(5) When disposing of a vehicle or a front seat outer belt alone, the seat belt pretensioner should be activated using a SST before disposal (See page BO–25). Carry out the operation in a place away from electrical noise.



(h) AIRBAG SENSOR ASSEMBLY

(1) Never reuse the airbag sensor assembly involved in a collision when the SRS has deployed.

(2) The connectors to the airbag sensor assembly should be connected or disconnected with the sensor mounted on the floor. If the connectors are connected or disconnected while the airbag sensor assembly is not mounted to the floor, it could cause undesired ignition of the supplemental restraint system.

(3) 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, even if only loosening the set bolts of the airbag sensor assembly.

(i) WIRE HARNESS AND CONNECTOR

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. All the connectors for the system are also a standard yellow color. If the SRS wire harness becomes disconnected or the connector becomes broken due to an accident, etc., repair or replace it.

2. WHEN SERVICING FULL–TIME 4WD VEHICLES

The Full–Time 4WD LAND CRUISER/LAND CRUISER PRADO is equipped with the mechanical lock type center differential system.

When carrying out any kind of servicing or testing on a full–time 4WD in which the front or rear wheels are made to rotate (braking test, speedometer test, on vehicle wheel balancing, etc.) or when towing the vehicle, be sure to observe the precautions given below.

If incorrect preparations or test procedures are used, the test will not only be unsuccessful, but may be dangerous as well. Therefore, before beginning any such servicing or test, be sure to check the following items:

- Whether wheels should be touching ground or jacked up
- Transmission gear position
- Maximum testing vehicle speed
- Maximum testing time
- Transfer gear position

Also, make sure the following are observed:

CAUTION:

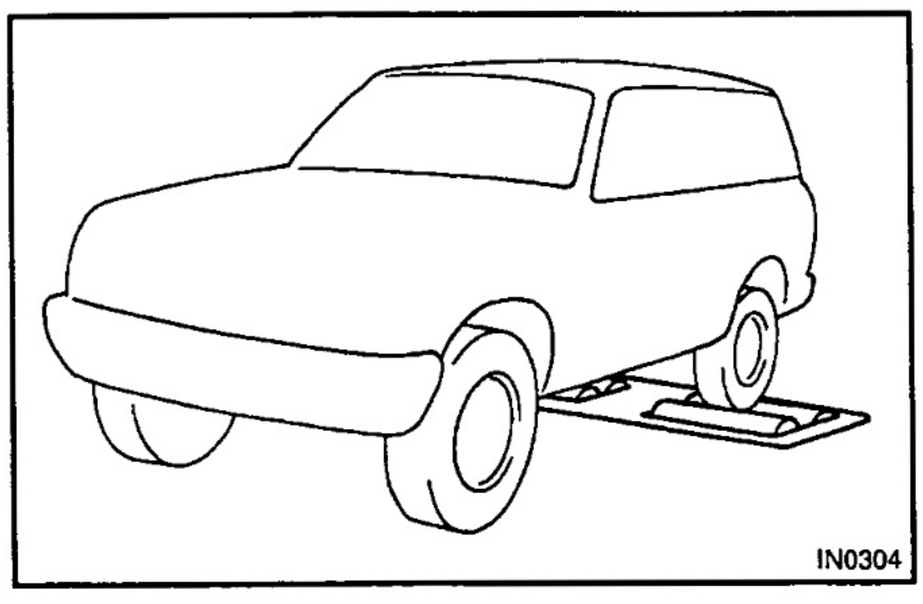
- **Never accelerate or decelerate the vehicle suddenly**
- **Observe the other cautions given for each individual test**

(a) Before Beginning Test:

During tests with a brake tester or chassis dynamometer, such as braking force tests or speedometer tests, if only the front or rear wheels are to be rotated, it is necessary to set the position of the center differential to the FREE position or to the LOCK position depending on the type of test being performed.

(1) Select the position of the center differential by select the transfer shift lever HL position.

(2) After selecting the position, confirm the operation of indicator light.



(b) Braking Force Test (Vehicle Speed: Below 0.5 km/h or 0.3 mph):

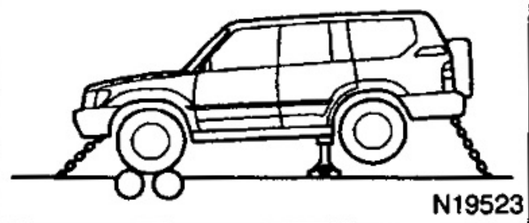
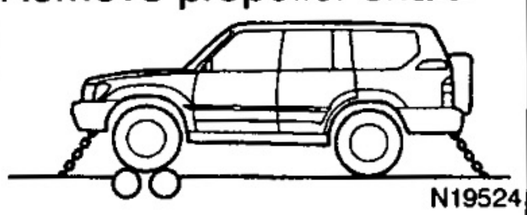
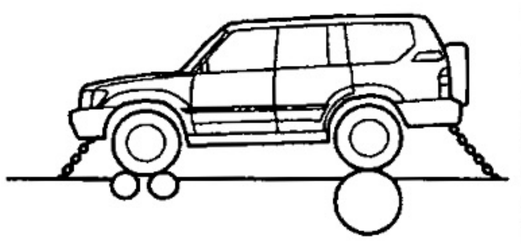
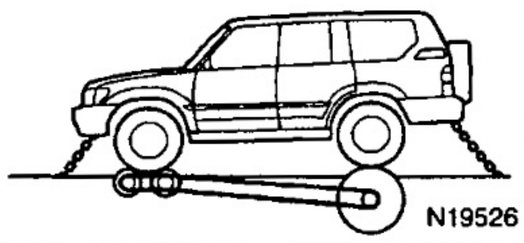
When performing low–speed type brake tester measurements, observe the following instructions.

(1) Position the wheels to be tested (front or rear) on the tester.

(2) Shift the transmission shift lever to Neutral (or "N" range).

(3) Idle the engine, operate the brake booster and perform the test.

(c) Speedometer Test or Other Tests
(Using Speedometer Tester or Chassis Dynamometer)
When performing test at high speed or high load, use the methods shown below.

No.	Chassis Dynamometer Type	Vehicle Condition	Vehicle Speed and Test Time	4–Wheel Drive Control Lever Position
1	2–Wheel Chassis Dynamometer	 N19523	Low speed (60 km/h or less) and 1 minute or less	HL (Locked)
		Remove propeller shaft.  N19524	No restriction on vehicle speed or duration of test	HL (Locked)
2	4–Wheel Free Chassis Dynamometer	 N19525	Low speed (60 km/h or less) and 1 minute or less	HL (Locked)
			No restriction on vehicle speed or duration of test	HL (Locked)
3	4–Wheel Driven Chassis Dynamometer	 N19526	No restriction on vehicle speed or duration of test	HF (Free)

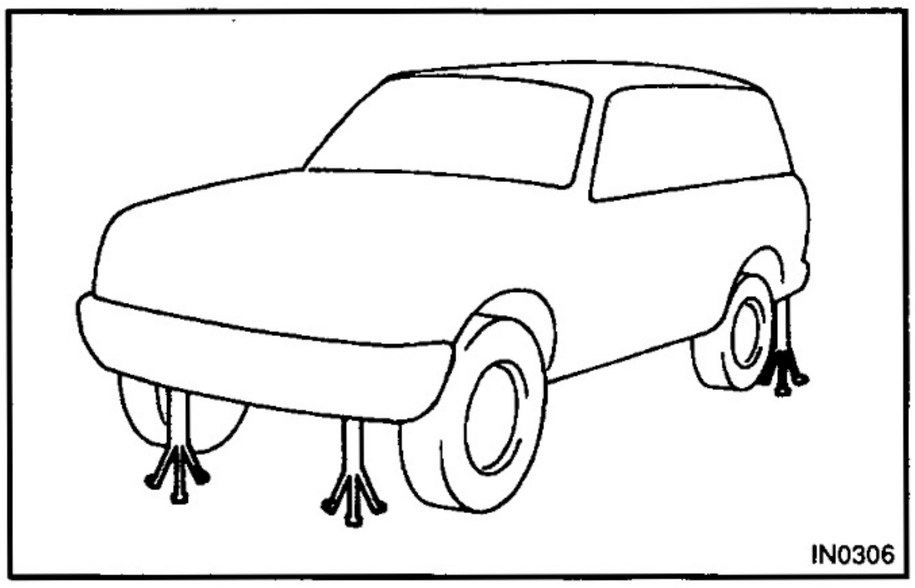
V07999

NOTICE:

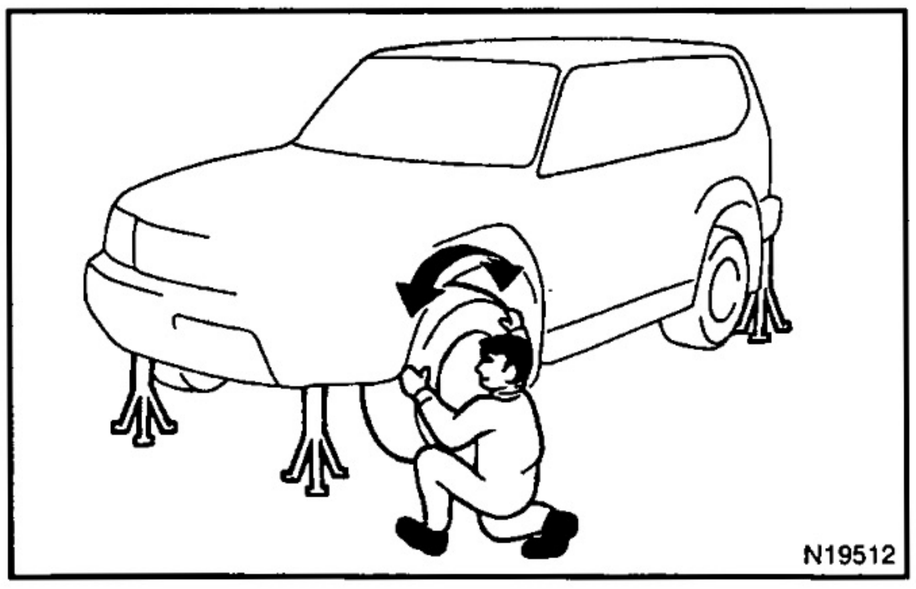
- **Confirm that the vehicle is securely immobilized.**
- **Never operate the clutch or brakes to drive the wheels or stop them suddenly.**

(d) On–Vehicle Wheel Balancing

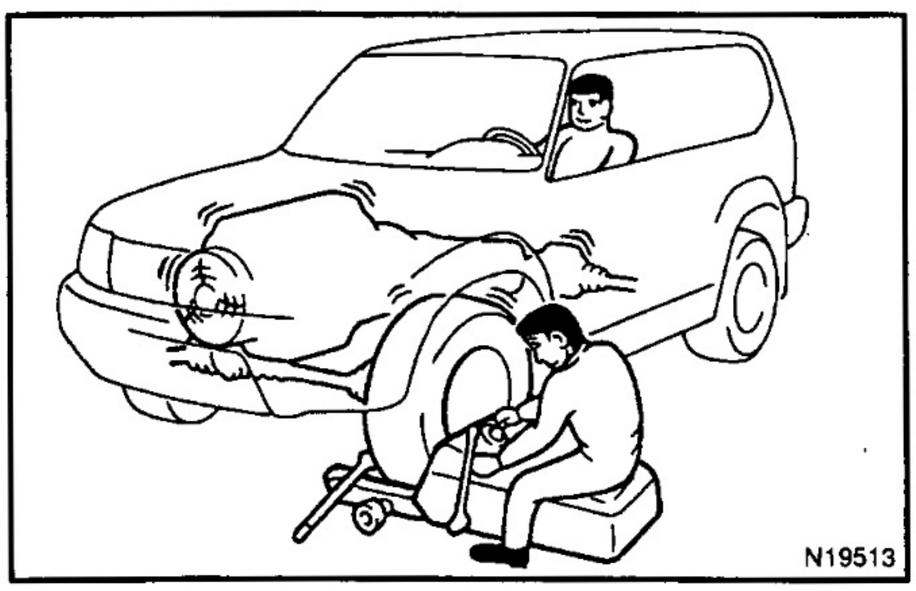
When doing on–vehicle wheel balancing on a full–time 4WD vehicle, to prevent the wheels from rotating at different speeds in different directions from each other (which could damage the center differential), always be sure to observe the following precautions:


IN0306

(1) All 4 wheels should be jacked up, clearing the ground completely.
(2) The center differential should be in the LOCK position with the transfer gear in HL position.
(3) The parking brake lever should be fully released.


N19512

(4) None of the brakes should be allowed to drag.


N19513

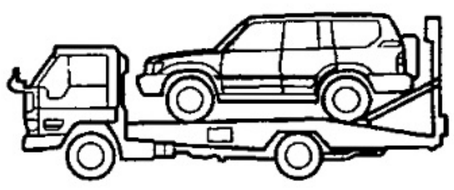
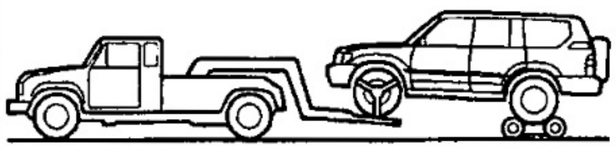
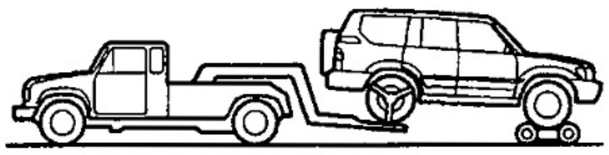
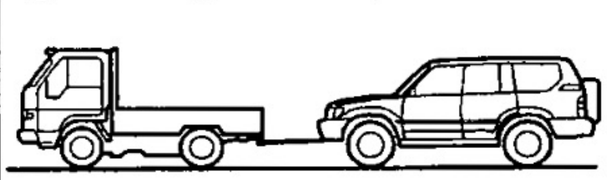
(5) The wheels should be driven with both the engine and the wheel balancer.

HINT:
When doing this, be careful of the other wheels, which will rotate at the same time.

(6) Avoid sudden acceleration, deceleration and braking.
(7) Carry out the wheel balancing with the transmission in 3rd or 4th gear (automatic transmission in D range).

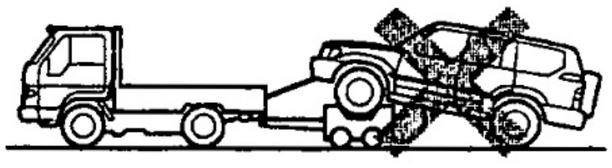
3. WHEN TOWING FULL–TIME 4WD VEHICLES

Use one of the methods shown below to tow the vehicle.
If the vehicle has trouble in the chassis and drive train, use method 1 (flat bed truck).

Towing Method \ Condition	Parking Brake	Transmission Shift Lever Position (M/T)	Transmission Shift Lever Position (A/T)	Transfer Shift Lever Position
① Flat Bed Truck  N19527	Applied	–	"P" Range	"H" Position
② Wheel Lift Type Truck with Dollies – From Front  N20098				
③ Wheel Lift Type Truck with Dollies – From Rear  N20099				
④ Towing with Rope  N19530	Released	Neutral	"N" Range	"HF" Position
HINT : Do not tow the vehicle at a speed faster than 45 km/h (30mph) or distance greater then 80 km (50 miles).				

V08065

NOTICE:
Do not use any towing method other than those shown above.
For example, the towing methods shown below are dangerous or damage the vehicle, so do not use them.

 N19531	During towing with this towing method, there is a danger of the drive train heating up and causing breakdown, or of the front wheels flying off the dolly.

V08066

4. FOR VEHICLES EQUIPPED WITH A CATALYTIC CONVERTER

CAUTION:

If large amount of unburned gasoline flows into the converter, it may overheat and create a fire hazard. To prevent this, observe the following precautions and explain them to your customer.

(a) Use only unleaded gasoline.

(b) Avoid prolonged idling.
Avoid running the engine at idle speed for more than 20 minutes.

(c) Avoid spark jump test.
(1) Perform spark jump test only when absolutely necessary. Perform this test as rapidly as possible.
(2) While testing, never race the engine.

(d) Avoid prolonged engine compression measurement.
Engine compression tests must be done as rapidly as possible.

(e) Do not run engine when fuel tank is nearly empty.
This may cause the engine to misfire and create an extra load on the converter.

(f) Avoid coasting with ignition turned off and prolonged braking.

(g) Do not dispose of used catalyst along with parts contaminated with gasoline or oil.

5. IF VEHICLE IS EQUIPPED WITH MOBILE COMMUNICATION SYSTEM

For vehicles with mobile communication systems such as two–way radios and cellular telephones, observe the following precautions.

(a) Install the antenna as far as possible away from the ECU and sensors of the vehicle's electronic system.

(b) Install the antenna feeder at least 20 cm (7.87 in.) away from the ECU and sensors of the vehicle's electronics systems. For details about ECU and sensors locations, refer to the section on the applicable component.

(c) Do not wind the antenna feeder together with the other wiring as much as possible, also avoid running the antenna feeder parallel with other wire harnesses.

(d) Confirm that the antenna and feeder are correctly adjusted.

(e) Do not install powerful mobile communications system.

6. FOR USING HAND–HELD TESTER

CAUTION:

Observe the following items for safety reasons:

- **Before using the hand–held tester, the hand–held tester's operator manual should be read thoroughly.**
- **Be sure to route all cables securely when driving with the hand–held tester connected to the vehicle.(i.e. Keep cables away from feet, pedals, steering wheel and shift lever.)**
- **Two persons are required when test driving with the hand–held tester, one person to drive the vehicle and one person to operate the hand–held tester.**

HOW TO TROUBLESHOOT ECU CONTROLLED SYSTEMS

IN00Z–10

GENERAL INFORMATION

A large number of ECU controlled systems are used in the LAND CRUISER/LAND CRUISER PRADO. In general, the ECU controlled system is considered to be a very intricate system requiring a high level of technical knowledge and expert skill to troubleshoot. However, the fact is that if you proceed to inspect the circuits one by one, troubleshooting of these systems is not complex. If you have adequate understanding of the system and a basic knowledge of electricity, accurate diagnosis and necessary repair can be performed to locate and fix the problem. This manual is designed through emphasis of the above standpoint to help service technicians perform accurate and effective troubleshooting, and is compiled for the following major ECU controlled system:

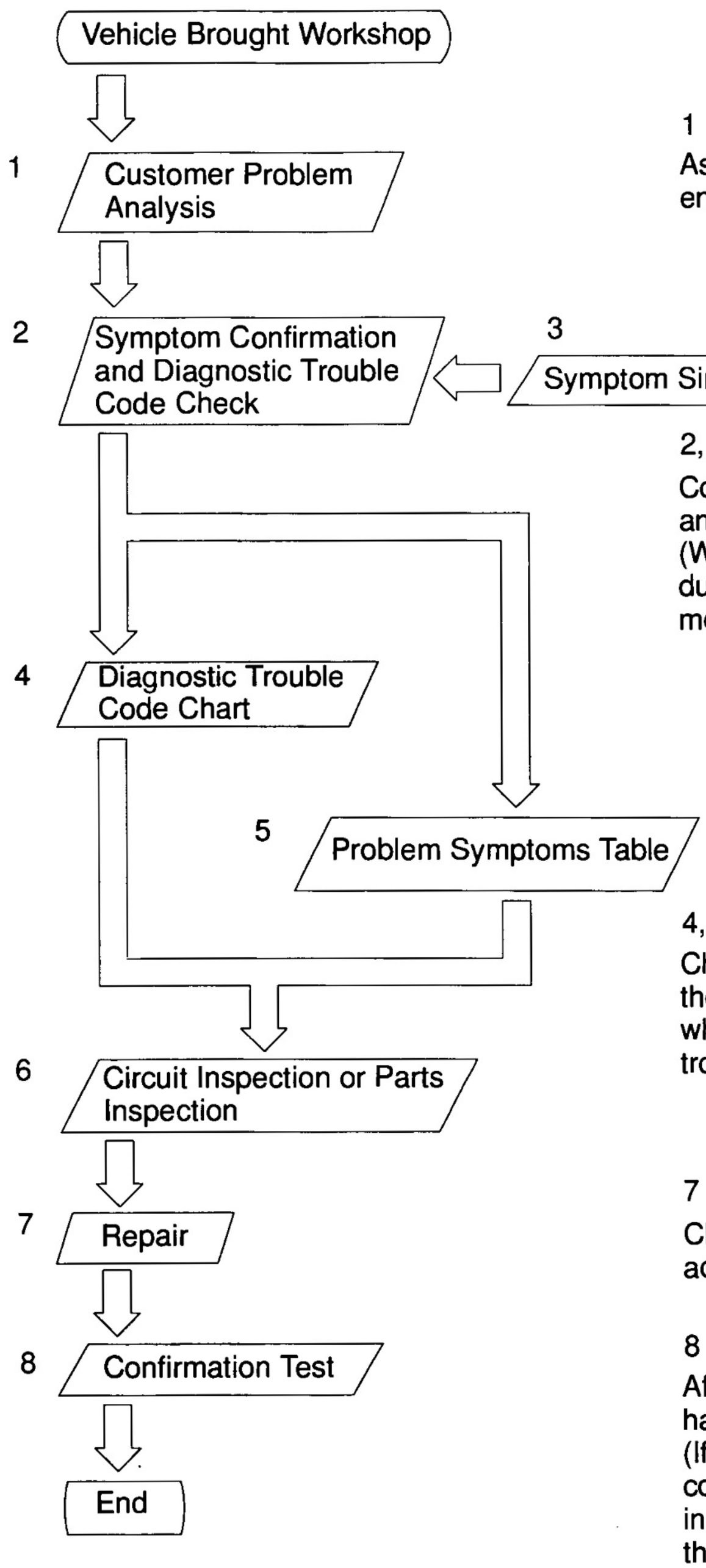
System	Page
1. Supplemental Restraint System	DI–1

The troubleshooting procedure and how to make use of it are described on the above page.

IN010–05

HOW TO PROCEED WITH TROUBLESHOOTING

Carry out troubleshooting in accordance with the procedure on the following page. Here, only the basic procedure is shown. Details are provided in DI section, showing the most effective methods for each circuit. Confirm the troubleshooting procedures first for the relevant circuit before beginning troubleshooting of that circuit.



1

Ask the customer about the conditions and the environment when the problem occurred.

2, 3

Confirm the symptoms and the problem conditions, and check the diagnostic trouble codes.
(When the problem symptoms do not appear during confirmation, use the symptom simulation method described later on.)

4, 5, 6

Check the results obtained in Step 2, then confirm the inspection procedure for the system or the part which should be checked using the diagnostic trouble code chart or the problem symptoms table.

7

Check and repair the affected system or part in accordance with the instructions in Step 6.

8

After completing repairs, confirm that the problem has been eliminated.
(If the problem is not reproduced, perform the confirmation test under the same conditions and in the same environment as when it occurred for the first time.)

1. CUSTOMER PROBLEM ANALYSIS

In troubleshooting, the problem symptoms must be confirmed accurately and all preconceptions must be cleared away in order to give an accurate judgement. To ascertain just what the problem symptoms are, it is extremely important to ask the customer about the problem and the conditions at the time it occurred.

Important Point in the Problem Analysis:

The following 5 items are important points in the problem analysis. Past problems which are thought to be unrelated and the repair history, etc. may also help in some cases, so as much information as possible should be gathered and its relationship with the problem symptoms should be correctly ascertained for reference in troubleshooting. A customer problem analysis table is provided in the diagnostics section for each system for your use.

Important Points in the Customer Problem Analysis

- What ——— Vehicle model, system name
- When ——— Date, time, occurrence frequency
- Where ——— Road conditions
- Under what conditions? ——— Running conditions, driving conditions, weather conditions
- How did it happen? ——— Problem symptoms

(Sample) Supplemental restraint system check sheet.

CUSTOMER PROBLEM ANALYSIS CHECK

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.

Vehicle Operation	☐ Starting ☐ Idling ☐ Driving [☐ Constant speed ☐ Acceleration ☐ Deceleration ☐ Other]

2. SYMPTOM CONFIRMATION AND DIAGNOSTIC TROUBLE CODE CHECK

The diagnostic system in the LAND CRUISER/LAND CRUISER PRADO fulfills various functions. The first function is the Diagnostic Trouble Code Check in which a malfunction in the signal circuits to the ECU is stored in code in the ECU memory at the time of occurrence, to be output by the technician during troubleshooting. Another function is the Input Signal Check which checks if the signals from various switches are sent to the ECU correctly.

By using these check functions, the problem areas can be narrowed down quickly and troubleshooting can be performed effectively. Diagnostic functions are incorporated in the following systems in the LAND CRUISER/LAND CRUISER PRADO.

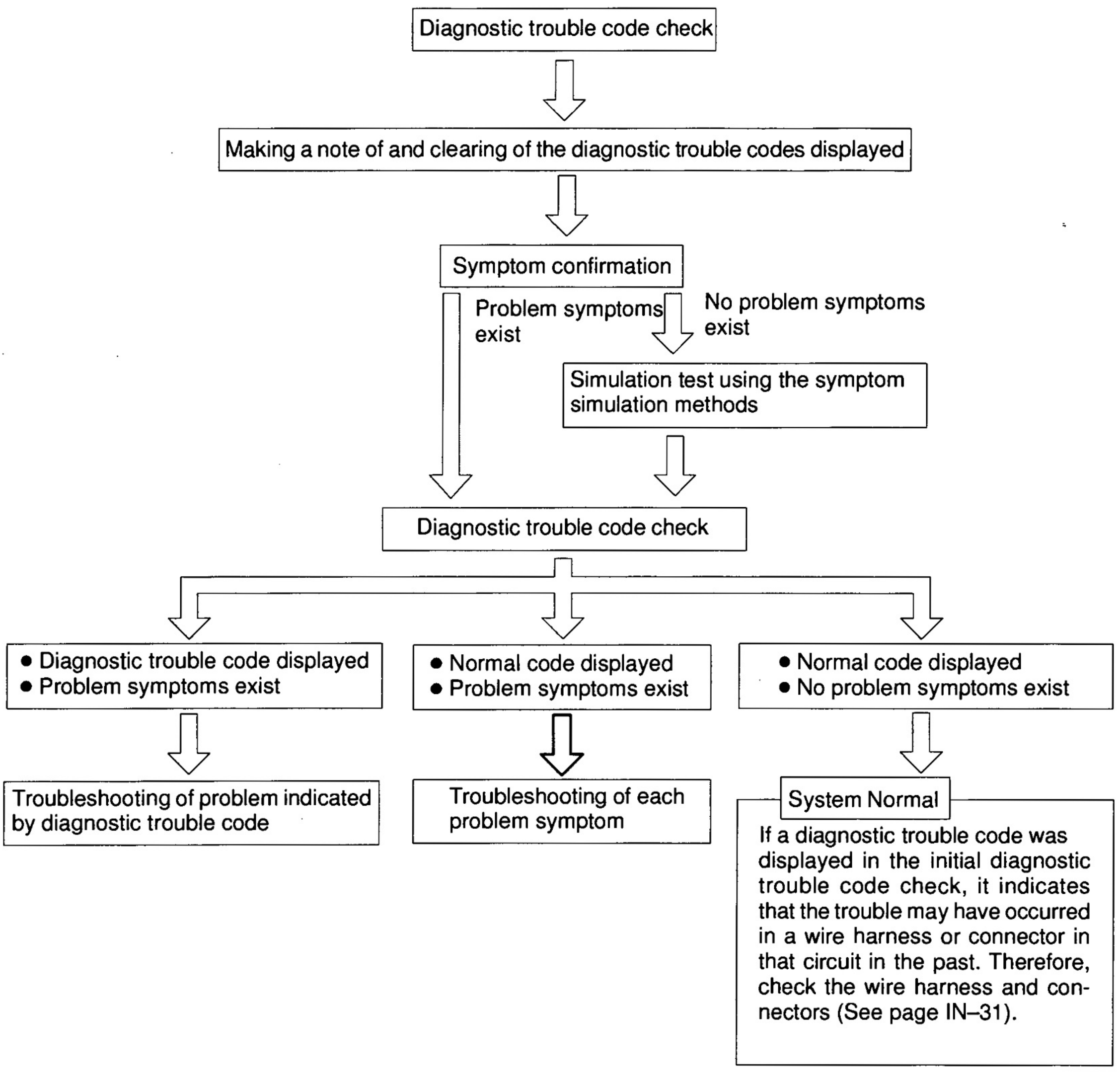
System	Diagnostic Trouble Code Check	Input Signal Check (Sensor Check)	Other Diagnosis Function
Supplemental Restraint System	○		

In diagnostic trouble code check, it is very important to determine whether the problem indicated by the diagnostic trouble code is still occurring or occurred in the past but returned to normal at present. In addition, it must be checked in the problem symptom check whether the malfunction indicated by the diagnostic trouble code is directly related to the problem symptom or not. For this reason, the diagnostic trouble codes should be checked before and after the symptom confirmation to determine the current conditions, as shown in the table below. If this is not done, it may, depending on the case, result in unnecessary troubleshooting for normally operating systems, thus making it more difficult to locate the problem, or in repairs not pertinent to the problem. Therefore, always follow the procedure in correct order and perform the diagnostic trouble code check.

DIAGNOSTIC TROUBLE CODE CHECK PROCEDURE

Diagnostic Trouble Code Check (Make a note of and then clear)	Confirmation of Symptoms	Diagnostic Trouble Code Check	Problem Condition
Diagnostic Trouble Code Display	Problem symptoms exist	Same diagnostic trouble code is displayed	Problem is still occurring in the diagnostic circuit
		Normal code is displayed	The problem is still occurring in a place other than in the diagnostic circuit. (The diagnostic trouble code displayed first is either for a past problem or it is a secondary problem.)
	No problem symptoms exist		The problem occurred in the diagnostic circuit in the past.
Normal Code Display	Problem symptoms exist	Normal code is displayed	The problem is still occurring in a place other than in the diagnostic circuit.
	No problem symptoms exist	Normal code is displayed	The problem occurred in a place other than in the diagnostic circuit in the past.

Taking into account the above points, a flow chart showing how to proceed with troubleshooting using the diagnostic trouble code check is shown below. This flow chart shows how to utilize the diagnostic trouble code check effectively, then by carefully checking the results, indicates how to proceed either to diagnostic trouble code troubleshooting or to troubleshooting of problem symptoms table.

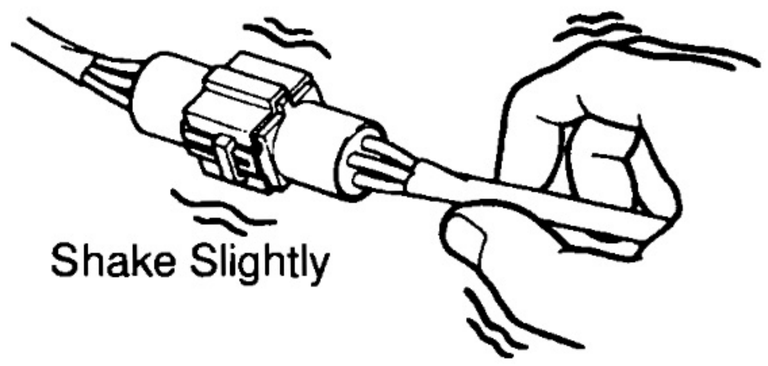
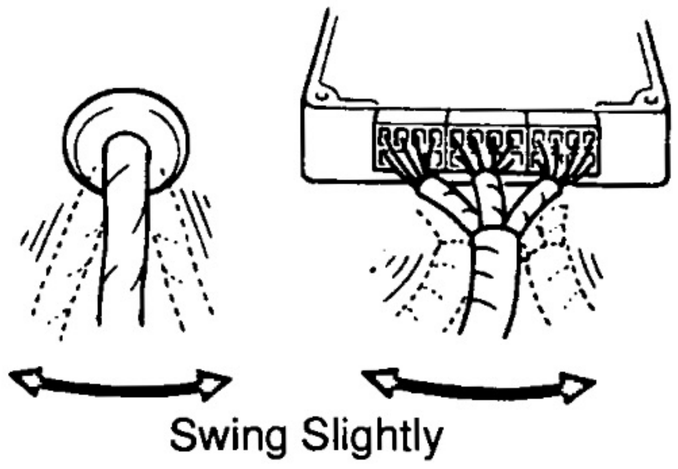
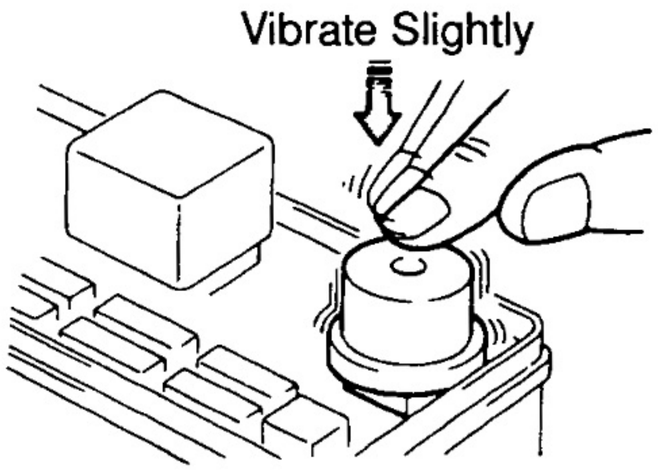


3. SYMPTOM SIMULATION

The most difficult case in troubleshooting is when there are no problem symptoms occurring. In such cases, a thorough customer problem analysis must be carried out, then simulate the same or similar conditions and environment in which the problem occurred in the customer's vehicle. No matter how much experience a technician has, or how skilled he may be, if he proceeds to troubleshoot without confirming the problem symptoms he will tend to overlook something important in the repair operation and make a wrong guess somewhere, which will only lead to a standstill. For example, for a problem which only occurs when the engine is cold, or for a problem which occurs due to vibration caused by the road during driving, etc., the problem can never be determined so long as the symptoms are confirmed with the engine hot condition or the vehicle at a standstill. Since vibration, heat or water penetration (moisture) is likely cause for problem which is difficult to reproduce, the symptom simulation tests introduced here are effective measures in that the external causes are applied to the vehicle in a stopped condition.

Important Points in the Symptom Simulation Test:

In the symptom simulation test, the problem symptoms should of course be confirmed, but the problem area or parts must also be found out. To do this, narrow down the possible problem circuits according to the symptoms before starting this test and connect a tester beforehand. After that, carry out the symptom simulation test, judging whether the circuit being tested is defective or normal and also confirming the problem symptoms at the same time. Refer to the problem symptoms table for each system to narrow down the possible causes of the symptom.

1	**VIBRATION METHOD: When vibration seems to be the major cause.**
CONNECTORS Slightly shake the connector vertically and horizontally. **WIRE HARNESS** Slightly shake the wire harness vertically and horizontally. The connector joint, fulcrum of the vibration, and body through portion are the major areas to be checked thoroughly.	  FI2331 FI2332
PARTS AND SENSOR Apply slight vibration with a finger to the part of the sensor considered to be the problem cause and check if the malfunction occurs. HINT: Applying strong vibration to relays may result in open relays.	 FI2330

V07268

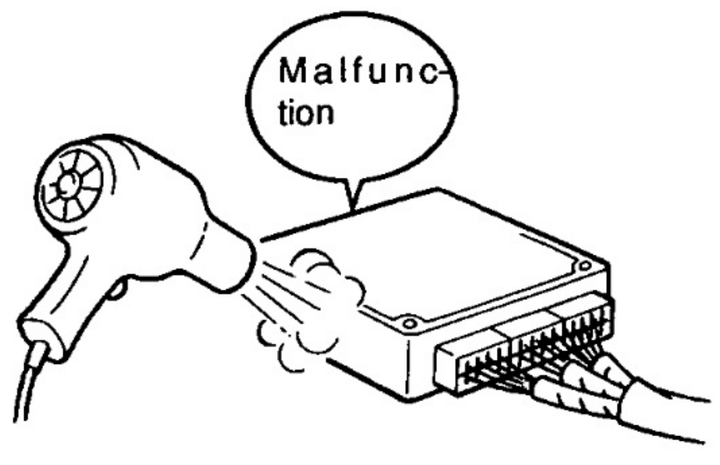
2	**HEAT METHOD: When the problem seems to occur when the suspect area is heated.**

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

NOTICE:

(1) Do not heat to more than 60 °C (140 °F). (Temperature is limited not to damage the components.)

(2) Do not apply heat directly to parts in the ECU.



FI2334

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

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

NOTICE:

(1) Never sprinkle water directly into the engine compartment, but indirectly change the temperature and humidity by applying water spray onto the radiator front surface.

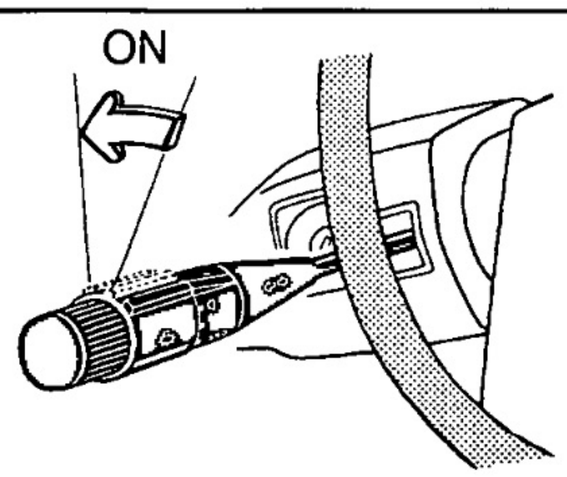
(2) Never apply water directly onto the electronic components.

(Service hint)
If a vehicle is subject to water leakage, the leaked water may contaminate the ECU. When testing a vehicle with a water leakage problem, special caution must be taken.

FI6649

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

Turn on all electrical loads including the heater blower, head lights, rear window defogger, etc. and check to see if the malfunction occurs.



FI2336

V07469

4. DIAGNOSTIC TROUBLE CODE CHART

The inspection procedure is shown in the table below. This table permits efficient and accurate troubleshooting using the diagnostic trouble codes displayed in the diagnostic trouble code check. Proceed with troubleshooting in accordance with the inspection procedure given in the diagnostic chart corresponding to the diagnostic trouble codes displayed. The engine diagnostic trouble code chart is shown below as an example.

- DTC No.
  Indicates the diagnostic trouble code.
- Page or Instructions
  Indicates the page where the inspection procedure for each circuit is to be found, or gives instructions for checking and repairs.

- Trouble Area
  Indicates the suspect area of the problem.

- Detection Item
  Indicates the system of the problem or contents of the problem.

DIAGNOSTIC TROUBLE CODE CHART

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

DTC No. (See page)	Detection Item	Trouble Area	SRS Warming Light
11 (DI–14)	• Short in D squib circuit (to ground)	• Steering wheel pad (squib) • Spiral cable • Airbag sensor assembly • Wire harness	ON
12 (DI–19)	• Short in D squib circuit (to B+)	• Steering wheel pad (squib) • Spiral cable • Airbag sensor assembly • Wire harness	ON
13 (DI–24)	• Short in D squib circuit	• Steering wheel pad (squib) • Spiral cable • Airbag sensor assembly • Wire harness	ON
14 (DI–29)	• Open in D squib circuit	• Steering wheel pad (squib) • Spiral cable • Airbag sensor assembly • Wire harness	ON
15 (DI–34)	• Front airbag sensor assembly (RH) malfunction	• Front airbag sensor assembly (RH) • Wire harness	ON
	• Front airbag sensor assembly malfunction	• Front airbag sensor assembly (LH) • Wire harness	
	ssembly malfunction	• Airbag sensor assembly	

5. PROBLEM SYMPTOMS TABLE

The suspected circuits or parts for each problem symptom are shown in the table below. Use this table to troubleshoot the problem when a "Normal" code is displayed in the diagnostic trouble code check but the problem is still occurring. Numbers in the table indicate the inspection order in which the circuits or parts should be checked.

HINT:

When the problem is not detected by the diagnostic system even though the problem symptom is present, it is considered that the problem is occurring outside the detection range of the diagnostic system, or that the problem is occurring in a system other than the diagnostic system.

- Page
  Indicates the page where the flow chart for each circuit is located.
- Circuit Inspection, Inspection Order
  Indicates the circuit which needs to be checked for each problem symptom. Check in the order indicated by the numbers.
- Problem Symptom
- Circuit or Part Name
  Indicates the circuit or part which needs to be checked.

PROBLEM SYMPTOMS TABLE

Proceed with troubleshooting of each circuit in the table below.

Symptom	Suspect Area	See page
• With the ignition switch in the ACC or ON position, the SRS warning light sometimes lights up after approx. 6 seconds have elapsed. • SRS warning light is always lit up even when ignition switch is in the LOCK position	• SRS warning light circuit (Always lights up when ignition switch is in LOCK position.)	DI–101
• With the ignition switch in the ACC or ON position, the SRS warning light does not light up.	• SRS warning light circuit (Dose not light up when ignition switch is turned to ACC or ON.)	DI–103
• DTC is not displayed. • SRS warning light is always lit up at the time of DTC check procedure. • DTC is displayed without Tc and E1 terminal connection.	• Tc terminal circuit	DI–107

6. CIRCUIT INSPECTION

How to read and use each page is shown below.

- Diagnostic Trouble Code No. and Detection Item

- Circuit Description
  The major role and operation, etc. of the circuit and its component parts are explained.

DTC	13	Short in D Squib Circuit

CIRCUIT DESCRIPTION

The D squib circuit consists of the airbag sensor assembly, spiral cable and steering wheel pad.

It causes the airbag to deploy when the airbag deployment conditions are satisfied.

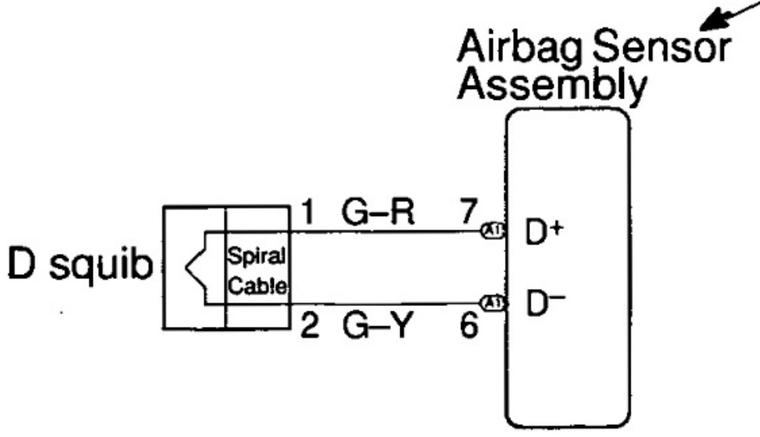
For details of the function of each components,see OPERATION on page RS–2.

DTC 13 is recorded when a short is detected in the D squib circuit.

DTC No.	DTC Detecting Condition	Trouble Area
13	•Short circuit between D+ wire harness and D– wire harness of squib •D squib malfunction •Spiral cable malfunction •Airbag sensor assembly malfunction	•Steering wheel pad (D squib) •Spiral cable •Airbag sensor assembly •Wire harness

- Indicates the diagnostic trouble code, diagnostic trouble code set parameter and suspect area of the problem.

WIRING DIAGRAM



R16015

- Wiring Diagram
  This shows a wiring diagram of the circuit.
  Use this diagram together with ELECTRICAL WIRING DIAGRAM to thoroughly understand the circuit.
  Wire colors are indicated by an alphabetical code.
  B = Black, L = Blue, R = Red, BR = Brown,
  LG = Light Green, V = Violet, G = Green,
  O = Orange, W = White, GR = Gray, P = Pink,
  Y = Yellow
  The first letter indicates the basic wire color and the second letter indicates the color of the stripe.

B00803

- Indicates the position of the ignition switch during the check.

LOCK
Ignition Switch LOCK (OFF)

ON
Ignition Switch ON

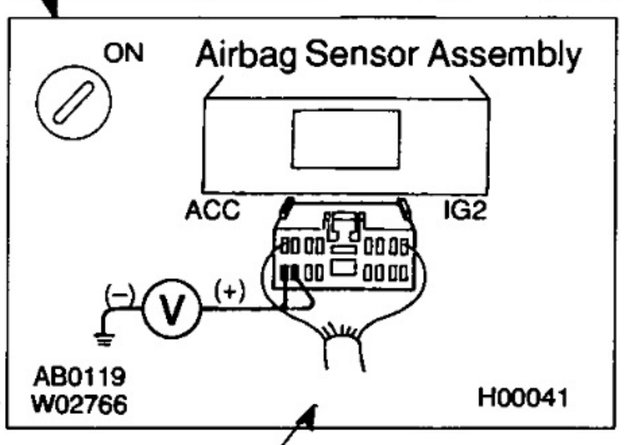
START
Ignition Switch START

ACC
Ignition Switch ACC

- Inspection Procedure
  Use the inspection procedure to determine if the circuit is normal or abnormal, and if it is abnormal, use it to determine whether the problem is located in the sensors, actuators, wire harness or ECU.

INSPECTION PROCEDURE

2 Check voltage at IG2 and ACC of airbag sensor assembly.



PREPARATION:
Turn ignition switch ON.

CHECK:
Measure voltage between terminals IG2 and ACC of airbag sensor assembly and body ground.

OK:
Voltage: Below 16V

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

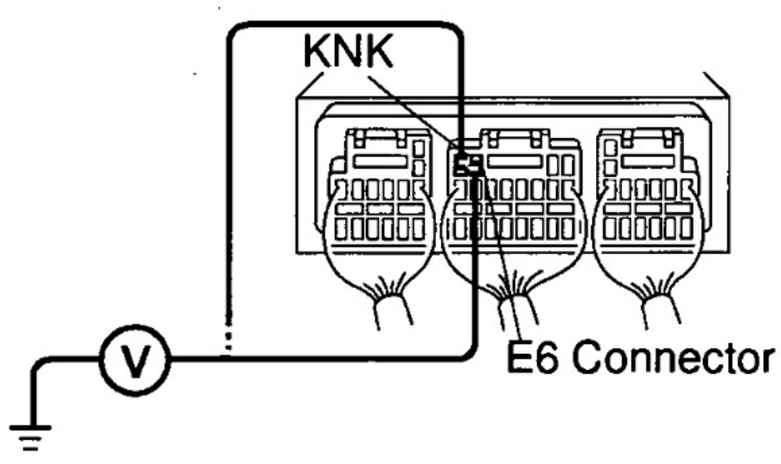
OK

- Indicates the place to check the voltage or resistance.
- Indicates the connector position to be checked, from the front or back side.

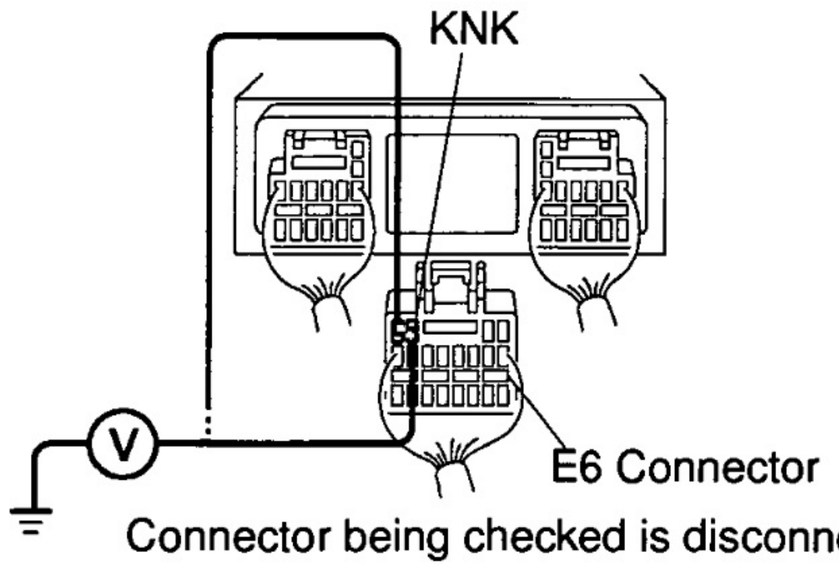
Check from the connector back side. (with harness)

Check from the connector front side. (without harness)
In this case, care must be taken not to bend the terminals.

- Indicates the condition of the connector of ECU during the check.



Connector being checked is connected.



Connector being checked is disconnected.

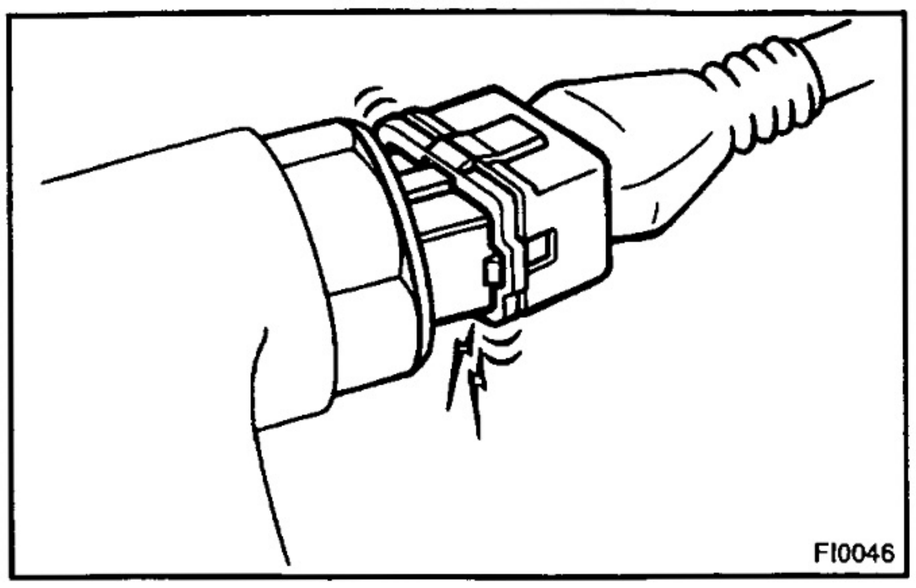
B00691

B00972

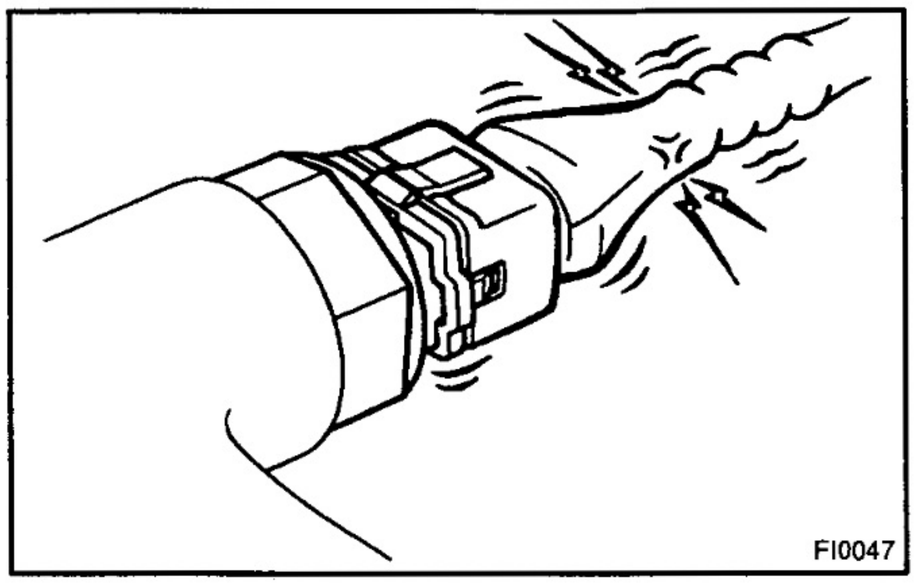
IN011–09

HOW TO USE THE DIAGNOSTIC CHART AND INSPECTION PROCEDURE

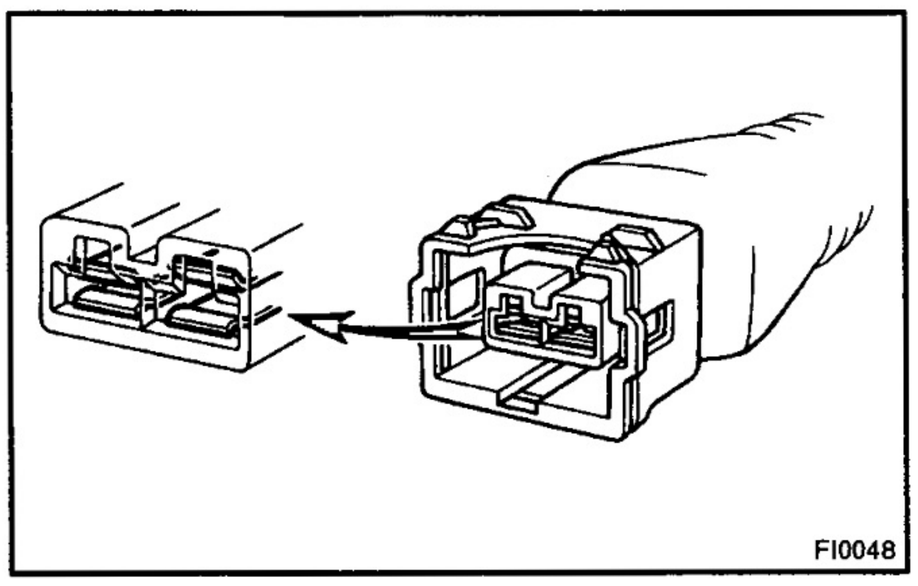
1. CONNECTOR CONNECTION AND TERMINAL INSPECTION


FI0046

- For troubleshooting, diagnostic trouble code charts or problem symptom charts are provided for each circuit with detailed inspection procedures on the following pages.
- When all the component parts, wire harnesses and connectors of each circuit except the ECU are found to be normal in troubleshooting, then it is determined that the problem is in the ECU. Accordingly, if diagnosis is performed without the problem symptoms occurring, the instruction will be to check and replace the ECU, even if the problem is not in the ECU. So always confirm that the problem symptoms are occurring, or proceed with inspection while using the symptom simulation method.


FI0047

- The instructions "Check wire harness and connector" and "Check and replace ECU" which appear in the inspection procedure, are common and applicable to all diagnostic trouble codes. Follow the procedure outlined below whenever these instructions appear.


FI0048

OPEN CIRCUIT:

This could be due to a disconnected wire harness, faulty contact in the connector, and a connector terminal pulled out, etc.

HINT:

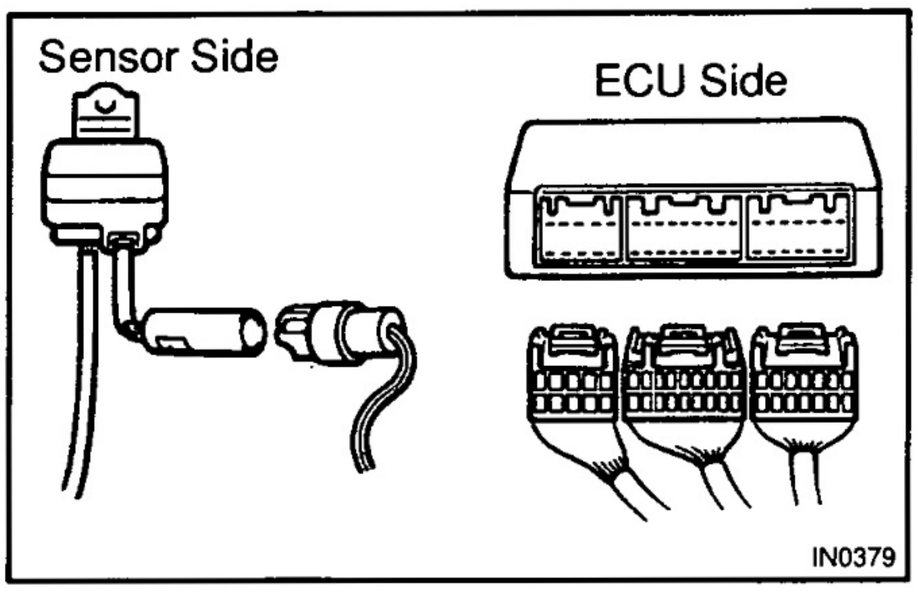
- It is rarely the case that a wire is broken in the middle of it. Most cases occur at the connector. In particular, carefully check the connectors of sensors and actuators.
- Faulty contact could be due to rusting of the connector terminals, to foreign materials entering terminals or a deformation of connector terminals. Simply disconnecting and reconnecting the connectors once changes the condition of the connection and may result in a return to normal operation. Therefore, in troubleshooting, if no abnormality is found in the wire harness and connector check, but the problem disappears after the check, then the cause is considered to be in the wire harness or connectors.

SHORT CIRCUIT:

This could be due to a contact between wire harness and the body ground or to a short occurred inside the switch, etc.

HINT:

When there is a short between the wire harness and body ground, check thoroughly whether the wire harness is caught in the body or is clamped properly.



2. CONTINUITY CHECK (OPEN CIRCUIT CHECK)

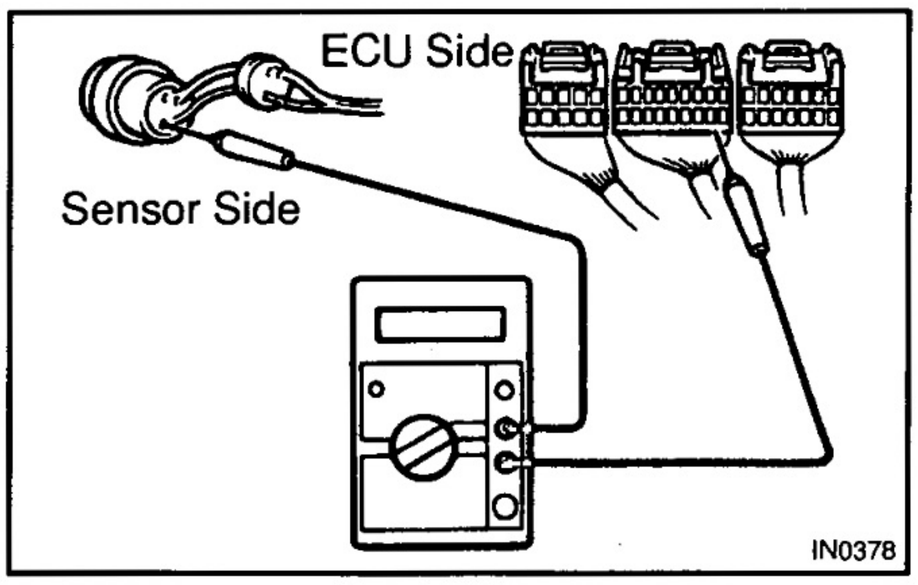
(a) Disconnect the connectors at both ECU and sensor sides.

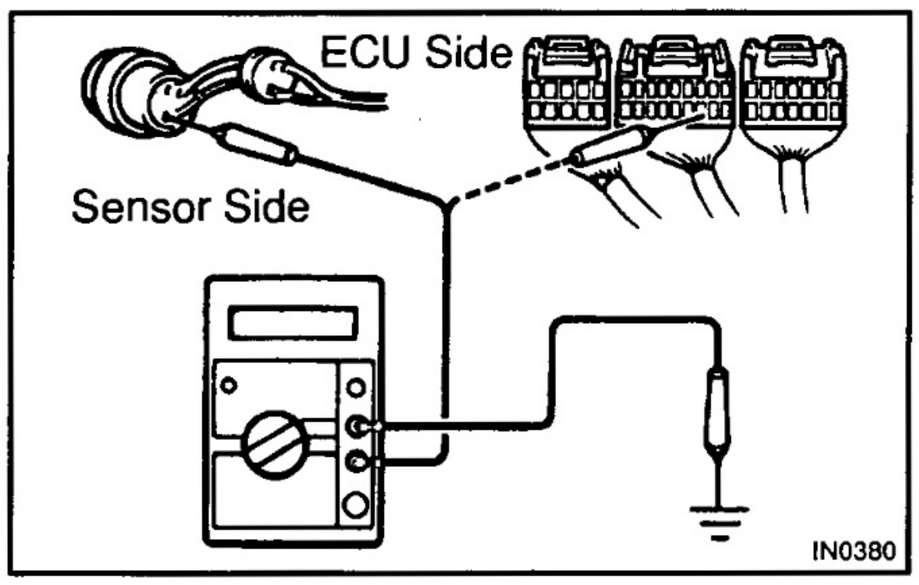
(b) Measure the resistance between the applicable terminals of the connectors.

Resistance: 1 Ω or less

HINT:

- Measure the resistance while lightly shaking the wire harness vertically and horizontally.
- When tester probes are inserted into a connector, insert the probes from the back. For waterproof connectors in which the probes cannot be inserted from the back, be careful not to bend the terminals when inserting the tester probes.





3. RESISTANCE CHECK (SHORT CIRCUIT CHECK)

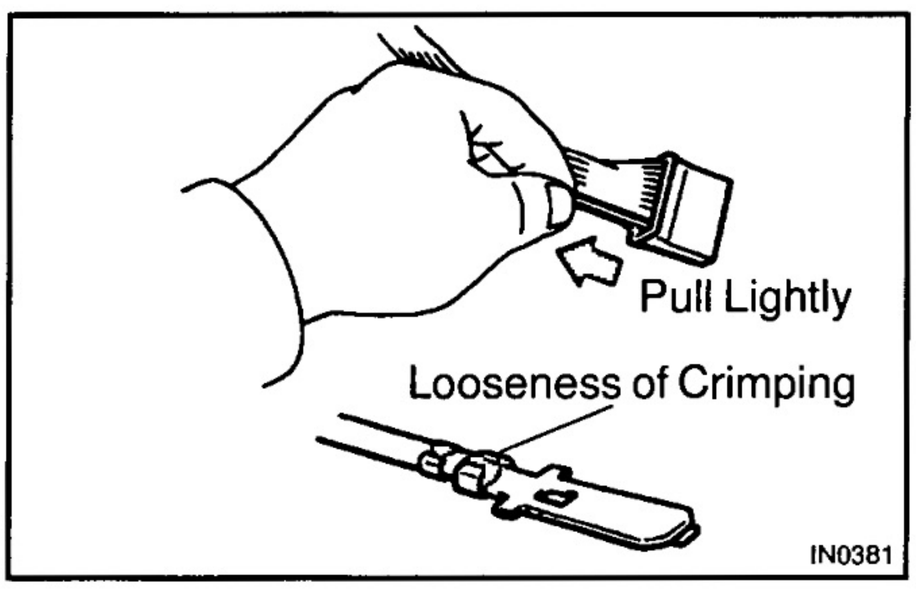
(a) Disconnect the connectors on both ends.

(b) Measure the resistance between the applicable terminals of the connectors and body ground. Be sure to carry out this check on the connectors on both ends.

Resistance: 1 MΩ or higher

HINT:

Measure the resistance while lightly shaking the wire harness vertically and horizontally.



4. VISUAL CHECK AND CONTACT PRESSURE CHECK

(a) Disconnect the connectors at both ends.

(b) Check for rust or foreign material, etc. in the terminals of the connectors.

(c) Check crimped portions for looseness or damage and check if the terminals are secured in lock portion.

HINT:

The terminals should not come out when pulled lightly.

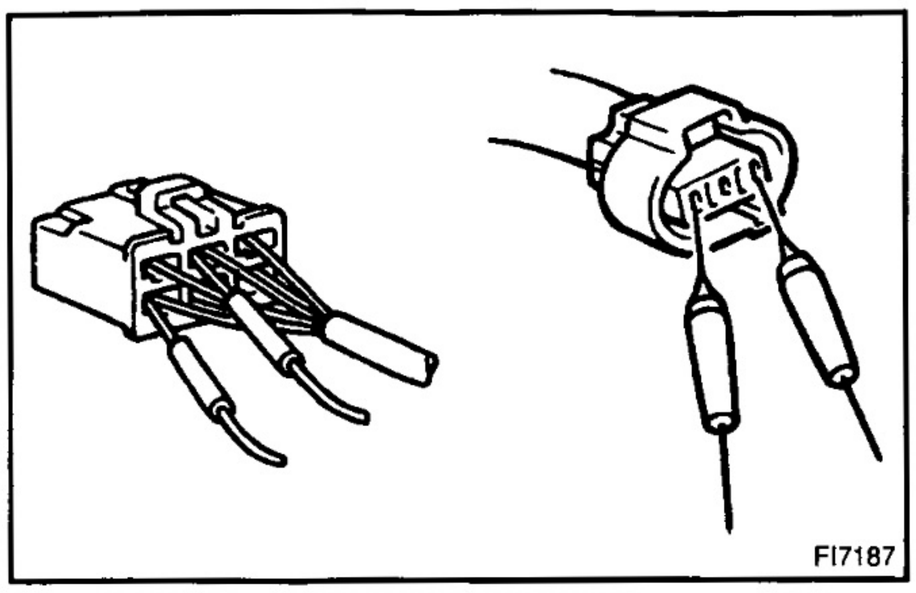
(d) Prepare a test male terminal and insert it in the female terminal, then pull it out.

NOTICE:

When testing a gold–plated female terminal, always use a gold–plated male terminal.

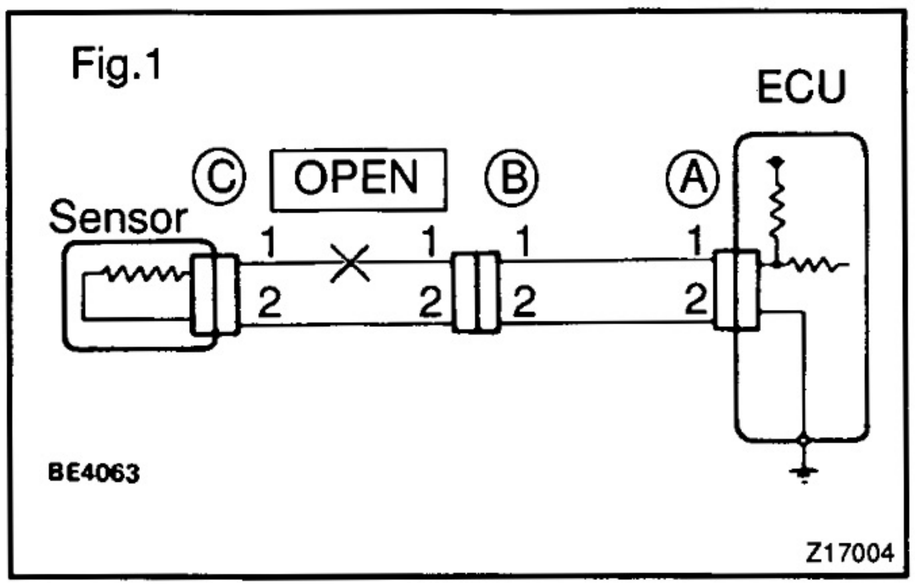
HINT:

When the test terminal is pulled out more easily than others, there may be poor contact in that section.



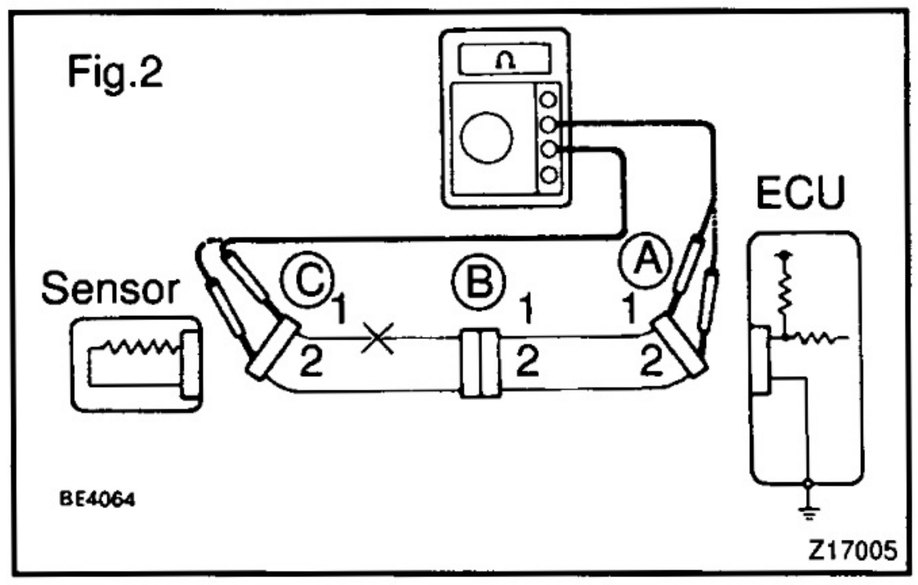
5. CONNECTOR HANDLING

When inserting tester probes into a connector, insert them from the rear of the connector. When necessary, use mini test leads. For water resistant connectors which cannot be accessed from behind, take good care not to deform the connector terminals.



6. CHECK OPEN CIRCUIT

For the open circuit in the wire harness in Fig.1, perform "(a) Continuity Check" or "(b) Voltage Check" to locate the section.



(a) Check the continuity.

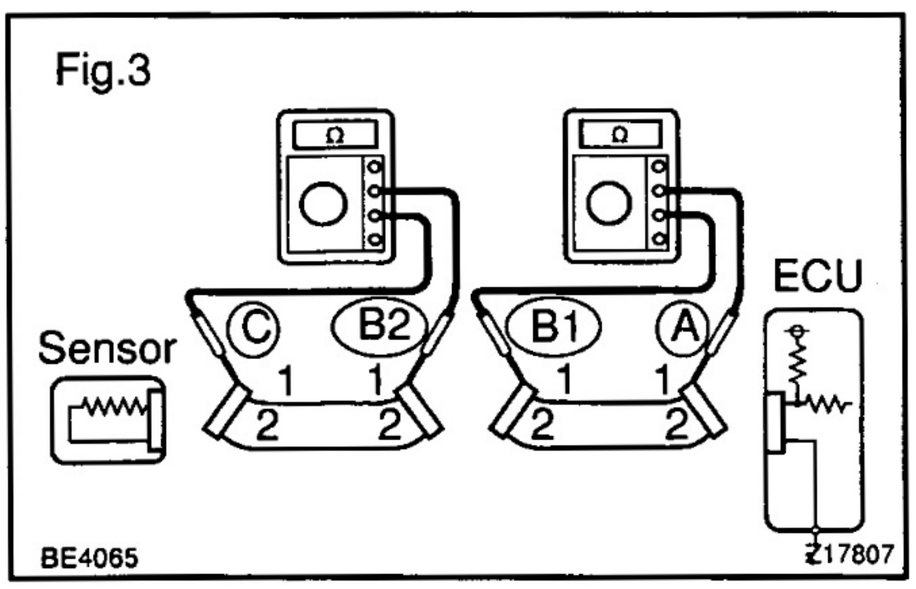
(1) Disconnect connectors "A" and "C" and measure the resistance between them.

In the case of Fig.2,

Between terminal 1 of connector "A" and terminal 1 of connector "C" → No continuity (open)

Between terminal 2 of connector "A" and terminal 2 of connector "C" → Continuity

Therefore, it is found out that there is an open circuit between terminal 1 of connector "A" and terminal 1 of connector "C".



(2) Disconnect connector "B" and measure the resistance between them.

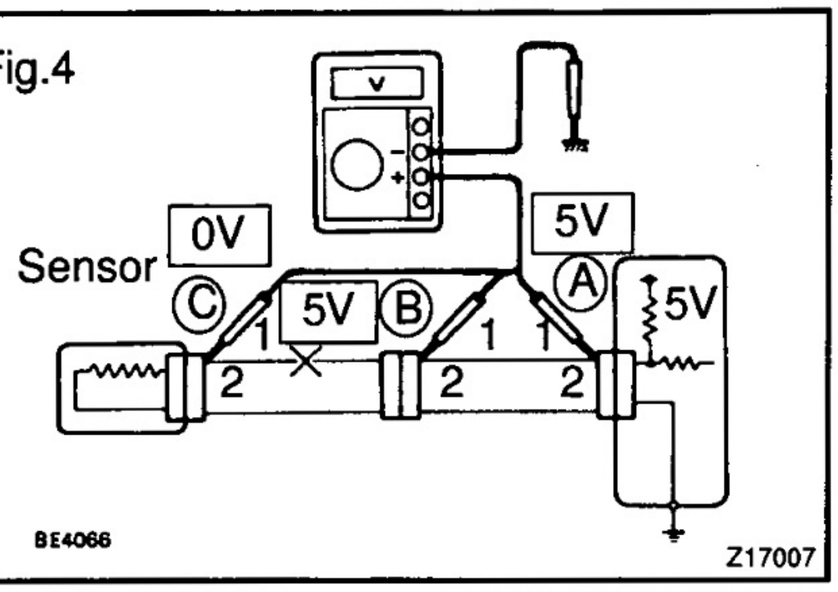
In the case of Fig.3,

Between terminal 1 of connector "A" and terminal 1 of connector "B1" → Continuity

Between terminal 1 of connector "B2" and terminal 1 of connector "C" → No continuity (open)

Therefore, it is found out that there is an open circuit between terminal 1 of connector "B2" and terminal 1 of connector "C".

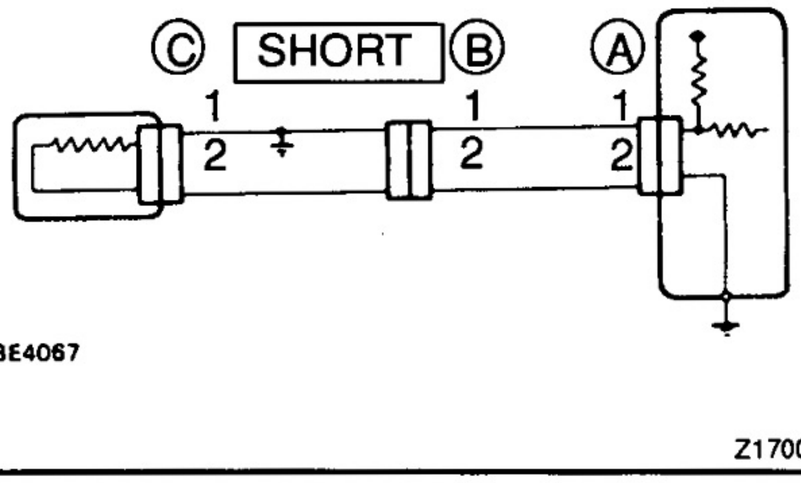
Fig.4



(b) Check the voltage.
In a circuit in which voltage is applied (to the ECU connector terminal), an open circuit can be checked for by conducting a voltage check.
As shown in Fig.4, with each connector still connected, measure the voltage between body ground and terminal 1 of connector "A" at the ECU 5V output terminal, terminal 1 of connector "B", and terminal 1 of connector "C", in that order.

If the results are:
5V: Between Terminal 1 of connector "A" and Body Ground
5V: Between Terminal 1 of connector "B" and Body Ground
0V: Between Terminal 1 of connector "C" and Body Ground
Then it is found out that there is an open circuit in the wire harness between terminal 1 of "B" and terminal 1 of "C".

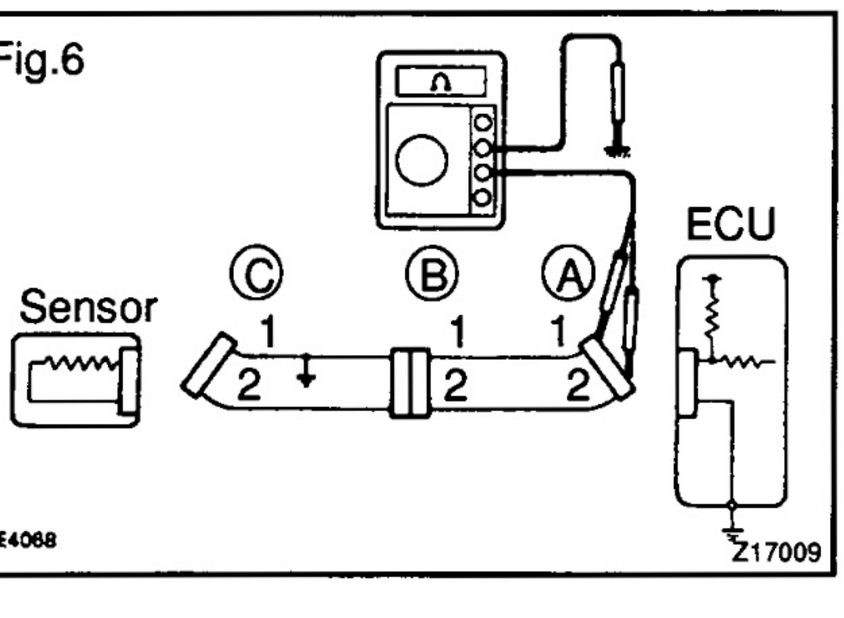
Fig.5



7. CHECK SHORT CIRCUIT

If the wire harness is ground shorted as in Fig.5, locate the section by conducting a "continuity check with ground".

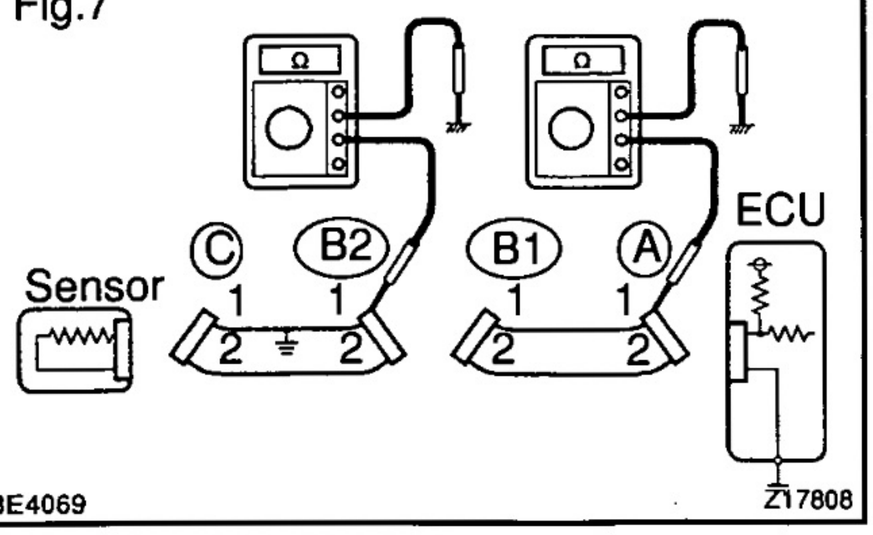
Fig.6



Check the continuity with ground.

(1) Disconnect connectors "A" and "C" and measure the resistance between terminal 1 and 2 of connector "A" and body ground.
In the case of Fig.6
Between terminal 1 of connector "A" and body ground → Continuity (short)
Between terminal 2 of connector "A" and body ground → No continuity
Therefore, it is found out that there is a short circuit between terminal 1 of connector "A" and terminal 1 of connector "C".

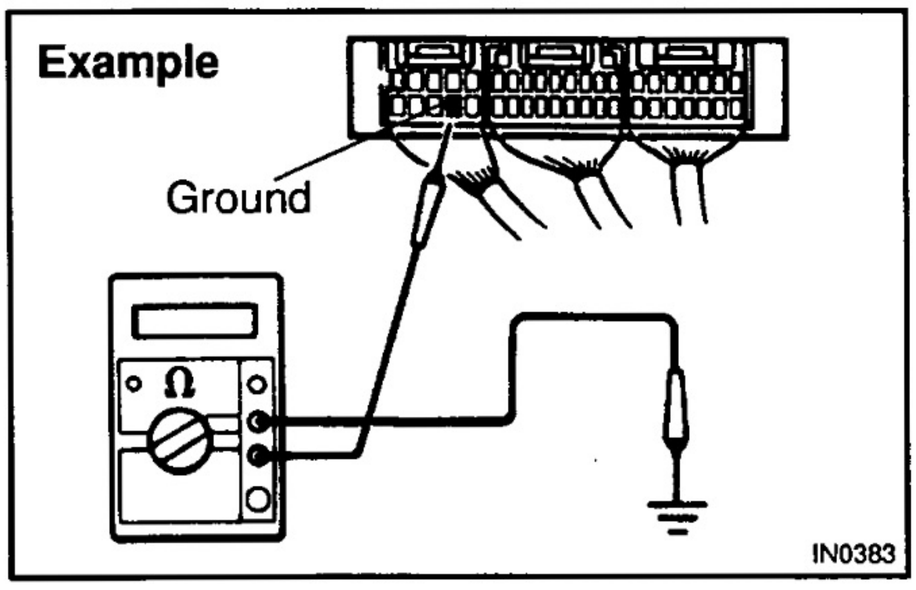
Fig.7



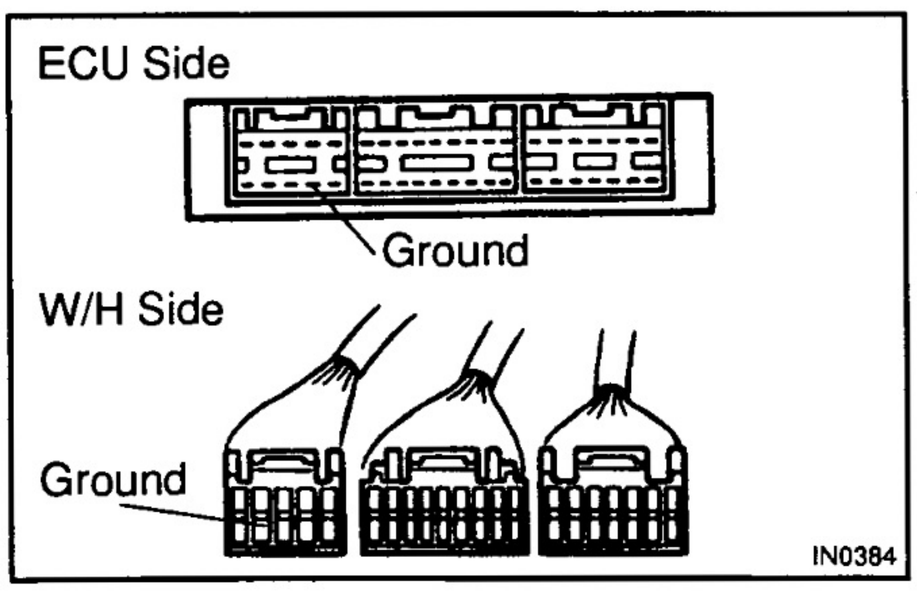
(2) Disconnect connector "B" and measure the resistance between terminal 1 of connector "A" and body ground, and terminal 1 of connector "B2" and body ground.
Between terminal 1 of connector "A" and body ground → No continuity
Between terminal 1 of connector "B2" and body ground → Continuity (short)
Therefore, it is found out that there is a short circuit between terminal 1 of connector "B2" and terminal 1 of connector "C".

8. CHECK AND REPLACE ECU

First check the ECU ground circuit. If it is faulty, repair it. If it is normal, the ECU could be faulty, so replace the ECU with a normal functioning one and check that the symptoms appear.



(1) Measure the resistance between the ECU ground terminal and the body ground.
Resistance: 1 Ω or less



(2) Disconnect the ECU connector, check the ground terminals on the ECU side and the wire harness side for bend and check the contact pressure.

TERMS

ABBREVIATIONS USED IN THIS MANUAL

IN012–07

Abbreviations	Meaning
ABS	Anti–Lock Brake System
A/T	Automatic Transmission
ATF	Automatic Transmission Fluid
BDC	Bottom Dead Center
BTDC	Before Top Dead Center
CB	Circuit Breaker
CRS	Child Restraint System
Diff.Lock	Differential Locking System
DP	Dash Pot
DTC	Diagnostic Trouble Code
ECD	Electronic Control Diesel
ECU	Electronic Control Unit
E/G	Engine
ELR	Emergency Locking Retractor
ESA	Electronic Spark Advance
FIPG	Formed in Place Gasket
FL	Fusible Link
Fr	Front
IG	Ignition
IN	Intake (Manifold, Valve)
I/P	Instrument Panel
J/B	Junction Block
J/C	Junction Connector
LED	Light Emitting Diode
LH	Left–Hand
LHD	Left–Hand Drive
LSPV	Load Sensing Proportioning Valve
Max.	Maximum
Min.	Minimum
MP	Multipurpose
M/T	Manual Transmission
O/D, OD	Overdrive
O/S	Oversize
PCV	Positive Crankcase Ventilation
PKB	Parking Brake
PS	Power Steering
P/T	Pretensioner
RH	Right–Hand
RHD	Right–Hand Drive
Rr	Rear
SRS	Supplemental Restraint System
SSM	Special Service Materials

Abbreviations	Meaning
SST	Special Service Tools
STD	Standard
SW	Switch
TDC	Top Dead Center
TEMP.	Temperature
T/M	Transmission
U/S	Undersize
VCV	Vacuum Control Valve
VSV	Vacuum Switching Valve
VTV	Vacuum Transmitting Valve
w/	With
w/o	Without

PREPARATION

STEERING PP–1
SUPPLEMENTAL RESTRAINT SYSTEM ... PP–4
BODY ELECTRICAL PP–7
BODY PP–9

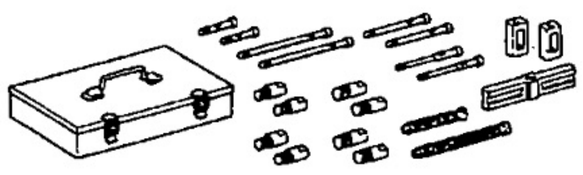
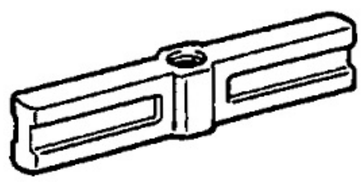
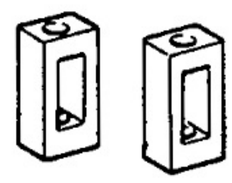
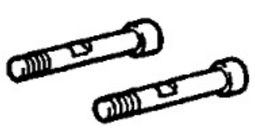
REFER TO LAND CRUISER/LAND CRUISER PRADO REPAIR MANUAL FOR CHASSIS AND BODY (Pub. No. RM517E)

NOTE: The above pages contain only the points which differ from the above listed manual.

STEERING

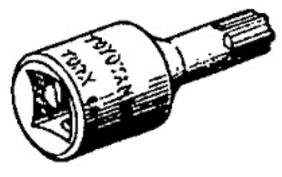
SST (Special Service Tools)

PP1NL–01

	09950–50010 Puller C Set	
	(09951–05010) Hanger 150	
	(09952–05010) Slide Arm	
	(09953–05020) Center Bolt 150	
	(09954–05020) Claw No.2	

PP1NM–01

RECOMMENDED TOOLS

	09042–00010 Torx Socket T30 .	

PP1NN–01

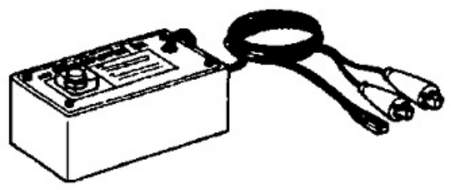
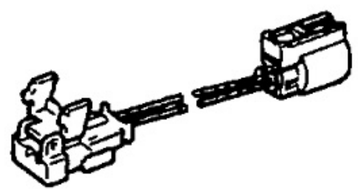
EQUIPMENT

Torque wrench	

SUPPLEMENTAL RESTRAINT SYSTEM

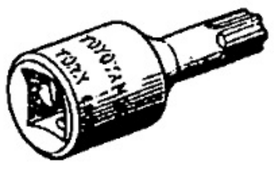
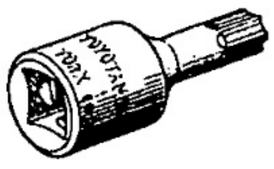
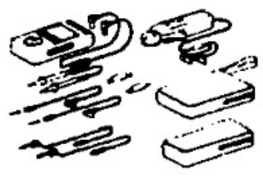
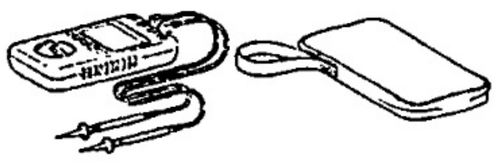
SST (Special Service Tools)

PP0XK–02

	09082–00700 SRS Airbag Deployment Tool	
	09082–00760 Airbag Deployment Wire Sub–harness No.4	
	09843–18020 Diagnosis Check Wire	

PP064–03

RECOMMENDED TOOLS

	09042–00010	Torx Socket T30 .	
	09042–00020	Torx Socket T40 .	
	09082–00050	TOYOTA Electrical Tester Set.	
	09082–00040	TOYOTA Electrical Tester.	

PP

PP065–03

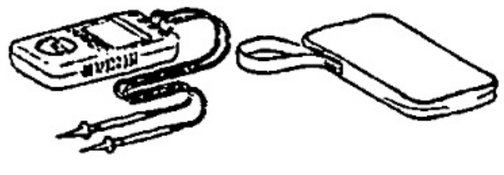
EQUIPMENT

Hand–held tester	
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: 360 mm (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

BODY ELECTRICAL

RECOMMENDED TOOLS

PP0XL–02

	09082–00040 TOYOTA Electrical Tester.	

PP0XM–01

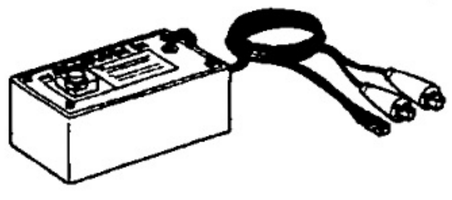
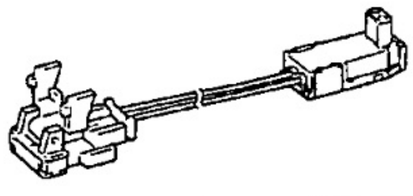
EQUIPMENT

Voltmeter	
Ammeter	
Ohmmeter	
Test lead	

BODY

SST (Special Service Tools)

PP0XN–02

	09082–00700	SRS Airbag Deployment Tool	
	09082–00740	Airbag Deployment Wire Sub–harness No.2	

PP060–03

EQUIPMENT

Clip remover	
Torque wrench	
Hog ring pliers	
Tape	To avoid surface damage
Adhesive tape	To avoid surface damage
Double–stick tape	
Adhesive	
Cleaner	
Shop rag	
Knife	
Sealer gun	
Brush	
Piano wire	
Rope (no projections, difficult to break)	Seat belt pretensioner
Tire Width: 185 mm (7.28 in.) Inner diam: 360 mm (14.17 in.)	Seat belt pretensioner
Tire with disk wheel Width: 185 mm (7.28 in.) Inner diam: 360 mm (14.17 in.)	Seat belt pretensioner
Vinyl bag	Seat belt pretensioner

PP0XO–02

SSM (Special Service Materials)

	08833–00070 Adhesive 1324, THREE BOND 1324 or equivalent	
	08833–00030 Three cement black or equivalent	
	08850–00801 Windshield Glass Adhesive Set or equivalent	

SERVICE SPECIFICATIONS

STANDARD BOLT SS–1
STEERING SS–3
SUPPLEMENTAL RESTRAINT SYSTEM ... SS–4
BODY ELECTRICAL SS–5
BODY SS–6

SS

REFER TO LAND CRUISER/LAND CRUISER PRADO REPAIR MANUAL FOR CHASSIS AND BODY (Pub. No. RM517E)

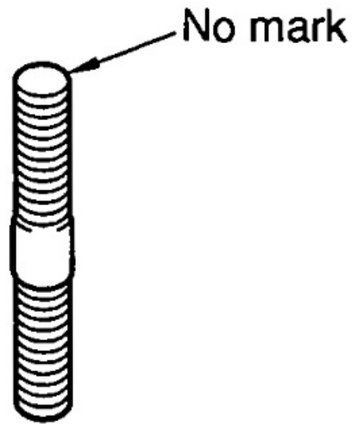
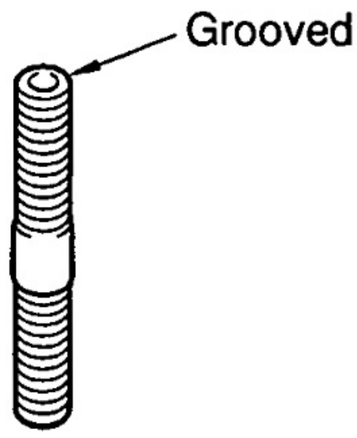
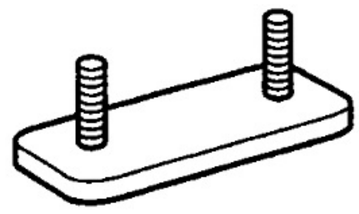
NOTE: The above pages contain only the points which differ from the above listed manual.

STANDARD BOLT

HOW TO DETERMINE BOLT STRENGTH

SS00F–01

	Mark	Class
Hexagon head bolt	Bolt head No. 4– 5– 6– 7– 8– 9– 10– 11–	4T 5T 6T 7T 8T 9T 10T 11T
	No mark	4T
Hexagon flange bolt w/ washer hexagon bolt	No mark	4T
Hexagon head bolt	2 Protruding lines	5T
Hexagon flange bolt w/ washer hexagon bolt	2 Protruding lines	6T
Hexagon head bolt	3 Protruding lines	7T
Hexagon head bolt	4 Protruding lines	8T

	Mark	Class
Hexagon flange bolt w/ washer hexagon bolt	4 Protruding lines	9T
Hexagon flange bolt w/ washer hexagon bolt	5 Protruding lines	10T
Hexagon flange bolt w/ washer hexagon bolt	6 Protruding lines	11T
Stud bolt	 No mark	4T
	 Grooved	6T
Welded bolt		4T

V06821

SS00G–01

SPECIFIED TORQUE FOR STANDARD BOLTS

Class	Diameter mm	Pitch mm	Specified torque						
			Hexagon head bolt			Hexagon flange bolt			
			N·m	kgf·cm	ft·lbf	N·m	kgf·cm	ft·lbf	
4T	6	1	5	55	48 in.·lbf	6	60	52 in.·lbf	
	8	1.25	12.5	130	9	14	145	10	
	10	1.25	26	260	19	29	290	21	
	12	1.25	47	480	35	53	540	39	
	14	1.5	74	760	55	84	850	61	
	16	1.5	115	1,150	83	–	–	–	
5T	6	1	6.5	65	56 in.·lbf	7.5	75	65 in.·lbf	
	8	1.25	15.5	160	12	17.5	175	13	
	10	1.25	32	330	24	36	360	26	
	12	1.25	59	600	43	65	670	48	
	14	1.5	91	930	67	100	1,050	76	
	16	1.5	140	1,400	101	–	–	–	
6T	6	1	8	80	69 in.·lbf	9	90	78 in.·lbf	
	8	1.25	19	195	14	21	210	15	
	10	1.25	39	400	29	44	440	32	
	12	1.25	71	730	53	80	810	59	
	14	1.5	110	1,100	80	125	1,250	90	
	16	1.5	170	1,750	127	–	–	–	
7T	6	1	10.5	110	8	12	120	9	
	8	1.25	25	260	19	28	290	21	
	10	1.25	52	530	38	58	590	43	
	12	1.25	95	970	70	105	1,050	76	
	14	1.5	145	1,500	108	165	1,700	123	
	16	1.5	230	2,300	166	–	–	–	
8T	8	1.25	29	300	22	33	330	24	
	10	1.25	61	620	45	68	690	50	
	12	1.25	110	1,100	80	120	1,250	90	
9T	8	1.25	34	340	25	37	380	27	
	10	1.25	70	710	51	78	790	57	
	12	1.25	125	1,300	94	140	1,450	105	
10T	8	1.25	38	390	28	42	430	31	
	10	1.25	78	800	58	88	890	64	
	12	1.25	140	1,450	105	155	1,600	116	
11T	8	1.25	42	430	31	47	480	35	
	10	1.25	87	890	64	97	990	72	
	12	1.25	155	1,600	116	175	1,800	130	

V00079

STEERING

TORQUE SPECIFICATION

SS0VI–01

Part tightened	N·m	kgf·cm	ft·lbf
Steering wheel set nut	34	350	25
Steering wheel pad set screw (Torx screw)	8.8	90	78 in.·lbf
Steering column assembly set nut	26	260	18
Main shaft assembly x Universal joint No.2	35	360	26
Universal joint No.2 x Intermediate shaft No.2	35	360	26
Control valve shaft x Intermediate shaft No.2	35	360	26
Column hole cover No.2 x Column hole cover,x Body	8.0	80	69 in.·lbf

SUPPLEMENTAL RESTRAINT SYSTEM

TORQUE SPECIFICATION

SS035-03

Part tightened	N·m	kgf·cm	ft·lbf
Steering wheel	34	350	25
Steering wheel pad	8.8	90	78 in.·lbf
Front passenger airbag assembly x Instrument panel reinforcement	18	184	13
Airbag sensor assembly	20	200	14
Front airbag sensor	10	100	7

BODY ELECTRICAL

SERVICE DATA

SS0VJ-01

ACCESSORY METER	
(Connector disconnected)	
1 – Ground (Ignition switch LOCK or ACC)	No voltage
1 – Ground (Ignition switch ON)	Battery voltage
2 – Ground (Constant)	Battery voltage
3 – Ground (Constant)	Continuity
4 – Ground (Light control switch OFF)	No voltage
4 – Ground (Light control switch TAIL or HEAD)	Battery voltage
5 – 6 (Constant)	Approx. 1.7 kΩ at 25 °C (77 °F)
8 – Ground (Constant)	Continuity
(Connector connected)	
7 – Ground (Engine start. Stop vehicle.)	4.5 – 5.5 V
7 – Ground (During driving)	Repeatedly changes from below 1 V to 4.5 – 5.5 V

BODY

TORQUE SPECIFICATION

SS0HC–02

Part tightened		N·m	kgf·cm	ft·lbf
INSTRUMENT PANEL		–	–	–
Steering wheel set nut		34	350	25
Steering wheel pad		8.8	90	78 in.·lbf
Front passenger airbag assembly x Reinforcement		18	184	13
SEAT		–	–	–
No.2 Rear Seat		–	–	–
seat reclining adjuster x Seatback frame		37	380	27
seat reclining adjuster x Seat cushion frame		37	380	27
Seat leg assembly x Seat cushion frame		18	184	13
Fold seat lock assembly x Seat cushion frame		42	430	31
SEAT BELT		–	–	–
Adjustable anchor x Body		42	430	31
Retractor x Body	(Upper Bolt)	5.4	55	48 in.·lbf
Retractor x Body	(Lower Bolt)	42	430	31
Shoulder anchor x Body		42	430	31
PINTLE HOOK		–	–	–
Eyelet Bolt		59	600	44
Pintle Hook x Pintle Hook Support Tube		59	600	44
Back Step Support Bracket x Pintle Hook Support Tube		29	300	21
Pintle Hook Support Tube x Pintle Hook Support Bracket		108	1100	80
Fuel Tank Protector x Body (Front side)		108	1100	80
Fuel Tank Protector x Body (Rear side)		29	300	21
Pintle Hook Support Bracket x Body		108	1100	80

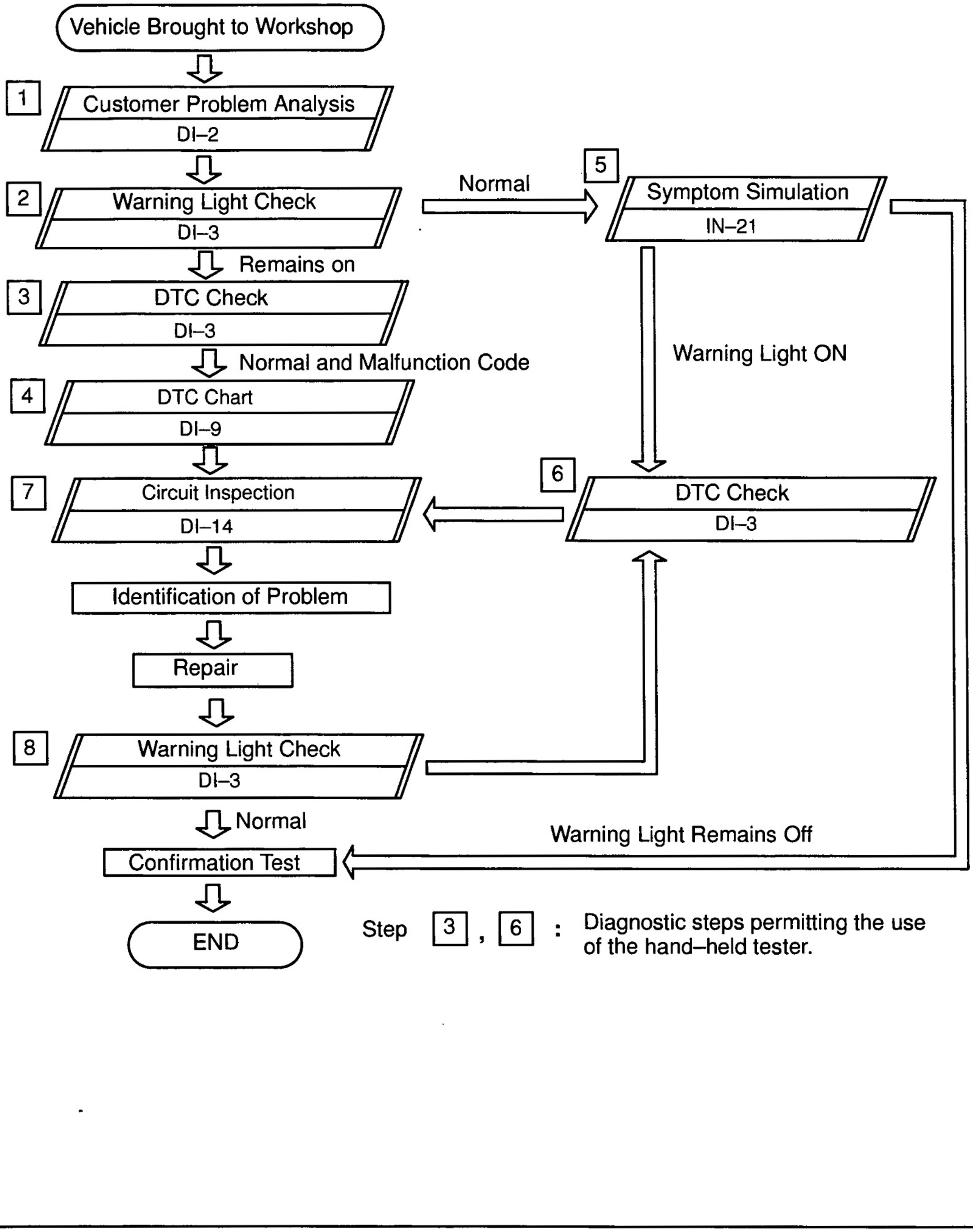
DIAGNOSTICS

SUPPLEMENTAL RESTRAINT SYSTEM ... DI–1
HOW TO PROCEED WITH TROUBLESHOOTING DI–1
CUSTOMER PROBLEM ANALYSIS CHECK ... DI–2
PRE–CHECK DI–3
DIAGNOSTIC TROUBLE CODE CHART DI–9
PARTS LOCATION DI–11
TERMINALS OF ECU DI–12
PROBLEM SYMPTOMS TABLE DI–13
CIRCUIT INSPECTION DI–14

SUPPLEMENTAL RESTRAINT SYSTEM

HOW TO PROCEED WITH TROUBLESHOOTING

DI15Y–03



DI

DI15Z–05

CUSTOMER PROBLEM ANALYSIS CHECK

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 Dist Occurred	/ /
Weather	☐ Fine ☐ Cloudy ☐ Rainy ☐ Snowy ☐ Other
Temperature	**Approx.**

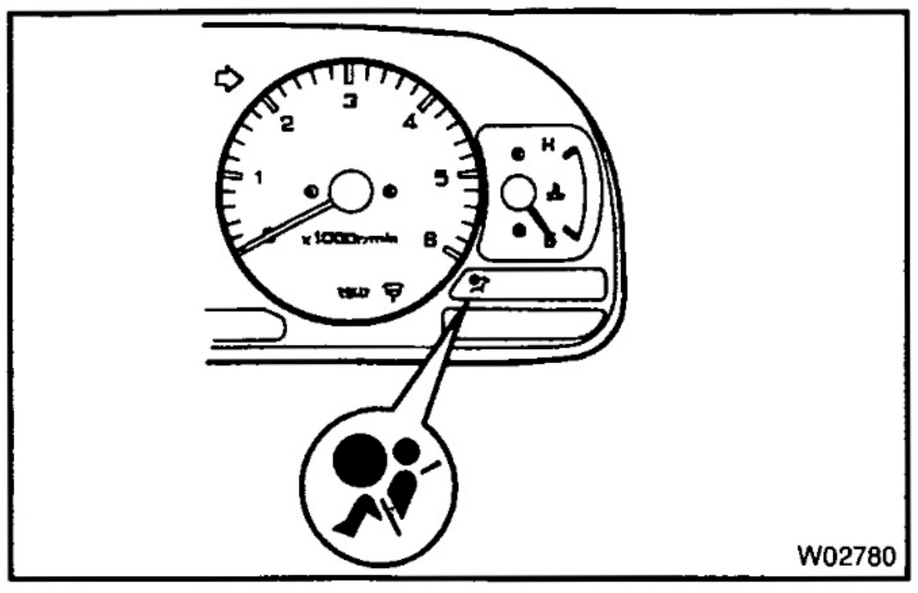
Vehicle Operation	☐ Starting ☐ Idling ☐ Driving [☐ Constant speed ☐ Acceleration ☐ Deceleration ☐ Other]
Road Conditions	
Details Of Problem	

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 Light Up ☐ Does Not Light Up
	2nd Time	☐ Remains ON	☐ Sometimes Light Up ☐ Does Not Light Up
DTC Inspection	**1st Time**	☐ Normal Code	☐ Malfunction Code [Code.]
	2nd Time	☐ Normal Code	☐ Malfunction Code [Code.]

DI160–07



PRE–CHECK

HINT:

The illustration of connector shown below represents other illustration. Though the shapes of some connectors are different, terminals alignment is same.

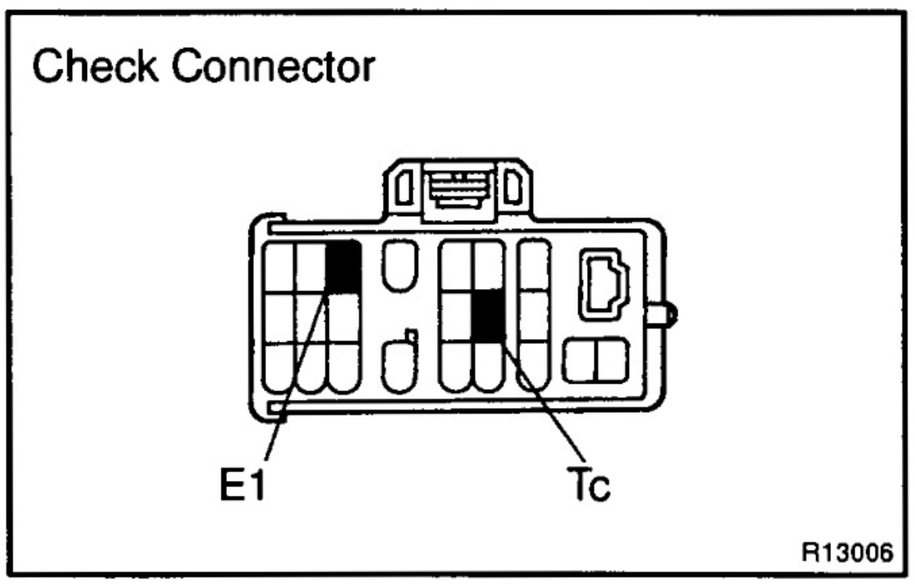
1. SRS WARNING LIGHT CHECK

(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 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 lights 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 circuit malfunction" on page DI–102 and DI–105.



2. DTC CHECK (Using diagnosis check wire)

(a) Present Troubles Codes:

Output the DTC.

(1) Turn the ignition switch to the ACC or ON position and wait approx. 20 seconds.

(2) Using SST, connect terminals Tc and E1 of the check connector.

SST 09843–18020

NOTICE:

Never make a mistake with the terminal connecting position as this will cause a malfunction.

(b) Past Troubles Codes:

Output the DTC

(1) Using service wire, connect Terminals Tc and E1 on the check connector.

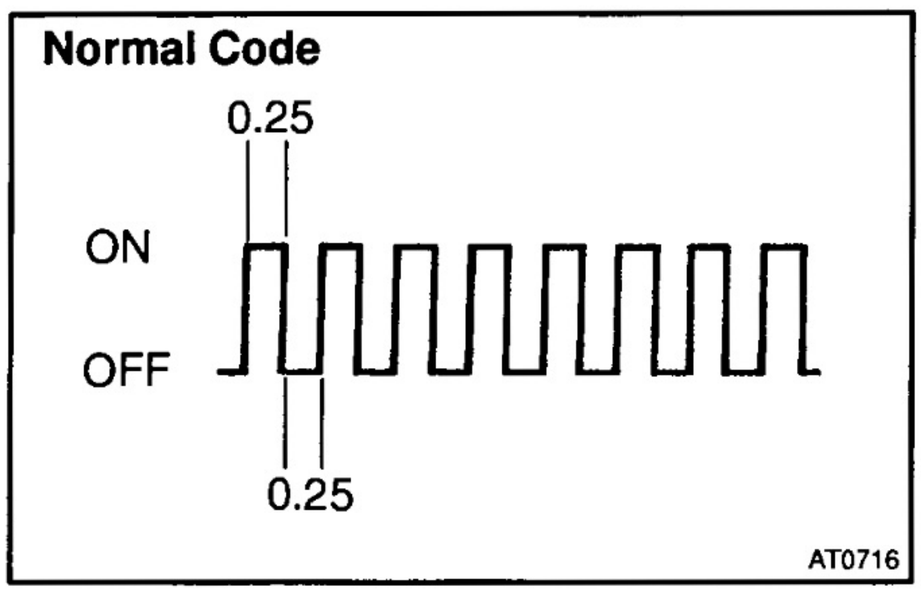
(2) Turn the ignition switch to the ACC or ON position and wait approx. 20 seconds.

(3) Using SST, connect terminals Tc and E1 of the check connector.

SST 09843–18020

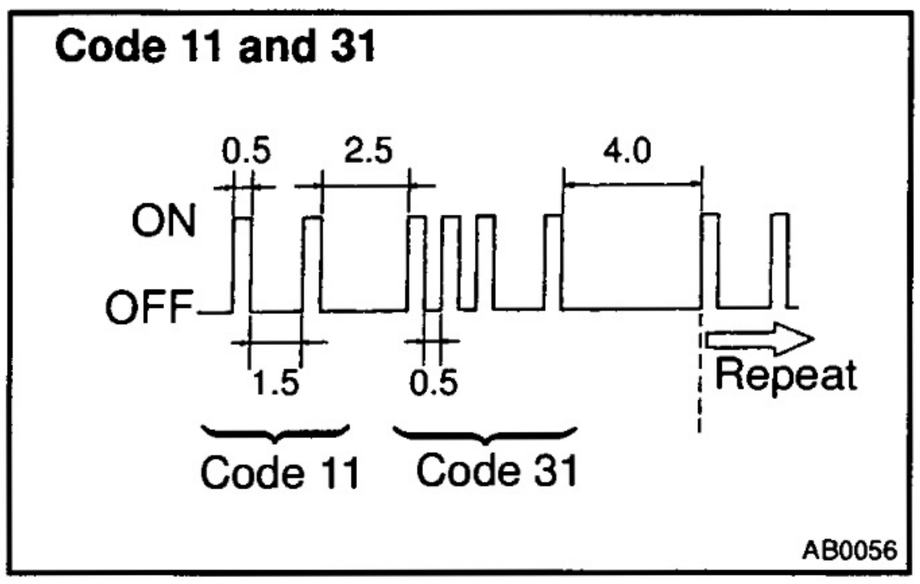
NOTICE:

Never make a mistake with the terminal connecting position as this will cause a malfunction.



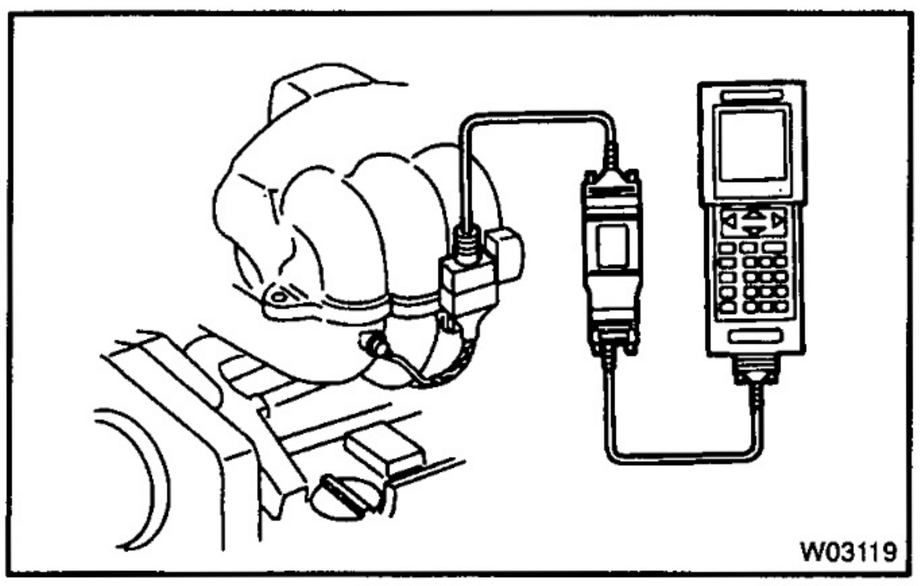
(c) Read the DTC.
Read the 2–digit DTC as indicated by the number of times the SRS warning light blinks. As an example, the blinking patterns, normal, 11 and 31 are as shown on the illustration.

- Normal code indication
  The light will blink 2 times per second.
- Malfunction code indication
  The first blinking output indicates the first digit of a 2–digit DTC. After a 1.5 second pause, the second blinking output 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 DTC or outputs a DTC without terminal connection, proceed to the Tc terminal circuit inspection on page DI–109.



3. DTC CHECK (Using hand–held tester)

(a) Hook up the hand–held tester to the check connector.
(b) Read the DTCs by following the prompts on the tester screen.

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

4. DTC CLEARANCE (Using service wire)

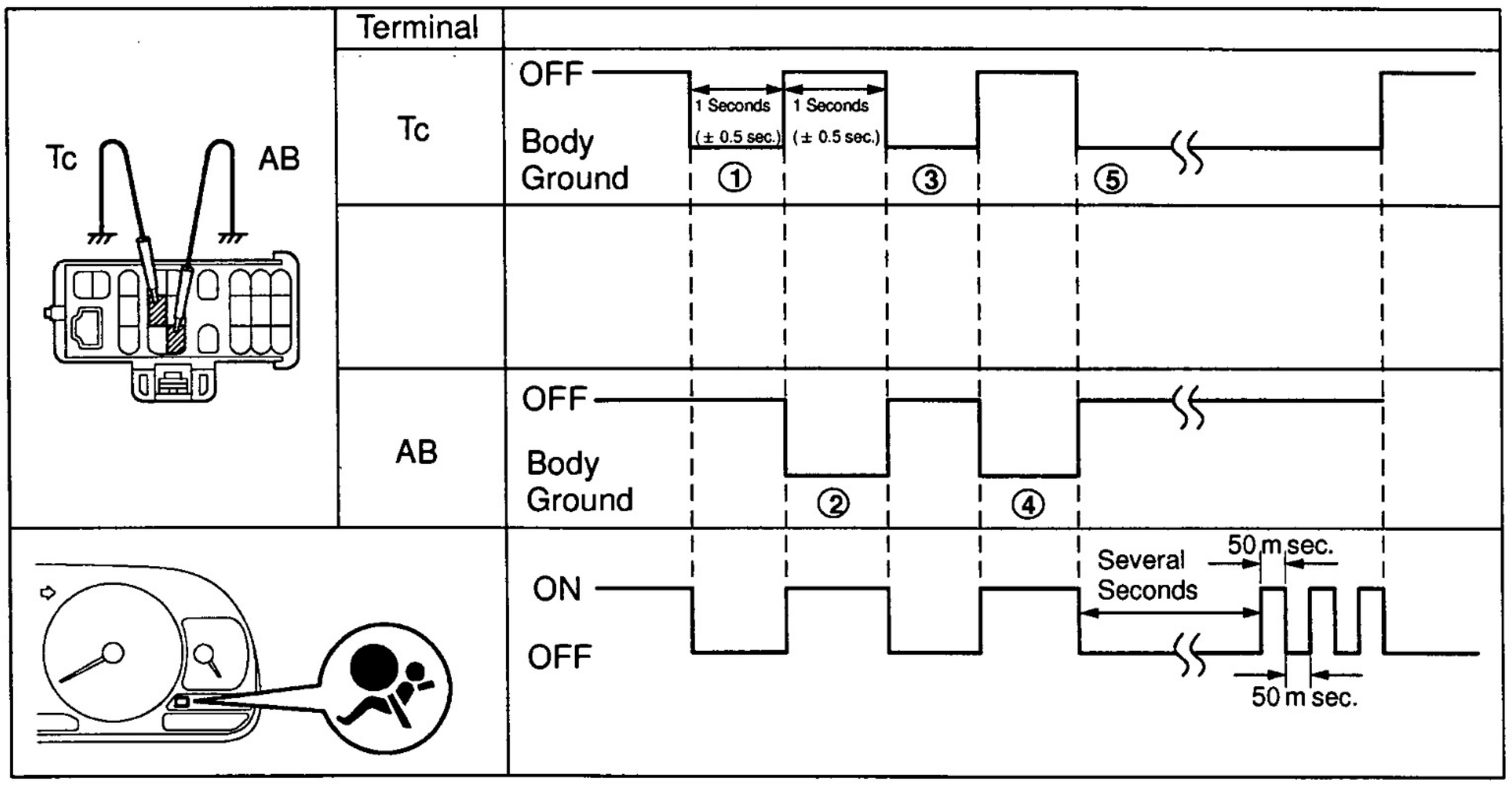
(a) Connect the 2 service wire to terminal Tc and AB of check connector.
(b) Turn the ignition switch to ACC or ON and wait approx. 6 seconds.

(c) 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 seconds.

If DTCs do not clear, repeat the above procedure until the codes are cleared.



H05196

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

5. Past Trouble Codes:
DTC CLEARANCE
(See step 4.)

6. RELEASE METHOD OF AIRBAG ACTIVATION PREVENTION MECHANISM

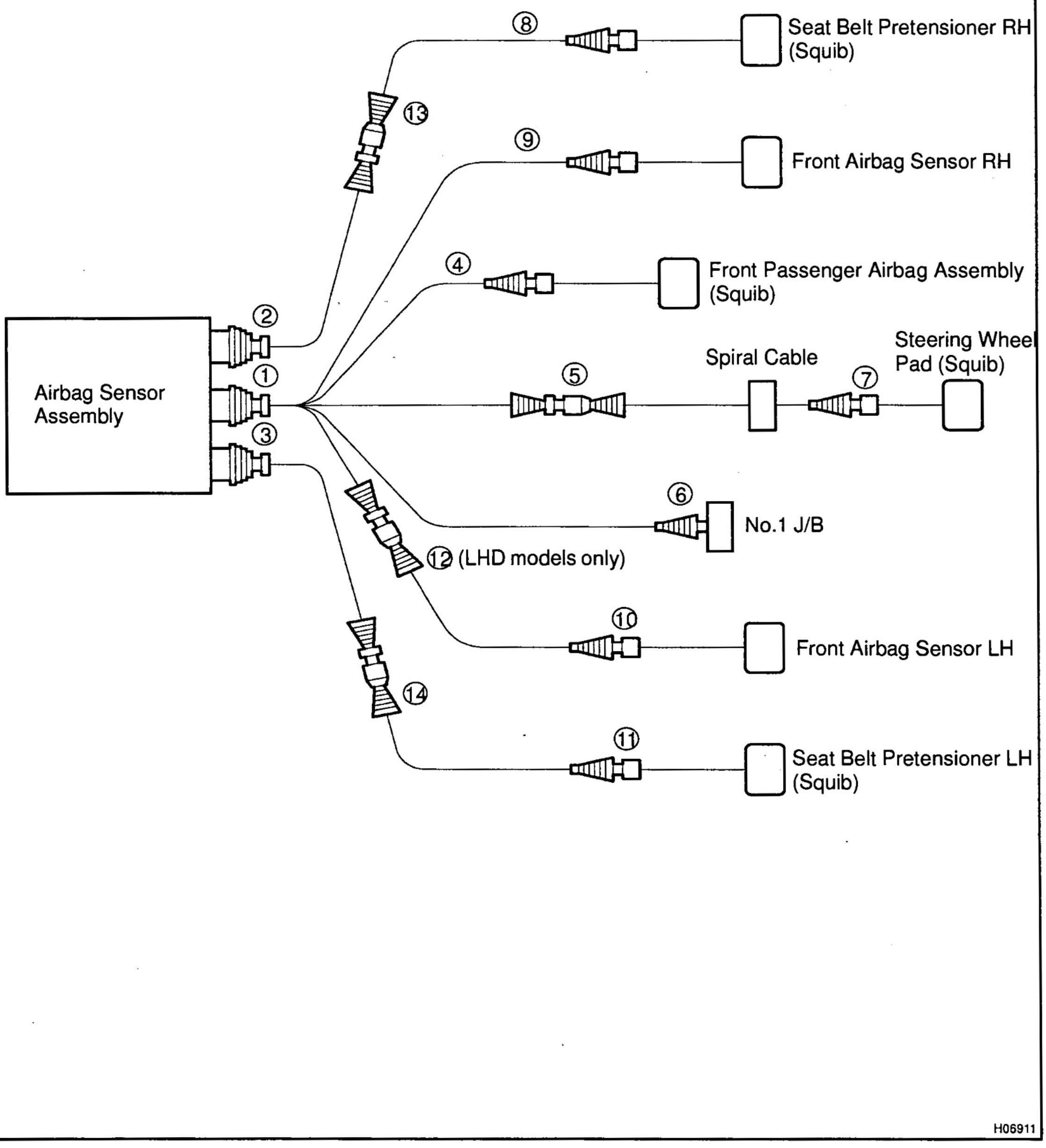
An airbag activation prevention mechanism is built into the connector for the squib circuit of the SRS.

When release of the airbag activation prevention mechanism is directed in the troubleshooting procedure, as shown in the illustration of the connectors, insert paper which is the same thickness as the male terminal, between the terminal and the short spring.

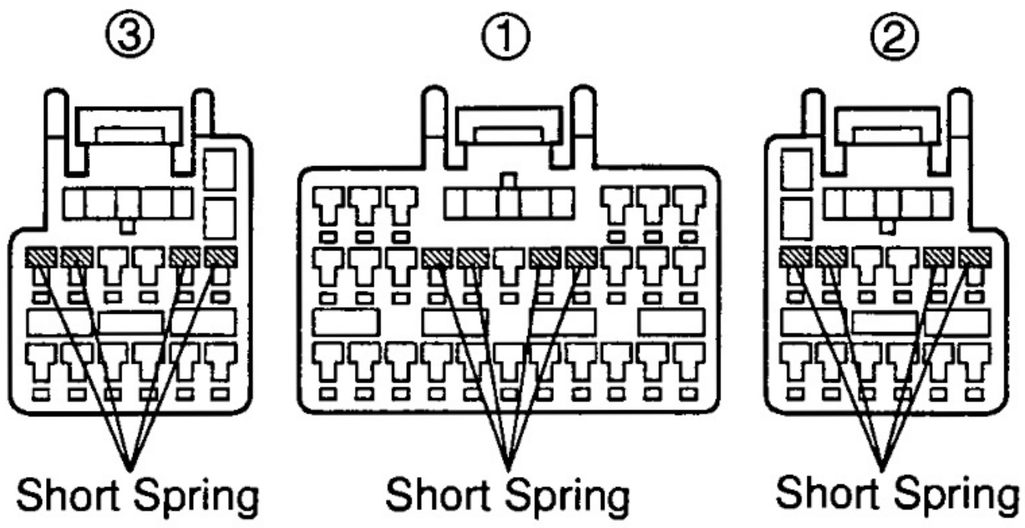
CAUTION:
Never release the airbag activation prevention mechanism on the steering wheel pad connector.

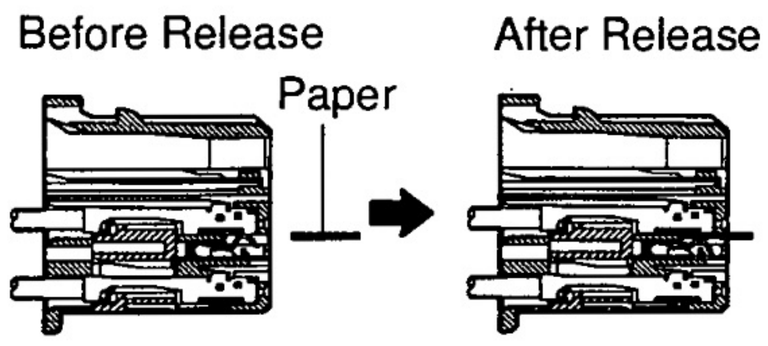
NOTICE:

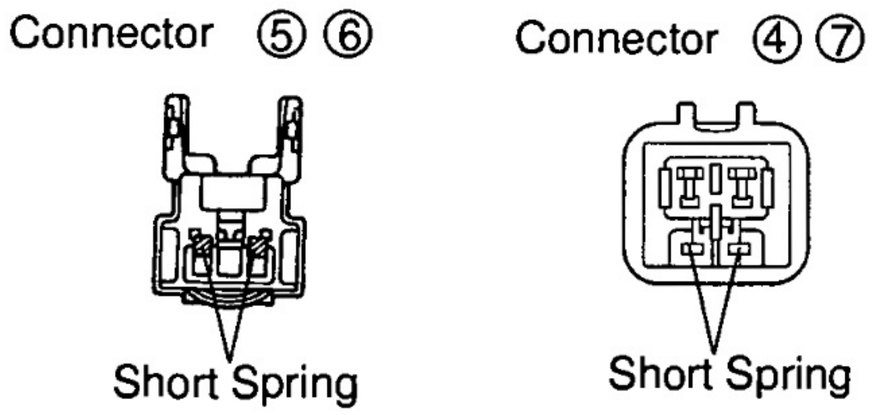
- **Do not release the airbag activation prevention mechanism unless specifically directed by the troubleshooting procedure.**
- **If the paper inserted is too thick the terminal and short spring may be damaged, so always use paper the same thickness as the male terminal.**

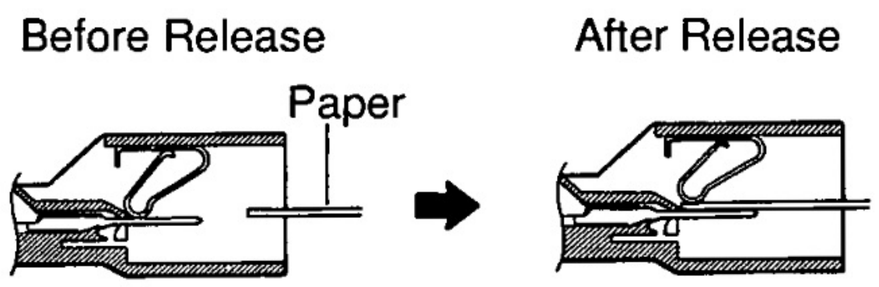

Airbag Sensor Assembly
Seat Belt Pretensioner RH (Squib)
Front Airbag Sensor RH
Front Passenger Airbag Assembly (Squib)
Spiral Cable
Steering Wheel Pad (Squib)
No.1 J/B
(LHD models only)
Front Airbag Sensor LH
Seat Belt Pretensioner LH (Squib)
H06911

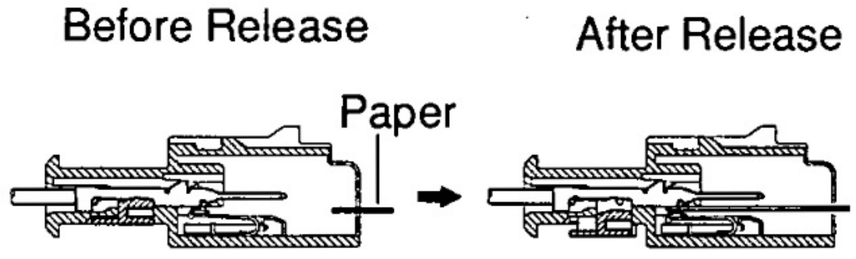
Airbag Sensor Assembly Connector











H01356
H01233
AB0130 H02248
AB0045 AB0046
H02249

H05360

DI161-17

DIAGNOSTIC TROUBLE CODE CHART

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

DTC No. (See Page)	Detection Item	Trouble Area	SRS Warning Light
11 (DI–14)	• Short in D squib circuit (to ground)	• Steering wheel pad (Squib) • Spiral cable • Airbag sensor assembly • Wire harness	ON
12 (DI–19)	• Short in D squib circuit (to B+)	• Steering wheel pad (Squib) • Spiral cable • Airbag sensor assembly • Wire harness	ON
13 (DI–23)	• Short in D squib circuit	• Steering wheel pad (squib) • Spiral cable • Airbag sensor assembly • Wire harness	ON
14 (DI–27)	• Open in D squib circuit	• Steering wheel pad (squib) • Spiral cable • Airbag sensor assembly • Wire harness	ON
15 (DI–31)	• Front airbag sensor (RH) malfunction	• Front airbag sensor assembly (RH) • Wire harness	ON
16 (DI–38)	• Front airabg sensor (LH) malfunction	• Front airbag sensor assembly (LH) • Wire harness	ON
31 (DI–48)	• Airbag sensor assembly malfunction	• Airbag sensor assembly	ON
51 (DI–50)	• Short in P squib circuit (to Ground)	• Passenger airbag assembly (squib) • Airbag sensor assembly • Wire harness	ON
52 (DI–54)	• Short in P squib circuit (to B)	• Passenger airbag assembly (squib) • Airbag sensor assembly • Wire harness	ON
53 (DI–58)	• Short in P squib circuit	• Passenger airbag assembly (squib) • Airbag sensor assembly • Wire harness	ON
54 (DI–61)	• Open in P squib circuit	• Passenger airbag assembly (squib) • Airbag sensor assembly • Wire harness	ON
61 (DI–64)	• Short in P/T squib (RH) circuit (to Ground)	• Seat belt pretensioner RH (squib) • Airbag sensor assembly • Wire harness	ON
62 (DI–69)	• Short in P/T squib (RH) circuit (to B+)	• Seat belt pretensioner RH (squib) • Airbag sensor assembly • Wire harness	ON
63 (DI–73)	• Short in P/T squib (RH) circuit	• Seat belt pretensioner RH (squib) • Airbag sensor assembly • Wire harness	ON
64 (DI–77)	• Open in P/T squib (RH) circuit	• Seat belt pretensioner RH (squib) • Airbag sensor assembly • Wire harness	ON

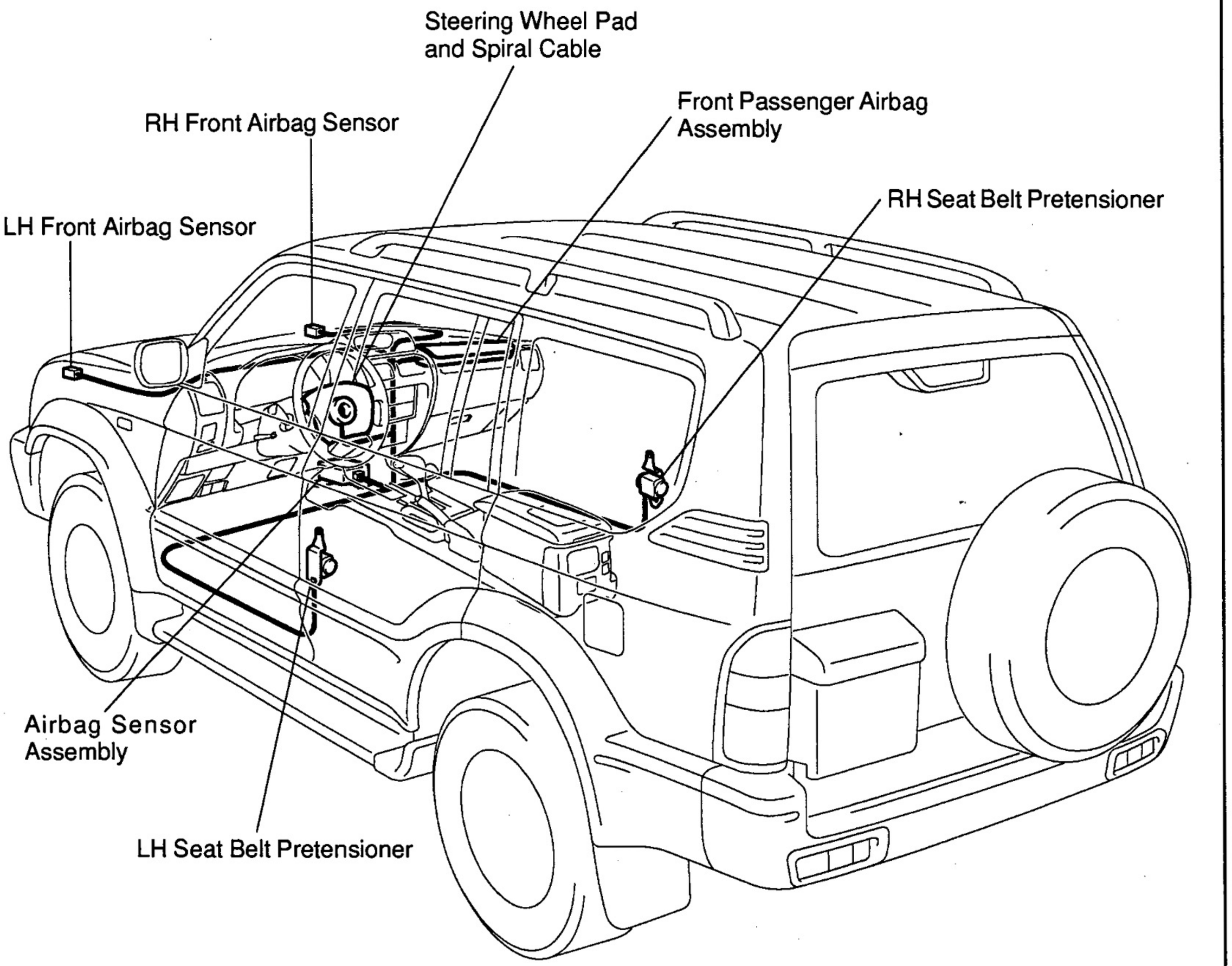
DTC No. (See Page)	Detection Item	Trouble Area	SRS Warning Light
71 (DI–81)	• Short in P/T squib (LH) circuit (to Ground)	• Seat belt pretensioner LH (squib) • Airbag sensor assembly • Wire harness	ON
72 (DI–86)	• Short in P/T squib (LH) circuit (to B+)	• Seat belt pretensioner LH (squib) • Airbag sensor assembly • Wire harness	ON
73 (DI–90)	• Short in P/T squib (LH) circuit	• Seat belt pretensioner LH (squib) • Airbag sensor assembly • Wire harness	ON
74 (DI–94)	• Open in P/T squib (LH) circuit	• Seat belt pretensioner LH (squib) • Airbag sensor assembly • Wire harness	ON
Normal (DI–98)	• System normal	–	OFF
	• Voltage source drop	• Battery • Airbag sensor assembly	ON

HINT:

- When the SRS warning light remains lit up and the DTC is the normal code, this means a voltage source drops.
  This malfunction is not stored in memory by the airbag sensor assembly and if the power source voltage returns to normal, the SRS warning light will automatically go out.
- When 2 or more codes are indicated, the codes will be displayed in numeral order starting from the lowest numbered code.
- If a code not listed on the chart is displayed, the airbag sensor assembly is faulty.

DI162-04

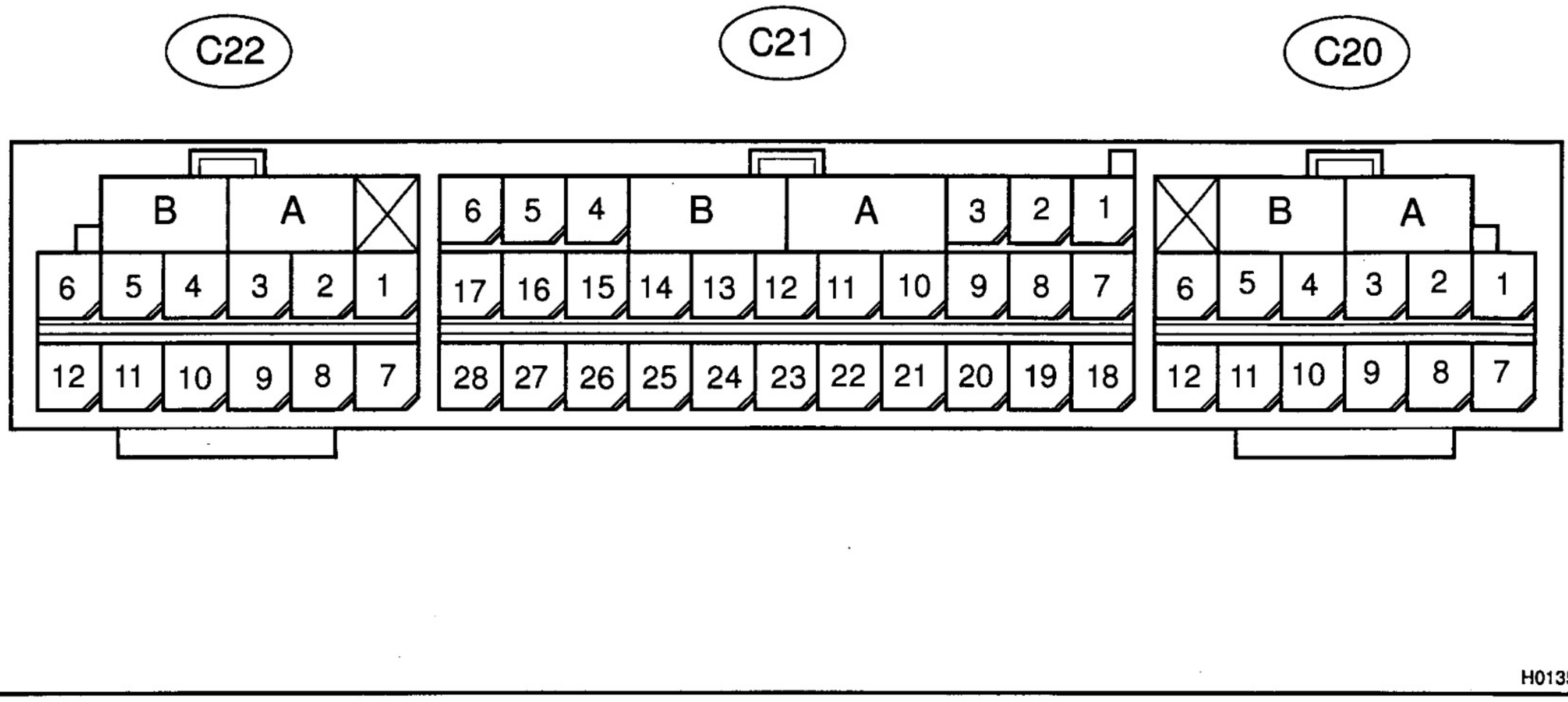
PARTS LOCATION



H05194

DI163-06

TERMINALS OF ECU



No.	Symbol	Terminal Name
A	–	Electrical Connector Check Mechanism
B	–	Electrical Connector Check Mechanism
C7–1	PL–	Squib (Seat Belt Pretensioner, LH)
C7–2	PL+	Squib (Seat Belt Pretensioner, LH)
C8–3	LA	SRS Warning Light
C8–5	IG2	Power Source (IGN Fuse)
C8–6	ACC	Power Source (CIG Fuse)
C8–9	SR+	Front Airbag Sensor (RH)
C8–10	P+	Squib (Passenger)
C8–11	P–	Squib (Passenger)
C8–12	SIL	Check connector
C8–13	D–	Squib (Driver)
C8–14	D+	Squib (Driver)
C8–15	SL+	Front Airbag Sensor (LH)
C8–19	Tc	Diagnosis
C8–20	SR–	Front Airbag Sensor(RH)
C8–26	SL–	Front Airbag Sensor(LH)
C8–27	E1	Ground
C8–28	E2	Ground
C9–5	PR+	Squib (Seat Belt Pretensioner, RH)
C9–6	PR–	Squib (Seat Belt Pretensioner, RH)

DI164–11

PROBLEM SYMPTOMS TABLE

Proceed with troubleshooting of each circuit in the table below.

Symptom	Suspect Area	See page
• With the ignition switch in ACC or ON position, the SRS warning light sometimes lights up after approx. 6 seconds have elapsed. • SRS warning light is always light up even when ignition switch is in the LOCK position.	• SRS warning light circuit (Always lights up when ignition switch is in LOCK position.)	DI–102
• With the ignition switch in ACC or ON position, the SRS warning light does not light up.	• SRS warning light circuit (Does not light up when ignition switch is turned to ACC or ON.)	DI–105
• DTC is not displayed. • SRS warning light is always light up at the time of DTC check procedure. • DTC is displayed without Tc and E1 terminal connection.	• Tc terminal circuit	DI–109

DI220-02

CIRCUIT INSPECTION

DTC	11	Short in D Squib Circuit (to Ground)

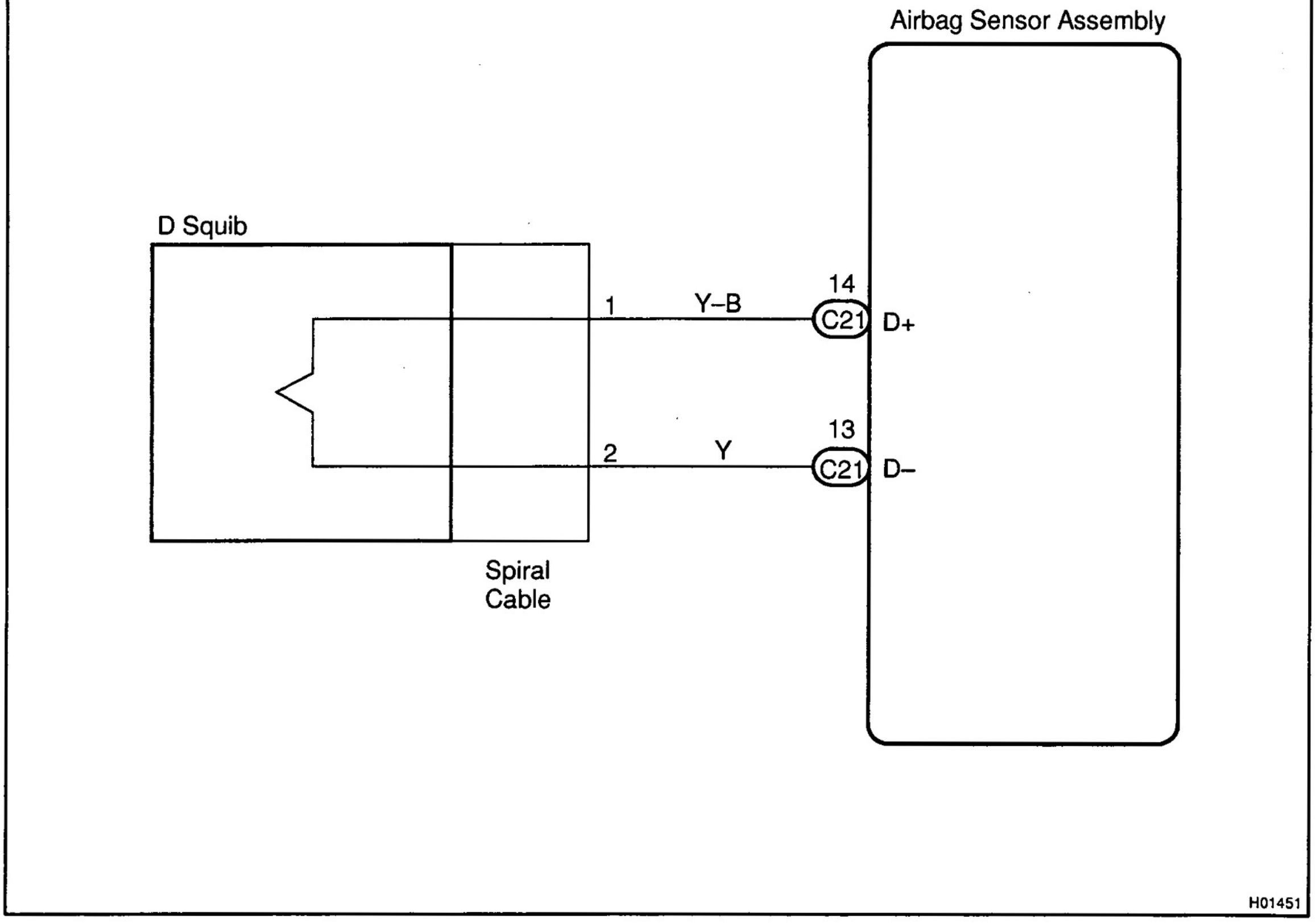
CIRCUIT DESCRIPTION

The D squib circuit consists of the airbag sensor assembly, spiral cable and steering wheel pad.
It causes the SRS to deploy when the SRS deployment conditions are satisfied.
For details of the function of each component, see OPERATION on page RS–2.

DTC 11 is recorded when a ground short is detected in the D squib circuit.

DTC No.	DTC Detecting Condition	Trouble Area
11	• Short circuit in D squib wire harness (to ground) • D squib malfunction • Spiral cable malfunction • Airbag sensor assembly malfunction	• Steering wheel pad (D squib) • Spiral cable • Airbag sensor assembly • Wire harness

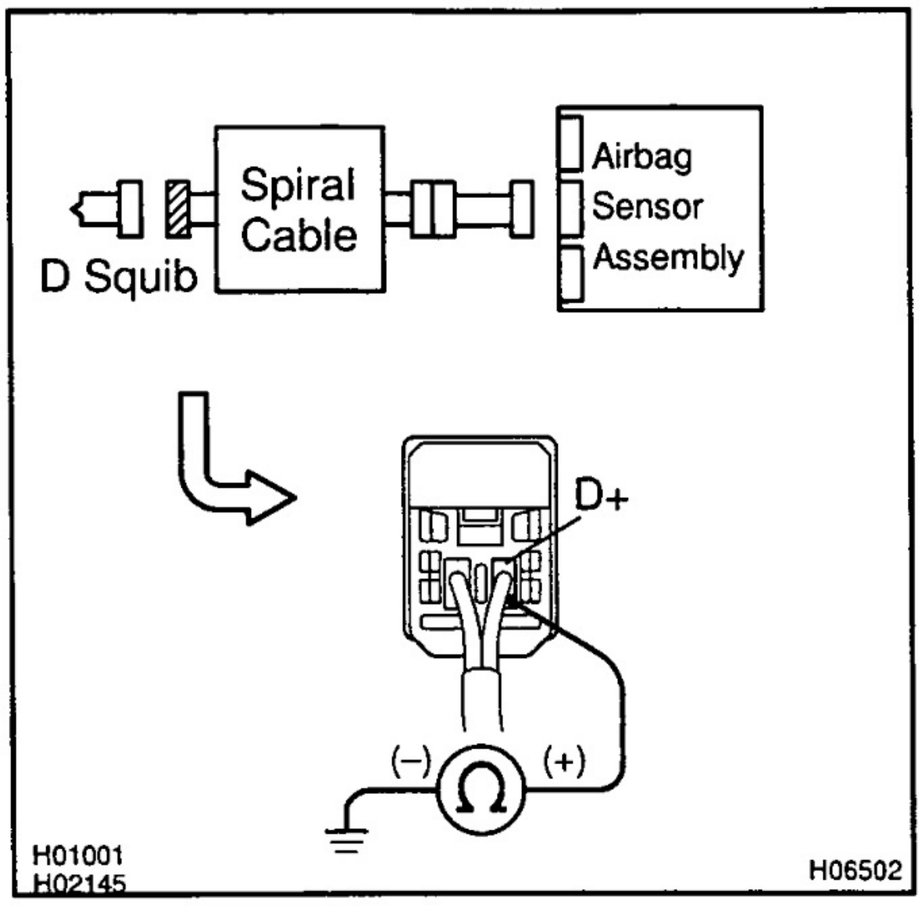
WIRING DIAGRAM



INSPECTION PROCEDURE

1	**Prepare for inspection. (See step 1 on page DI–98)**

2	**Check D squib circuit.**



CHECK:

For the connector (on the spiral cable side) between the spiral cable and the steering wheel pad, measure the resistance between D+ and body ground.

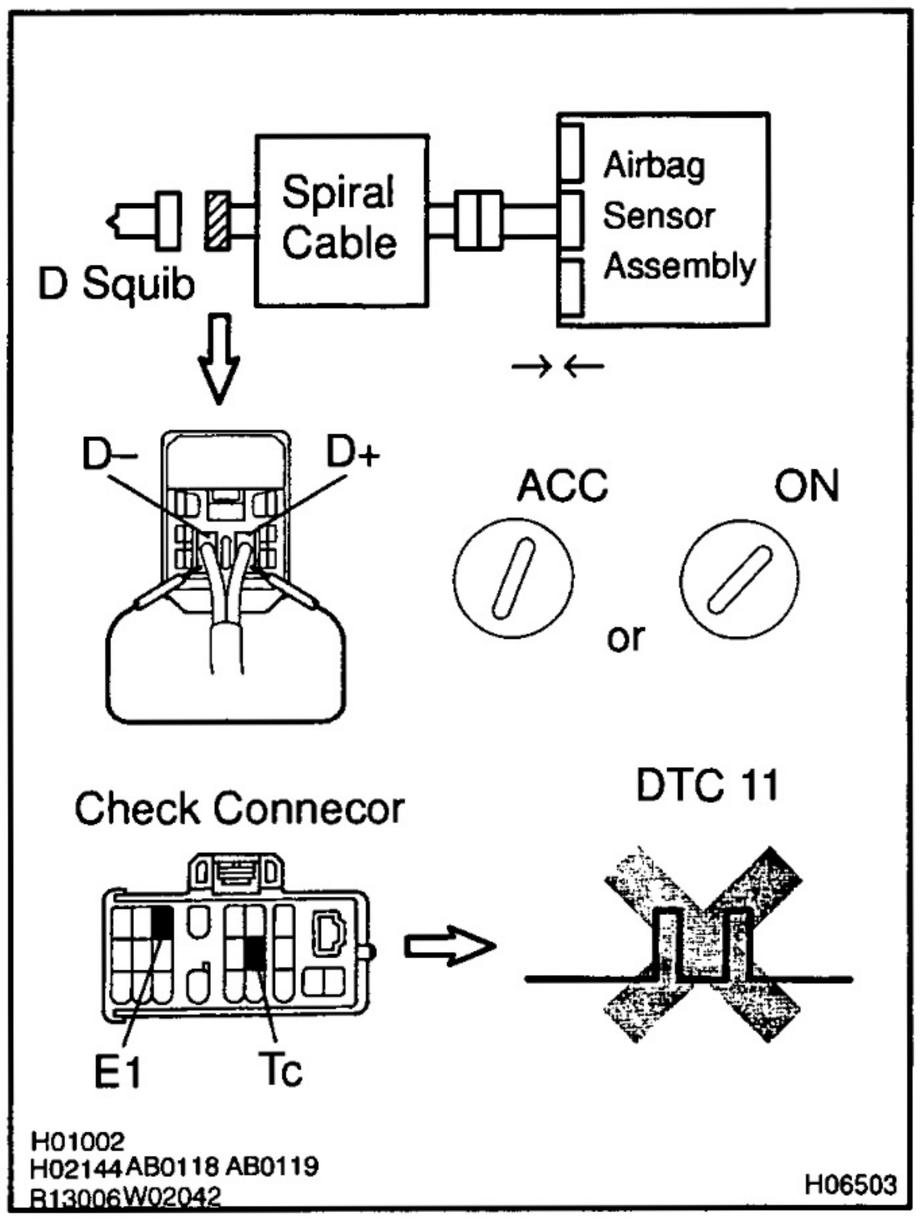
OK:

Resistance: 1 MΩ or Higher

NG → **Go to step 5.**

OK

3	Check airbag sensor assembly.



PREPARATION:

(a) Connect the connector to the airbag sensor assembly.

(b) Using a service wire, connect D+ and D– of the connector (on the spiral cable side) between the spiral cable and the steering wheel pad.

(c) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.

(b) Clear DTC stored in memory (See page DI–3).

(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.

(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.

(e) Check the DTC (See page DI–3).

OK:

DTC 11 is not output.

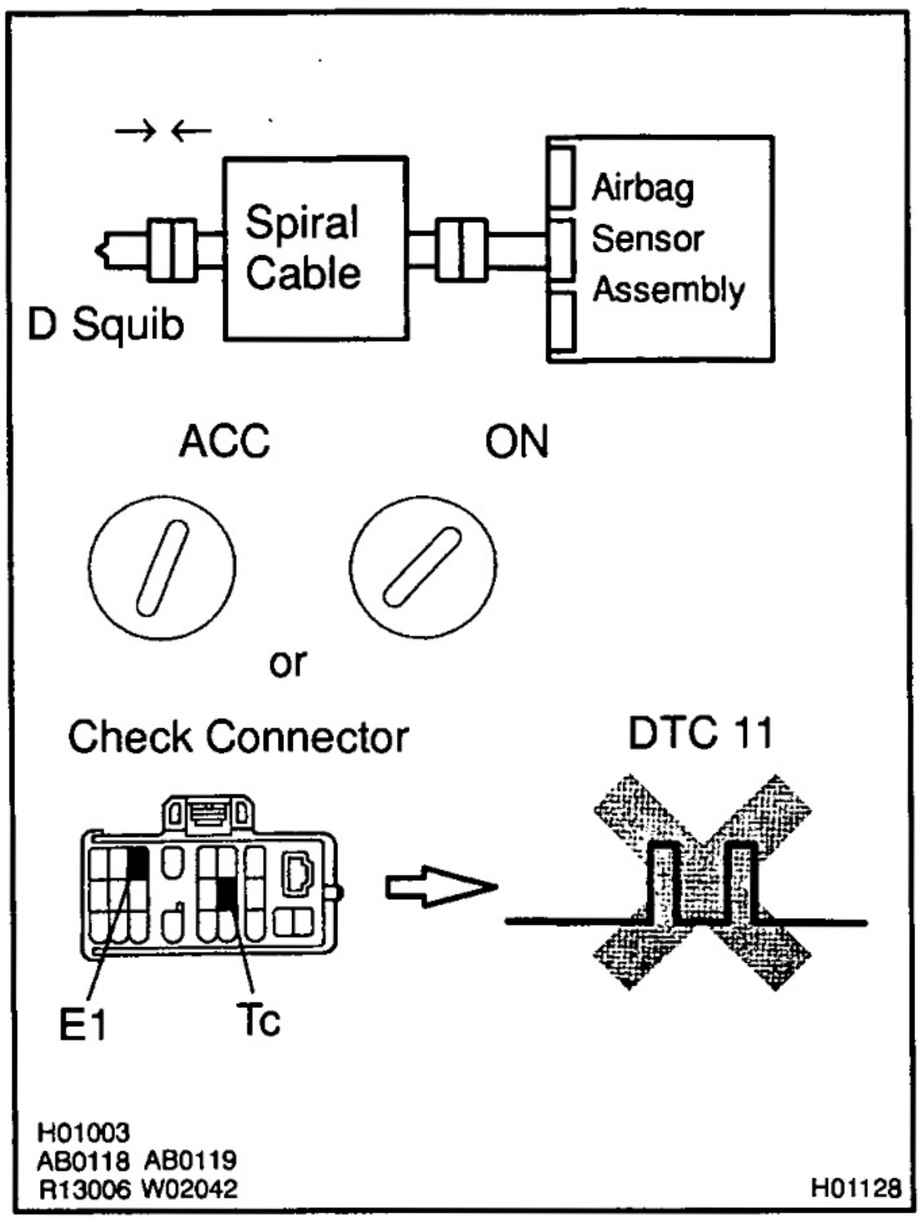
HINT:

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

NG → **Replace airbag sensor assembly.**

OK

4	**Check D squib.**



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Disconnect negative (–) terminal cable from the battery, and wait at least for 90 seconds.
(c) Connect the steering wheel pad connector.
(d) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(b) Clear DTC stored in memory (See page DI–3).
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check the DTC (See page DI–3).

OK:

DTC 11 is not output.

HINT:

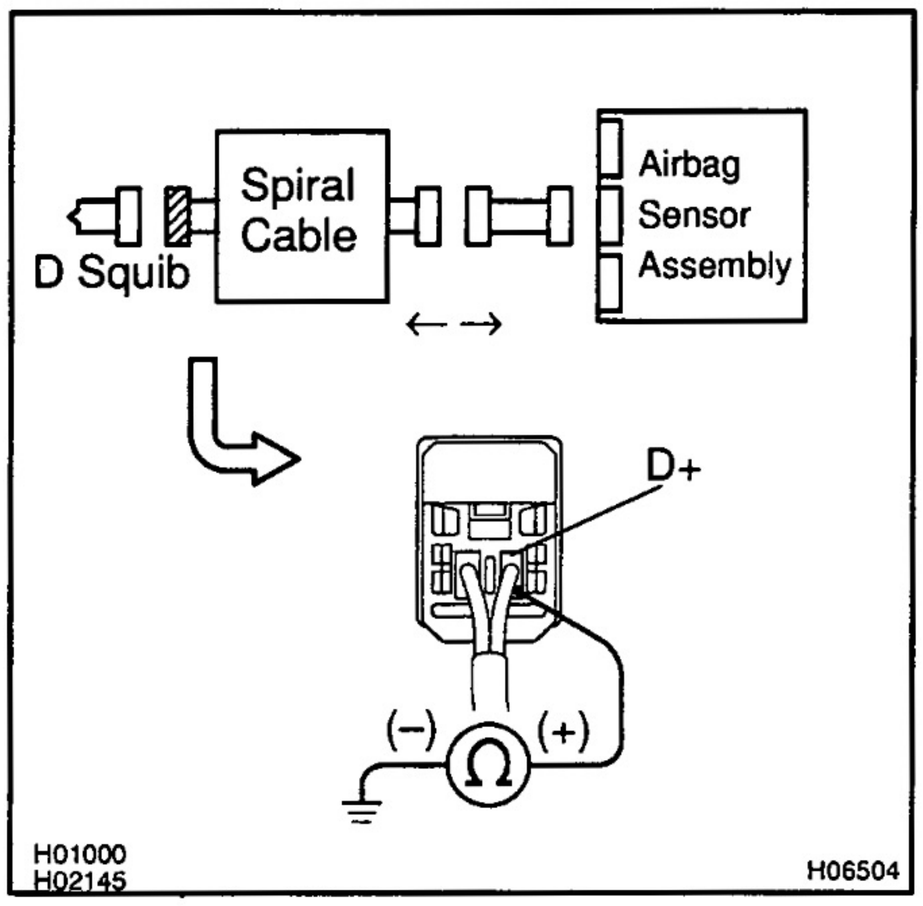
Codes other than DTC 11 may be output at this time, but they are not relevant to this check.

NG → **Replace steering wheel pad.**

OK →

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 can not be detected by the simulation method, replace all SRS components including the wire harness.

5	**Check spiral cable.**



PREPARATION:

Disconnect the connector between the airbag sensor assembly and the spiral cable.

CHECK:

For the connector (on the spiral cable side) between the steering wheel pad and the spiral cable, measure the resistance between D+ and body ground.

OK:

Resistance: 1 MΩ or Higher

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

OK

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

DI18T-09

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

CIRCUIT DESCRIPTION

The D squib circuit consists of the airbag sensor assembly, spiral cable and steering wheel pad.
It causes the SRS to deploy when the SRS deployment conditions are satisfied.
For details of the function of each components, see page OPERATION on page RS–2.
DTC 12 is recorded when a B+ short is detected in the D squib circuit.

DTC No.	DTC Detecting Condition	Trouble Area
12	• Short circuit in D squib wire harness (to B+) • D squib malfunction • Spiral cable malfunction • Airbag sensor assembly malfunction	• Steering wheel pad (D squib) • Spiral cable • Airbag sensor assembly • Wire harness

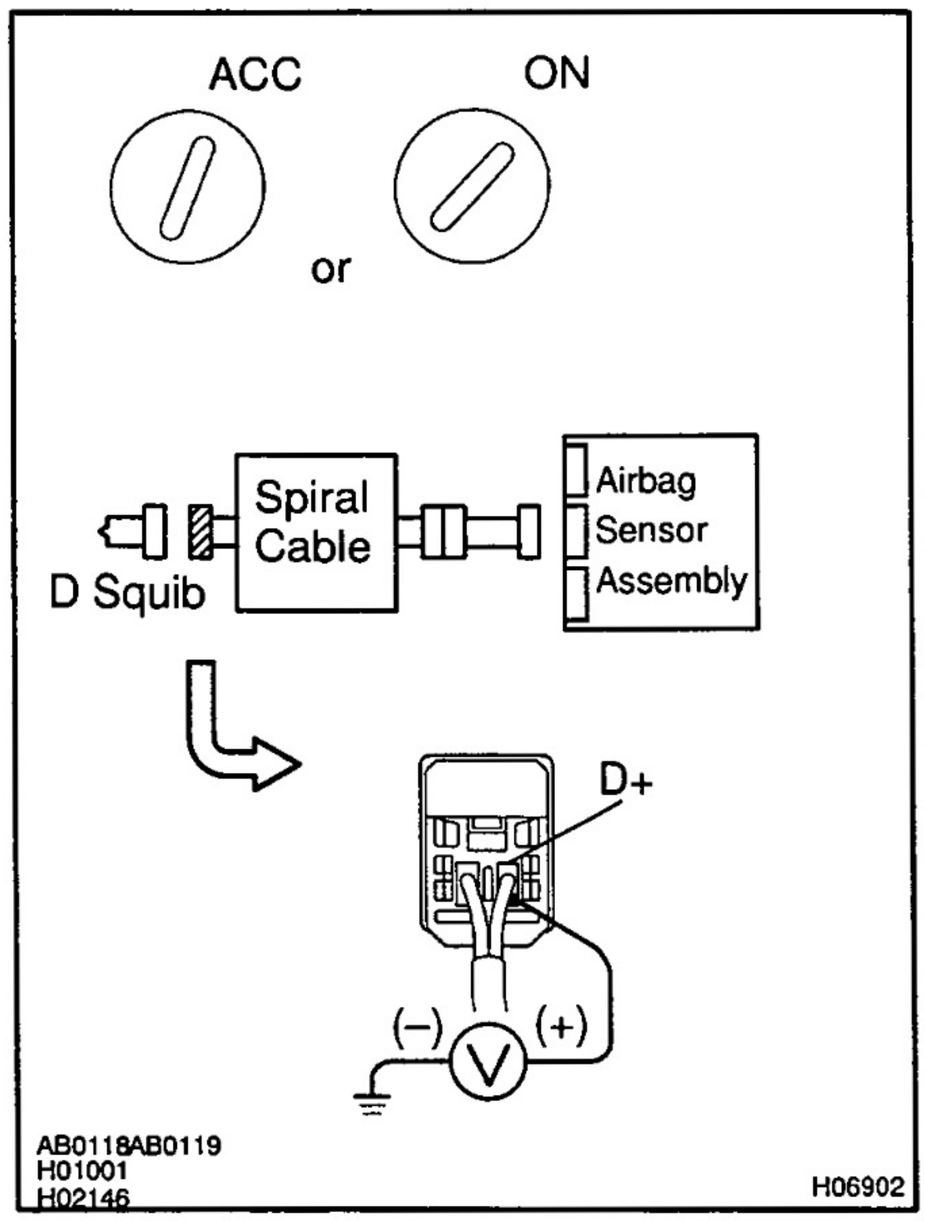
WIRING DIAGRAM

See page DI–14.

INSPECTION PROCEDURE

1	**Prepare for inspection. (See step 1 on page DI–98)**

2	**Check D squib circuit.**



CHECK:

(a) Turn ignition switch to ACC or ON and wait at least for 20 seconds.

(b) For the connector (on the spiral cable side) between the spiral cable and the steering wheel pad, measure the voltage between D+ and body ground.

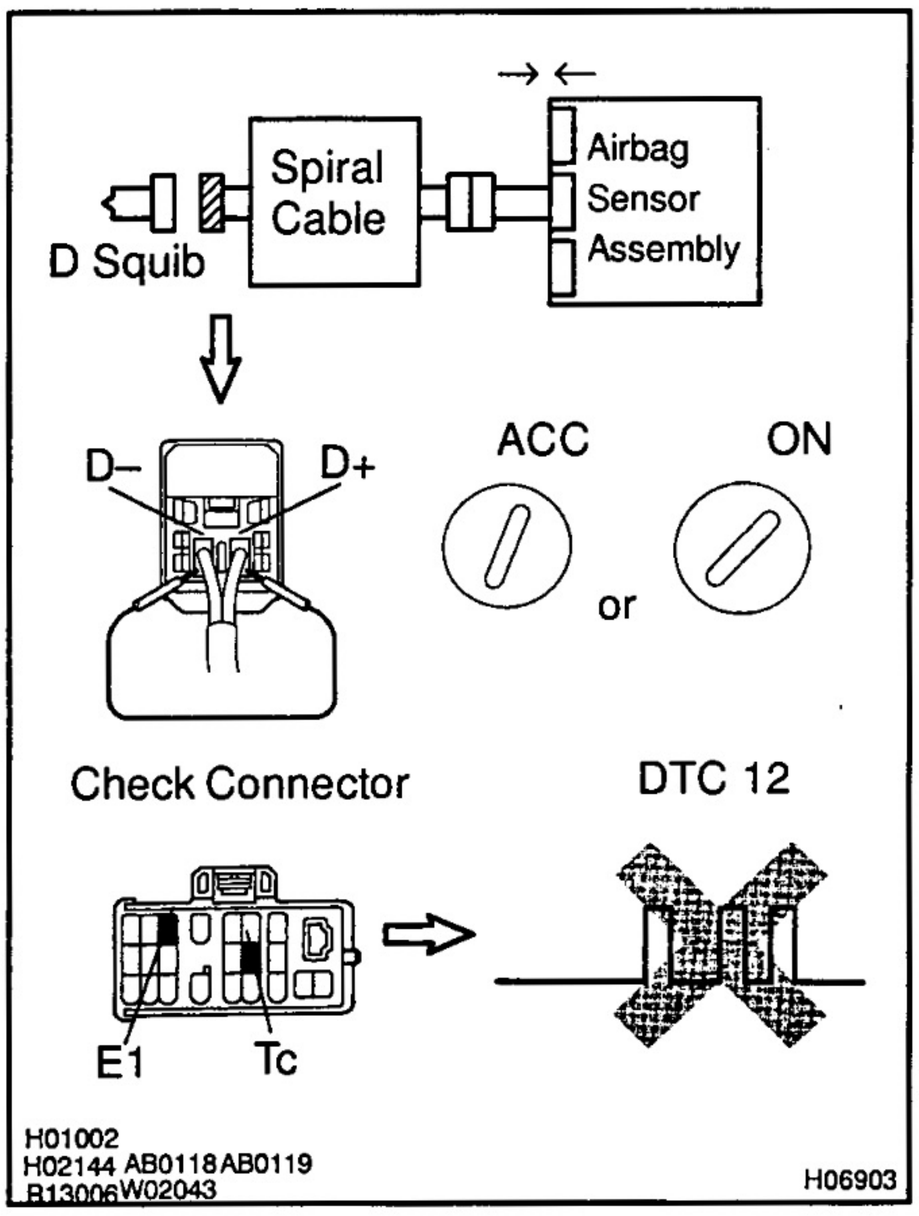
OK:

Voltage: 0 V

NG → Go to step 5.

OK

3	Check airbag sensor assembly.



PREPARATION:

(a) Connect the connector to the airbag sensor assembly.
(b) Using a service wire, connect D+ and D– of the connector (on the spiral cable side) between the spiral cable and the steering wheel pad.
(c) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(b) Clear DTC stored in memory.
(See page DI–3)
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check DTC.
(See page DI–3)

OK:

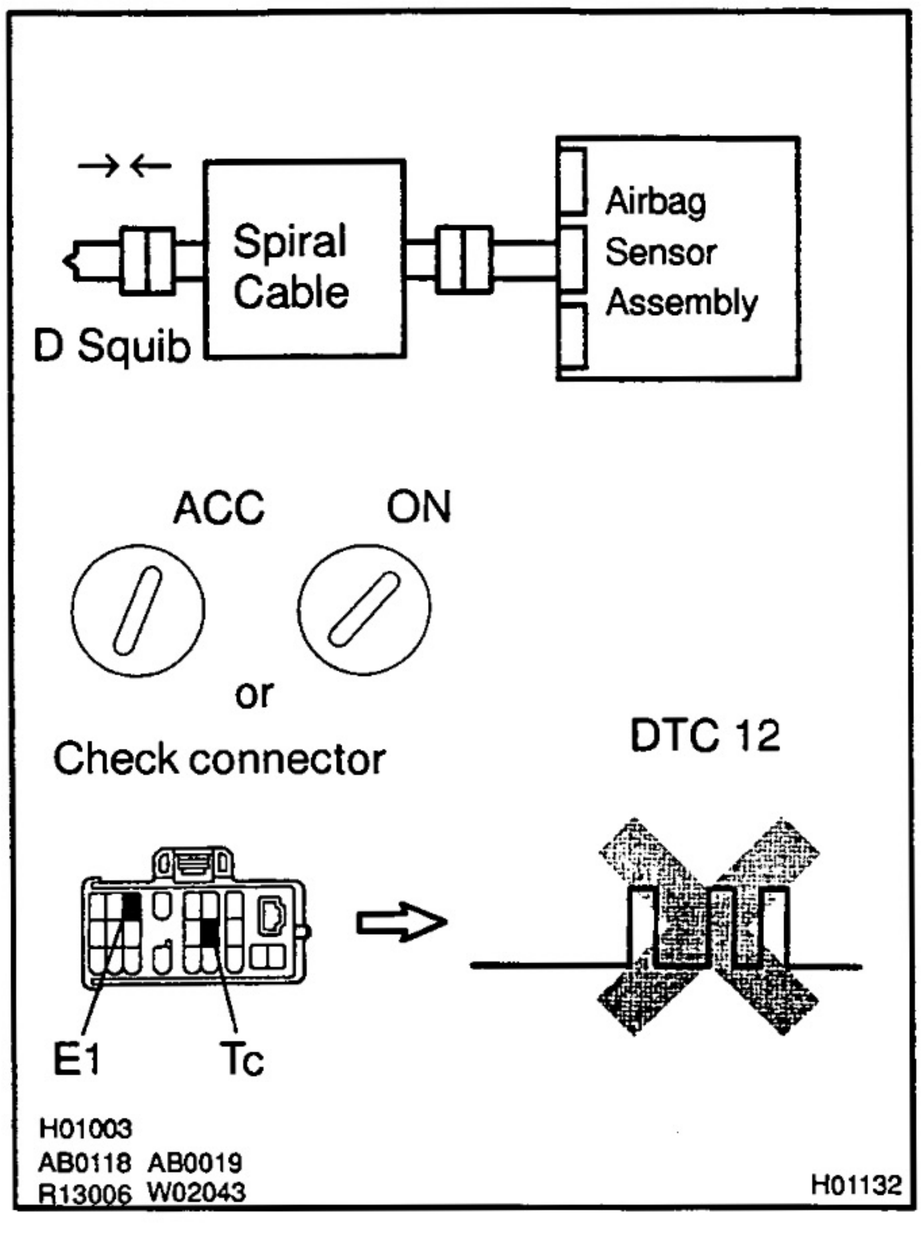
DTC 12 is not output.

HINT:
Codes other than DTC 12 may be output at this time, but they are not relevant to this check.

NG → **Replace airbag sensor assembly.**

OK

4	**Check D squib.**



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Disconnect negative (–) terminal cable from the battery, and wait at least for 90 seconds.
(c) Connect the steering wheel pad connector.
(d) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(b) Clear DTC stored in memory.
(See page DI–3)
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check DTC.
(See page DI–3)

OK:

DTC 12 is not output.

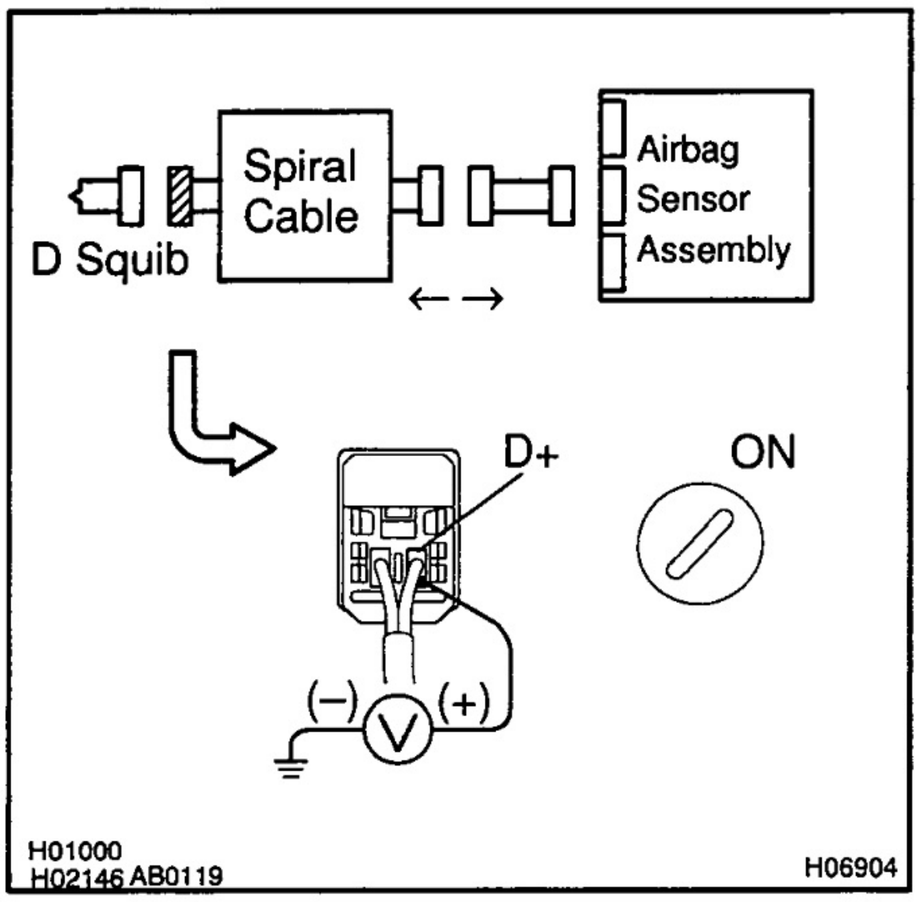
HINT:
Codes other than DTC 12 may be output at this time, but they are not relevant to this check.

NG → **Replace steering wheel pad.**

OK

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.**



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Disconnect the connector between the airbag sensor assembly and the spiral cable.
(c) Turn ignition switch ON.

CHECK:

For the connector (on the spiral cable side) between the spiral cable and the steering wheel pad, measure the voltage between D+ and body ground.

OK:

Voltage: 0 V

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

OK

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

DI22P–02

DTC	13	Short in D Squib Circuit

CIRCUIT DESCRIPTION

The D squib circuit consists of the 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 components, see OPERATION on page RS–2.
DTC 13 is recorded when a short is detected in the D squib circuit.

DTC No.	DTC Detecting Condition	Trouble Area
13	• Short circuit between D+ wire harness and D– wire harness of squib • D squib malfunction • Spiral cable malfunction • Airbag sensor assembly malfunction	• Steering wheel pad (D squib) • Spiral cable • Airbag sensor assembly • Wire harness

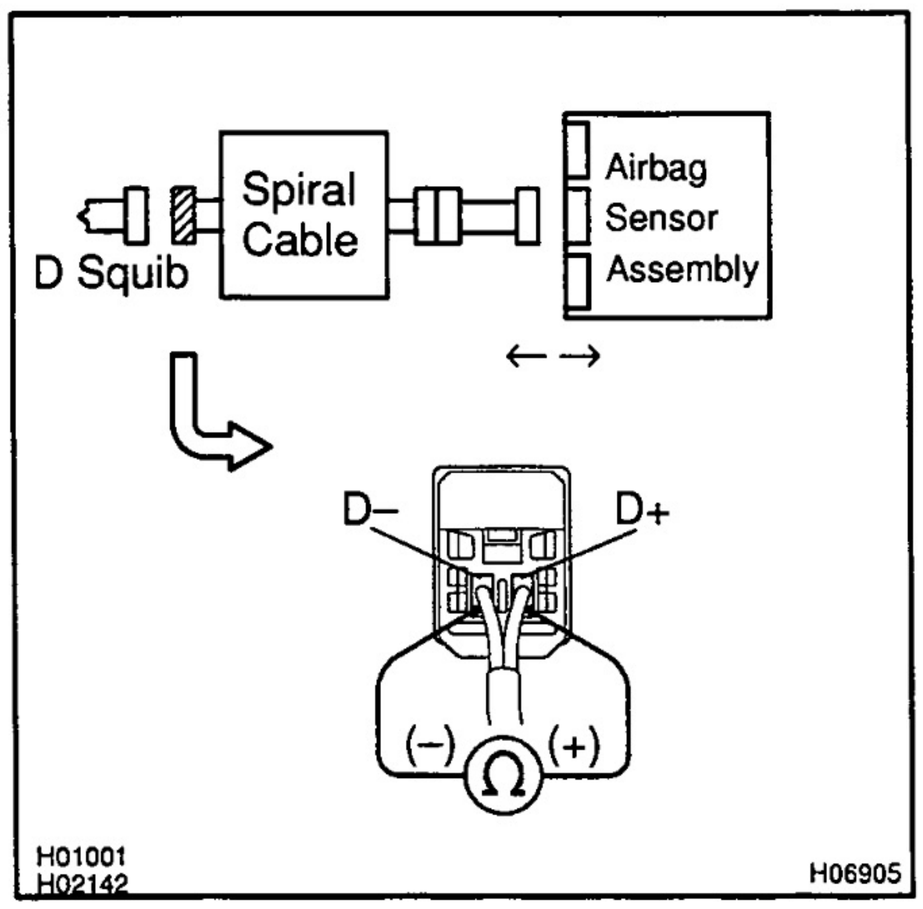
WIRING DIAGRAM

See page DI–14.

INSPECTION PROCEDURE

1	Prepare for inspection. (See step 1 on page DI–98)

2	Check D squib circuit.



PREPARATION:
Release airbag activation prevention mechanism of the connector (on the airbag sensor assembly side) between the airbag sensor assembly and the spiral cable.
(See page DI–3)

CHECK:
For the connector (on the spiral cable side) between the spiral cable and the steering wheel pad, measure the resistance between D+ and D–.

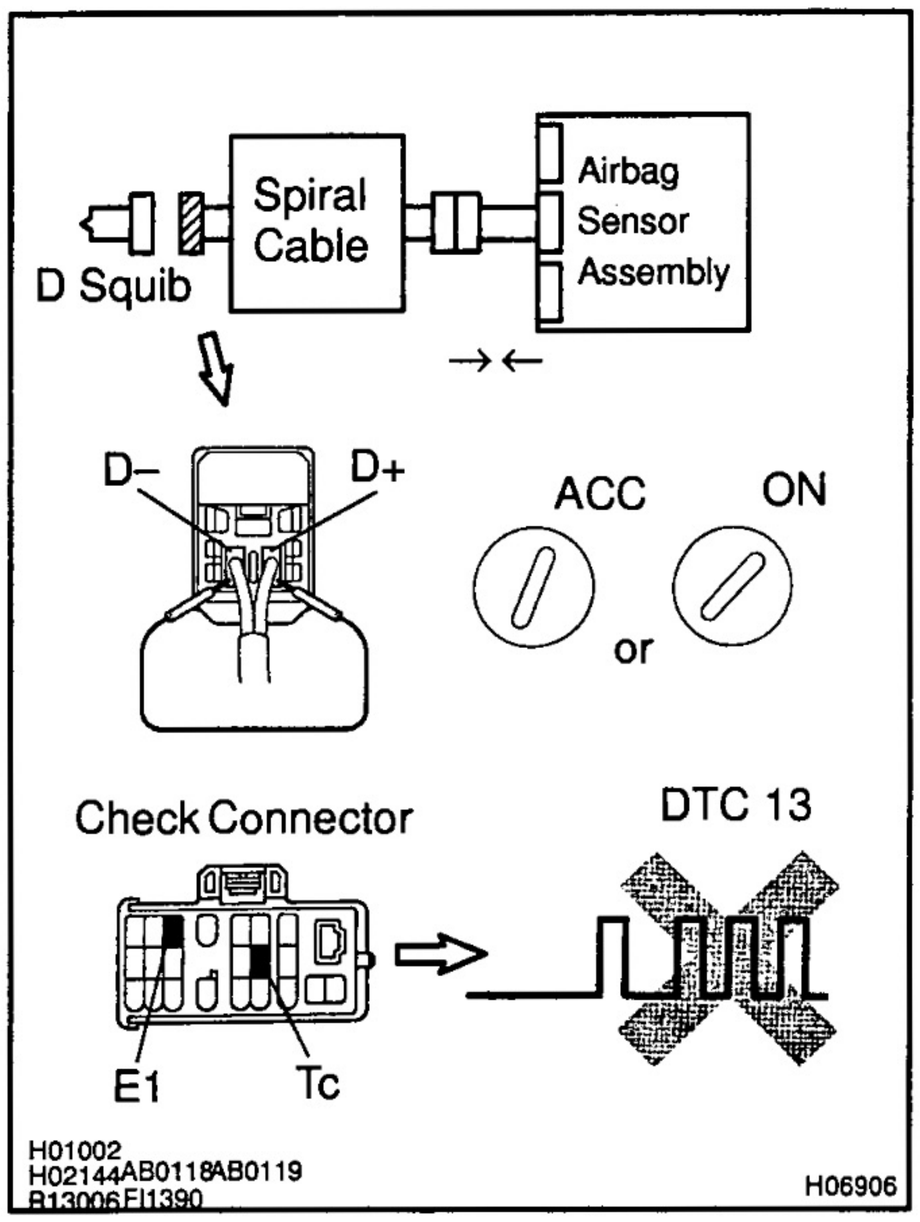
OK:

Resistance: 1 MΩ or Higher

NG → **Go to step 5.**

OK

3	Check airbag sensor assembly.



PREPARATION:

(a) Connect the connector to the airbag sensor assembly.

(b) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON and wait at least for 20 seconds.

(b) Clear DTC stored in memory.
(See page DI–3)

(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.

(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.

(e) Check DTC.
(See page DI–3)

OK:

DTC 13 is not output.

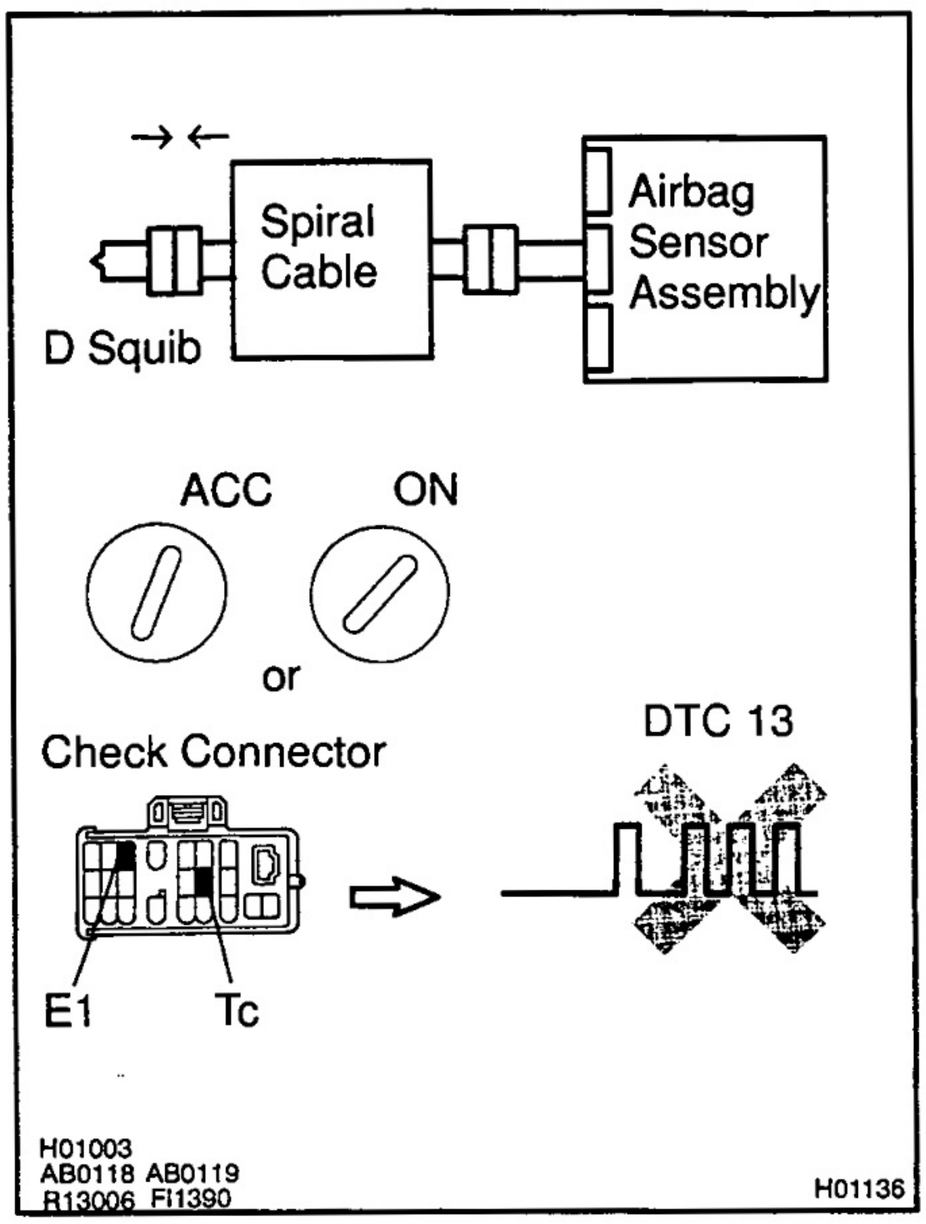
HINT:

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

NG → **Replace airbag sensor assembly.**

OK

4	**Check D squib.**



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Disconnect negative (–) terminal cable from the battery, and wait at least for 90 seconds.
(c) Connect the steering wheel pad connector.
(d) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(b) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(c) Clear DTC stored in memory.
(See page DI–3)
(d) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(e) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(f) Check DTC.
(See page DI–3)

OK:

DTC 13 is not output.

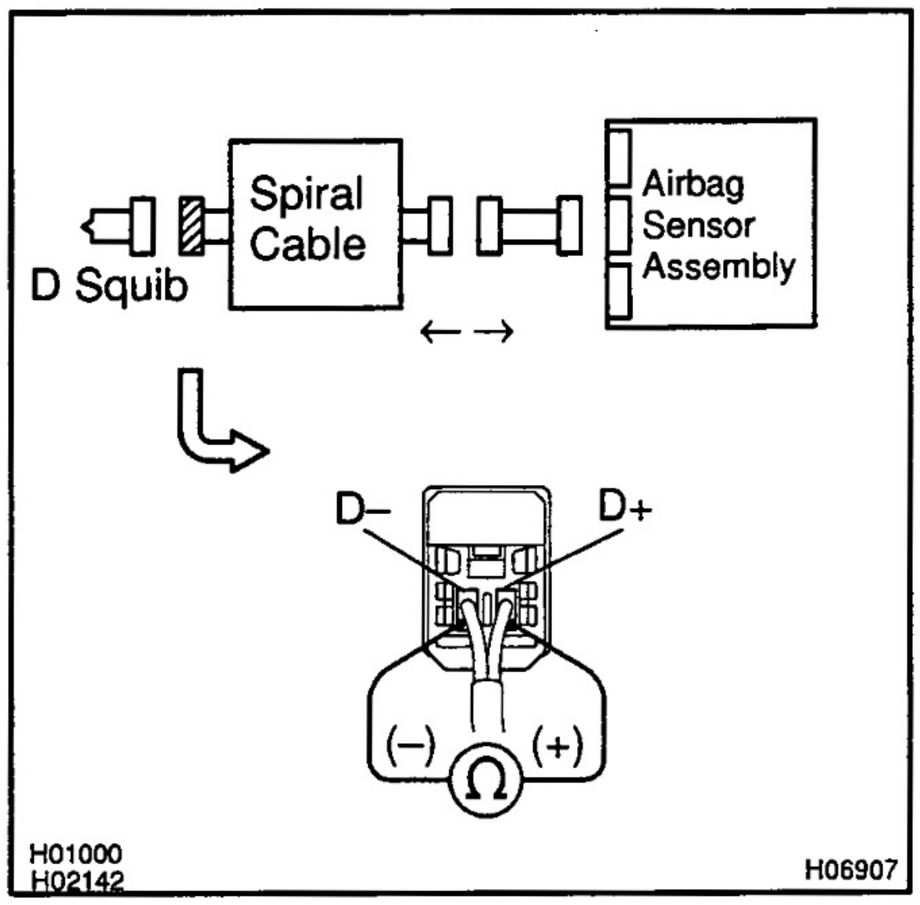
HINT:
Codes other than DTC 13 may be output at this time, but they are not relevant to this check.

NG → **Replace steering wheel pad.**

OK

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.



PREPARATION:

(a) Disconnect the connector between the airbag sensor assembly and the spiral cable.

(b) Release airbag activation prevention mechanism of the spiral cable connector on the airbag sensor assembly side.
(See page DI–3)

CHECK:

For the connector (on the spiral cable side) between the spiral cable and the steering wheel pad, measure the resistance between D+ and D–.

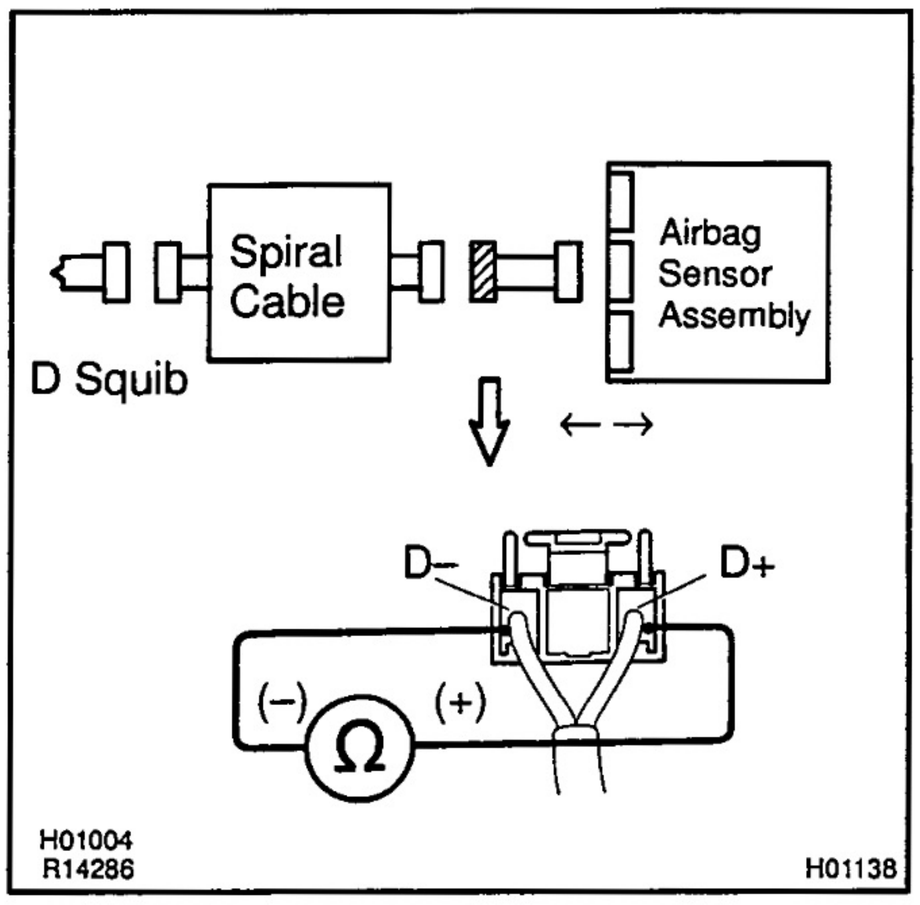
OK:

Resistance: 1 MΩ or Higher

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

OK

6	Check harness between airbag sensor assembly and spiral cable.



PREPARATION:

Release airbag activation prevention mechanism of the connector (on the airbag sensor assembly side) between the airbag sensor assembly and the spiral cable.
(See page DI–3)

CHECK:

For the connector (on the spiral cable side) between the airbag sensor assembly and the spiral cable, measure the resistance between D+ and D–.

OK:

Resistance: 1 MΩ or Higher

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

OK

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.

DI16R–10

DTC	14	Open in D Squib Circuit

CIRCUIT DESCRIPTION

The D squib circuit consists of the 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 components, see OPERATION on page RS–2.
DTC 14 is recorded when an open is detected in the D squib circuit.

DTC No.	DTC Detecting Condition	Trouble Area
14	• Open circuit in D+ wire harness or D– wire harness of squib • D squib malfunction • Spiral cable malfunction • Airbag sensor assembly malfunction	• Steering wheel pad (D squib) • Spiral cable • Airbag sensor assembly • Wire harness

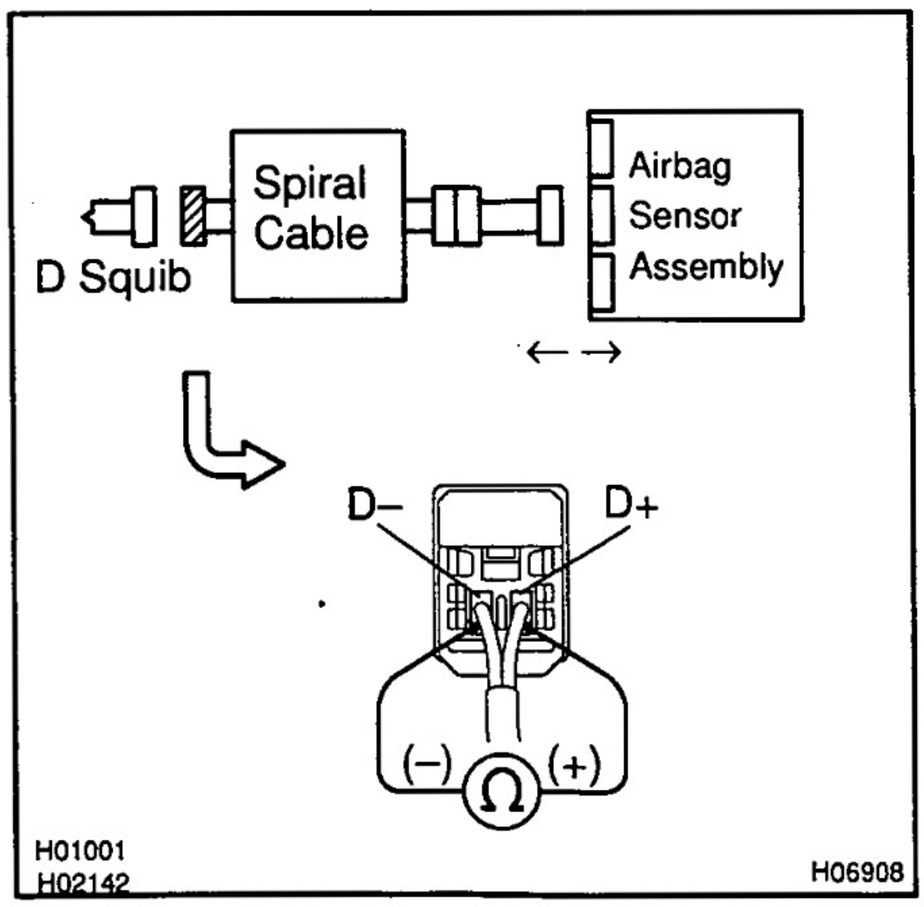
WIRING DIAGRAM

See page DI–14.

INSPECTION PROCEDURE

1	Prepare for inspection. (See step 1 on page DI–98)

2	Check D squib circuit.

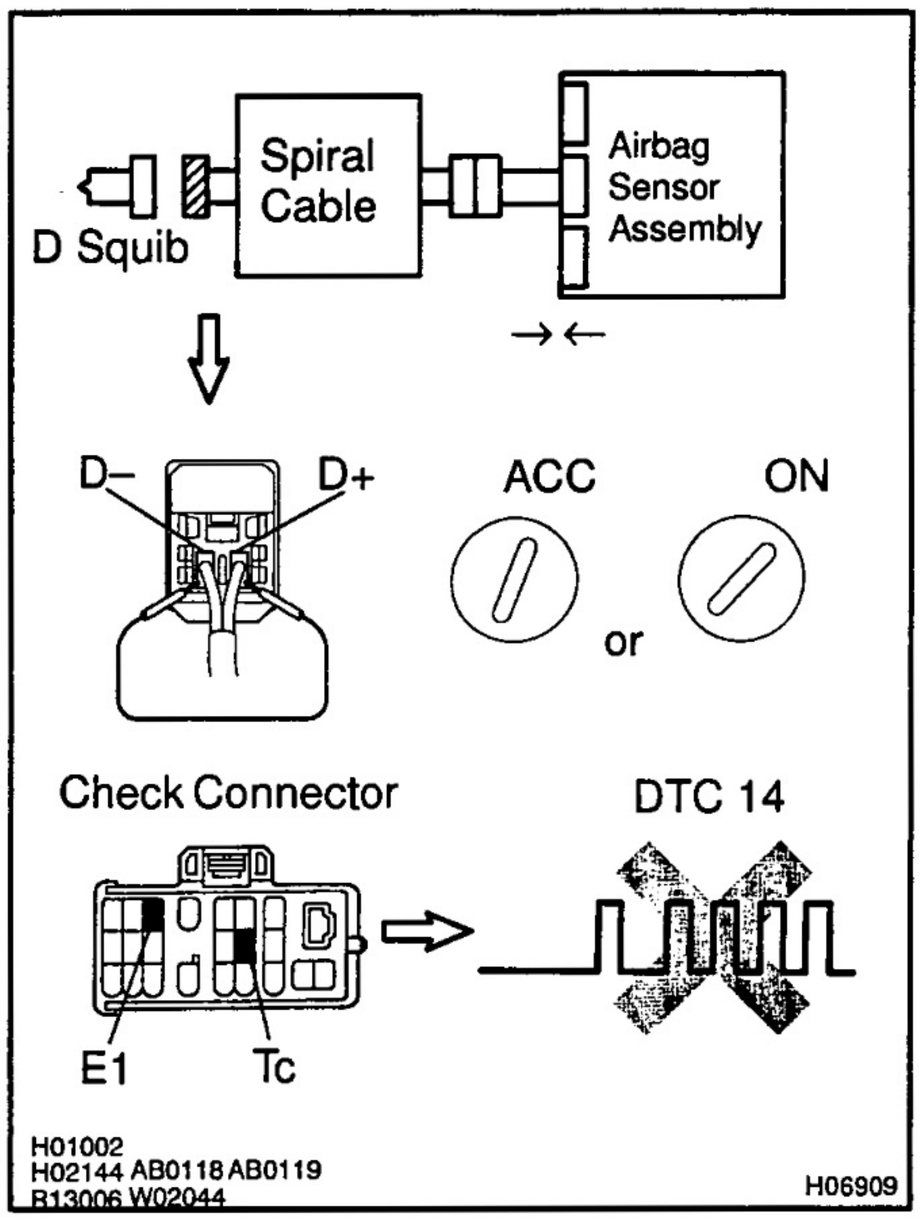


CHECK:
For the connector (on the spiral cable side) between the spiral cable and the steering wheel pad, measure the resistance between D+ and D–.
OK:
Resistance: Below 1 Ω

NG → **Go to step 5.**

OK →

3	Check airbag sensor assembly.



PREPARATION:

(a) Connect the connector to the airbag sensor assembly.

(b) Using a service wire, connect D+ and D– of the connector (on the spiral cable side) between the spiral cable and the steering wheel pad.

(c) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.

(b) Clear DTC stored in memory.
(See page DI–3)

(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.

(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.

(e) Check DTC.
(See page DI–3)

OK:

DTC 14 is not output.

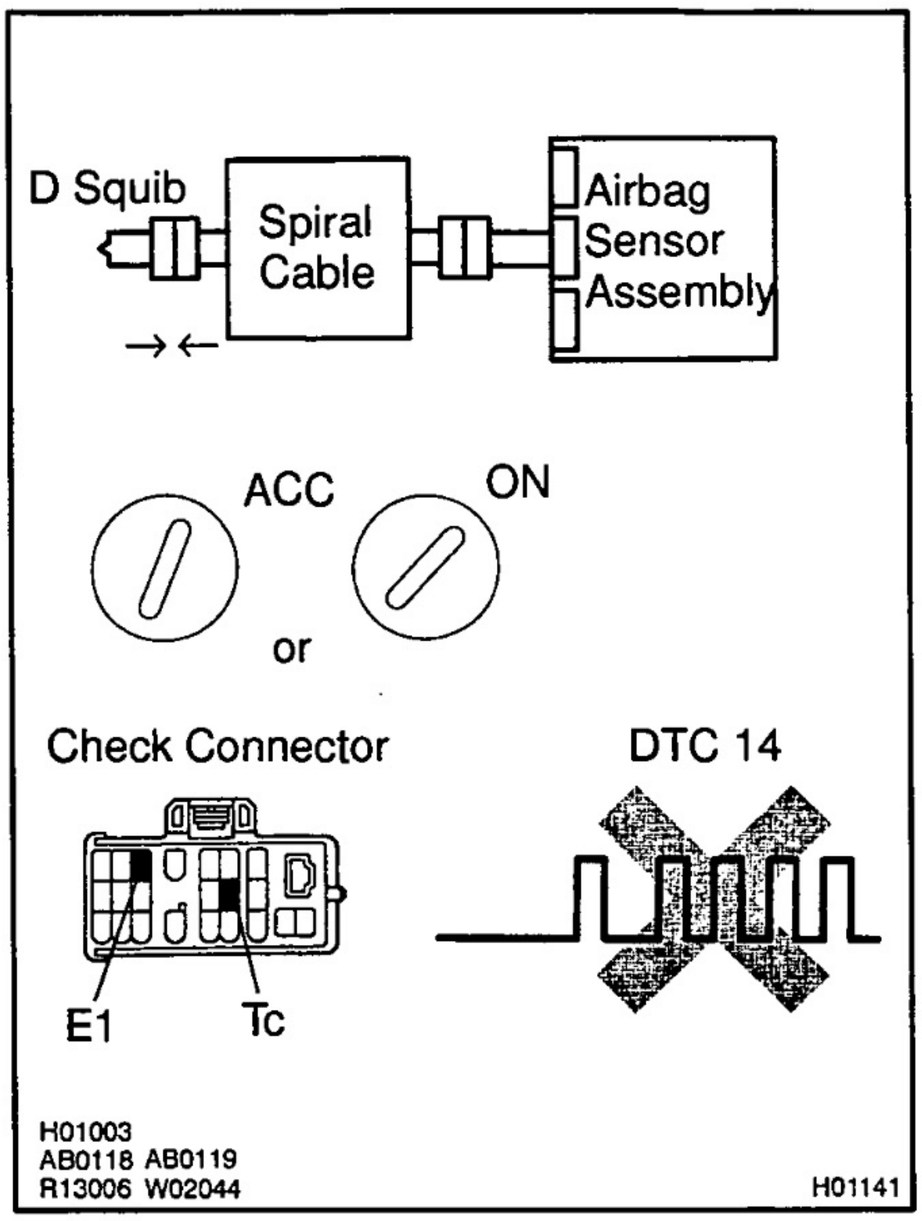
HINT:

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

NG → **Replace airbag sensor assembly.**

OK

4	**Check D squib.**



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Disconnect negative (–) terminal cable from the battery, and wait at least for 90 seconds.
(c) Connect the steering wheel pad connector.
(d) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(b) Clear DTC stored in memory.
(See page DI–3)
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check DTC.
(See page DI–3)

OK:

DTC 14 is not output.

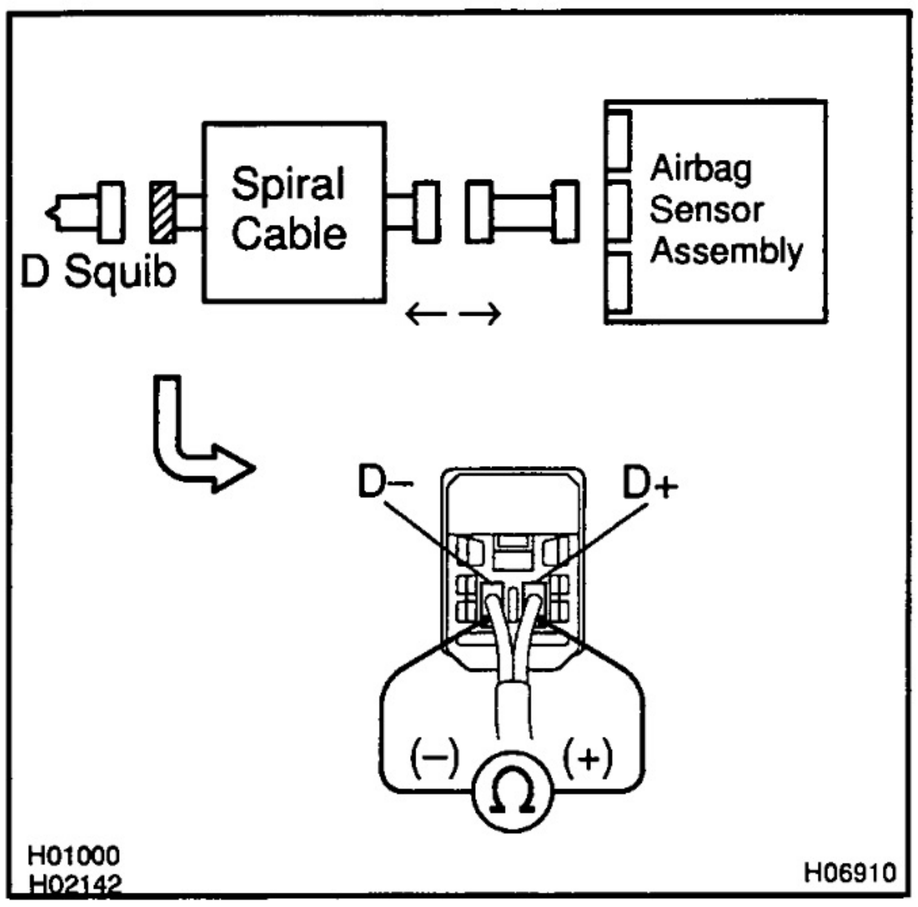
HINT:
Codes other than DTC 14 may be output at this time, but they are not relevant to this check.

NG → **Replace steering wheel pad.**

OK

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.



PREPARATION:
Disconnect the connector between the airbag sensor assembly and the spiral cable.

CHECK:
For the connector (on the spiral cable side) between the spiral cable and the steering wheel pad, measure the resistance between D+ and D–.

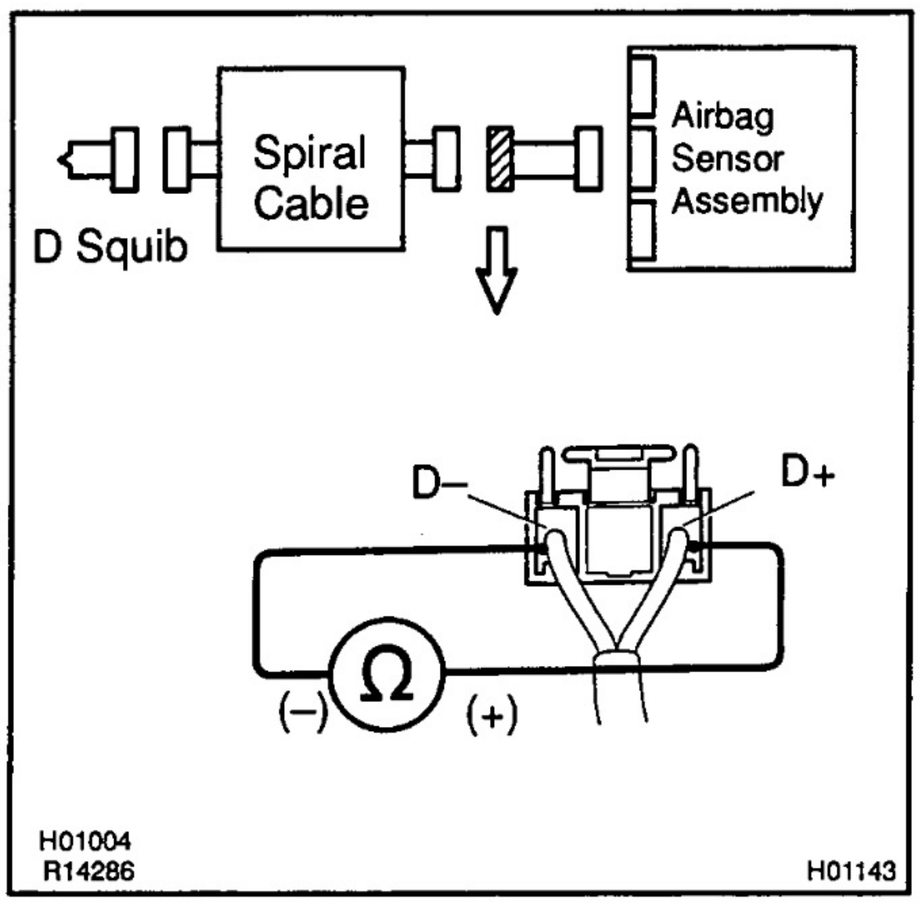
OK:

Resistance: Below 1 Ω

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

OK

6	Check harness between airbag sensor assembly and spiral cable.



CHECK:
For the connector (on the spiral cable side) between the airbag sensor assembly and the spiral cable, measure the resistance between D+ and D–.

OK:

Resistance: Below 1 Ω

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

OK

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.

DI3LS–01

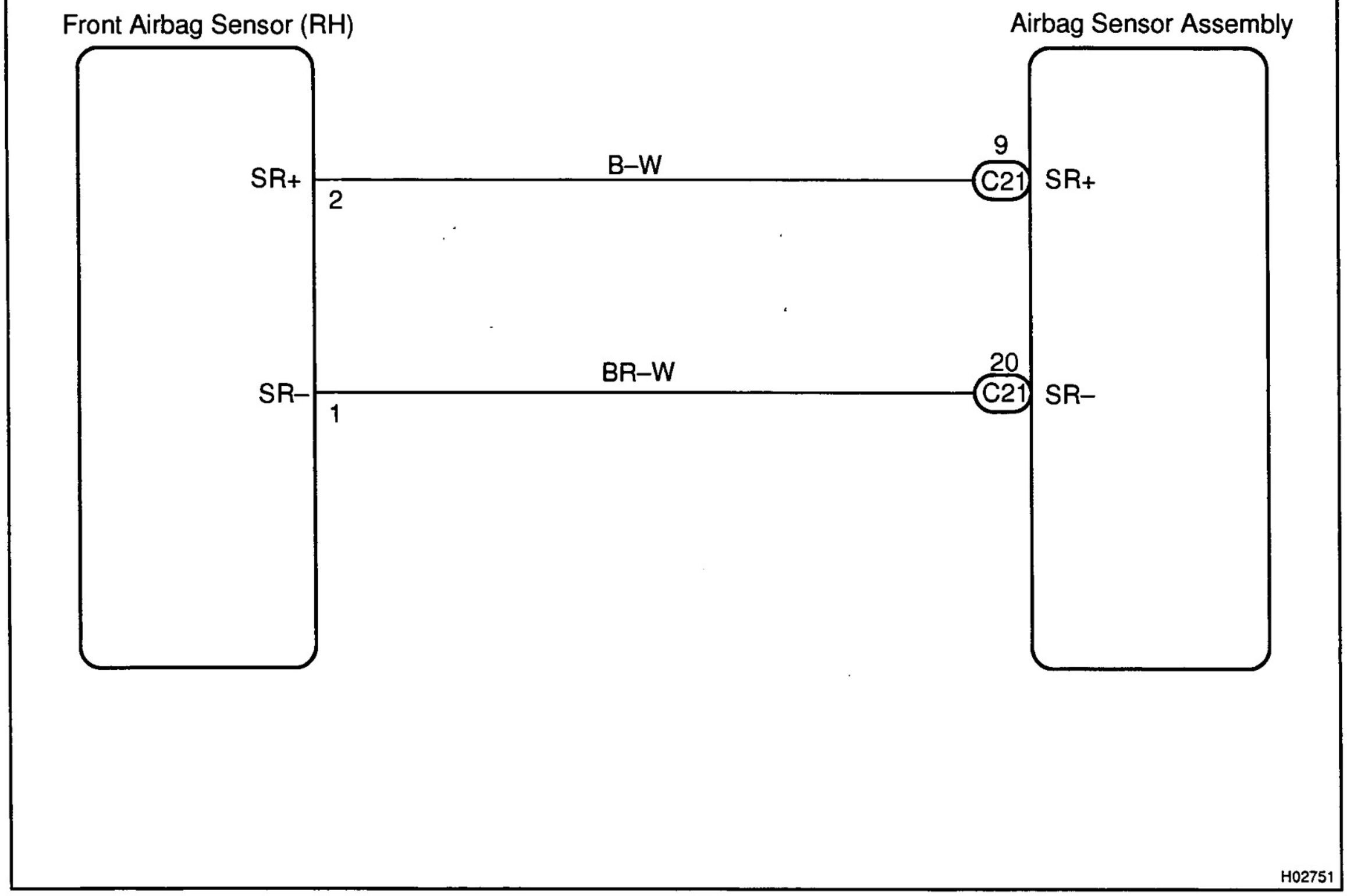
DTC	15	Front Airbag Sensor (RH) Malfunction

CIRCUIT DESCRIPTION

The front airbag sensor (RH) circuit consists of the airbag sensor assembly and front airbag sensor (RH).
It causes the SRS to deploy when the SRS deployment conditions are satisfied.
For details of the function of each component, see OPERATION on page RS–2.
DTC 15 is recorded when malfunction is detected in the front airbag sensor (RH) circuit.

DTC No.	DTC Detecting Condition	Trouble Area
15	• Front airbag sensor (RH) malfunction	• Front airbag sensor (RH) • Wire harness

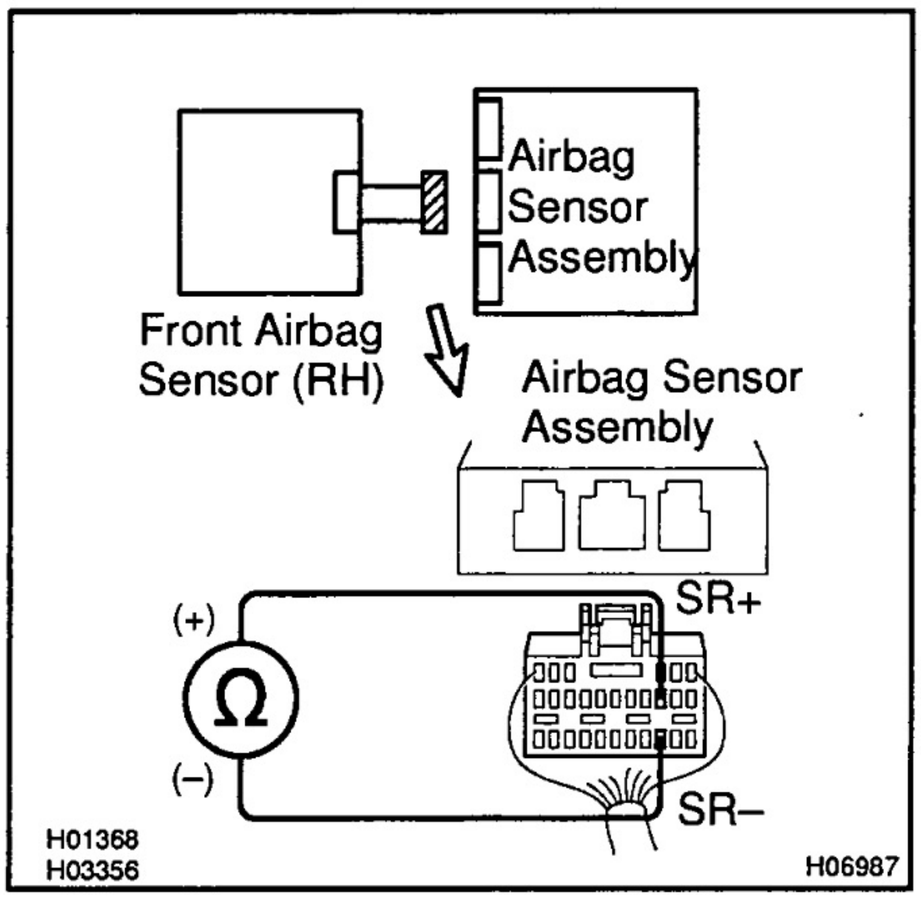
WIRING DIAGRAM



INSPECTION PROCEDURE

1	**Prepare for inspection. (See step 1 on page DI–98)**

2	**Check front airbag sensor (RH) circuit.**



CHECK:

For the connector (on the airbag sensor assembly side) between the front airbag sensor (RH) and the airbag sensor assembly, measure the resistance between SR+ and SR–.

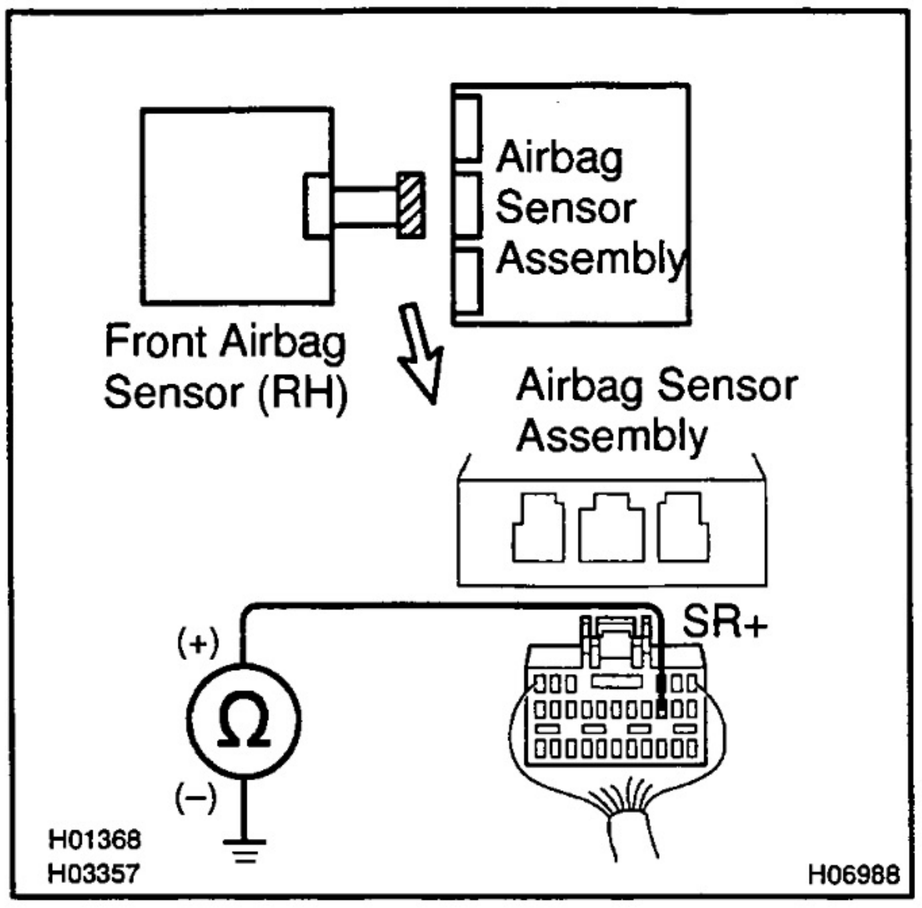
OK:

Resistance: 754 ~ 886 Ω

NG	**Go to step 6.**

OK

3	**Check front airbag sensor (RH) circuit (to ground).**



CHECK:

For the connector (on the airbag sensor assembly side) between the front airbag sensor (RH) and the airbag sensor assembly, measure the resistance between SR+ and body ground.

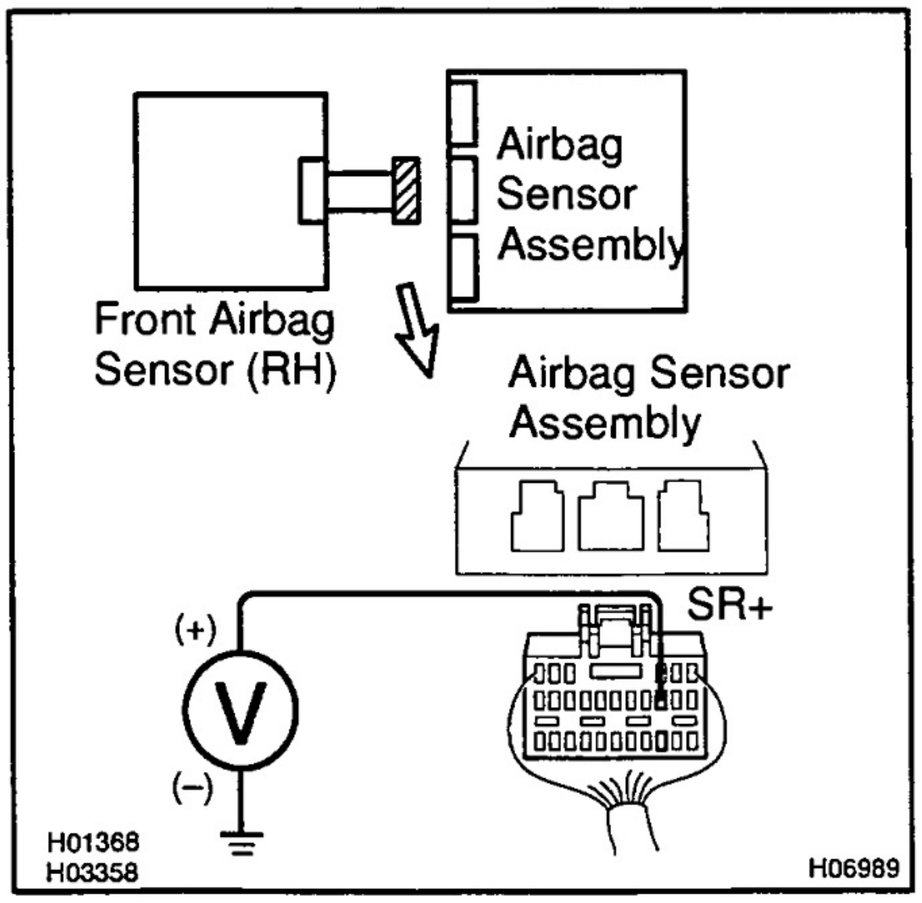
OK:

Resistance: 1 MΩ or Higher

NG → **Go to step 7.**

OK

4	**Check front airbag sensor (RH) circuit (to B+).**



PREPARATION:

Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

For the connector (on the airbag sensor assembly side) between the front airbag sensor (RH) and the airbag sensor assembly, measure the voltage between SR+ and body ground.

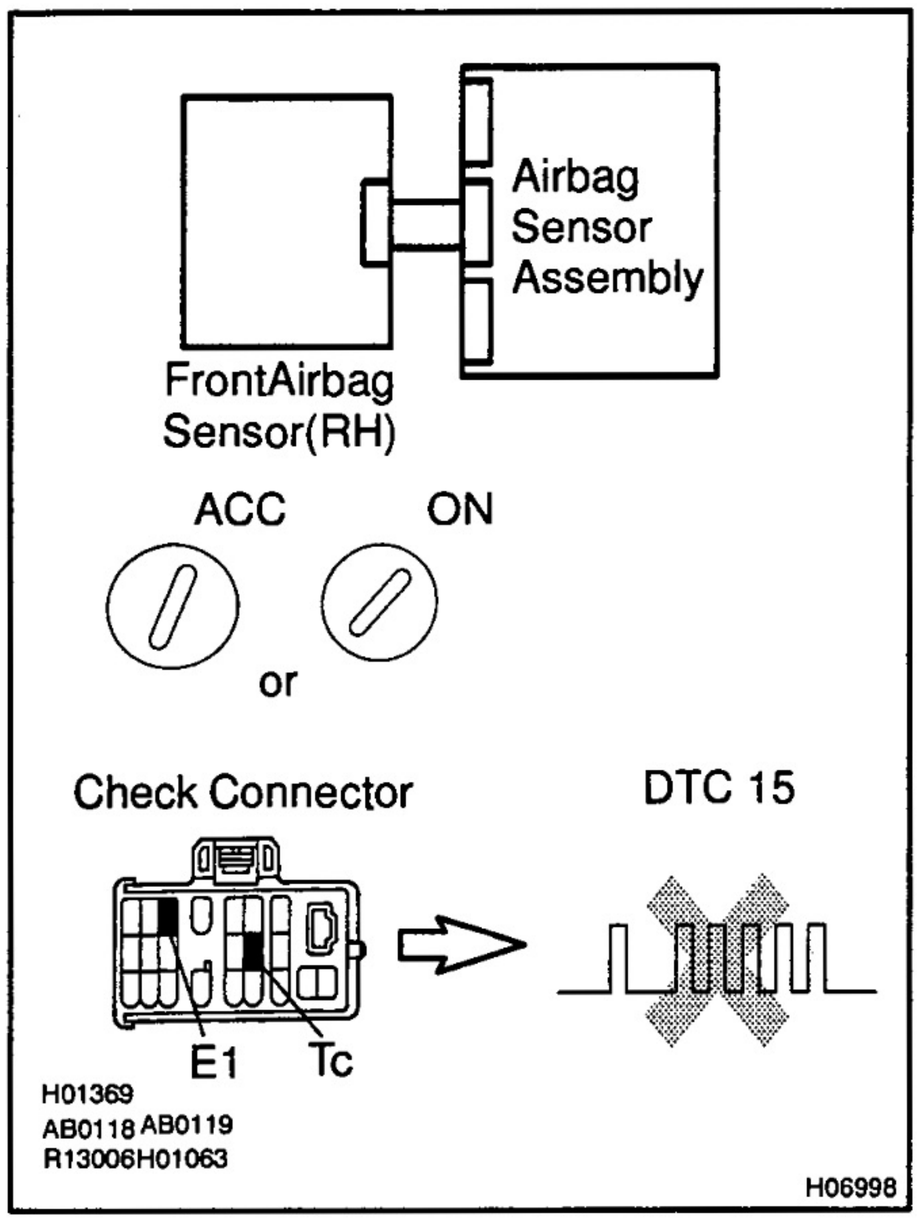
OK:

Voltage: Below 1 V

NG → **Go to step 8.**

OK

5	**Check airbag sensor assembly.**



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Disconnect negative (–) terminal cable from the battery, and wait at least for 90 seconds.
(c) Connect the front airbag sensor (RH) connector and airbag sensor assembly connector.
(d) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(b) Clear DTC stored in memory.
(See page DI–3)
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check DTC.
(See page DI–3)

OK:

DTC 15 is not output.

HINT:

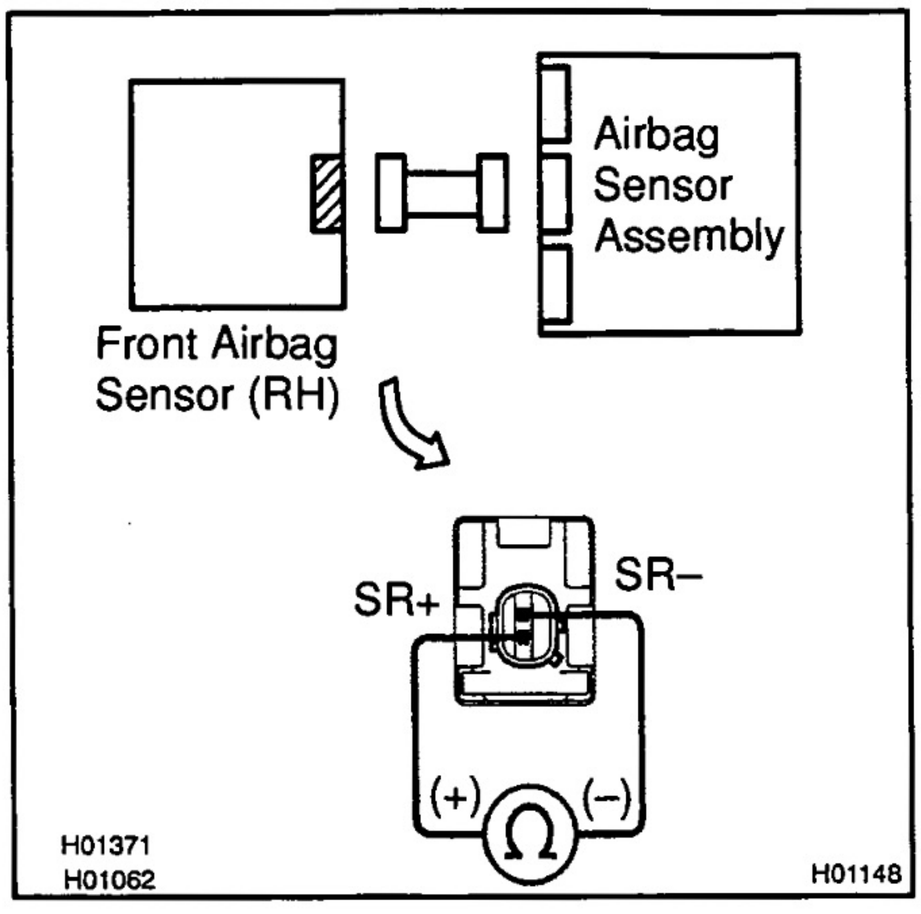
Codes other than DTC 15 may be output at this time, but they are not relevant to this check.

NG → **Replace airbag sensor assembly.**

OK

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 can not be detected by the simulation method, replace all SRS components including the wire harness.

6	**Check front airbag sensor (RH).**



PREPARATION:

Disconnect the front airbag sensor connector (RH).

CHECK:

For the connector (on the front airbag sensor side), measure the resistance between SR+ and SR–.

OK:

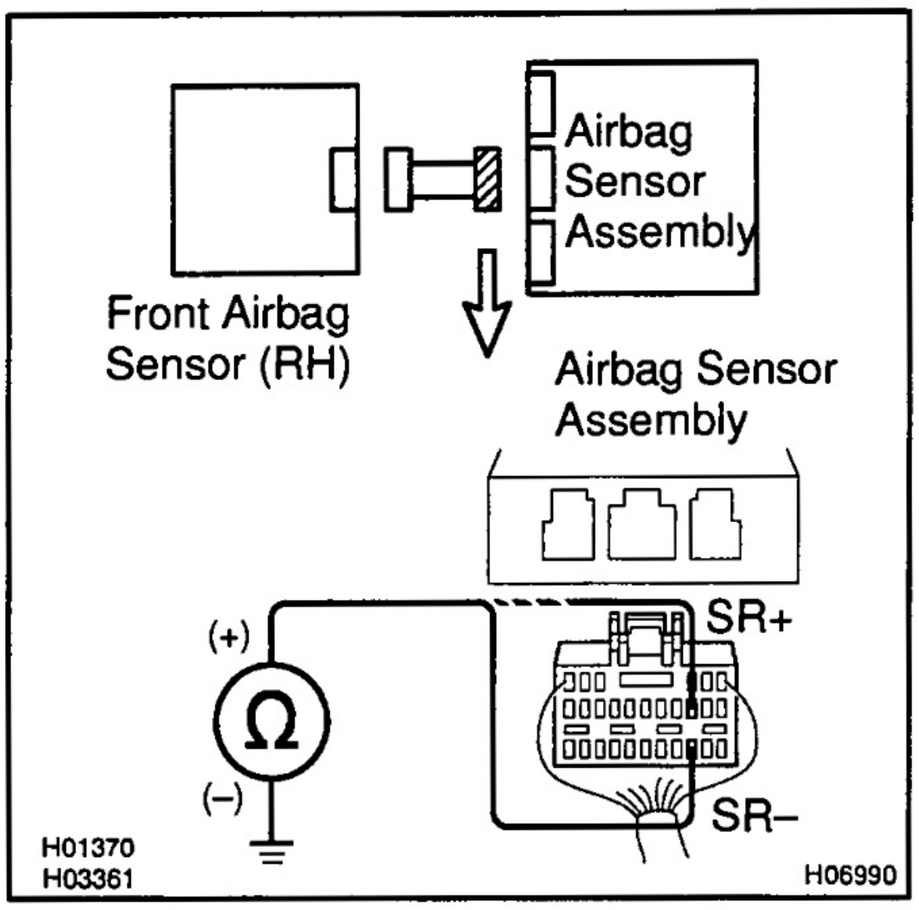
Resistance: 754 ~ 886 Ω

NG → **Replace front airbag sensor (RH).**

OK

Repair or replace harness or connector between the front airbag sensor(RH) and airbag sensor assembly.

7	**Check wire harness (to ground).**



PREPARATION:

Disconnect the front airbag sensor connector (RH).

CHECK:

For the connector (on the airbag sensor assembly side) between the front airbag sensor (RH) and the airbag sensor assembly, measure the resistance between body ground and each of SR+ and SR–.

OK:

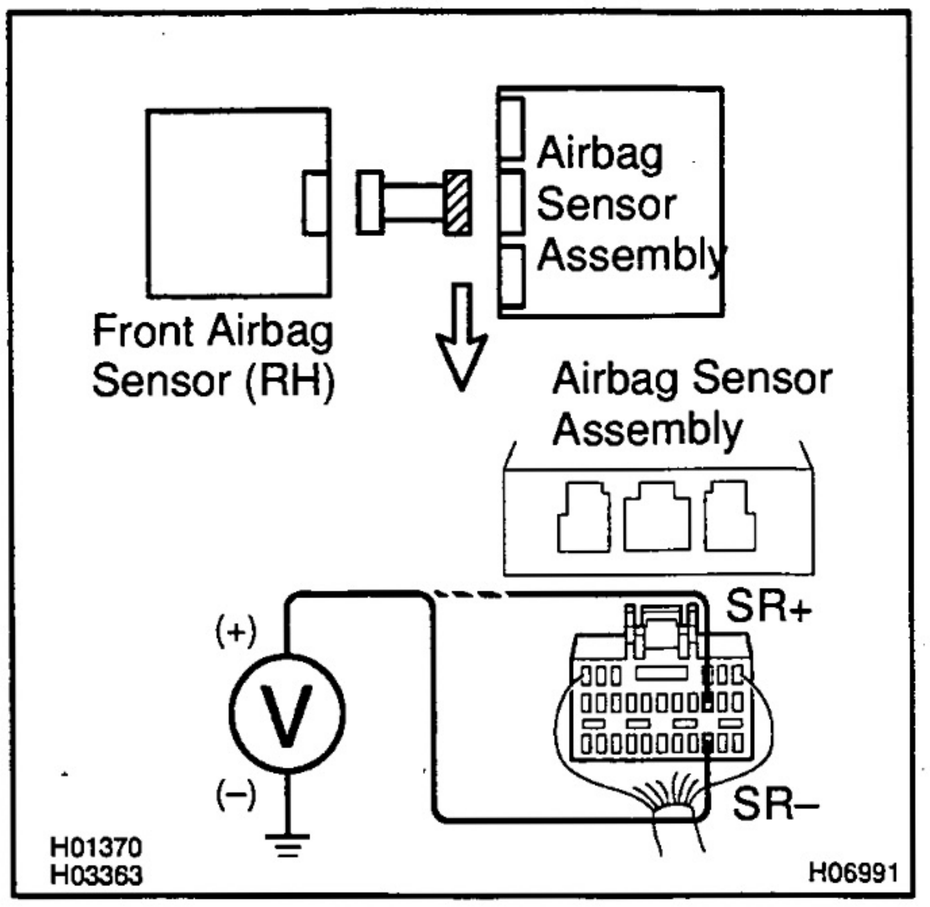
Resistance: 1 MΩ or Higher

NG → **Repair or replace harness or connector between the front airbag sensor (RH) and airbag assembly.**

OK

Replace front airbag sensor (RH).

8	**Check wire harness (to B+).**



PREPARATION:

Disconnect the front airbag sensor connector (RH).

CHECK:

For the connector (on the airbag sensor assembly side) between the front airbag sensor (RH) and the airbag sensor assembly, measure the voltage between body ground and each of SR+ and SR–.

OK:

Voltage: Below 1 V

NG → **Repair or replace harness or connector between the front airbag sensor (RH) and airbag assembly.**

OK

Replace front airbag sensor (RH).

DI3LT–01

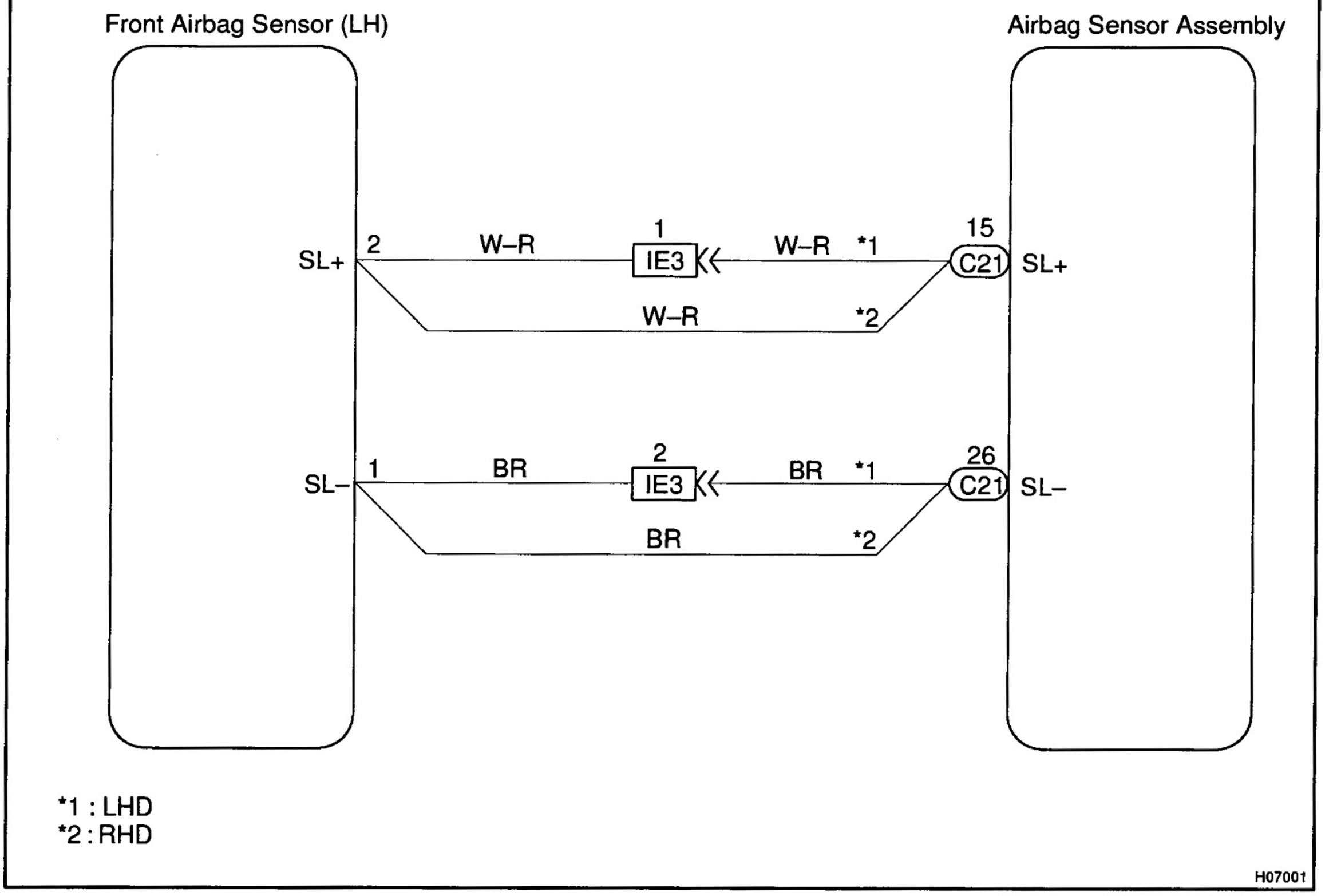
DTC	16	Front Airbag Sensor (LH) Malfunction

CIRCUIT DESCRIPTION

The front airbag sensor (LH) circuit consists of the airbag sensor assembly and front airbag sensor (LH).
It causes the SRS to deploy when the SRS deployment conditions are satisfied.
For details of the function of each component, see OPERATION on page RS–2.
DTC 16 is recorded when malfunction is detected in the front airbag sensor (LH) circuit.

DTC No.	DTC Detecting Condition	Trouble Area
16	• Front airbag sensor (LH) malfunction	• Front airbag sensor (LH) • Wire harness

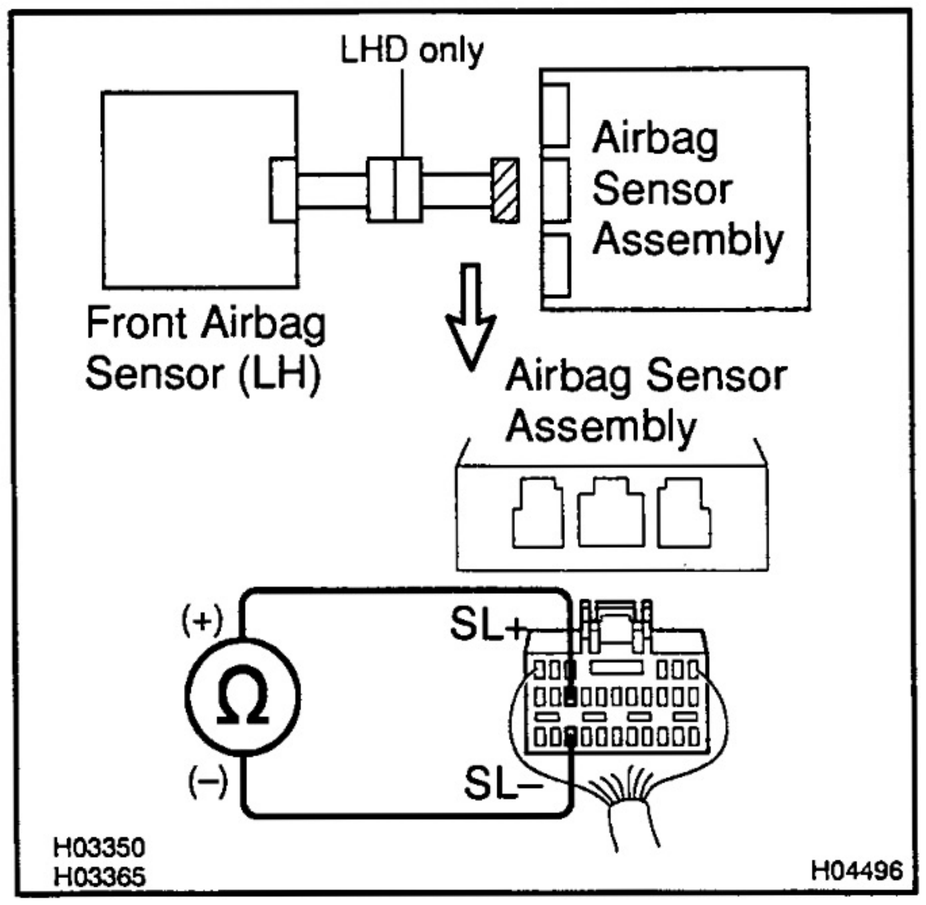
WIRING DIAGRAM



INSPECTION PROCEDURE

1	**Prepare for inspection. (See step 1 on page DI–98)**

2 **Check front airbag sensor (LH) circuit.**



CHECK:

For the connector (on the airbag sensor assembly side) between the front airbag sensor (LH) and the airbag sensor assembly, measure the resistance between SL+ and SL–.

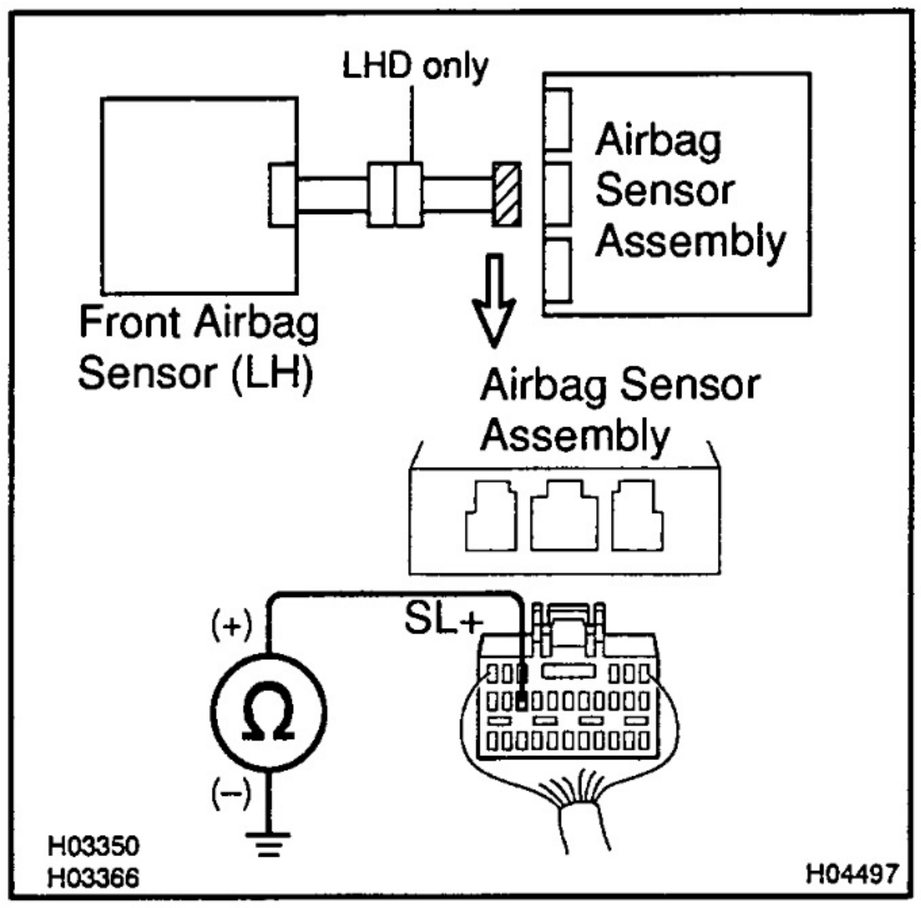
OK:

Resistance: 754 ~ 886 Ω

NG → **Go to step 6.**

OK

3	Check front airbag sensor (LH) circuit (to ground).



CHECK:

For the connector (on the airbag sensor assembly side) between the front airbag sensor (LH) and the airbag sensor assembly, measure the resistance between SL+ and body ground.

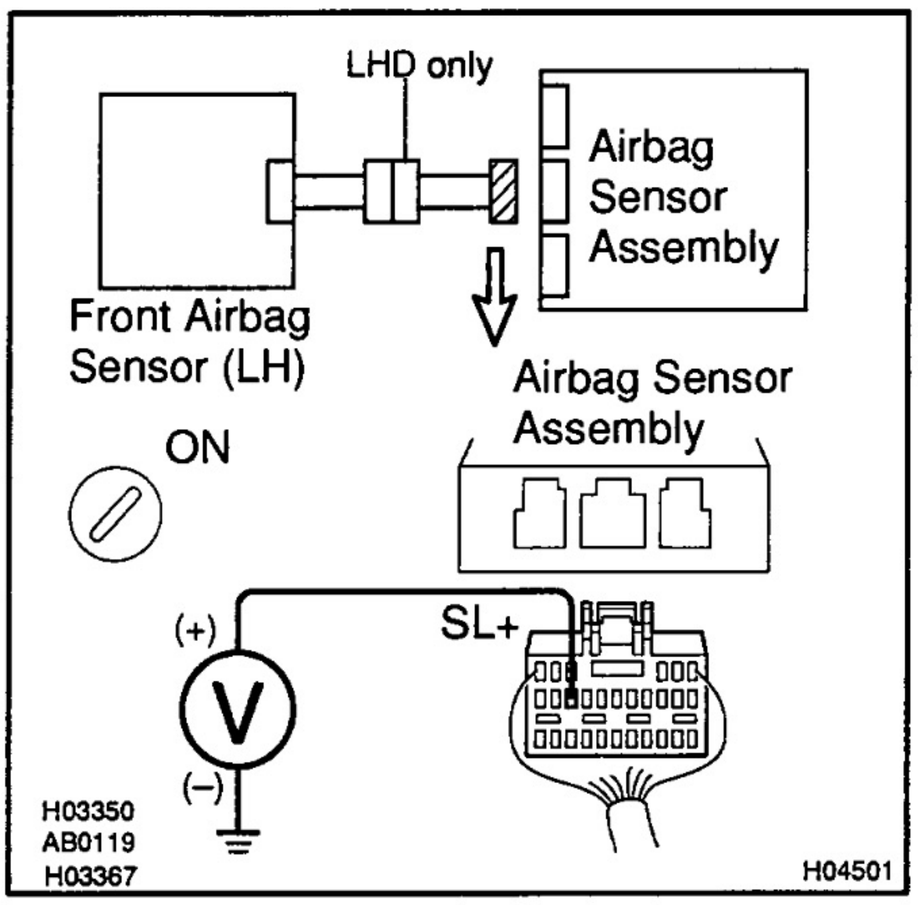
OK:

Resistance: 1 MΩ or Higher

NG → **Go to step 9.**

OK

4	Check front airbag sensor (LH) circuit (to B+).



PREPARATION:

(a) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

(b) Turn ignition switch to ON.

CHECK:

For the connector (on the airbag sensor assembly side) between the front airbag sensor (LH) and the airbag sensor assembly, measure the voltage between SL+ and body ground.

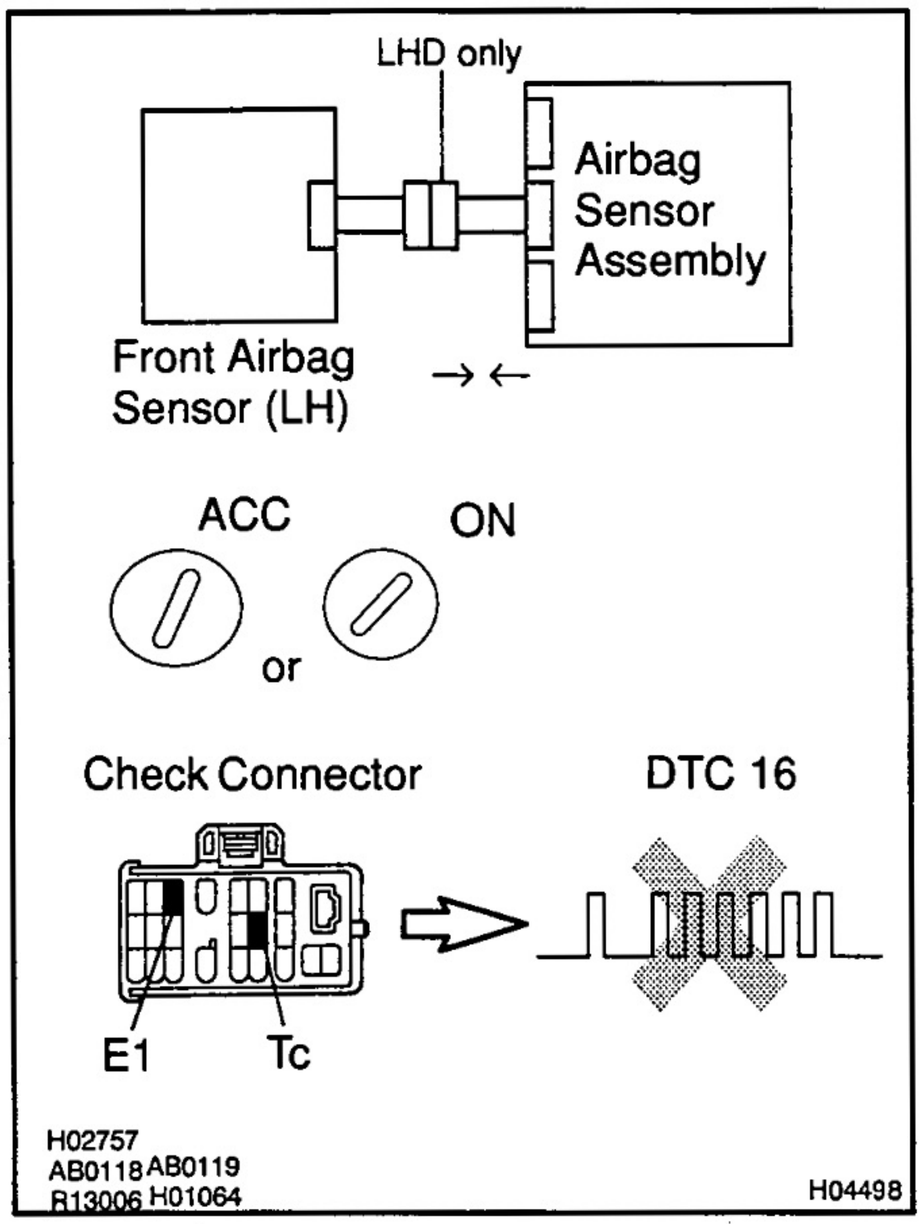
OK:

Voltage: Below 1 V

NG → **Go to step 11.**

OK

5	**Check airbag sensor assembly.**



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Disconnect negative (–) terminal cable from the battery, and wait at least for 90 seconds.
(c) Connect the front airbag sensor (LH) connector and airbag sensor assembly connector.
(d) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(b) Clear DTC stored in memory.
(See page DI–3)
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check DTC.
(See page DI–3)

OK:

DTC 16 is not output.

HINT:

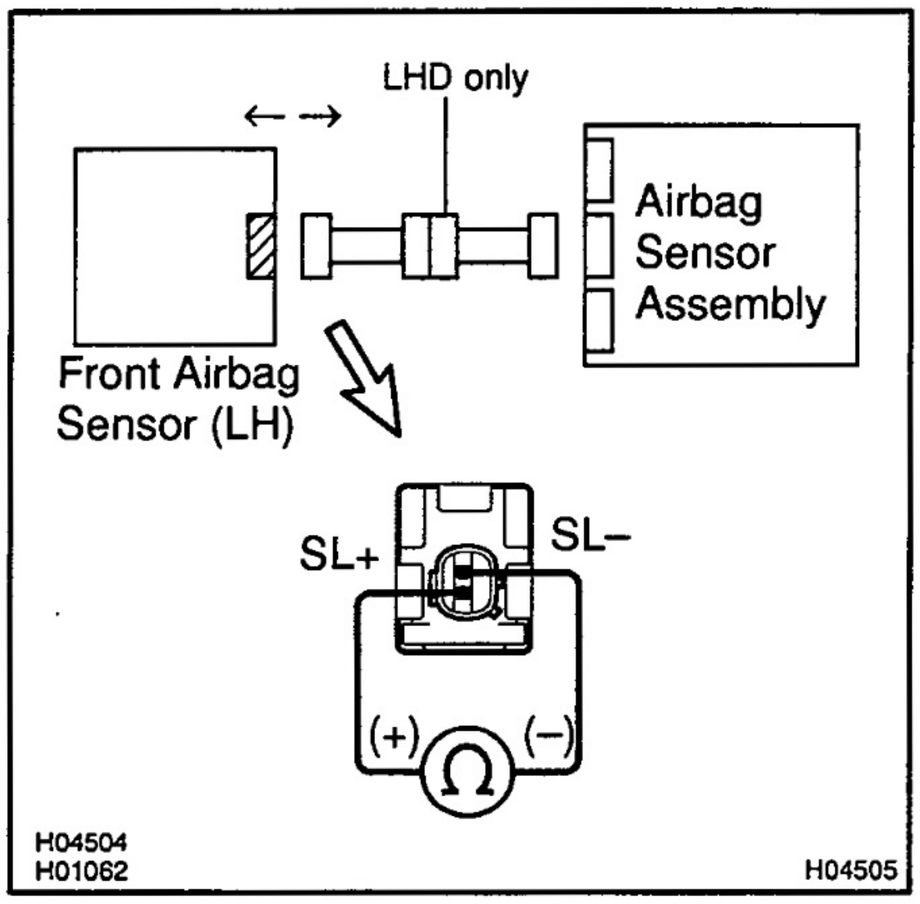
Codes other than DTC 16 may be output at this time, but they are not relevant to this check.

NG → **Replace airbag sensor assembly.**

OK

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 can not be detected by the simulation method, replace all SRS components including the wire harness.

6	**Check front airbag sensor (LH).**



PREPARATION:
Disconnect the front airbag sensor connector (LH).

CHECK:
For the connector (on the front airbag sensor side), measure the resistance between SL+ and SL–.

OK:

Resistance: 754 ~ 886 Ω

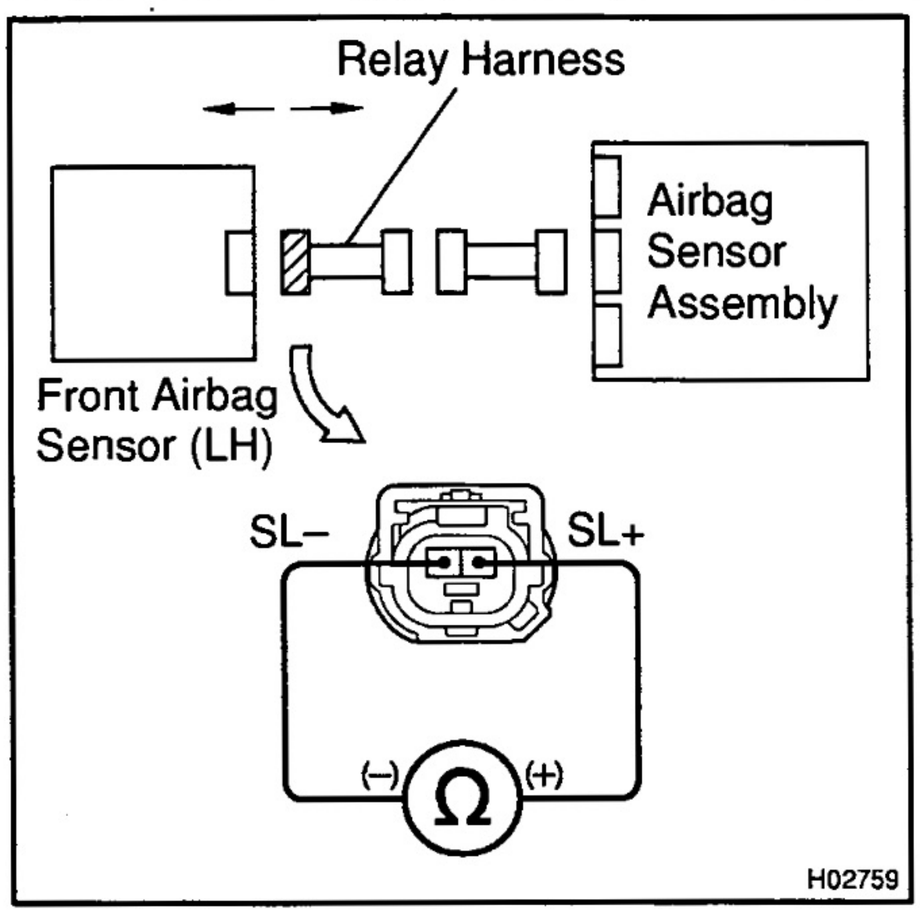
NG → **Replace front airbag sensor (LH).**

OK

RHD:
Repair or replace harness or connector between the front airbag sensor (LH) and airbag sensor assembly

LHD:
Go to step 7.

7	**Check relay harness.**



PREPARATION:
Disconnect the relay harness connector on the airbag sensor assembly side.

CHECK:
For the connector (on the relay harness side) between the front airbag sensor (LH) and the relay harness, measure the resistance between SL+ and SL–.

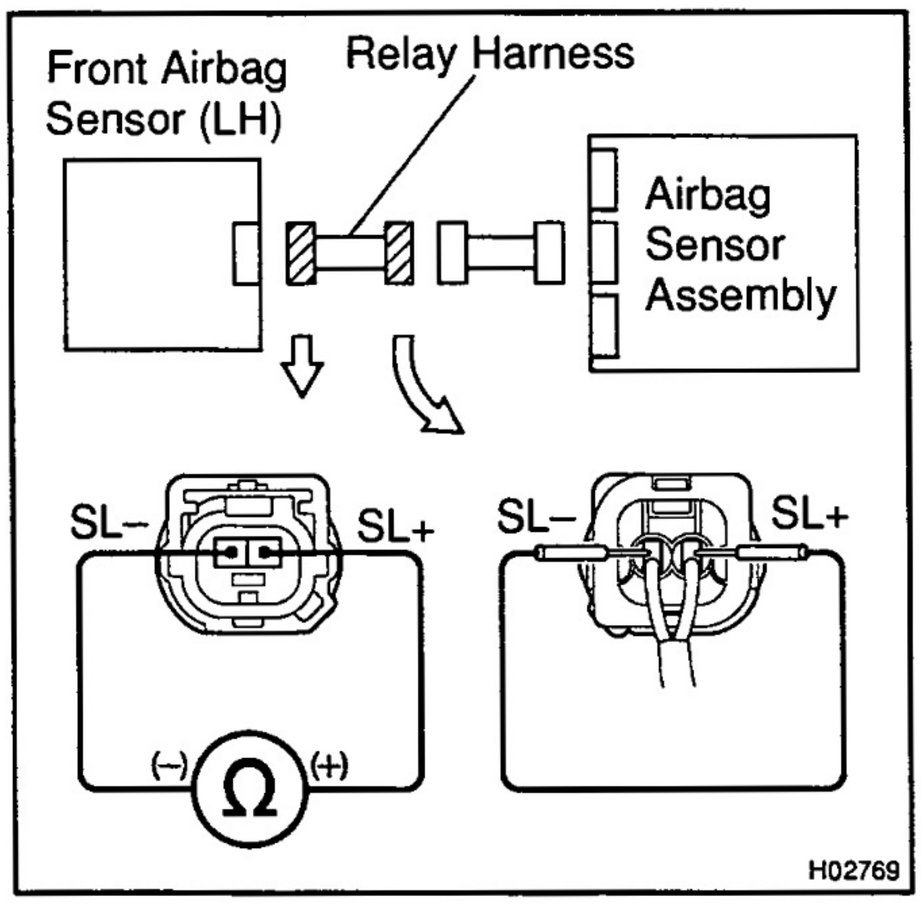
OK:

Resistance: 1 MΩ or Higher

NG → **Repair or replace relay harness.**

OK

8	**Check relay harness.**



PREPARATION:
Using service wire, connect SL+ and SL– of the connector (on the relay harness side), between the airbag sensor assembly and the relay harness.

CHECK:
For the connector (on the relay harness side) between the front airbag sensor (LH) and the relay harness, measure the resistance between SL+ and SL–.

OK:

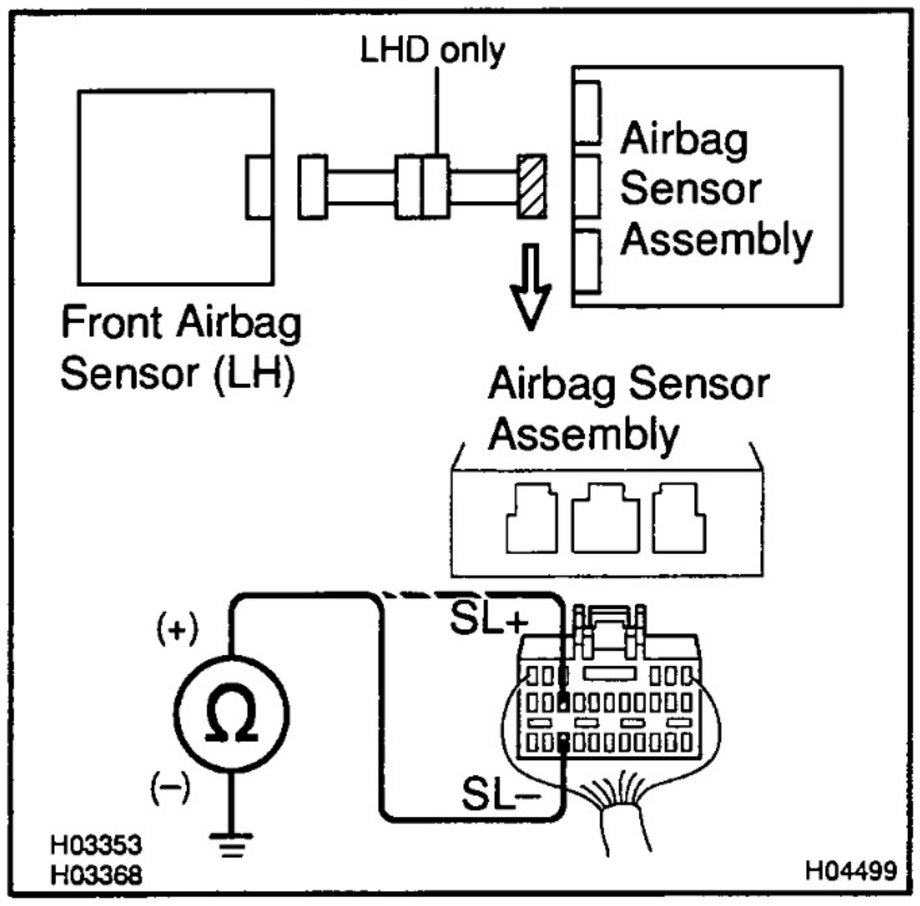
Resistance: Below 1 Ω

NG → **Repair or replace relay harness.**

OK

Repair or replace harness or connector between airbag sensor assembly and relay harness.

9	**Check wire harness (to ground).**



PREPARATION:
Disconnect the front airbag sensor connector (LH).

CHECK:
For the connector (on the airbag sensor assembly side) between the front airbag sensor (LH) and the airbag sensor assembly, measure the resistance between body ground and each of SL+ and SL–.

OK:

Resistance: 1 MΩ or Higher

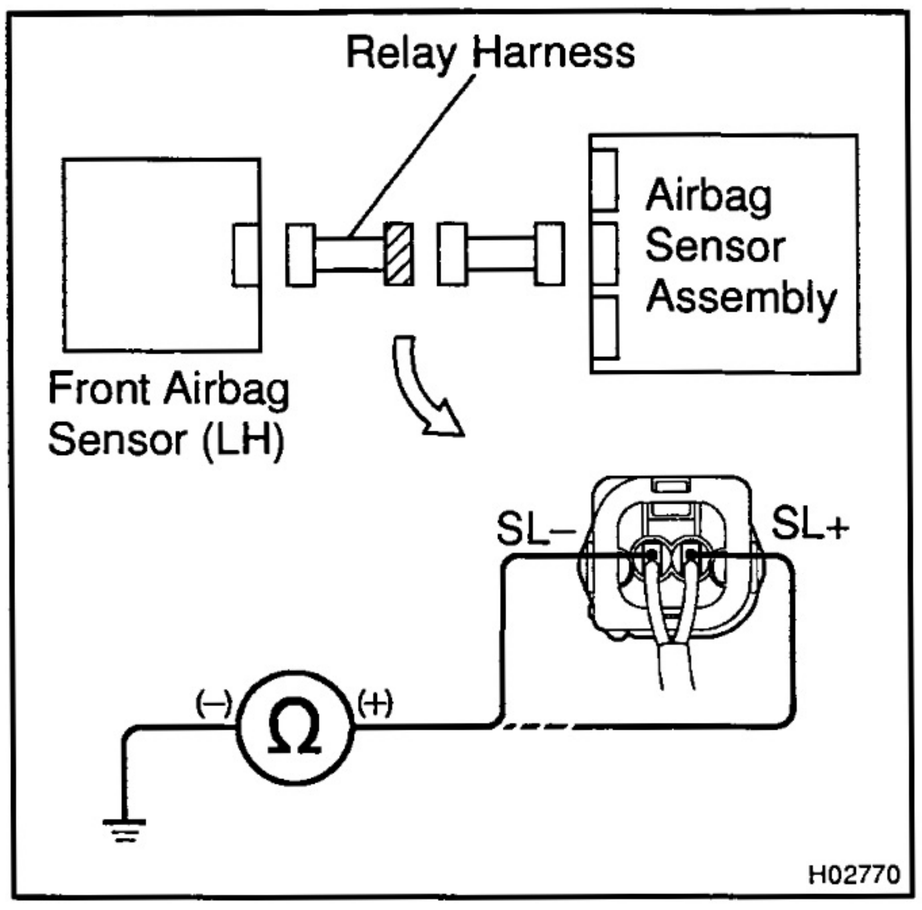
OK → **Replace front airbag sensor (LH).**

NG

RHD:
Repair or replace harness or connector between the front airbag sensor (LH) and airbag assembly.

LHD:
Go to step 10.

10	Check relay harness (to ground).



PREPARATION:

Disconnect the relay harness connector on the airbag sensor assembly side.

CHECK:

For the connector (on the relay harness side) between the front airbag sensor (LH) and the relay harness, measure the resistance between body ground and each of SL+ and SL–.

OK:

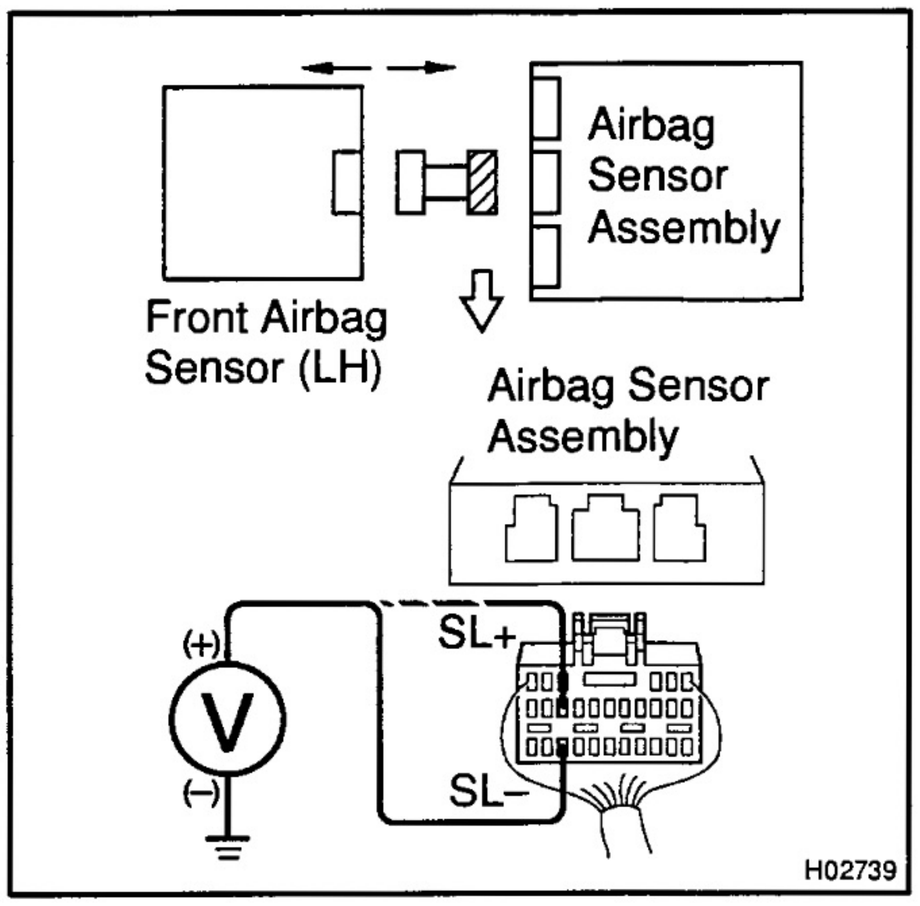
Resistance: Below 1 MΩ or Higher

NG → **Repair or replace relay harness.**

OK

Repair or replace harness or connector between airbag sensor assembly and relay harness.

11	**Check wire harness (to B+).**



PREPARATION:
Disconnect the front airbag sensor connector (LH).

CHECK:
For the connector (on the airbag sensor assembly side) between the front airbag sensor (LH) and the airbag sensor assembly, measure the voltage between body ground and each of SL+ and SL–.

OK:

Voltage: Below 1 V

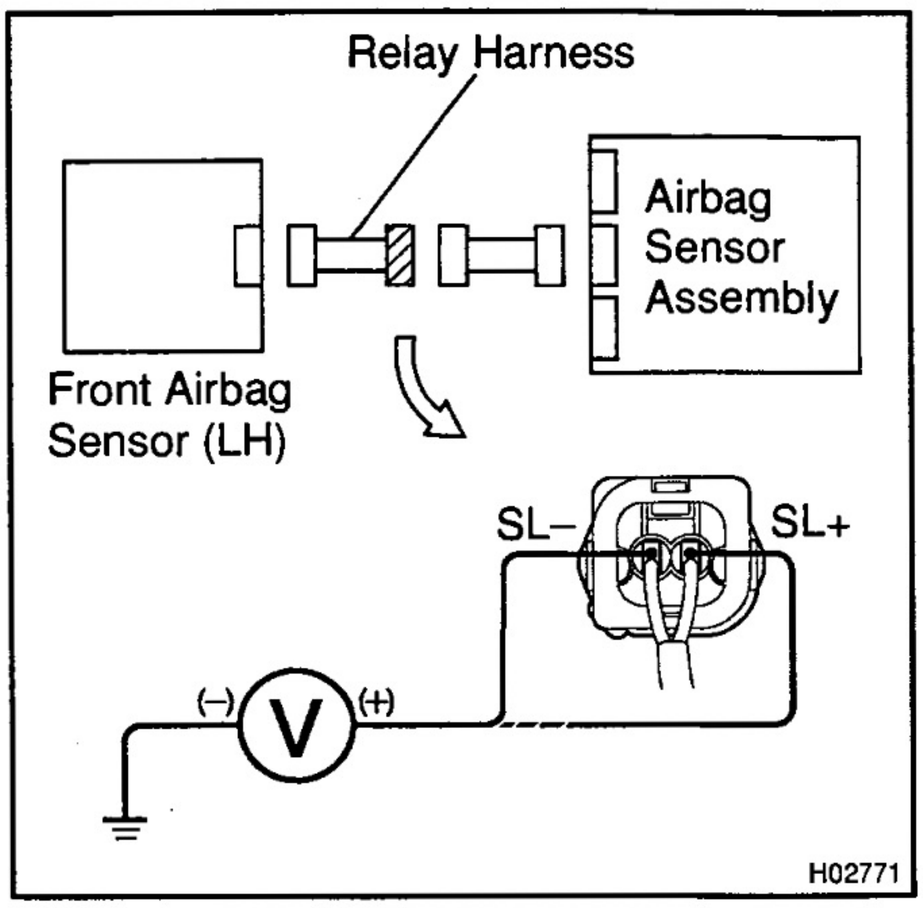
OK → **Replace front airbag sensor (LH).**

NG

RHD:
Repair or replace harness or connector between the front airbag sensor (LH) and airbag assembly.

LHD:
Go to step 12.

12	Check relay harness (to B+).



PREPARATION:

Disconnect the relay harness connector on the airbag sensor assembly side.

CHECK:

For the connector (on the relay harness side) between the front airbag sensor (LH) and the relay harness, measure the voltage between body ground and each of SL+ and SL–.

OK:

Voltage: Below 1 V

NG → **Repair or replace relay harness.**

OK

Repair or replace harness or connector between airbag sensor assembly and relay harness.

DI1BM–10

DTC	31	Airbag Sensor Assembly Malfunction

CIRCUIT DESCRIPTION

The airbag sensor assembly consists of a airbag sensor, safing sensor, drive circuit, diagnosis circuit and ignition control, etc.
It receives signals from the airbag sensor, judges whether or not the SRS must be activated, and detects diagnosis system malfunction.
DTC 31 is recorded when occurrence of a malfunction in the airbag sensor assembly is detected.

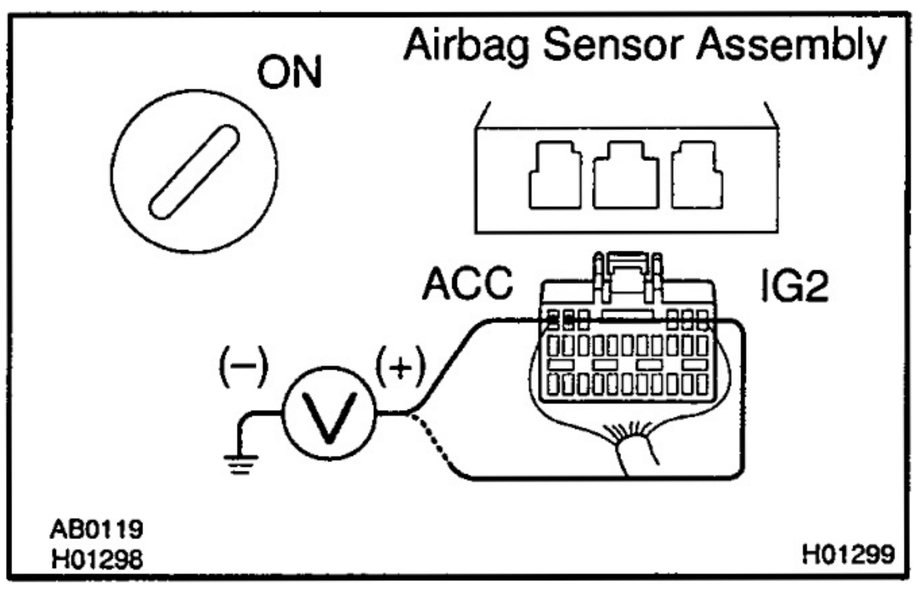
DTC No.	DTC Detecting Condition	Trouble Area
31	• Airbag sensor assembly malfunction	• Airbag sensor assembly

INSPECTION PROCEDURE

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.

1	**Prepare for inspection. (See step 1 on page DI–98)**

2	**Check voltage at IG2 and ACC of airbag sensor assembly.**



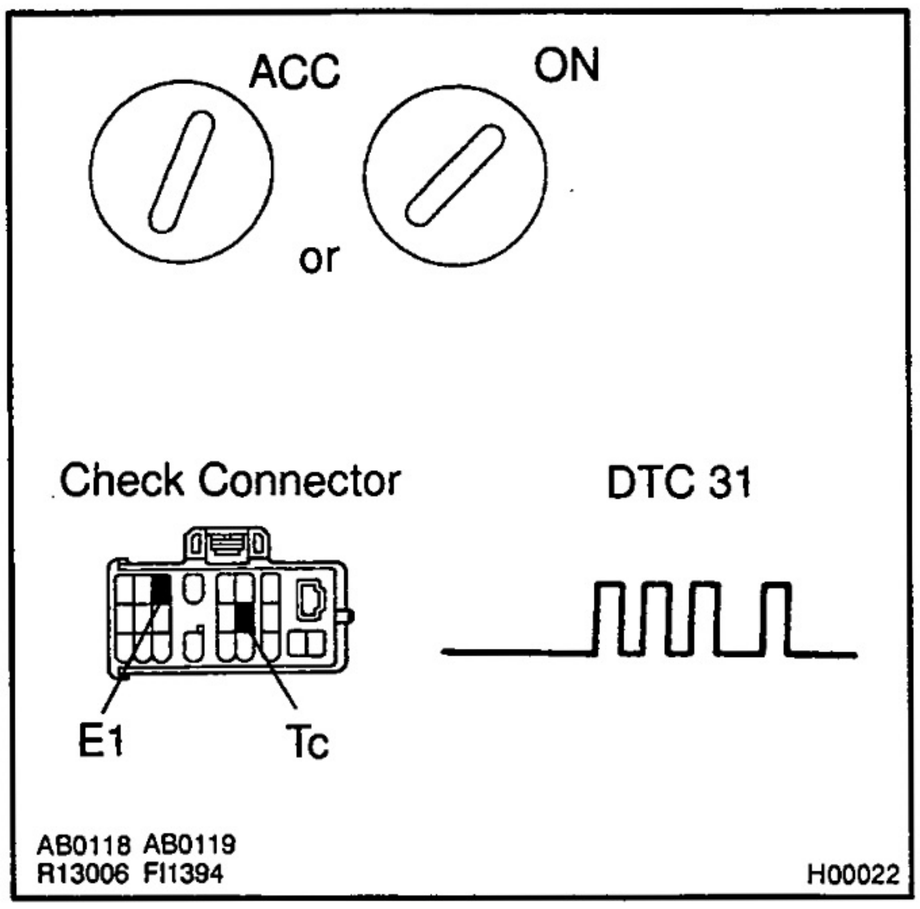
PREPARATION:
Turn ignition switch ON.
CHECK:
Measure the voltage between body ground and each of terminals IG2 and ACC of the airbag sensor assembly connector.
OK:

Voltage: Below 16 V

NG → **Check that an abnormality occurs on the battery and charging system.**

OK

3	**Is DTC 31 output again?**



PREPARATION:

Clear DTC.

(See page DI–3)

CHECK:

(a) Turn ignition switch to LOCK, and wait at least for 20 seconds.

(b) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.

(c) Repeat operation in step (a) and (b) at least 5 times.

(d) Check DTC.
(See page DI–3)

NO → **Using simulation method, reproduce malfunction symptoms. (See page IN–21)**

YES

Replace airbag sensor assembly.

DI22R–02

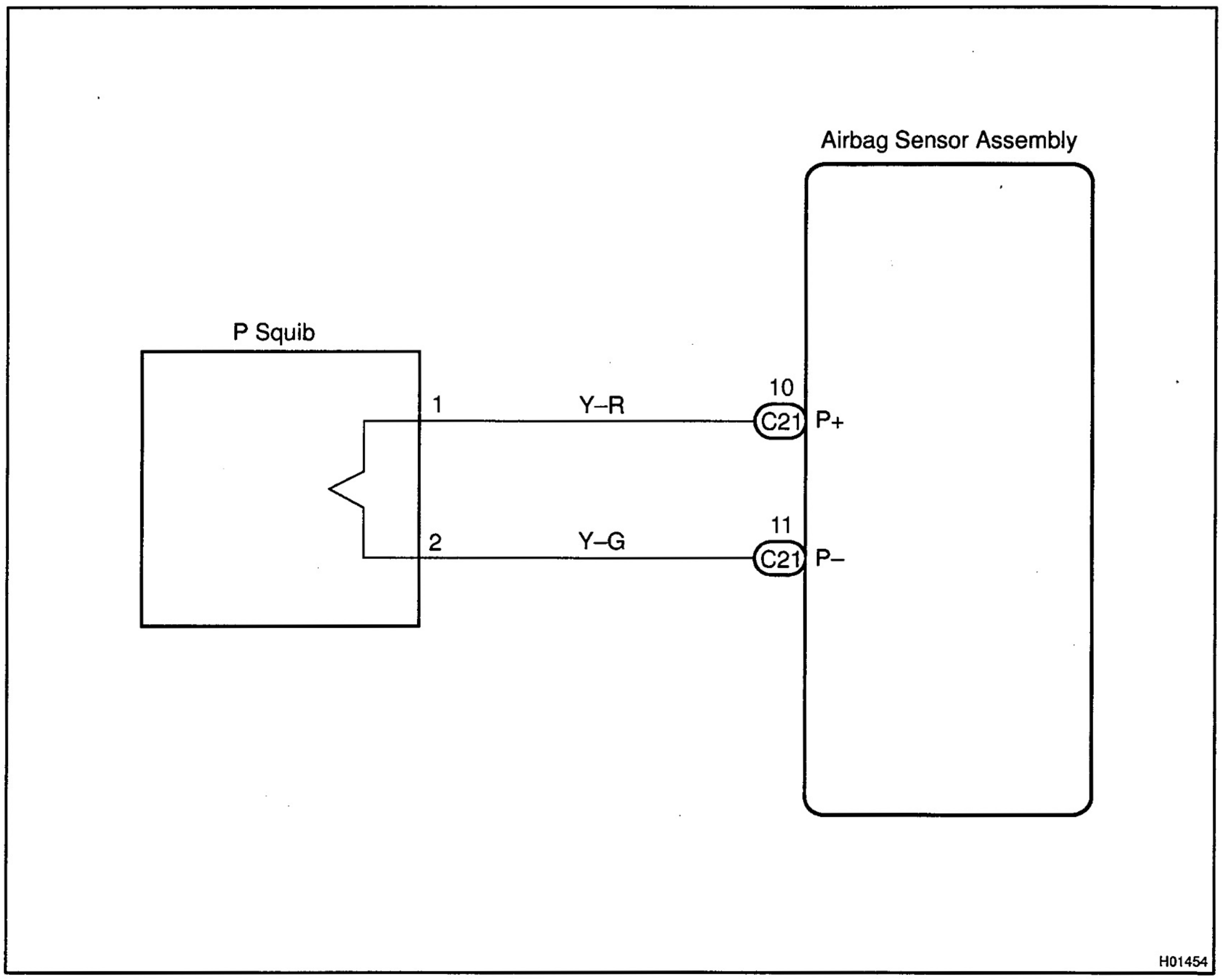
DTC	51	Short in P Squib Circuit (to Ground)

CIRCUIT DESCRIPTION

The P squib circuit consists of the airbag sensor assembly and front passenger airbag assembly.
It causes the SRS to deploy when the SRS deployment conditions are satisfied.
For details of the function of each component, see OPERATION on page RS–2.
DTC 51 is recorded when ground short is detected in the P squib circuit.

DTC No.	DTC Detecting Condition	Trouble Area
51	• Short circuit in P squib wire harness (to ground) • P squib malfunction • Airbag sensor assembly malfunction	• Front passenger airbag assembly (P squib) • Airbag sensor assembly • Wire harness

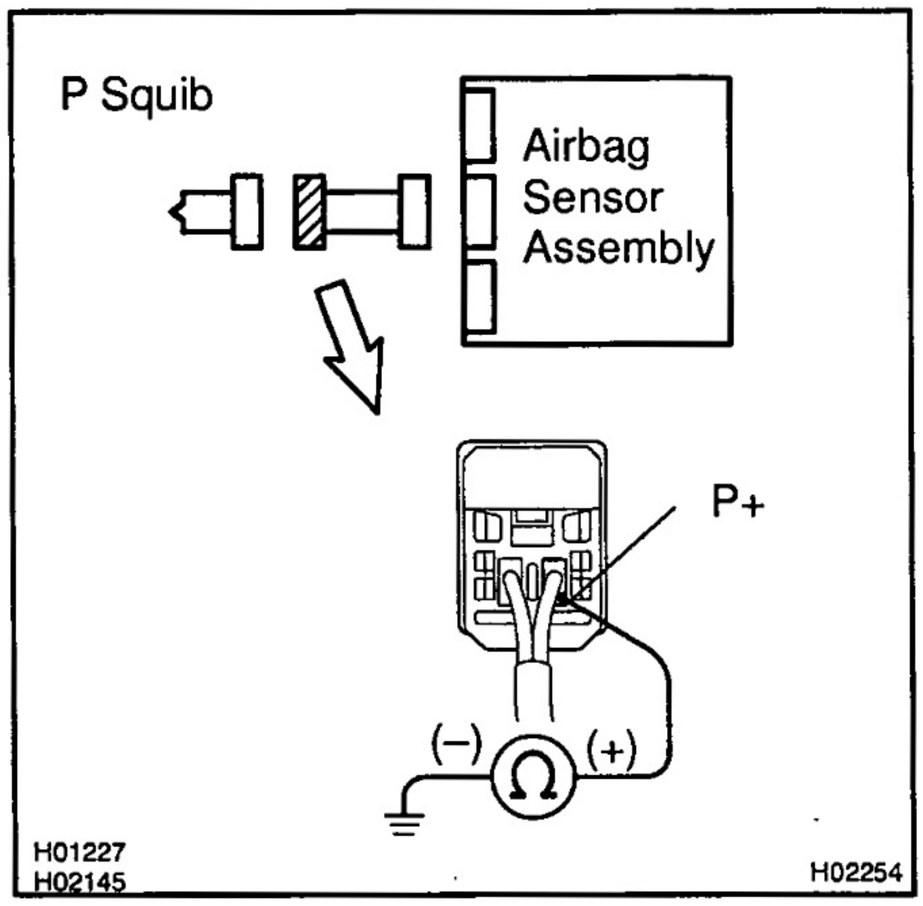
WIRING DIAGRAM



INSPECTION PROCEDURE

1	**Prepare for inspection. (See step 1 on page DI–98)**

2	**Check P squib circuit.**



CHECK:

For the connector (on the front passenger airbag assembly side) between the front passenger airbag assembly and the airbag sensor assembly, measure the resistance between P+ and body ground.

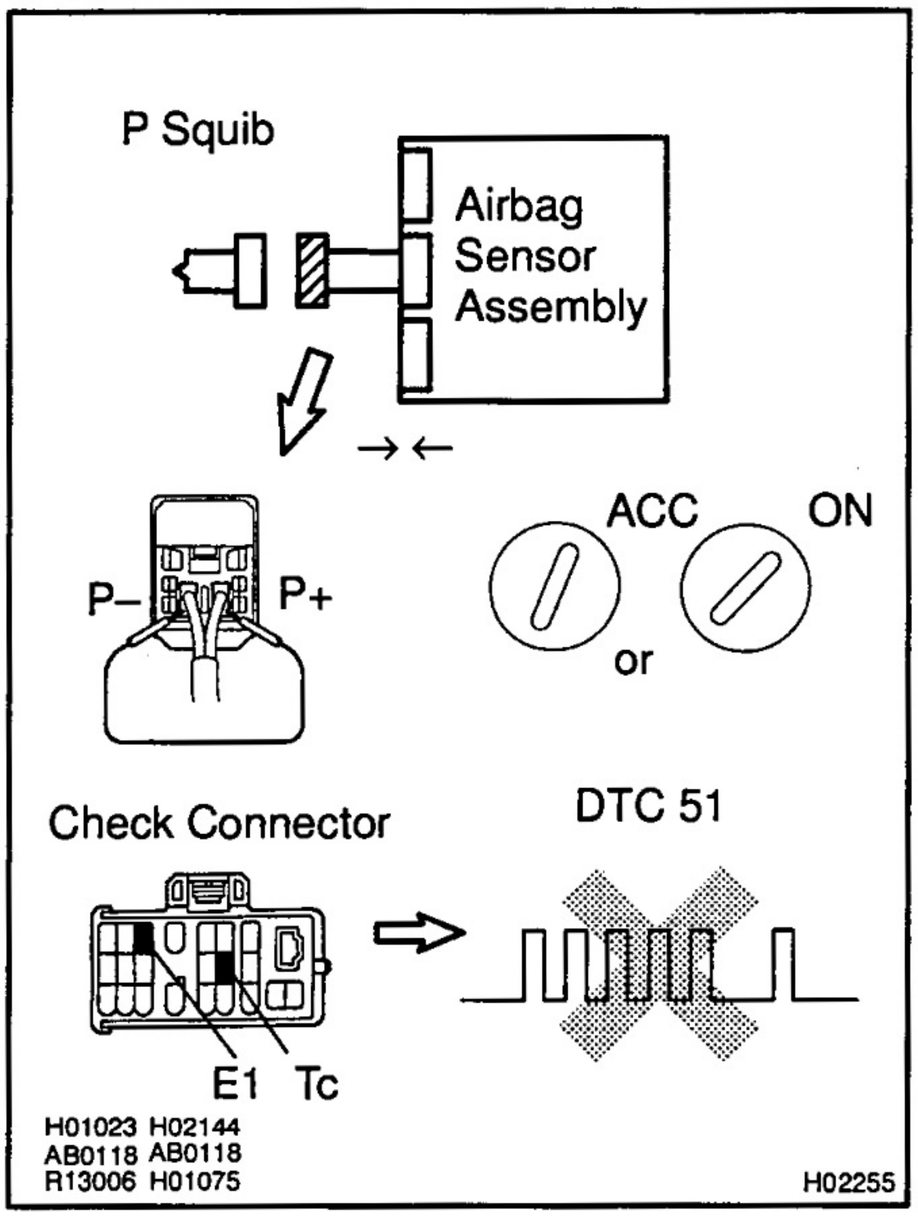
OK:

Resistance: 1 MΩ or Higher

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

OK

3	**Check airbag sensor assembly.**



PREPARATION:

(a) Connect the connector to the airbag sensor assembly.

(b) Using a service wire, connect P+ and P– of the connector (on the front passenger airbag assembly side) between the front passenger airbag assembly and the airbag sensor assembly.

(c) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON and wait at least for 20 seconds.

(b) Clear DTC stored in memory.
(See page DI–3)

(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.

(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.

(e) Check DTC.
(See page DI–3)

OK:

DTC 51 is not output.

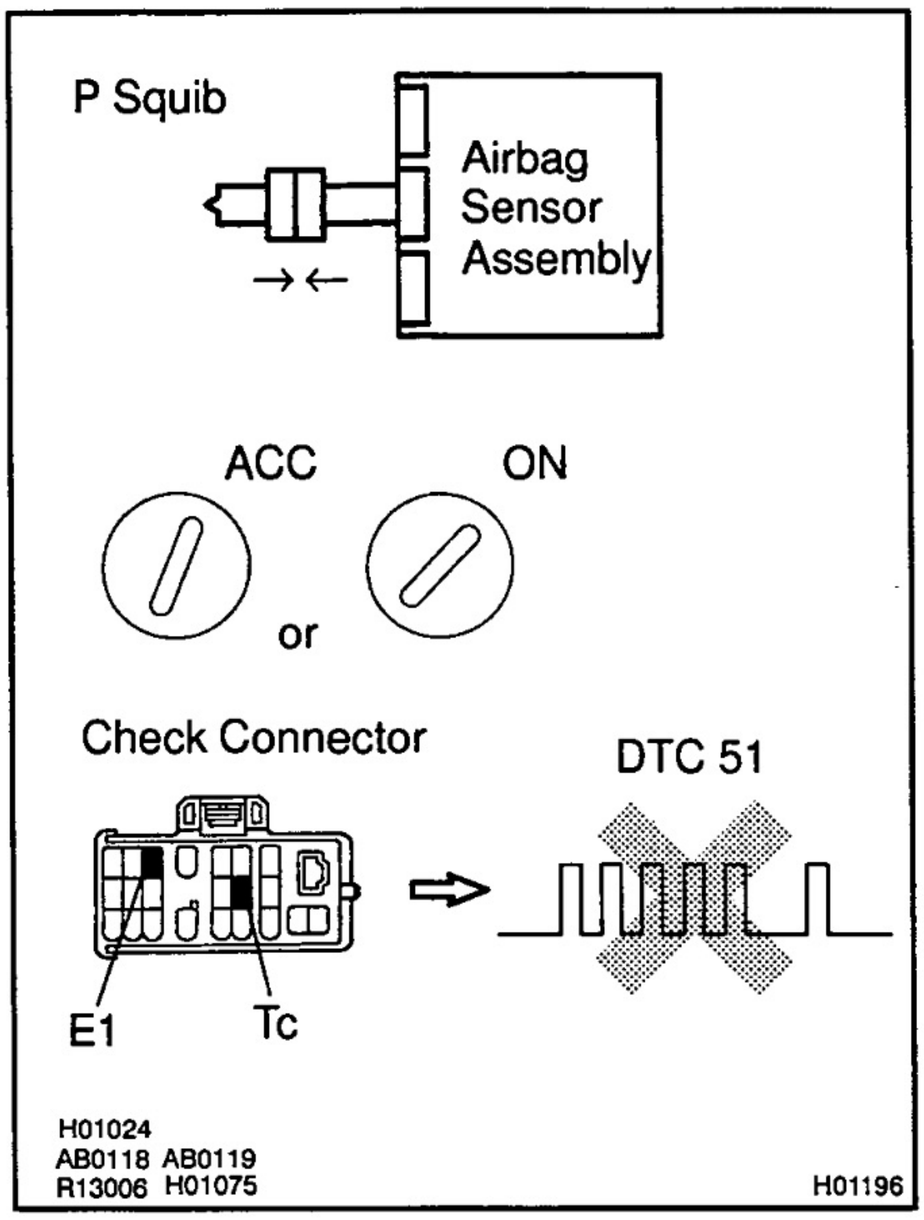
HINT:

Codes other than DTC 51 may be output at this time, but they are not relevant to this check.

NG → **Replace airbag sensor assembly.**

OK

4	**Check P squib.**



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Disconnect negative (–) terminal cable from the battery, and wait at least for 90 seconds.
(c) Connect the front passenger airbag assembly connector.
(d) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(b) Clear DTC stored in memory.
(See page DI–3)
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check DTC.
(See page DI–3)

OK:

DTC 51 is not output.

HINT:

Codes other than DTC 51 may be output at this time, but they are not relevant to this check.

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

OK →

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 can not be detected by the simulation method, replace all SRS components including the wire harness.

DI1B9-09

DTC	52	Short in P Squib Circuit (to B+)

CIRCUIT DESCRIPTION

The P squib circuit consists of the airbag sensor assembly and front passenger airbag assembly..
It causes the SRS to deploy when the SRS deployment conditions are satisfied.
For details of the function of each component, see OPERATION on page RS–2.
DTC 52 is recorded when a B+ short is detected in the P squib circuit.

DTC No.	DTC Detecting Condition	Trouble Area
52	• Short circuit in P squib wire harness (to B+) • P squib malfunction • Airbag sensor assembly malfunction	• Front passenger airbag assembly (P squib) • Airbag sensor assembly • Wire harness

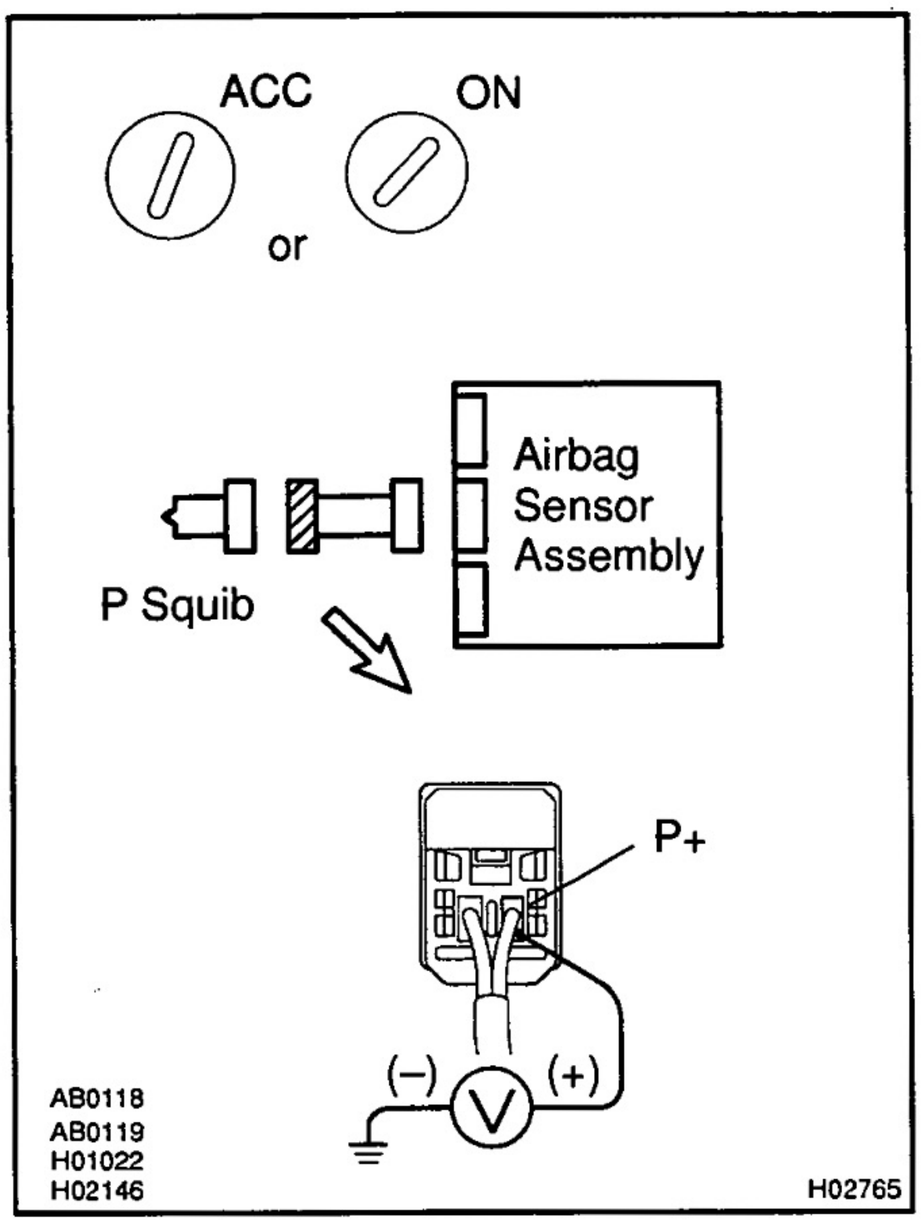
WIRING DIAGRAM

See page DI–50.

INSPECTION PROCEDURE

1	**Prepare for inspection. (See step 1 on page DI–98)**

2	**Check P squib circuit.**



CHECK:

(a) Turn ignition switch to ACC or ON and wait at least for 20 seconds.

(b) For the connector (on the front passenger airbag assembly side) between the front passenger airbag assembly and the airbag sensor assembly, measure the voltage between P+ and body ground.

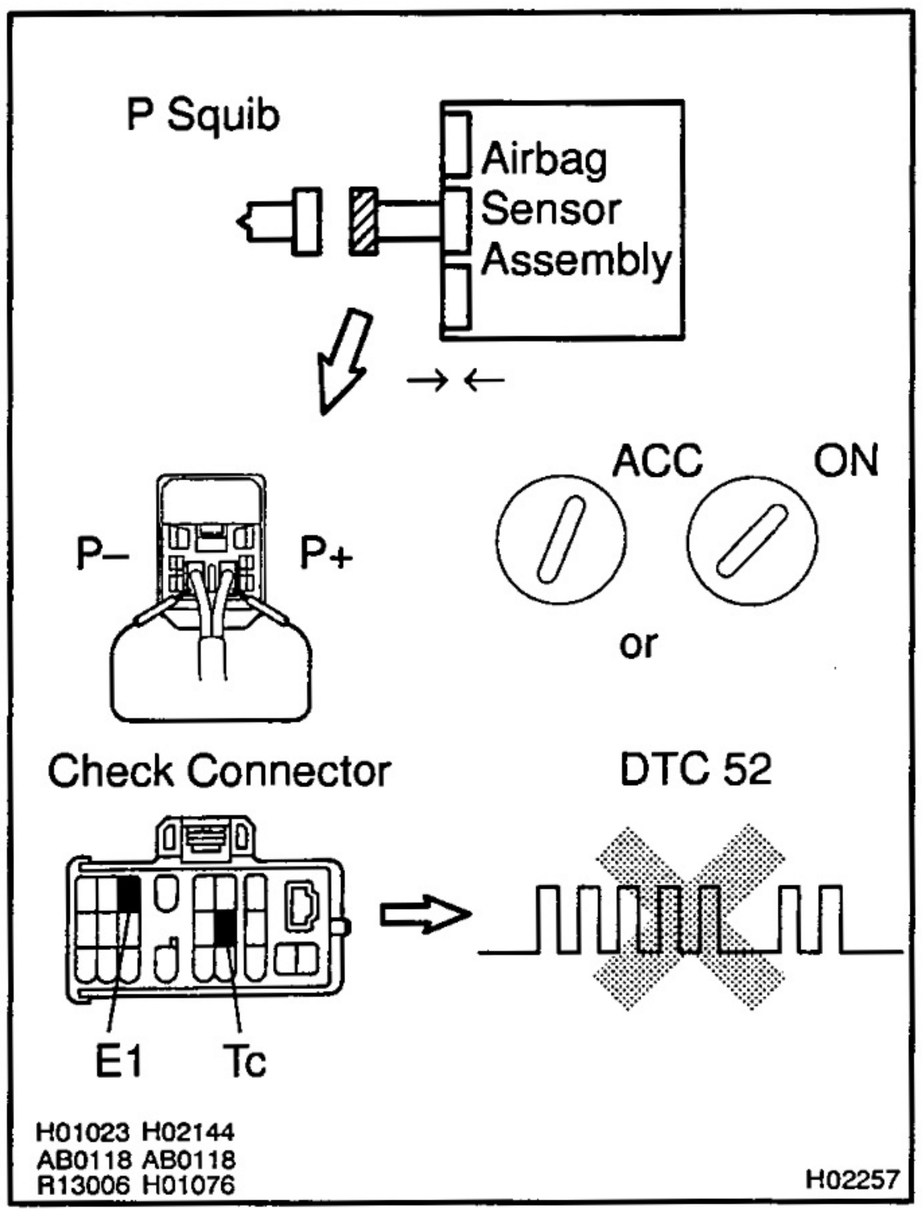
OK:

Voltage: 0 V

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

OK

3	Check airbag sensor assembly.



PREPARATION:

(a) Connect the connector to the airbag sensor assembly.
(b) Using a service wire, connect P+ and P– of the connector (on the front passenger airbag assembly side) between the front passenger airbag assembly and the airbag sensor assembly.
(c) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON and wait at least for 20 seconds.
(b) Clear DTC stored in memory.
(See page DI–3)
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check DTC.
(See page DI–3)

OK:

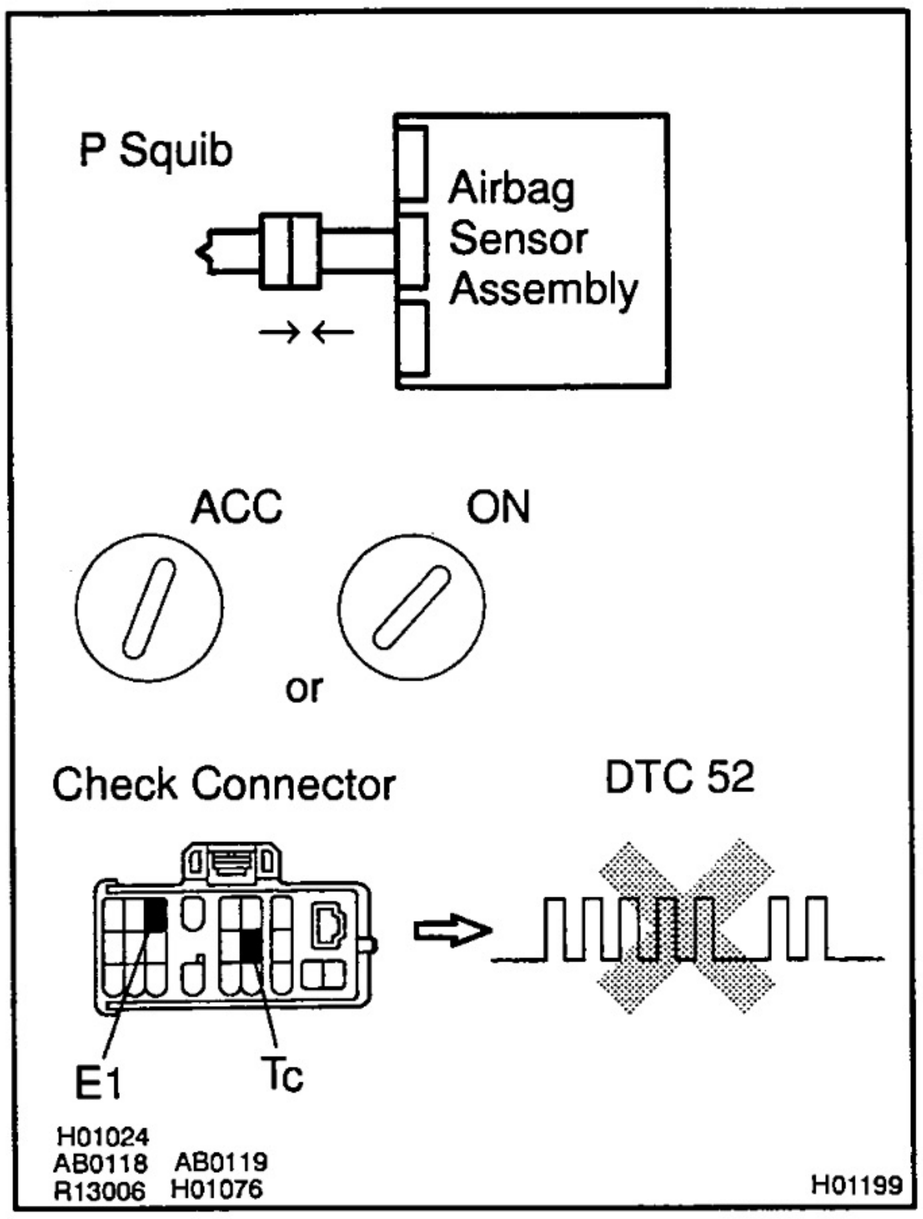
DTC 52 is not output.

HINT:
Codes other than DTC 52 may be output at this time, but they are not relevant to this check.

NG → **Replace airbag sensor assembly.**

OK

4	**Check P squib.**



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Disconnect negative (–) terminal cable from the battery, and wait at least for 90 seconds.
(c) Connect the front passenger airbag assembly connector.
(d) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(b) Clear DTC stored in memory.
(See page DI–3)
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check DTC.
(See page DI–3)

OK:

DTC 52 is not output.

HINT:

Codes other than DTC 52 may be output at this time, but they are not relevant to this check.

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

OK →

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 can not be detected by the simulation method, replace all SRS components including the wire harness.

DI22S–02

DTC	53	Short in P Squib Circuit

CIRCUIT DESCRIPTION

The P squib circuit consists of the airbag sensor assembly and front passenger airbag assembly.
It causes the SRS to deploy when the SRS deployment conditions are satisfied.
For details of the function of each component, see OPERATION on page RS–2.
DTC 53 is recorded when a short is detected in the P squib circuit.

DTC No.	DTC Detecting Condition	Trouble Area
53	• Short circuit in P squib wire harness • P squib malfunction • Airbag sensor assembly malfunction	• Front passenger airbag assembly (P squib) • Airbag sensor assembly • Wire harness

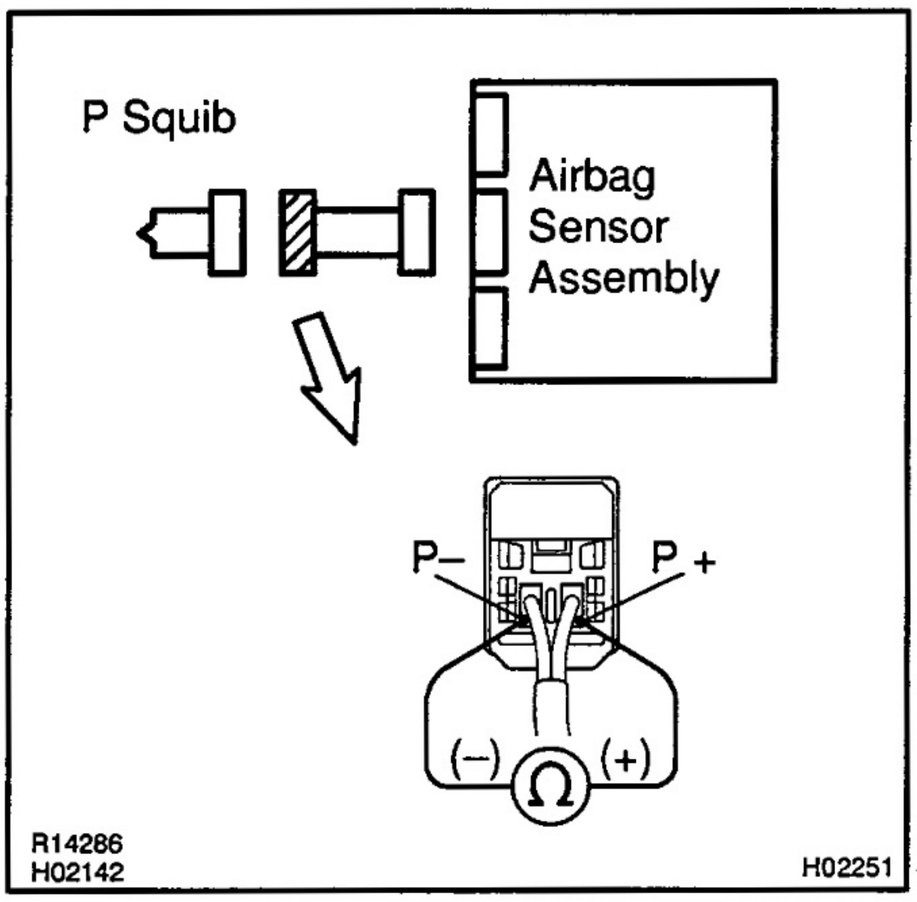
WIRING DIAGRAM

See page DI–50.

INSPECTION PROCEDURE

1	**Prepare for inspection. (See step 1 on page DI–98)**

2	**Check P squib circuit.**



PREPARATION:
Release airbag activation prevention mechanism of the connector (on the airbag sensor assembly side) between the front passenger airbag assembly and the airbag sensor assembly.

CHECK:
For the connector (on the front passenger airbag assembly side) between the front passenger airbag assembly and the airbag sensor assembly, measure the resistance between P+ and P–.

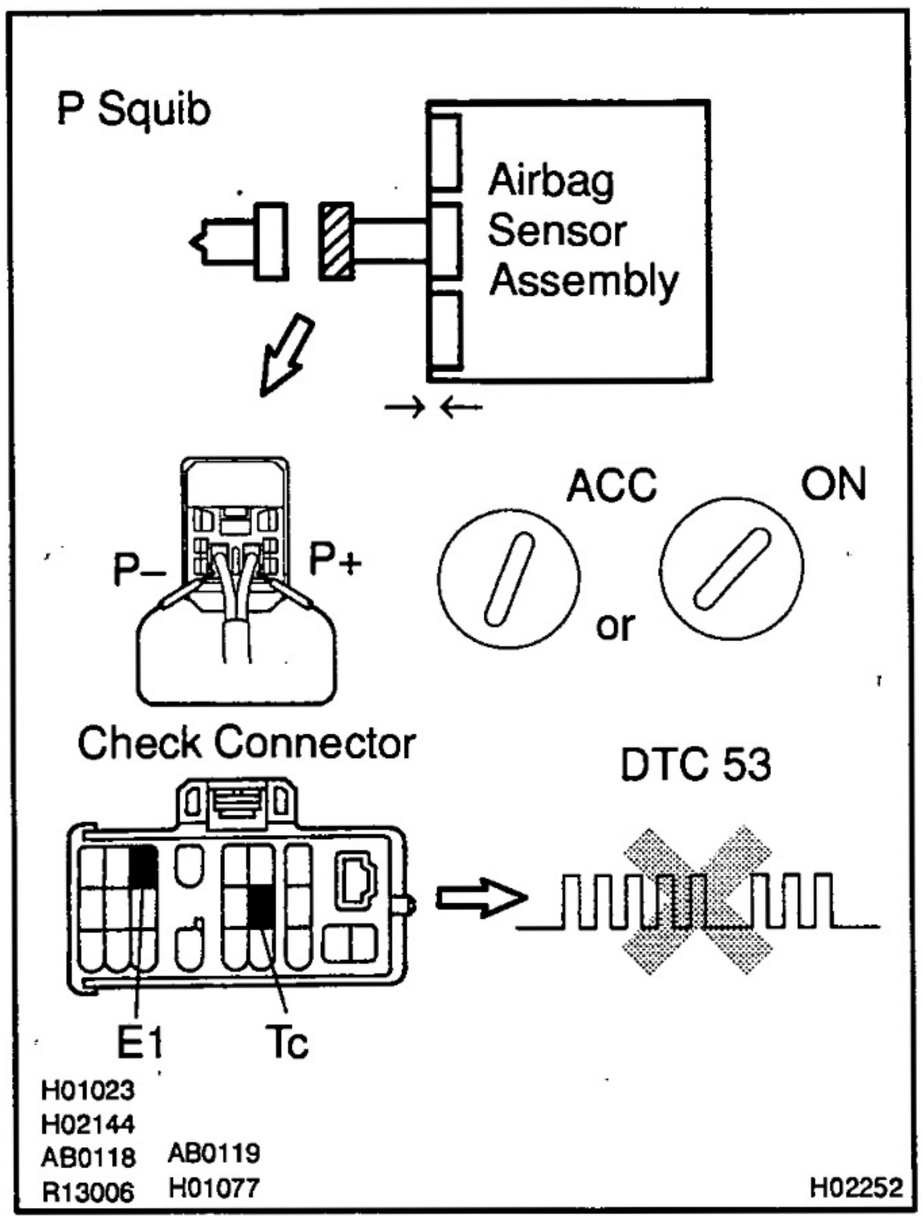
OK:

Resistance: 1 MΩ or Higher

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

OK

3	**Check airbag sensor assembly.**



PREPARATION:

(a) Connect the connector to the airbag sensor assembly.
(b) Using a service wire, connect P+ and P– of the connector (on the front passenger airbag assembly side) between the airbag sensor assembly and the front passenger airbag assembly.
(c) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON and wait at least for 20 seconds.
(b) Clear DTC stored in memory.
(See page DI–3)
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check DTC.
(See page DI–3)

OK:

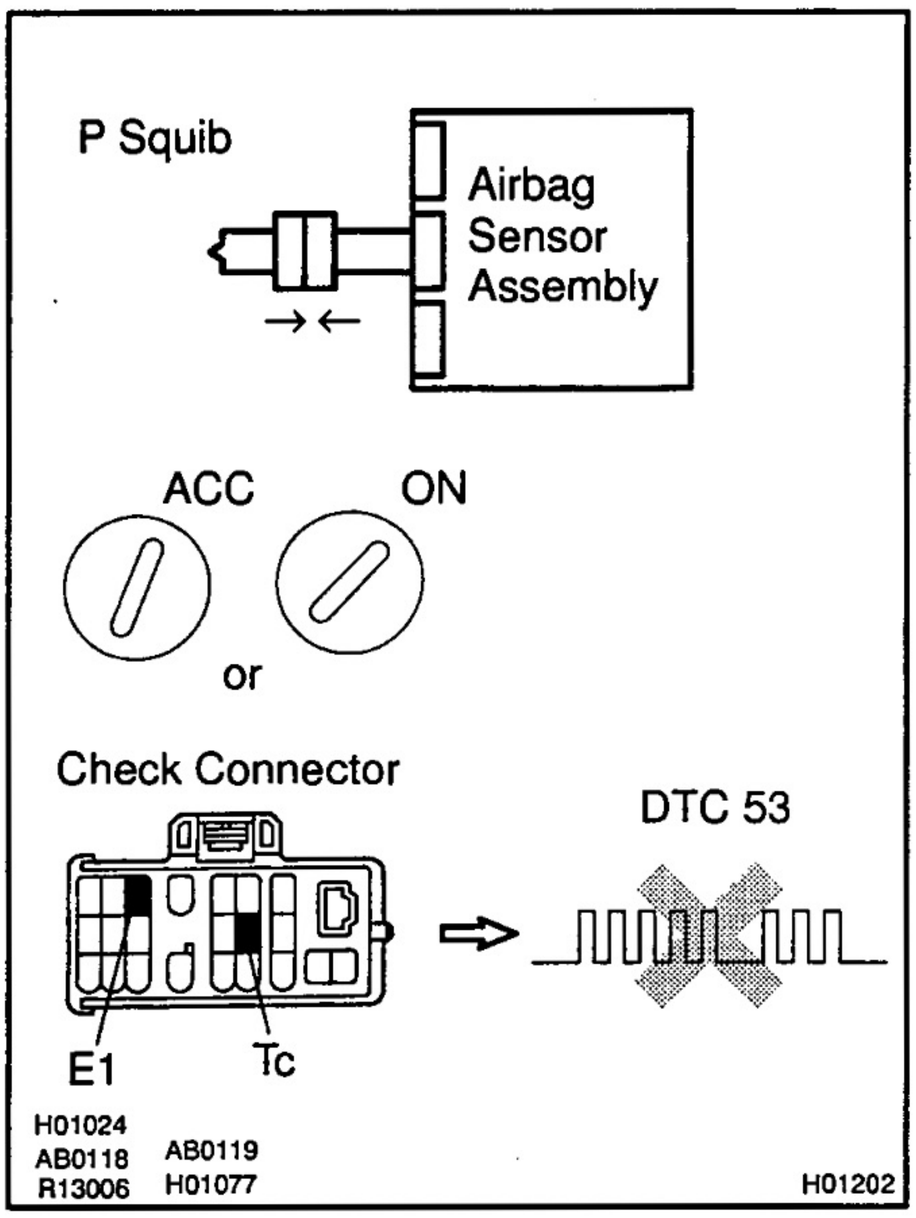
DTC 53 is not output.

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

NG → **Replace airbag sensor assembly.**

OK

4	Check P squib.



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Disconnect negative (–) terminal cable from the battery, and wait at least for 90 seconds.
(c) Connect the front passenger airbag assembly connector.
(d) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to LOOK, and wait at least for 20 seconds.
(b) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(c) Clear DTC stored in memory.
(See page DI–3)
(d) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(e) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(f) Check DTC.
(See page DI–3)

OK:

DTC 53 is not output.

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

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

OK

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 can not be detected by the simulation method, replace all SRS components including the wire harness.

DI1B7-10

DTC	54	Open in P Squib Circuit

CIRCUIT DESCRIPTION

The P squib circuit consists of the airbag sensor assembly and front passenger airbag assembly.
It causes the SRS to deploy when the SRS deployment conditions are satisfied.
For details of the function of each component, see OPERATION on page RS–2.
DTC 54 is recorded when an open is detected in the P squib circuit.

DTC No.	DTC Detecting Condition	Trouble Area
54	• Open circuit in P squib wire harness or P– wire harness of squib • P squib malfunction • Airbag sensor assembly malfunction	• Front passenger airbag assembly (P squib) • Airbag sensor assembly • Wire harness

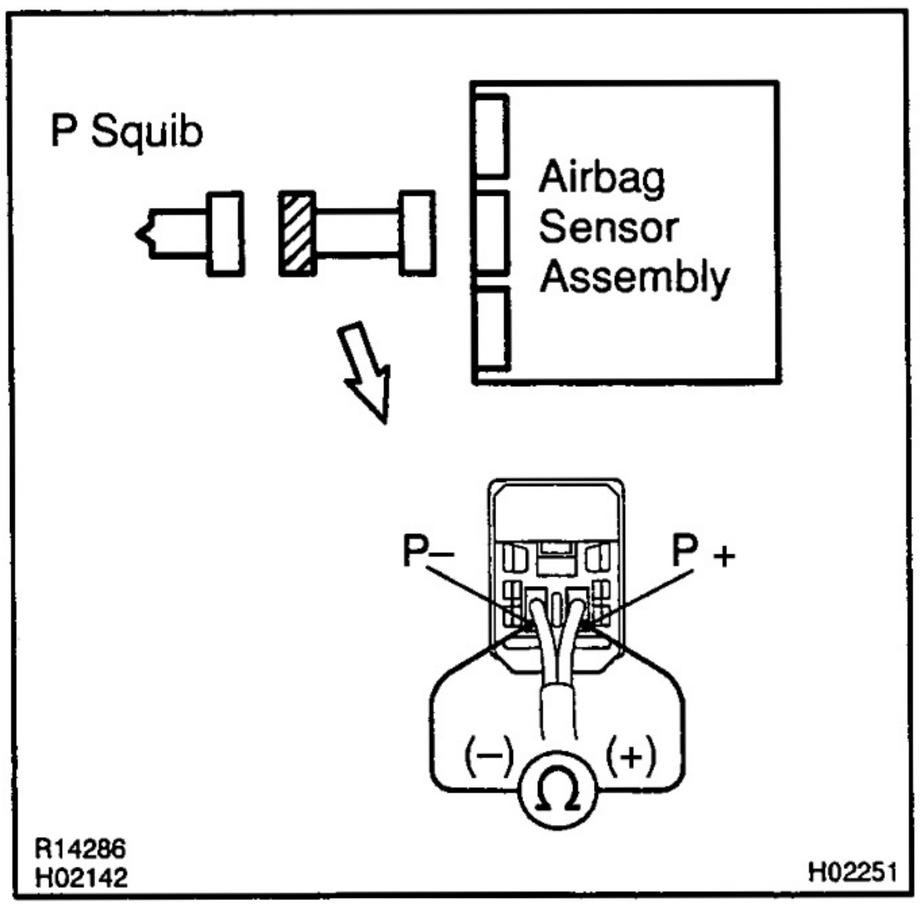
WIRING DIAGRAM

See page DI–50.

INSPECTION PROCEDURE

1	**Prepare for inspection. (See step 1 on page DI–98)**

2	**Check P squib circuit.**



CHECK:

For the connector (on the front passenger airbag assembly side) between the front passenger airbag assembly and the airbag sensor assembly, measure the resistance between P+ and P–.

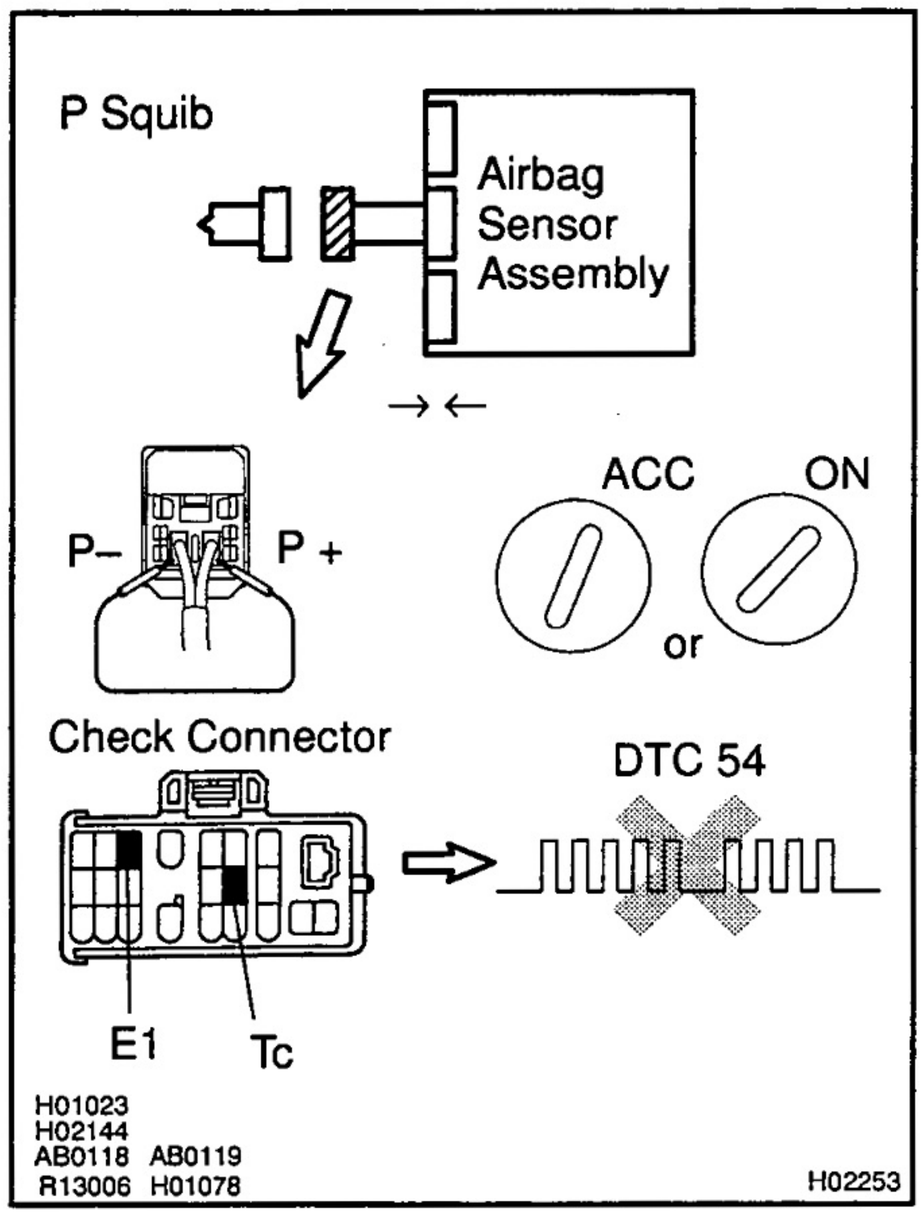
OK:

Resistance: Below 1 Ω

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

OK →

3	Check airbag sensor assembly.



PREPARATION:

(a) Connect the connector to the airbag sensor assembly.
(b) Using a service wire, connect P+ and P– of the connector (on the front passenger airbag assembly side) between the front passenger airbag assembly and the airbag sensor assembly.
(c) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON and wait at least for 20 seconds.
(b) Clear DTC stored in memory.
(See page DI–3)
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check DTC.
(See page DI–3)

OK:

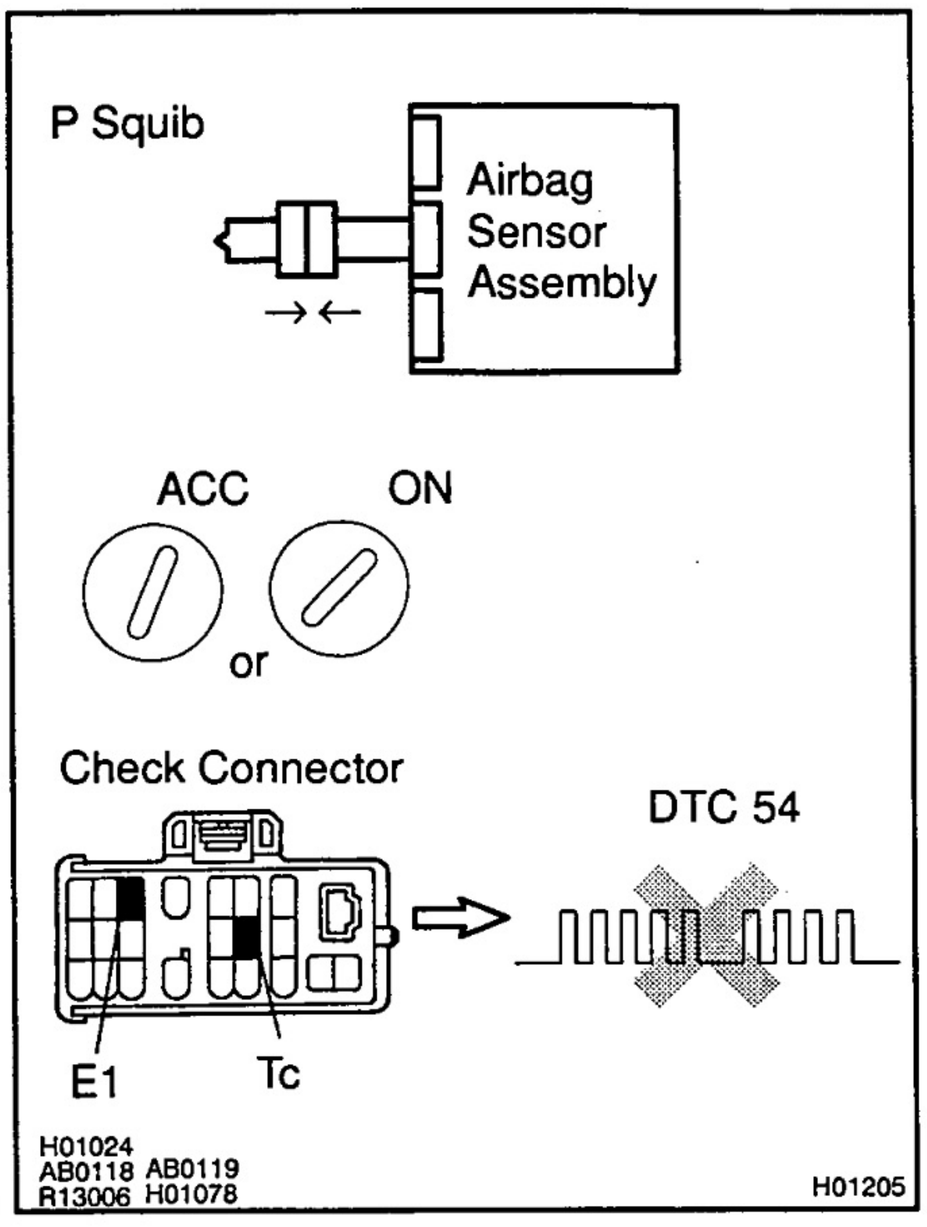
DTC 54 is not output.

HINT:
Codes other than DTC 54 may be output at this time, but they are not relevant to this check.

NG → **Replace airbag sensor assembly.**

OK

4	**Check P squib.**



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Disconnect negative (–) terminal cable from the battery, and wait at least for 90 seconds.
(c) Connect the front passenger airbag assembly connector.
(d) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(b) Clear DTC stored in memory.
(See page DI–3)
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check DTC.
(See page DI–3)

OK:

DTC 54 is not output.

HINT:
Codes other than DTC 54 may be output at this time, but they are not relevant to this check.

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

OK

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 can not be detected by the simulation method, replace all SRS components including the wire harness.

D137F–06

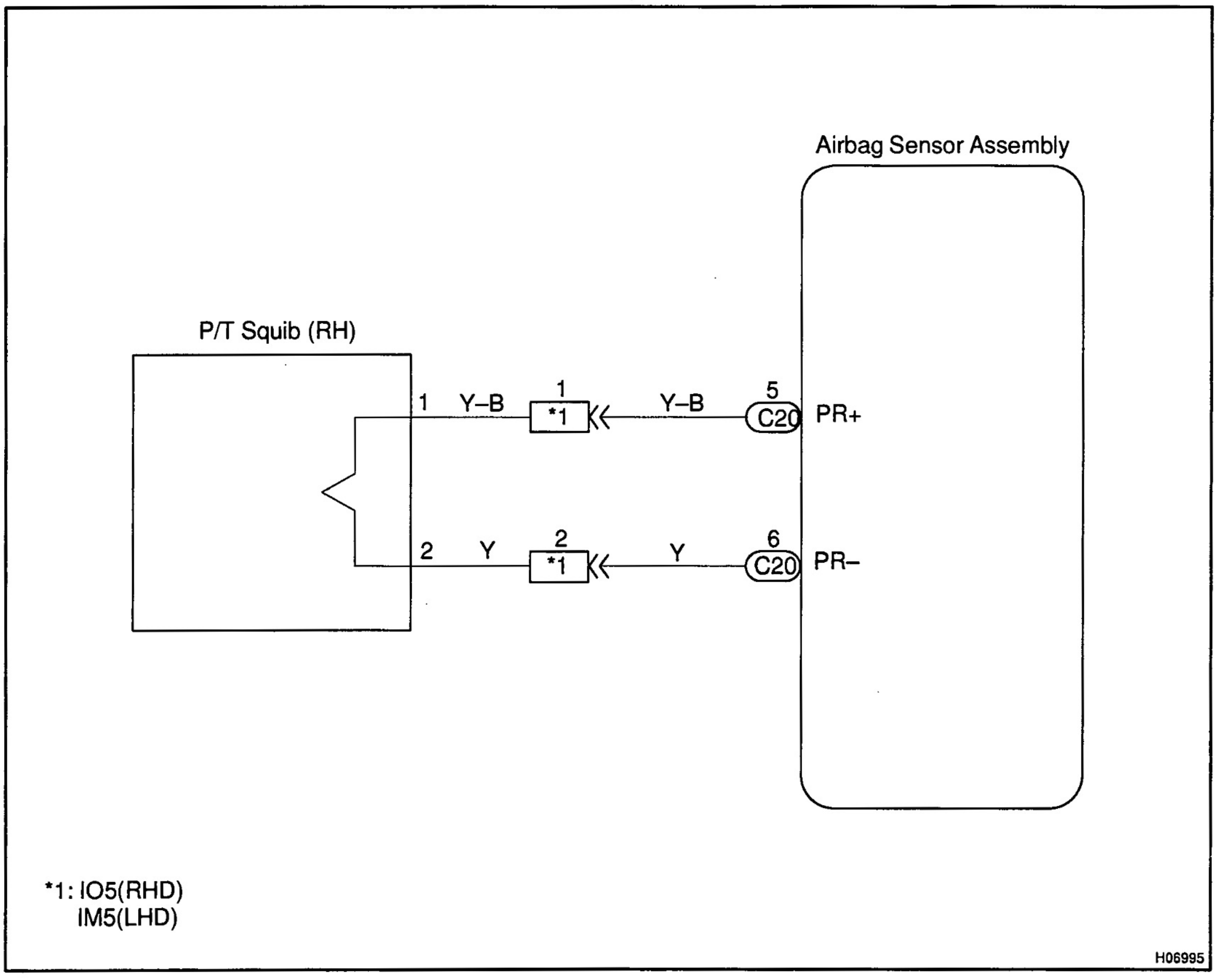
DTC	61	Short in P/T Squib (RH) Circuit (to Ground)

CIRCUIT DESCRIPTION

The P/T squib (RH) circuit consists of the airbag sensor assembly and seat belt pretensioner (RH).
It causes the seat belt pretensioner (RH) to activate when the seat belt pretensioner (RH) activation conditions are satisfied.
For details of the function of each component, see OPERATION on page RS–2.
DTC 61 is recorded when ground short is detected in the P/T squib (RH) circuit.

DTC No.	DTC Detecting Condition	Trouble Area
61	• Short circuit in P/T squib (RH) wire harness (to ground) • P/T squib (RH) malfunction • Airbag sensor assembly malfunction	• Seat belt pretensioner (RH) • Airbag sensor assembly • Wire harness

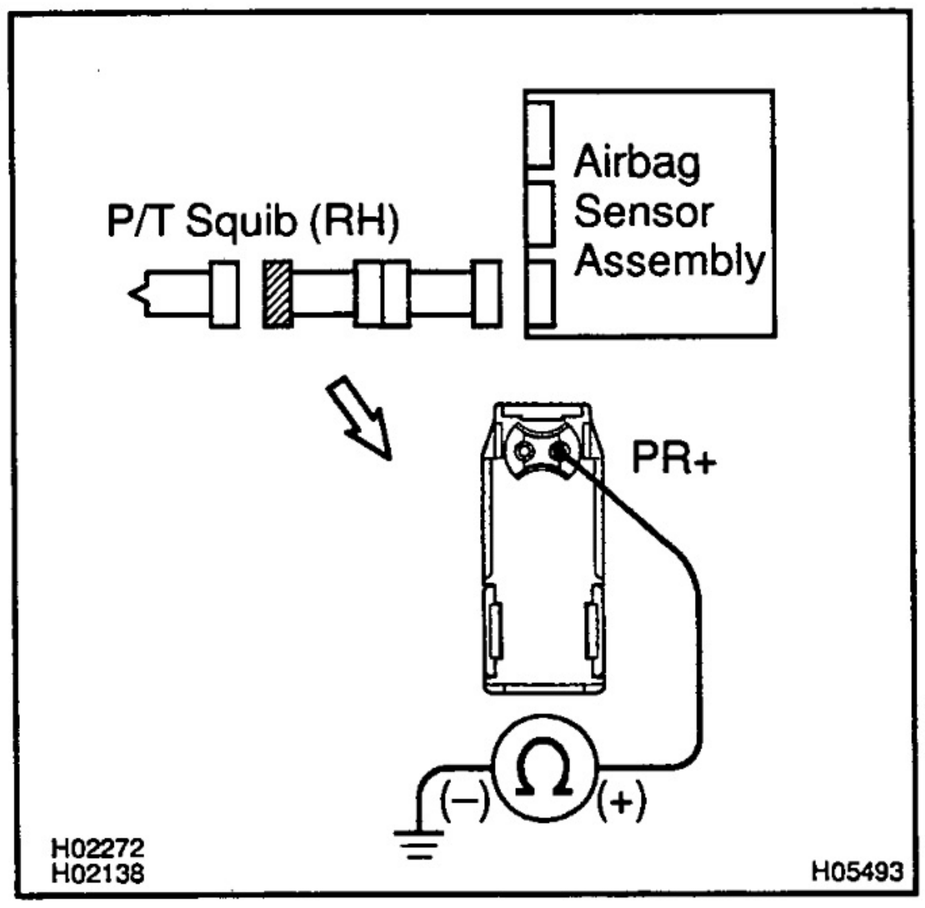
WIRING DIAGRAM



INSPECTION PROCEDURE

1	**Prepare for inspection. (See step 1 on page DI–98)**

2	**Check P/T squib (RH) circuit.**



CHECK:

For the connector (on the seat belt pretensioner side) between the seat belt pretensioner (RH) and the airbag sensor assembly, measure the resistance between PR+ and body ground.

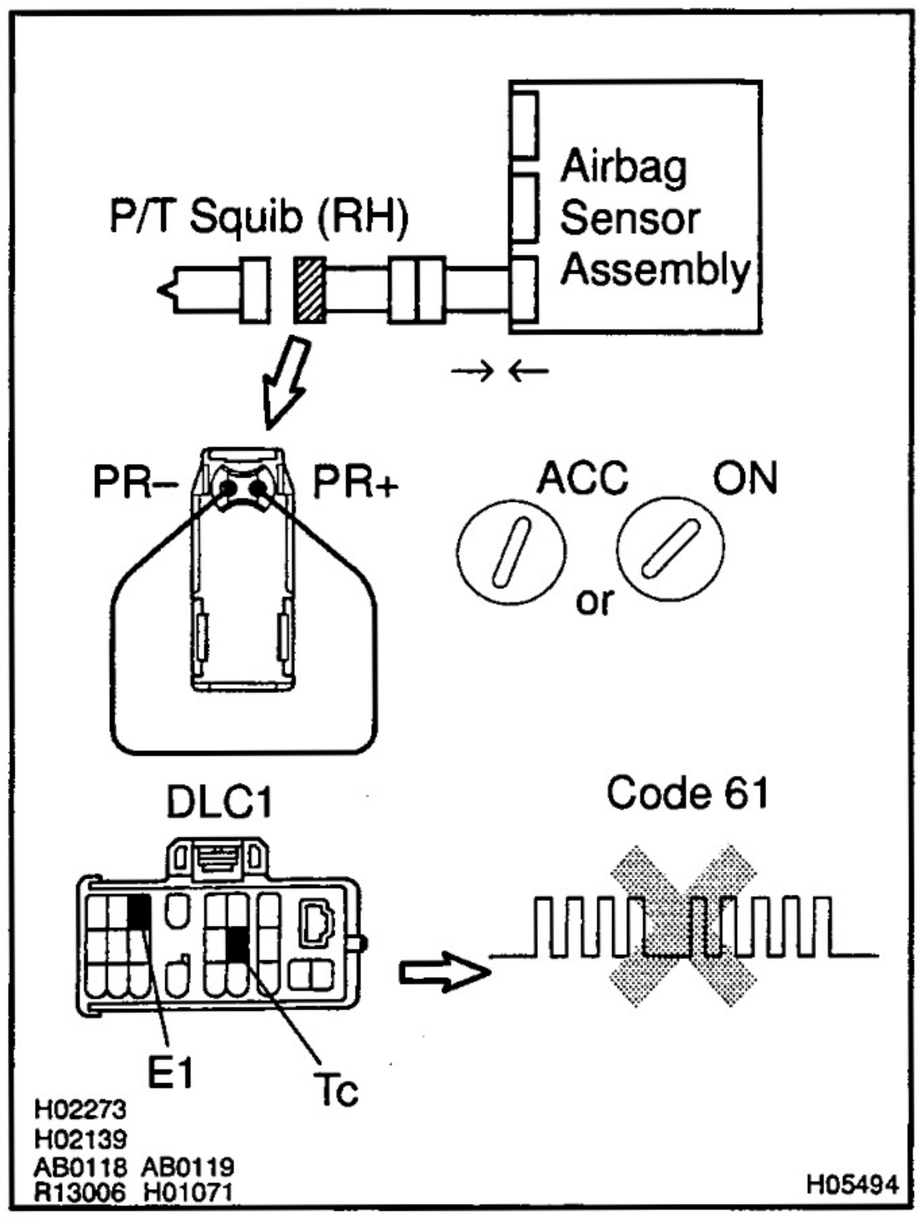
OK:

Resistance: 1 MΩ or Higher

NG	**Go to step 5.**

OK

3	Check airbag sensor assembly.



PREPARATION:

(a) Connect the connector to the airbag sensor assembly.
(b) Using a service wire, connect PR+ and PR– of the connector (on the seat belt pretensioner side) between the seat belt pretensioner (RH) and the airbag sensor assembly.
(c) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON and wait at least for 20 seconds.
(b) Clear DTC stored in memory.
(See page DI–3)
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check DTC.
(See page DI–3)

OK:

DTC 61 is not output.

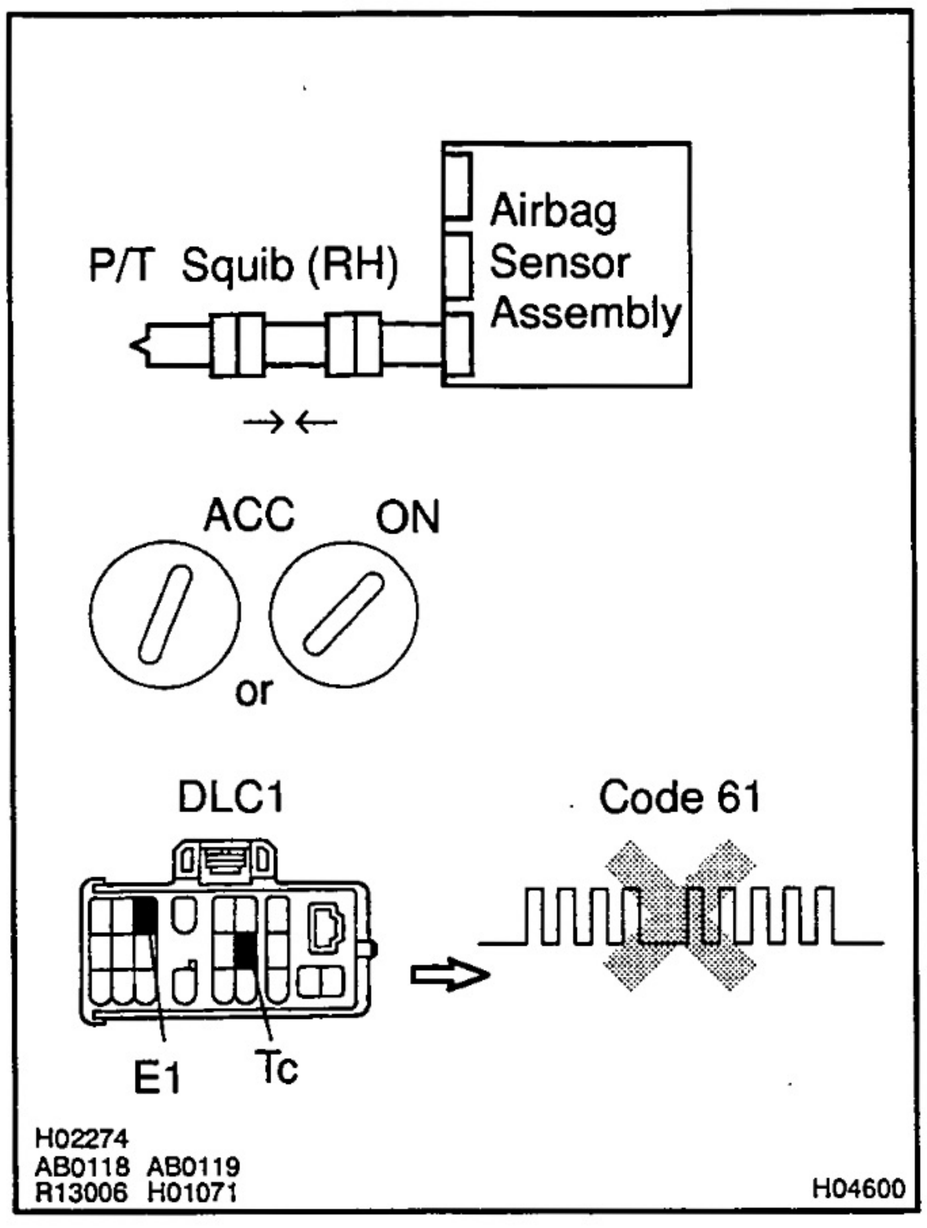
HINT:

Codes other than code 61 may be output at this time, but they are not relevant to this check.

NG → **Replace airbag sensor assembly.**

OK

4	**Check P/T squib (RH).**



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Disconnect negative (–) terminal cable from the battery, and wait at least for 90 seconds.
(c) Connect the seat belt pretensioner (RH) connector.
(d) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(b) Clear DTC stored in memory.
(See page DI–3)
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check DTC.
(See page DI–3)

OK:

DTC 61 is not output.

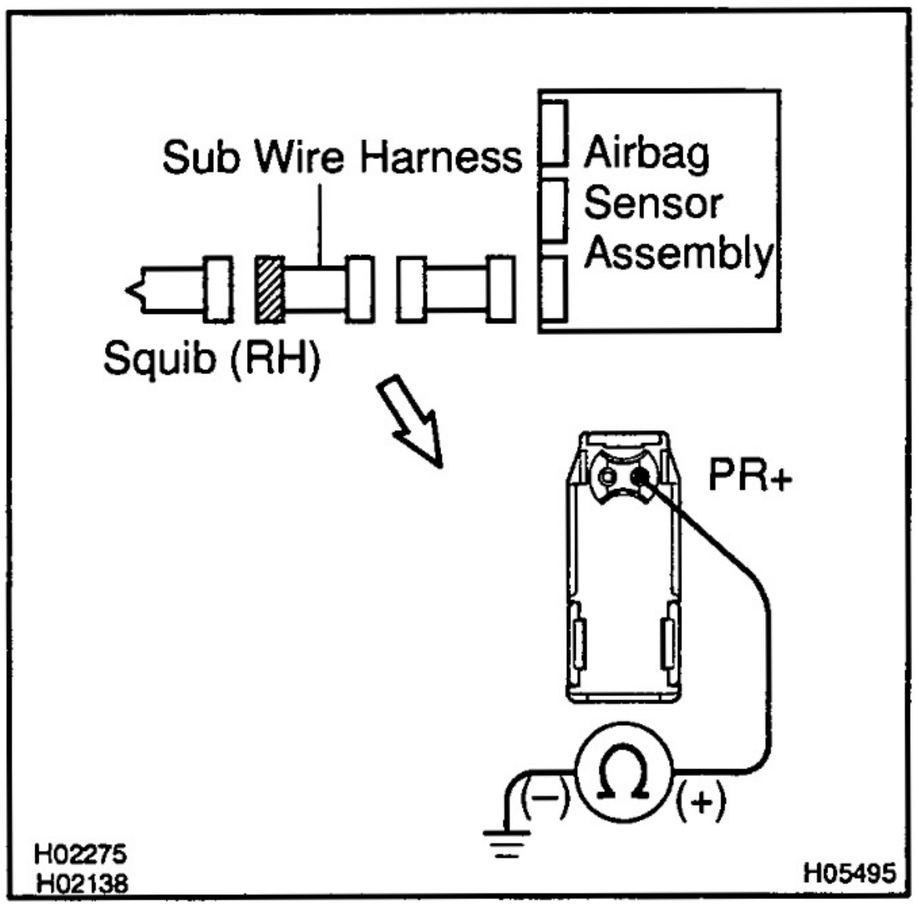
HINT:
Codes other than code 61 may be output at this time, but they are not relevant to this check.

NG → **Replace seat belt pretensioner (RH).**

OK →

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 can not be detected by the simulation method, replace all SRS components including the wire harness.

5	**Check sub wire harness.**



PREPARATION:

Disconnect the sub wire harness connector on the airbag sensor assembly side.

CHECK:

For the connector (on the sub wire harness side) between the seat belt pretensioner and the sub wire harness, measure the resistance between PR+ and body ground.

OK:

Resistance: 1 MΩ or Higher

NG → **Repair or replace sub wire harness.**

OK

Repair or replace harness or connector between airbag sensor assembly and sub wire harness.

DI37G–04

DTC	62	Short in P/T Squib (RH) Circuit (to B+)

CIRCUIT DESCRIPTION

The P/T squib (RH) circuit consists of the airbag sensor assembly and seat belt pretensioner (RH).
It causes the seat belt pretensioner (RH) to activate when the seat belt pretensioner (RH) activation conditions are satisfied.
For details of the function of each component, see OPERATION on page RS–2.
DTC 62 is recorded when a B+ short is detected in the P/T squib (RH) circuit.

DTC No.	DTC Detecting Condition	Trouble Area
62	• Short circuit in seat belt pretensioner (RH) wire harness (to B+) • P/T squib (RH) malfunction • Airbag sensor assembly malfunction	• Seat belt pretensioner (RH) • Airbag sensor assembly • Wire harness

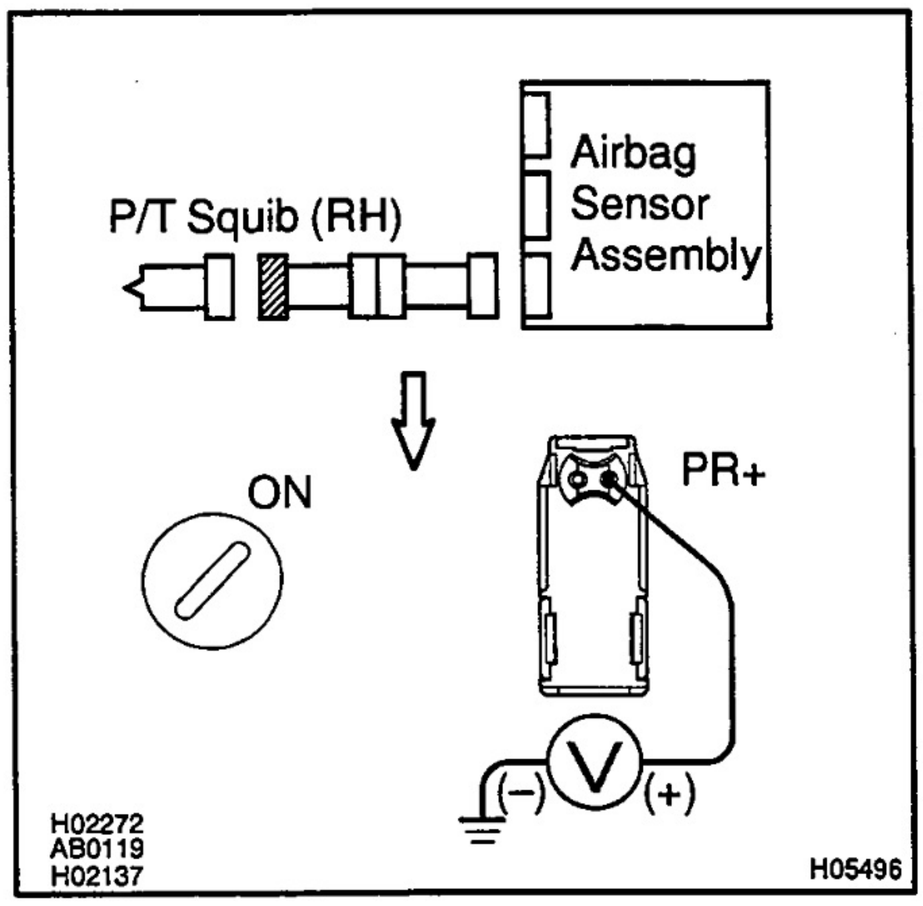
WIRING DIAGRAM

See page DI–64.

INSPECTION PROCEDURE

1	Prepare for inspection. (See step 1 on page DI–98)

2	Check P/T squib (RH) circuit.



CHECK:

(a) Turn ignition switch to ON.
(b) For the connector (on the seat belt pretensioner side) between the seat belt pretensioner (RH) and the airbag sensor assembly, measure the voltage between PR+ and body ground.

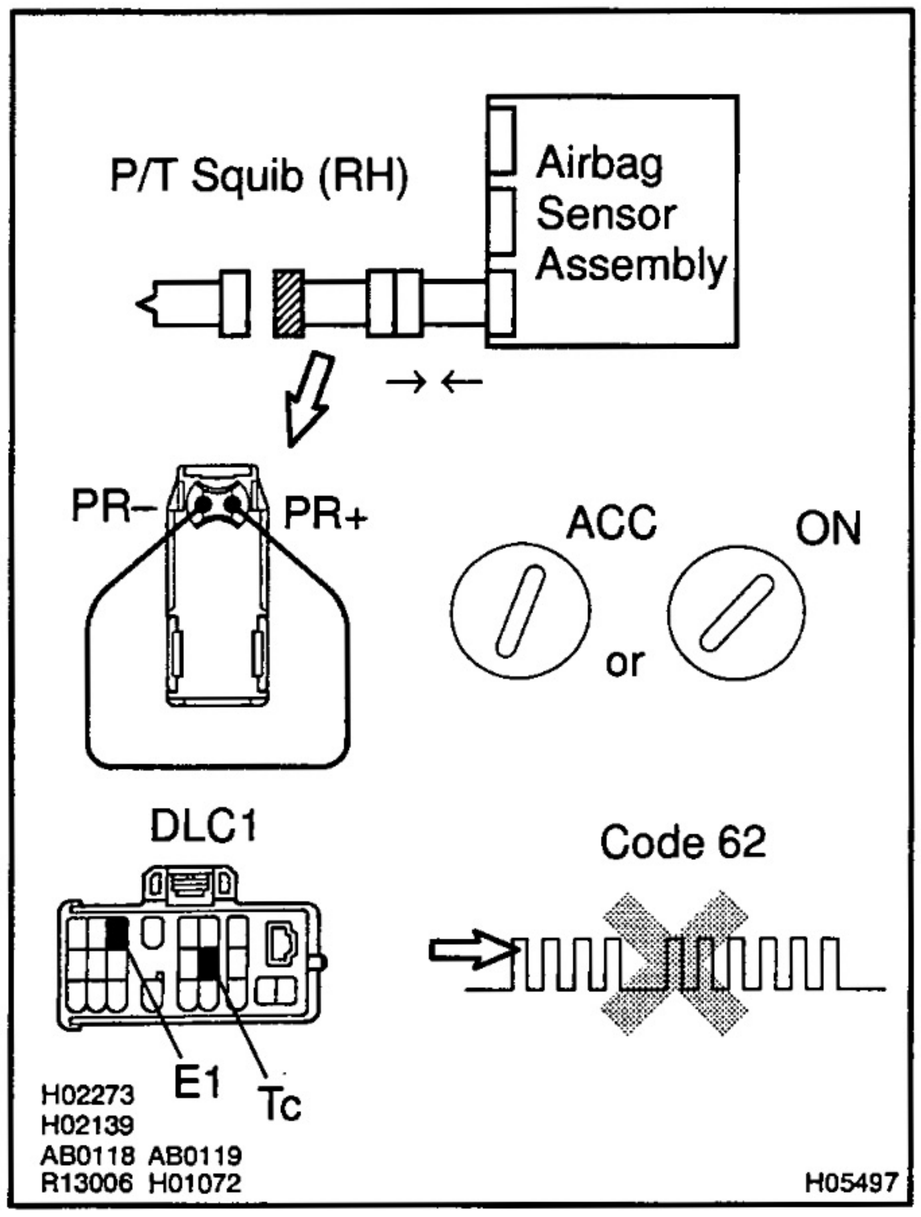
OK:

Voltage: 0 V

NG → **Go to step 5.**

OK

3	**Check airbag sensor assembly.**



PREPARATION:

(a) Connect the connector to the airbag sensor assembly.

(b) Using a service wire, connect PR+ and PR– of the connector (on the seat belt pretensioner side) between the seat belt pretensioner (RH) and the airbag sensor assembly.

(c) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON and wait at least for 20 seconds.

(b) Clear DTC stored in memory.
(See page DI–3)

(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.

(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.

(e) Check DTC.
(See page DI–3)

OK:

DTC 62 is not output.

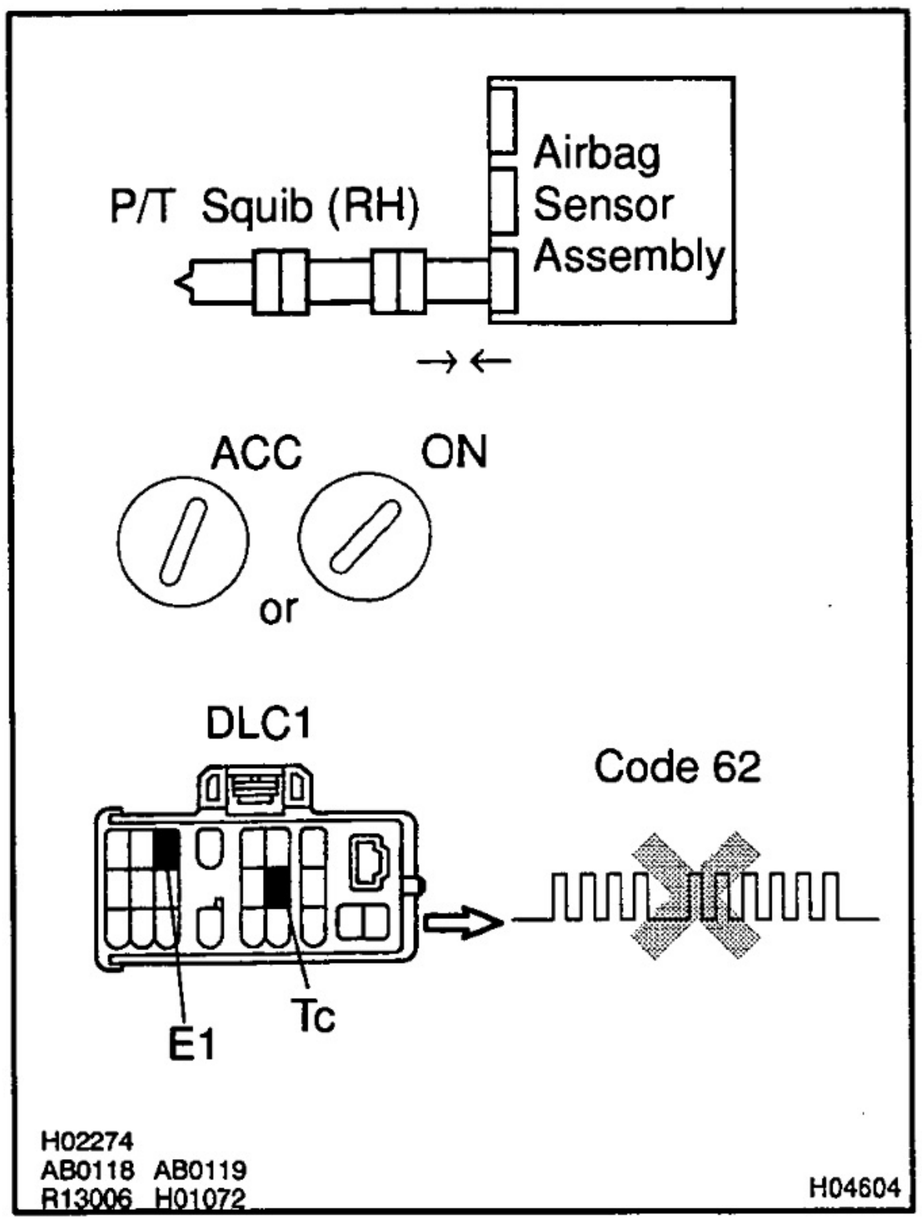
HINT:

Codes other than code 62 may be output at this time, but they are not relevant to this check.

NG → **Replace airbag sensor assembly.**

OK

4	**Check P/T squib (RH).**



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Disconnect negative (–) terminal cable from the battery, and wait at least for 90 seconds.
(c) Connect the seat belt pretensioner (RH) connector.
(d) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(b) Clear DTC stored in memory.
(See page DI–3)
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check DTC.
(See page DI–3)

OK:

DTC 62 is not output.

HINT:

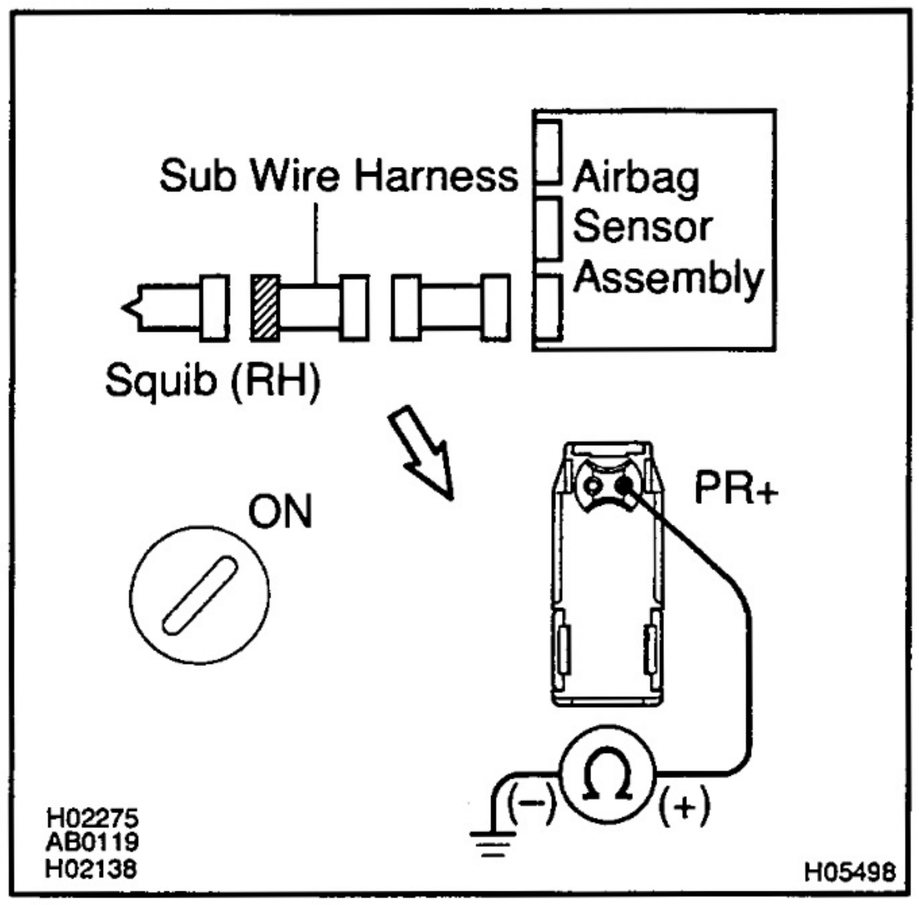
Codes other than code 62 may be output at this time, but they are not relevant to this check.

NG → **Replace seat belt pretensioner (RH).**

OK →

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 can not be detected by the simulation method, replace all SRS components including the wire harness.

5	**Check sub wire harness.**



PREPARATION:

Disconnect the sub wire harness connector on the airbag sensor assembly side.

CHECK:

For the connector (on the sub wire harness side) between the seat belt pretensioner and the sub wire harness, measure the resistance between PR+ and body ground.

OK:

Resistance: 1 MΩ or Higher

NG → **Repair or replace sub wire harness.**

OK

Repair or replace harness or connector between airbag sensor assembly and sub wire harness.

DI37H–04

DTC	63	Short in P/T Squib (RH) Circuit

CIRCUIT DESCRIPTION

The P/T squib (RH) circuit consists of the airbag sensor assembly and seat belt pretensioner (RH).
It causes the seat belt pretensioner (RH) to activate when the seat belt pretensioner (RH) activation conditions are satisfied.
For details of the function of each component, see OPERATION on page RS–2.
DTC 63 is recorded when a short is detected in the P/T squib (RH) circuit.

DTC No.	DTC Detecting Condition	Trouble Area
63	• Short circuit between PR+ wire harness and PR– wire harness of squib • P/T squib (RH) malfunction • Airbag sensor assembly malfunction	• Seat belt pretensioner (RH) • Airbag sensor assembly • Wire harness

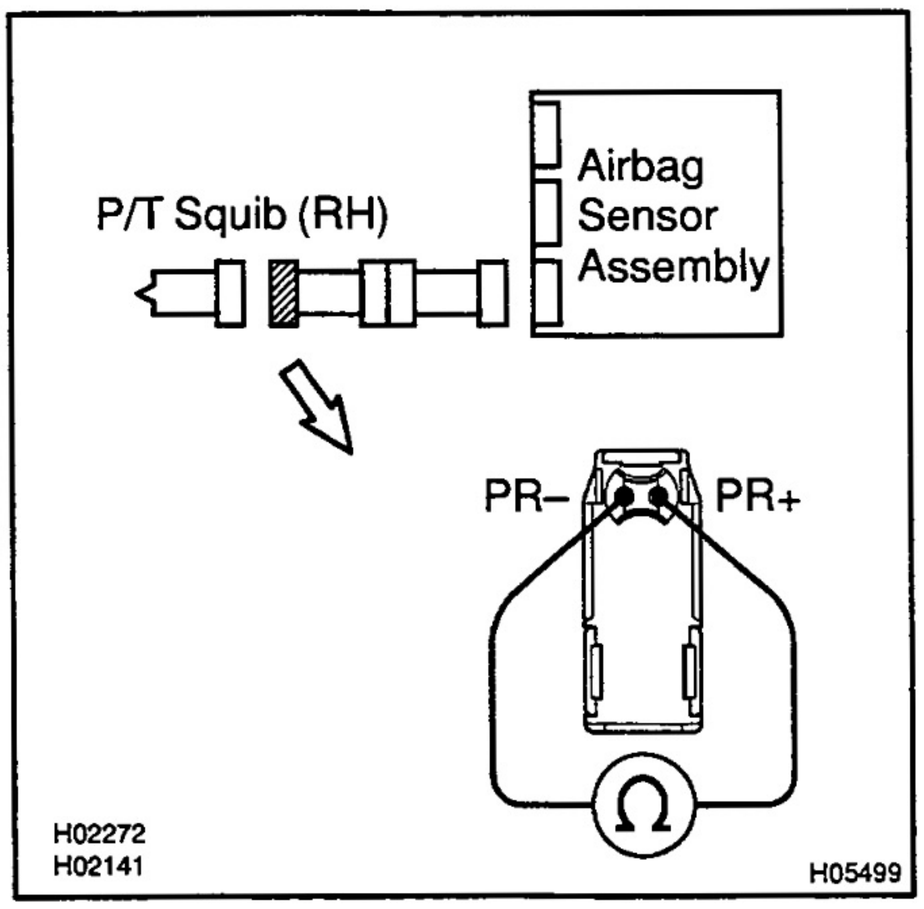
WIRING DIAGRAM

See page DI–64.

INSPECTION PROCEDURE

1	Prepare for inspection. (See step 1 on page DI–98)

2	Check P/T squib (RH) circuit.



PREPARATION:
Release airbag activation prevention mechanism of the connector (on the airbag sensor assembly side) between the airbag sensor assembly and the seat belt pretensioner (RH).
(See page DI–3)

CHECK:
For the connector (on the seat belt pretensioner side) between the seat belt pretensioner (RH) and the airbag sensor assembly, measure the resistance between PR+ and PR–.

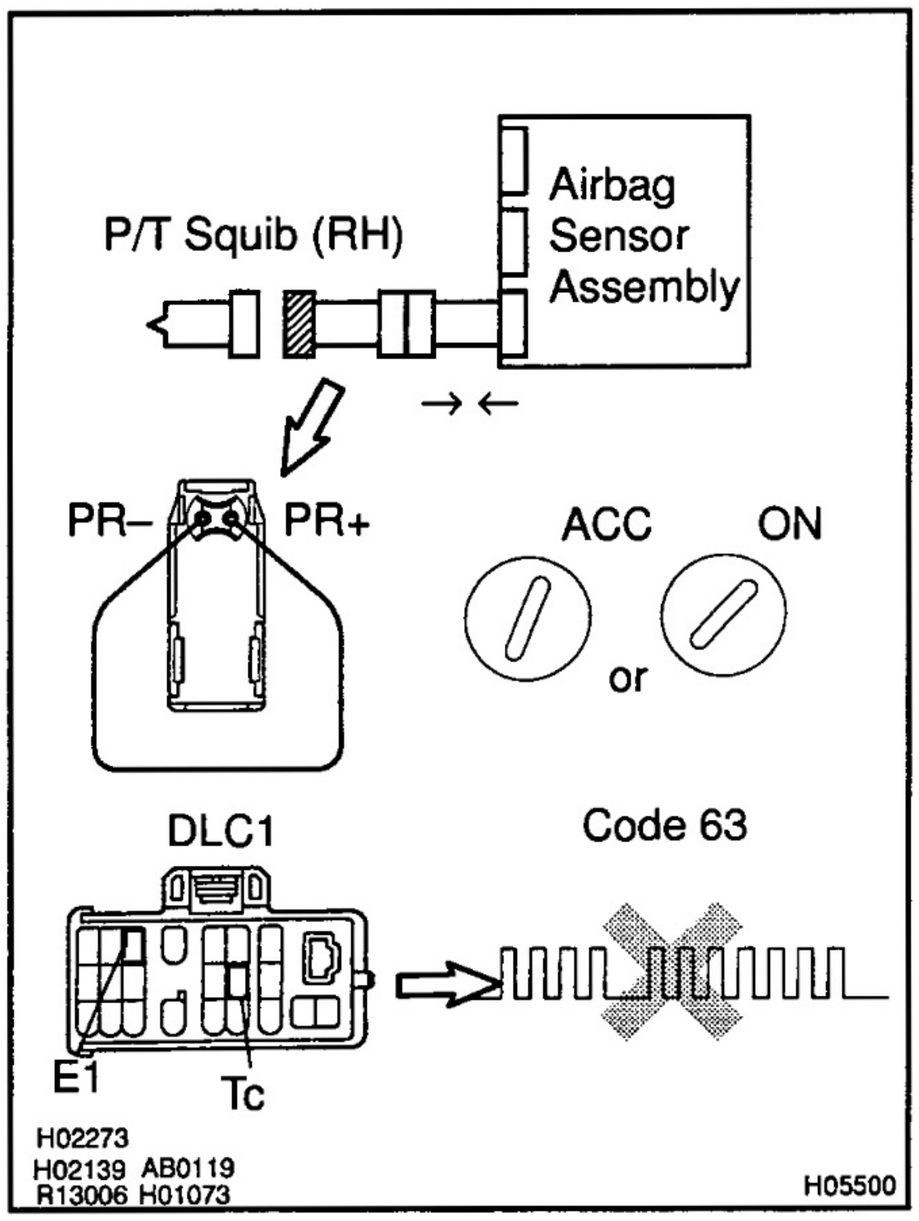
OK:

Resistance: 1 MΩ or Higher

NG → **Go to step 5.**

OK

3	Check airbag sensor assembly.



PREPARATION:

(a) Connect the connector to the airbag sensor assembly.

(b) Using a service wire, connect PR+ and PR– of the connector (on the seat belt pretensioner side) between the airbag sensor assembly and the seat belt pretensioner (RH).

(c) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON and wait at least for 20 seconds.

(b) Clear DTC stored in memory.
(See page DI–3)

(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.

(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.

(e) Check DTC.
(See page DI–3)

OK:

DTC 63 is not output.

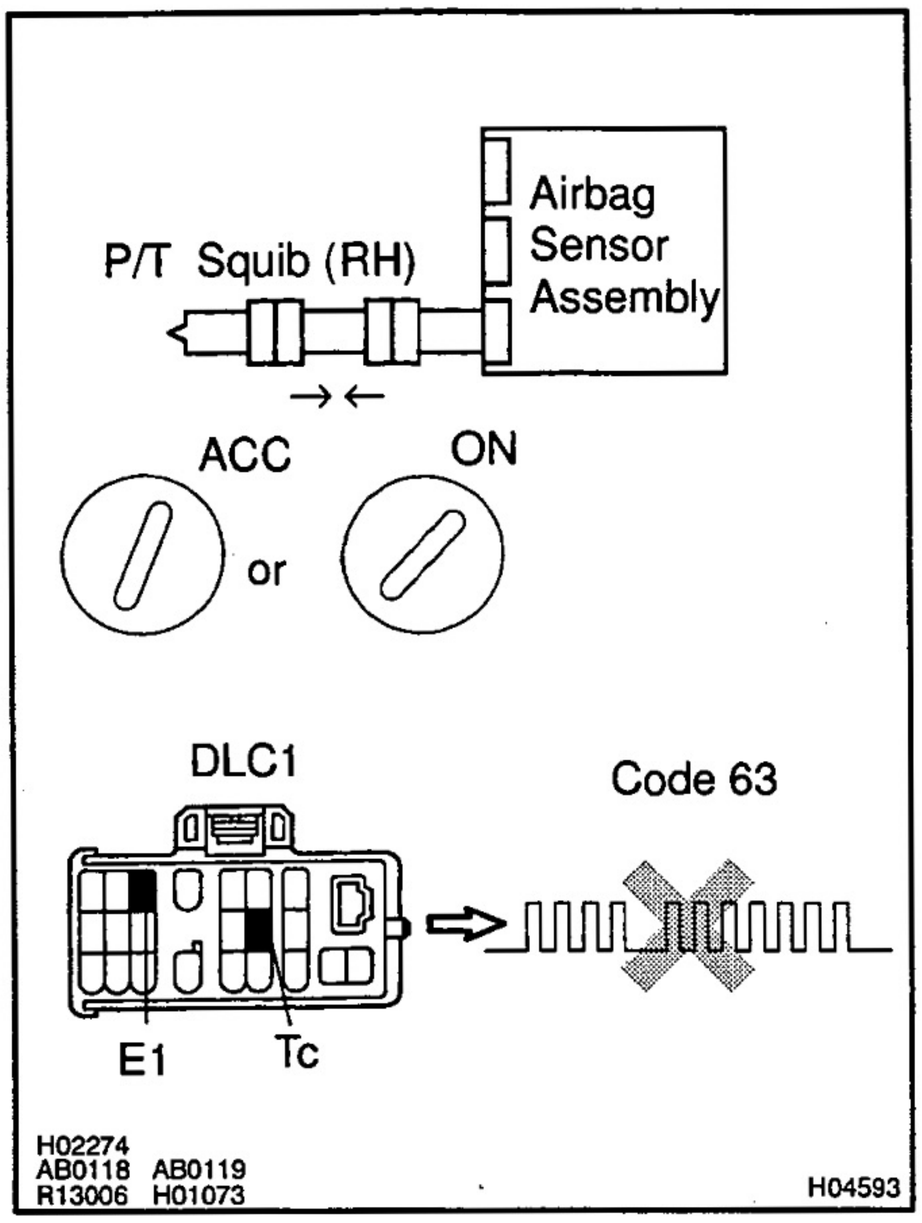
HINT:

Codes other than code 63 may be output at this time, but they are not relevant to this check.

NG → **Replace airbag sensor assembly.**

OK

4	**Check P/T squib (RH).**



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Disconnect negative (–) terminal cable from the battery, and wait at least for 90 seconds.
(c) Connect the seat belt pretensioner (RH) connector.
(d) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to LOOK, and wait at least for 20 second.
(b) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(c) Clear DTC stored in memory.
(See page DI–3)
(d) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(e) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(f) Check DTC.
(See page DI–3)

OK:

DTC 63 is not output.

HINT:

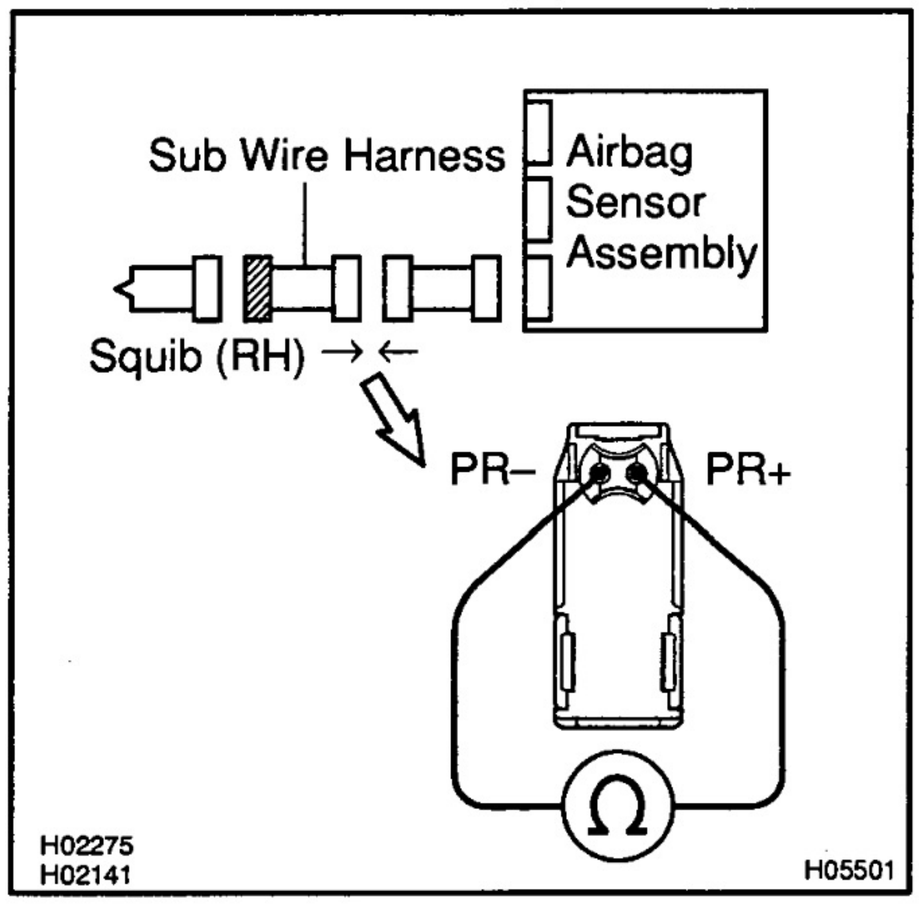
Codes other than code 63 may be output at this time, but they are not relevant to this check.

NG → **Replace seat belt pretensioner (RH).**

OK

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 sub wire harness.**



PREPARATION:

(a) Disconnect sub wire harness connector on the airbag sensor assembly side.

(b) Release airbag activation prevention mechanism of the sub wire harness connector on the airbag sensor assembly side. (See page DI–3)

CHECK:

For the connector (on the sub wire harness side) between the seat belt pretensioner and the sub wire harness, measure the resistance between PR+ and PR–.

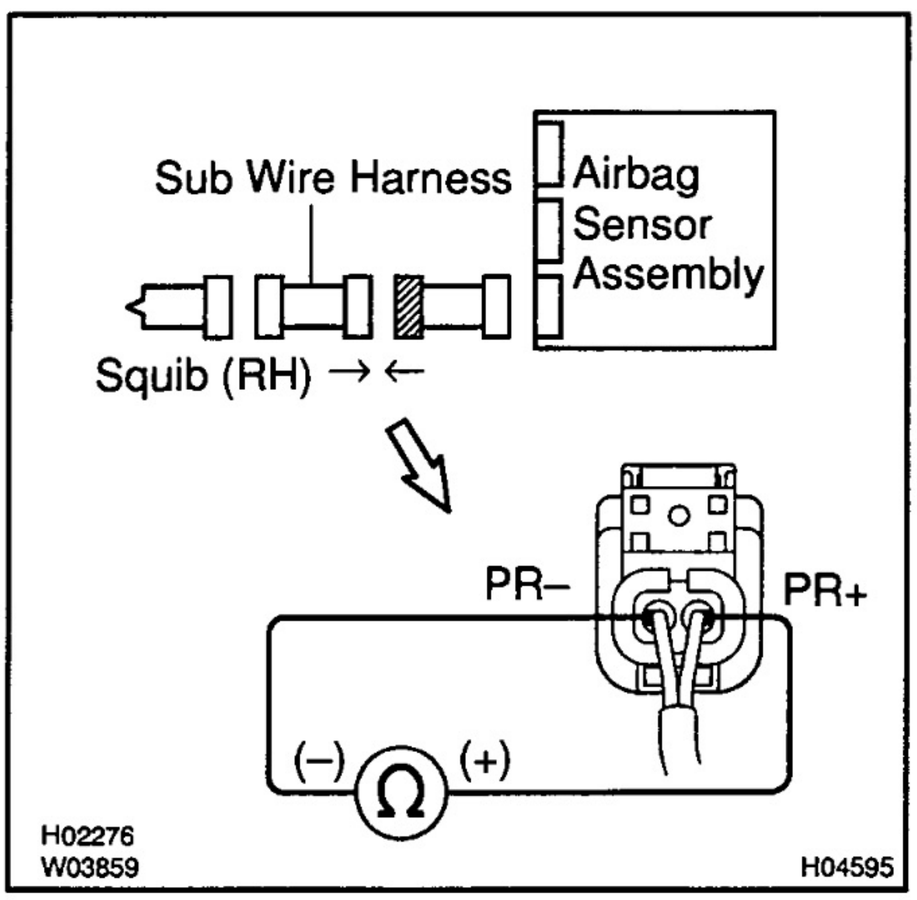
OK:

Resistance: 1 MΩ or Higher

NG	**Repair or replace sub wire harness.**

OK

6	**Check harness between airbag sensor assembly and sub wire harness.**



PREPARATION:

Release airbag activation prevention mechanism of the airbag sensor assembly connector. (See page DI–3)

CHECK:

For the connector (on the sub wire harness side) between the airbag sensor assembly and sub wire harness, measure the resistance between PR+ and PR–.

OK:

Resistance: 1 MΩ or Higher

NG	**Repair or replace harness or connector between airbag sensor assembly and sub wire harness.**

OK

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.

DI371-04

DTC	64	Open in P/T Squib (RH) Circuit

CIRCUIT DESCRIPTION

The P/T squib circuit (RH) consists of the airbag sensor assembly and seat belt pretensioner (RH).
It causes the seat belt pretensioner (RH) to activate when the seat belt pretensioner (RH) activation conditions are satisfied.
For details of the function of each component, see OPERATION on page RS–2.
DTC 64 is recorded when an open is detected in the P/T squib (RH) circuit.

DTC No.	DTC Detecting Condition	Trouble Area
64	• Open circuit in PR+ wire harness or PR– wire harness of squib • P/T squib (RH) malfunction • Airbag sensor assembly malfunction	• Seat belt pretensioner (RH) • Airbag sensor assembly • Wire harness

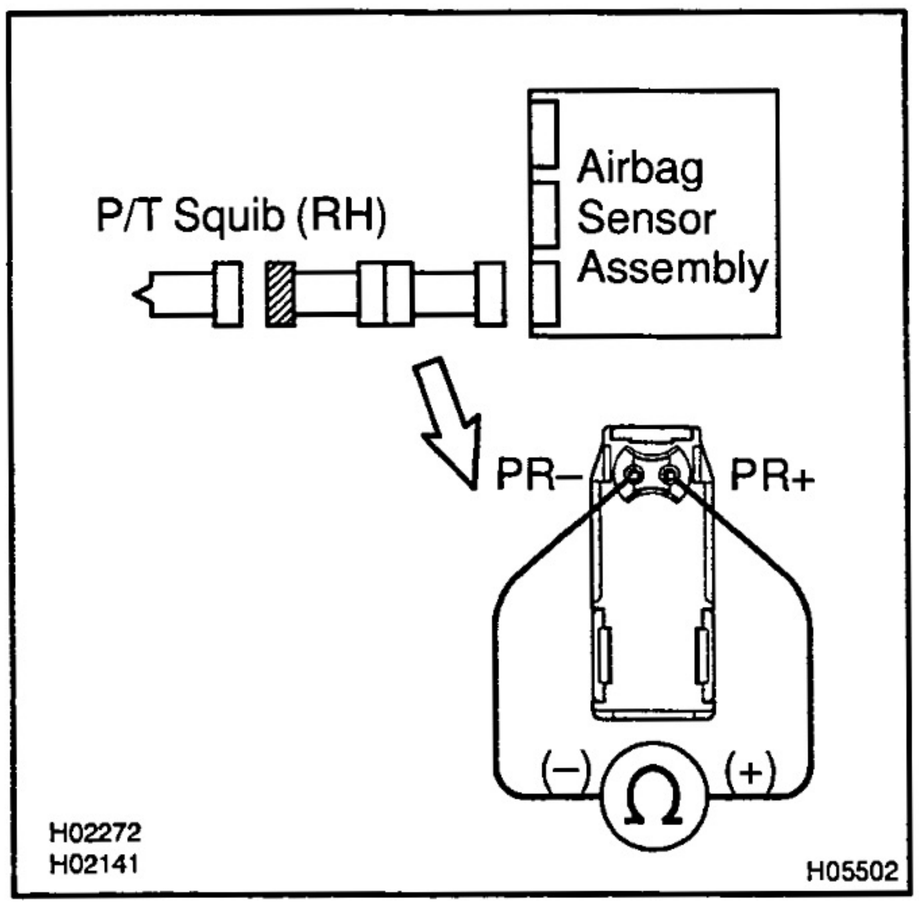
WIRING DIAGRAM

See page DI–64.

INSPECTION PROCEDURE

1	**Prepare for inspection. (See step 1 on page DI–98)**

2	**Check P/T squib (RH) circuit.**

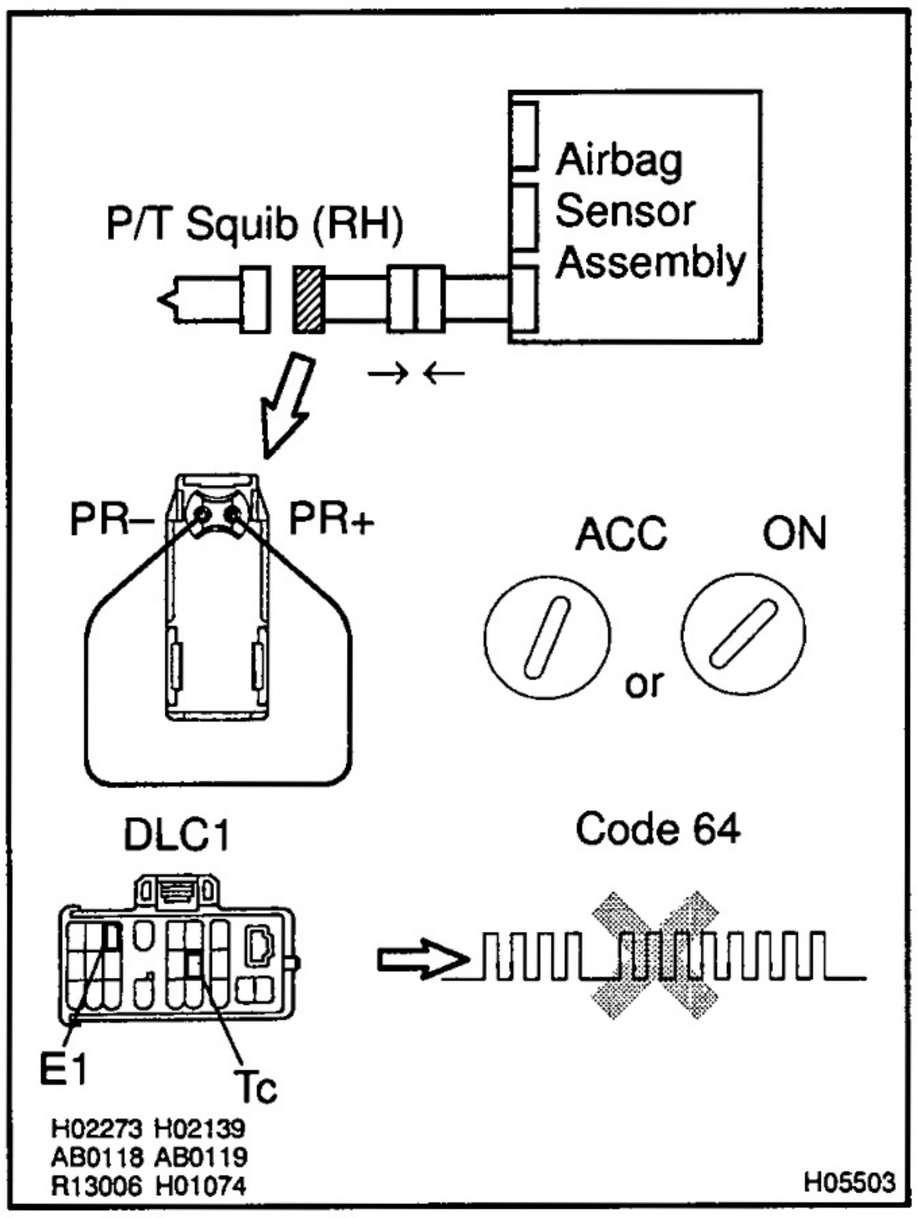


CHECK:
For the connector (on the seat belt pretensioner side) between the seat belt pretensioner (RH) and the airbag sensor assembly, measure the resistance between PR+ and PR–.
OK:
Resistance: Below 1 Ω

NG → **Go to step 5.**

OK

3	Check airbag sensor assembly.



PREPARATION:

(a) Connect the connector to the airbag sensor assembly.

(b) Using a service wire, connect PR+ and PR– of the connector (on the seat belt pretensioner side) between the seat belt pretensioner (RH) and the airbag sensor assembly.

(c) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON and wait at least for 20 seconds.

(b) Clear DTC stored in memory.
(See page DI–3)

(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.

(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.

(e) Check DTC.
(See page DI–3)

OK:

DTC 64 is not output.

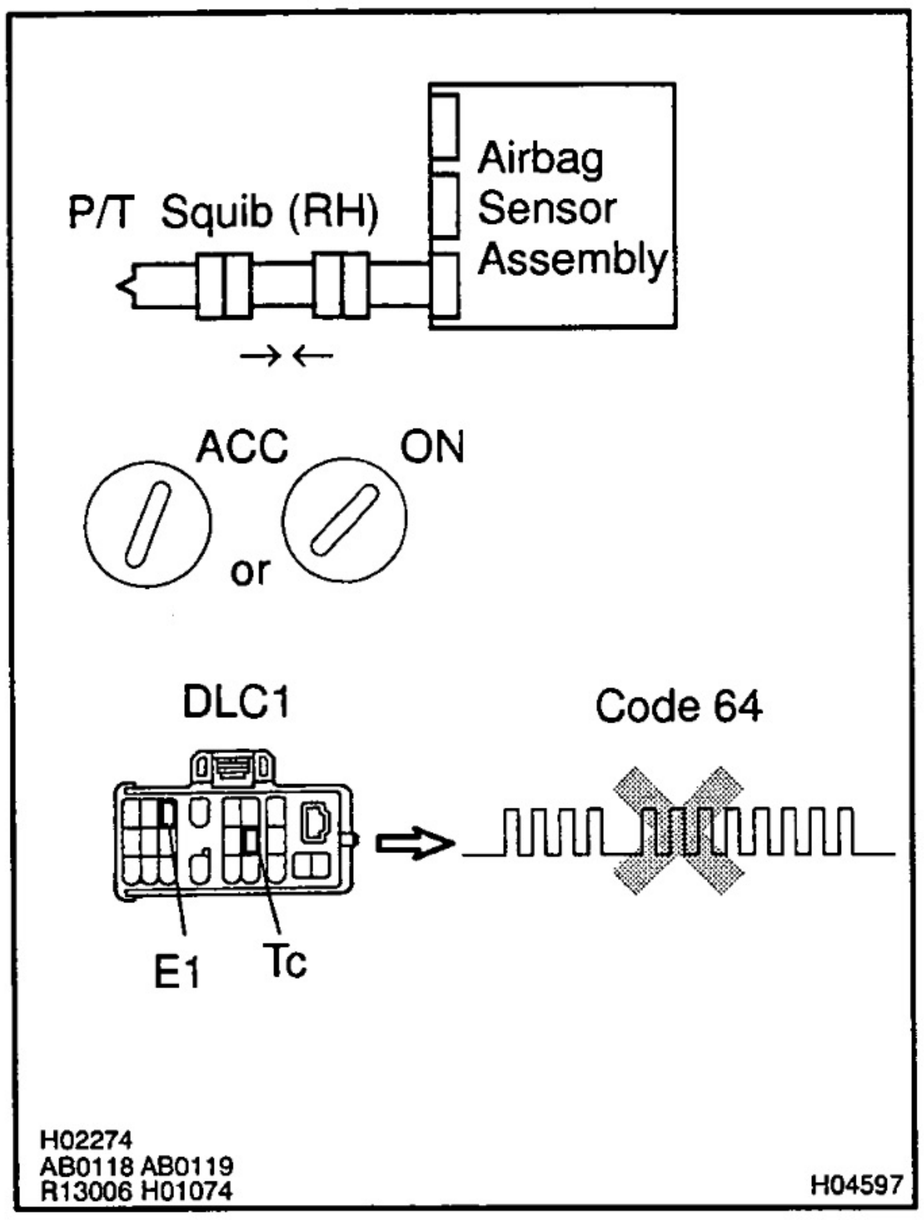
HINT:

Codes other than code 64 may be output at this time, but they are not relevant to this check.

NG → **Replace airbag sensor assembly.**

OK

4	Check P/T squib (RH).



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Disconnect negative (–) terminal cable from the battery, and wait at least for 90 seconds.
(c) Connect the seat belt pretensioner (RH) connector.
(d) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(b) Clear DTC stored in memory.
(See page DI–3)
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check DTC.
(See page DI–3)

OK:

DTC 64 is not output.

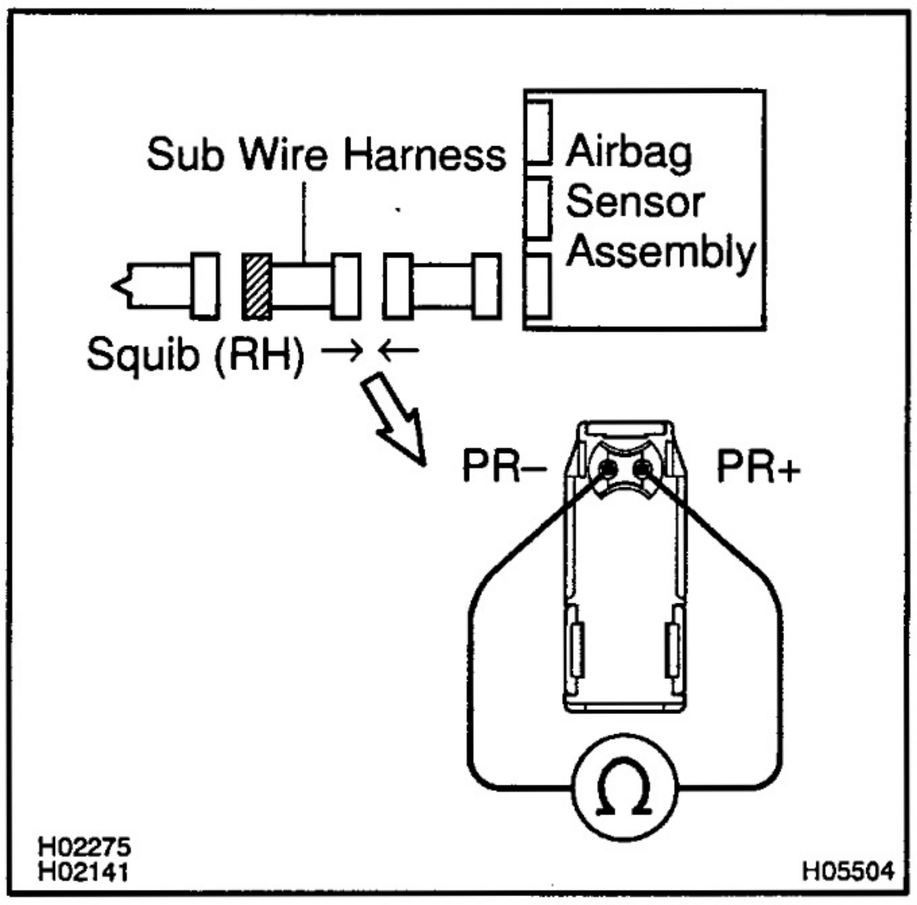
HINT:
Codes other than code 64 may be output at this time, but they are not relevant to this check.

NG → **Replace seat belt pretensioner (RH).**

OK

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 sub wire harness.



PREPARATION:
Disconnect the sub wire harness connector on the airbag sensor assembly side.

CHECK:
For the connector (on the sub wire harness side) between the seat belt pretensioner and the sub wire harness, measure the resistance between PR+ and PR–.

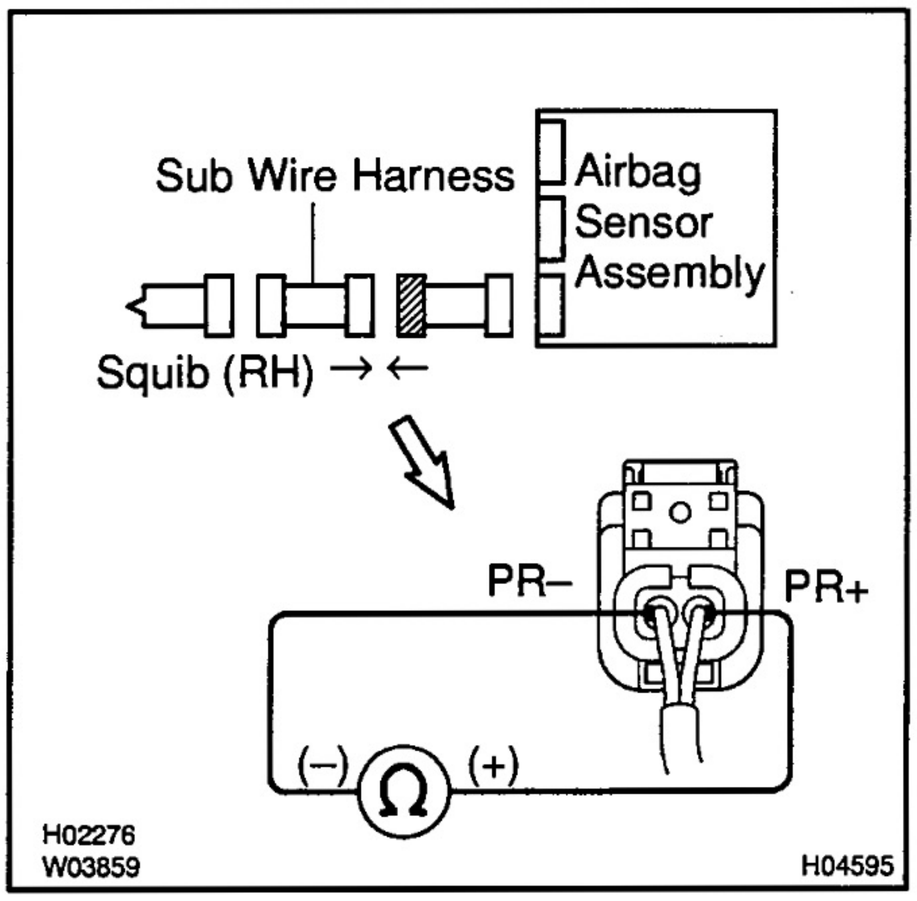
OK:

Resistance: Below 1 Ω

NG → **Repair or replace sub wire harness.**

OK

6	Check harness between airbag sensor assembly and sub wire harness.



CHECK:
For the connector (on the airbag sensor assembly side) between the airbag sensor assembly and the sub wire harness, measure the resistance between PR+ and PR–.

OK:

Resistance: Below 1 Ω

NG → **Repair or replace harness or connector between airbag sensor assembly and sub wire harness.**

OK

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.

DI37J–06

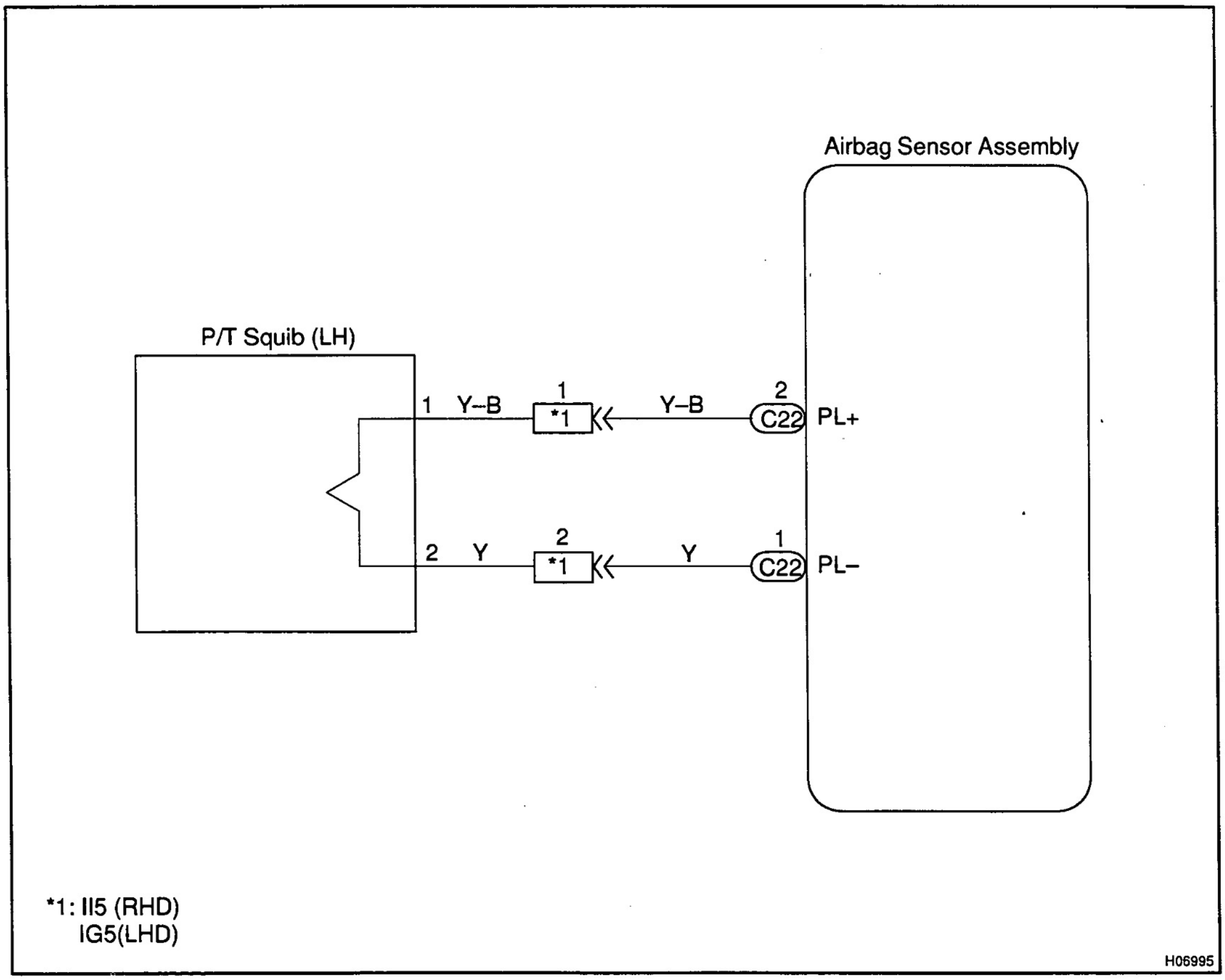
DTC	71	Short in P/T Squib (LH) Circuit (to Ground)

CIRCUIT DESCRIPTION

The P/T squib (LH) circuit consists of the airbag sensor assembly and seat belt pretensioner (LH).
It causes the seat belt pretensioner (LH) to activate when the seat belt pretensioner (LH) activation conditions are satisfied.
For details of the function of each component, see OPERATION on page RS–2.
DTC 71 is recorded when ground short is detected in the P/T squib (LH) circuit.

DTC No.	DTC Detecting Condition	Trouble Area
71	• Short circuit in P/T squib (LH) wire harness (to ground) • P/T squib (LH) malfunction • Airbag sensor assembly malfunction	• Seat belt pretensioner (LH) • Airbag sensor assembly • Wire harness

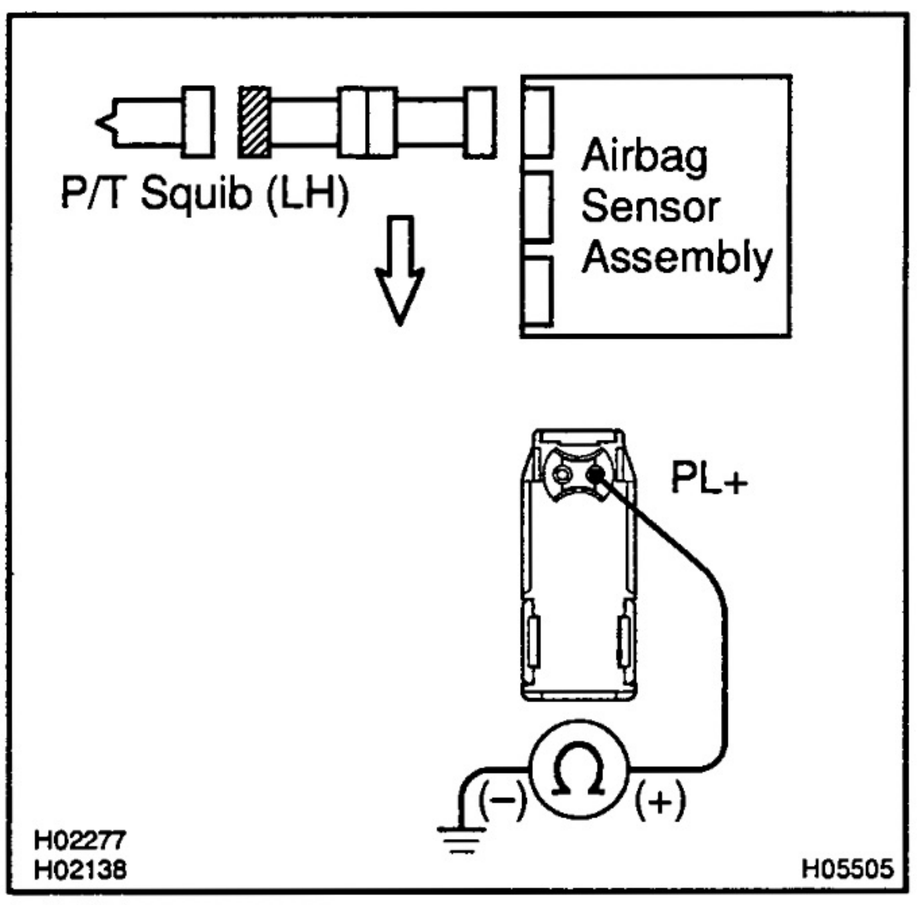
WIRING DIAGRAM



INSPECTION PROCEDURE

1	**Prepare for inspection. (See step 1 on page DI–98)**

2	**Check P/T squib (LH) circuit.**



CHECK:

For the connector (on the seat belt pretensioner side) between the seat belt pretensioner (LH) and the airbag sensor assembly, measure the resistance between PL+ and body ground.

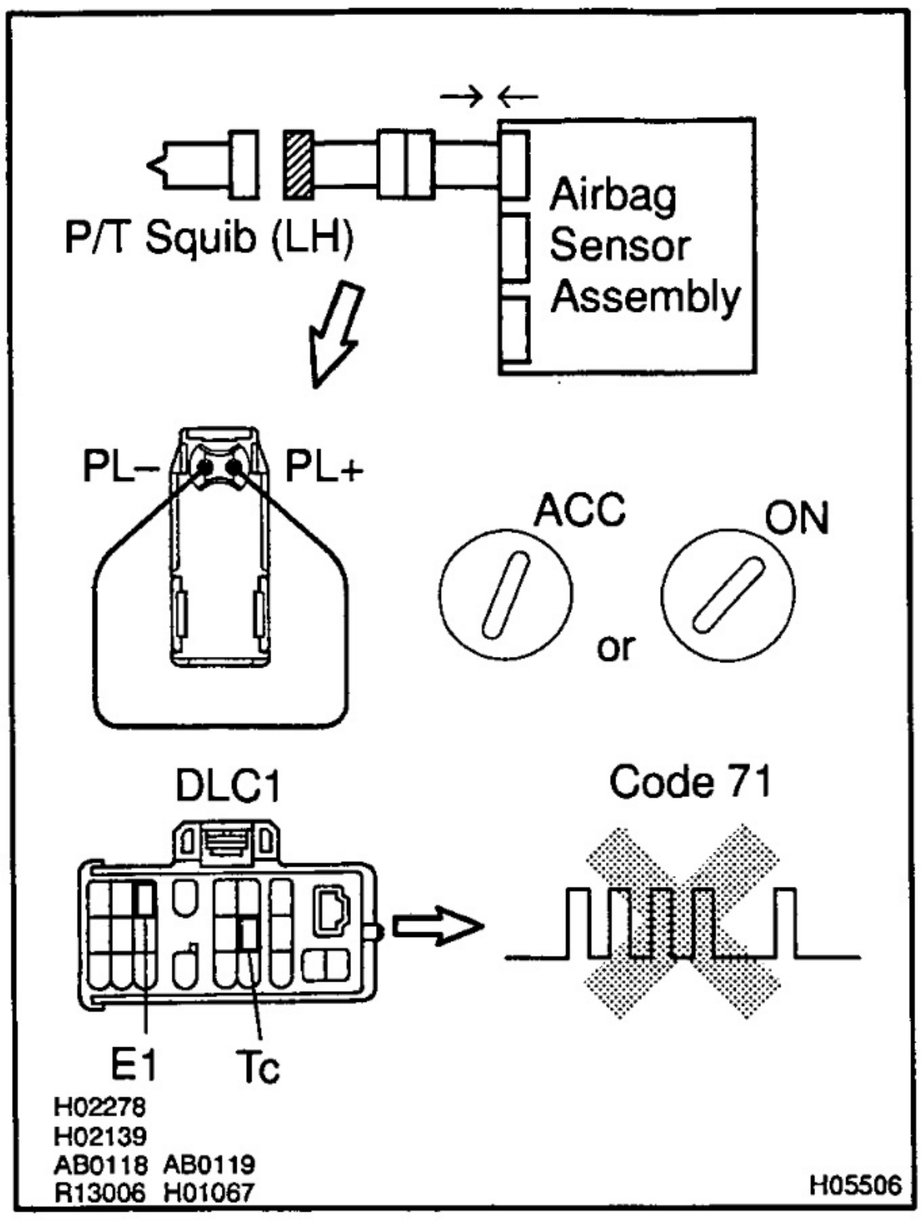
OK:

Resistance: 1 MΩ or Higher

NG → **Go to step 5.**

OK

3	**Check airbag sensor assembly.**



PREPARATION:

(a) Connect the connector to the airbag sensor assembly.
(b) Using a service wire, connect PL+ and PL– of the connector (on the seat belt pretensioner side) between the seat belt pretensioner (LH) and the airbag sensor assembly.
(c) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON and wait at least for 20 seconds.
(b) Clear DTC stored in memory.
(See page DI–3)
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check DTC.
(See page DI–3)

OK:

DTC 71 is not output.

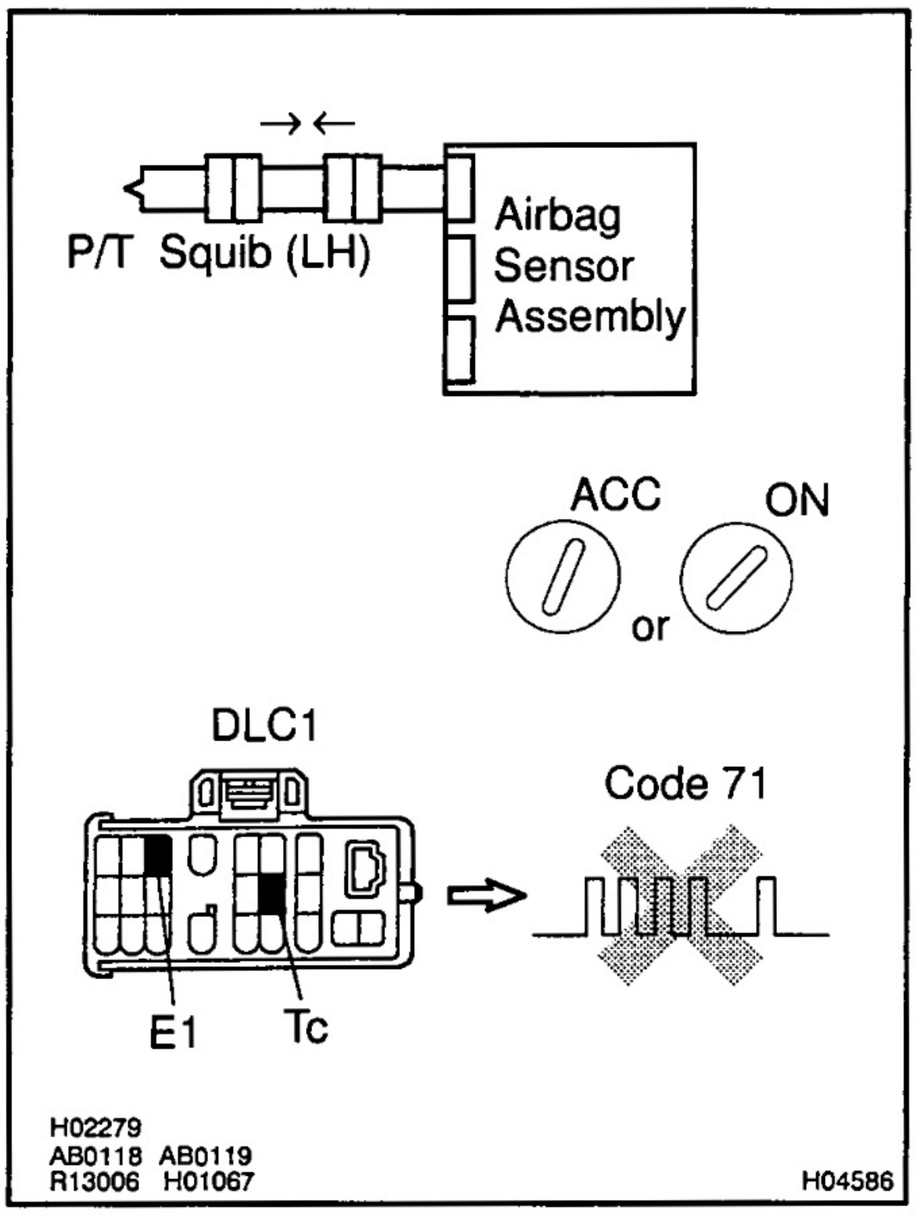
HINT:

Codes other than code 71 may be output at this time, but they are not relevant to this check.

NG → **Replace airbag sensor assembly.**

OK

4	**Check P/T squib (LH).**



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Disconnect negative (–) terminal cable from the battery, and wait at least for 90 seconds.
(c) Connect the seat belt pretensioner (LH) connector.
(d) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(b) Clear DTC stored in memory.
(See page DI–3)
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check DTC.
(See page DI–3)

OK:

DTC 71 is not output.

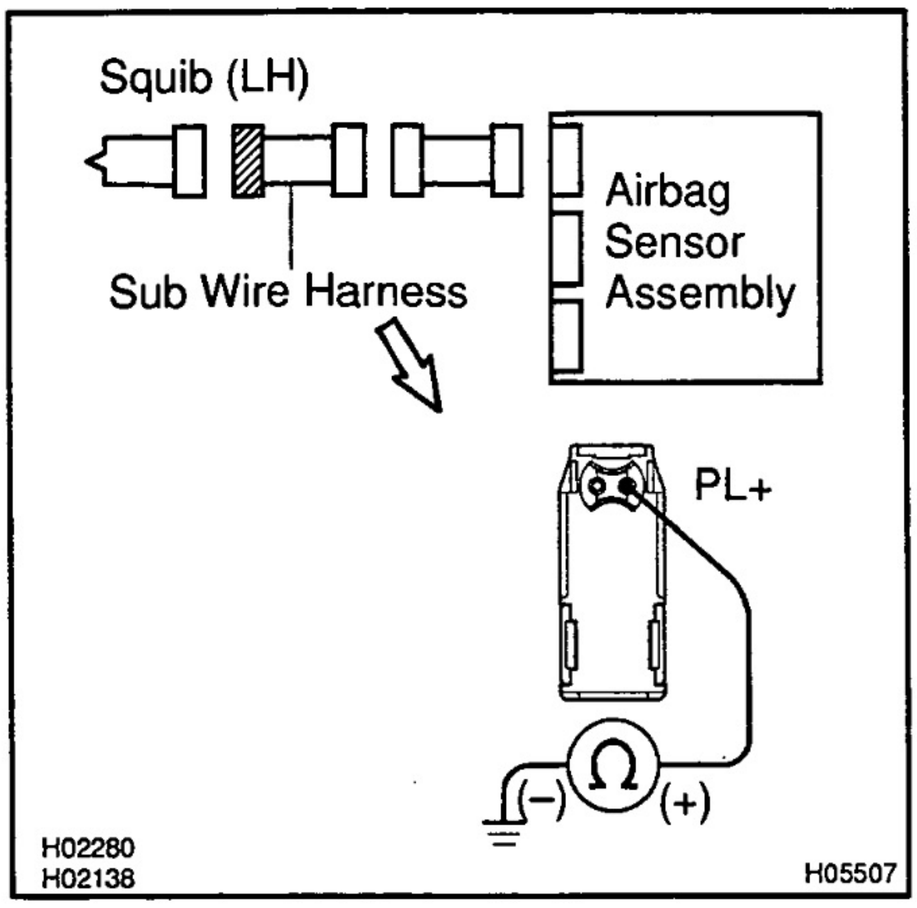
HINT:
Codes other than code 71 may be output at this time, but they are not relevant to this check.

NG → **Replace seat belt pretensioner (LH).**

OK

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 can not be detected by the simulation method, replace all SRS components including the wire harness.

5	**Check sub wire harness.**



PREPARATION:

Disconnect the sub wire harness connector on the airbag sensor assembly side.

CHECK:

For the connector (on the sub wire harness side) between the seat belt pretensioner and the sub wire harness, measure the resistance between PL+ and body ground.

OK:

Resistance: 1 MΩ or Higher

NG → **Repair or replace sub wire harness.**

OK

Repair or replace harness or connector between airbag sensor assembly and sub wire harness.

DI37K–04

DTC	72	Short in P/T Squib (LH) Circuit (to B+)

CIRCUIT DESCRIPTION

The P/T squib (LH) circuit consists of the airbag sensor assembly and seat belt pretensioner (LH).
It causes the seat belt pretensioner (LH) to activate when the seat belt pretensioner (LH) activation conditions are satisfied.
For details of the function of each component, see OPERATION on page RS–2.
DTC 72 is recorded when B+ short is detected in the P/T squib (LH) circuit.

DTC No.	DTC Detecting Condition	Trouble Area
72	• Short circuit in seat belt pretensioner (LH) wire harness (to B+) • P/T squib (LH) malfunction • Airbag sensor assembly malfunction	• Seat belt pretensioner (LH) • Airbag sensor assembly • Wire harness

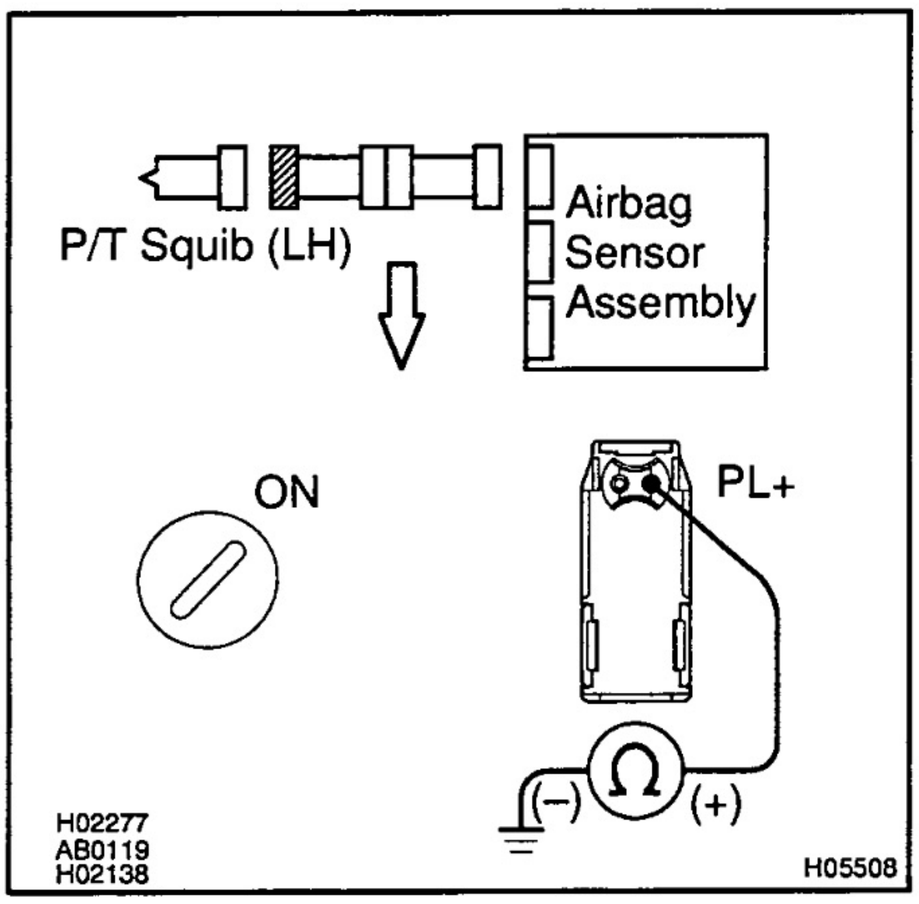
WIRING DIAGRAM

See page DI–86.

INSPECTION PROCEDURE

1	Prepare for inspection. (See step 1 on page DI–98)

2	Check P/T squib (LH) circuit.



CHECK:

(a) Turn ignition switch to ON.

(b) For the connector (on the seat belt pretensioner side) between the seat belt pretensioner (LH) and the airbag sensor assembly, measure the voltage between PL+ and body ground.

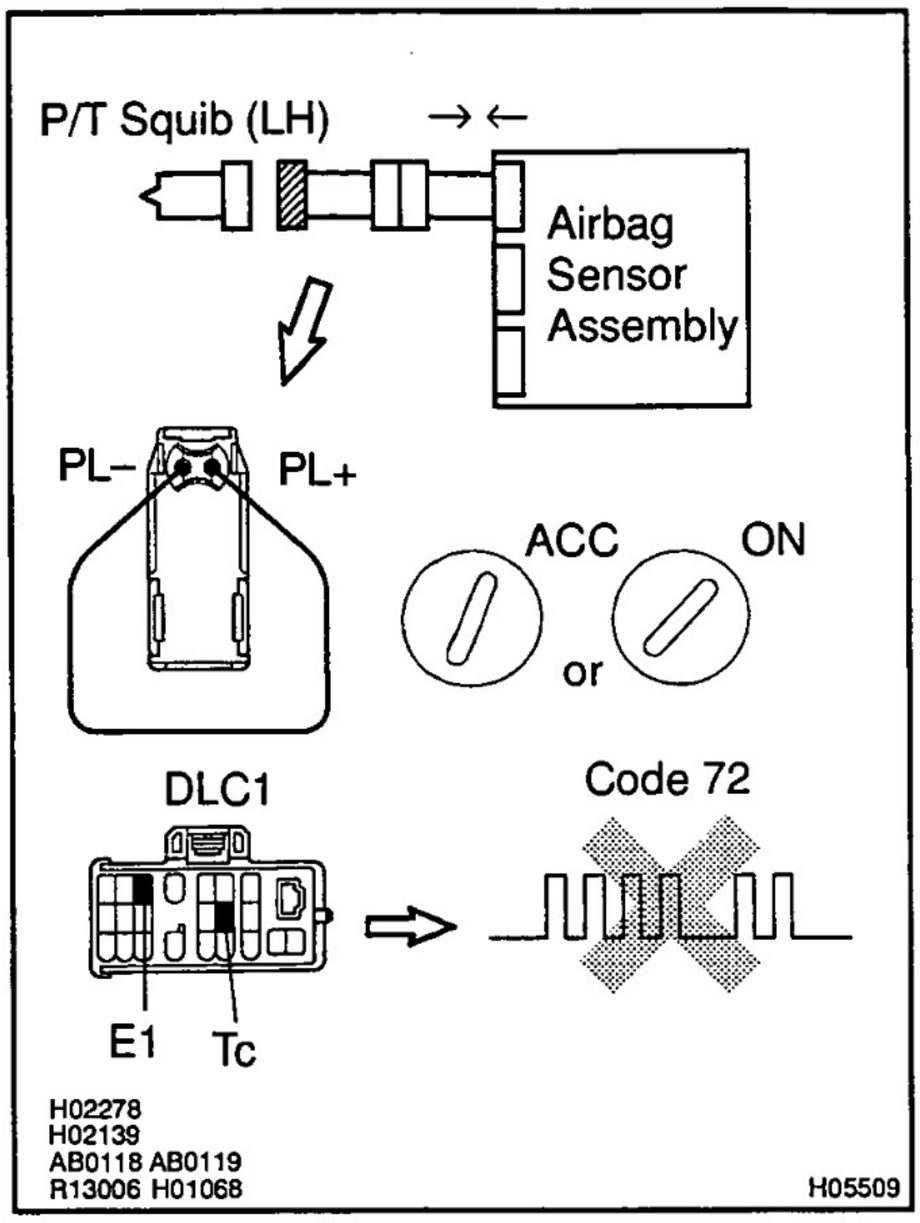
OK:

Voltage: 0 V

NG → **Go to step 5.**

OK

3	**Check airbag sensor assembly.**



PREPARATION:

(a) Connect the connector to the airbag sensor assembly.
(b) Using a service wire, connect PL+ and PL– of the connector (on the seat belt pretensioner side) between the seat belt pretensioner (LH) and the airbag sensor assembly.
(c) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON and wait at least for 20 seconds.
(b) Clear DTC stored in memory.
(See page DI–3)
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check DTC.
(See page DI–3)

OK:

DTC 72 is not output.

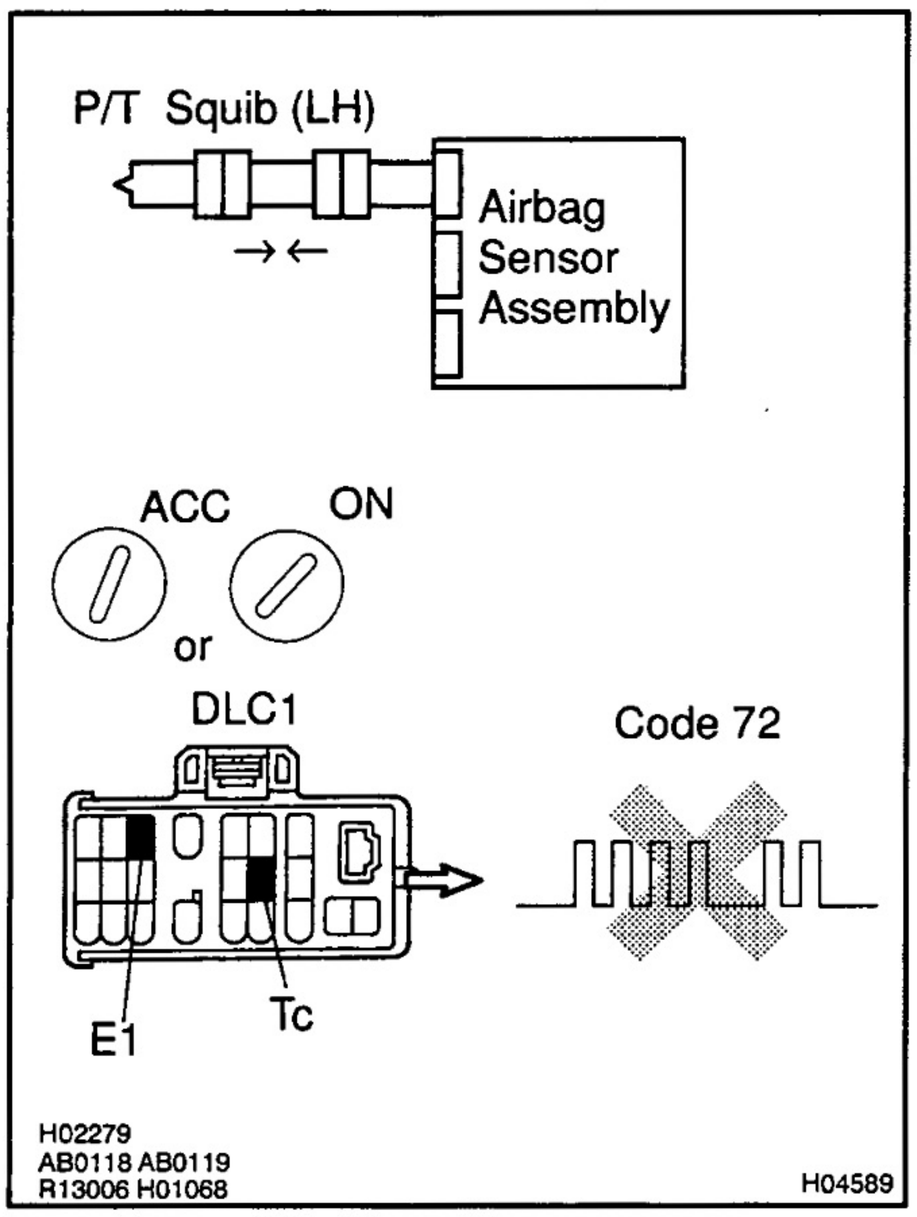
HINT:

Codes other than code 72 may be output at this time, but they are not relevant to this check.

NG → **Replace airbag sensor assembly.**

OK →

4	Check P/T squib (LH).



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Disconnect negative (–) terminal cable from the battery, and wait at least for 90 seconds.
(c) Connect the seat belt pretensioner (LH) connector.
(d) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(b) Clear DTC stored in memory.
(See page DI–3)
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check DTC.
(See page DI–3)

OK:

DTC 72 is not output.

HINT:

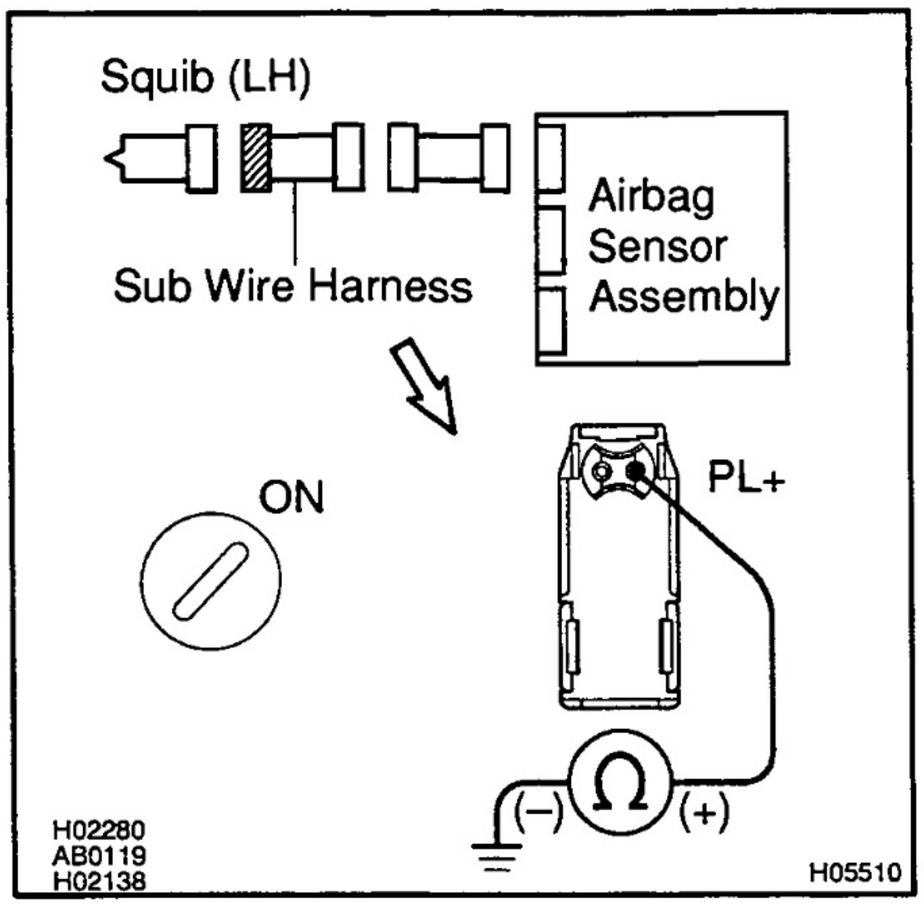
Codes other than code 72 may be output at this time, but they are not relevant to this check.

NG → **Replace seat belt pretensioner (LH).**

OK →

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 can not be detected by the simulation method, replace all SRS components including the wire harness.

5	**Check sub wire harness.**



PREPARATION:

Disconnect the sub wire harness connector on the airbag sensor assembly side.

CHECK:

For the connector (on the sub wire harness side) between the seat belt pretensioner and the sub wire harness, measure the voltage between PL+ and body ground.

OK:

Voltage: 0 V

NG → **Repair or replace sub wire harness.**

OK

Repair or replace harness or connector between airbag sensor assembly and sub wire harness.

DI37L–04

DTC	73	Short in P/T Squib (LH) Circuit

CIRCUIT DESCRIPTION

The P/T squib (LH) circuit consists of the airbag sensor assembly and seat belt pretensioner (LH).
It causes the seat belt pretensioner (LH) to activate when the seat belt pretensioner (LH) activation conditions are satisfied.
For details of the function of each component, see OPERATION on page RS–2.
DTC 73 is recorded when a short is detected in the P/T squib (LH) circuit.

DTC No.	DTC Detecting Condition	Trouble Area
73	• Short circuit between PL+ wire harness and PL– wire harness of squib • P/T squib (LH) malfunction • Airbag sensor assembly malfunction	• Seat belt pretensioner (LH) • Airbag sensor assembly • Wire harness

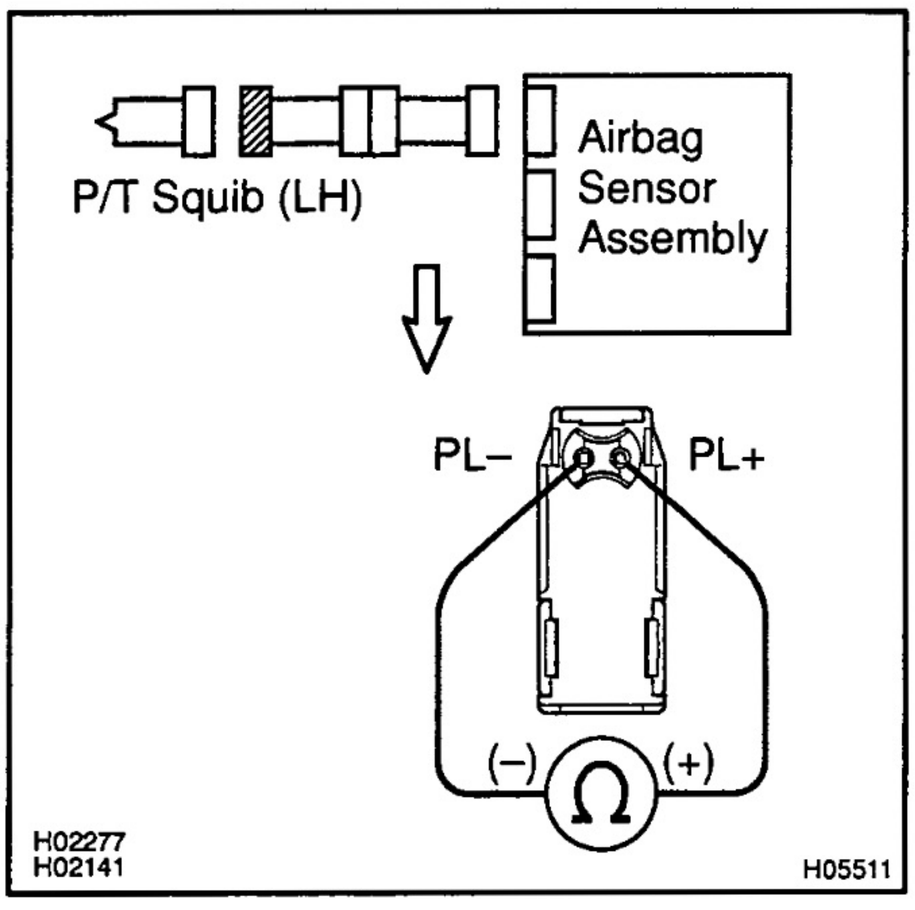
WIRING DIAGRAM

See page DI–81.

INSPECTION PROCEDURE

1	**Prepare for inspection. (See step 1 on page DI–98)**

2	**Check P/T squib (LH) circuit.**



PREPARATION:
Release airbag activation prevention mechanism of the connector (on the airbag sensor assembly side) between the airbag sensor assembly and the seat belt pretensioner (LH).
(See page DI–3)

CHECK:
For the connector (on the seat belt pretensioner side) between the seat belt pretensioner (LH) and the airbag sensor assembly, measure the resistance between PL+ and PL–.

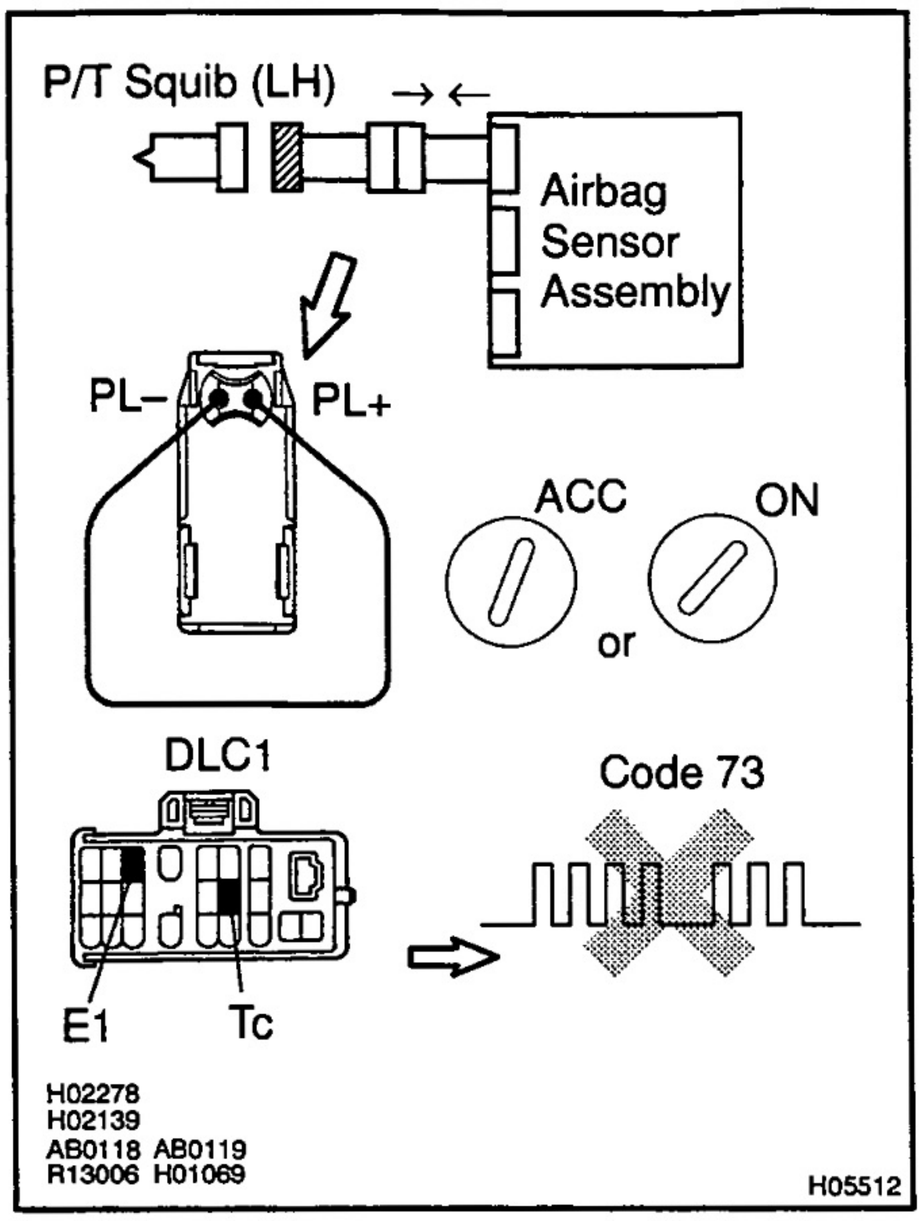
OK:

Resistance: 1 MΩ or Higher

NG → **Go to step 5.**

OK →

3	**Check airbag sensor assembly.**



PREPARATION:

(a) Connect the connector to the airbag sensor assembly.
(b) Using a service wire, connect PL+ and PL– of the connector (on the seat belt pretensioner side) between the airbag sensor assembly and the seat belt pretensioner (LH).
(c) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON and wait at least for 20 seconds.
(b) Clear DTC stored in memory.
(See page DI–3)
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check DTC.
(See page DI–3)

OK:

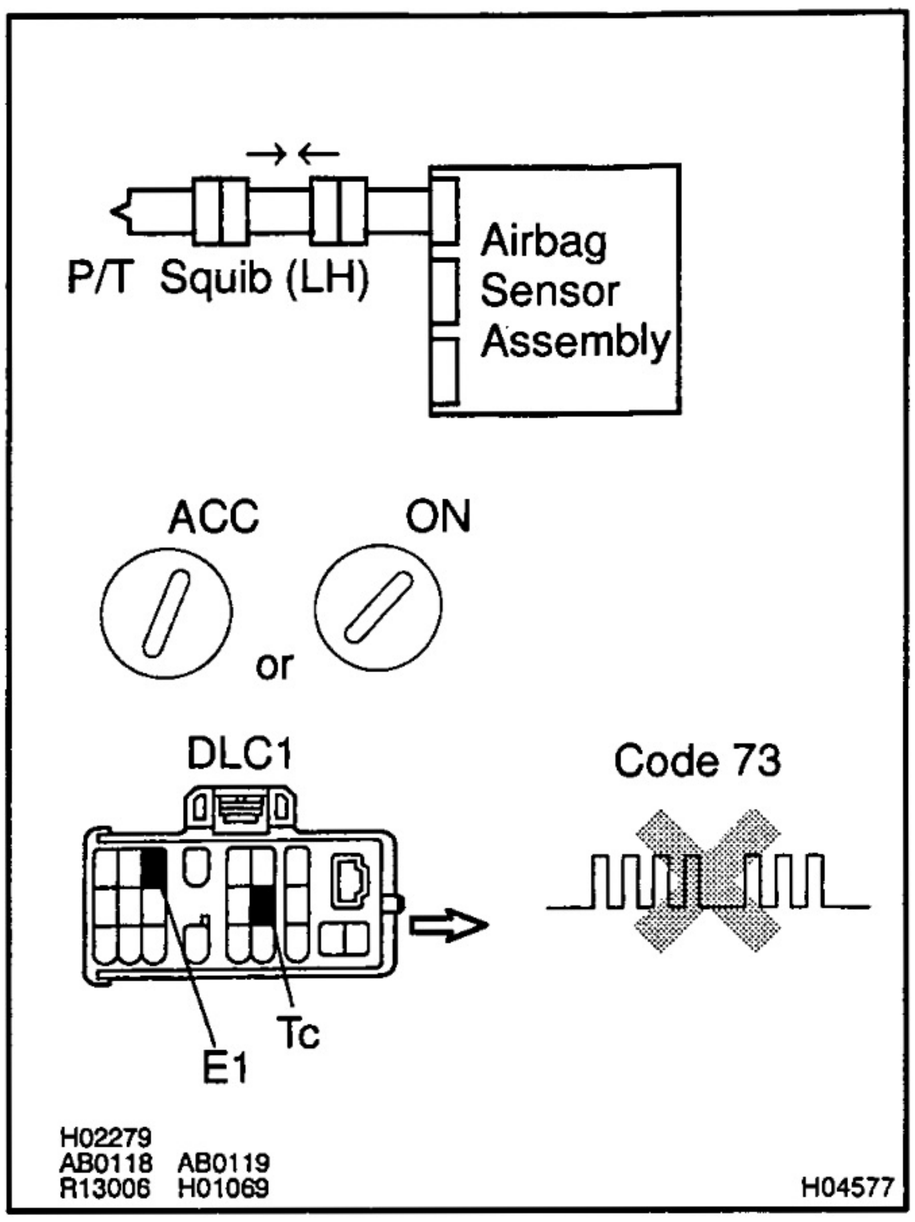
DTC 73 is not output.

HINT:
Codes other than code 73 may be output at this time, but they are not relevant to this check.

NG → **Replace airbag sensor assembly.**

OK

4	Check P/T squib (LH).



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Disconnect negative (–) terminal cable from the battery, and wait at least for 90 seconds.
(c) Connect the side airbag assembly (LH) connector.
(d) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to LOOK, and wait at least for 20 second.
(b) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(c) Clear DTC stored in memory.
(See page DI–3)
(d) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(e) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(f) Check DTC.
(See page DI–3)

OK:

DTC 73 is not output.

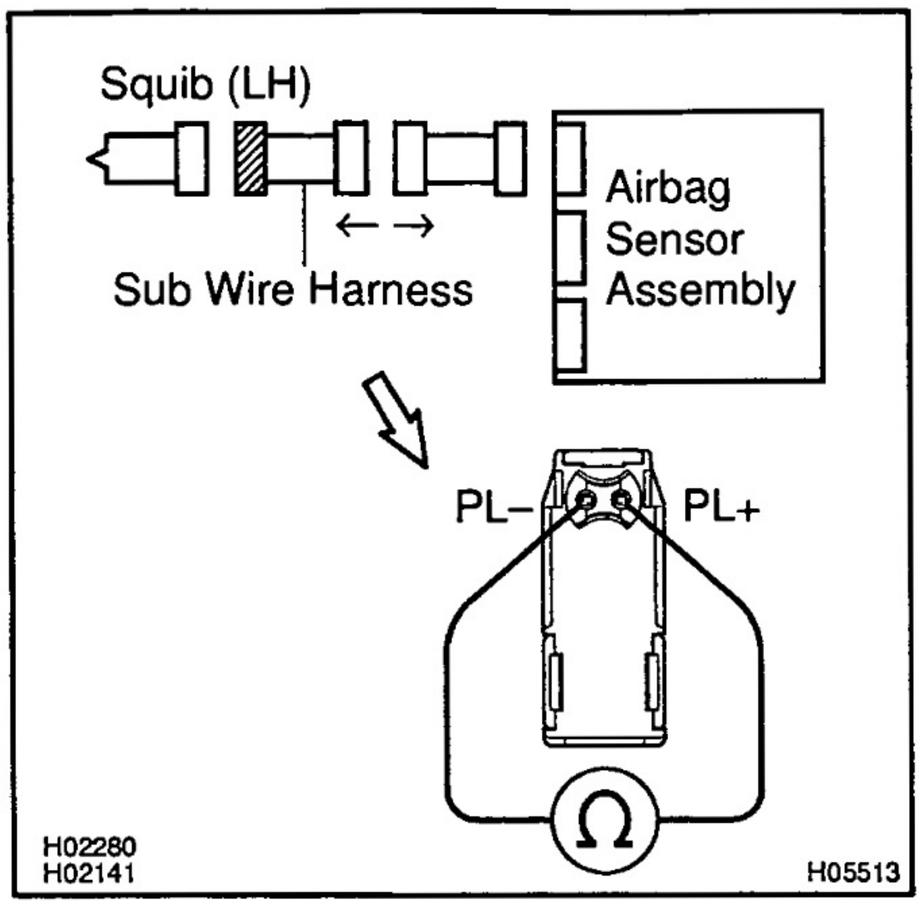
HINT:
Codes other than code 73 may be output at this time, but they are not relevant to this check.

NG → **Replace seat belt pretensioner (LH).**

OK

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 sub wire harness.



PREPARATION:

(a) Disconnect sub wire harness connector on the airbag sensor assembly side.

(b) Release airbag activation prevention mechanism of the sub wire harness connector on the airbag sensor assembly side. (See page DI–3)

CHECK:

For the connector (on the sub wire harness side) between the seat belt pretensioner and the sub wire harness, measure the resistance between PL+ and PL–.

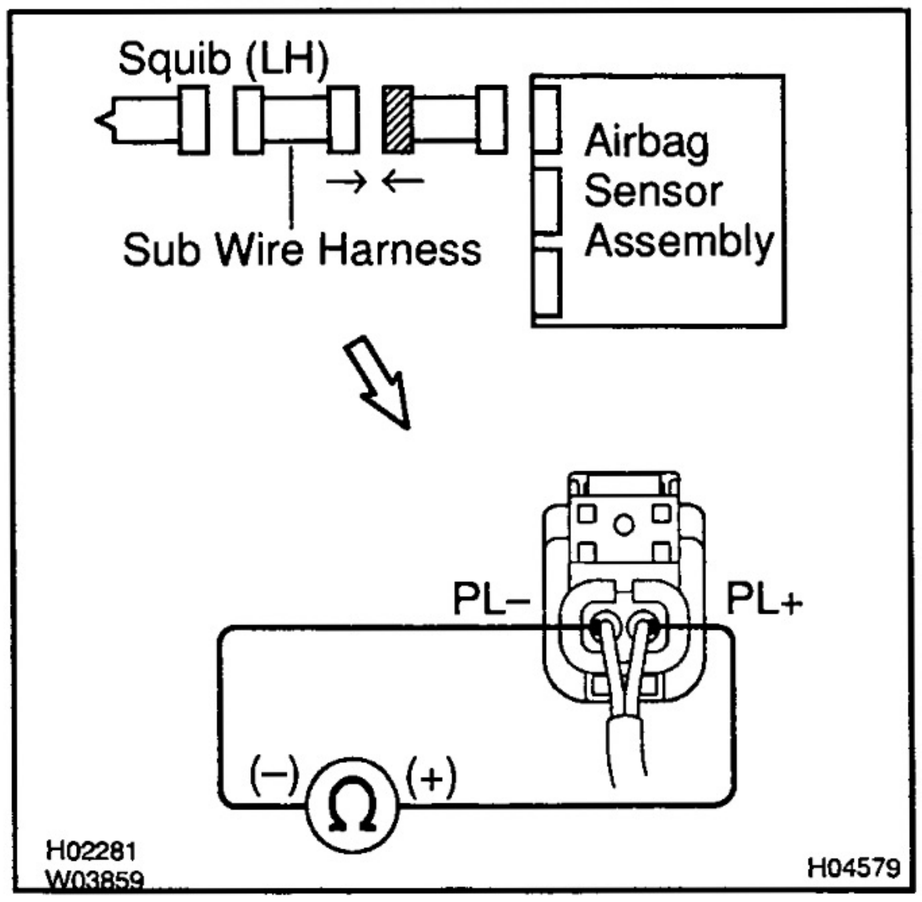
OK:

Resistance: 1 MΩ or Higher

NG	Repair or replace sub wire harness.

OK

6	Check harness between airbag sensor assembly and sub wire harness.



PREPARATION:

Release airbag activation prevention mechanism of the airbag sensor assembly connector. (See page DI–3)

CHECK:

For the connector (on the sub wire harness side) between the airbag sensor assembly and sub wire harness, measure the resistance between PL+ and PL–.

OK:

Resistance: 1 MΩ or Higher

NG	Repair or replace harness or connector between airbag sensor assembly and sub wire harness.

OK

For 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.

DI37M-04

DTC	74	Open in P/T Squib (LH) Circuit

CIRCUIT DESCRIPTION

The P/T squib circuit (LH) consists of the airbag sensor assembly and seat belt pretensioner (LH).
It causes the seat belt pretensioner (LH) to activate when the seat belt pretensioner (LH) activation conditions are satisfied.
For details of the function of each component, see OPERATION on page RS–2.
DTC 74 is recorded when an open is detected in the P/T squib (LH) circuit.

DTC No.	DTC Detecting Condition	Trouble Area
74	• Open circuit in PL+ wire harness or PL– wire harness of squib • P/T squib (LH) malfunction • Airbag sensor assembly malfunction	• Seat belt pretensioner (LH) • Airbag sensor assembly • Wire harness

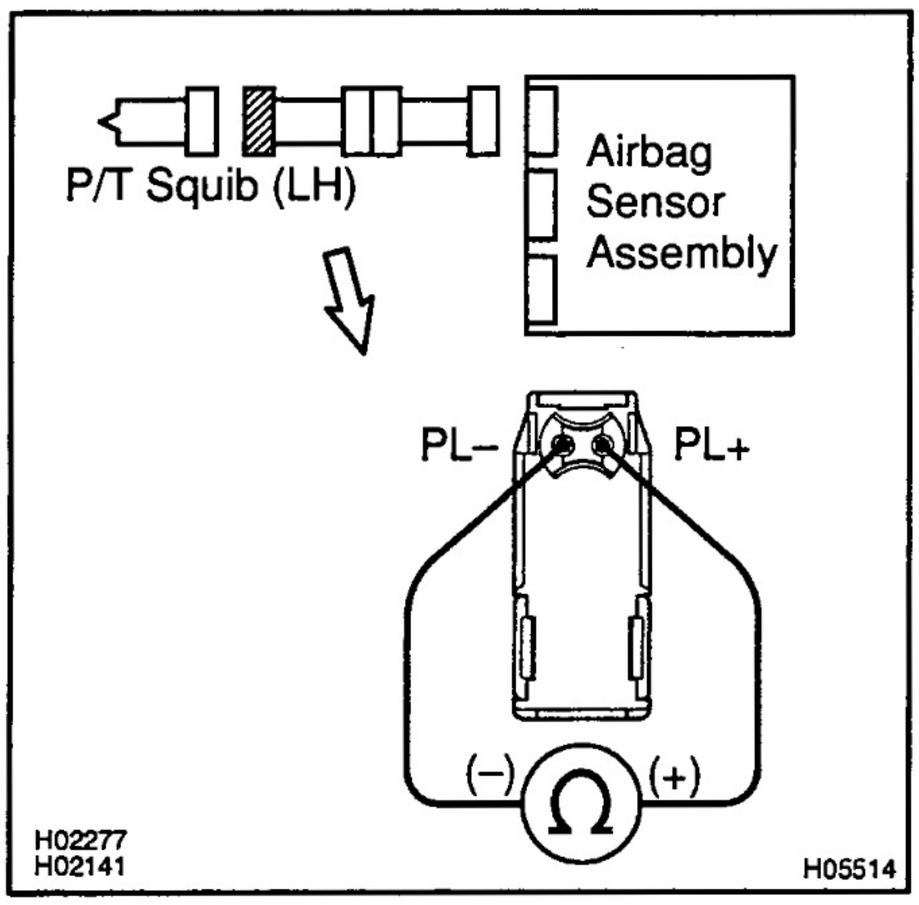
WIRING DIAGRAM

See page DI–81.

INSPECTION PROCEDURE

1	Prepare for inspection. (See step 1 on page DI–98)

2	Check P/T squib (LH) circuit.

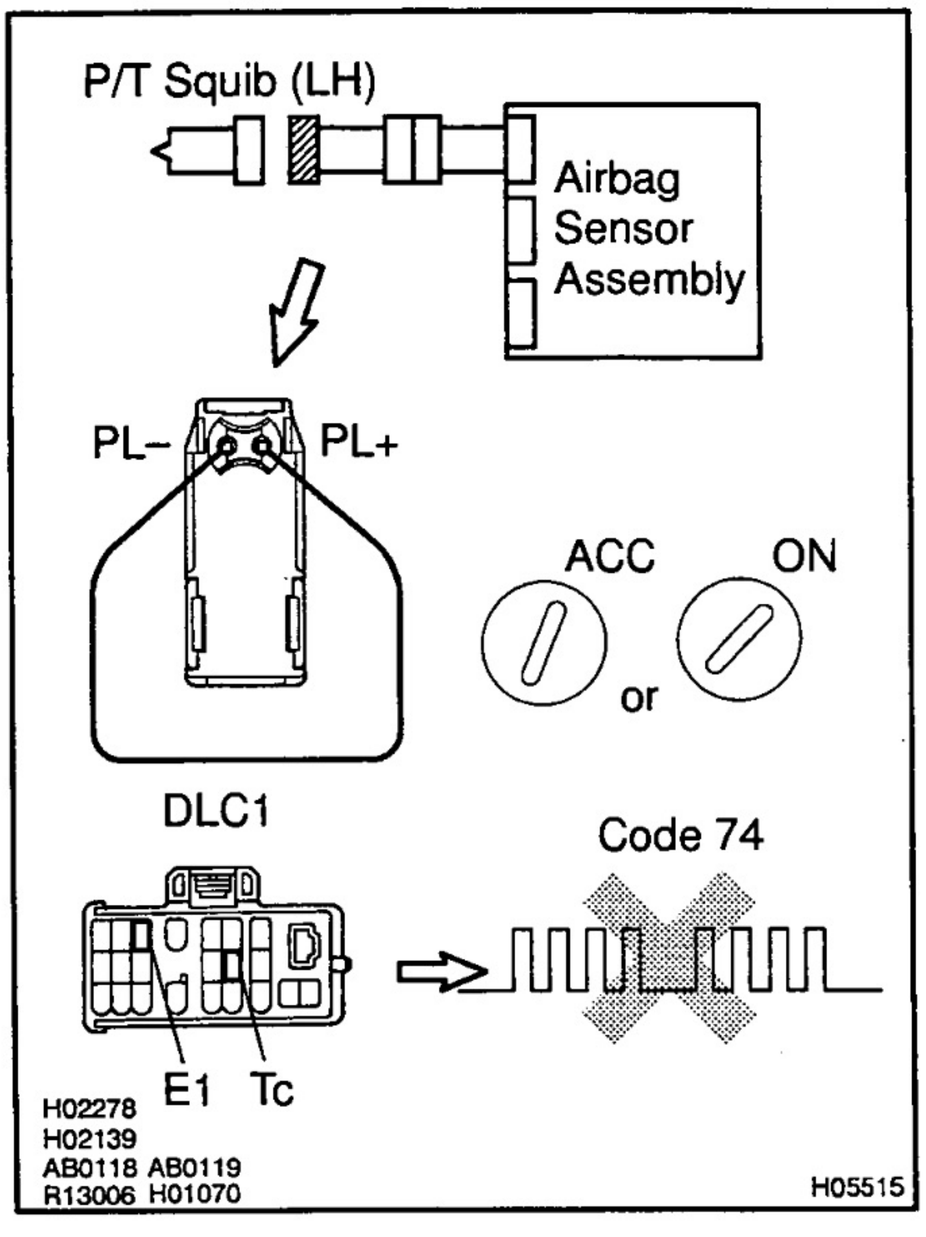


CHECK:
For the connector (on the seat belt pretensioner side) between the seat belt pretensioner (LH) and the airbag sensor assembly, measure the resistance between PL+ and PL–.
OK:
Resistance: Below 1 Ω

NG → **Go to step 5.**

OK

3	**Check airbag sensor assembly.**



PREPARATION:

(a) Connect the connector to the airbag sensor assembly.
(b) Using a service wire, connect PL+ and PL– of the connector (on the seat belt pretensioner side) between the seat belt pretensioner (LH) and the airbag sensor assembly.
(c) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON and wait at least for 20 seconds.
(b) Clear DTC stored in memory.
(See page DI–3)
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check DTC.
(See page DI–3)

OK:

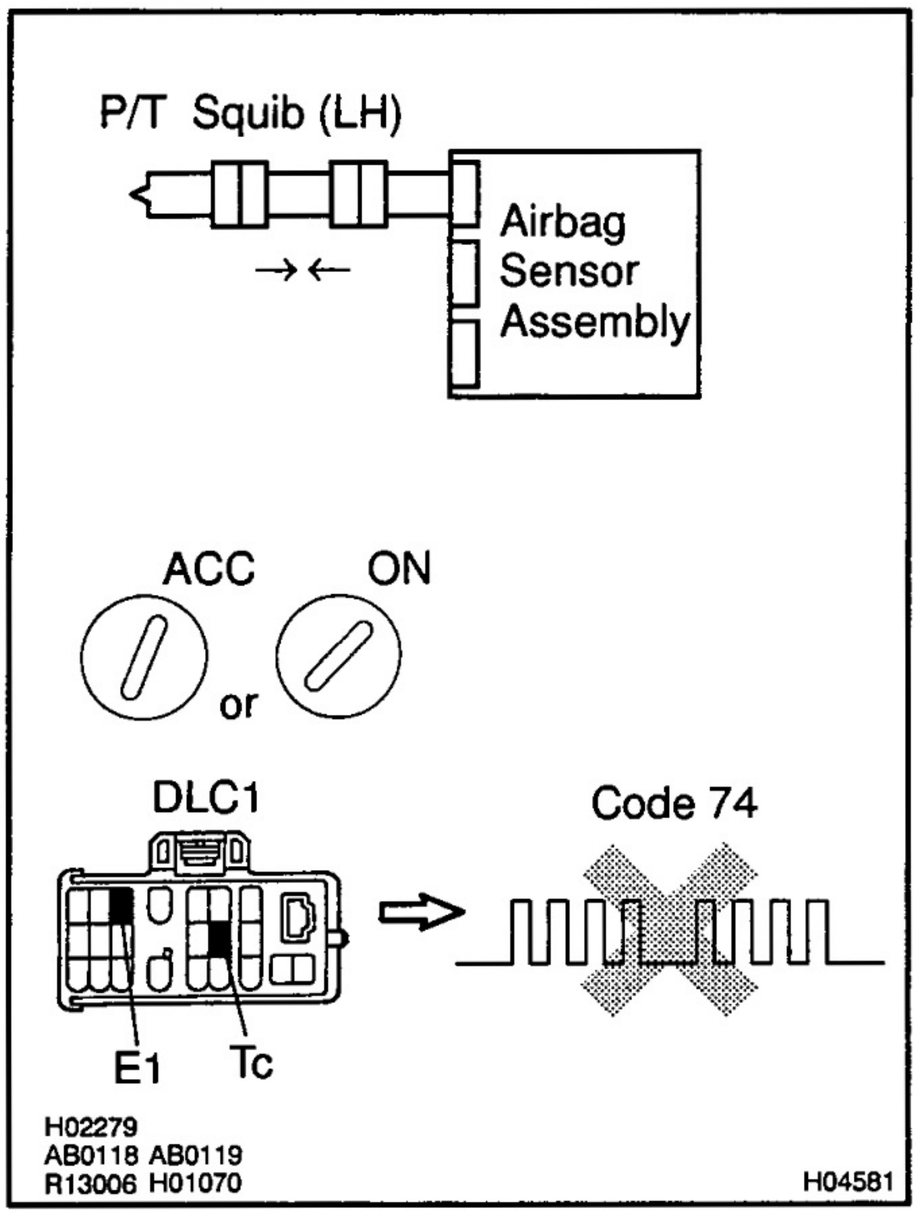
DTC 74 is not output.

HINT:
Codes other than code 74 may be output at this time, but they are not relevant to this check.

NG → **Replace airbag sensor assembly.**

OK

4	Check P/T squib (LH).



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Disconnect negative (–) terminal cable from the battery, and wait at least for 90 seconds.
(c) Connect the seat belt pretensioner (LH) connector.
(d) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.

CHECK:

(a) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(b) Clear DTC stored in memory.
(See page DI–3)
(c) Turn ignition switch to LOCK, and wait at least for 20 seconds.
(d) Turn ignition switch to ACC or ON, and wait at least for 20 seconds.
(e) Check DTC.
(See page DI–3)

OK:

DTC 74 is not output.

HINT:

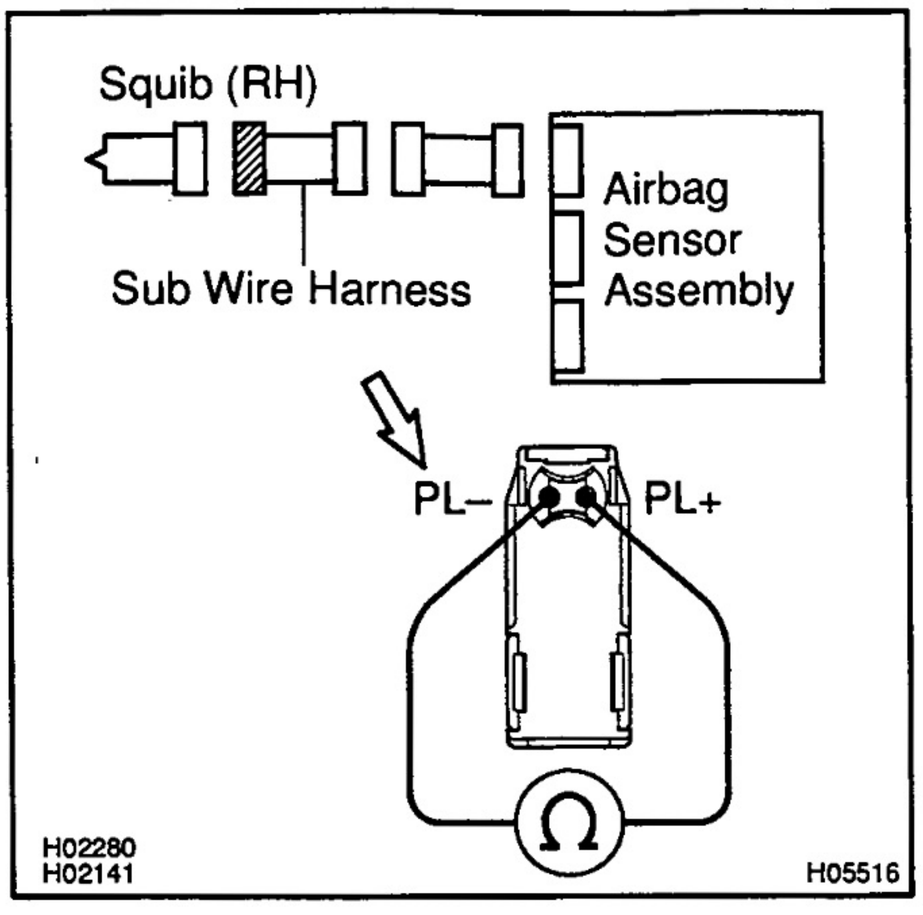
Codes other than code 74 may be output at this time, but they are not relevant to this check.

NG → **Replace seat belt pretensioner (LH).**

OK →

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 sub wire harness.**



PREPARATION:

Disconnect the sub wire harness connector on the airbag sensor assembly side.

CHECK:

For the connector (on the sub wire harness side) between the seat belt pretensioner and the sub wire harness, measure the resistance between PL– and PL+.

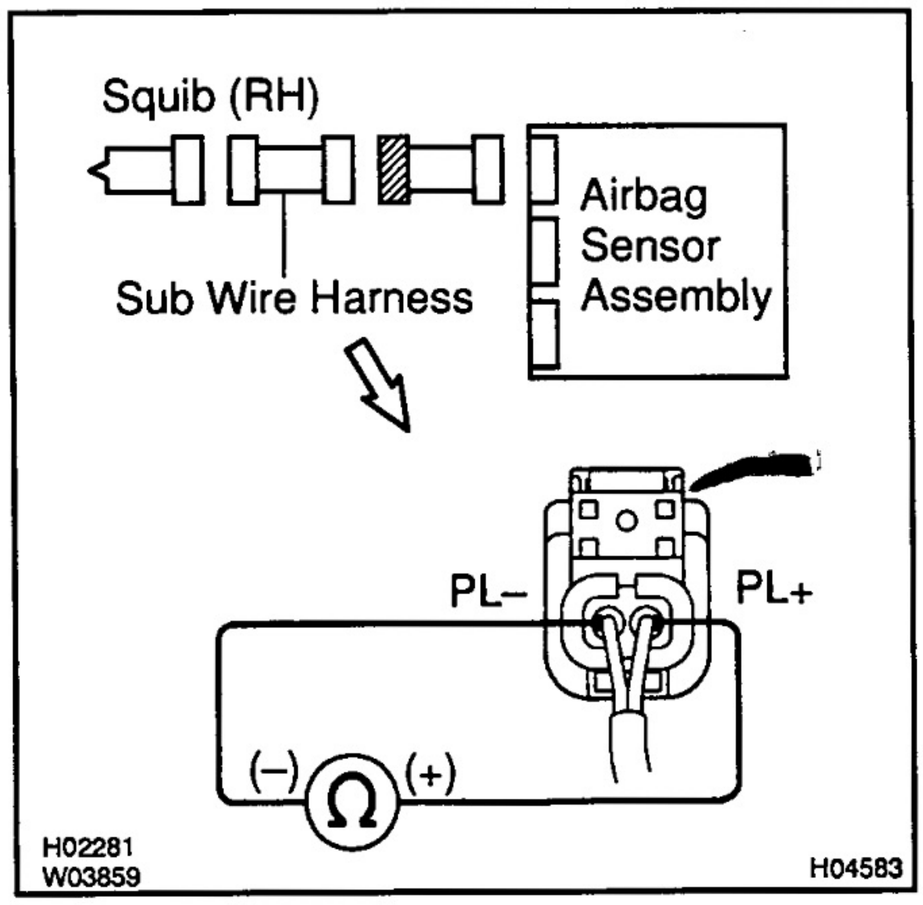
OK:

Resistance: Below 1 Ω

NG → **Repair or replace sub wire harness.**

OK

6	**Check harness between airbag sensor assembly and sub wire harness.**



CHECK:

For the connector (on the airbag sensor assembly side) between the airbag sensor assembly and sub wire harness, measure the resistance PL+ and PL–.

OK:

Resistance: Below 1 Ω

NG → **Repair or replace harness or connector between airbag sensor assembly and sub wire harness.**

OK

For 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.

DI1BN–04

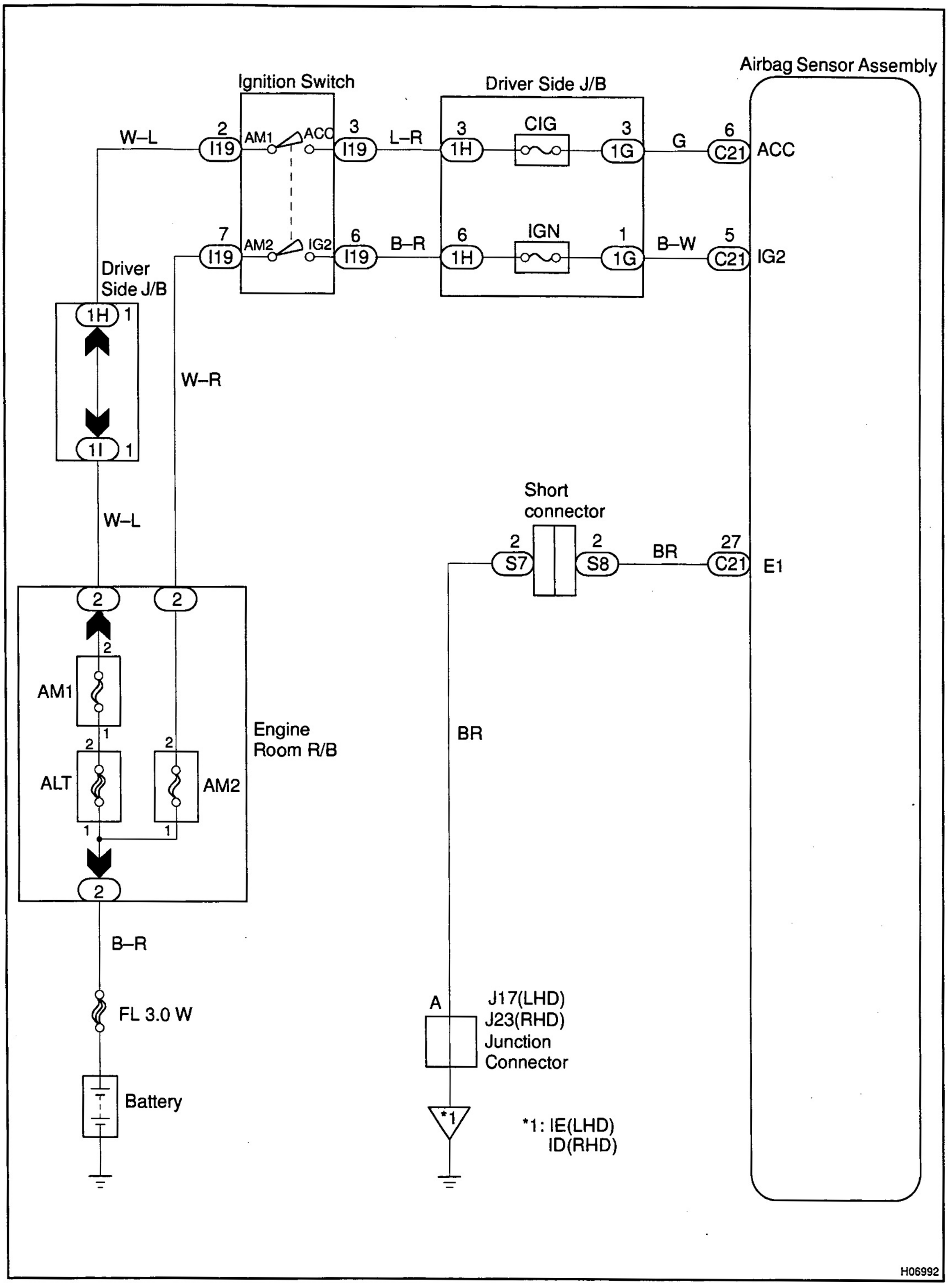
DTC	Normal	Source Voltage Drop

CIRCUIT DESCRIPTION

The SRS is equipped with a voltage–increase circuit (DC–DC converter) in the 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 diagnosis system malfunction display for this circuit is different from other circuits that is when the SRS warning light remains lit up and the DTC is a normal code, source voltage drop is indicated.
Malfunction in this circuit is not recorded in the airbag sensor assembly, and the source voltage returns to normal, the SRS warning light automatically goes off.

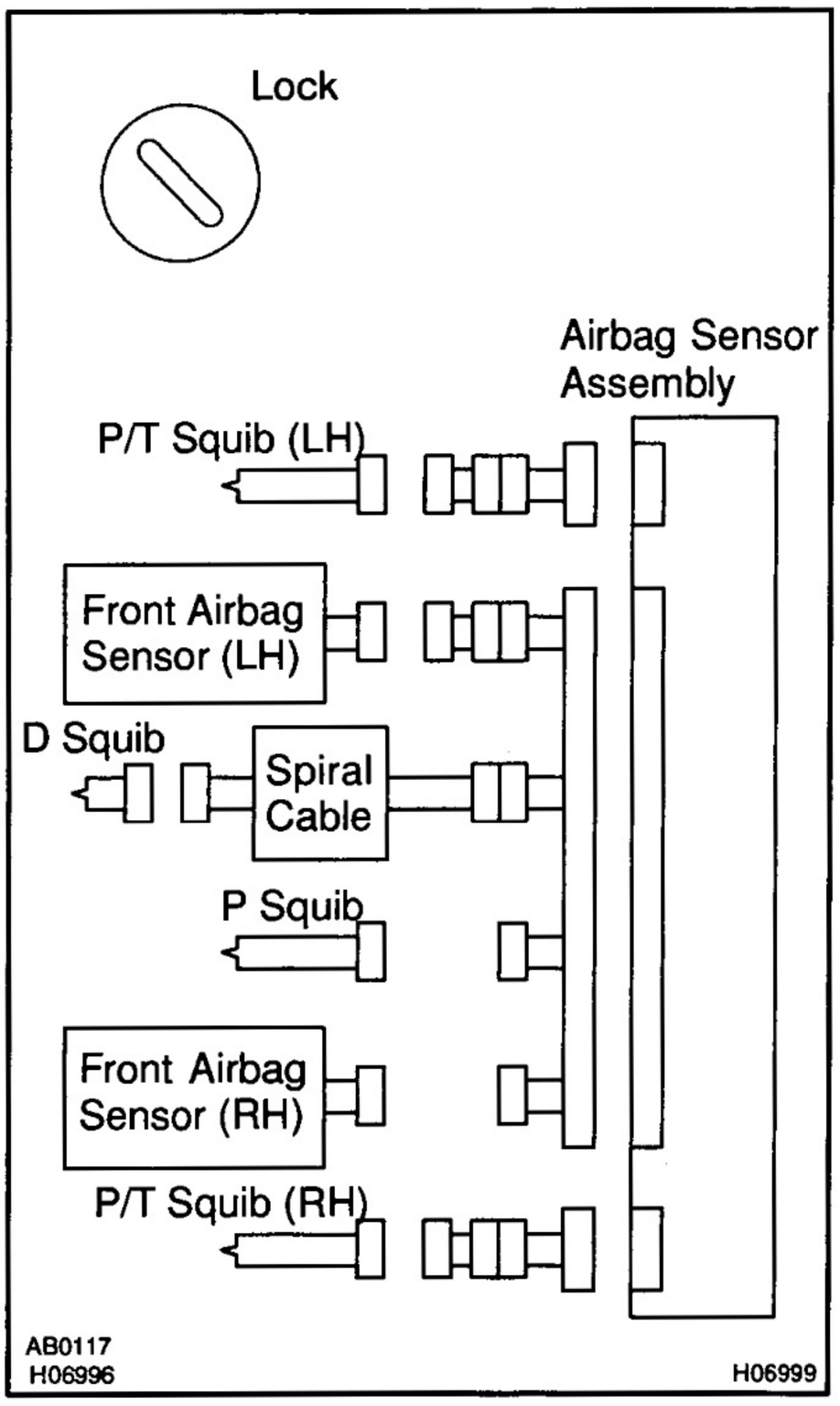
DTC No.	Diagnosis
(Normal)	Source voltage drop

WIRING DIAGRAM



INSPECTION PROCEDURE

1	**Prepare for inspection.**



PREPARATION:

(a) Disconnect negative (–) terminal cable from the battery, and wait at least for 90 seconds.

(b) Remove the steering wheel pad.
(See page RS–12)

(c) Disconnect the connector of the front passenger airbag assembly.
(See page RS–26)

(d) Disconnect the connector of the airbag sensor assembly.
(See page RS–39)

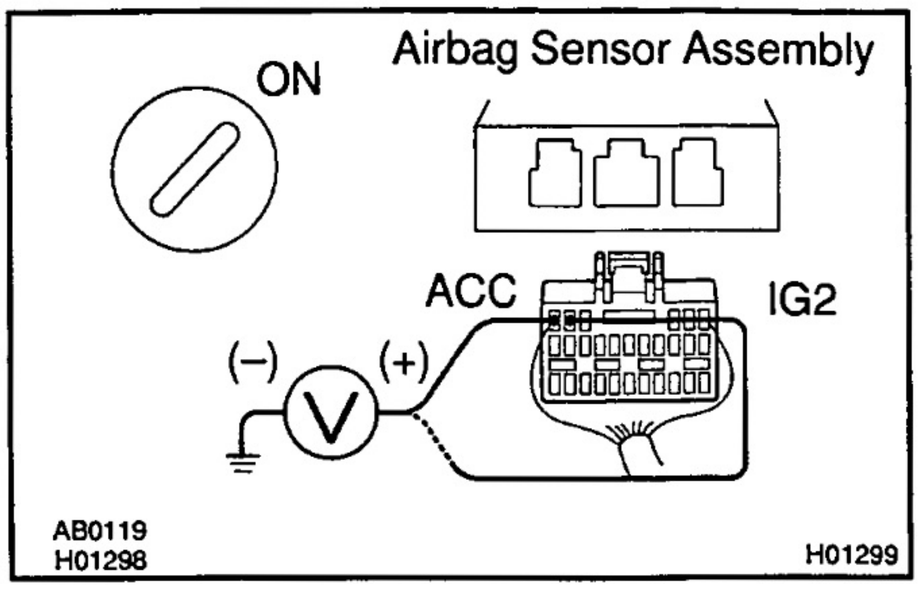
(e) Disconnect the connector of the front airbag sensor RH and LH.
(See page RS–44)

(f) Disconnect the connector of the seat belt pretensioner RH and LH.
(See page BO–23)

CAUTION:

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

2	**Check source voltage.**



PREPARATION:

(a) Connect negative (–) terminal cable to the battery.
(b) Turn ignition switch ON.

CHECK:

When operating the electric system, check the voltage at IG2 or ACC.

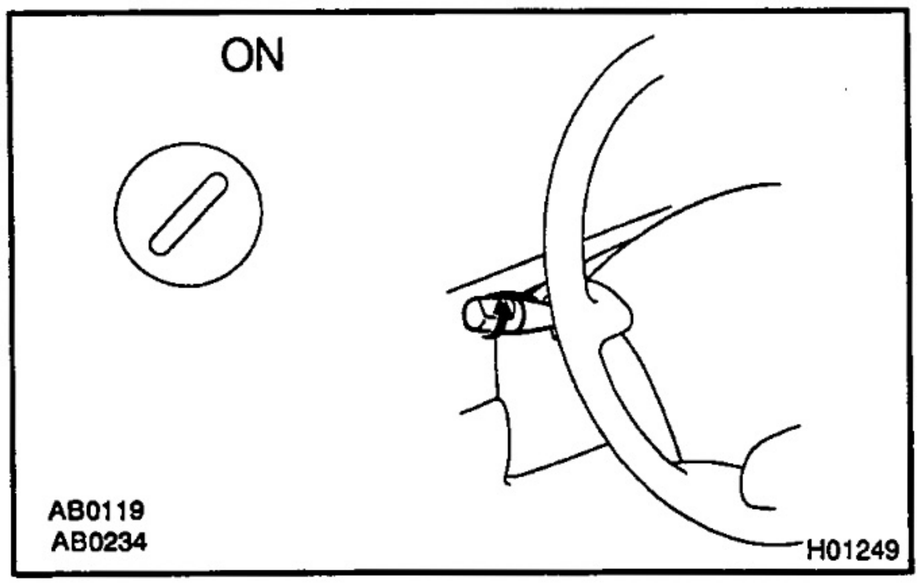
OK:

Voltage: 10 ~ 14 V

NG → **Check harness between battery and airbag sensor assembly, and check battery and charging system.**

OK

3	**Does SRS warning light turn OFF?**



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Connect the steering wheel pad connector.
(c) Connect the front passenger airbag assembly connector.
(d) Connect the airbag sensor assembly connector.
(e) Connect the front airbag sensor connector.
(f) Connect the seat belt pretensioner connector.
(g) Turn ignition switch ON.
(h) Check that the SRS warning light goes off 6 secs. After ignition switch was turned ON.

CHECK:

Check that the SRS warning light goes off.

NO → **Check for DTCs. If a DTC is output, perform troubleshooting for the DTC. If a normal code is output, replace airbag sensor assembly.**

YES

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.

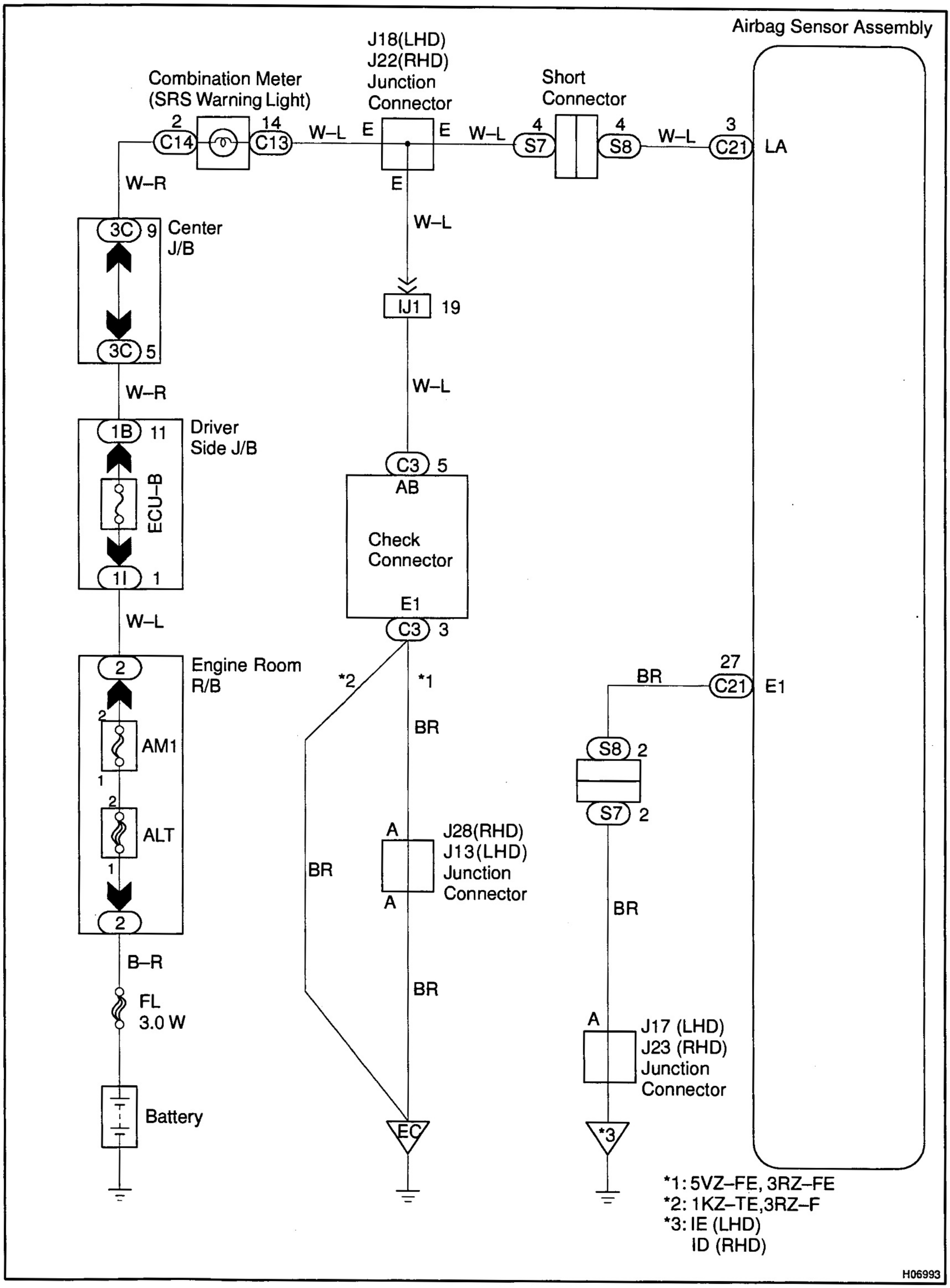
DI1BO-04

SRS Warning Light Circuit Malfunction (Always lights up, when ignition switch is in LOCK position.)

CIRCUIT DESCRIPTION

The SRS warning light is located on the combination meter.
When the SRS is normal, the SRS warning light lights up for approx. 6 seconds after the ignition switch is turned from the 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 E1 of the Check Connector are connected, the DTC is displayed by blinking the SRS warning light.

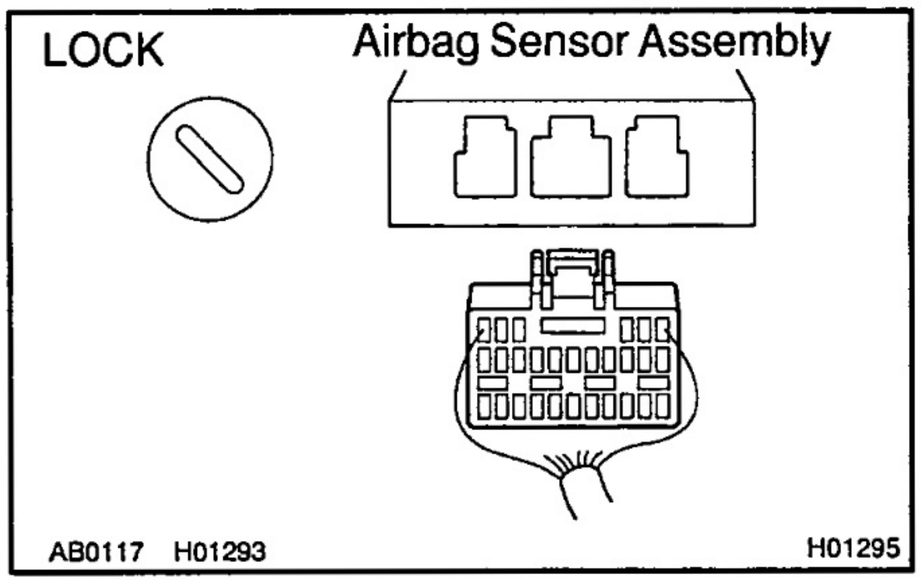
WIRING DIAGRAM



INSPECTION PROCEDURE

1	**Prepare for inspection. (See step 1 on page DI–98)**

2	**Does SRS warning light turn OFF?**



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Disconnect negative (–) terminal cable from the battery, and wait at least for 90 seconds.
(c) Disconnect the airbag sensor assembly connector.
(d) Connect negative (–) terminal cable to the battery.

CHECK:

Check operation of SRS warning light.

NO → **Check SRS warning light circuit or terminal AB circuit of check connector.**

YES

Replace airbag sensor assembly.

SRS Warning Light Circuit Malfunction (Does not light up, when ignition switch is turned to ACC or ON.)

CIRCUIT DESCRIPTION

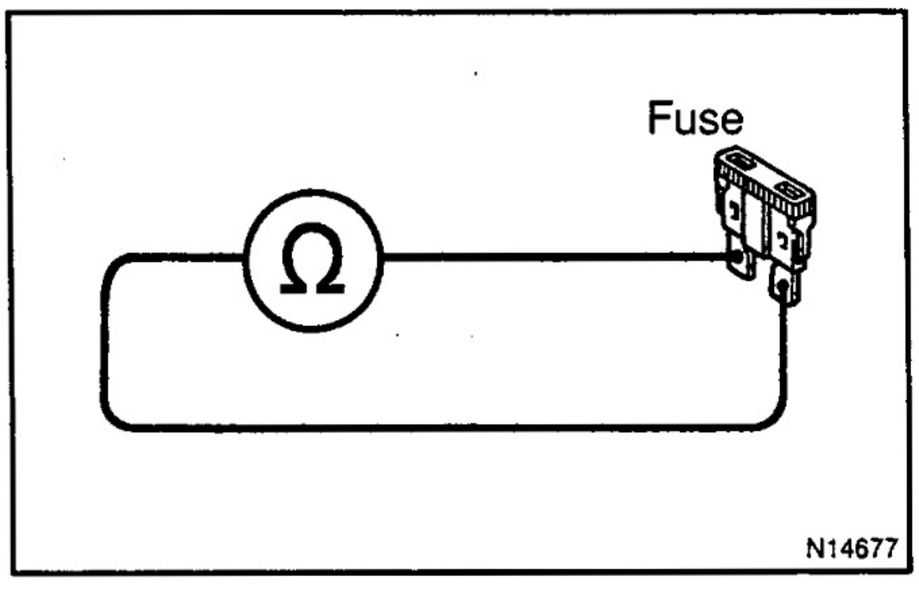
The SRS warning light is located on the combination meter.
When the SRS is normal, the SRS warning light lights up for approx. 6 seconds after the ignition switch is turned from LOCK position to ACC or ON position, and then turns OFF automatically.
If there is a malfunction in the SRS, the SRS warning light lights up to inform the driver of the abnormality
When terminals Tc and E1 of the Check Connector are connected, the DTC is displayed by blinking the SRS warning light.

WIRING DIAGRAM

See page DI–102.

INSPECTION PROCEDURE

1	**Check SRS Fuse.**



PREPARATION:
Remove SRS fuse.
CHECK:
Check continuity of SRS fuse.
OK:

Continuity

HINT:

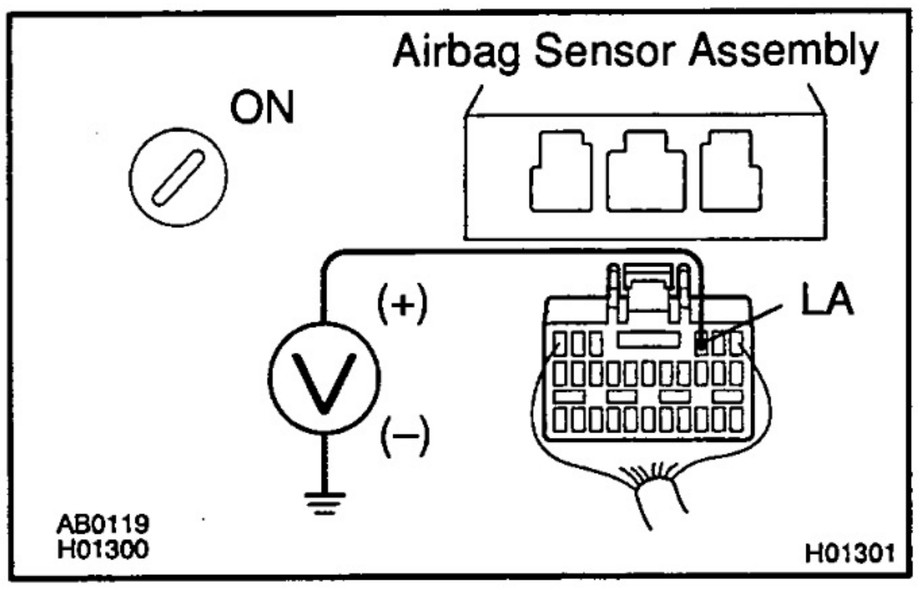
- Fuse may be burnt out even if it appears to be OK during visual inspection.
- If fuse is OK, install it.

NG → **Go to step 5 .**

OK

2	**Prepare for inspection. (See step 1 on page DI–98)**

3	Check SRS warning light circuit.



PREPARATION:

(a) Connect negative (–) terminal cable to the battery.

(b) Turn ignition switch to ACC or ON.

CHECK:

Measure the voltage LA terminal of the harness side connector of the airbag sensor assembly.

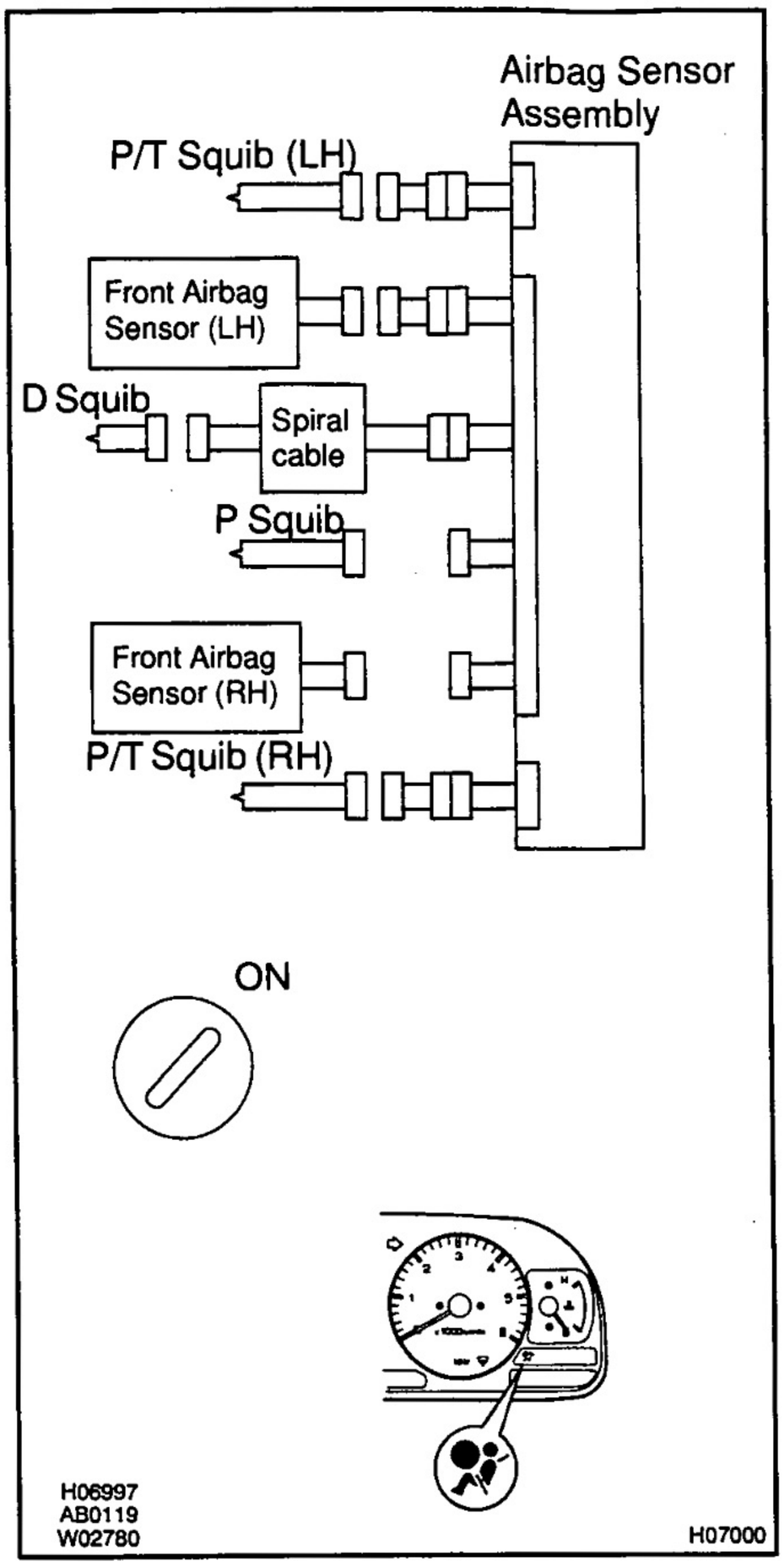
OK:

Voltage: 10 ~ 14 V

NG → **Check SRS warning light bulb or repair SRS warning light circuit.**

OK

4	**Does SRS warning light come on?**



PREPARATION:

(a) Disconnect negative (–) terminal cable from the battery.
(b) Connect the airbag sensor assembly connector.
(c) Connect negative (–) terminal cable to the battery, and wait at least for 2 seconds.
(d) Turn ignition switch to ACC or ON.

CHECK:

Check operation of SRS warning light.

NO → **Check terminal LA of airbag sensor assembly. If normal, replace airbag sensor assembly.**

YES

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

5	Is new SRS fuse burnt out again?

NO → Using simulation method, reproduce malfunction symptoms. (See page IN–21)

YES

Check harness between SRS fuse and SRS warning light.

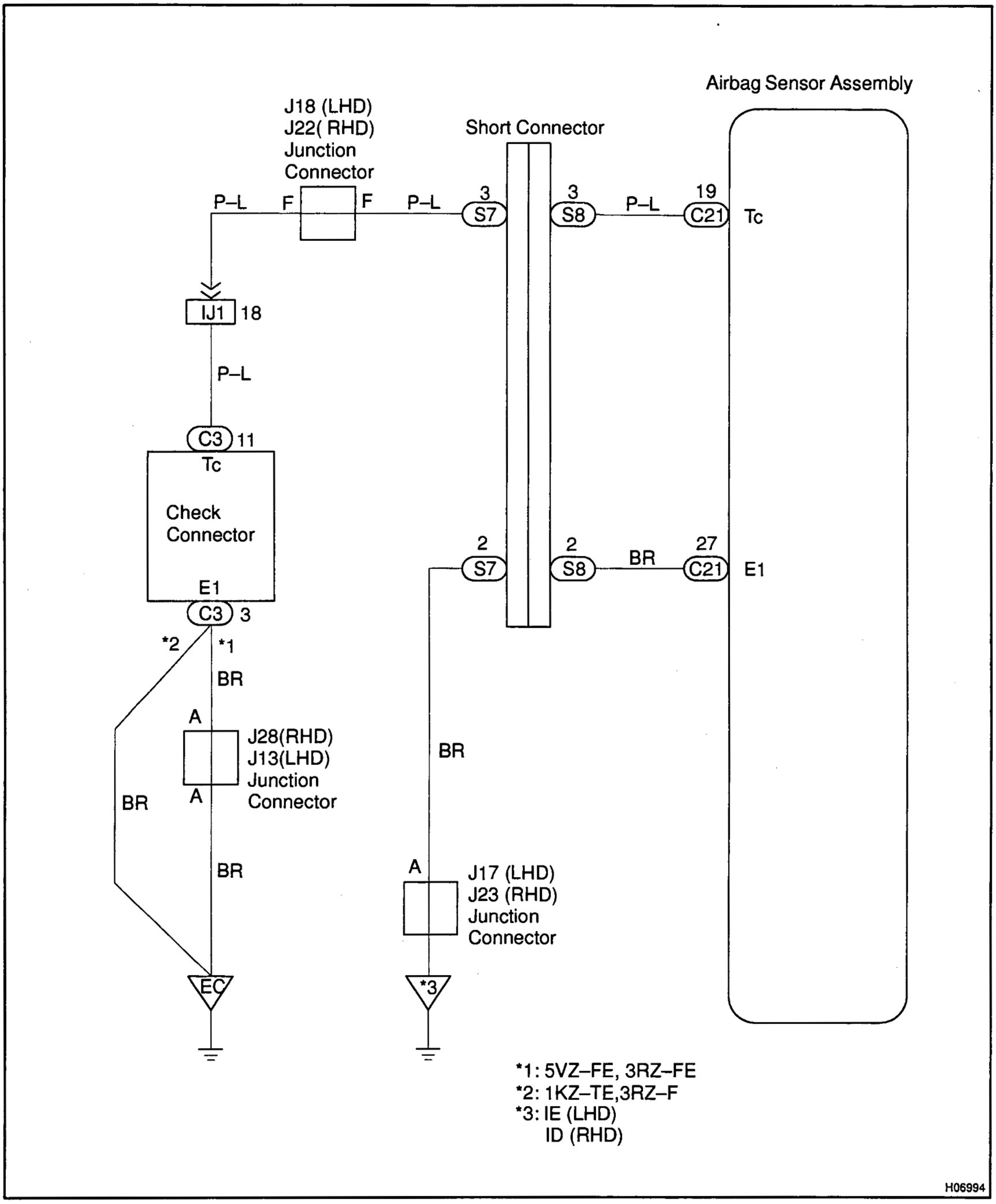
DI1BQ-04

Tc Terminal Circuit

CIRCUIT DESCRIPTION

By connecting terminals Tc and E1 of the check connector the airbag sensor assembly is set in the DTC output mode. The DTCs are displayed by blinking the SRS warning light.

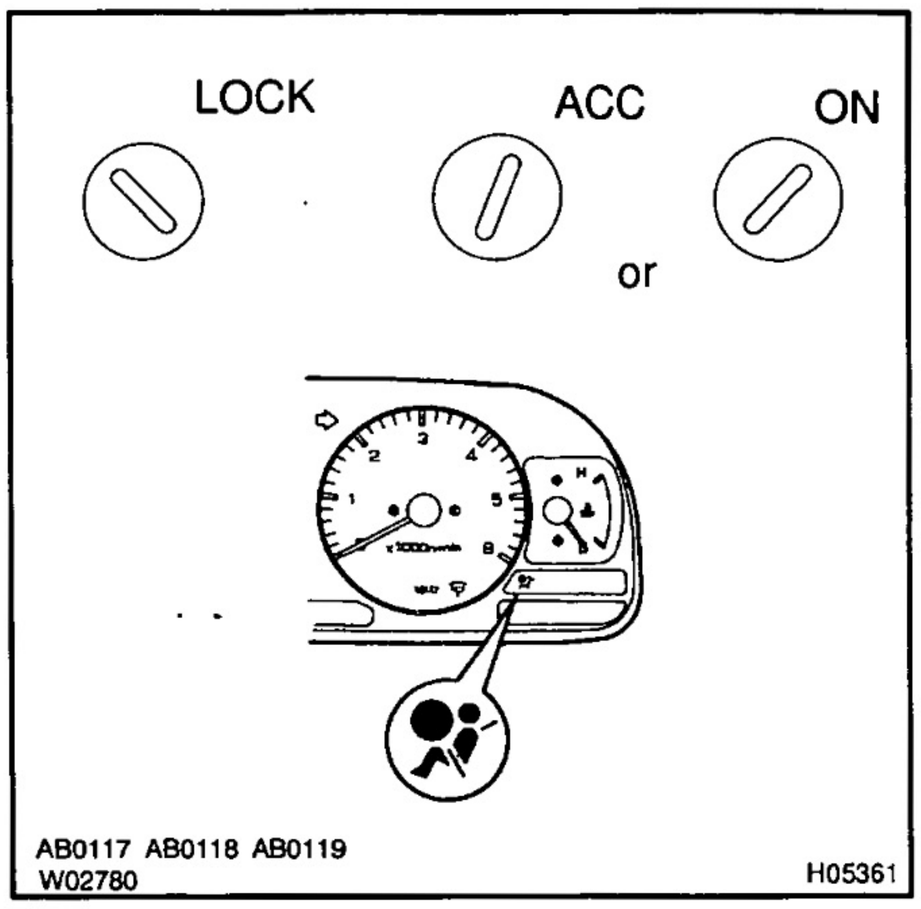
WIRING DIAGRAM



INSPECTION PROCEDURE

If the DTC is not displayed, do the following troubleshooting.

1	**Does SRS warning light up for approx. 6 seconds?**



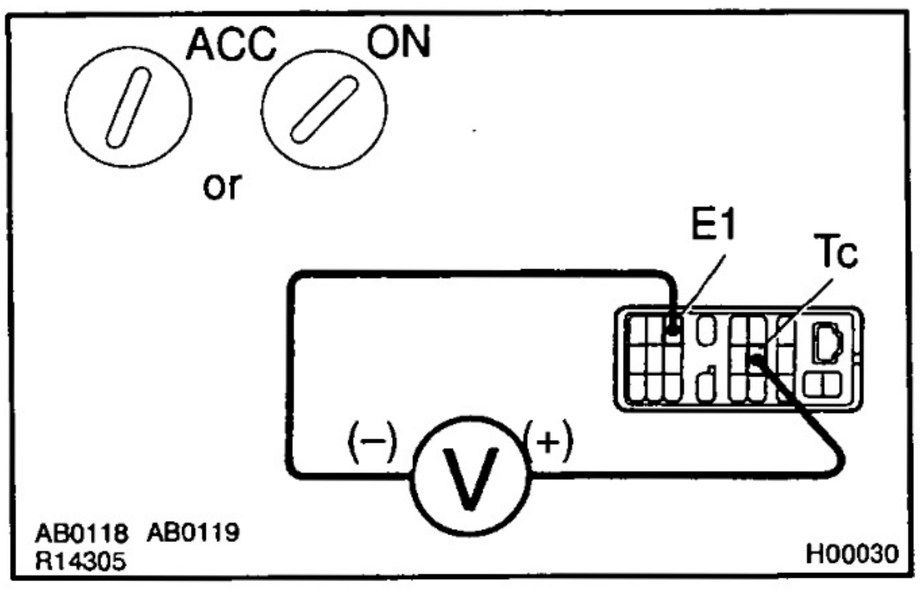
AB0117 AB0118 AB0119
W02780 H05361

PREPARATION:
Check operation of the SRS warning light after ignition switch is turned from LOCK position to ACC or ON position.

NO → **Check SRS warning light system. (See page DI–3)**

YES

2	**Check voltage between terminals Tc and E1 of check connector.**



AB0118 AB0119
R14305 H00030

PREPARATION:
Turn ignition switch to ACC or ON.

CHECK:
Measure the voltage between terminals Tc and E1 of check connector.

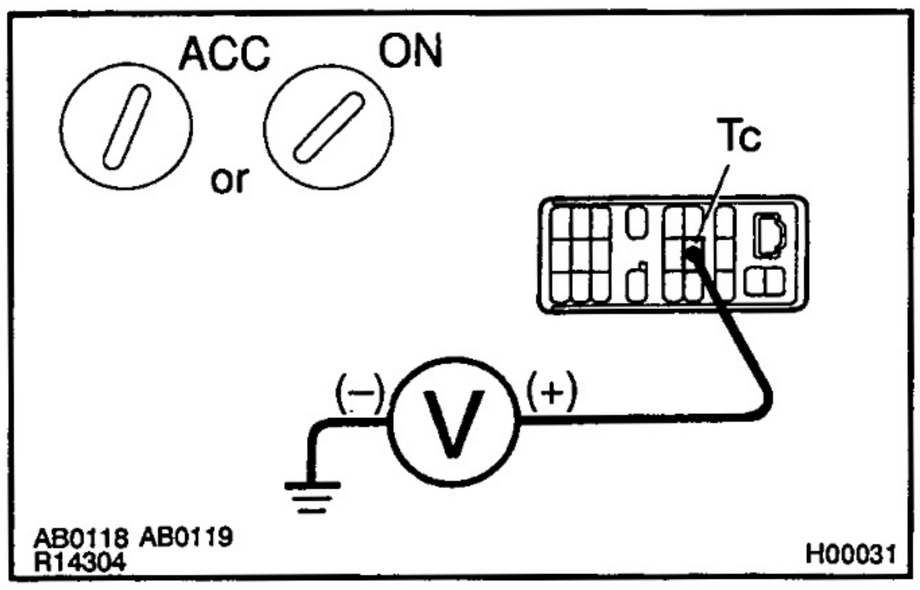
OK:

Voltage: 10 – 14 V

OK → **Go to step 4.**

NG

3	Check voltage between terminals Tc of check connector and body ground



CHECK:

Measure the voltage between terminal Tc of check connector and body ground.

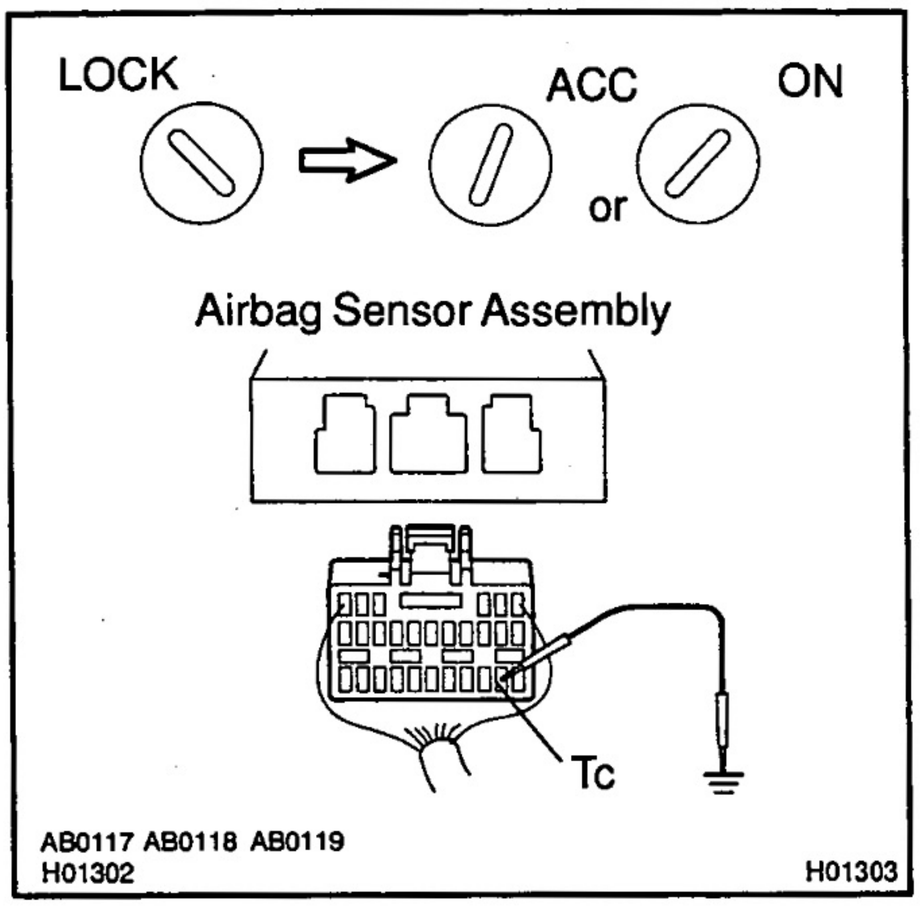
OK:

Voltage: 10 ~ 14 V

OK → **Check harness between terminal E1 of check connector and body ground.**

NG

4	**Check airbag sensor assembly.**



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Disconnect negative (–) terminal cable from the battery, and wait at least for 90 seconds.
(c) Disconnect the airbag sensor assembly connector.
(d) Insert service wire into terminal Tc from back side as shown in the illustration.
(e) Connect the airbag sensor assembly connector with service wire.
(f) Connect negative (–) terminal cable to the battery.
(g) Turn ignition switch to ACC or ON and wait at least for 20 seconds.
(h) Connect service wire of terminal Tc to body ground.

CHECK:

Check operation of SRS warning light.

OK:

SRS waning light comes on.

NOTICE:

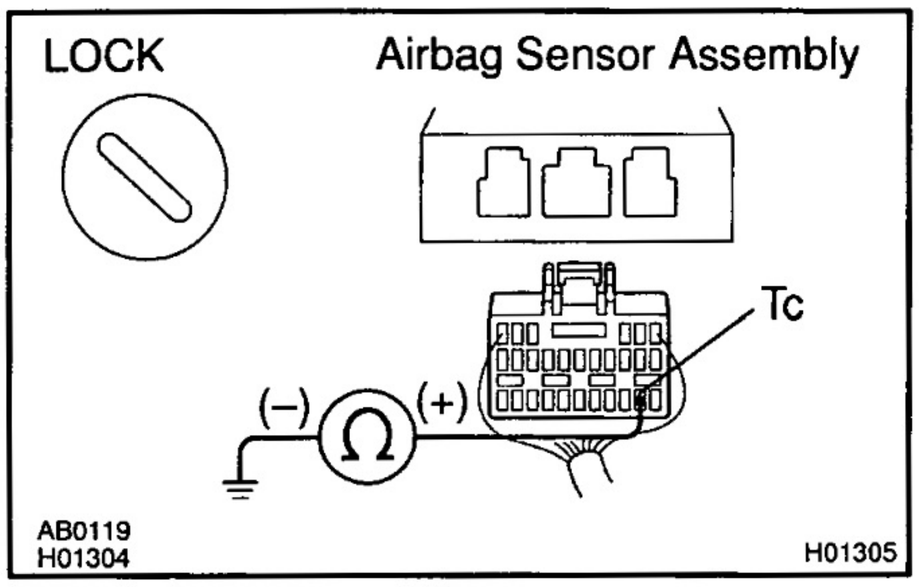
Pay enough attention to the terminal connecting position as this causes a malfunction.

OK → **Check harness between the airbag sensor assembly and check connector.**

NG → **Replace airbag sensor assembly.**

If the DTC is displayed without a DTC check procedure, perform the following troubleshooting.

1	**Check resistance between terminal Tc of airbag sensor assembly and body ground.**



PREPARATION:

(a) Turn ignition switch to LOCK.
(b) Disconnect negative (–) terminal cable from the battery, and wait at least for 90 seconds.
(c) Disconnect the airbag sensor assembly connector.

CHECK:

Check resistance between terminal Tc of the airbag sensor assembly connector and body ground.

OK:

Resistance: 1 MΩ or Higher

NG → **Repair or replace harness or connector.**

OK

Replace airbag sensor assembly.

STEERING

NON–TILT STEERING COLUMN SR–1

REFER TO LAND CRUISER/LAND CRUISER PRADO REPAIR MANUAL FOR CHASSIS AND BODY (Pub. No. RM517E)

NOTE: The above pages contain only the points which differ from the above listed manual.

NON–TILT STEERING COLUMN

SR0N6–01

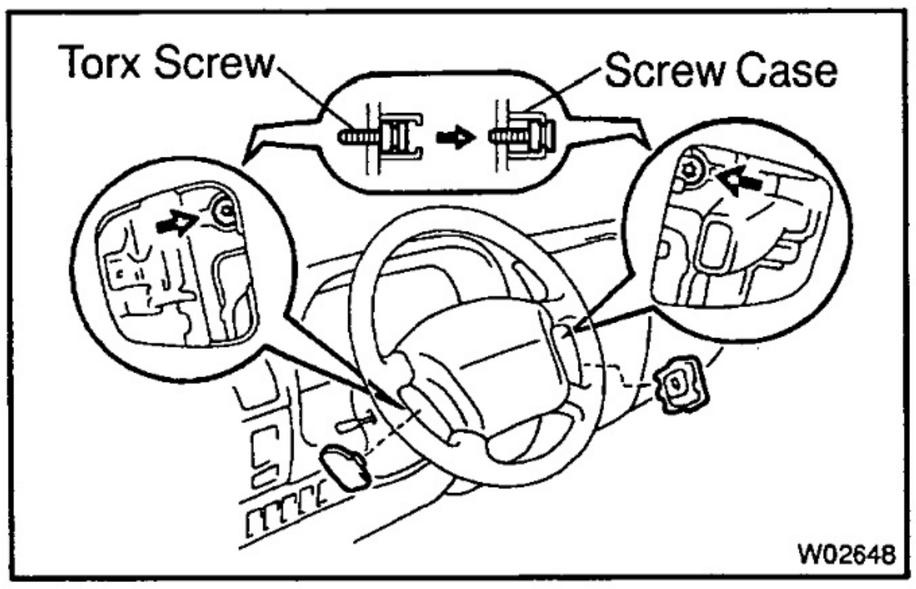
REMOVAL

1. w/ Airbag:

REMOVE STEERING WHEEL PAD

NOTICE:

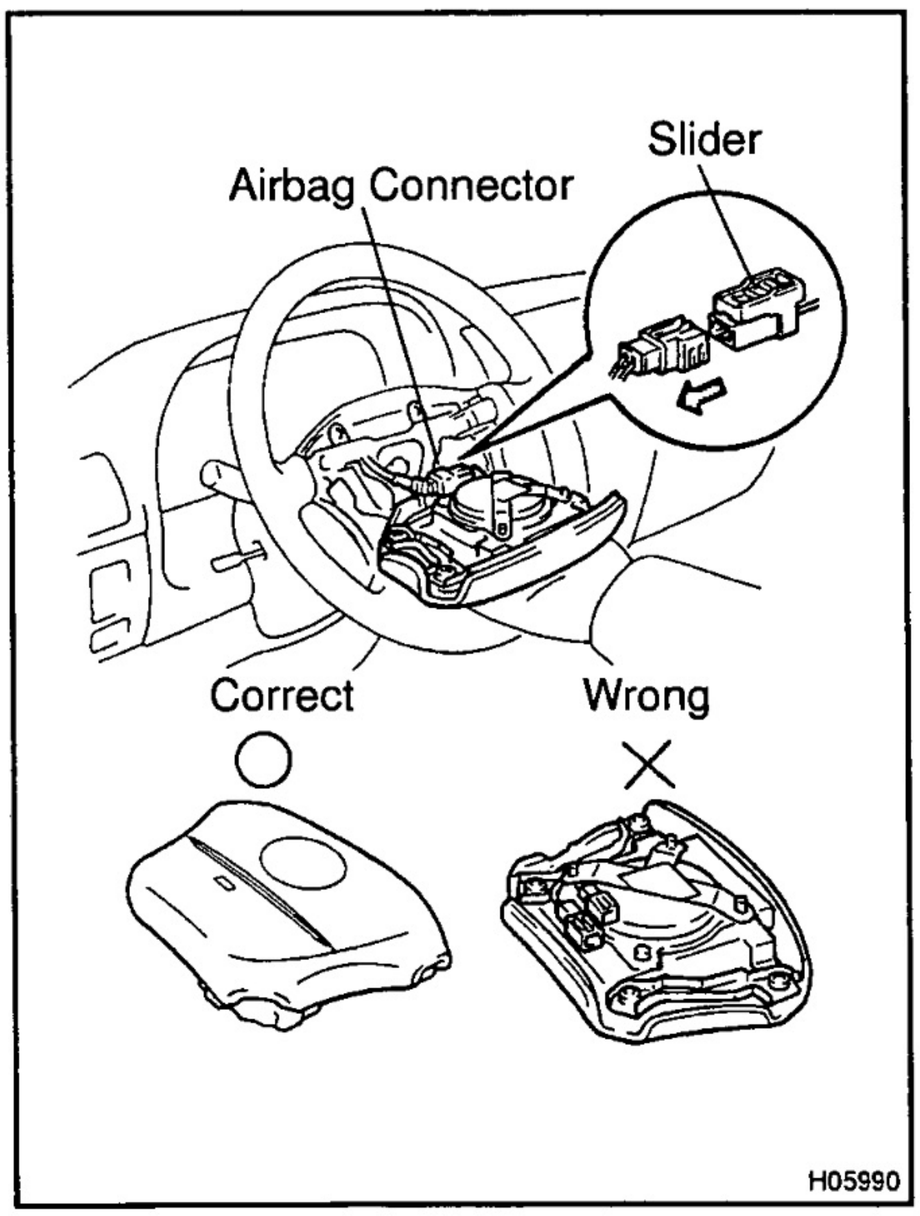
- **If the airbag connector is disconnected with the ignition switch at ON or ACC, DTCs will be recorded.**
- **Never use airbag parts from another vehicle. When replacing parts, replace with new ones.**



(a) Place the front wheels facing straight ahead.
(b) Remove the 2 steering wheel lower covers.
(c) Using a torx socket wrench, loosen the 2 torx screws.

HINT:

Loosen the 2 screws until the groove along the screw circumference catches on the screw case.



(d) Pull out the steering wheel pad from the steering wheel.
(e) Disconnect the airbag connector (See page RS–2).

CAUTION:

- **When storing the wheel pad, keep the upper surface of the pad facing upward.**
- **Never disassemble the wheel pad.**

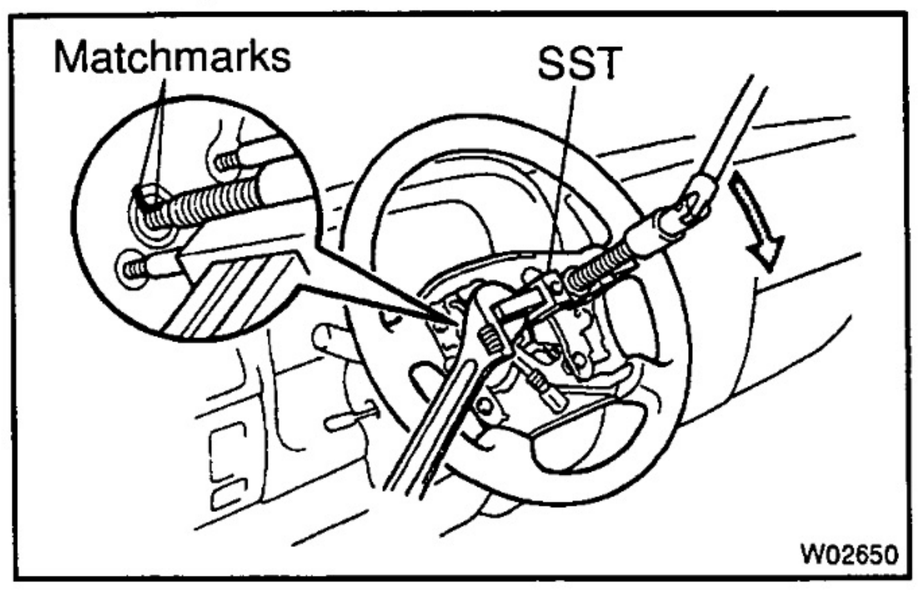
NOTICE:

When removing the wheel pad, take care not to pull the airbag wire harness.

2. w/o Airbag:

REMOVE STEERING WHEEL PAD

(a) Remove the screw.
(b) Remove the pad.
(c) Disconnect the terminal.



3. REMOVE STEERING WHEEL

(a) Disconnect the connector.
(b) Remove the steering wheel set nut.
(c) Place matchmarks on the steering wheel and main shaft assembly.
(d) Using SST, remove the wheel.

SST 09950–50010 (09951–05010, 09952–05010, 09953–05020, 09954–05020)

4. REMOVE UPPER AND LOWER COLUMN COVERS

Remove the 3 screws.

5. REMOVE LOWER FINISH PANEL

(a) Remove the 2 screws and disconnect the hood lock release lever from the panel.

(b) Remove the 2 screws and disconnect the fuel lid release lever from the panel.

(c) Remove the 2 panel set screws.

6. REMOVE STARTER SWITCH BEZEL

7. REMOVE No.1 HEATER TO REGISTER DUCT

8. REMOVE COMBINATION SWITCH WITH SPIRAL CABLE

(a) Disconnect the 2 connectors.

(b) w/ Airbag:
Disconnect the airbag connector.

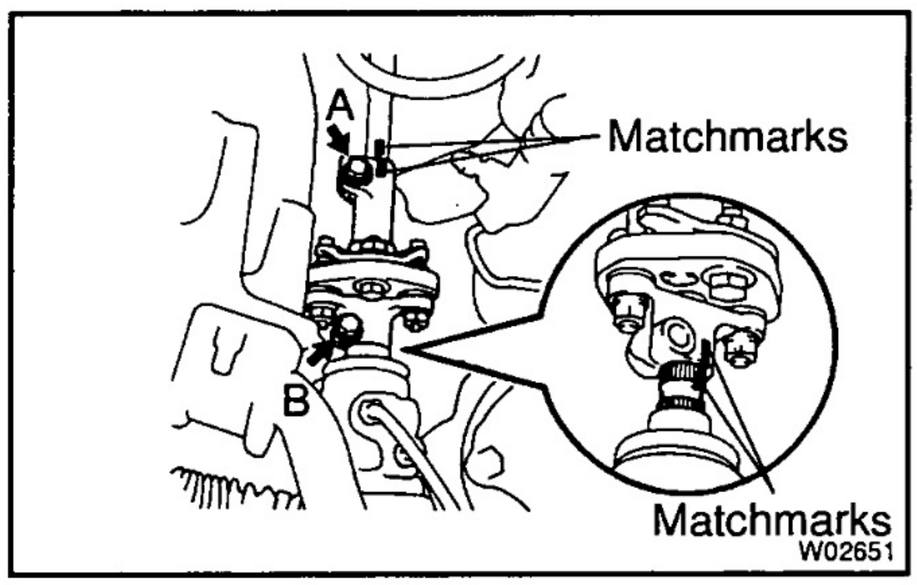
(c) Remove the 3 screws.

9. w/ Airbag:
REMOVE SPIRAL CABLE (Refer to Pub. No. RM517E)

NOTICE:

Do not disassemble the cable or apply oil to it.

10. REMOVE BRAKE PEDAL RETURN SPRING



11. REMOVE INTERMEDIATE SHAFT No.2

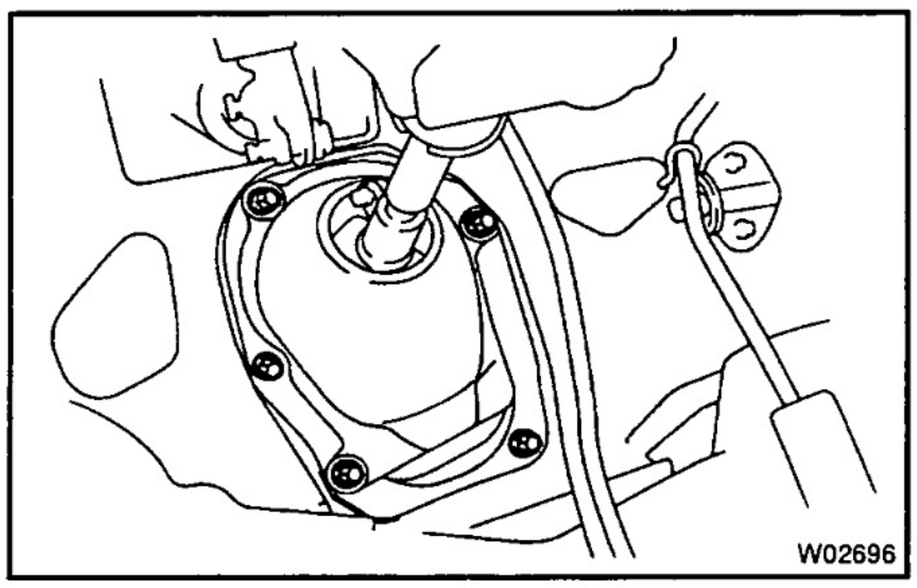
(a) Place matchmarks on the universal joint No.2 and intermediate shaft No.2.

(b) Remove the A bolt.

(c) Place matchmarks on the intermediate shaft No.2 and control valve shaft.

(d) Remove the B bolt.

(e) Slide the intermediate shaft No.2 and remove the intermediate shaft No.2.



12. REMOVE COLUMN HOLE COVER AND COLUMN HOLE COVER No.2

Remove the 5 bolts.

13. REMOVE STEERING COLUMN PROTECTOR

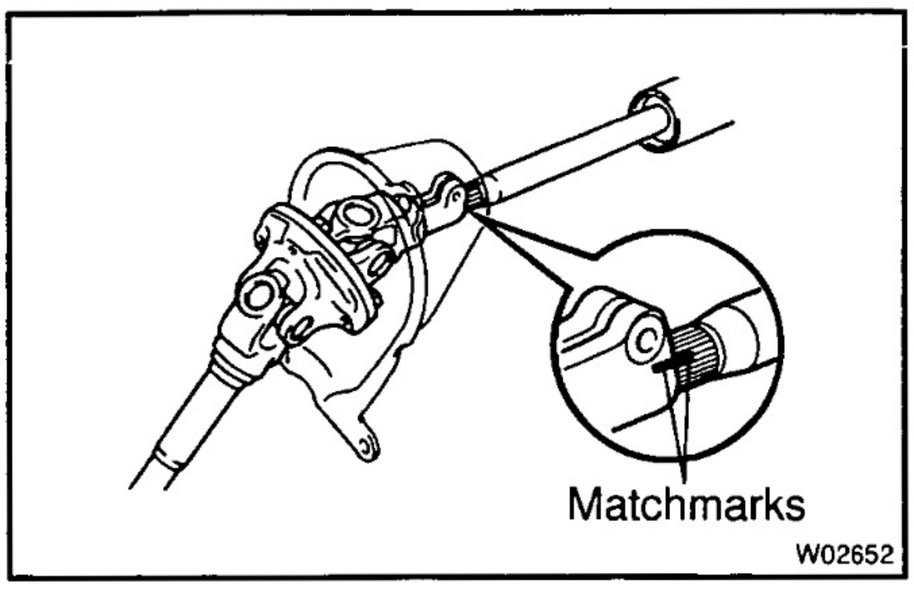
Remove the bolt.

14. REMOVE STEERING COLUMN ASSEMBLY WITH UNIVERSAL JOINT No.2

(a) Disconnect the connectors.

(b) Remove 4 column assembly set nuts.

(c) Pull out the column assembly with universal joint No.2.



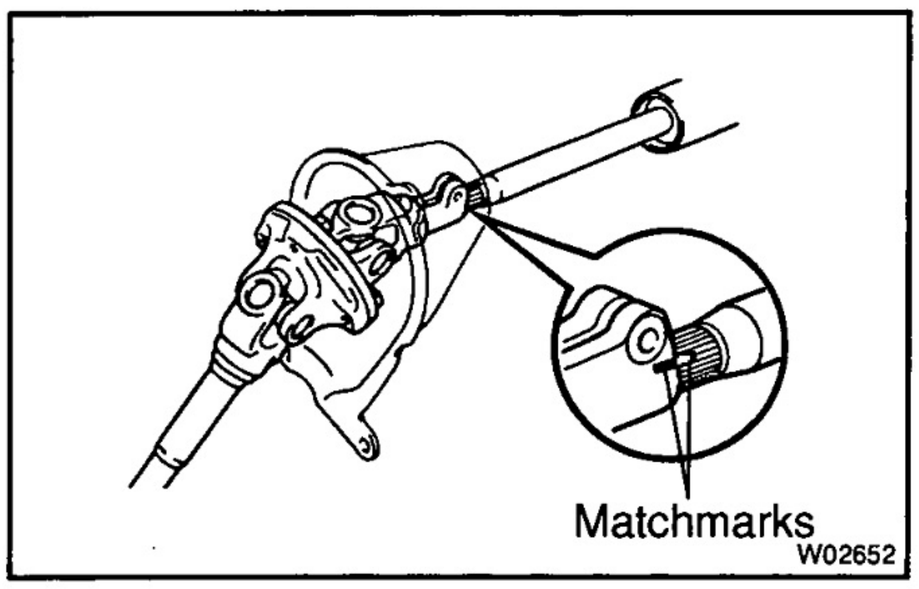
15. DISCONNECT UNIVERSAL JOINT No.2

(a) Place matchmarks on the column assembly and universal joint No.2.

(b) Remove the bolt.

(c) Remove the column hole cover and column hole cover No.2.

SR0N7–01



INSTALLATION

1. CONNECT UNIVERSAL JOINT No.2

(a) Insert the column hole cover and column hole cover No.2.

(b) Align the matchmarks on the column assembly and universal joint No.2.

(c) Torque the bolt.
Torque: 35 N·m (360 kgf·cm, 26 ft·lbf)

2. INSTALL COLUMN ASSEMBLY WITH UNIVERSAL JOINT No.2

(a) Install the column assembly with universal joint No.2.

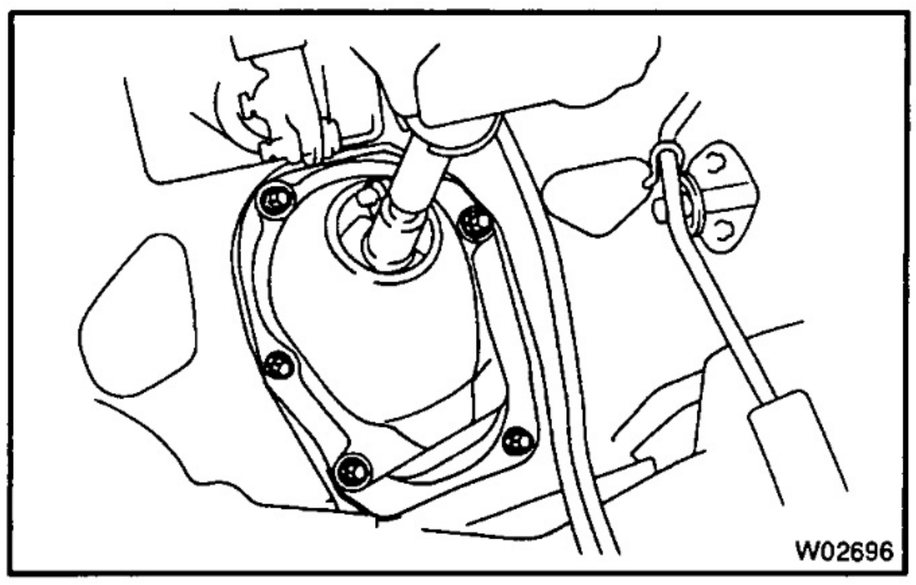
(b) Torque the 4 column assembly set nuts.
Torque: 26 N·m (260 kgf·cm, 18 ft·lbf)

(c) Connect the connectors.

3. INSTALL STEERING COLUMN PROTECTOR

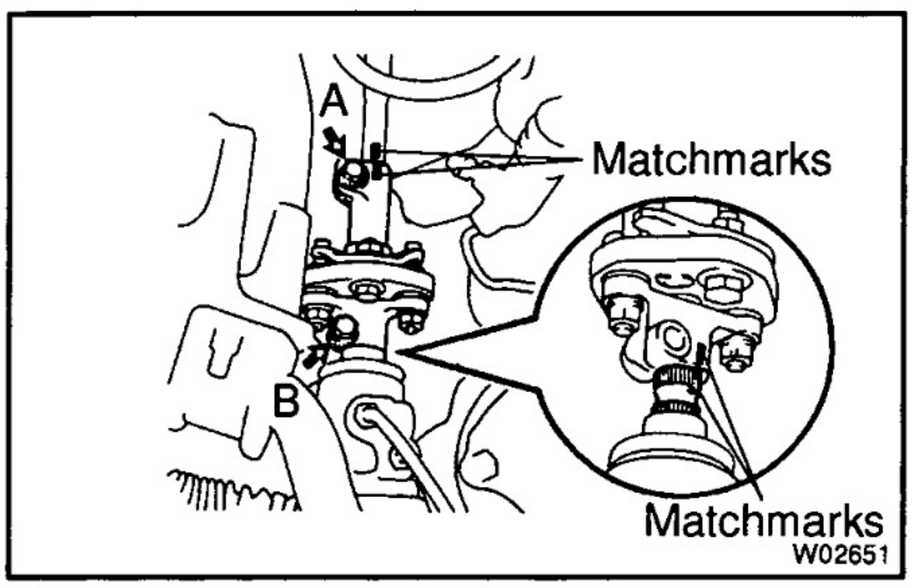
Tighten the bolt.

SR



4. INSTALL COLUMN HOLE COVER AND COLUMN HOLE COVER No.2

Torque the 5 bolts.
Torque: 8.0 N·m (80 kgf·cm, 69 in.·lbf)



5. INSTALL INTERMEDIATE SHAFT No.2

(a) Align the matchmarks on the universal joint No.2 and intermediate shaft No.2.

(b) Align the matchmarks on the control valve shaft and intermediate shaft No.2.

(c) Torque the A and B bolts.
Torque: 35 N·m (360 kgf·cm, 26 ft·lbf)

6. INSTALL BRAKE PEDAL RETURN SPRING

7. w/ Airbag:
INSTALL SPIRAL CABLE
(Refer to Pub. No. RM517E)

8. INSTALL COMBINATION SWITCH WITH SPIRAL CABLE

(a) Tighten the 3 screws.

(b) w/ Airbag:
Connect the airbag connector.

(c) Connect the 2 connectors.

9. INSTALL STARTER SWITCH BEZEL

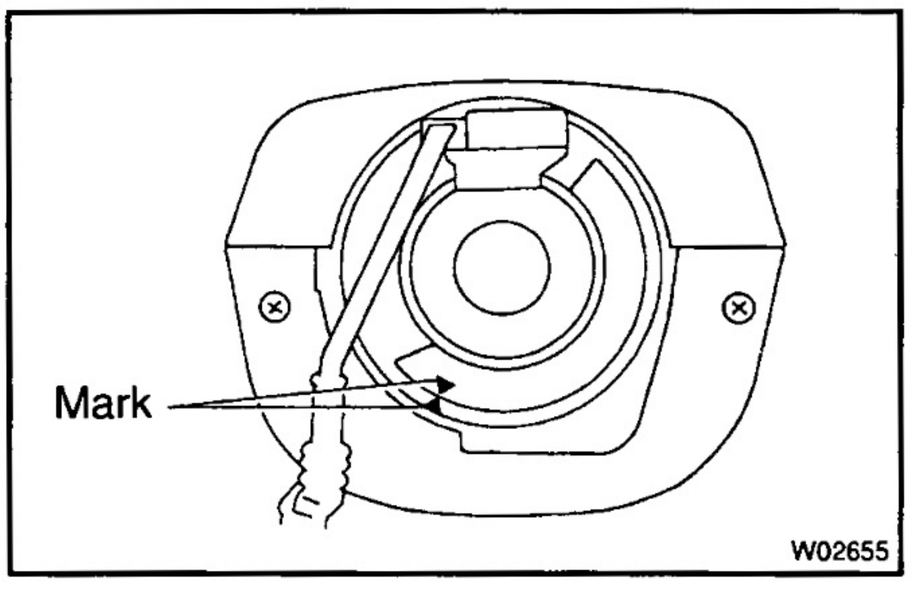
10. INSTALL LOWER FINISH PANEL

(a) Install the 2 panel set screws.

(b) Connect the hood lock release lever and fuel lid release lever with the 4 screws.

11. INSTALL UPPER AND LOWER COLUMN COVERS

Install the 3 screws.



12. CENTER SPIRAL CABLE

(a) Check that the front wheels are facing straight ahead.

(b) Turn the cable counterclockwise by hand until it becomes harder to turn the cable.

(c) Then rotate the cable clockwise about 3 turns to align the mark.

HINT:

The cable will rotate about 3 turns to either left or right of the center.

13. INSTALL STEERING WHEEL

(a) Align the matchmarks on the wheel and main shaft.

(b) Torque the wheel set nut.

Torque: 34 N·m (350 kgf·cm, 25 ft·lbf)

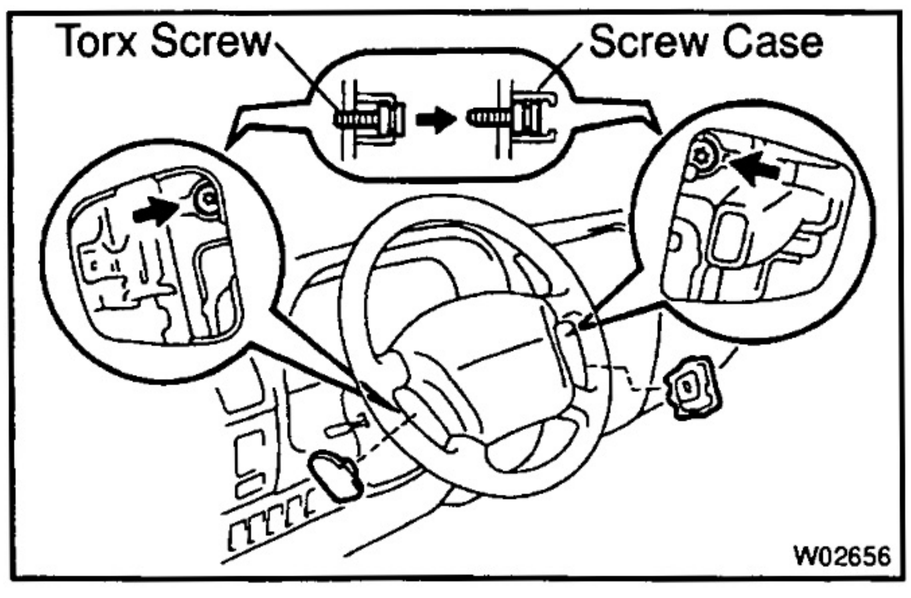
(c) Connect the connector.

14. w/ Airbag:

INSTALL STEERING WHEEL PAD

NOTICE:

- **Make sure the wheel pad is installed to the specified torque.**
- **If the wheel pad has been dropped, or there are cracks, dents or other defects on the case or connector, replace the wheel pad with a new one.**
- **When installing the wheel pad, take care that the wirings do not interfere with other parts and are not pinched between other parts.**



(a) Connect the airbag connector.

(b) Install the pad after confirming that the circumference groove of the torx screw is caught on the screw case.

(c) Using a torx socket wrench, torque the 2 screws.

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

(d) Install the 2 steering wheel lower covers.

15. w/o Airbag:
INSTALL STEERING WHEEL PAD

(a) Connect the terminal.

(b) Install the pad.

(c) Install the screw.

16. CHECK STEERING WHEEL CENTER POINT

SUPPLEMENTAL RESTRAINT SYSTEM

SRS AIRBAG RS–1
STEERING WHEEL PAD AND SPIRAL CABLE RS–11
FRONT PASSENGER AIRBAG ASSEMBLY RS–25
AIRBAG SENSOR ASSEMBLY RS–38
FRONT AIRBAG SENSOR RS–43
WIRE HARNESS AND CONNECTOR RS–48

SRS AIRBAG

PRECAUTION

RS01Y–16

NOTICE:

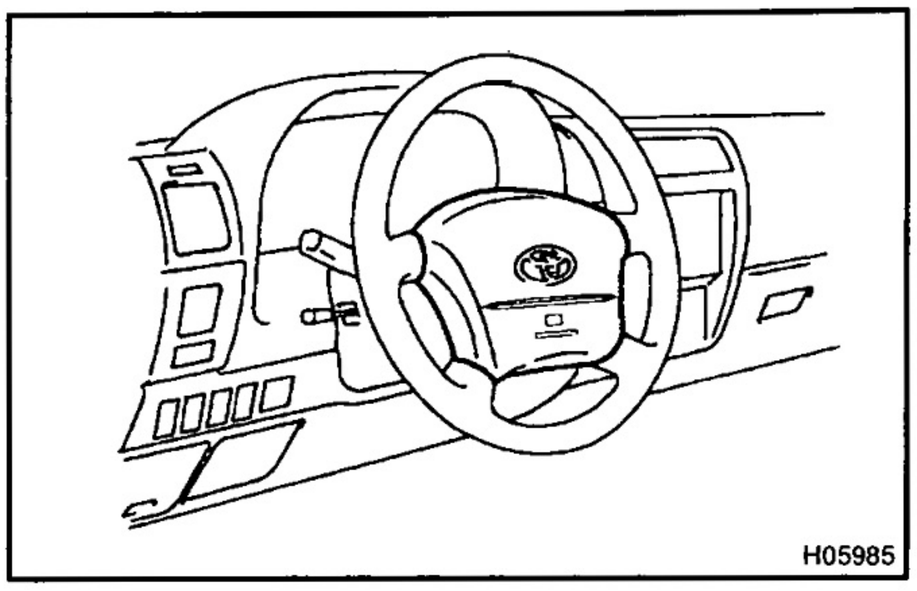
- **The LAND CRUISER/LAND CRUISER PRADO is equipped with SRS, which comprises a driver airbag, front passenger airbag and seat belt pretensioner. Failure to carry out service operations in the correct sequence could cause the SRS to unexpectedly deploy during servicing, possibly leading to a serious accident. Further, if a mistake is made in servicing the SRS, it is possible that 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 procedures described in the repair manual.**
- **Malfunction symptoms of the SRS are difficult to confirm, so the DTCs become the most important source of information when troubleshooting. When troubleshooting the SRS, always inspect the DTCs before disconnecting the battery.**
- **Even in cases of a minor collision where the SRS does not deploy, the steering wheel pad, front passenger airbag assembly, seat belt pretensioner, airbag sensor assembly and front airbag sensor should be inspected (See page RS–13, RS–27, RS–40, RS–45 and BO–24).**
- **Never use SRS parts from another vehicle. When replacing parts, replace them with new parts.**
- **Never disassemble and repair the steering wheel pad, front passenger airbag assembly, seat belt pretensioner, airbag sensor assembly or front airbag sensor in order to reuse it.**
- **If the steering wheel pad, front passenger airbag assembly, seat belt pretensioner, airbag sensor assembly or front airbag sensor have been dropped, or if there are cracks, dents or other defects in the case, bracket or connector, replace them with new ones.**
- **Use a volt/ohmmeter with high impedance (10 kΩ/V minimum) for troubleshooting the system's electrical circuits.**
- **Information labels are attached to the periphery of the SRS components. Follow the instructions on the notices.**
- **After work on the SRS is completed, perform the SRS warning light check (See page DI–3).**
- **If the vehicle is equipped with a mobile communication system, refer to the precaution in the IN section.**

CAUTION:

- **Work must be started after 90 seconds from when 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 from disconnecting the negative (–) terminal cable of the battery, the SRS may be deployed.)
- **When the negative (–) terminal cable is disconnected from the battery, the memory of the clock and audio system will be canceled. So before starting work, make a record of the contents memorized in the audio memory system. When work is finished, reset the audio systems as they were before and adjust the clock. To avoid erasing the memory in each memory system, never use a back– up power supply from outside the vehicle.**
- **Before repairs, remove the airbag sensor if shocks are likely to be applied to the sensor during repairs.**
- **Do not expose the steering wheel pad, front passenger airbag assembly, seat belt pretensioner, airbag sensor assembly or front airbag sensor directly to hot air or flames.**

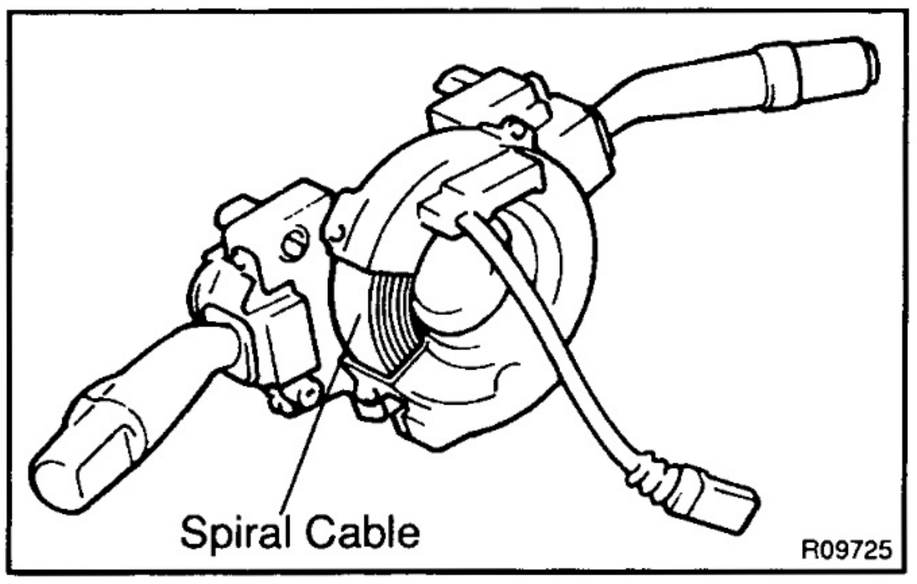
RS0C6-01

OPERATION



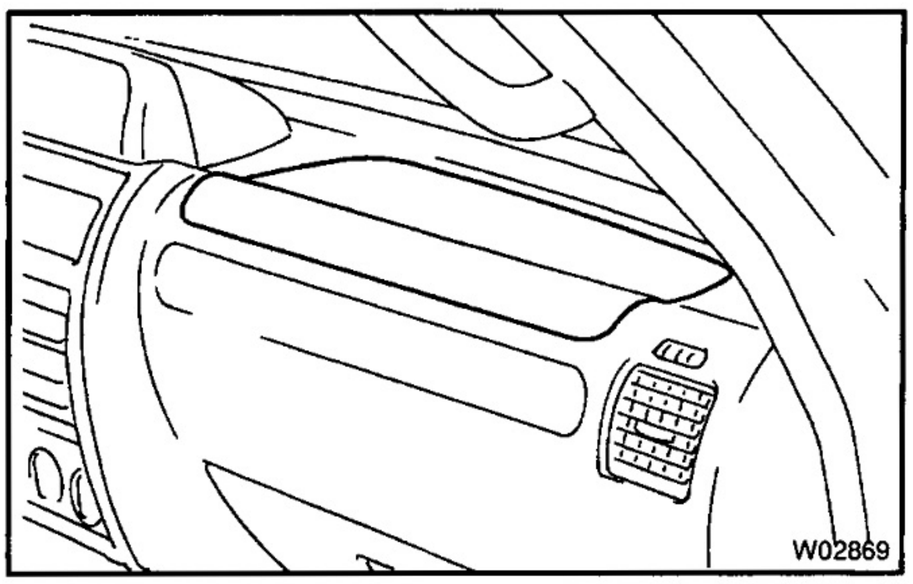
1. STEERING WHEEL PAD (with AIRBAG)

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



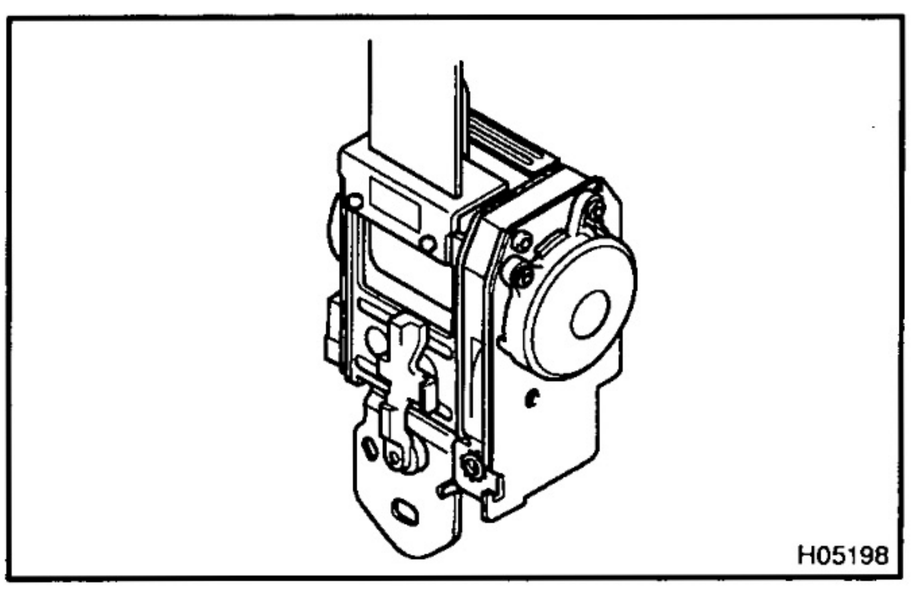
2. SPIRAL CABLE (in COMBINATION SWITCH)

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



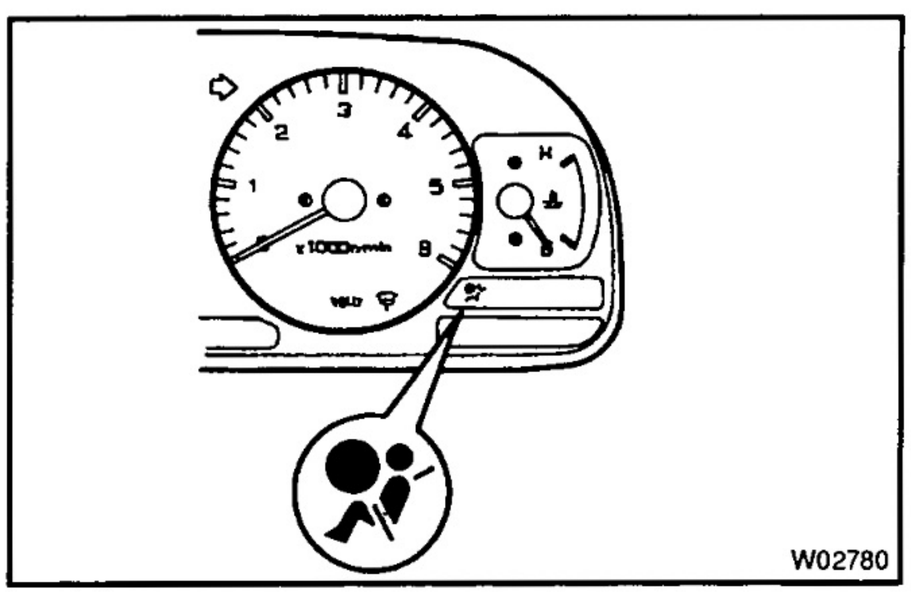
3. FRONT PASSENGER AIRBAG ASSEMBLY

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



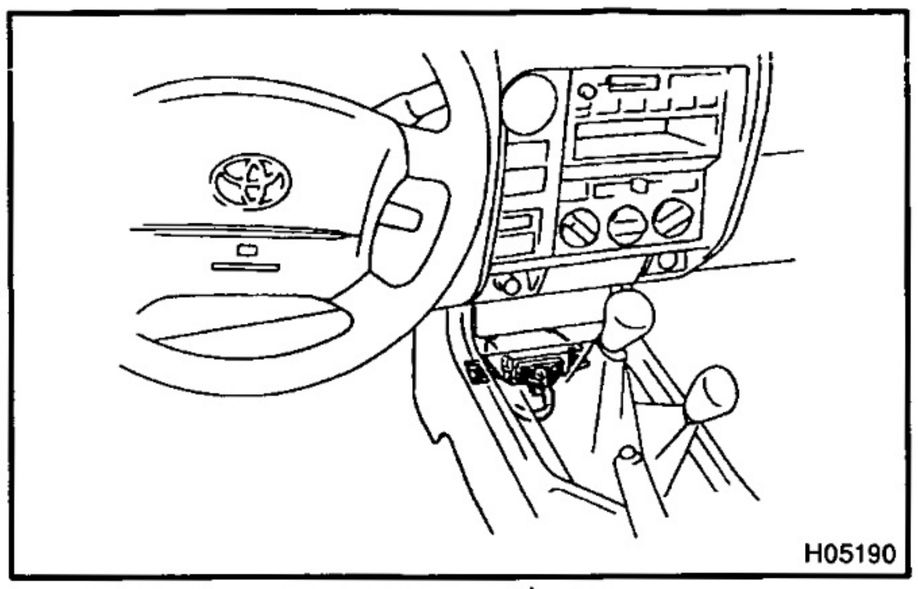
4. SEAT BELT PRETENSIONER

The seat belt pretensioner system is a component of the front seat outer belt. The pretensioner contains a squib, gas generant, strap, etc., and operates in the event of a frontal collision.



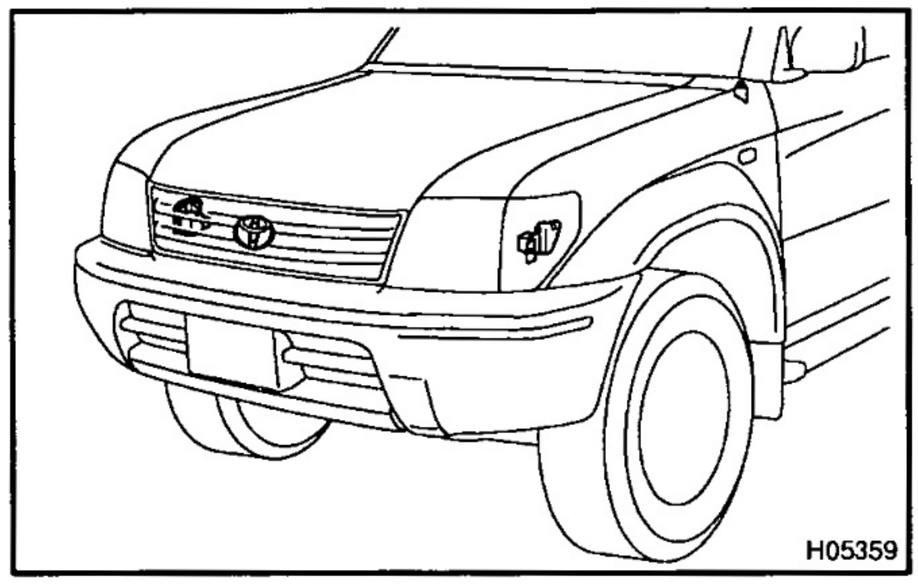
5. SRS WARNING LIGHT

The SRS 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 airbag sensor assembly. In normal operation 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.



6. AIRBAG SENSOR ASSEMBLY

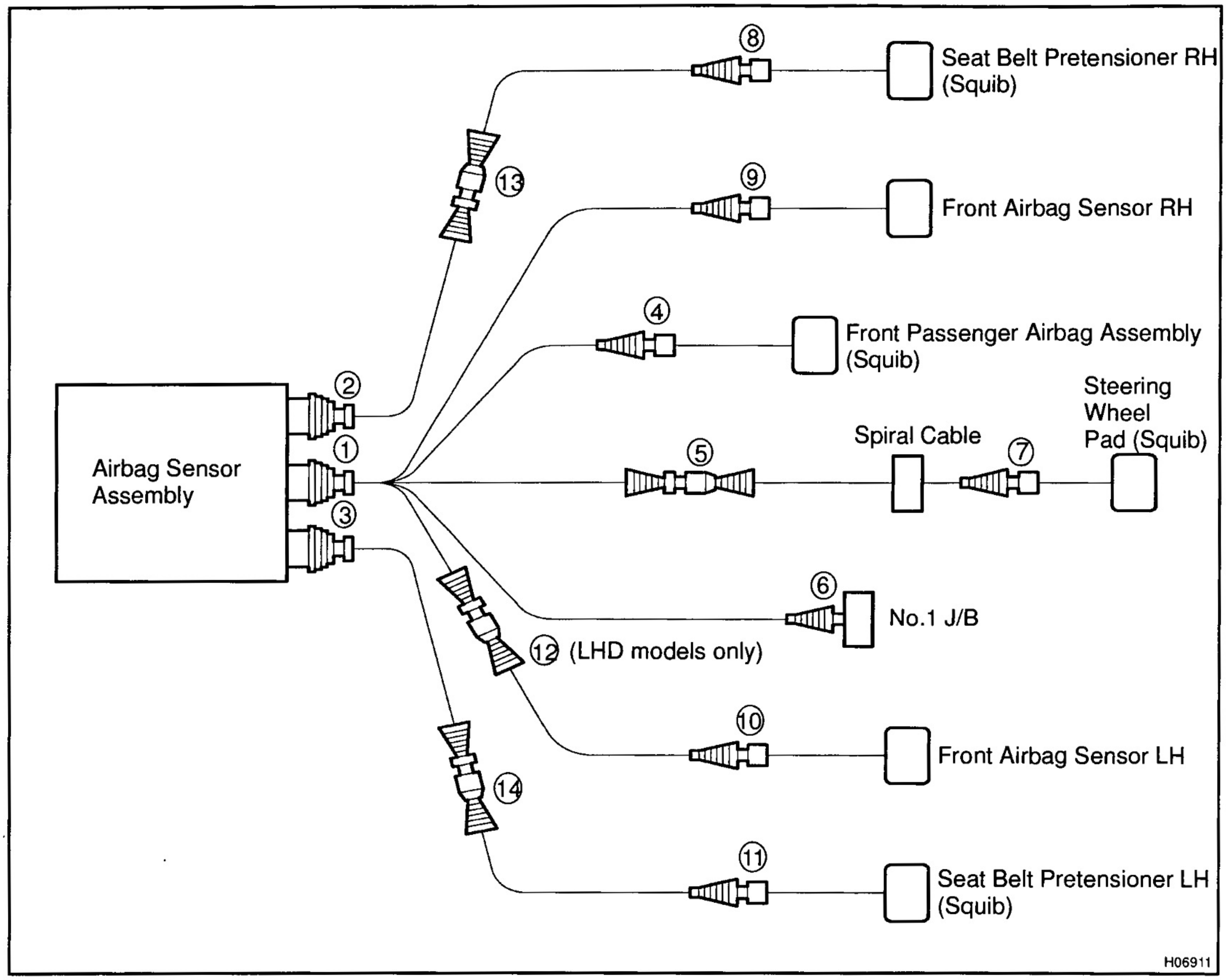
The airbag sensor assembly is mounted on the floor inside the lower center finish panel. The airbag sensor assembly consists of an airbag sensor, safing sensor, diagnosis circuit and ignition control, drive circuit, etc. It receives signals from the airbag sensor and judges whether the SRS must be activated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



7. FRONT AIRBAG SENSOR

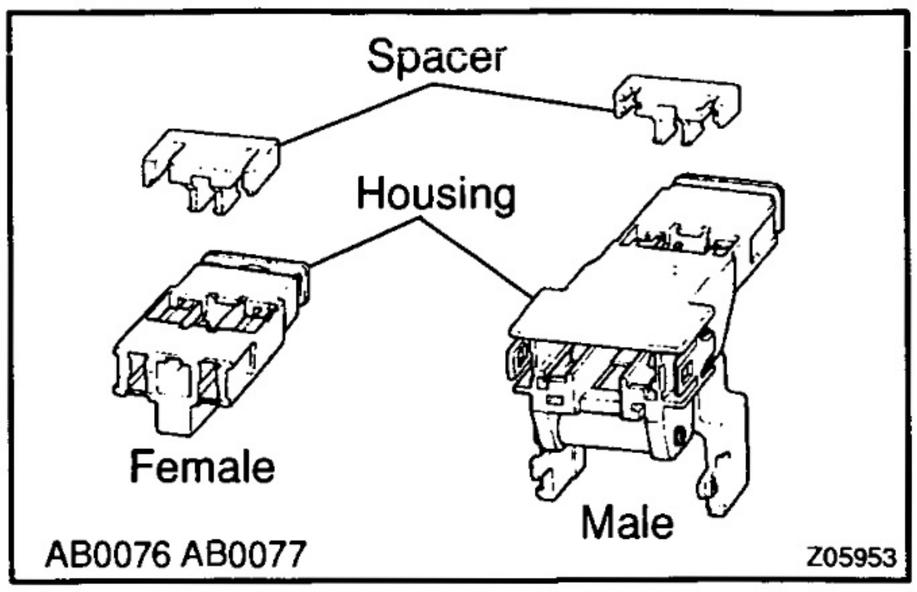
The front airbag sensor is mounted inside each of the front members. The sensor unit is a mechanical type. When the sensor detects deceleration force above a predetermined limit, contact is made in the sensor, sending a signal to the airbag sensor assembly. The sensor cannot be disassembled.

8. SRS CONNECTORS



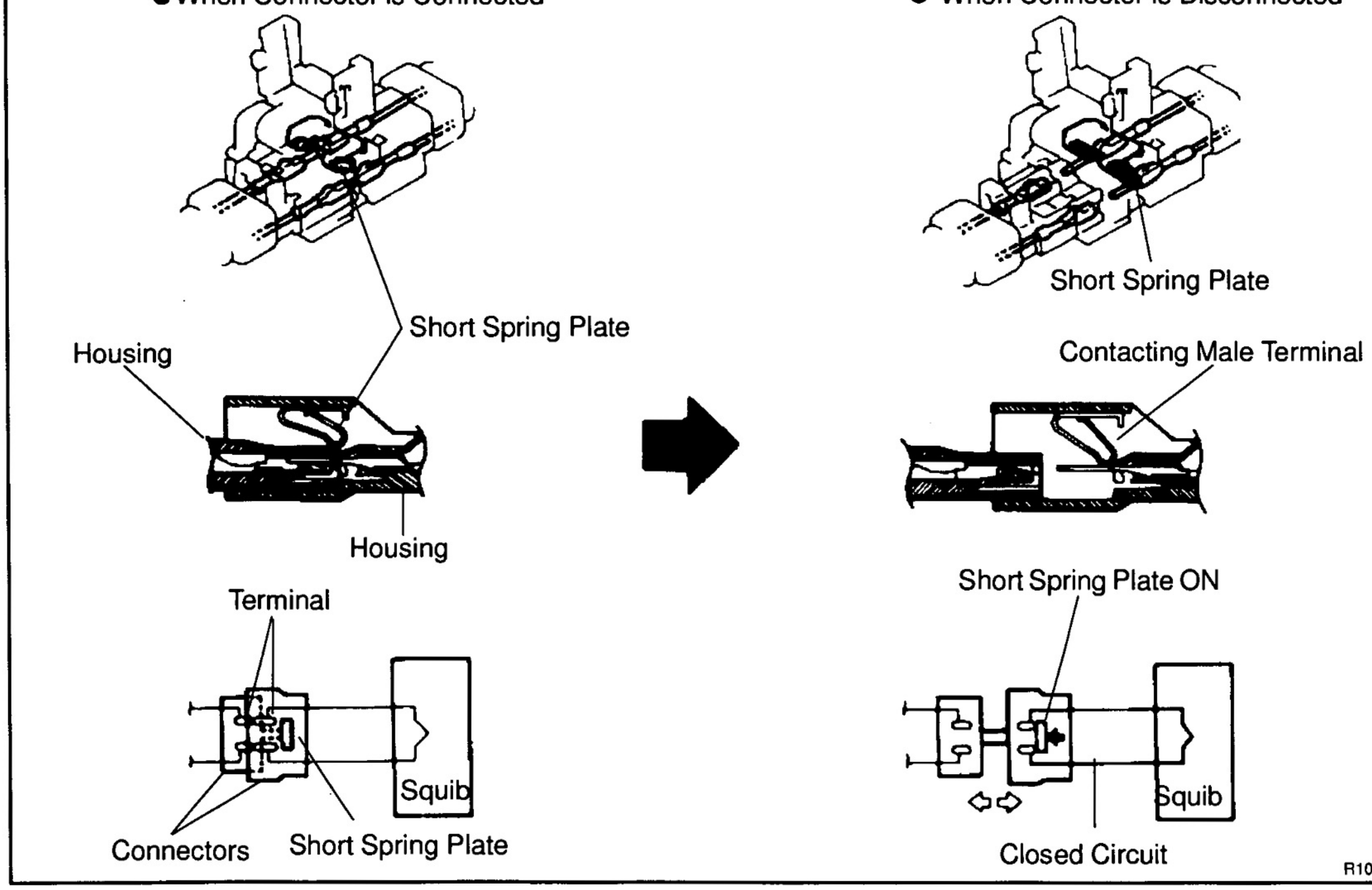
No.	Item	Application
(1)	Terminal Twin–Lock Mechanism	Connectors 1, 2, 3, 4, 5, 6, 7, 9, 10, 12, 13, 14
(2)	Airbag Activation Prevention Mechanism	Connectors 1, 2, 3, 4, 5, 7
(3)	Electrical Connection Check Mechanism	Connectors 1, 2, 3
(4)	Connector Twin–Lock Mechanism	Connectors 5, 6

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

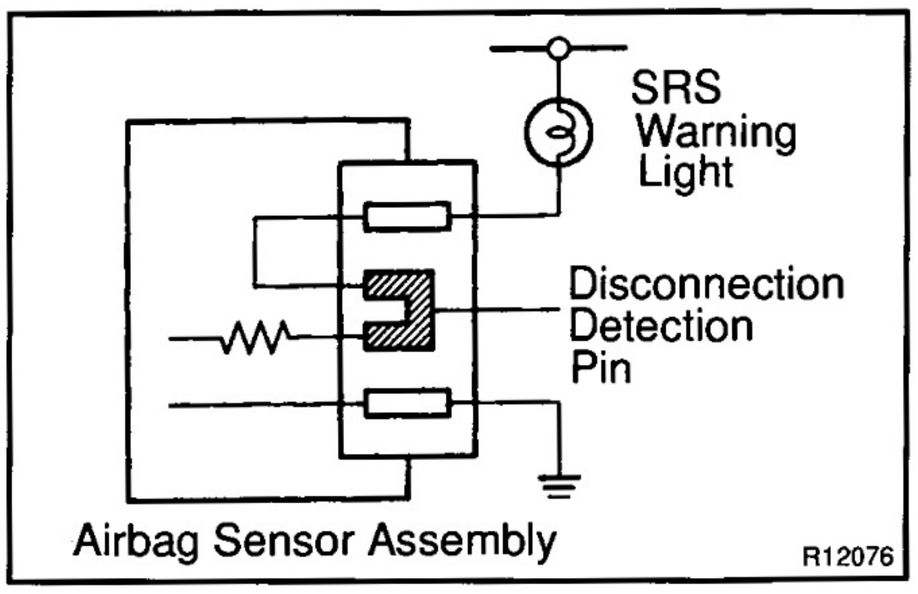


(1) Terminal Twin–Lock Mechanism
Each connector has a two–piece component consisting of a housing and a spacer. This design secures the locking of the terminal by two locking devices (the retainer and the lance) to prevent terminals from coming out.

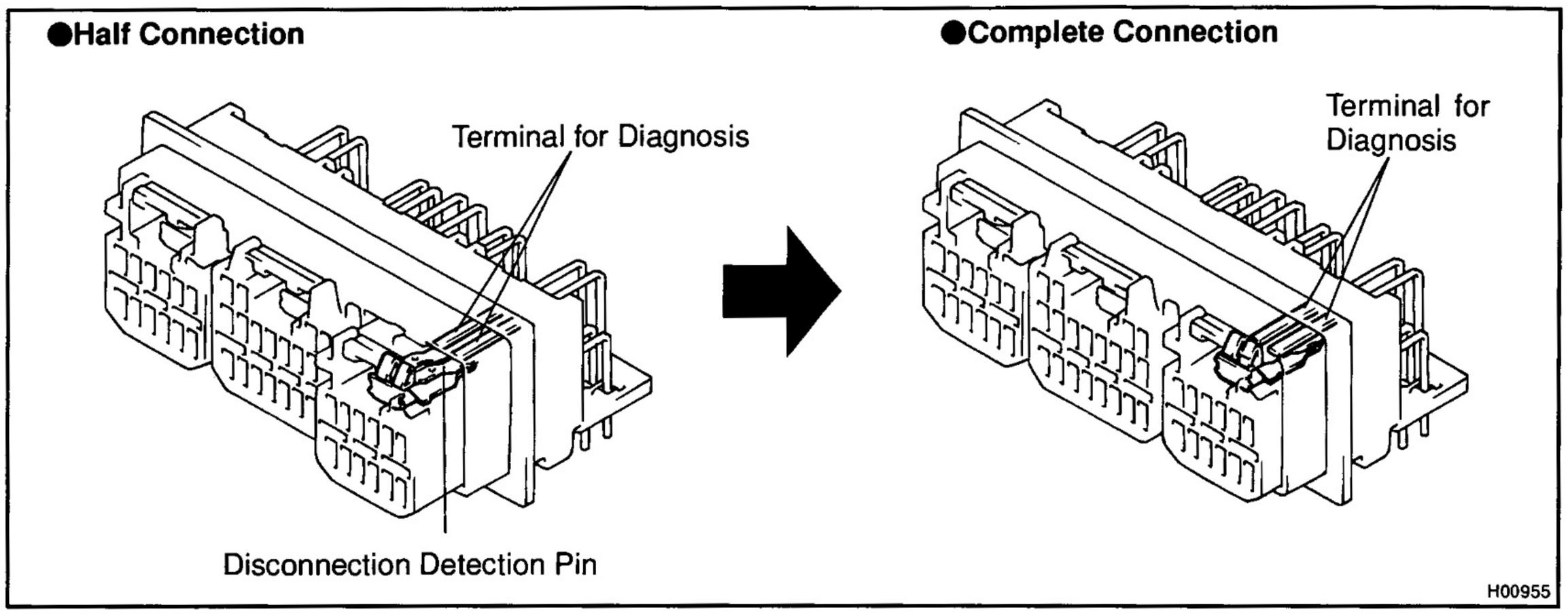
(2) Airbag Activation Prevention Mechanism
Each connector contains a short spring plate. When the connector is disconnected, the short spring plate automatically connects the power source and grounding terminals of the squib.



HINT:
The type of connector shown above is used for connectors "1", "2", "3", "4", "5" and "7" in the diagram on the preceding page. However, connector "1" has short spring plates on the female side instead of the male side.

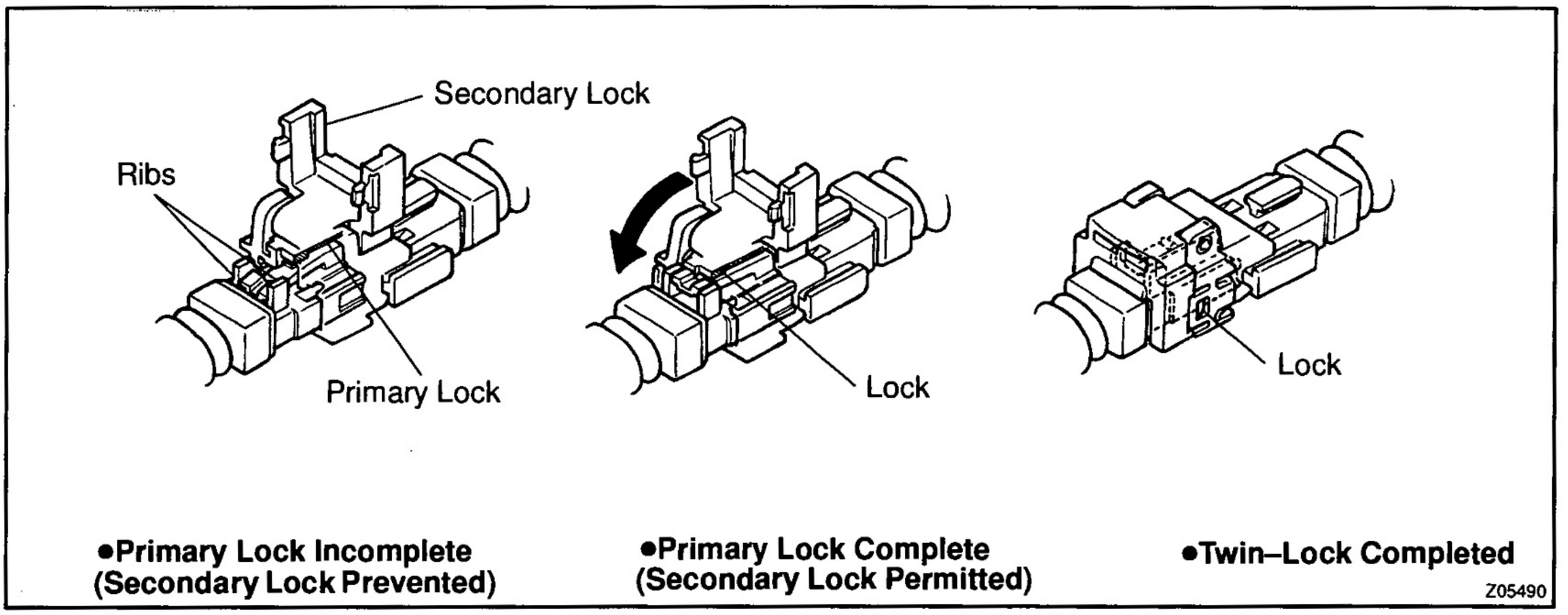


(3) Electrical Connection Check Mechanism
This mechanism electrically checks that connectors are connected correctly and completely. The electrical connection check mechanism is designed so that the disconnection detection pin connects with the diagnosis terminals when the connector housing lock is locked.



HINT:
The illustration shows connector "1", "2" and "3".

(4) Connector Twin–Lock Mechanism
With this mechanism connectors (male and female connectors) are locked by 2 locking devices to increase the connection reliability. If the primary lock is incomplete, ribs interfere and prevent the secondary lock.



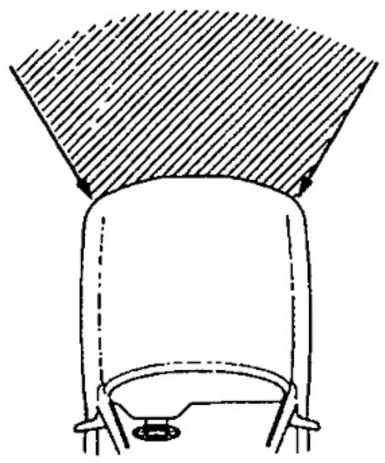


Fig.1

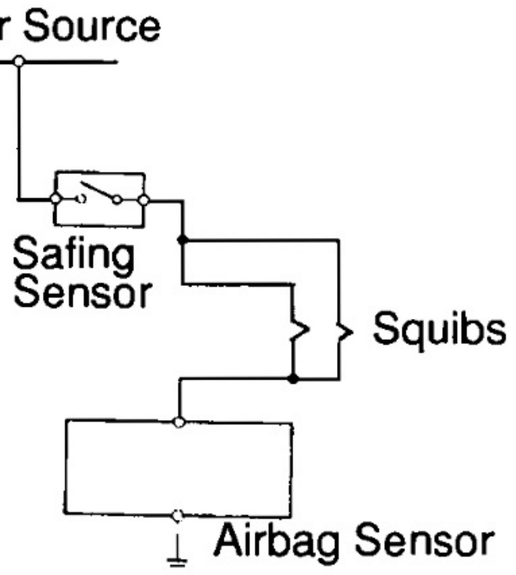


Fig.2

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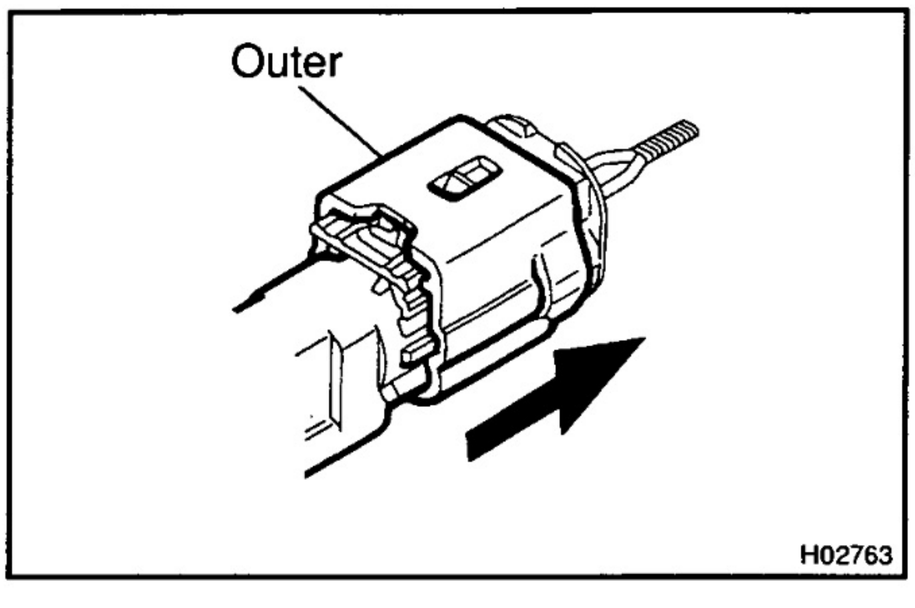
(b) When the vehicle is involved in a frontal collision in the hatched area (Fig. 1) and the shock is larger than the predetermined level, the SRS is activated automatically. A safing sensor is designed to go on at a smaller deceleration rate than the airbag sensor. As illustrated in Fig. 2, ignition is caused when current flows to the squib, which happens when a safing sensor and the airbag sensor go on simultaneously. When a deceleration force acts on the sensors, 2 squibs in the driver airbag and front passenger airbag ignite and generate gas. The gas discharging into the driver airbag and front passenger airbag 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.



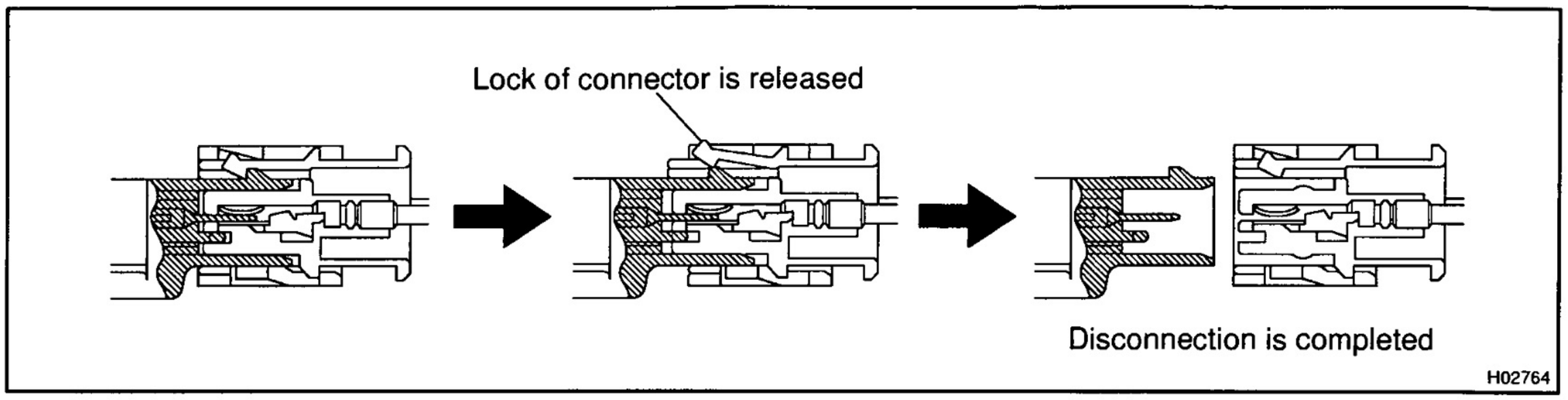
9. DISCONNECTION OF AIRBAG SENSOR CONNECTOR

(a) With holding both flank sides of the outer, slide the outer to the direction shown by an arrow.

(b) Lock of the connectors is released, then disconnect the connectors.

HINT:

Make sure to hold both flank sides of the outer. If holding the top and bottom sides, it obstructs disconnection.



10. CONNECTION OF AIRBAG SENSOR CONNECTOR

(a) Align the male connector (of the side of sensor) and female connector in same direction as shown in the illustration and fit in them without rubbing.

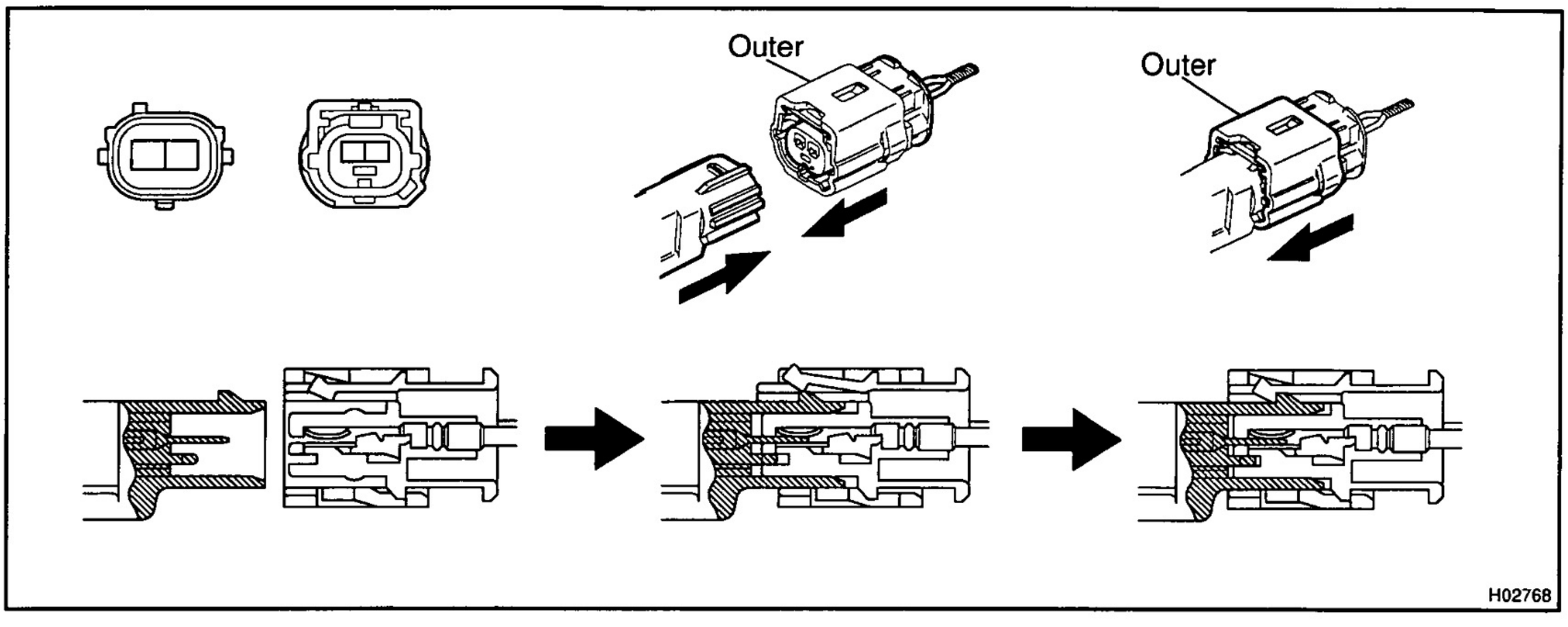
(b) As they are fitted in, the outer slides rearward. Press it until the outer returns to its original position again.

If fitting is stops on the half way, connectors will separate.

(c) Make sure to insert until they are locked. After fitting in, pull them lightly to check that they are locked. (When locked, make sure that the outer returns to its original position and sound at the time of fitting in can be heard.)

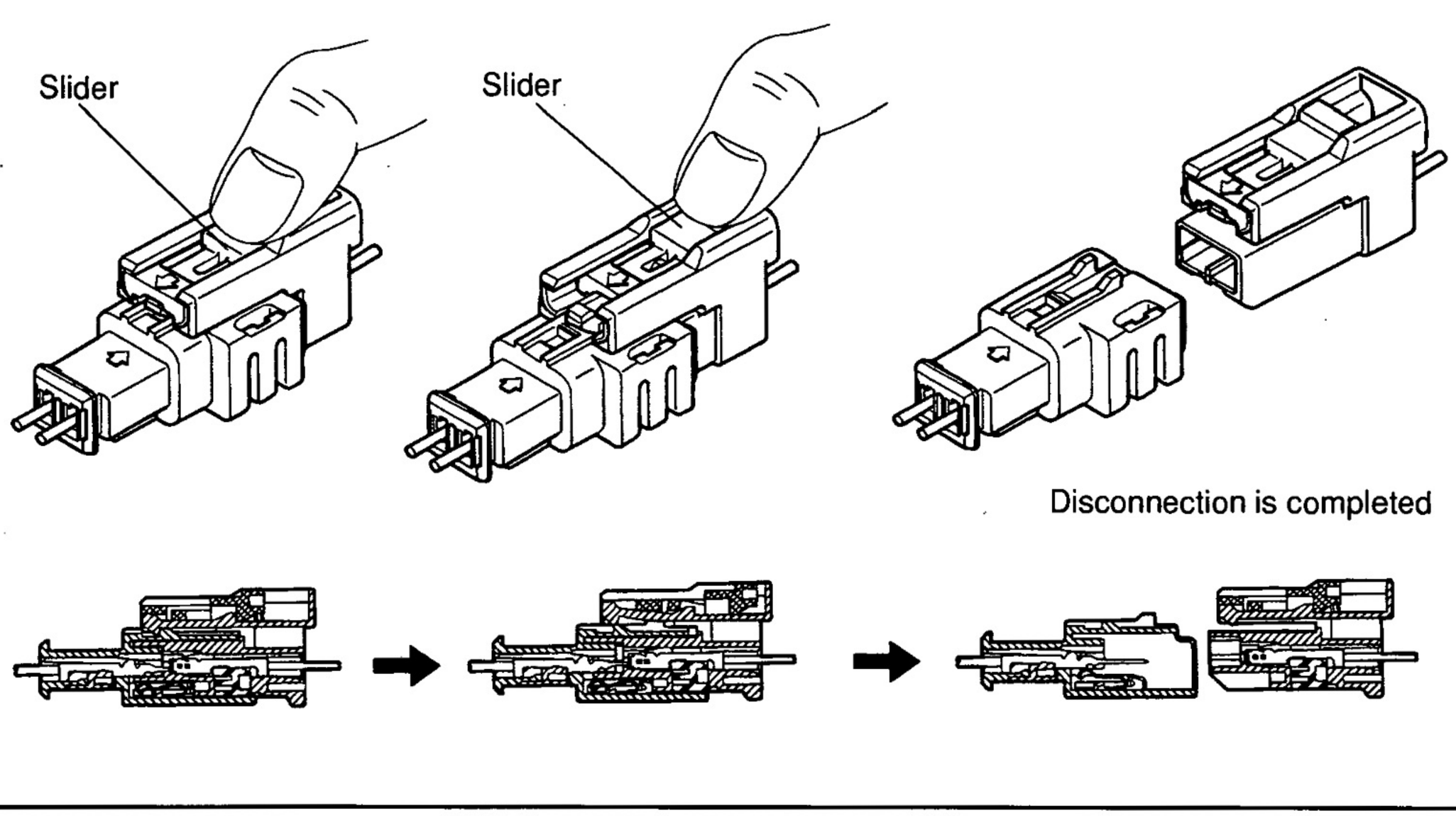
HINT:

- Do not fit in with holding the outer.
- When fitting in, the outer slide. Do not touch it.



11. DISCONNECTION OF CONNECTORS FOR STEERING WHEEL PAD (with AIRBAG), FRONT PASSENGER AIRBAG ASSEMBLY

(a) Place a finger on the slider.
(b) Slide the slider to release lock.
(c) Disconnect the connector.



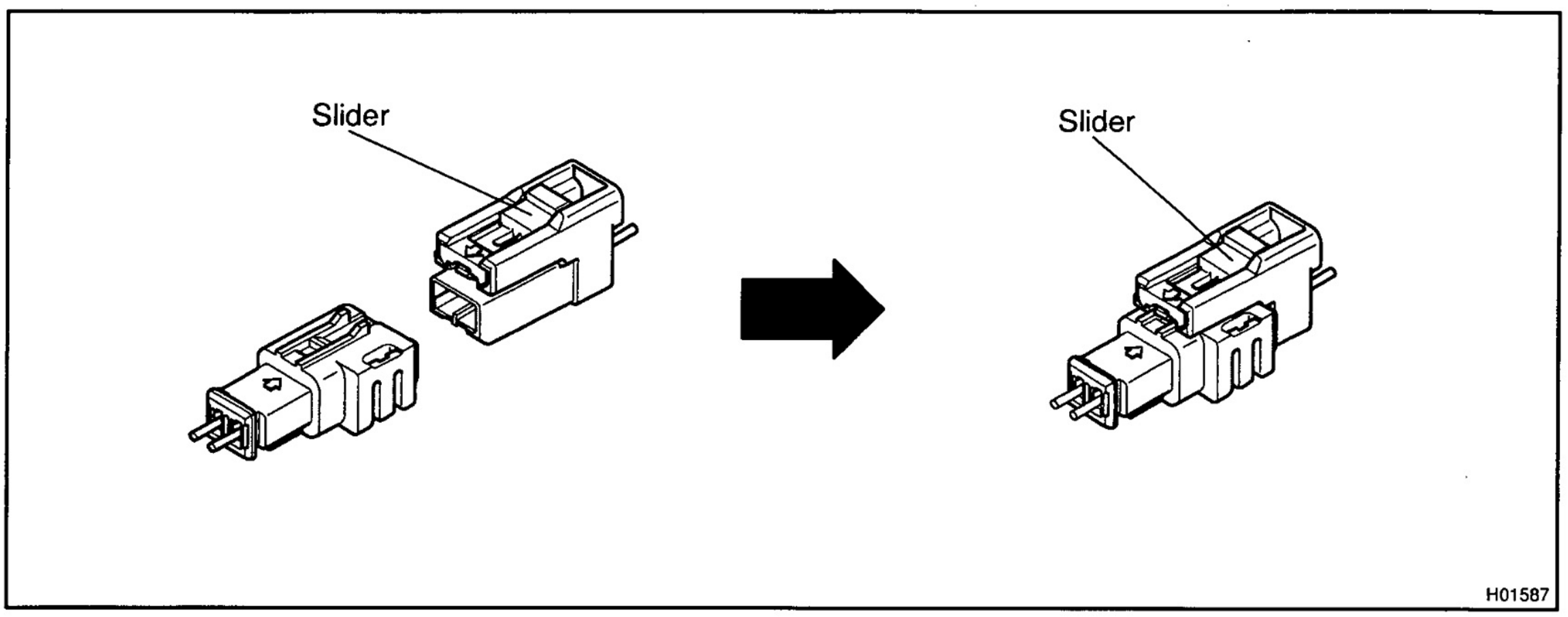
12. CONNECTION OF CONNECTORS FOR STEERING WHEEL PAD (with AIRBAG), FRONT PASSENGER AIRBAG ASSEMBLY

(a) Align a lock part of male connector and a slider of female connector in the same direction as shown in the illustration, fit in them without rubbing.

(b) Make sure to insert until they are locked.After fitting in pull them lightly to check that they are locked.(When locked, make sure that the outer returns to its original position and sound at the time of fitting in can be heard.)

HINT:

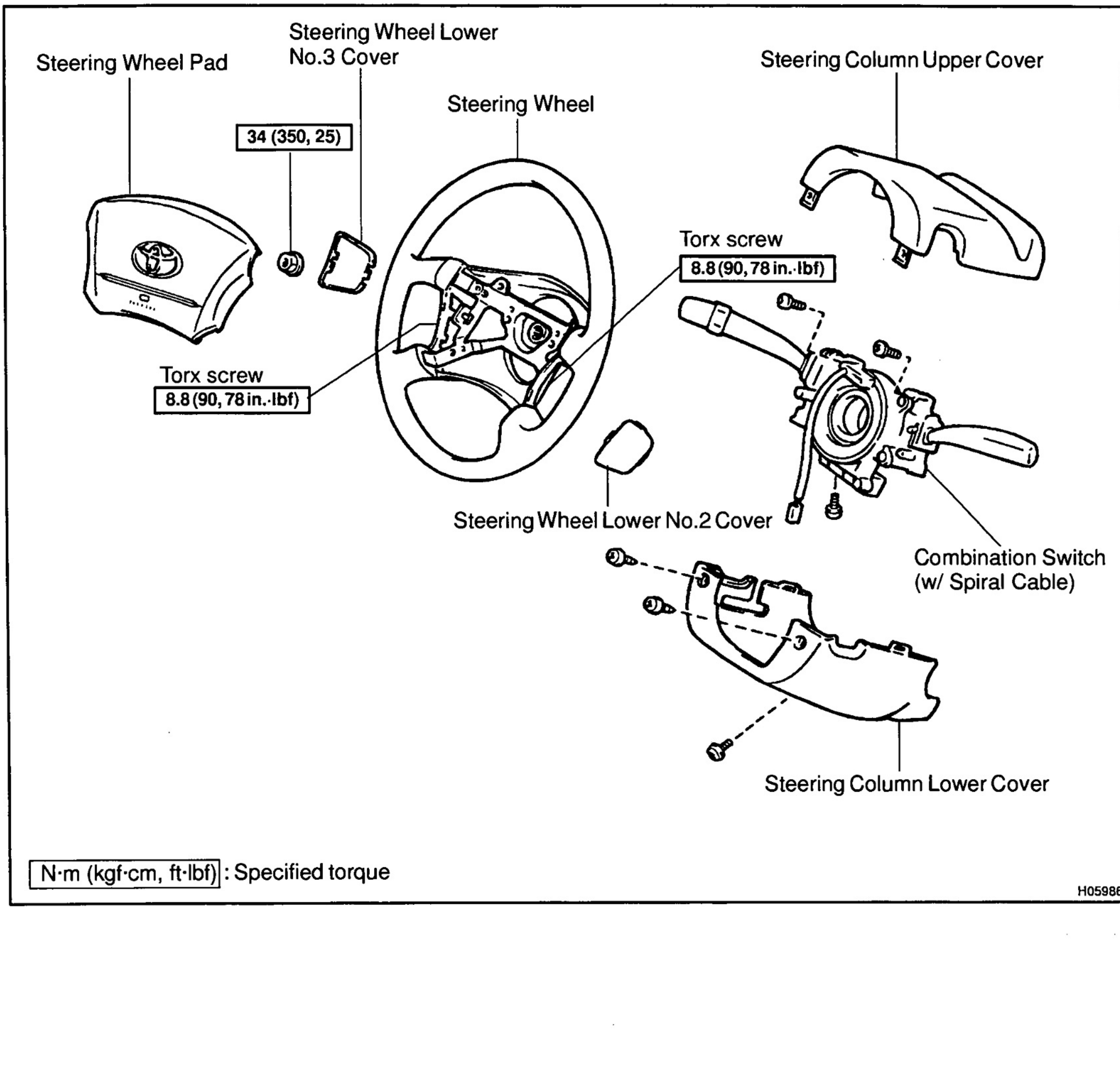
- As the slider slides, do not touch it.
- Be careful not to deform the release board. If the release board is deformed, replace it with a new one.



STEERING WHEEL PAD AND SPIRAL CABLE

COMPONENTS

RS00Y-14



N·m (kgf·cm, ft·lbf) : Specified torque

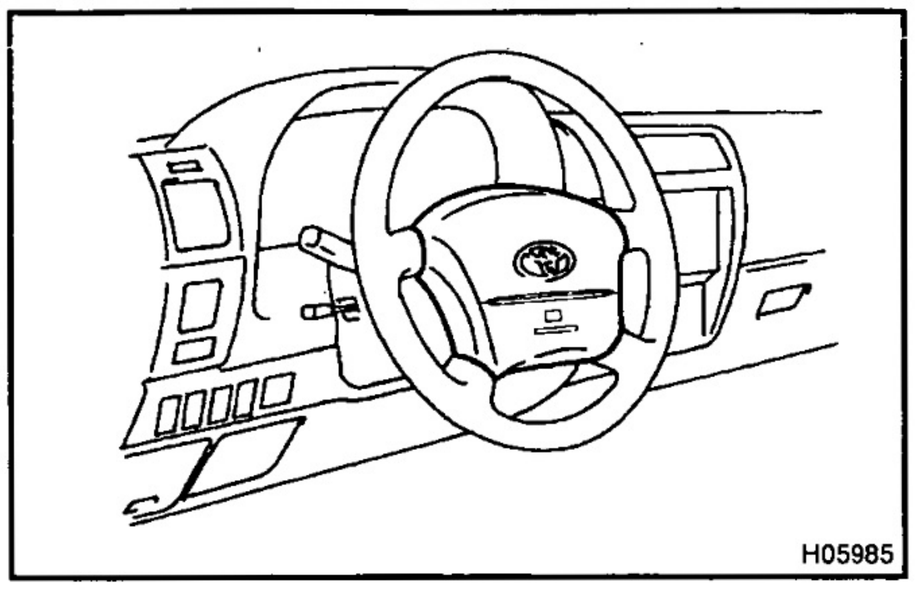
H05986

RS00Z–11

REMOVAL

(See page SR–1)

RS010–14

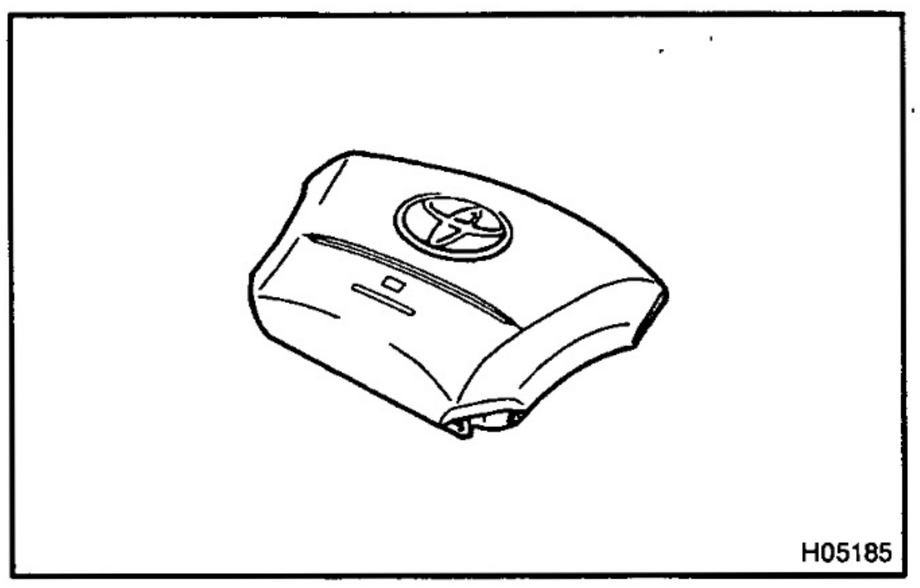

H05985

INSPECTION

1. VEHICLES NOT INVOLVED IN A COLLISION

(a) Do a diagnostic system check.
(See page DI–3)

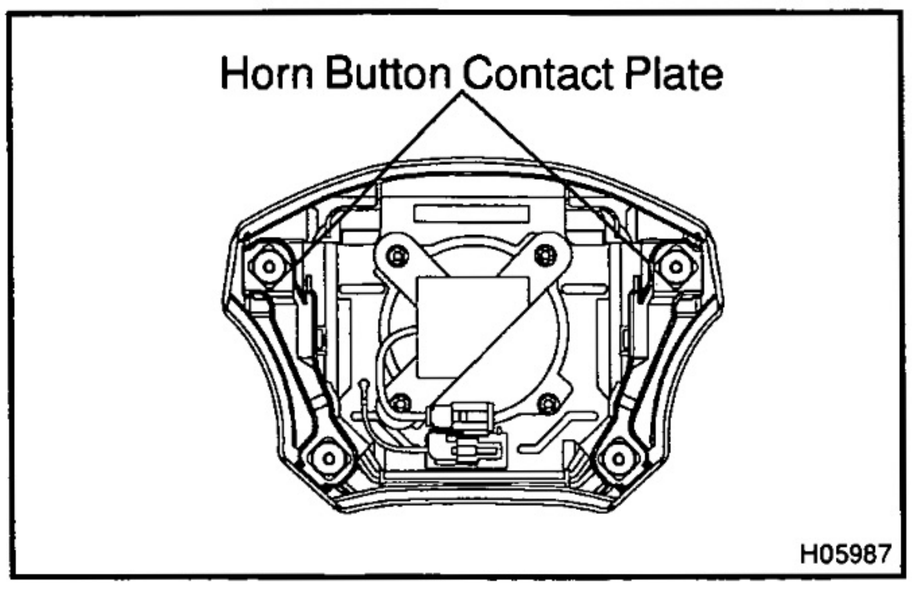
(b) Do a visual check which includes the following items with the steering wheel pad (with airbag) installed in the vehicle.
Check cuts, minute cracks or marked discoloration on the steering wheel pad top surface and in the grooved portion.


H05185

2. VEHICLE INVOLVED IN A COLLISION AND AIRBAG IS NOT DEPLOYED

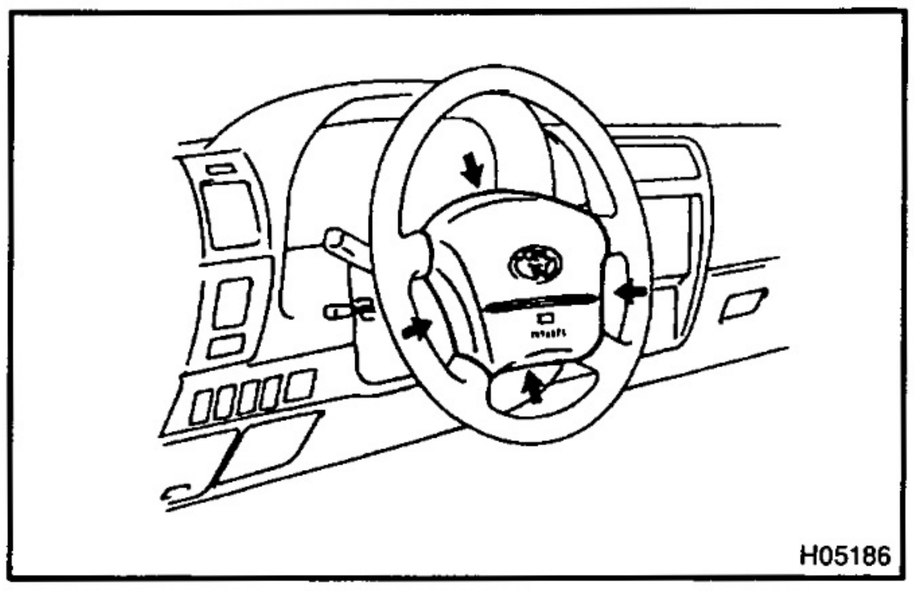
(a) Do a diagnostic system check.
(See page DI–3)

(b) Do a visual check which includes the following items with the steering wheel pad (with airbag) removed from the vehicle.
- Check cuts minute cracks or marked discoloration on the steering wheel pad top surface and in the grooved portion.
- Check cuts and cracks in wire harnesses, and chipping in connectors.
- Check the deformation of the horn button contact plate of the steering wheel pad.



H05987

HINT:
- If the horn button contact plate of the steering wheel pad is deformed, never repair it. Always replace the steering wheel pad with a new one.


H05186

- There should be no interference between the steering wheel pad and 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 SR–1 and SR–4, and be sure to follow the correct procedure.

3. VEHICLE INVOLVED IN A COLLISION AND AIRBAG IS DEPLOYED

(a) Do a diagnostic system check.
(See page DI–3)

(b) Do a visual check which includes the following items:
- Check the deformation of the steering wheel.
- Check the damage on the spiral cable connector and wire harness.

HINT:
There should be no interference between the steering wheel pad and steering wheel, and the clearance should be uniform all the way around when the new steering wheel pad is installed on the steering wheel.

RS011–14

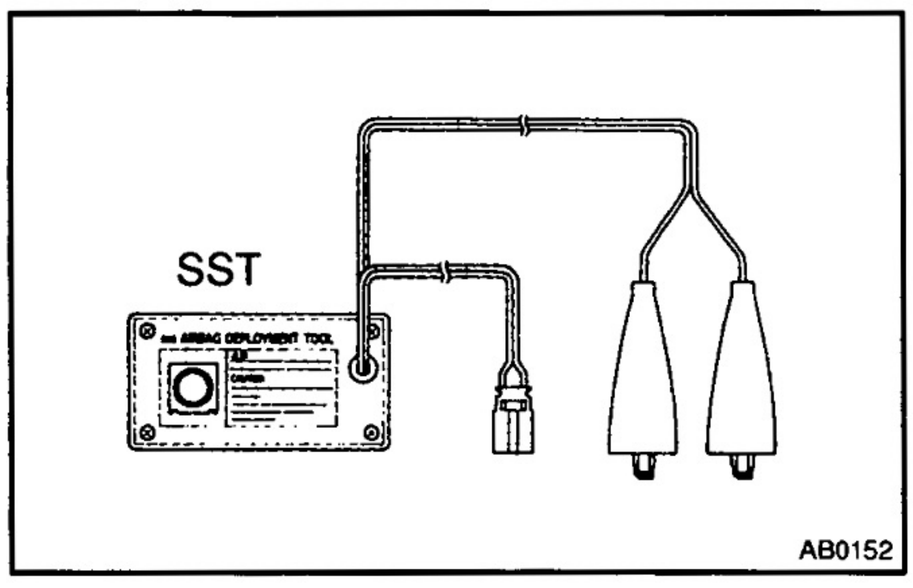
DISPOSAL

HINT:

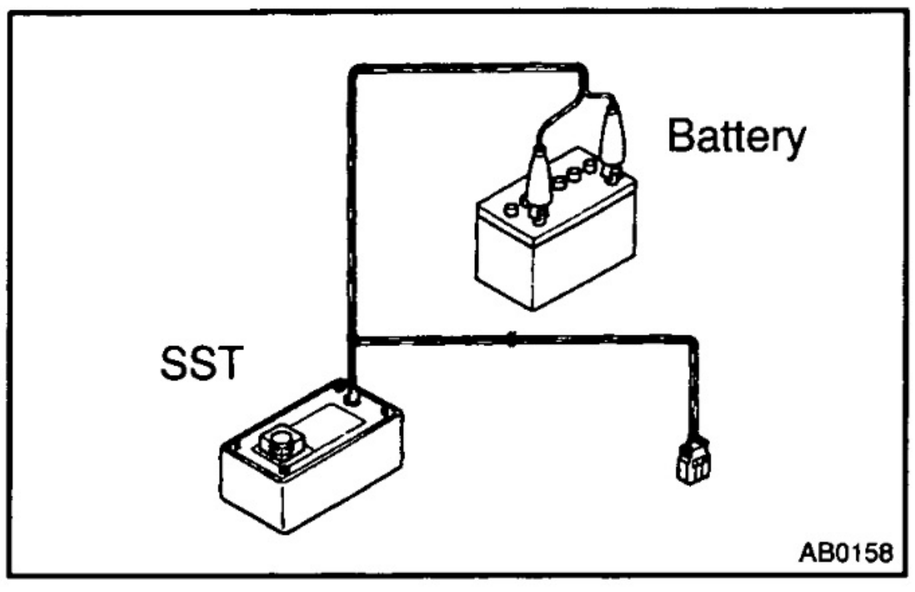
When scrapping vehicle equipped with an SRS or disposing of a steering wheel pad (with airbag), always first deploy the airbag in accordance with the procedure described below. If any abnormality occurs with the airbag deployment, contact the SERVICE DEPT. of DISTRIBUTOR. When disposing of a steering wheel pad with an airbag deployed in a collision, follow the same procedure given in step 1–(d) in "DISPOSAL".

CAUTION:

- **Never dispose of a steering wheel pad which has an undeployed airbag.**
- **The airbag produces a sizeable exploding sound when it deploys, so perform the operation out–of–doors and where it will not create a nuisance to nearby residents.**



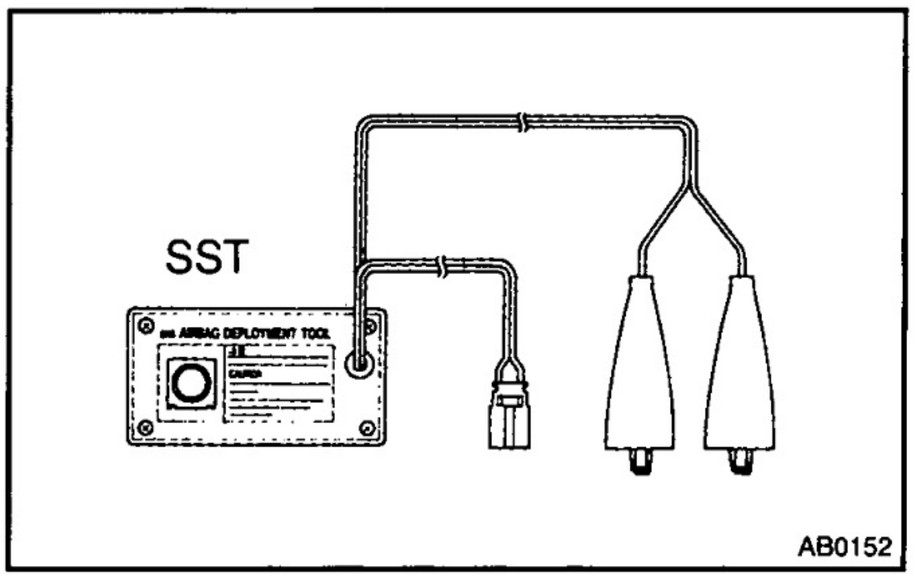
- **When deploying the airbag, always use the specified SST (SRS Airbag Deployment Tool) Perform the operation in a place away from electrical noise.**
  SST 09082–00700, 09082–00760
- **When deploying an airbag, perform the operation at least 10 m (33 ft) away from the steering wheel pad.**
- **The 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 the deployed airbag.**
- **Always wash your hands with water after completing the operation.**
- **Do not apply water, etc. to a steering wheel pad with the deployed airbag.**



1. AIRBAG DEPLOYMENT WHEN SCRAPPING VEHICLE

HINT:

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

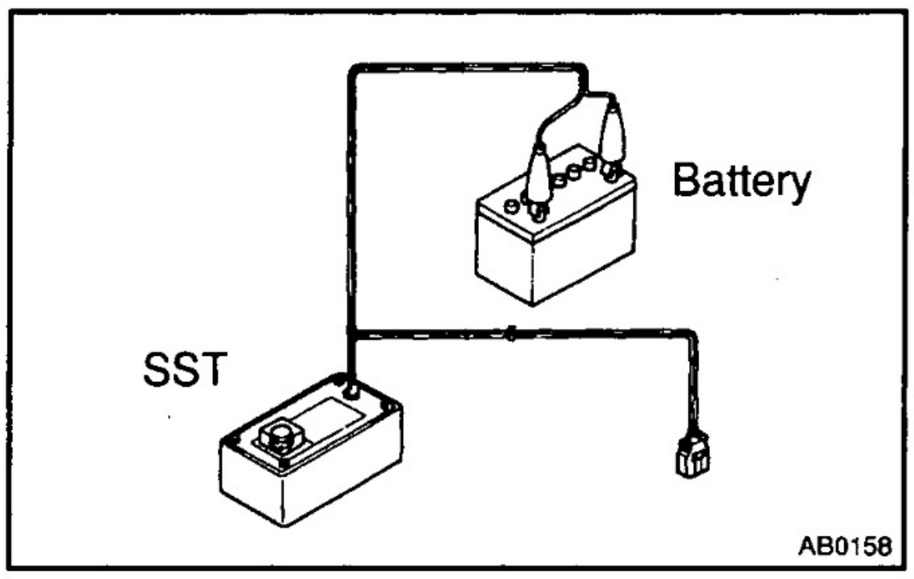


(a) Check functioning of SST.

CAUTION:

When deploying the airbag, always use the specified SST: SRS Airbag Deployment Tool.

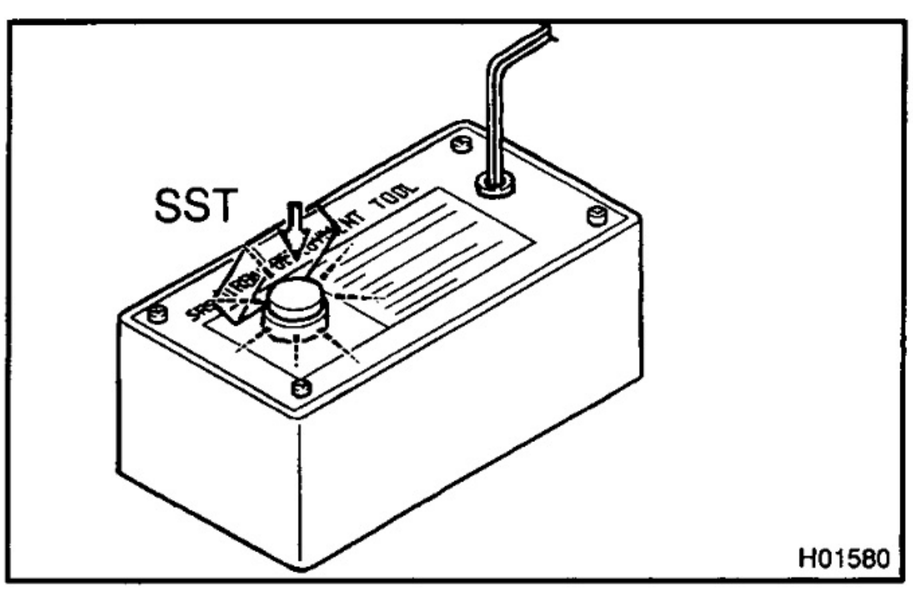
SST 09082–00700



(1) Connect the SST battery.
Connect the red clip of the SST to the battery positive (+) terminal and the black clip to the battery negative (–) terminal.

HINT:

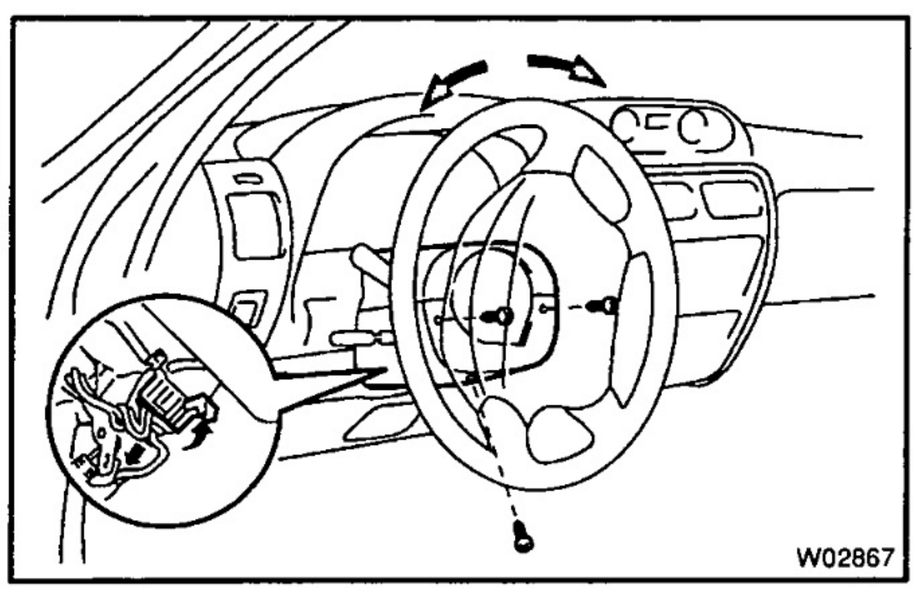
Do not connect the yellow connector which will be connected with the supplemental restraint system.



(2) Check functioning of SST.
Press the SST activation switch, and check that 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.



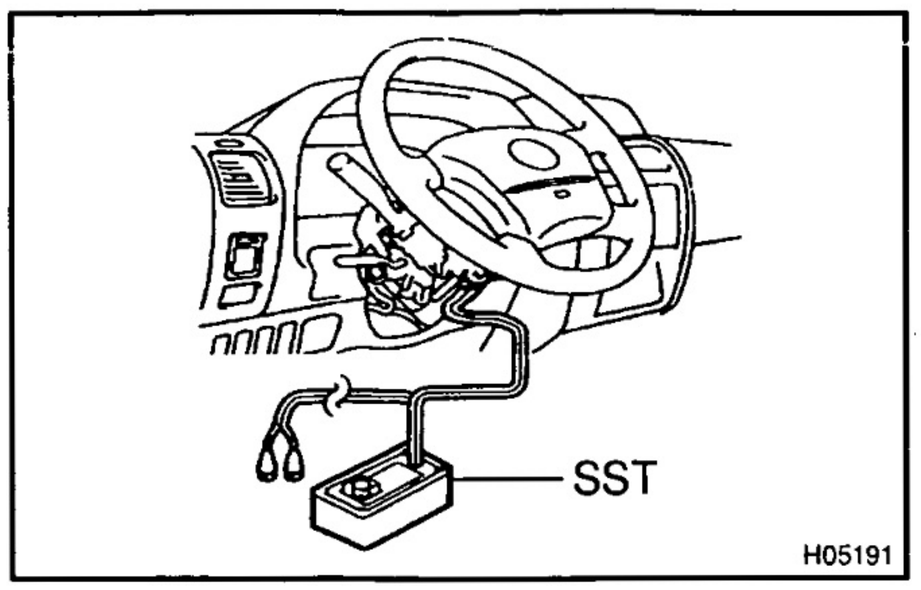
(b) Install the SST.

CAUTION:

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

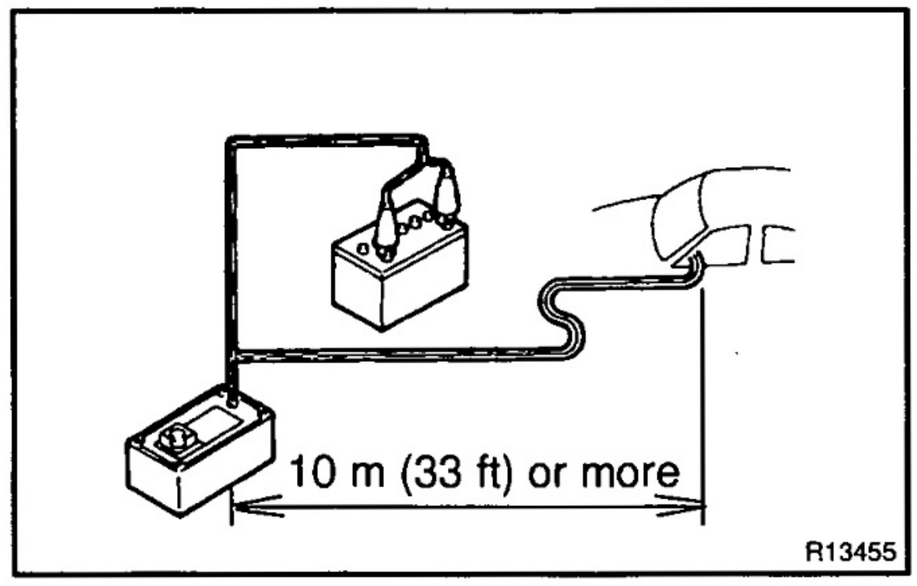
(1) Remove the steering column lower cover.
Remove the 3 screws and steering column lower cover as shown in the illustration.

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



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

SST 09082–00700



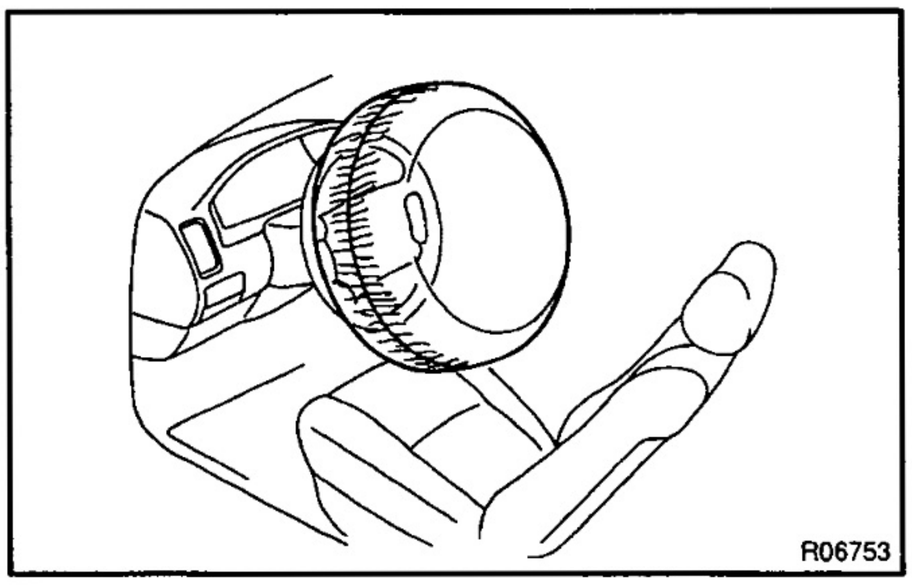
(4) Move the SST at least 10 m (33 ft) away from the front of the vehicle.

(5) Close all the doors and window of the vehicle.

NOTICE:

Take care not to damage the SST wire harness.

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



(c) Deploy the airbag.

(1) Confirm that no one is inside the vehicle or within 10 m (33 ft) area around the vehicle.

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

HINT:

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

(d) 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 the deployed airbag.**
- **Always wash your hands with water after completing the operation.**
- **Do not apply water, etc. to a steering wheel pad with the deployed airbag.**

(1) When scrapping a vehicle, deploy the airbag and scrap the vehicle with the steering wheel pad still installed.

(2) When moving a vehicle for scrapping which has a steering wheel pad with deployed airbag, use gloves and safety glasses.

2. DEPLOYMENT WHEN DISPOSING OF STEERING WHEEL PAD ONLY

NOTICE:

- **When disposing of the steering wheel pad (with airbag) only, never use the customers vehicle to deploy the airbag.**
- **Be sure to follow the procedure given below when deploying the airbag.**

HINT:

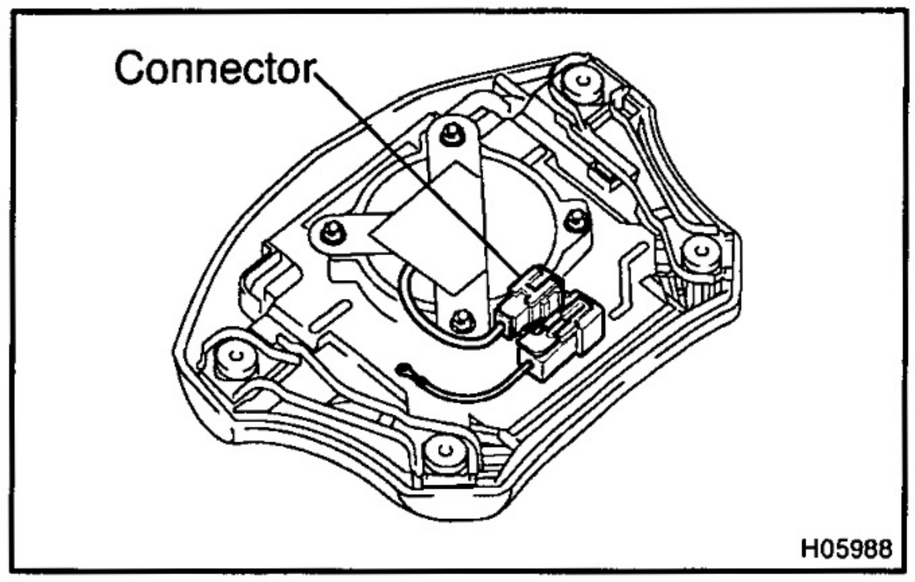
Have a battery ready as the power source to deploy the airbag.

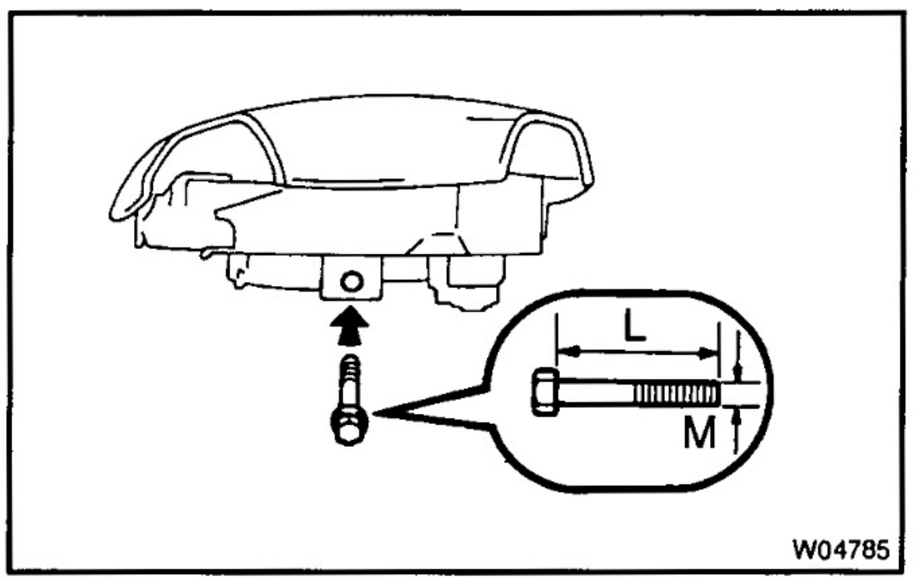
(a) Remove the steering wheel pad.
(see page RS–12)

CAUTION:

When storing the steering wheel pad, keep the upper surface of the pad facing upward.

(b) Remove the steering wheel pad connector.
Remove the connector on the rear surface of the steering wheel pad from the bracket.





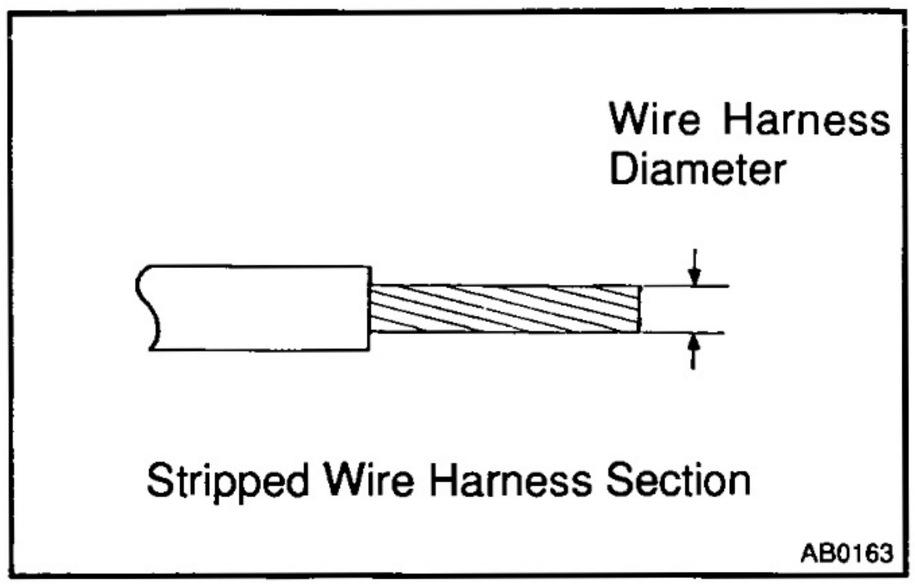
(c) Fix steering wheel pad to disc wheel with tire.
(1) Install the 2 bolts with washer in the 2 bolt holes on the steering wheel pad.

Bolt:

L: 35.0 mm (1.387 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.**



(2) Using a service–purpose wire harness tie down the steering wheel pad to the disc wheel.

Wire harness: Stripped wire harness section 1.25 mm^2 or more (0.0019 in^2. or more).

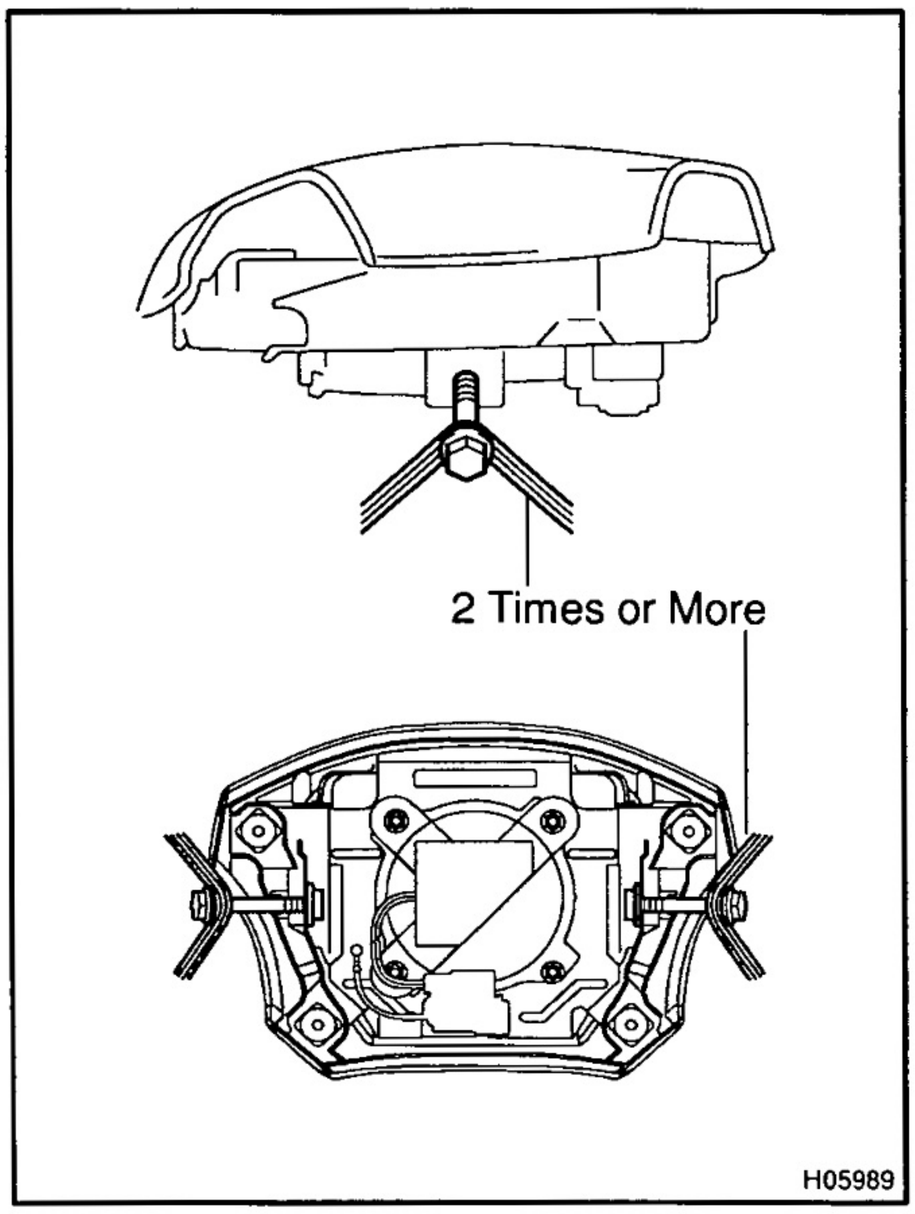
HINT:

To calculate the square of the stripped wire harness section:

Square $= 3.14 \times (\text{Diameter})^2$ divided by 4

CAUTION:

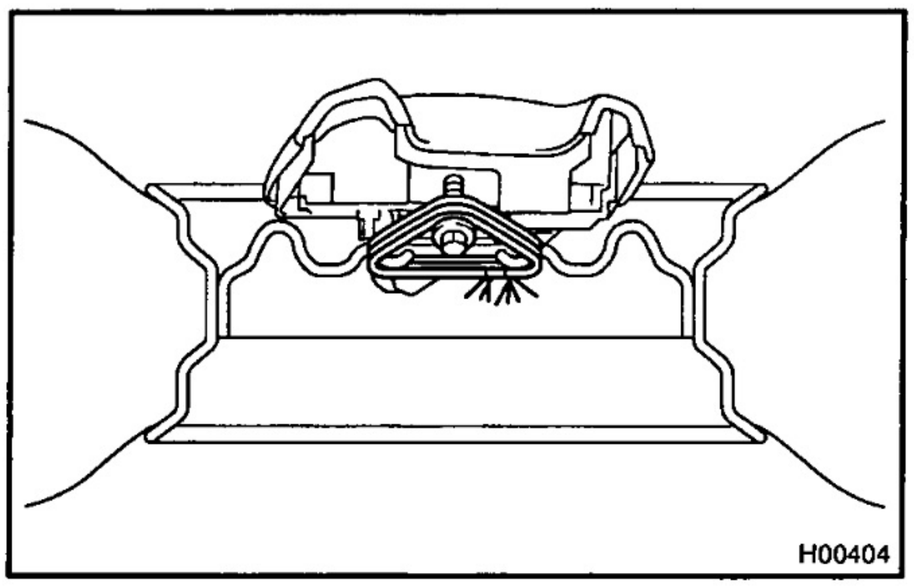
If a wire harness which is too thin or some other thing is used to tie down the steering wheel pad, it may be snapped by the shock when the airbag is deployed. This is highly dangerous. Always use a wire harness for vehicle use which is at least 1.25 mm^2 (0.0019 in^2).



(3) Using 3 wire harnesses, wrap the wire harness 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.**



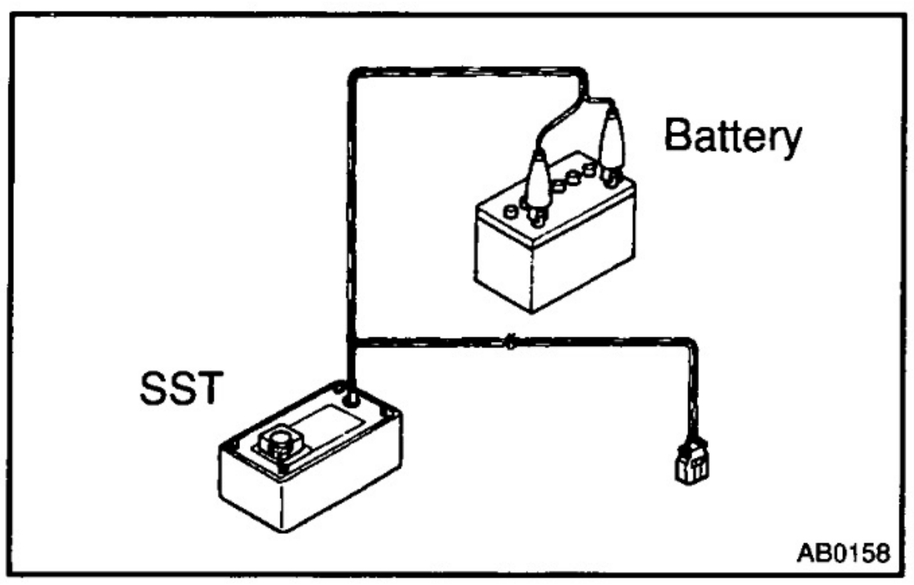
(4) Face the upper surface of the steering wheel pad upward. Separately tie the left and right sides of the steering wheel pad to the disc wheel through the hub nut holes. Position the steering wheel pad connector so that it hangs downward though a hub hole in the disc wheel.

CAUTION:

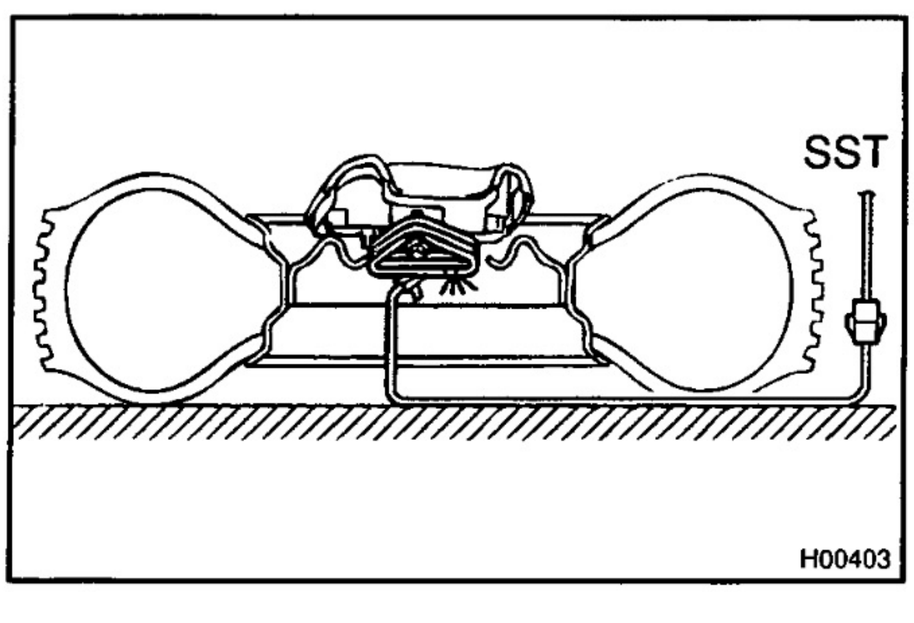
- **Make sure that the wire harness is tight. It is very dangerous when looseness in the wire harness results in the steering wheel pad coming free through the shock from the airbag deploying.**
- **Always tie down the steering wheel pad with the pad side facing upward. It is very dangerous when the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

NOTICE:

The disc wheel will be marked by airbag deployment, so use the spare disc wheel.



(d) Check functioning of SST.
SST 09082–00700, 09082–00760



(e) Install the SST

CAUTION:

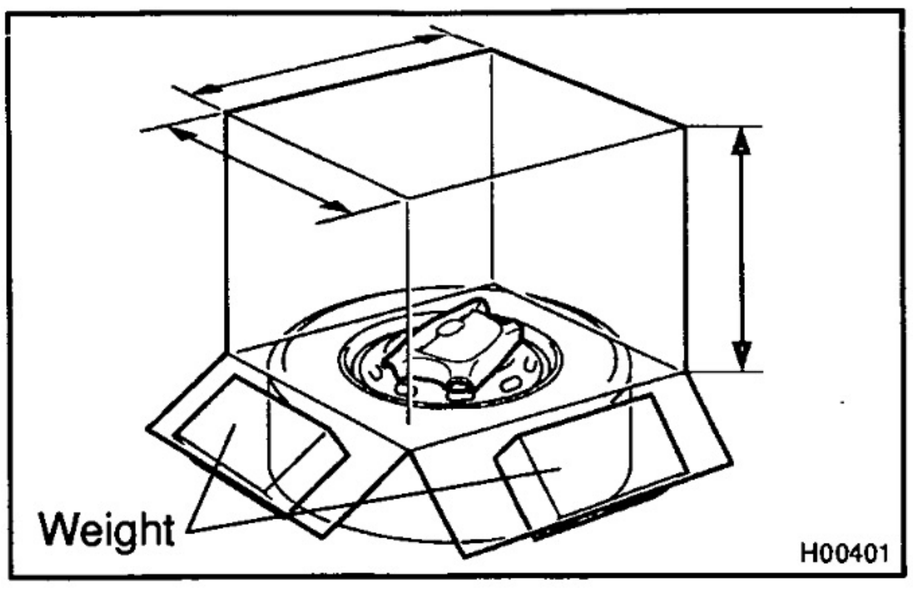
Place the disc wheel on the level ground.

(1) Connect the 2 SST connector to the steering wheel pad connector.
SST 09082–00700, 09082–00760

NOTICE:

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

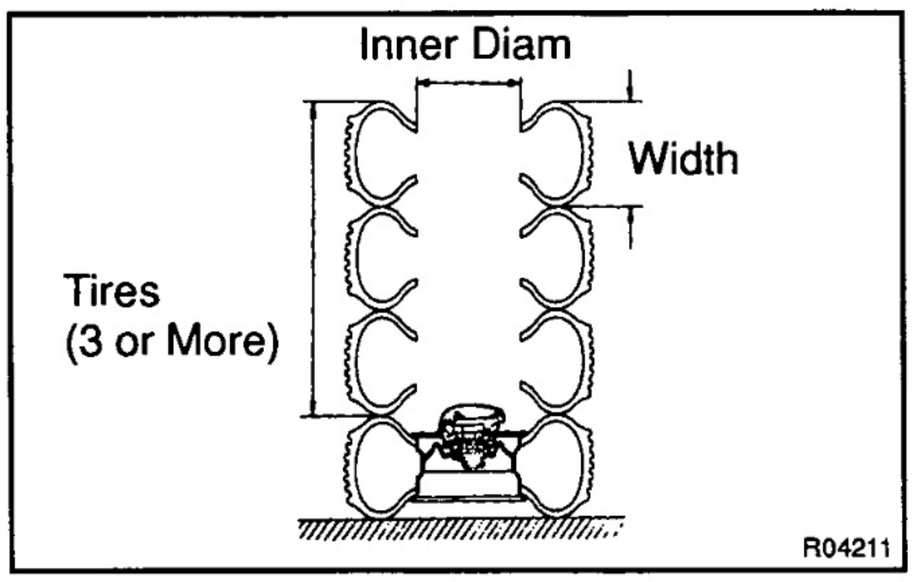
(2) Move the SST to at least 10 m (33 ft) away from steering wheel pad tied down on the disc wheel.



(f) Cover steering wheel pad with cardboard box or tires.

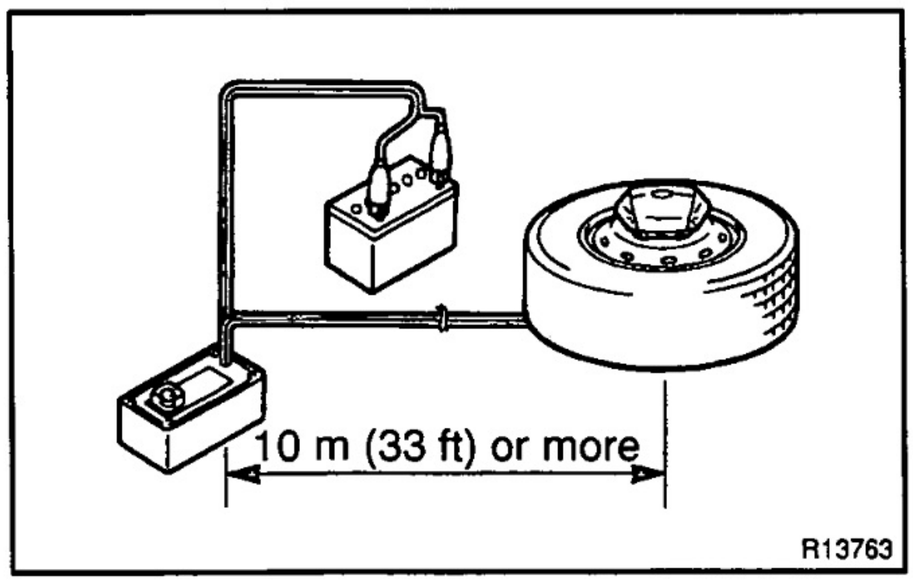
- Covering method using cardboard box:
  Cover the steering wheel pad with the cardboard box and weight the cardboard box down in 4 places with at least 190 N (20 kg, 44 lb).

Size of cardboard box:
Must exceed the following dimensions:
x= 460 mm (18.11 in.)
When dimension of the cardboard box exceeds the diameter of the disc wheel with tire which the steering wheel pad is tied to–
x= 460 mm (18.11 in.) + width of tire
y= 650 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 from the airbag deployment.



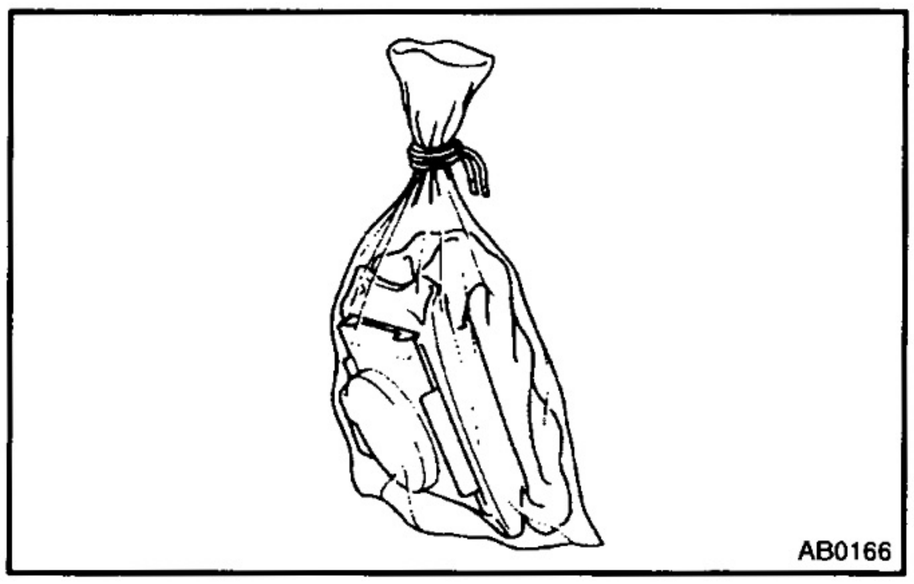
- Covering method using tires:
  Place at least 3 tires without disc wheel on top of the disc wheel with tire to which the steering wheel pad is tied.

Tire size: Must exceed the following dimensions–
Width: 185 mm (7.87 in.)
Inner diameter: 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 the spare tires.



(g) Deploy the airbag.
  (1) Connect the SST red clip to the battery positive (+) terminal and the black clip to the battery negative (–) terminal.
  (2) Check that no one is within 10 m (33 ft) area around the disc wheel which the steering wheel pad is tied to.
  (3) Press the SST activation switch and deploy the airbag.

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


AB0166

(h) 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 deployed airbag.**
- **Always wash your hands with water after completing the operation.**
- **Do not apply water, etc. to a steering wheel pad with deployed airbag.**

(1) Remove the steering wheel pad from the disc wheel.

(2) Place the steering wheel pad in a vinyl bag, tie the end tightly and dispose of it in the same way as other general parts disposal.

RS012–13

REPLACEMENT

REPLACEMENT REQUIREMENTS

In the following case, 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 or spiral cable has been found to be faulty during the check in items (See page RS–13).
- If the steering wheel pad has been dropped.

CAUTION:

For removal and installation of the steering wheel pad, see page SR–1 and SR–4, and be sure to follow the correct procedure.

RS013–12

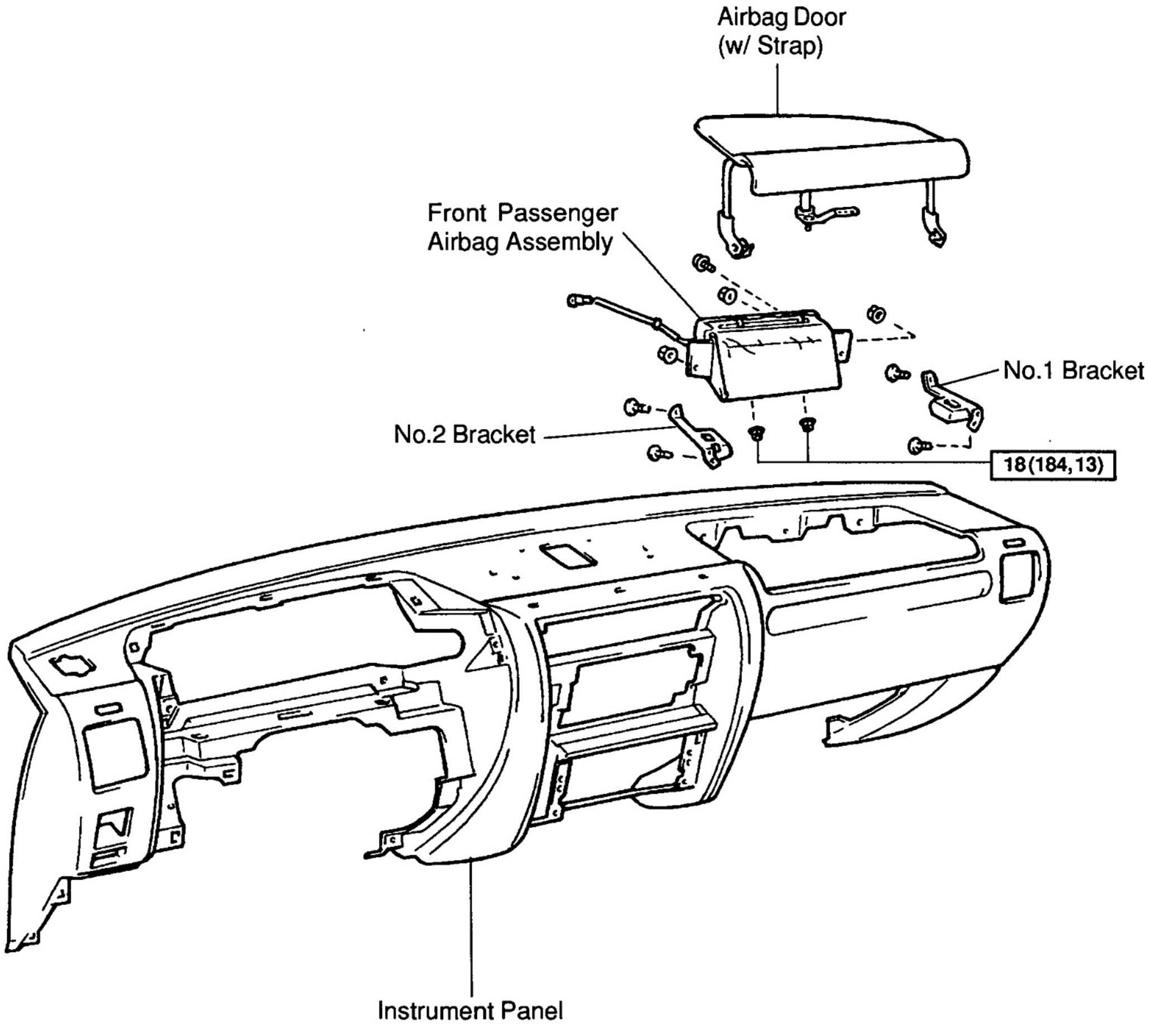
INSTALLATION

(See page SR–4)

FRONT PASSENGER AIRBAG ASSEMBLY

COMPONENTS

RS014–15



N·m (kgf·cm, ft·lbf) : Specified torque

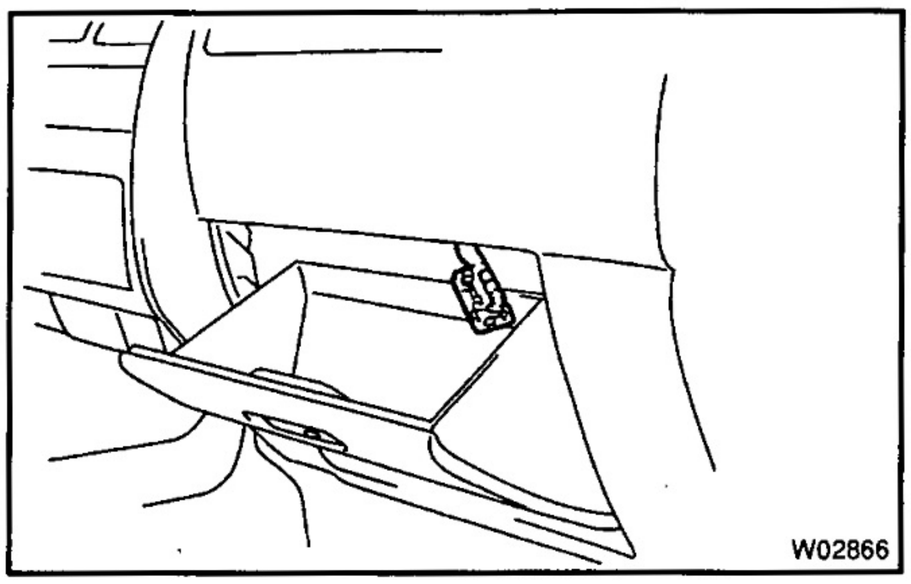
H05202

RS0C7-01

REMOVAL

NOTICE:

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

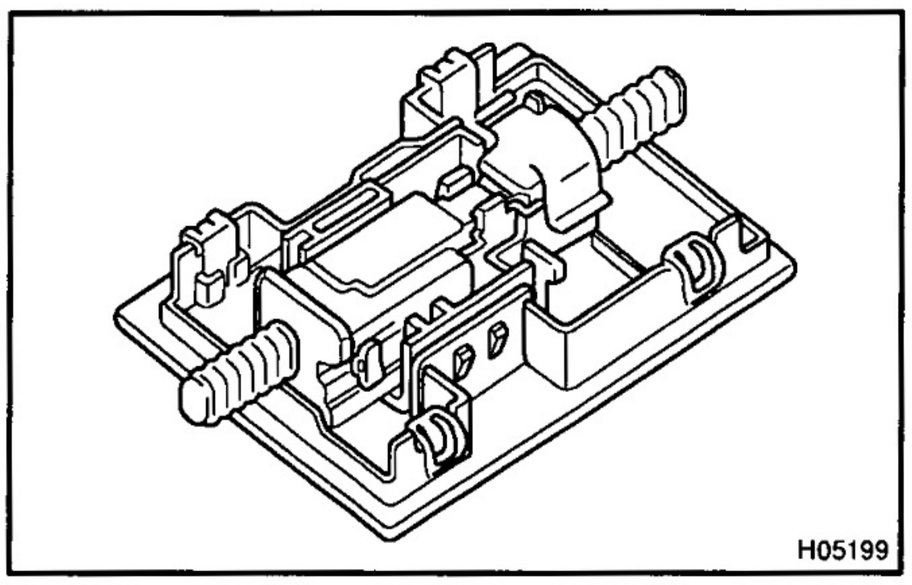


1. DISCONNECT AIRBAG CONNECTOR

(a) Remove the No.1 under cover inside the glove compartment door.

NOTICE:

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

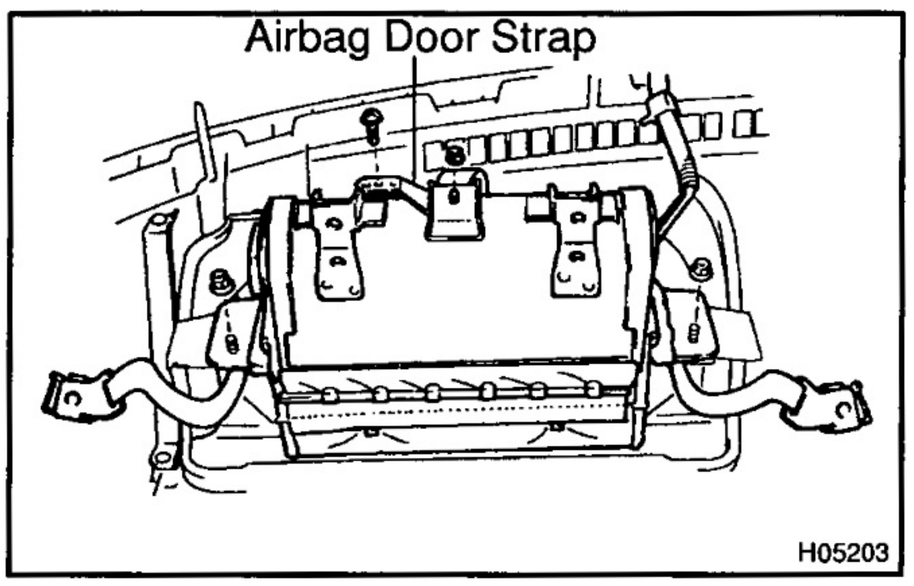


(b) Pull up the connector.

(c) Disconnect the airbag connector.

2. REMOVE INSTRUMENT PANEL

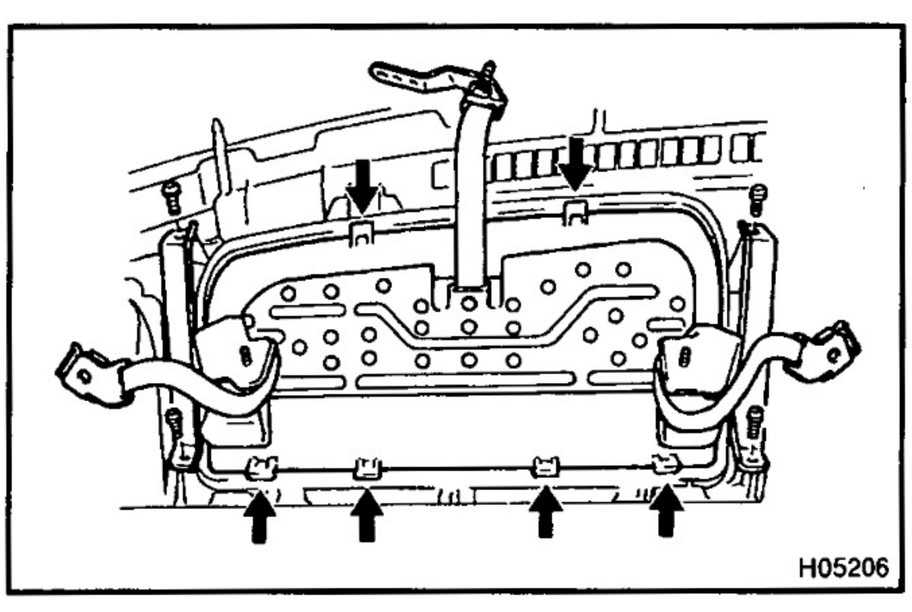
(See page BO–13)



3. REMOVE FRONT PASSENGER AIRBAG ASSEMBLY

(a) Remove the nut, screw and airbag door strap.

(b) Remove the 2 nuts and front passenger airbag assembly.



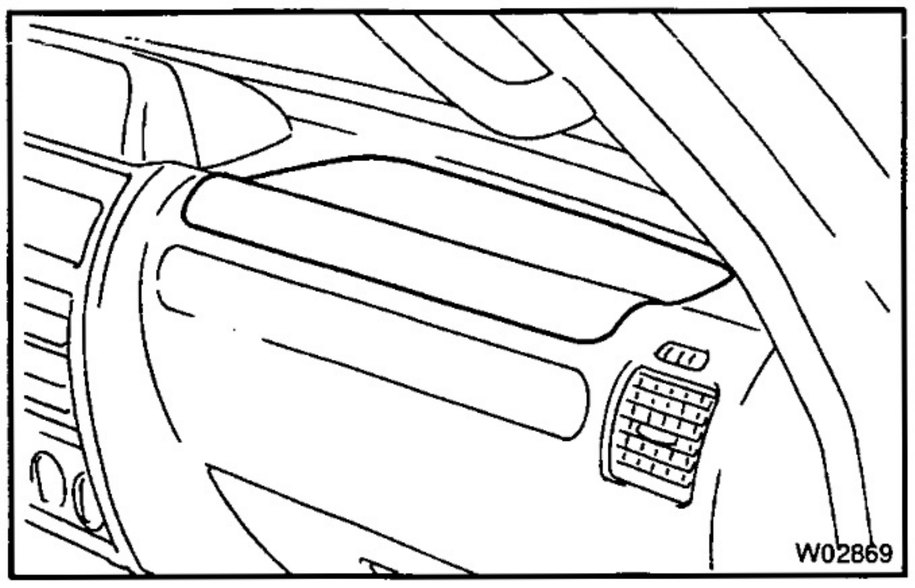
(c) Remove the 4 screws, No.1 and No.2 brackets.

(d) Using a clip remover, remove the airbag door.

CAUTION:

- **Do not store the front passenger airbag assembly with the airbag deployment direction facing down.**
- **Never disassemble the front passenger airbag assembly.**

RS016–06

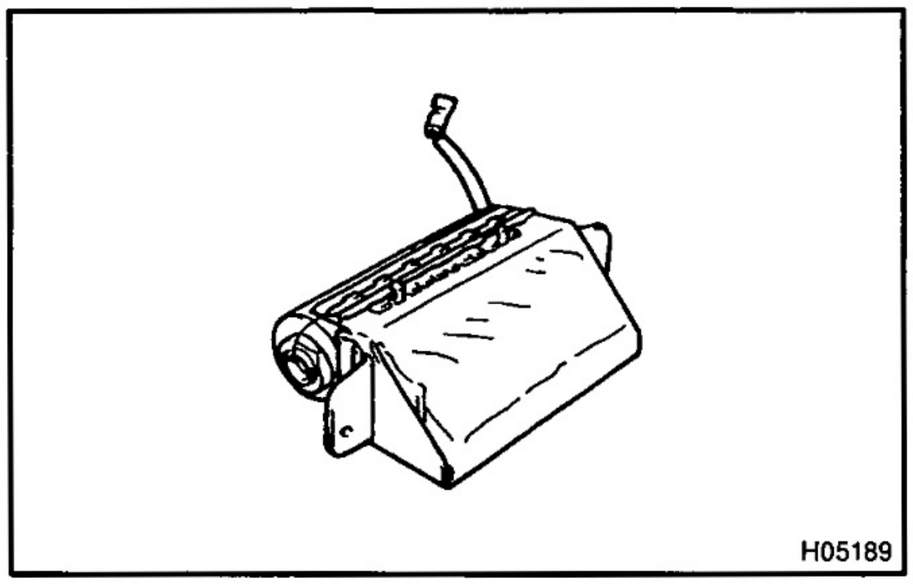


INSPECTION

1. VEHICLES NOT INVOLVED IN A COLLISION

(a) Do a diagnostic system check.
(See page DI–3)

(b) Do a visual check which includes the following items with the front passenger airbag assembly installed in the vehicle.
Check cuts, minute cracks or marked discoloration on the front passenger airbag assembly and instrument panel.

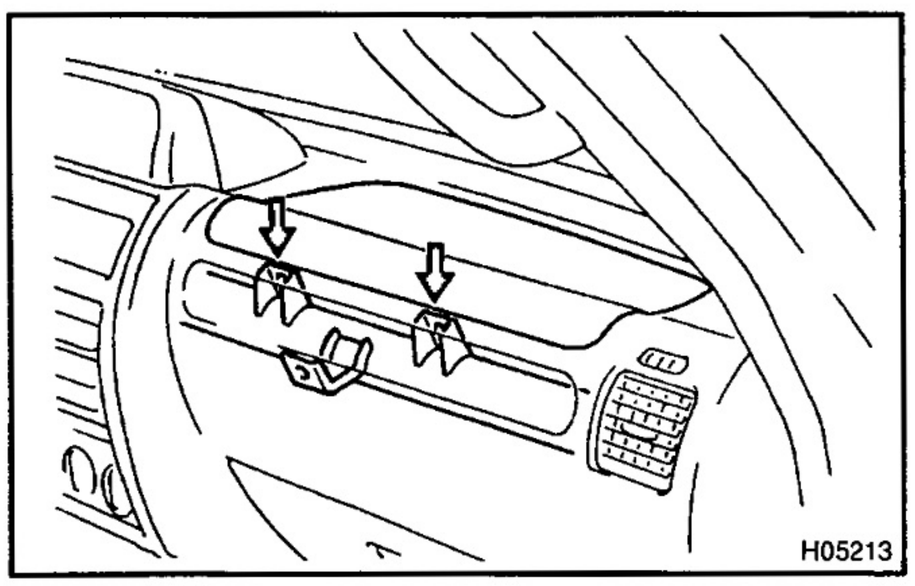


2. VEHICLE INVOLVED IN A COLLISION AND AIRBAG IS NOT DEPLOYED

(a) Do a diagnostic system check.
(See page DI–3)

(b) Do a visual check which includes the following items with the front passenger airbag assembly removed from the vehicle.

- Check cuts minute cracks or marked discoloration on the front passenger airbag assembly.
- Check cuts and cracks in wire harnesses, and for chipping in connectors.
- Check the deformation or cracks on the instrument panel and instrument panel reinforcement.



HINT:
If the instrument panel or instrument panel reinforcement is deformed or cracked, never repair it. Always replace it with a new one.

CAUTION:
For removal and installation of the front passenger airbag assembly, See page SR–1 and SR–4, and be sure to follow the correct procedure.

3. VEHICLE INVOLVED IN A COLLISION AND AIRBAG IS DEPLOYED

(a) Do a diagnostic system check.
(See page DI–3)

(b) Do a visual check which includes the following items with the front passenger airbag assembly removed from the vehicle.

- Check the deformation or cracks on the instrument panel and instrument panel reinforcement.
- Check the damage on the connector and wire harness.

HINT:

If the instrument panel or instrument panel reinforcement is deformed or cracked, never repair it. Always replace it with a new one.

RS0C8–01

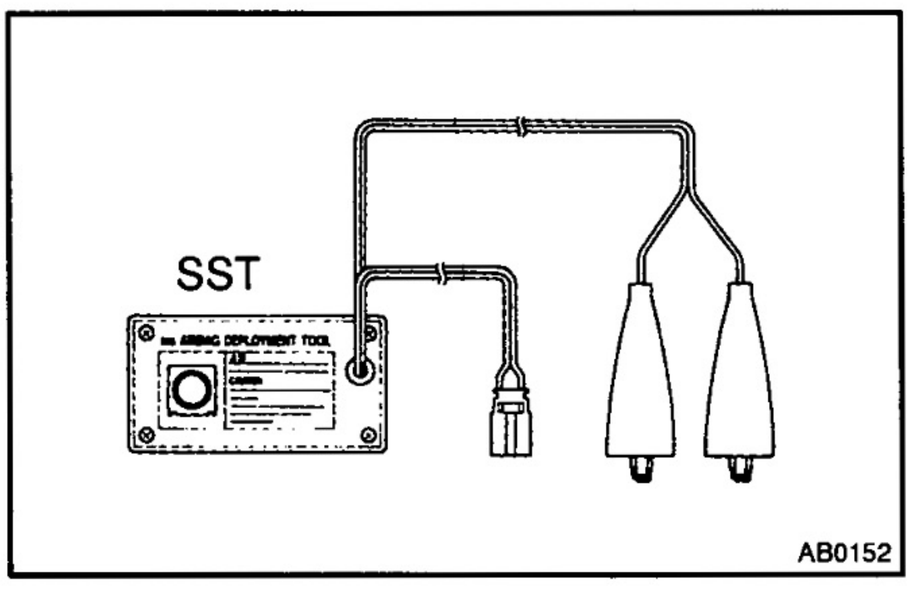
DISPOSAL

HINT:

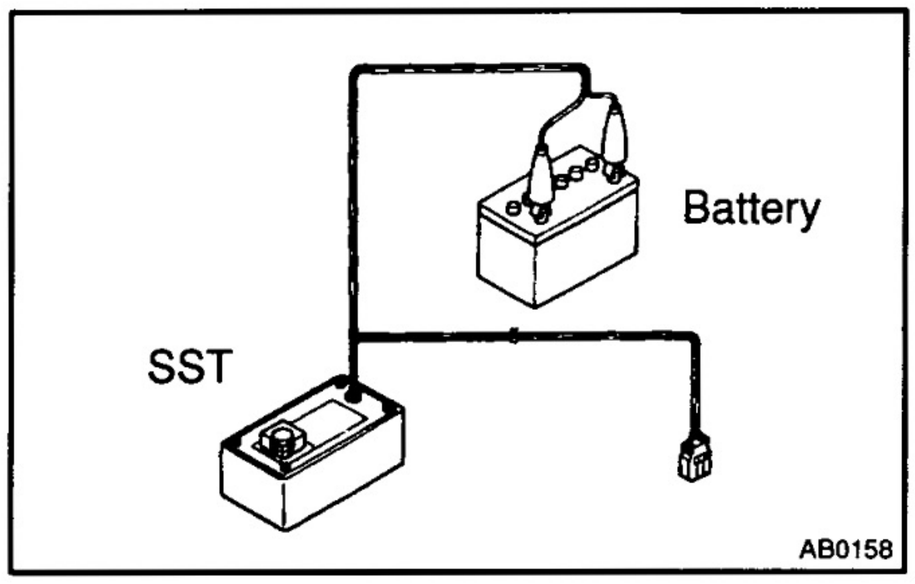
When scrapping vehicles equipped with an SRS or desposing of a front passenger airbag assembly, always first deploy the airbag in accordance with the procedure described below. If any abnormality occurs with the airbag deployment, contact the SERVICE DEPT. of DISTRIBUTOR. When disposing of a front passenger airbag assembly with an airbag deployed in a collision, follow the same procedure given in step 1–(g) in "DISPOSAL".

CAUTION:

- **Never dispose of front passenger airbag assembly which has an undeployed airbag.**
- **The airbag produces a sizeable exploding sound when it deploys, so perform 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) Perform the operation in place away from electrical noise.**
  SST 09082–00700, 09082–00760
- **When deploying an airbag, perform the operation at least 10 m (33 ft) away from the front passenger airbag assembly.**
- **The front passenger airbag 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 the front passenger airbag assembly with the deployed airbag.**
- **Always wash your hands with water after completing the operation.**
- **Do not apply water etc. to the front passenger airbag assembly with the deployed airbag.**

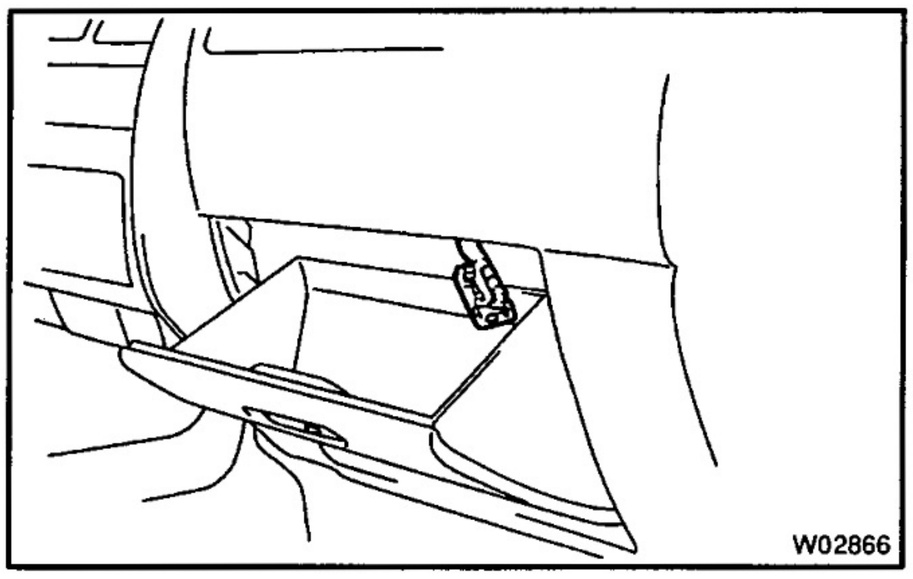


1. AIRBAG DEPLOYMENT WHEN SCRAPPING VEHICLE

HINT:

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

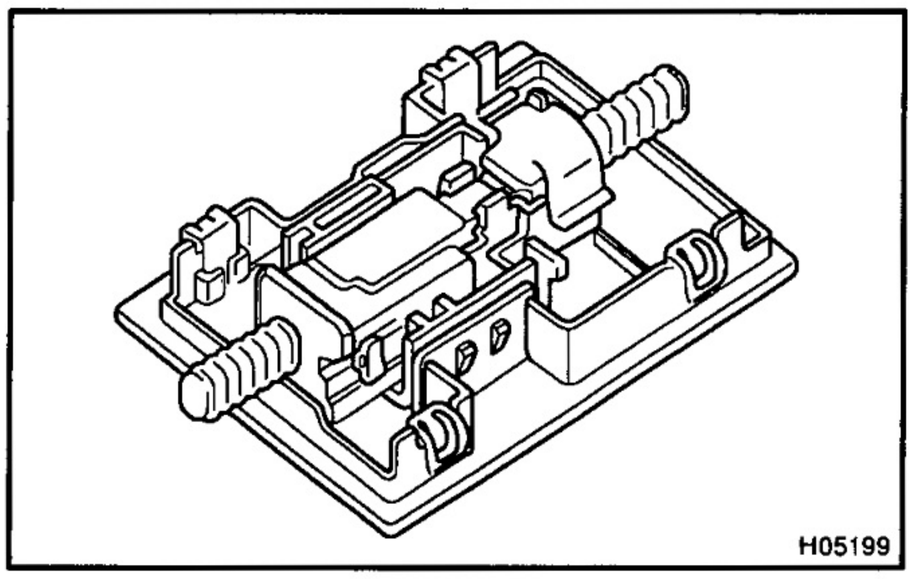
(a) Check functioning of SST.
(See page RS–15)
SST 09082–00700, 09082–00760



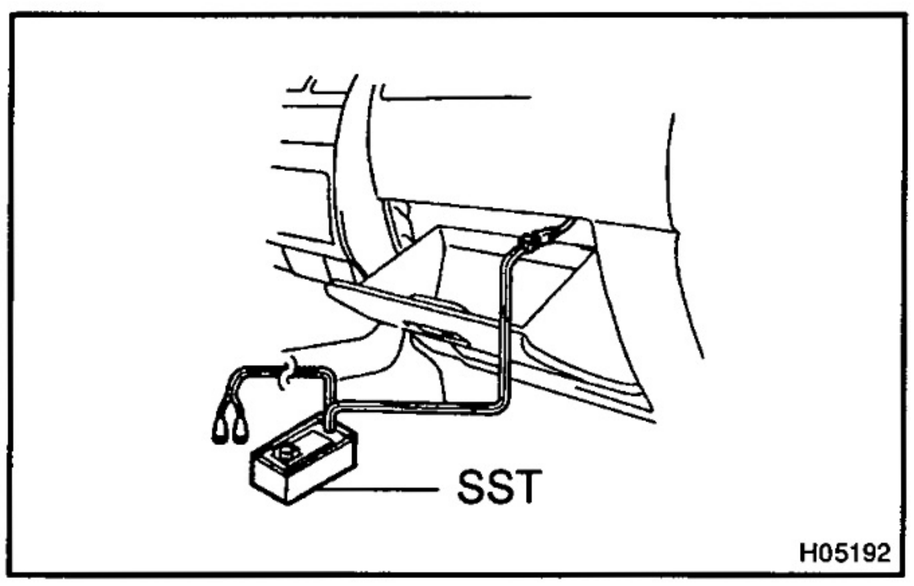
(b) Remove the No.1 under cover inside the glove compartment door.

NOTICE:

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



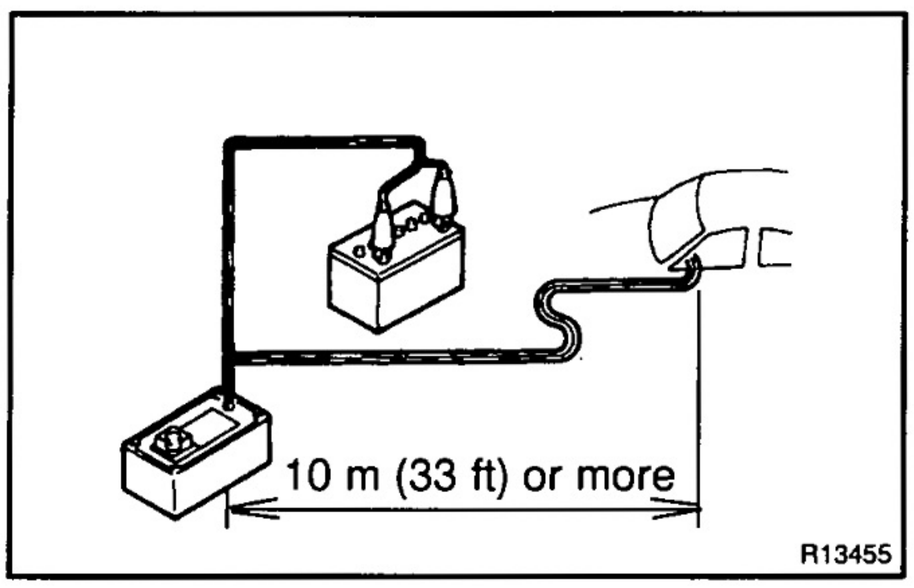
(c) Pull up the connector.
(d) Disconnect the connector.



(e) Install the SST.
(1) Connect the connector of 2 SST to the front passenger airbag assembly connector.
SST 09082–00700, 09082–00760

NOTICE:

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

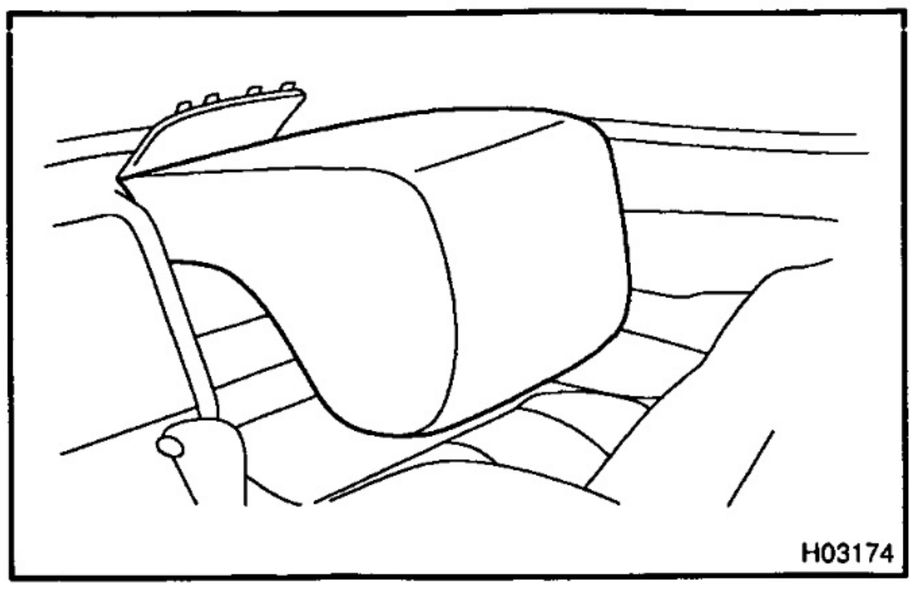


(2) Move the SST at least 10 m (33 ft) away from the front of the vehicle.
(3) Close all the doors and windows of the vehicle.

NOTICE:

take care not to damage the SST wire harness.

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



(f) Deploy the airbag.
(1) Check that no one is inside the vehicle or within 10 m (33 ft) area around the vehicle.
(2) Press the SST activation switch and deploy the airbag.

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

(g) 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 the deployed airbag.**
- **Do not apply water etc., to a front passenger airbag assembly with the deployed airbag.**
- **Always wash your hands with water after completing the operation.**

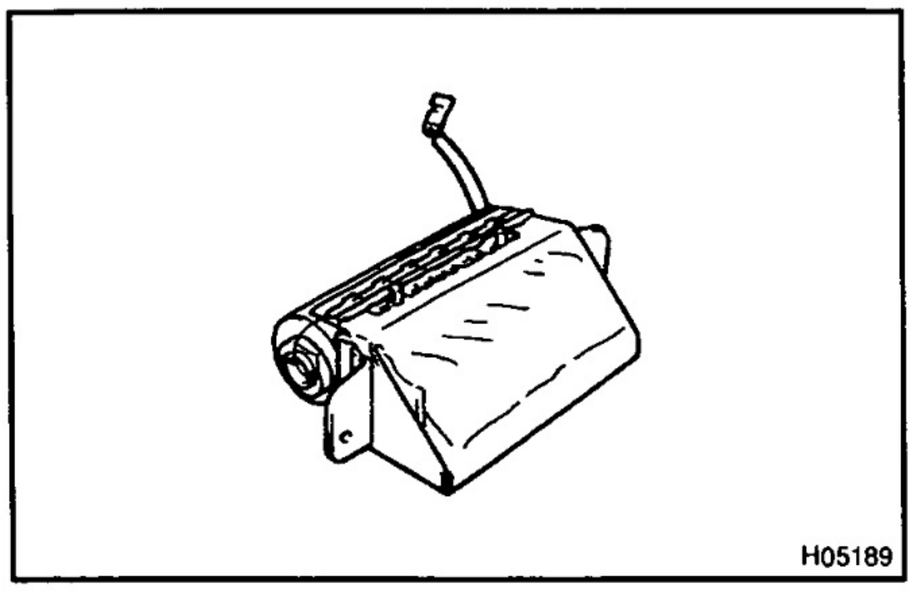
When scrapping a vehicle, deploy the airbag and scrap the vehicle with the front passenger airbag assembly still installed.

2. DEPLOYMENT WHEN DISPOSING OF FRONT PASSENGER AIRBAG ASSEMBLY

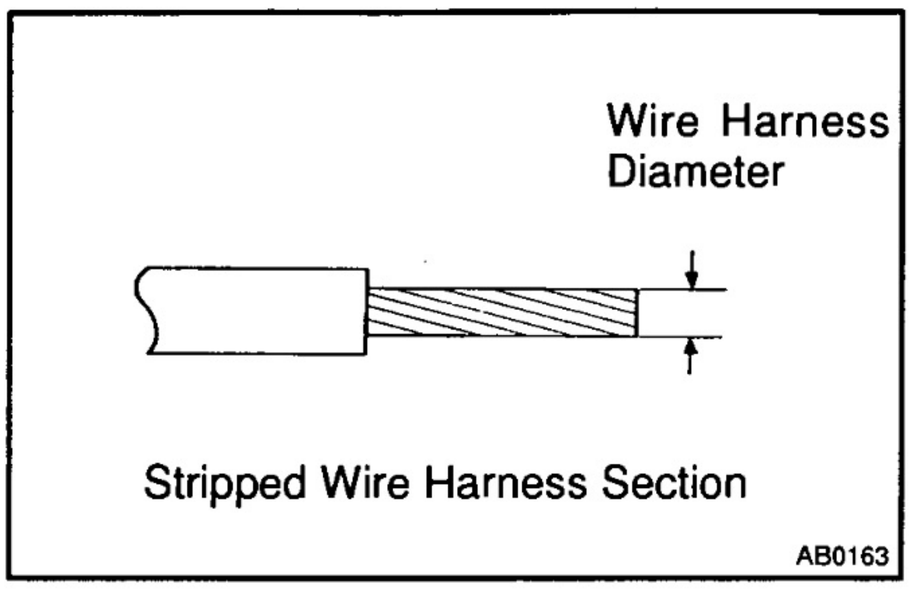
NOTICE:
- **When disposing of the front passenger airbag assembly only, never use the customer's vehicle to deploy the airbag.**
- **Be sure to follow the procedure given below when deploying the airbag.**

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

(a) Remove the front passenger airbag assembly.
(See page RS–26)



CAUTION:
Store the front passenger airbag assembly with the airbag deployment direction facing up.



(b) Fix the front passenger airbag assembly.

(1) Use a service–purpose wire harness for tying down the front passenger airbag assembly.

Wire harness: Stripped wire harness section 1.25 mm^2 or more (0.0019 in^2 or more)

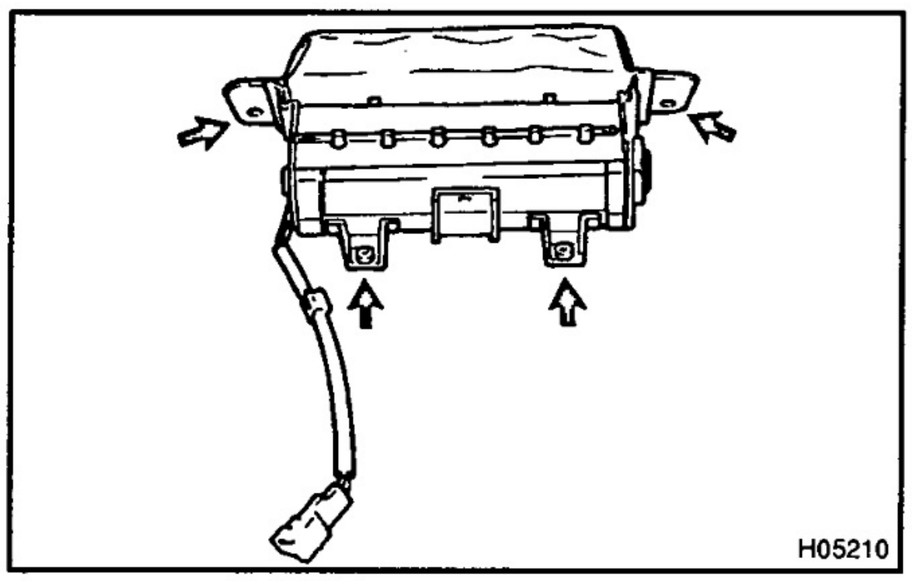
HINT:

To calculate the square of the stripped wire harness section:

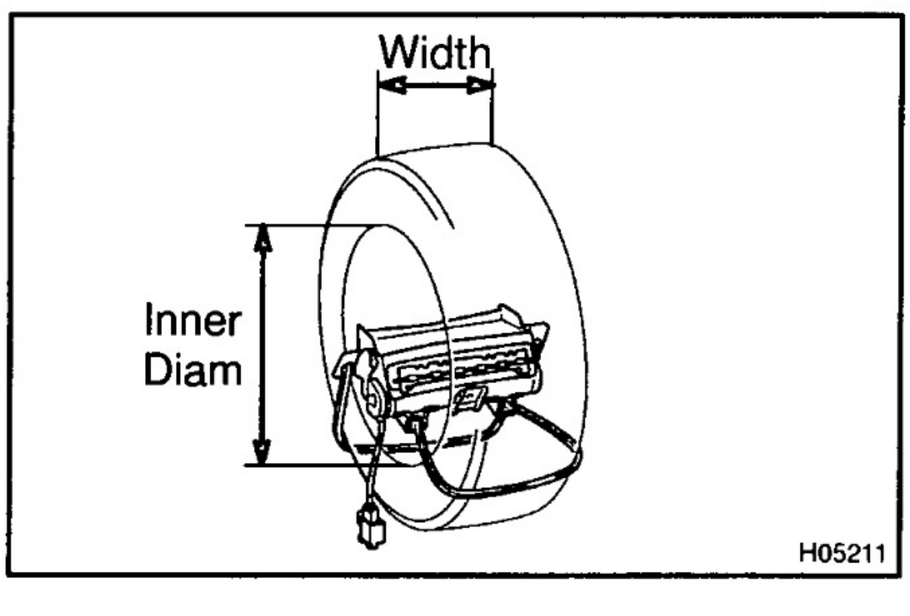
Square = 3.14 x (Diameter)^2 divided by 4

CAUTION:

If a wire harness which is too thin or some other thing is used to tie down the front passenger airbag assembly 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^2 (0.0019 in^2).



(2) Wrap the wire harnesses around the tire, passing the wire harnesses through the installation holes indicated by arrows in the illustration.



(3) Position the front passenger airbag assembly inside the tire with the airbag deployment direction facing inside.

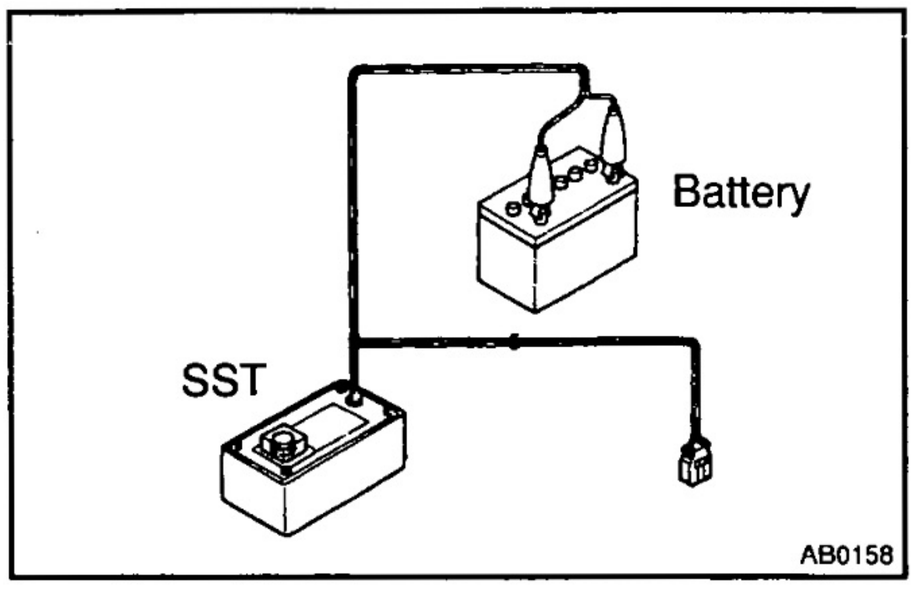
Tire size: Must exceed the following dimensions–
Width 185 mm (7.28 in.)
Inner diameter 360 mm (14.17 in.)

CAUTION:

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

NOTICE:

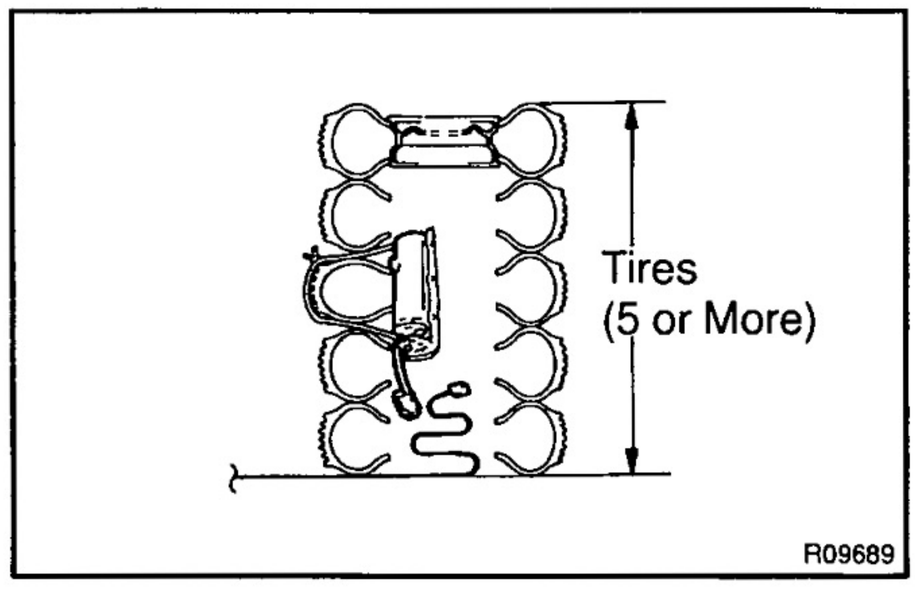
The tire will be marked by the airbag deployment, so use the spare tire.



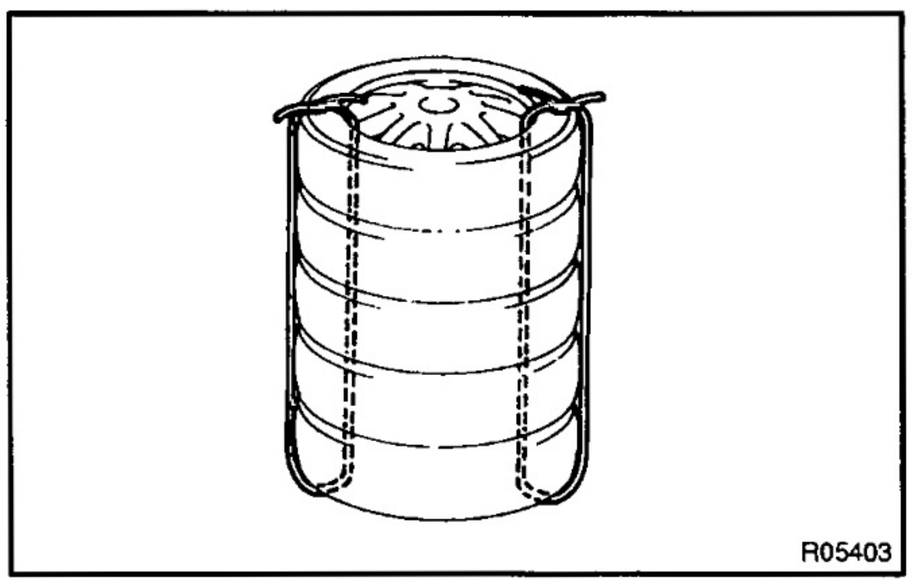
(c) Check functioning of SST.
(See page RS–15)
SST 09082–00700, 09082–00760

(d) Install the SST
Connect the SST connector to the front passenger airbag assembly connector.
SST 09082–00700, 09082–00760

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



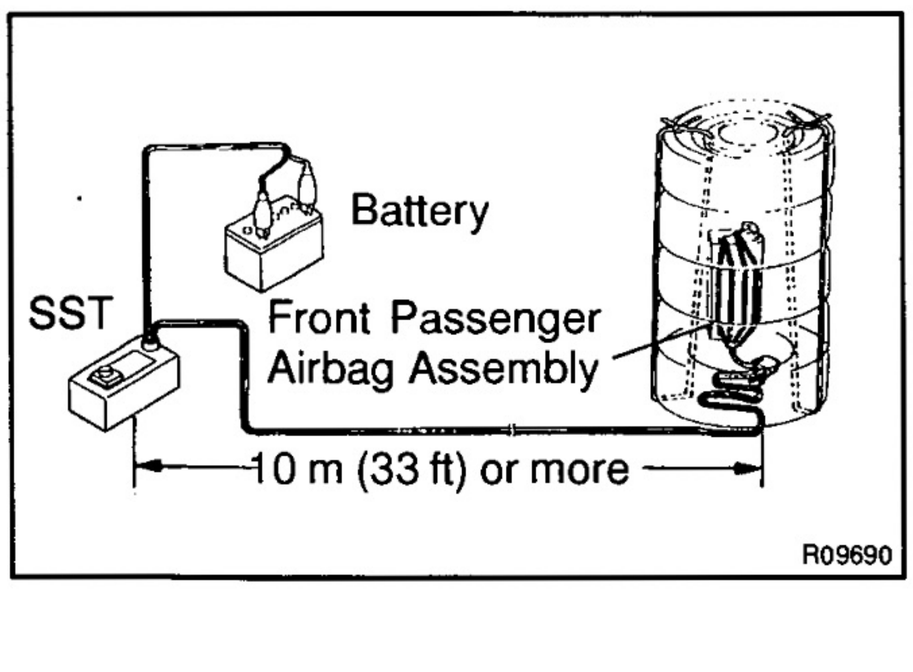
(e) Place the tires
(1) Place at least 2 tires under the tire to which the front passenger airbag assembly is tied.
(2) Place at least 2 tires over the tire to which the front passenger airbag assembly is tied. The top tier should have the wheel installed.



(3) Tie the tires together with 2 wire harnesses.

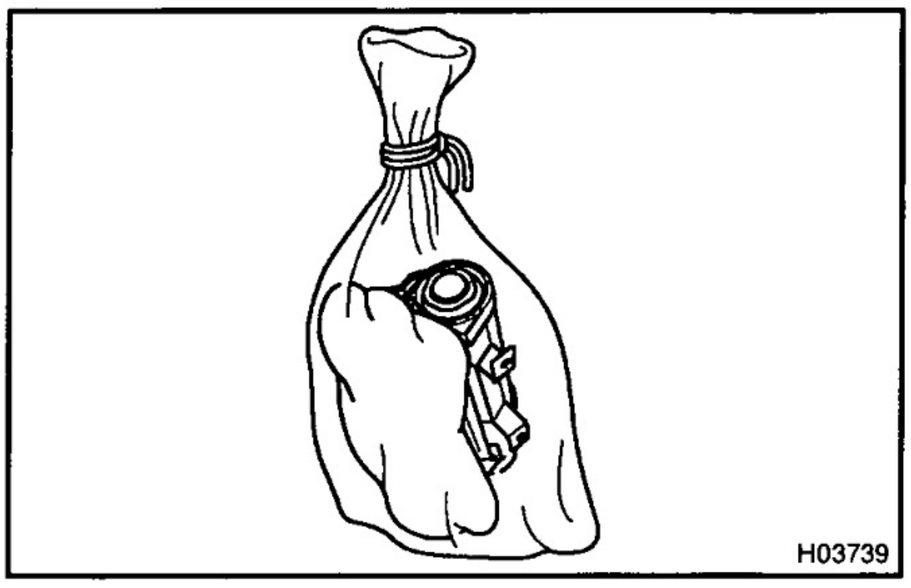
CAUTION:
Make sure that the wire harnesses are tight. It is very dangerous if loose wire harnesses result in the tires coming free due to the shock from the airbag deploying.

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



(f) Deploy the airbag.
(1) Connect the SST red clip to the battery positive (+) terminal and the black clip to the battery negative(–) terminal.
(2) Check that no one is within 10 m (33 ft) area around the tire which the front passenger airbag assembly is tied to.
(3) Press the SST activation switch and deploy the airbag.

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



(g) 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 the deployed airbag.**
- **Always wash your hands with water after completing the operation.**
- **Do not apply water, etc. to a front passenger airbag assembly with the deployed airbag.**

(1) Remove the front passenger airbag assembly from the tire.

(2) Place the front passenger airbag assembly in a vinyl bag, tie the end tightly and dispose of it in the same way as other general parts disposal.

RS018-12

REPLACEMENT

REPLACEMENT REQUIREMENTS

In the following cases, replace the front passenger airbag assembly, instrument panel or 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.(See page RS–27)
- If the front passenger airbag assembly has been dropped.

CAUTION:

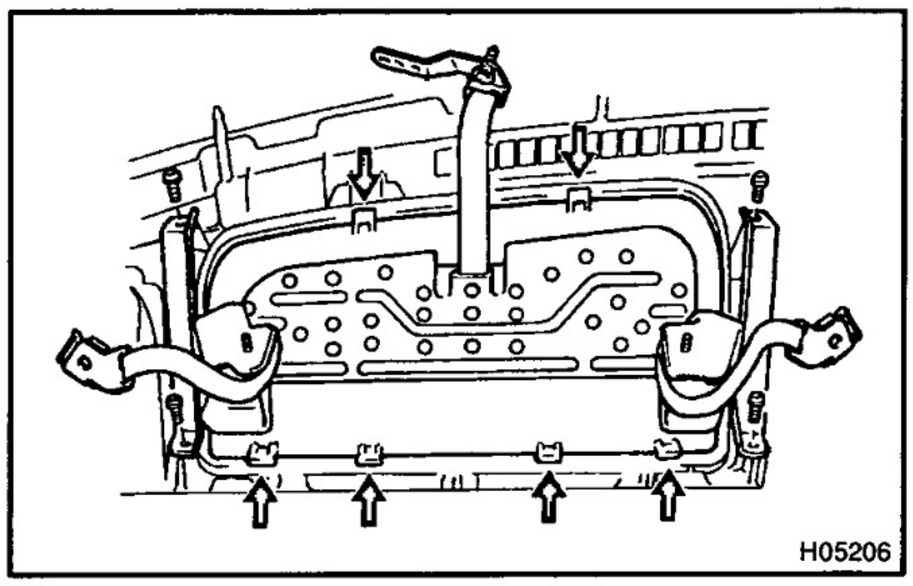
For replacement of the front passenger airbag assembly, see page RS–26, RS–36. Be sure to follow the correct procedure.

RS0C9–01

INSTALLATION

NOTICE:

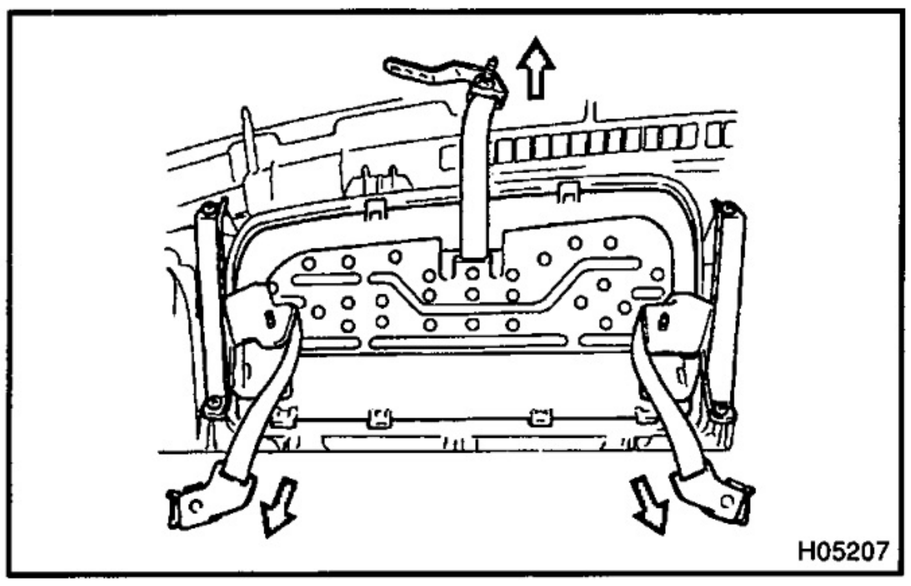
Never use airbag parts from another vehicle. When replacing parts, replace them with new parts.



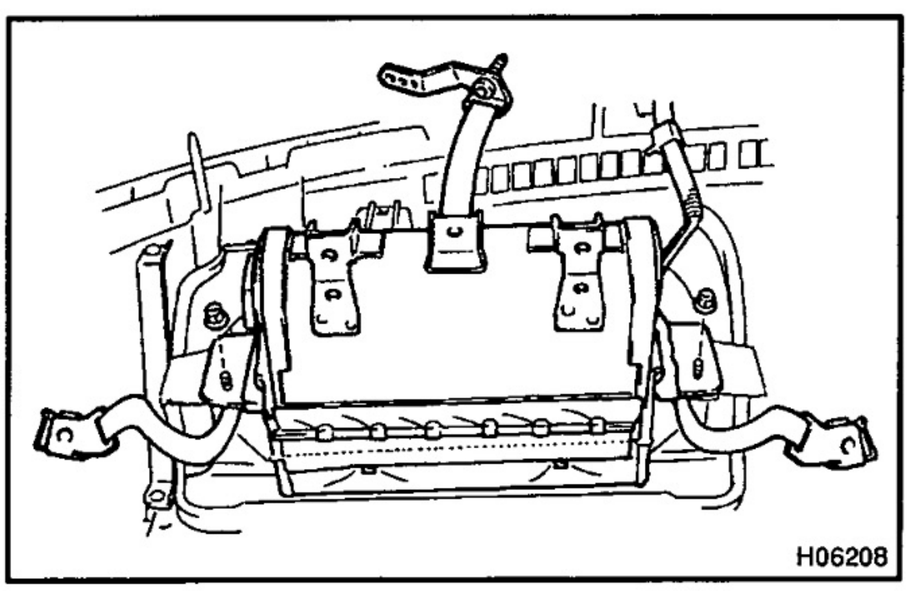
1. INSTALL FRONT PASSENGER AIRBAG ASSEMBLY

(a) Install the airbag door.

(b) Install the 4 screws, No.1 and No.2 brackets.



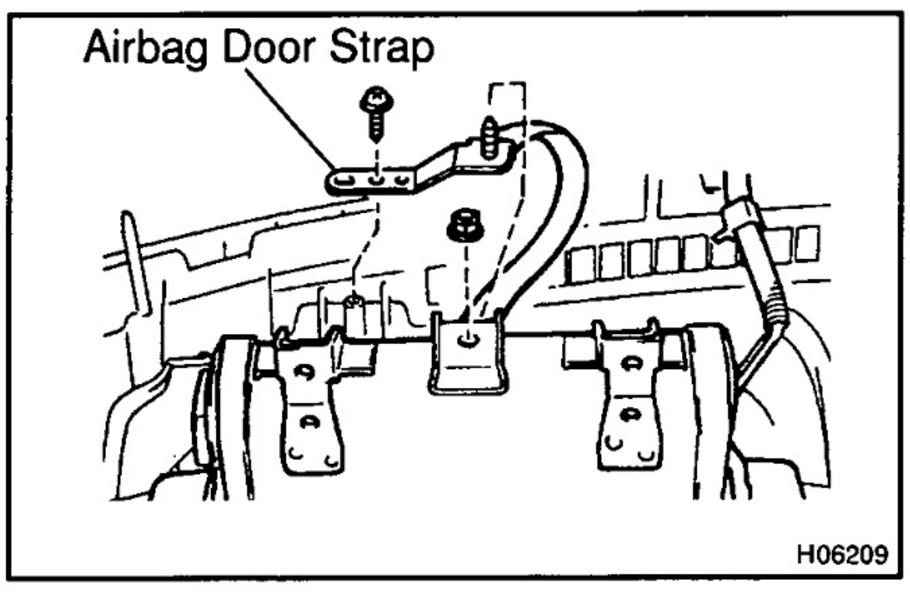
(c) Set the airbag door strap as shown in the illustration.



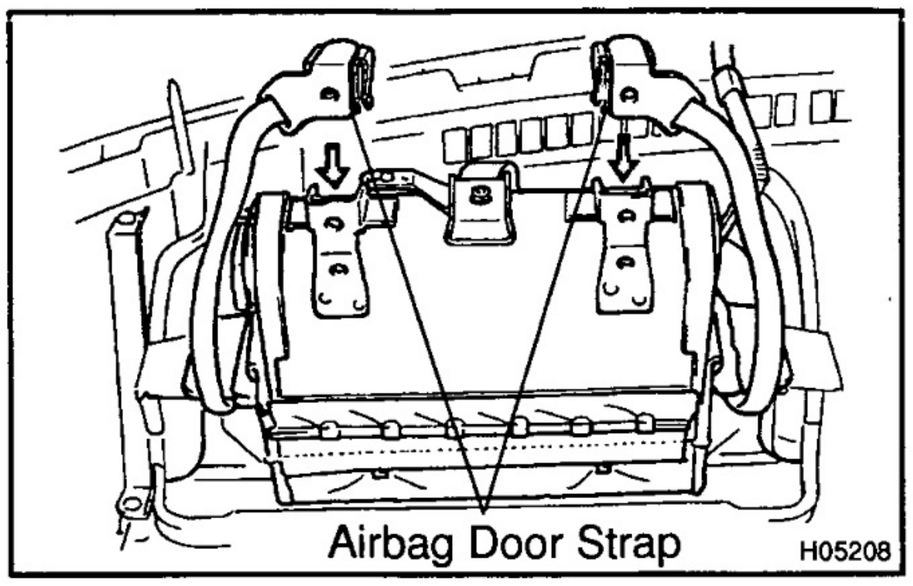
(d) Install the 2 nuts and front passenger airbag assembly.

NOTICE:

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.



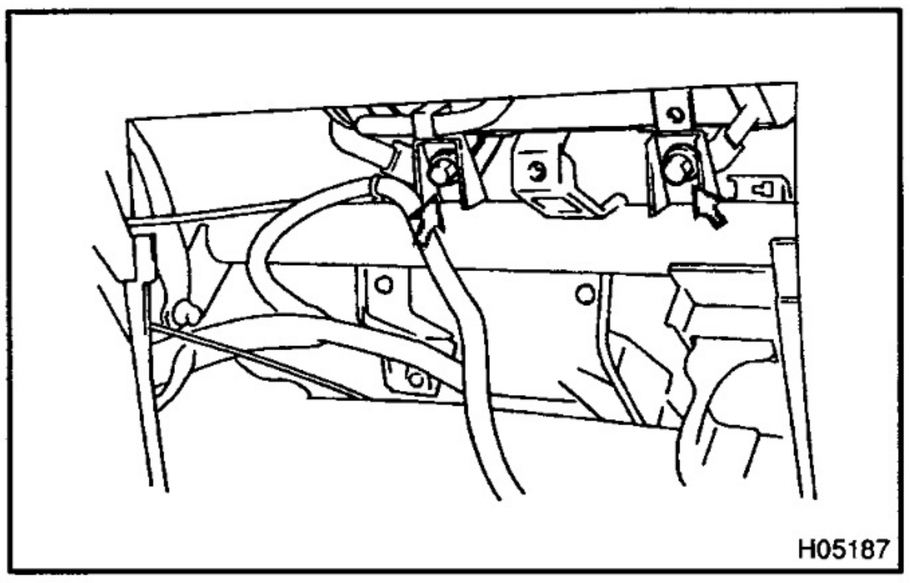
(e) Install the nut, screw and airbag door strap.



2. INSTALL INSTRUMENT PANEL

(a) Put the airbag door strap as shown in the illustration.

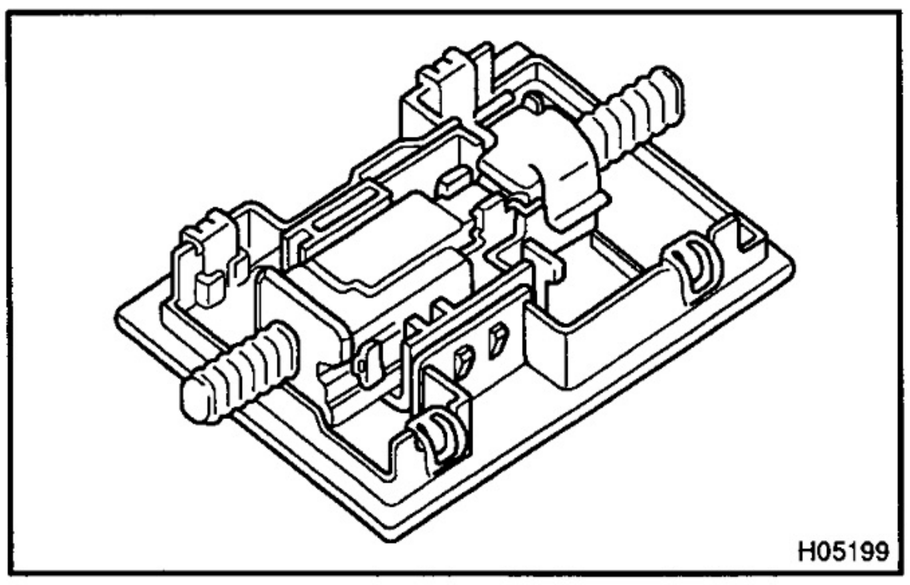
(b) Install the instrument panel.
(See page BO–17)



(c) Install the 2 bolts to the instrument panel reinforcement.
Torque: 18 N·m (184 kgf·cm, 13 ft·lbf)

NOTICE:

- **Make sure that the front passenger airbag assembly is installed with the specified torque.**
- **When installing the front passenger airbag assembly, take care that the wiring does not interfere with other parts and is not pinched between other parts.**



3. CONNECT AIRBAG CONNECTOR

(a) Connect the airbag connector.

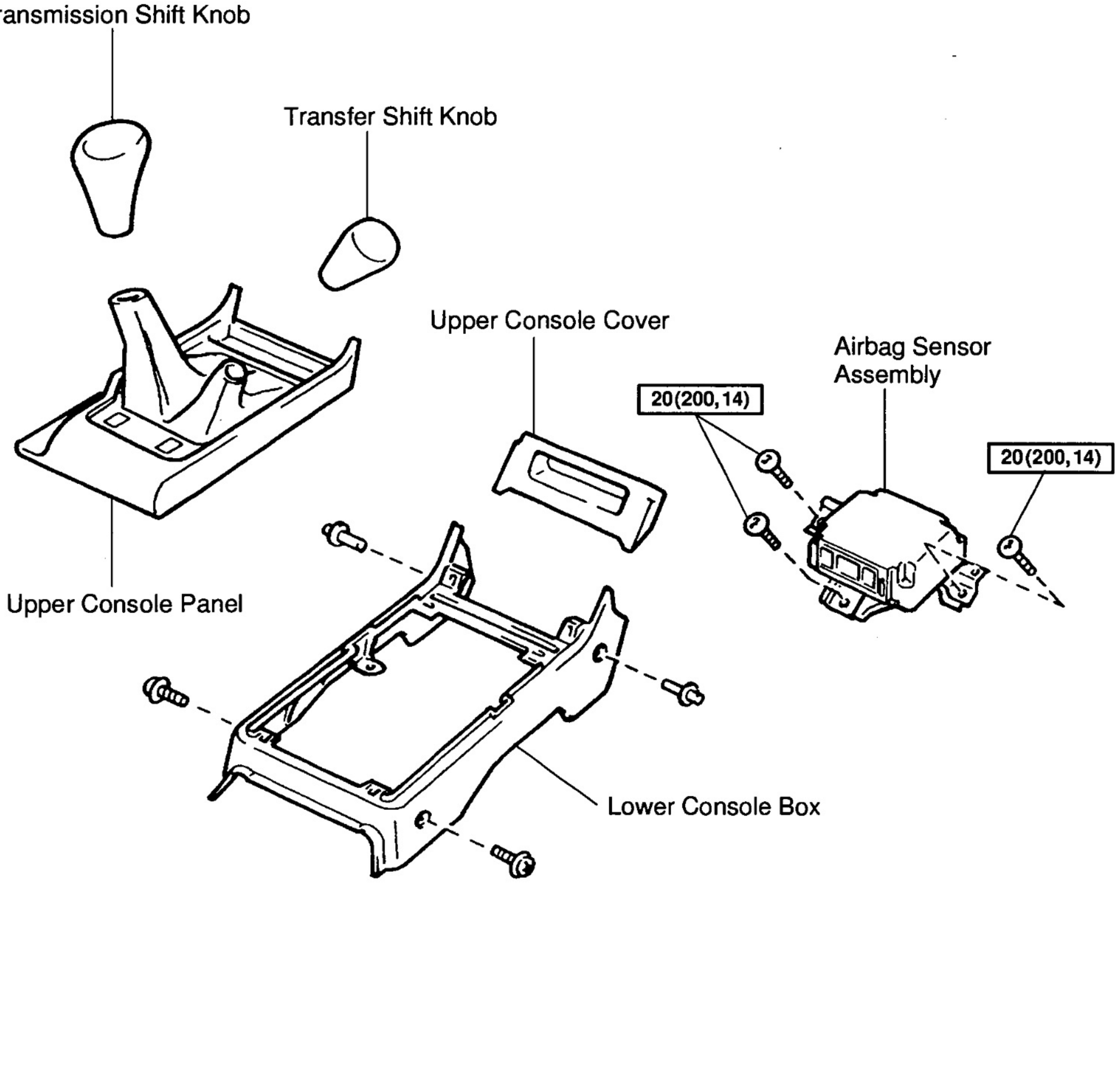
(b) Pull the connector on the No.1 under cover.

(c) Install the No.1 under cover to the glove compartment door.

AIRBAG SENSOR ASSEMBLY

COMPONENTS

RS01G–08



N·m (kgf·cm, ft·lbf) : Specified torque

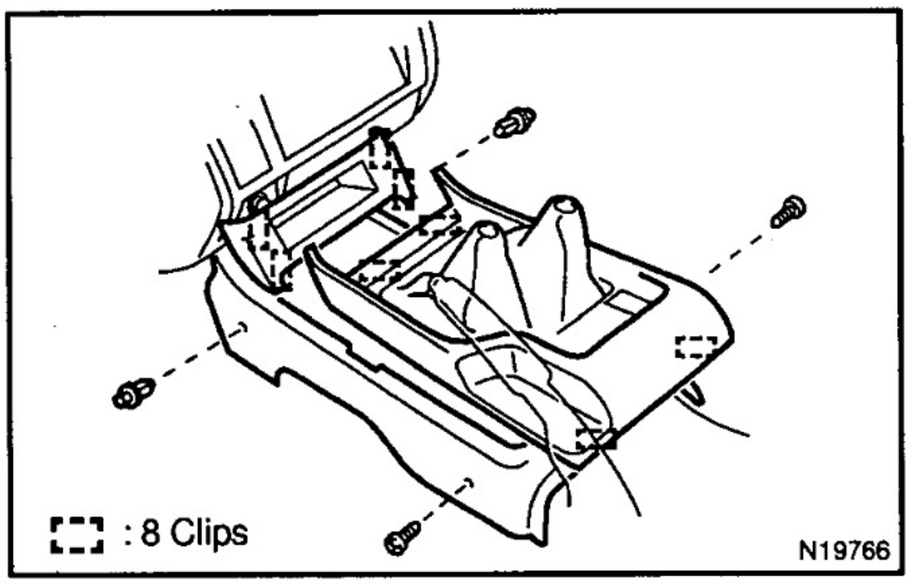
H05188

RS0CA–01

REMOVAL

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.)



1. w/ Console Box:

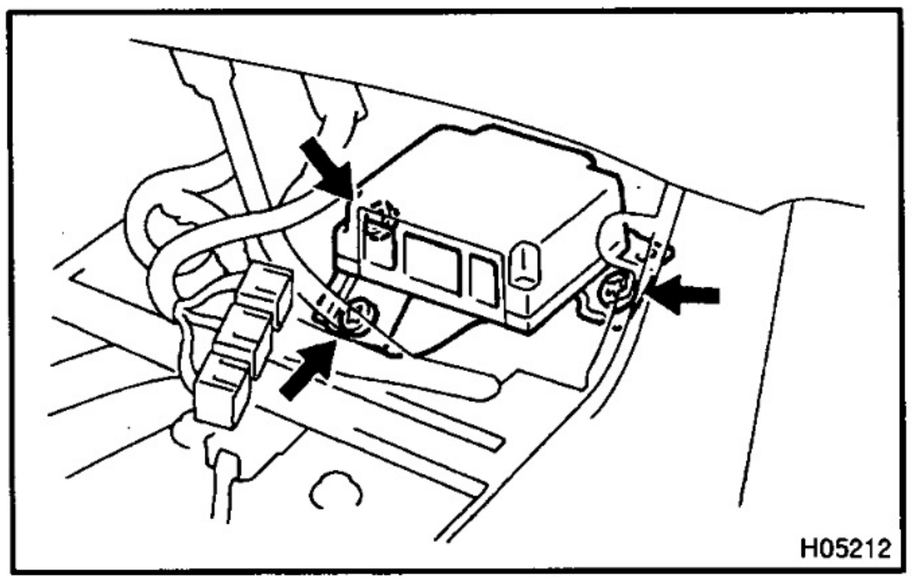
REMOVE THESE PARTS:

(a) Upper console cover
(b) Upper console panel
(c) Lower console box

2. w/o Console Box:

REMOVE LOWER CENTER COVER

Remove the 2 clips and cover.



3. REMOVE AIRBAG SENSOR ASSEMBLY

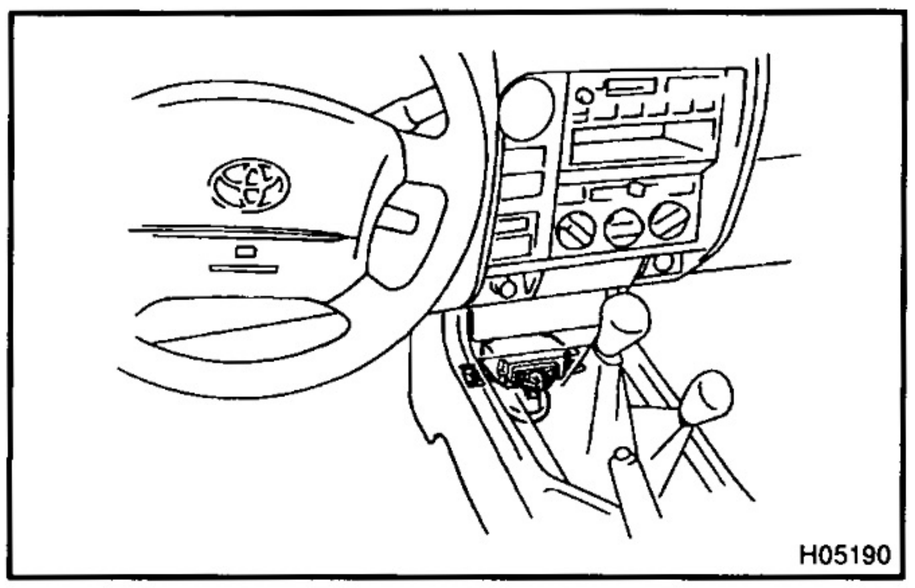
(a) Disconnect the airbag sensor connectors.

NOTICE:

Remove the connectors with the sensor assembly installed.

(b) Using a torx wrench remove the 3 screws and the airbag sensor assembly.

Torx wrench: T40 (Part No.09042–00020 or locally manufactured tool)



RS01I–05

INSPECTION

1. VEHICLE NOT INVOLVED IN COLLISION

Do a diagnostic system check.

(See page DI–3)

2. VEHICLE INVOLVED IN COLLISION AND AIRBAG IS NOT DEPLOYED

Do a diagnostic system check.

(See page DI–3)

3. VEHICLE INVOLVED IN COLLISION AND AIRBAG IS DEPLOYED

Replace the airbag sensor assembly.

RS01J-10

REPLACEMENT

REPLACEMENT REQUIREMENT

In the following cases, replace the airbag sensor assembly.

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

CAUTION:

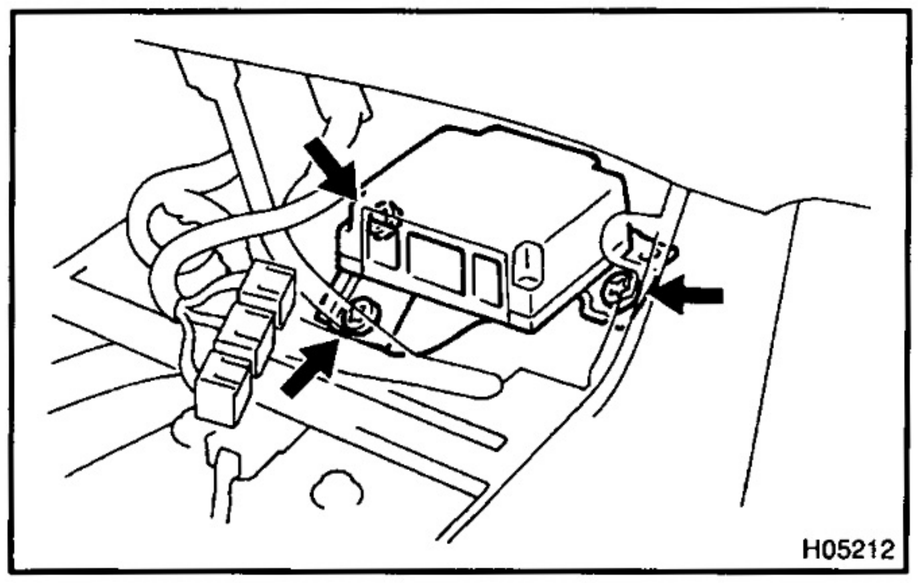
For removal and installation of the airbag sensor assembly, see page RS–39, RS–42. Be sure to follow the correct procedure.

RS0CB–01

INSTALLATION

NOTICE:

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



1. INSTALL AIRBAG SENSOR ASSEMBLY

(a) Using a torx wrench, install the airbag sensor assembly with 3 screws.

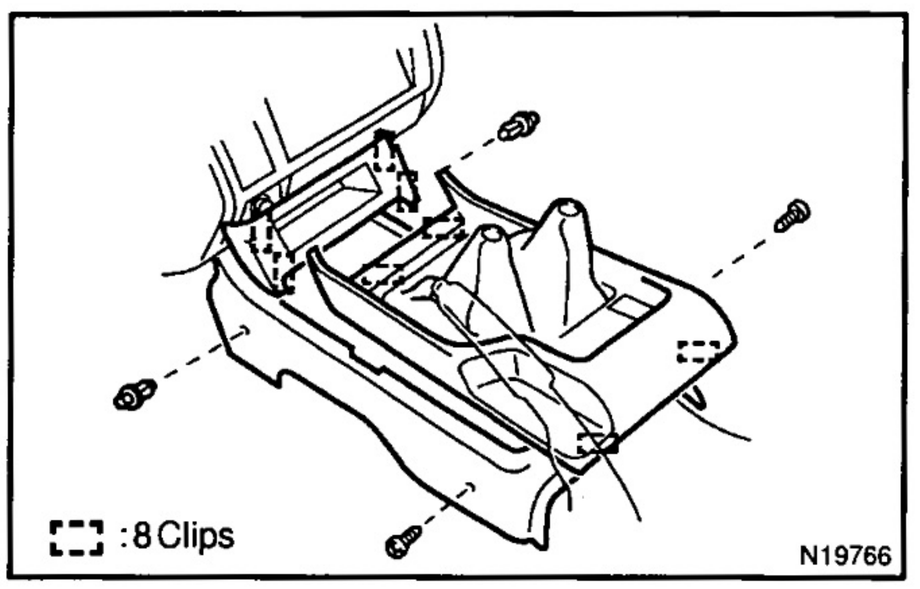
Torx wrench: T40 (Part No.09042–00020 or locally manufactured tool)

Torque: 20 N·m (200 kgf·cm, 14 ft·lbf)

(b) Connect the airbag sensor connectors.

NOTICE:

- **Installation of the connector is done with the sensor assembly installed. Make sure the sensor assembly is installed with 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 senor assembly, take care that the SRS wiring does not interfere with other parts and is not pinched between other parts.**
- **After installing , shake the sensor assembly to check that there is no looseness.**



2. w/ Console Box:

INSTALL THESE PARTS:

(a) Lower console box

(b) Upper console panel

(c) Upper console cover

3. w/o Console Box:

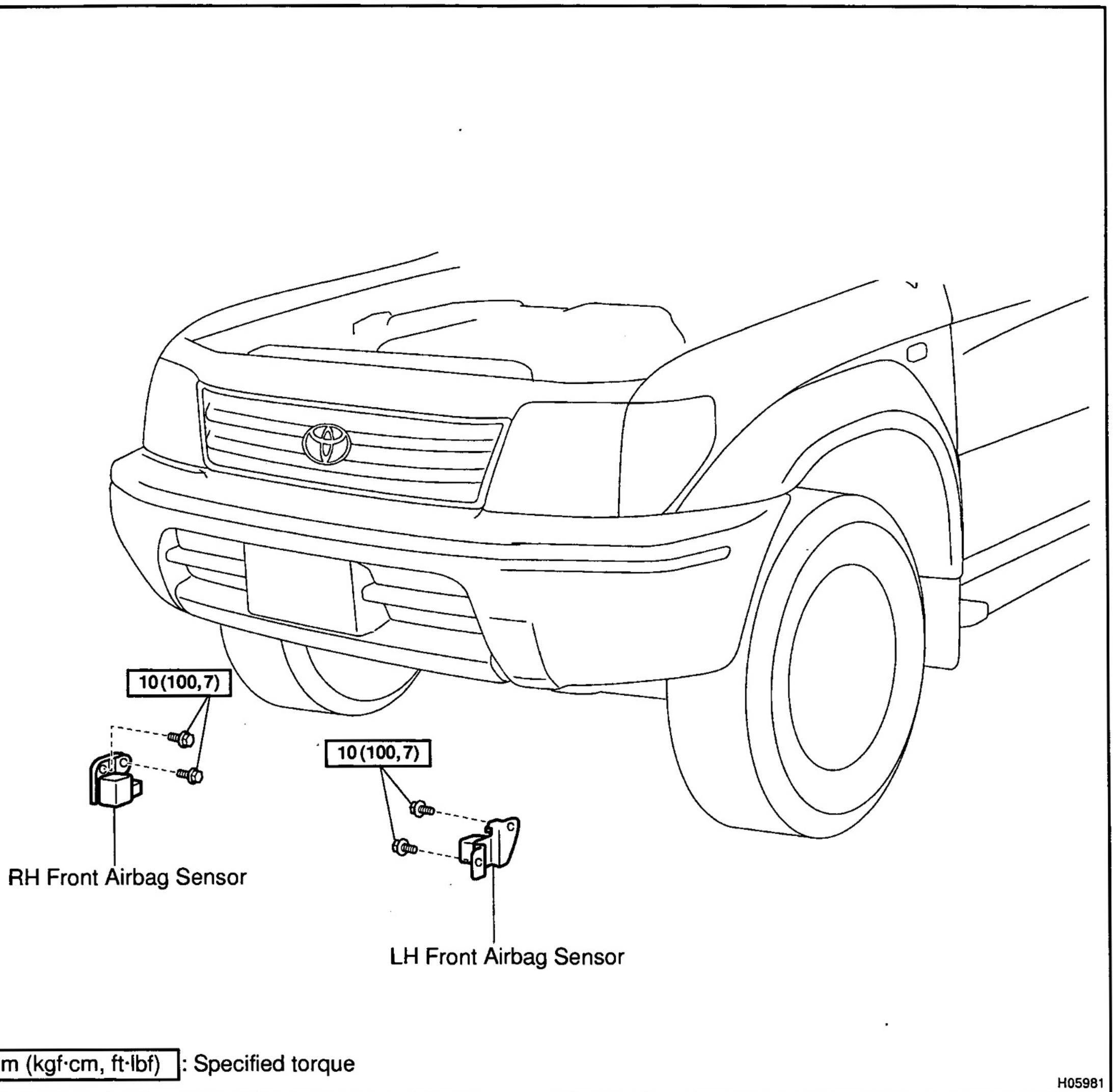
INSTALL LOWER CENTER COVER

Install the 2 clips and cover.

FRONT AIRBAG SENSOR

COMPONENTS

RS01L–10

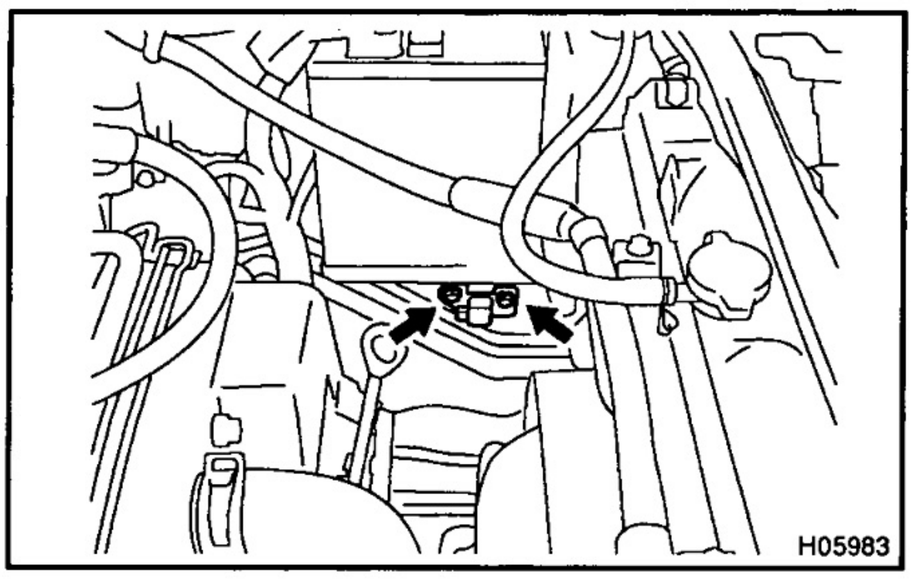


RS01M–10

REMOVAL

NOTICE:

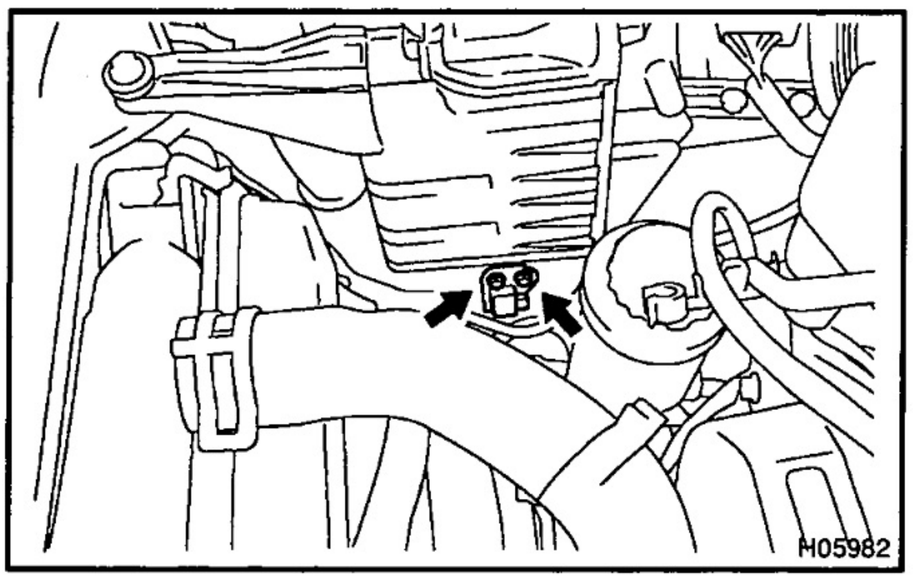
- **If the wiring connector of the SRS is disconnected with the ignition switch at ON or ACC position, DTCs will be recorded.**
- **Never use SRS parts from another vehicle. When replacing parts, replace them with new parts.**
- **Never reuse the sensor involved in a collision when the SRS has deployed.**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



1. REMOVE LH FRONT AIRBAG SENSOR

(a) Disconnect the connector.

(b) Remove the 2 bolts and front airbag sensor.

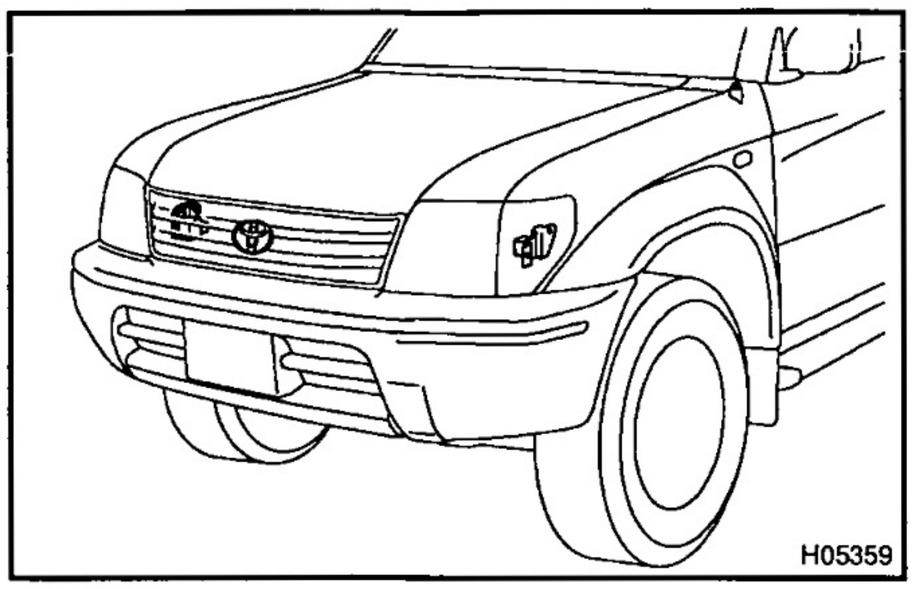


2. REMOVE RH FRONT AIRBAG SENSOR

(a) Disconnect the connector.

(b) Remove the 2 bolts and front airbag sensor.

RS01N–11



INSPECTION

1. VEHICLES NOT INVOLVED IN A COLLISION

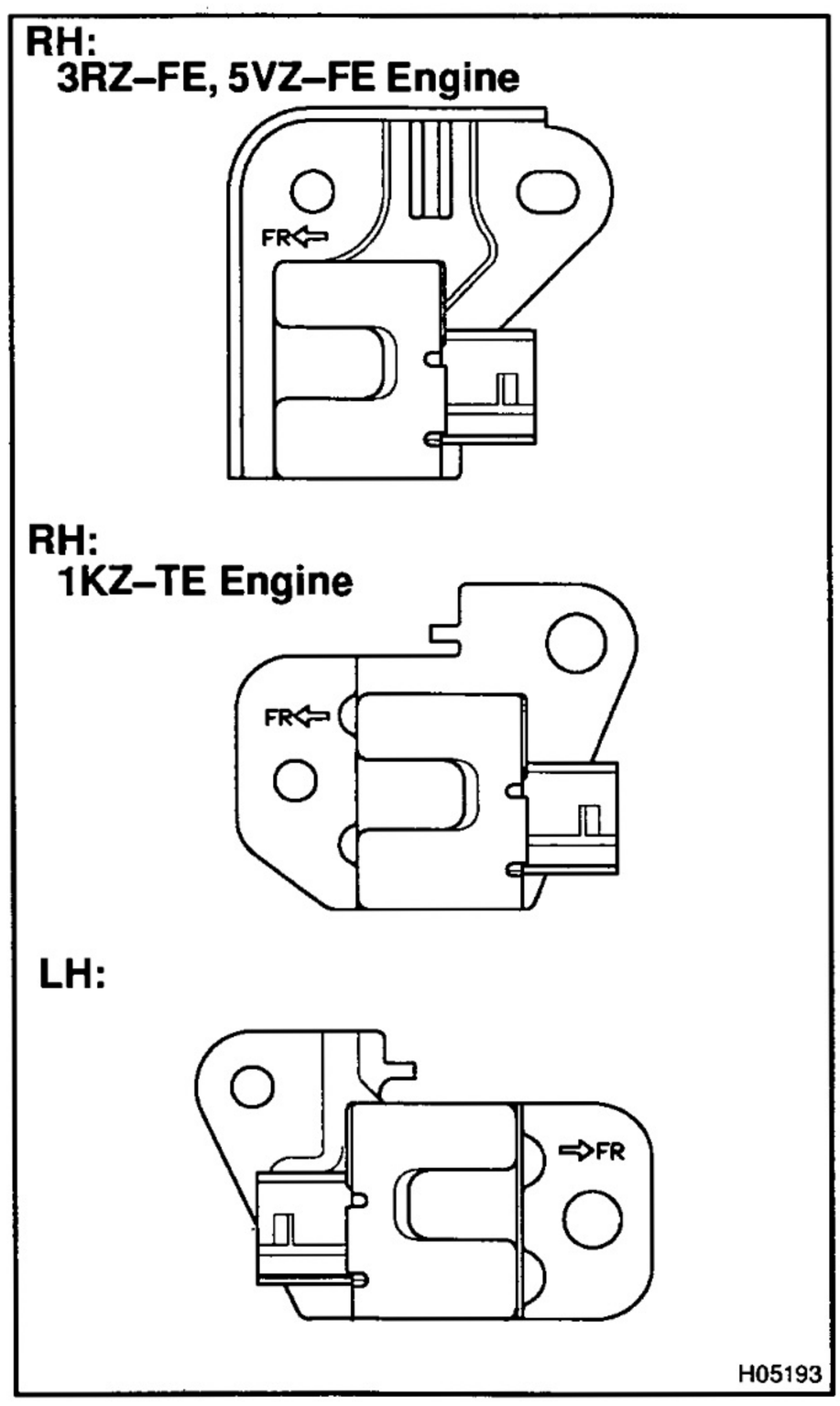
Do a diagnostic system check.
(See page DI–3)

2. VEHICLES INVOLVED IN A COLLISION

(a) Do a diagnostic system check. (See page DI–3)

(b) If the front bumper, the head lamp or the front fender of the car or their 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
- Paint peeling from the bracket
- Cracks, dents or chips in the case
- Cracks, dents, hipping and scratches in the connector
- Peeling off of the label or damage to the serial number



RS01O-08

REPLACEMENT

REPLACEMENT REQUIREMENT

In the following cases, replace the front airbag sensor.

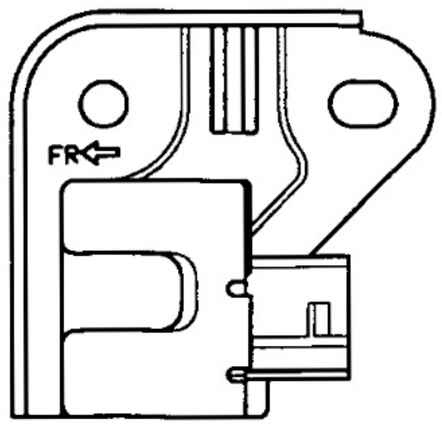
- If the SRS has been deployed in a collision. (Replace both the left and right airbag sensors.)
- If the front airbag sensor has been found to be faulty in troubleshooting.
- If the front airbag sensor has been found to be faulty during the check in item. (See page RS–45)
- If the front airbag sensor has been dropped.

CAUTION:

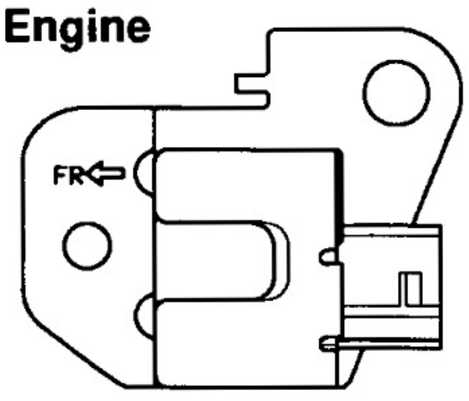
For removal and installation of the front airbag sensor, see page RS–44, RS–47. Be sure to follow the correct procedure.

RS01P–10

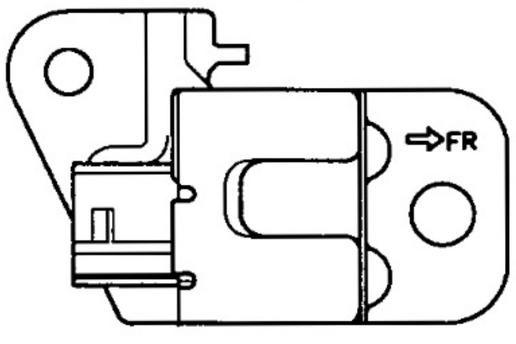
RH:
3RZ–FE, 5VZ–FE Engine



RH:
1KZ–TE Engine



LH:



H05193

INSTALLATION

1. INSTALL FRONT AIRBAG SENSOR

Install the sensors according to the arrows which is showing the up direction of the vehicle.

Torque: 20 N·m (200 kgf·cm, 14 ft·lbf)

NOTICE:

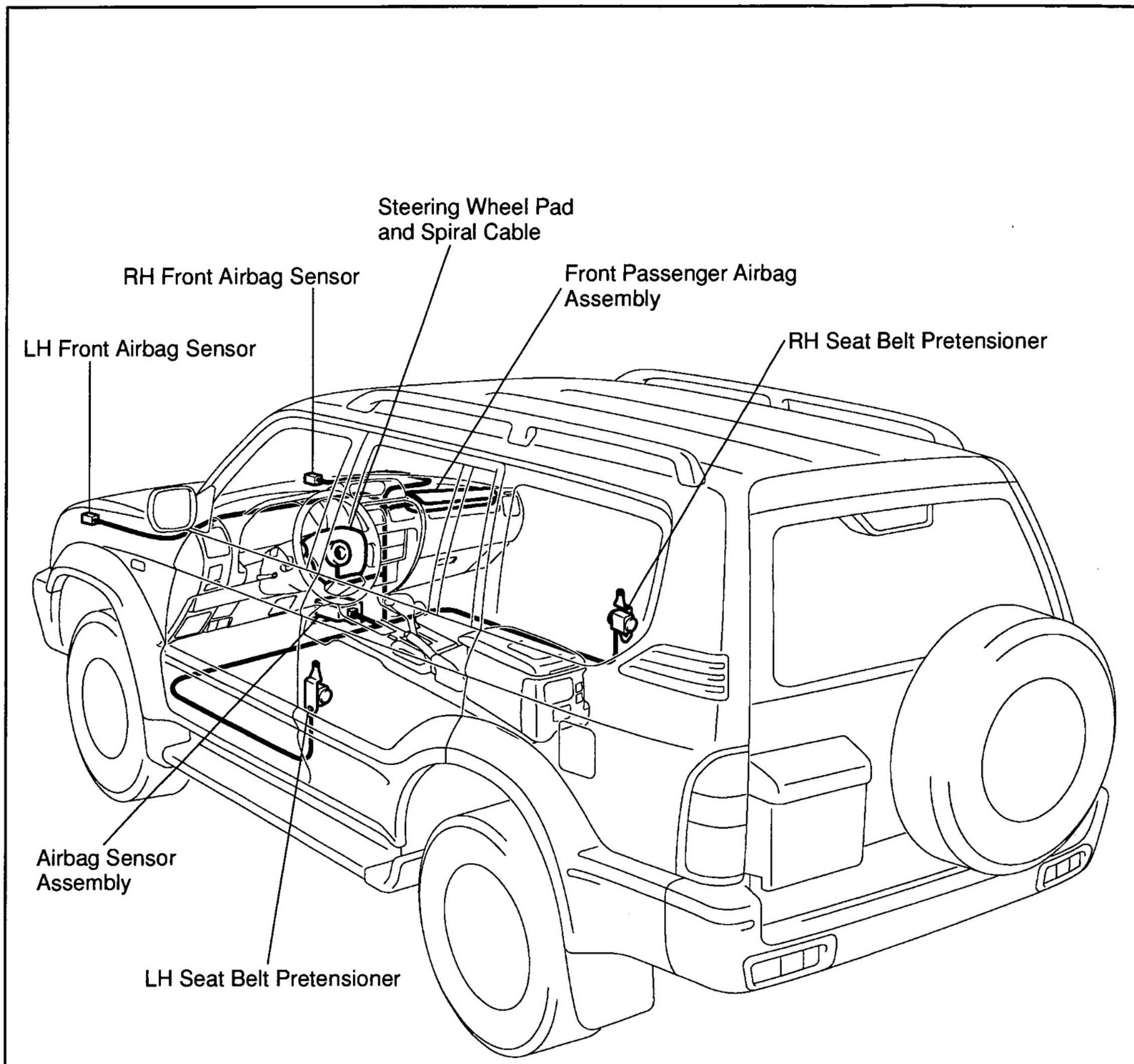
- **Make sure the sensor is installed on the specified torque.**
- **If the sensor has been dropped, or there are cracks, dents or other defects in the case, brackets or connector, replace the removed sensor, always replace the set bolts and nuts with new ones.**
- **The sensor set bolts and nuts have been anti–rust treated. When the sensor is removed, always replace the set bolts and nuts 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 are not securely locked, a malfunction code will be detected by the diagnostic system.**

2. INSTALL REMOVED PARTS

WIRE HARNESS AND CONNECTOR

LOCATION

RS01V-08



H05194

RS01W–05

INSPECTION

HINT:

The SRS wire harness is integrated with the instrument panel 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.

1. VEHICLES NOT INVOLVED IN COLLISION

Do a diagnostic system check.

(See page DI–3)

2. VEHICLES INVOLVED IN COLLISION

(a) Do a diagnostic system check.

(See page DI–3)

(b) Check breaks in all wires of the SRS wire harness, and exposed conductors.

(c) Check to see if the SRS wire harness connectors are cracked or chipped.

RS01X–05

REPLACEMENT

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 checking items. (See page RS–49)

CAUTION:

- **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 this purpose.**

BODY ELECTRICAL

BODY ELECTRICAL SYSTEM BE–1
COMBINATION METER BE–6
ACCESSORY METER BE–13
POWER DOOR LOCK
CONTROL SYSTEM BE–16

REFER TO LAND CRUISER/LAND CRUISER PRADO REPAIR MANUAL FOR CHASSIS AND BODY (Pub. No. RM517E)

NOTE: The above pages contain only the points which differ from the above listed manual.

BODY ELECTRICAL SYSTEM

PROBLEM SYMPTOMS TABLE

BE01J–08

1. METER, GAUGES AND ILLUMINATION

Symptom	Suspect Area	See page
Tachometer, Fuel Gauge and Water Temperature Gauge does not operate.	1. GAUGE Fuse (Driver Side J/B) 2. Meter Circuit Plate 3. Wire Harness	– BE–8 –
Speedometer does not operate.	1. Vehicle Speed Sensor 2. Meter Circuit Plate 3. Wire Harness	★ BE–8 –
Tachometer does not operate.	1. Meter Circuit Plate 2. Igniter (Gasoline Engine) 3. Tacho Pick–up Sensor (3L, 1KZ–T Engine) 4. ECT ECU (Diesel engines vehicle with A/T except 1KZ–TE Engine) 5. ECD ECU (1KZ–TE Engine) 6. Wire Harness	BE–8 – ★ – – –
Fuel Gauge does not operate or abnormal operation.	1. Fuel Receiver Gauge 2. Fuel Sender Gauge 3. Meter Circuit Plate 4. Wire Harness	★ ★ BE–8 –
Water Temperature Gauge does not operate or abnormal operation.	1. Water Temperature Receiver Gauge 2. Water Temperature Sender Gauge 3. Meter Circuit Plate 4. Wire Harness	★ ★ BE–8 –
All illumination lights do not light up.	1. TAIL Fuse (Engine Room J/B) 2. Light Control Rheostat 3. Meter Circuit Plate 4. Wire Harness	– ★ BE–8 –
Only one illumination light does not light up.	1. Bulb 2. Meter Circuit Plate 3. Wire Harness	– BE–8 –

★: Refer to Pub. No. RM517E

2. WARNING LIGHTS

Symptom	Suspect Area	See page
Warning light do not light up. (Except Discharge, SRS and Door Open)	1. Gauge Fuse (Driver Side J/B) 2. Bulb 3. Ignition Switch 4. Meter Circuit 5. Wire Harness	– – ★ BE–8 –
Timing Belt warning light does not light up.	1. Bulb 2. Speedometer 3. Wire Harness	– BE–10 –
Discharge warning light does not light up.	1. IGN Fuse (Driver Side J/B) 2. Bulb 3. Alternator 4. Wire Harness	– – – –

Brake warning light does not light up.	1. Bulb 2. Brake Fluid Level Warning Switch 3. Parking Brake Switch 4. Vacuum Switch (Diesel Engine) 5. Meter Circuit Plate 6. Wire Harness	– ★ ★ ★ BE–8 –
Engine oil level warning light does not light up.	1. Bulb 2. Meter Circuit Plate 3. Engine Oil Level Sensor 4. Wire Harness	– BE–8 ★ –
Low Oil Pressure warning light does not light up.	1. Bulb 2. Low Oil Pressure Warning Switch 3. Meter Circuit Plate 4. Wire Harness	– ★ BE–8 –
Fuel Filter warning light does not light up.	1. Bulb 2. Meter Circuit Plate 3. Fuel Filter Warning Switch 4. Wire Harness	– BE–8 ★ –
Air Filter warning light does not light up.	1. Bulb 2. Meter Circuit Plate 3. Air Filter Warning Switch 4. Wire Harness	– BE–8 ★ –
Turbo warning light does not light up.	1. Bulb 2. Meter Circuit Plate 3. Turbo Pressure Switch 4. Wire Harness	– BE–8 ★ –
Seat Belt warning light does not light up.	1. Bulb 2. Seat Belt Buckle Switch 3. Meter Circuit Plate 4. Wire Harness	– ★ BE–8 –
Fuel Level Warning light does not light up.	1. Bulb 2. Fuel Level Warning Switch 3. Meter Circuit Plate 4. Wire Harness	– ★ BE–8 –
Open Door warning light does not light up.	1. DOME Fuse (Engine Room R/B) 2. Bulb 3. Door Courtesy Switch 4. Meter Circuit Plate 5. Wire Harness	– – ★ BE–8 –
SRS warning light does not light up.	1. ECU–B Fuse (Engine Room R/B) 2. Bulb 3. Airbag Sensor Assembly 4. Meter Circuit Plate 5. Wire Harness	– – – BE–8 –
A/T Parking warning light does not light up.	1. Bulb 2. Neutral Start Switch 3. Transfer Neutral Position Switch 4. Meter Circuit 5. Wire Harness	– ★ ★ BE–8 –
A/T Oil Temperature warning light does not light up.	1. Bulb 2. A/T Fluid Temperature Sensor 3. Meter Circuit 4. Wire Harness	– ★ BE–8 –

★: Refer to Pub. No. RM517E

3. INDICATOR LIGHTS

Symptom	Suspect Area	See page
ABS indicator light does not light up.	1. Bulb 2. ABS ECU 3. Meter Circuit Plate 4. Wire Harness	– ★ BE–8 –
Center Differential lock or 4WD indicator light does not light up.	1. Bulb 2. Center Differential Lock Control Switch 3. Meter Circuit Plate 4. Wire Harness	– ★ BE–8 –
Rear Differential lock indicator light does not light up.	1. Bulb 2. Rear Differential Lock Control Switch 3. Meter Circuit Plate 4. wire Harness	– ★ BE–8 –
Check Engine indicator light does not light up.	1. Bulb 2. Meter Circuit Plate 3. Wire Harness	– BE–8 –
A/T Shift position indicator light does not light up.	1. Bulb 2. Neutral Start Switch 3. Light Control Rheostat 4. Meter Circuit Plate 5. Wire Harness	– ★ ★ BE–8 –
O/D OFF indicator light does not light up.	1. Bulb 2. O/D Main Switch 3. Meter Circuit Plate 4. Wire Harness	– ★ BE–8 –
Turn indicator light does not light up.	1. Bulb 2. Turn Signal and Hazard Warning System 3. Meter Circuit Plate 4. Wire Harness	– ★ BE–8 –
High beam indicator light does not light up.	1. Bulb 2. Headlight and Taillight System 3. Mete Circuit Plate 4. Wire Harness	– ★ BE–8 –
CRUISE indicator light does not light up.	1. Bulb 2. Cruise Control System 3. Mete Circuit Plate 4. Wire Harness	– ★ BE–8 –
ECT PWR indicator light does not light up.	1. Bulb 2. ECT Pattern Select Switch 3. Mete Circuit Plate 4. Wire Harness	– ★ BE–8 –

★: Refer to Pub. No. RM517E

4. POWER DOOR LOCK CONTROL SYSTEM

Symptom	Suspect Area	See page
"Door lock control system" does not operate (All).	1. POWER Fuse (Driver Side J/B) 2. Integration Relay (Driver Side J/B) 3. Wire Harness	– ★ –
Malfunction in Door Lock / Unlock. (Using door manual switch)	1. Integration Relay (Driver Side J/B) 2. Door Lock Control Switch 3. Wire Harness	★ ★ –
Malfunction in Door Lock / Unlock. (Using door manual switch and key)	Wire Harness	–

Malfunction in Door Lock / Unlock. (Using Key)	1. Integration Relay (Driver Side J/B) 2. Door Key Lock and Unlock Switch 3. Wire Harness	★ BE–17 –
Fault in key confine prevention operation.	1. Integration Relay (Driver Side J/B) 2. Door Lock Control Switch 3. Wire Harness	★ ★ –
Only one door lock does not operate.	1. Door Lock Motor 2. Wire Harness	BE–17 –

★: Refer to Pub. No. RM517E

5. ACCESSORY METER

Symptom	Suspect Area	See page
Compass : The display flashes. The display is not stable. A direction is different. The display will not operate. The revision will not be over.	1. Rectification of the compass 2. Accessory Meter assembly	– BE–15
Clinometer : An abnormal display is indicated. The display will not operate. The revision cannot be done.	1. Rectification of the clinometer 2. Accessory Meter assembly	– BE–15
Thermometer : *1 An abnormal display is indicated. It displays "–E".	1. Ambient Temperature sensor 2. Wire Harness 3. Accessory Meter assembly	BE–15 – BE–15
Barometer : *2 An abnormal display is indicated.	Accessory Meter assembly	BE–15
Altimeter : *3 An abnormal display is indicated. The revision cannot be done.	Accessory Meter assembly	BE–15
Average Speedometer : *4 "Start", "Stop" and "Reset" cannot be done. An abnormal display is indicated.	Accessory Meter assembly	BE–15
Timer : *5 "Start", "Stop" and "Reset" cannot be done.	Accessory Meter assembly	BE–15
Illumination lights does not light up. *6	1. Bulb 2. Accessory Meter assembly	– BE–15
The display is unclear. Not related segment comes on.	Accessory Meter assembly	BE–15

*1:

There is a case that the thermometer, depending on the place where to measure the temperature, indicates different temperature from the one as indicated in the city.

*2:

As the barometer sensor is built in the accessory meter, the displayed atmospheric pressure is the pressure inside the vehicle.

*3:

There may be a case that the altitude display differs depending on the weather conditions even at the same place.

*4:

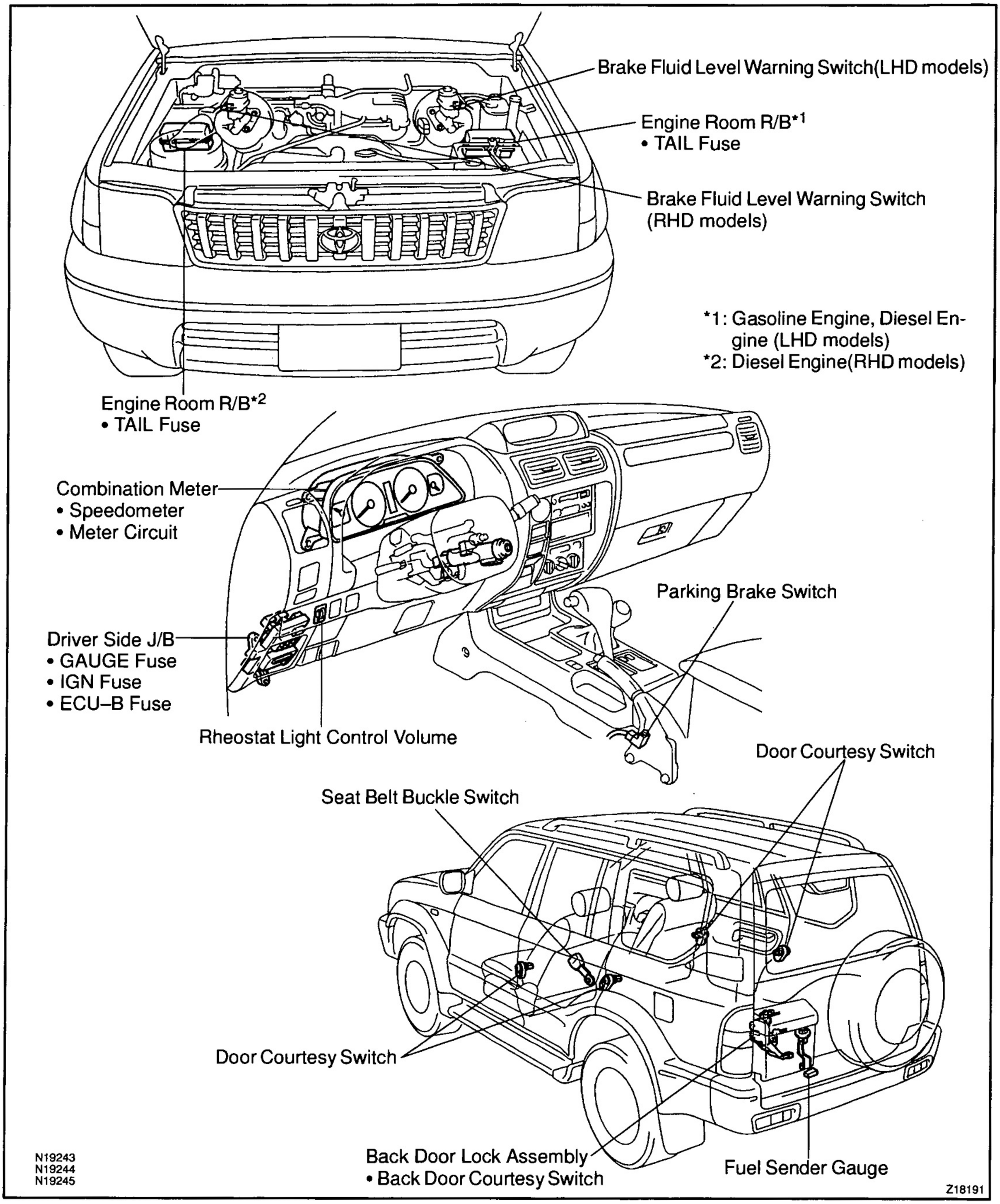
The graph indicates the average speed of every 5 minutes after the battery connection. A number displays the average speed since when the start switch is turned ON.

*5:
A timer keeps counting while the ignition switch is OFF.
*6:
Check if the illumination lights by pressing MODE/LIGHT switch for 1 sec. or more.

COMBINATION METER

LOCATION

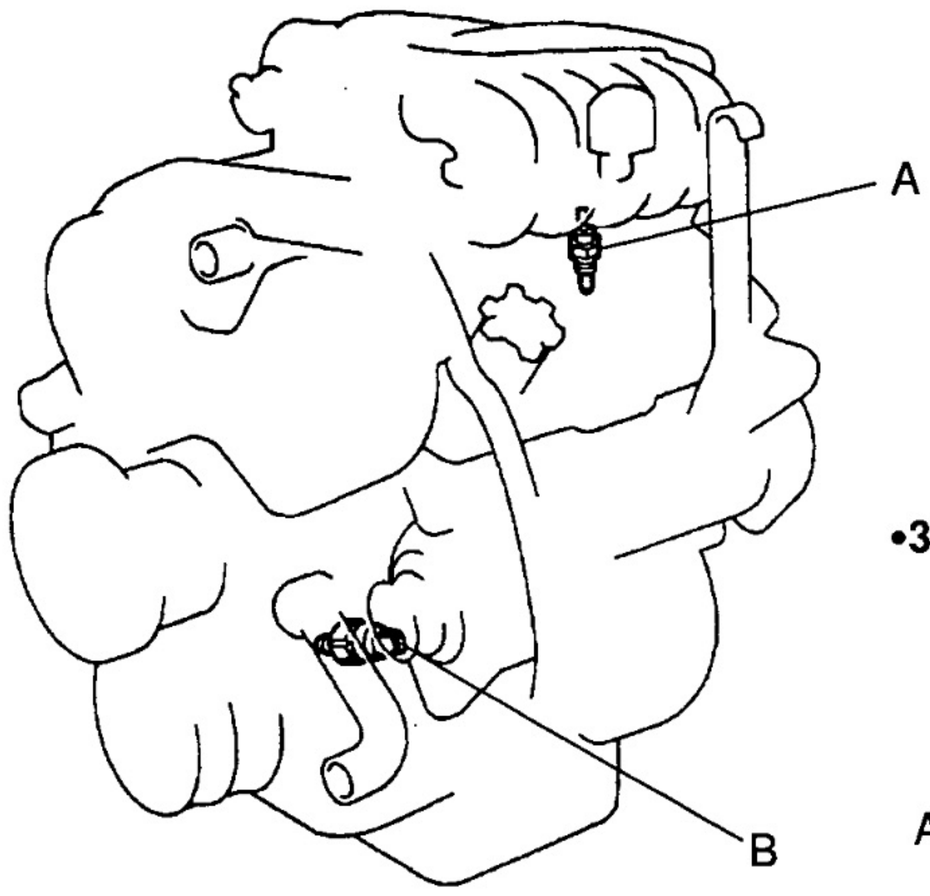
BE0VZ–01



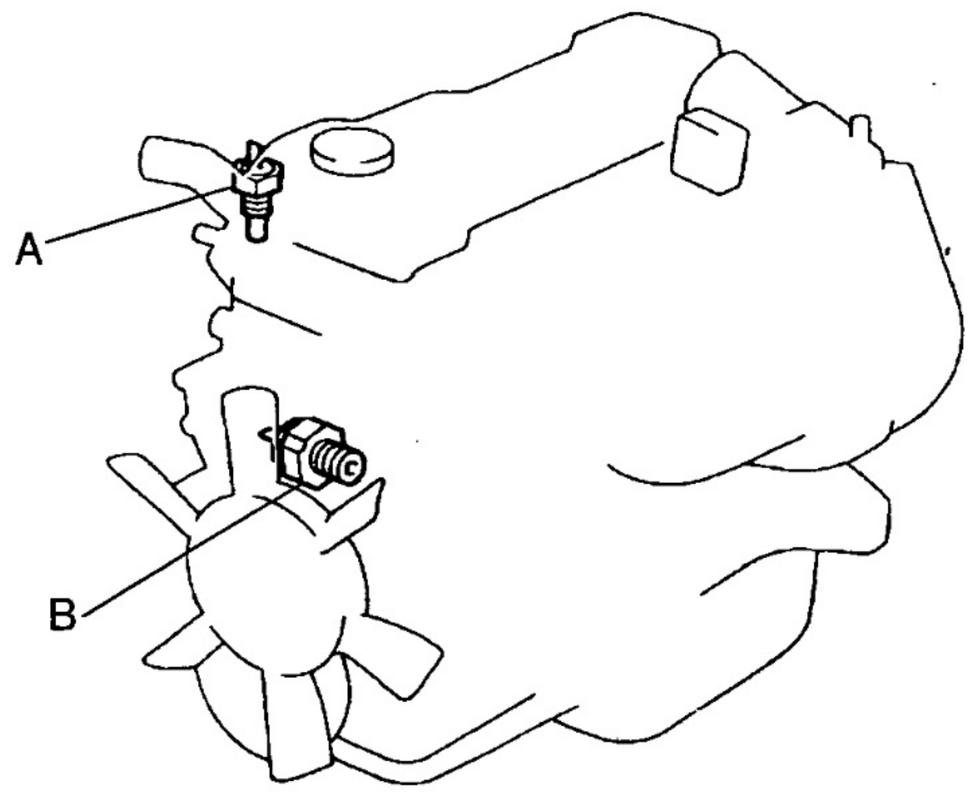
N19243
N19244
N19245

Z18191

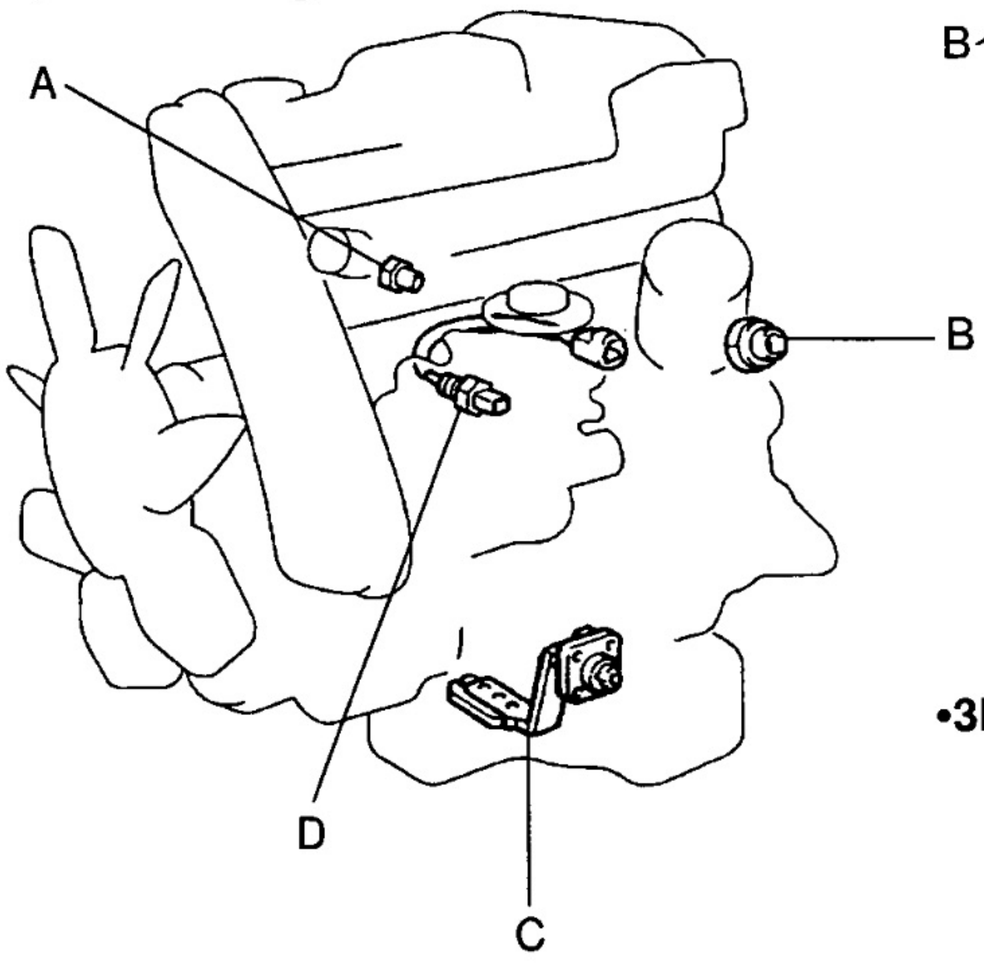
•5VZ–FE Engine



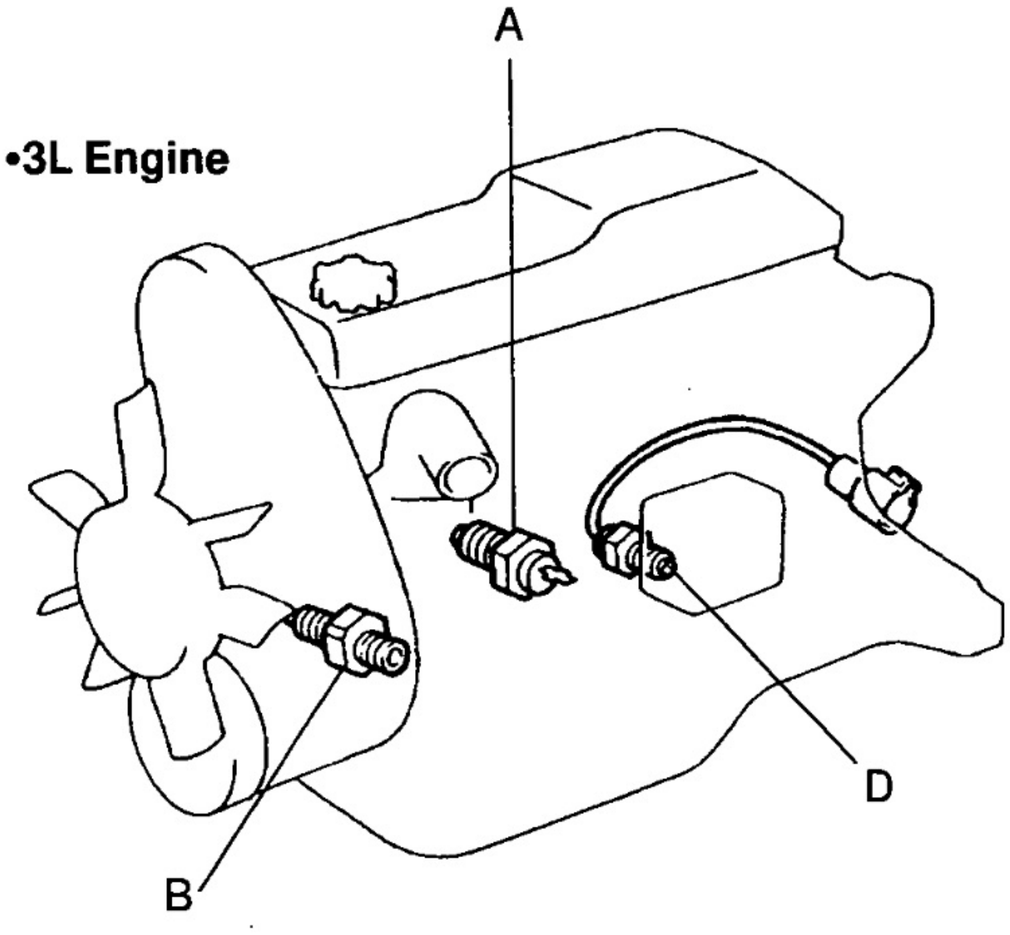
•3RZ–F, 3RZ–FE Engine



•1KZ–T, 1KZ–TE Engine



•3L Engine



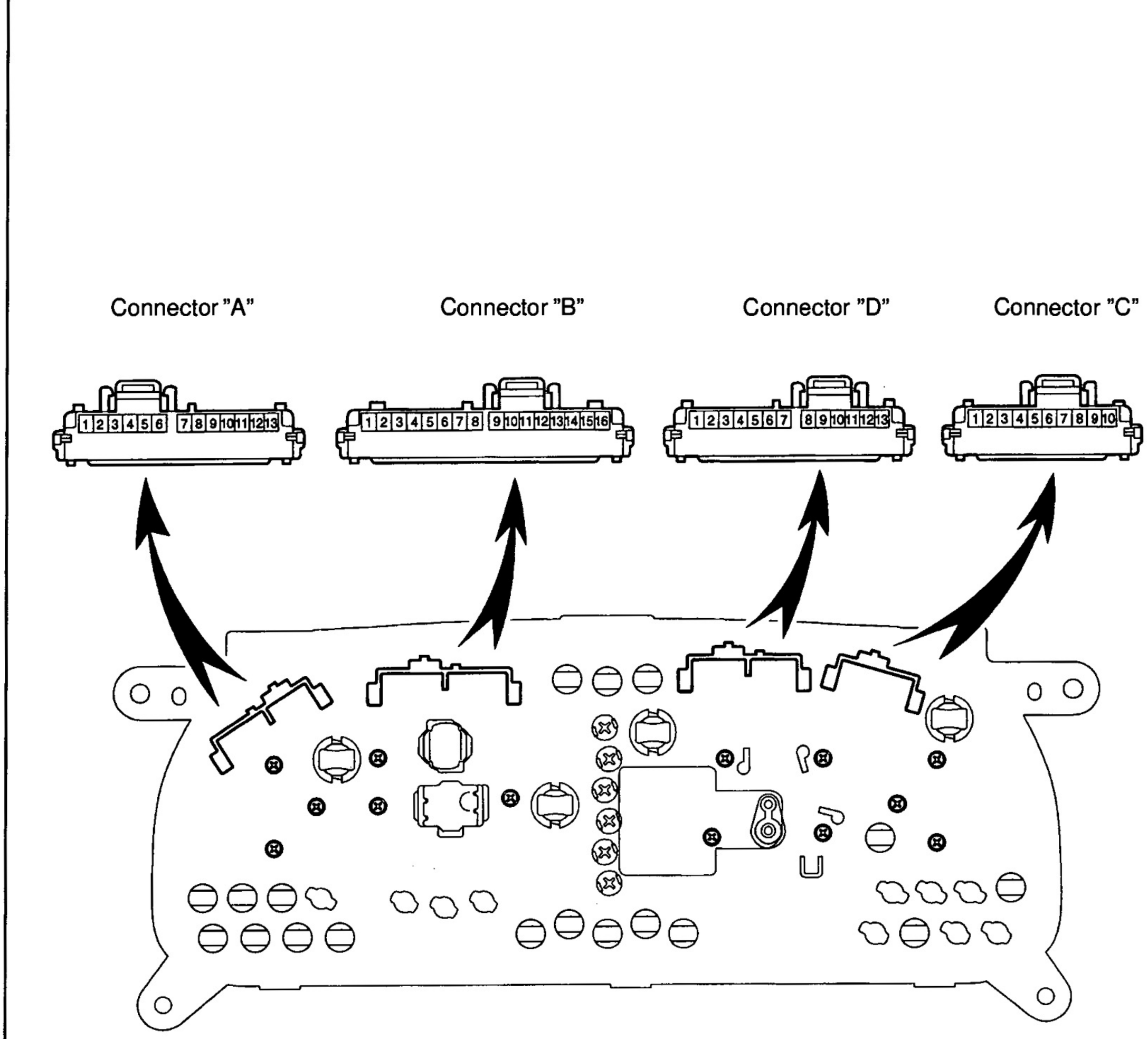
A: Water Temperature Sender Gauge
B: Low Oil Pressure Warning Switch
C: Engine Oil Level Warning Sensor
D: Pick–up Sensor

106643

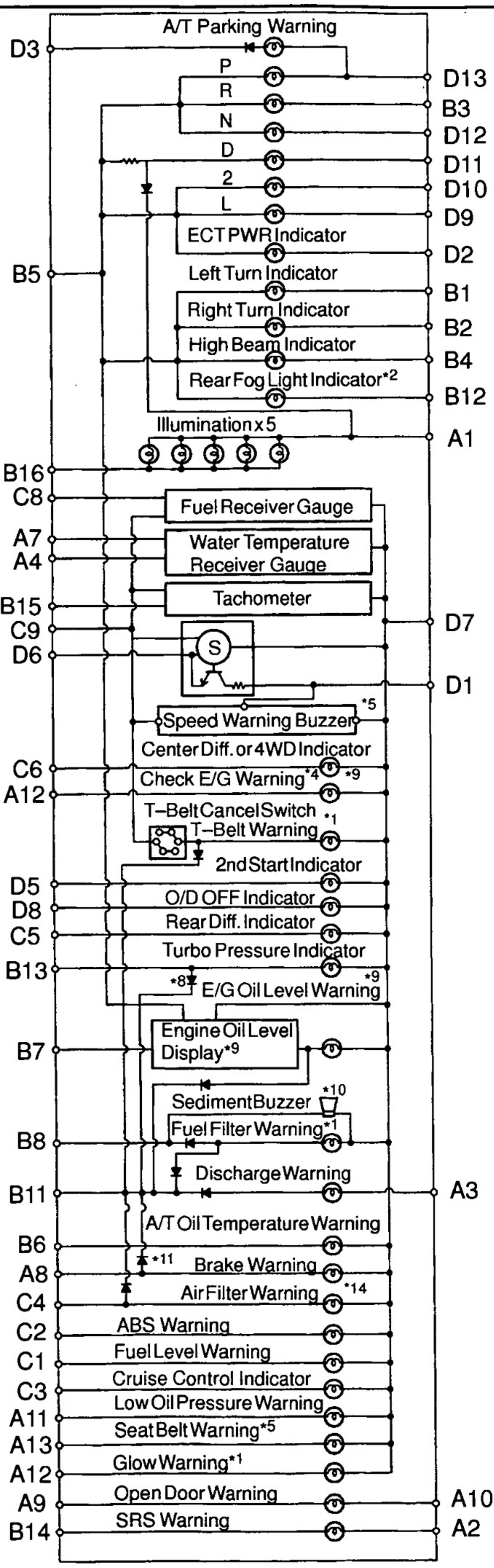
BE

BE0WD–01

CIRCUIT



N19248



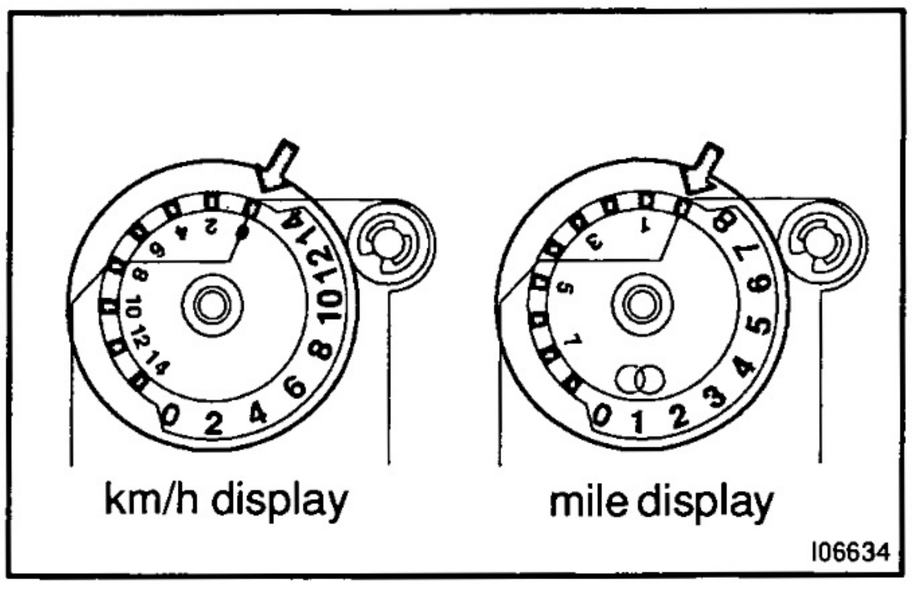
Ⓢ:Speedometer

N19249

No.		Wiring Connector Side
A	1	TAIL Fuse
	2	ECU–B Fuse
	3	IGN Fuse
	4	Water Temperature Seder Gauge
	7	Ground (Water Temp. Seder Gauge)
	8	Brake Fluid Level Warning Switch and Parking Brake Switch, Vacuum Switch *1
	9	Door Courtesy Switch
	10	DOME Fuse
	11	Low Oil Pressure Warning Switch
	12	Glow Plug Timer *12, EFI ECU *4
	13	Seat Belt Buckle Switch *5
B	1	Turn Signal Switch (Left)
	2	Turn Signal Switch (Right)
	3	Neutral Start Switch (R) *3
	4	Headlight Dimmer Switch
	5	Ground (General)
	6	A/T Fluid temperature Sensor *3
	7	Engine Oil Level Sensor *9
	8	Fuel Filter Warning Switch *1
	11	Alternator L Terminal
	12	Rear Fog Light Switch *2
	13	Turbo Pressure Switch *6
	14	Airbag Sensor Assembly
	15	Pick–Up Sensor *12, Igniter *4, ECT ECU *13, ECD ECU *9
	16	Rheostat Light Control Volume or Ground
C	1	Fuel Level Warning Switch
	2	ABS ECU
	3	Cruise Control ECU
	4	Air Filter Warning Switch
	5	Rear Differential Lock Control Switch
	6	Center Differential Lock Control Switch
		Transfer 4WD Position Switch
	8	Fuel Sender Gauge
	9	Ground
D	1	Vehicle Speed Sensor
	2	Pattern Select Switch *3
	3	Transfer Neutral Position Switch *3
	5	Engine & ECT ECU
	6	Speed Control Unit
	7	GAUGE Fuse
	8	O/D OFF Switch*3
	9	Neutral Start Switch (L)*3
	10	Neutral Start Switch (2)*3
	11	Neutral Start Switch (D)*3
	12	Neutral Start Switch (N)*3
	13	Neutral Start Switch (P)*3

*1: Diesel Engine
*2: Vehicles sold in Europe
*3: A/T Vehicles
*4: Gasoline Engine
*5: G.C.C. Countries
*6: Turbo Vehicles
*7: General and Australia
*8: General (1KZ–T Engine)
*9: 1KZ–TE Engine
*10: General (Diesel Engine)
*11: Europe and Australia
*12: 3L, 1KZ–T Engine
*13: Diesel Engine Vehicle with A/T except 1KZ–TE Engine
*14: Except Europe

Z18428



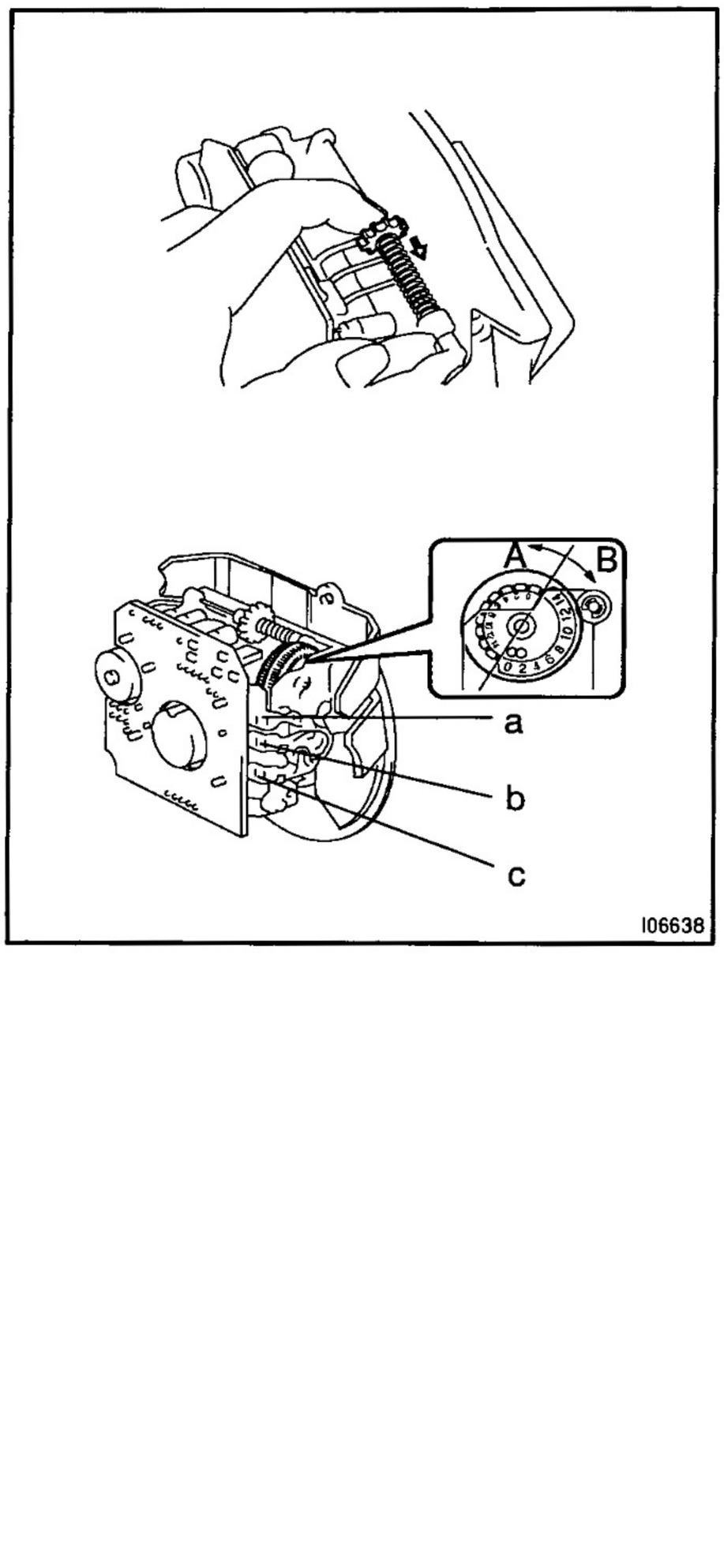
BE0W1–01

INSPECTION

INSPECT TIMING BELT WARNING MICRO SWITCH

(a) Remove the speedometer unit from the combination meter.

(b) Read the number indicated by the timing belt micro switch in the speedometer.



(c) Disengage the gear on top of the odometer and check the continuity between the terminals when the cam for the micro switch is rotated.

Position"A"

Tester connection	Specified condition
a – c	Continuity
b – c	No continuity

Position"B"

Tester connection	Specified condition
a – c	No continuity
b – c	Continuity

BE0W2-01

ADJUSTMENT

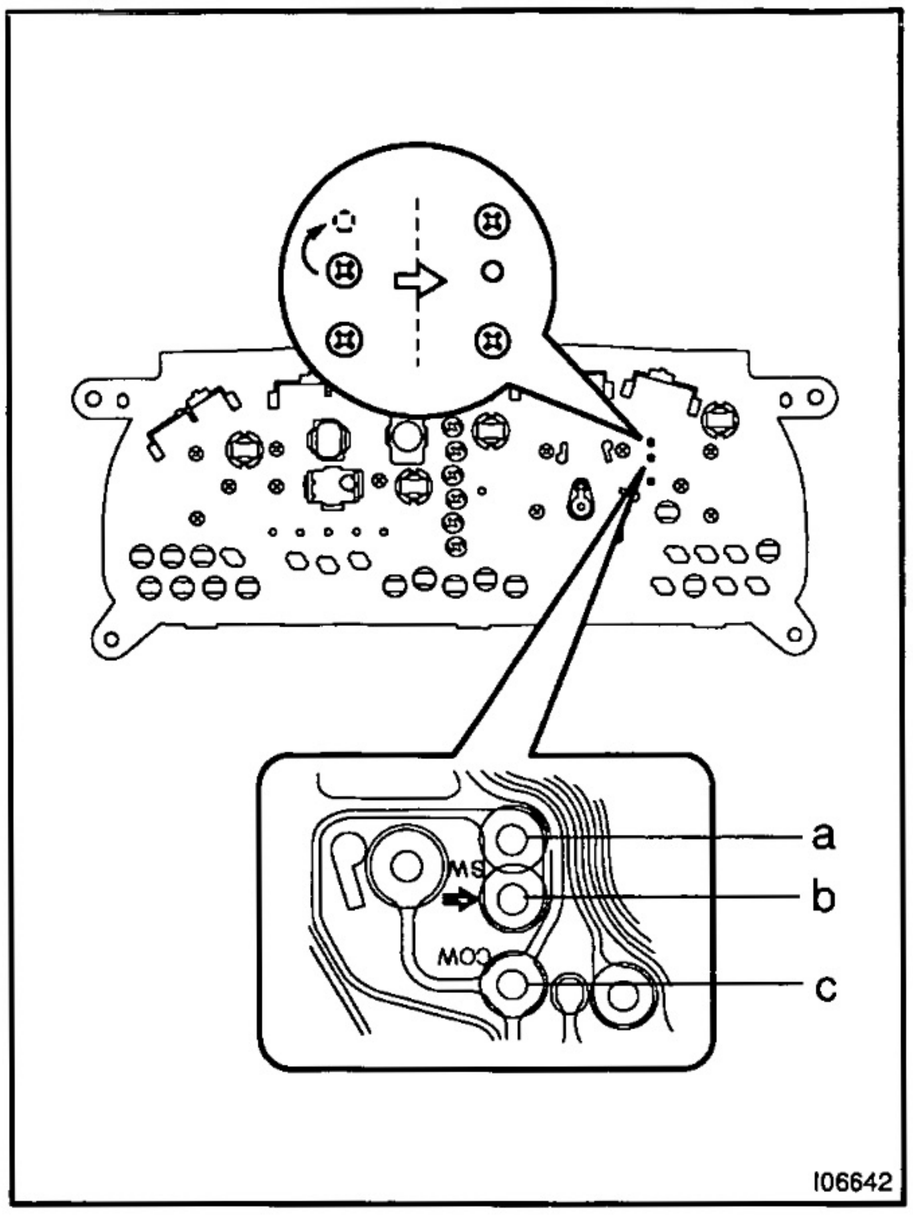
1. RESET TIMING BELT WARNING

The timing belt warning light lights up when the vehicle has run 150,000 km (90,000 mile). When the belt has been replace, remove the screw from the "b" position at the rear of the meter and reinstall it in the "a" position.

HINT:

When the warning light lights up after 300,000 km (180,000 mile), remove the screw from the "a" position and reinstall it at the "b" position. After 450,000 km (270,000 mile), install the screw back at the "a" position.

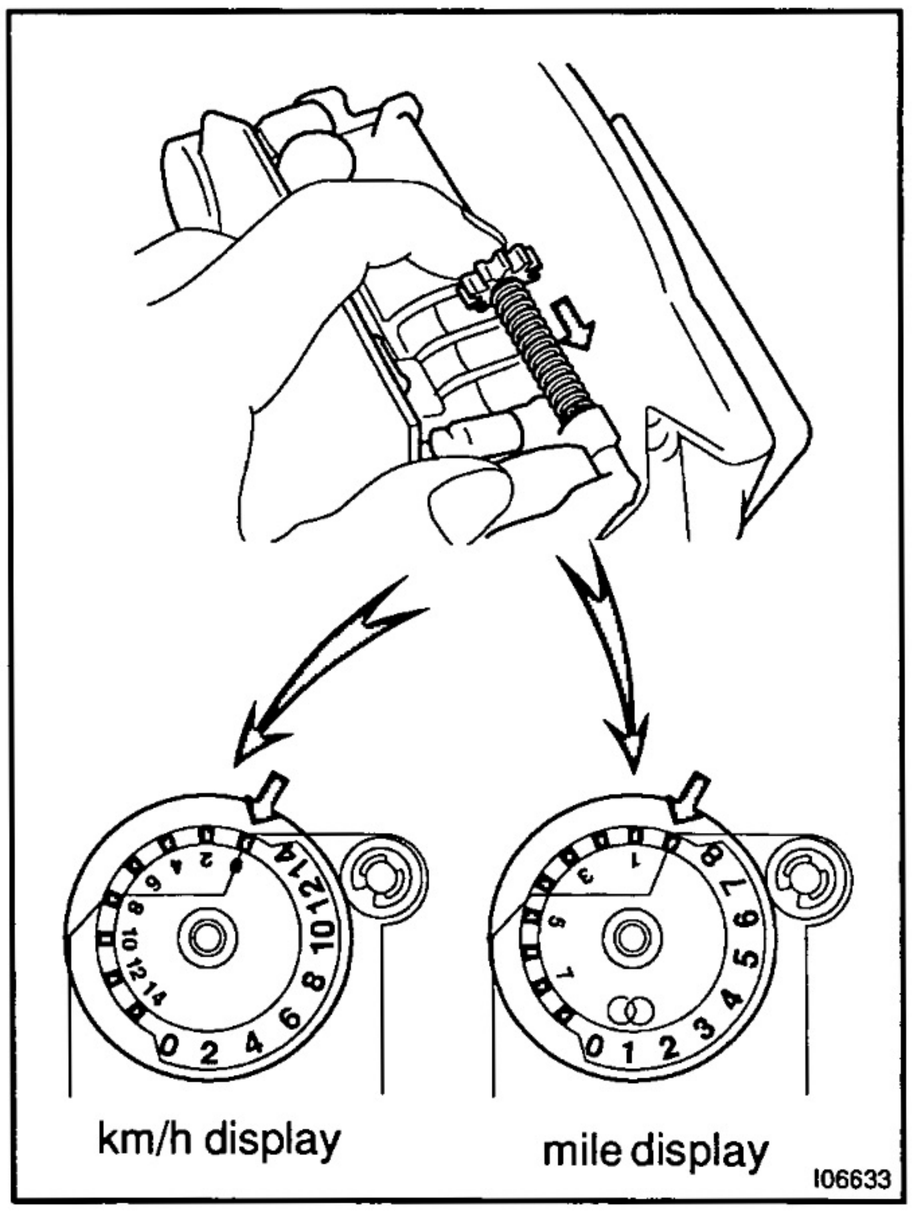
a: w/o an arrow mark
b: w/ an arrow mark
c: COM



2. IF REPLACING TIMING BELT BEFORE WARNING LIGHT LIGHTS UP

(a) Remove the speedometer unit from the combination meter.

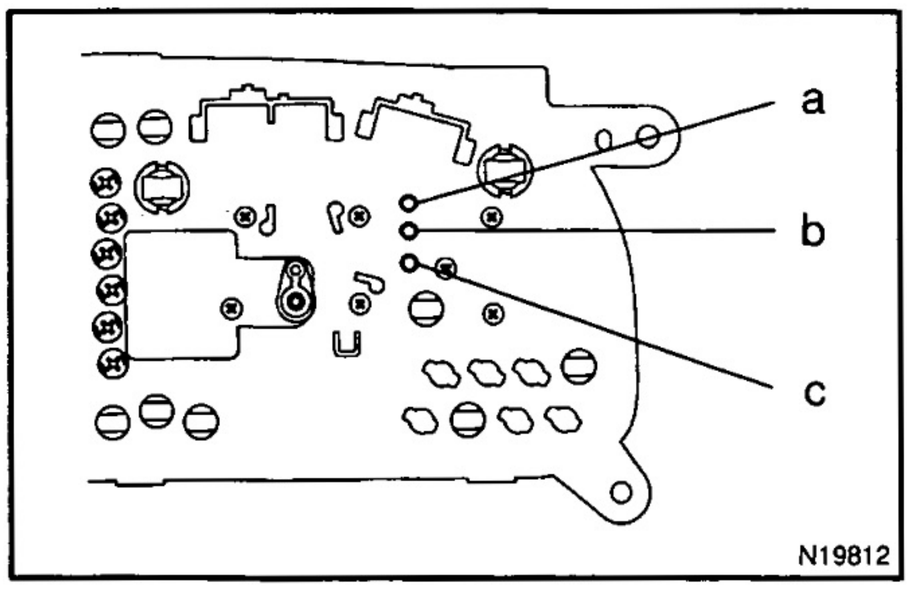
(b) Disengage the gear on top of the odometer, and adjust the cam location as shown in the illustration.

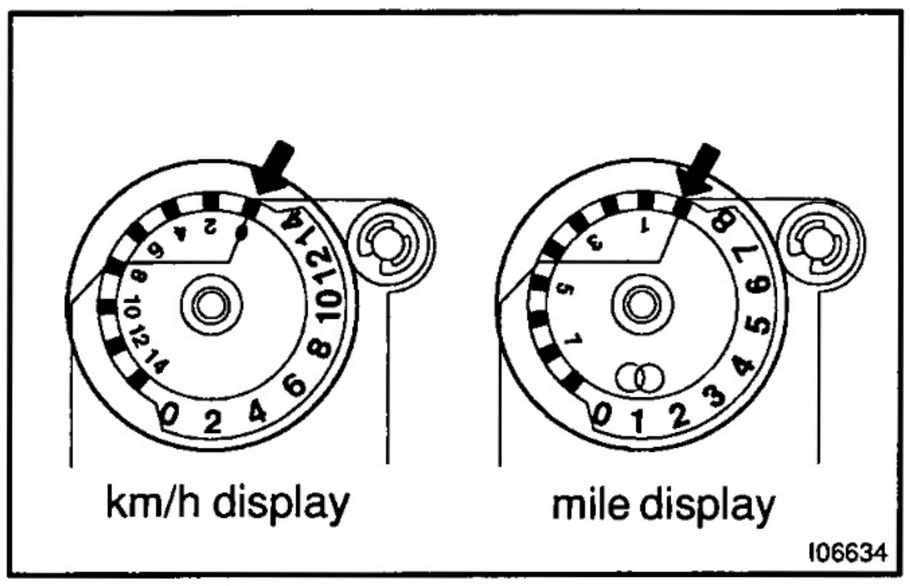


HINT:

Install the screw at the "b" and "c" position.

(c) Install the speedometer in the combination meter and install the combination meter in the vehicle.

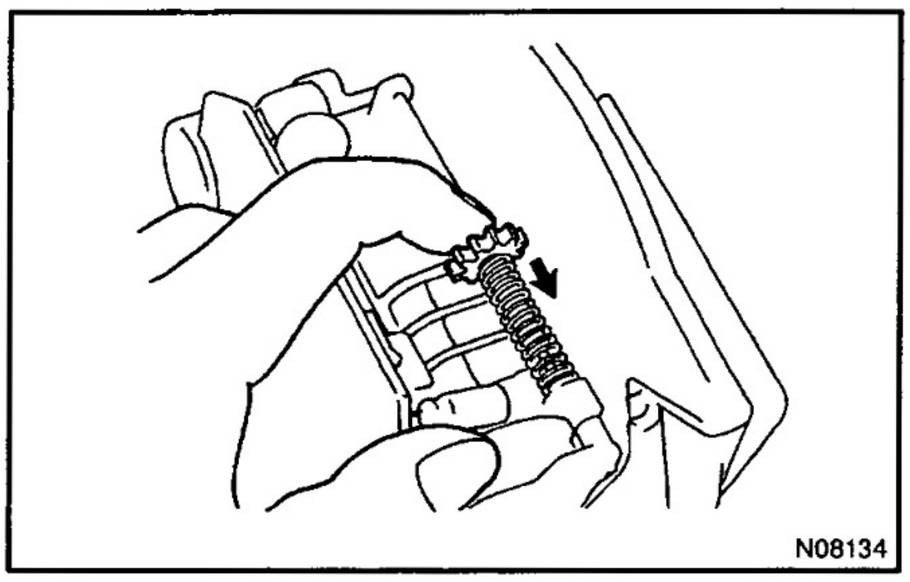




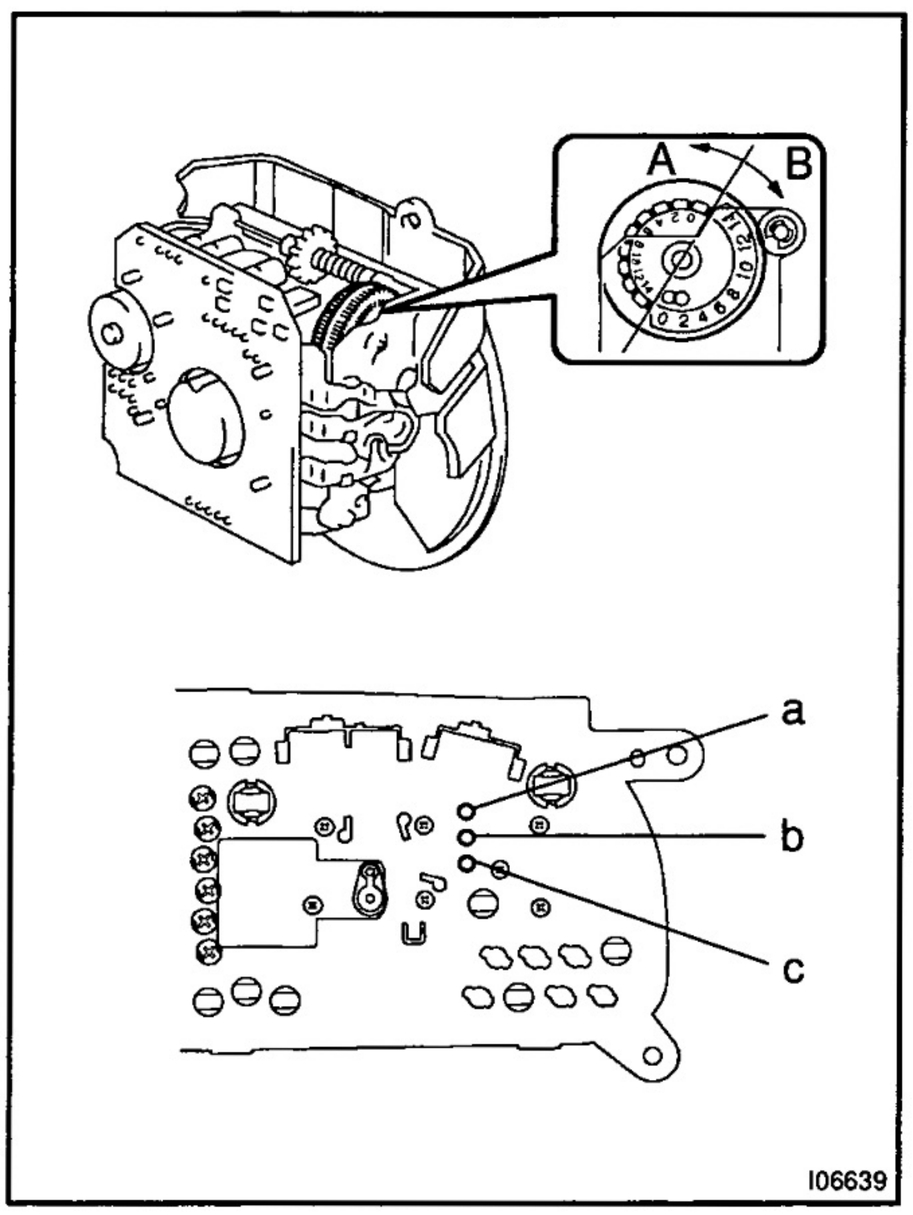
3. REPLACE SPEEDOMETER

(a) Remove the speedometer unit from the combination meter.

(b) Read the number indicated by the timing belt micro switch in the speedometer.



(c) Disengage the gear on top of the odometer, reset the timing belt micro switch to the reading in (b) above, then engage the gear.

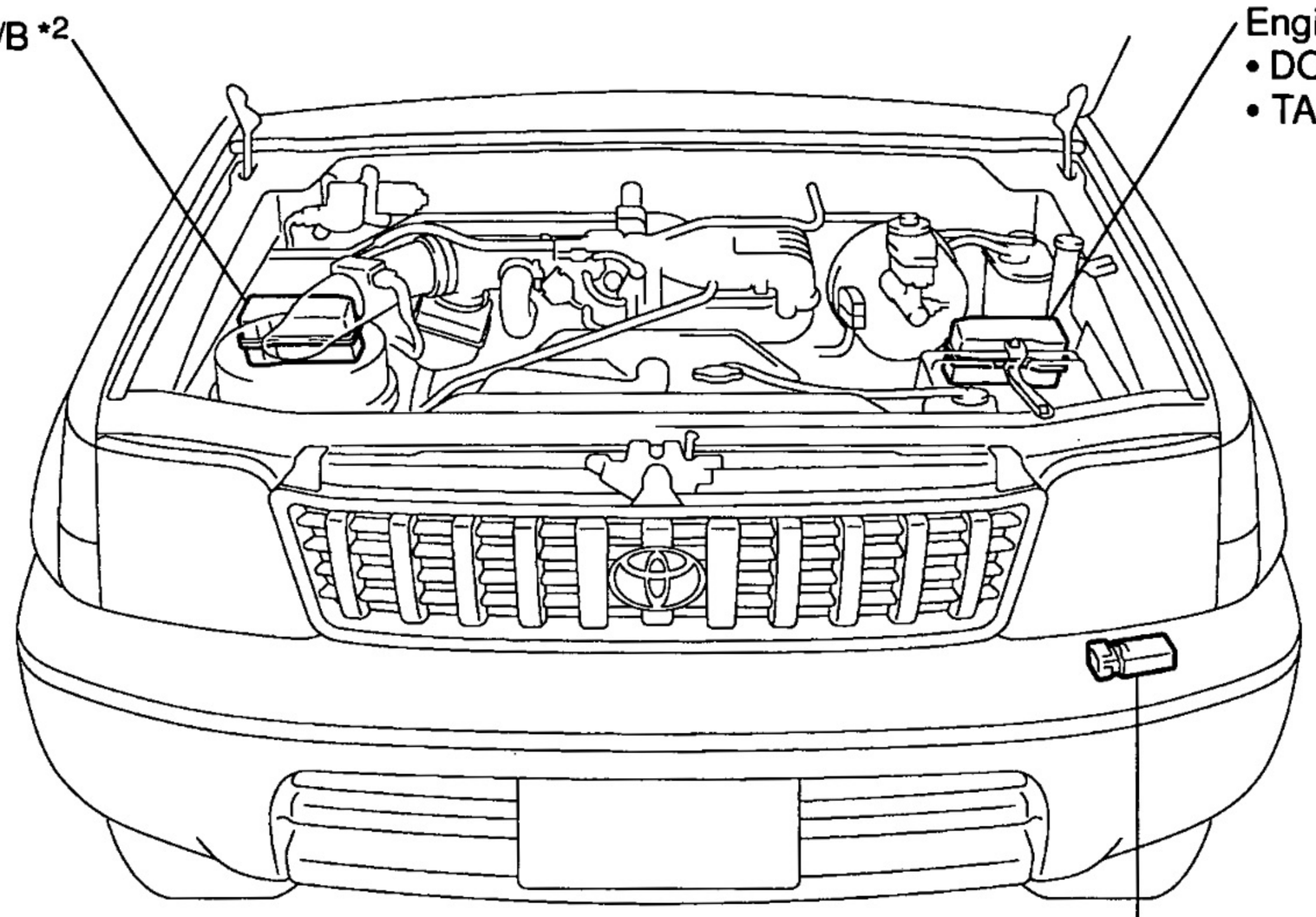


(d) When the arrow in the illustration indicates the A side, install the screws at "b" and the "c" positions. For the B side, install the screws at the "a" and "c" position.

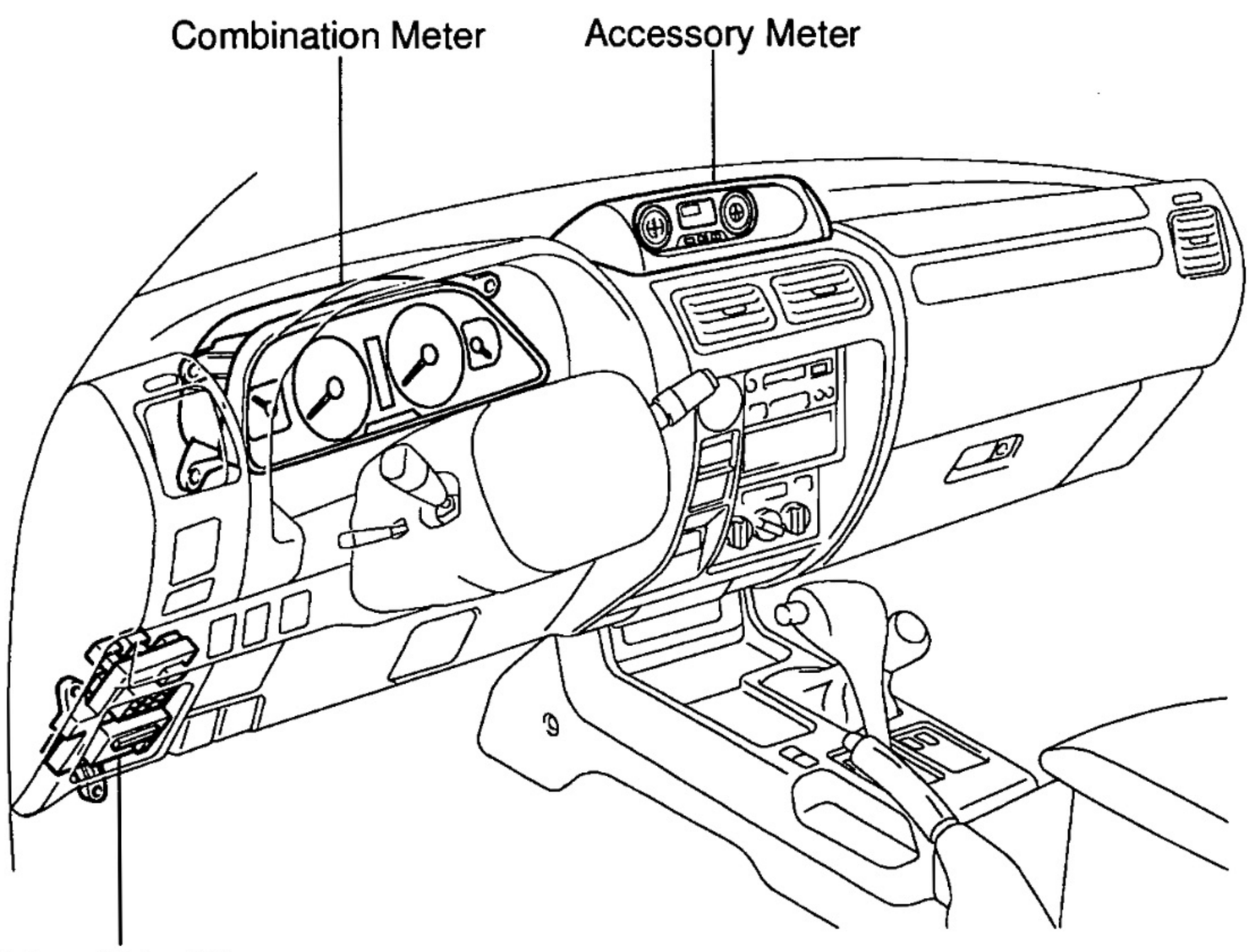
ACCESSORY METER

LOCATION

BE0W3–01



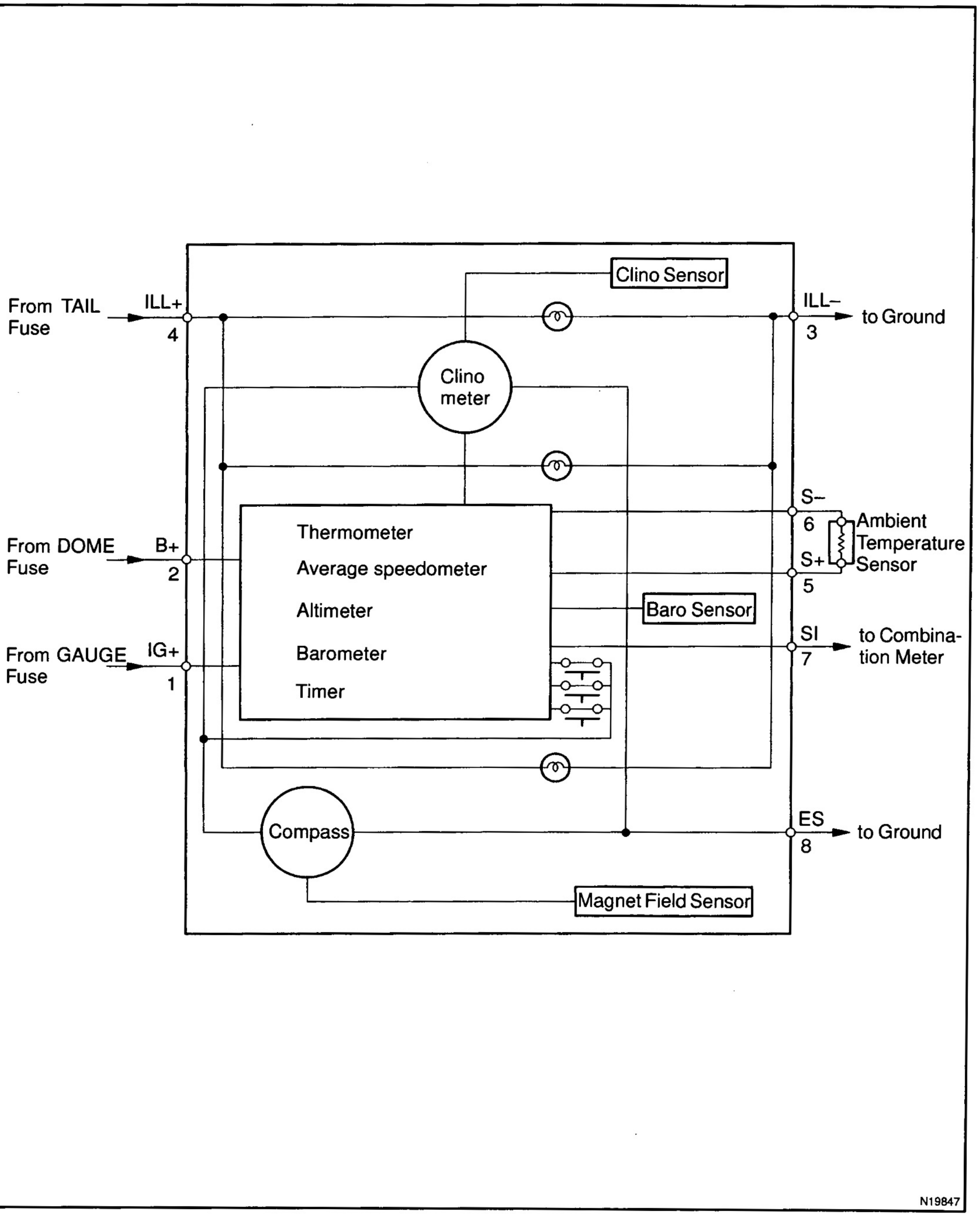
*1: Gasoline Engine, Diesel Engine (LHD models)
*2: Diesel Engine (RHD models)



I06641

CIRCUIT

BE0W4–01

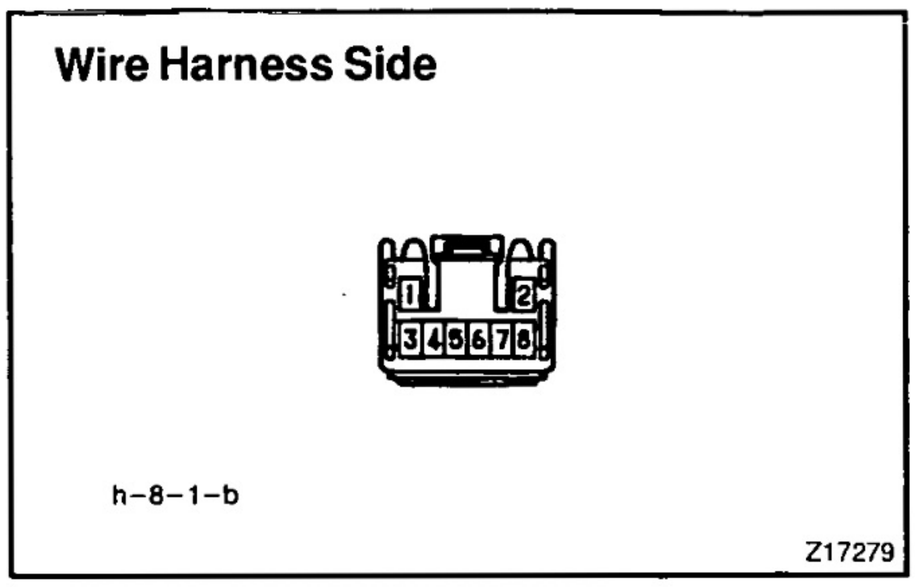


BE0W5-01

INSPECTION

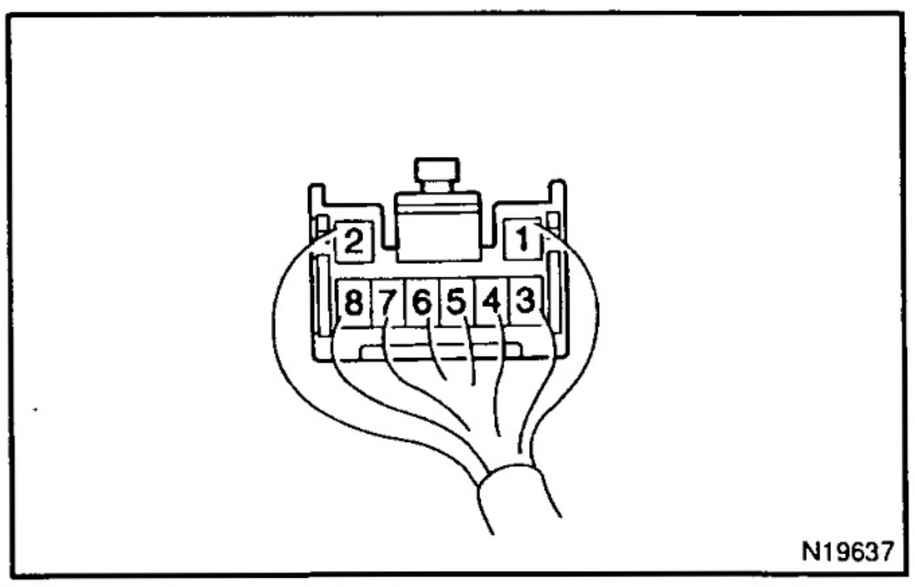
INSPECT METER CIRCUIT

(a) Connector disconnected:
Disconnect the connector from the accessory meter and inspect the connector on the wire harness side, as shown in the chart.



Tester connection	Condition	Specified condition
1 – Ground	Ignition switch LOCK or ACC	No voltage
1 – Ground	Ignition switch ON	Battery voltage
2 – Ground	Constant	Battery voltage
3 – Ground	Constant	Continuity
4 – Ground	Light control switch OFF	No voltage
4 – Ground	Light control switch TAIL or HEAD	Battery voltage
5 – 6	Constant	Approx. 1.7 kΩ at 25 °C (77 °F)
8 – Ground	Constant	Continuity

If the circuit is as specified, try replacing the accessory meter with a new one.
If the circuit is not as specified, inspect the wire harness.



(b) Connector connected:
Connect the connector from the accessory meter and inspect the connector on the back side, as shown in the chart.

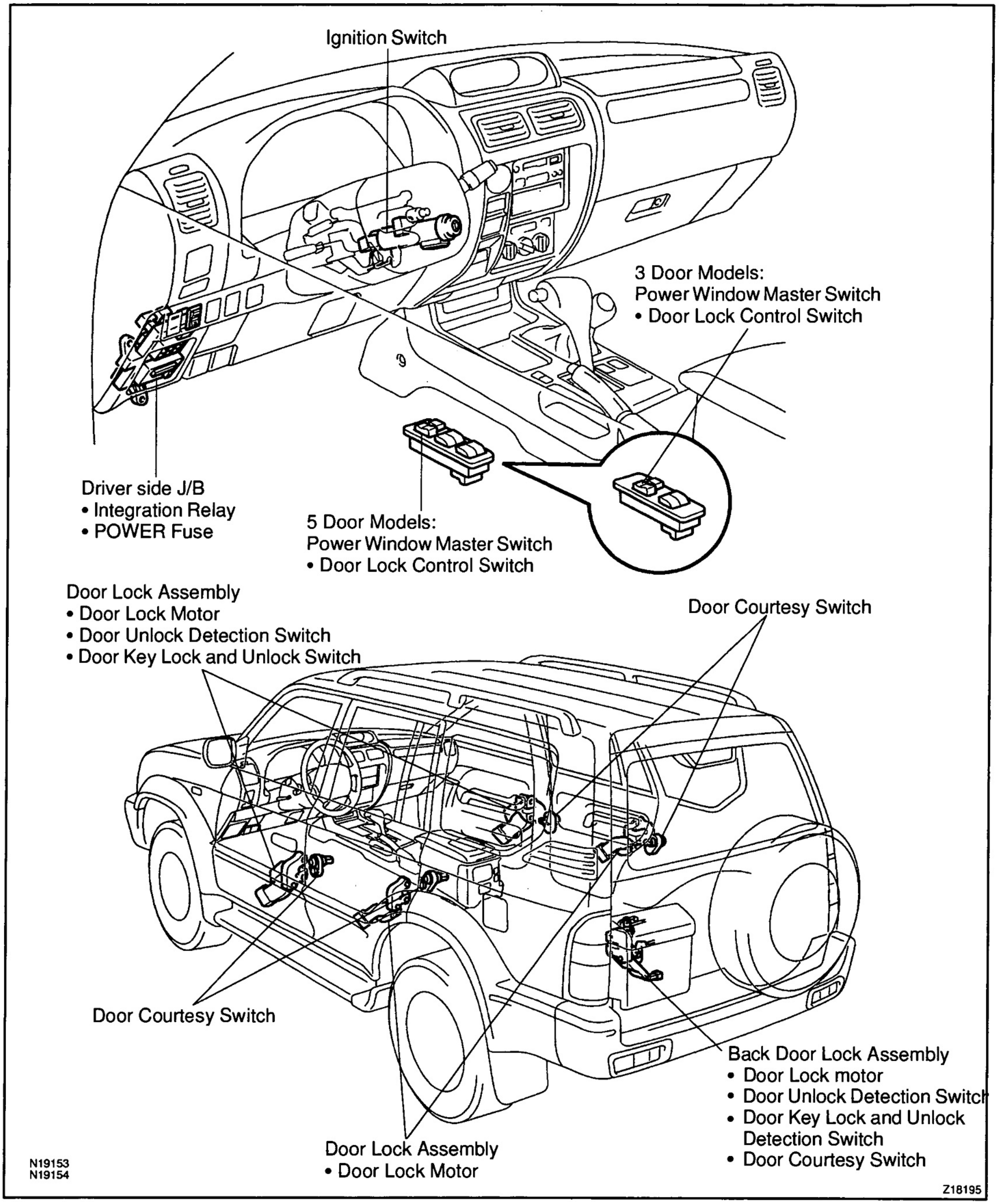
Tester connection	Condition	Specified condition
7 – Ground	Engine start. Stop a vehicle.	4.5 – 5.5 V
7 – Ground	During driving	Repeatedly changes from below 1 V to 4.5 – 5.5 V

If the circuit is as specified, try replacing the relay with a new one.
If the circuit is not as specified, inspect the circuit connected to other parts.

POWER DOOR LOCK CONTROL SYSTEM

LOCATION

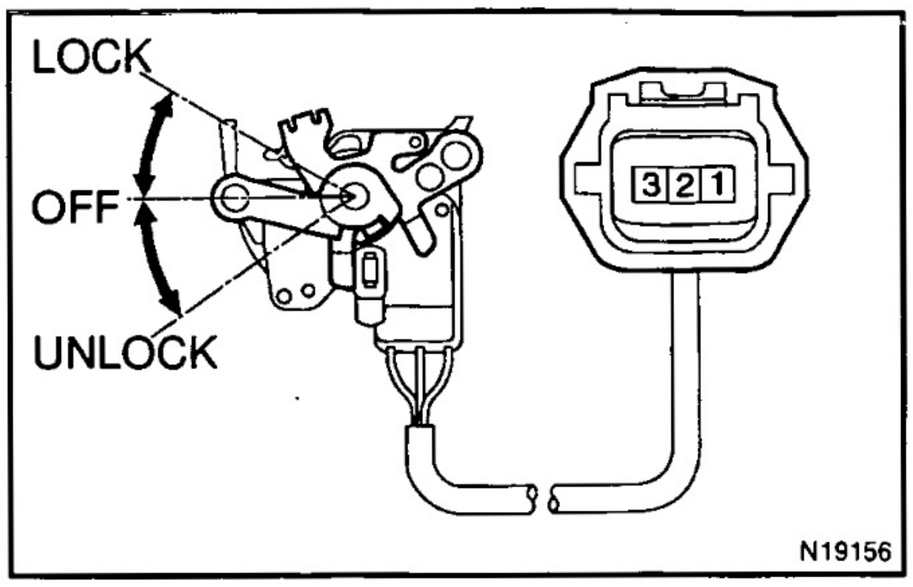
BE0W6–01



N19153
N19154

Z18195

BE0W7–01

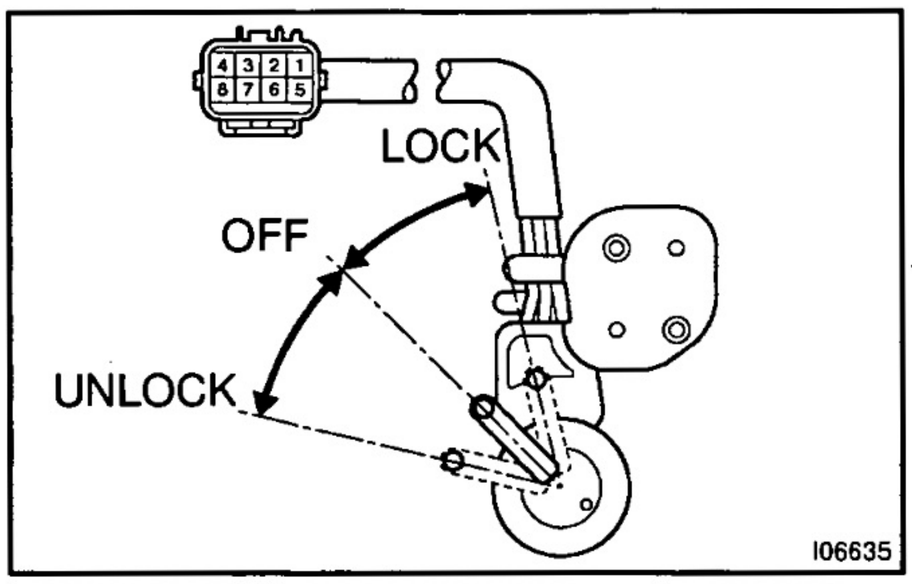


INSPECTION

1. INSPECT FRONT DOOR KEY LOCK AND UNLOCK SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
LOCK	1 – 3	Continuity
OFF	2 – 3	No continuity
UNLOCK	1 – 2	Continuity

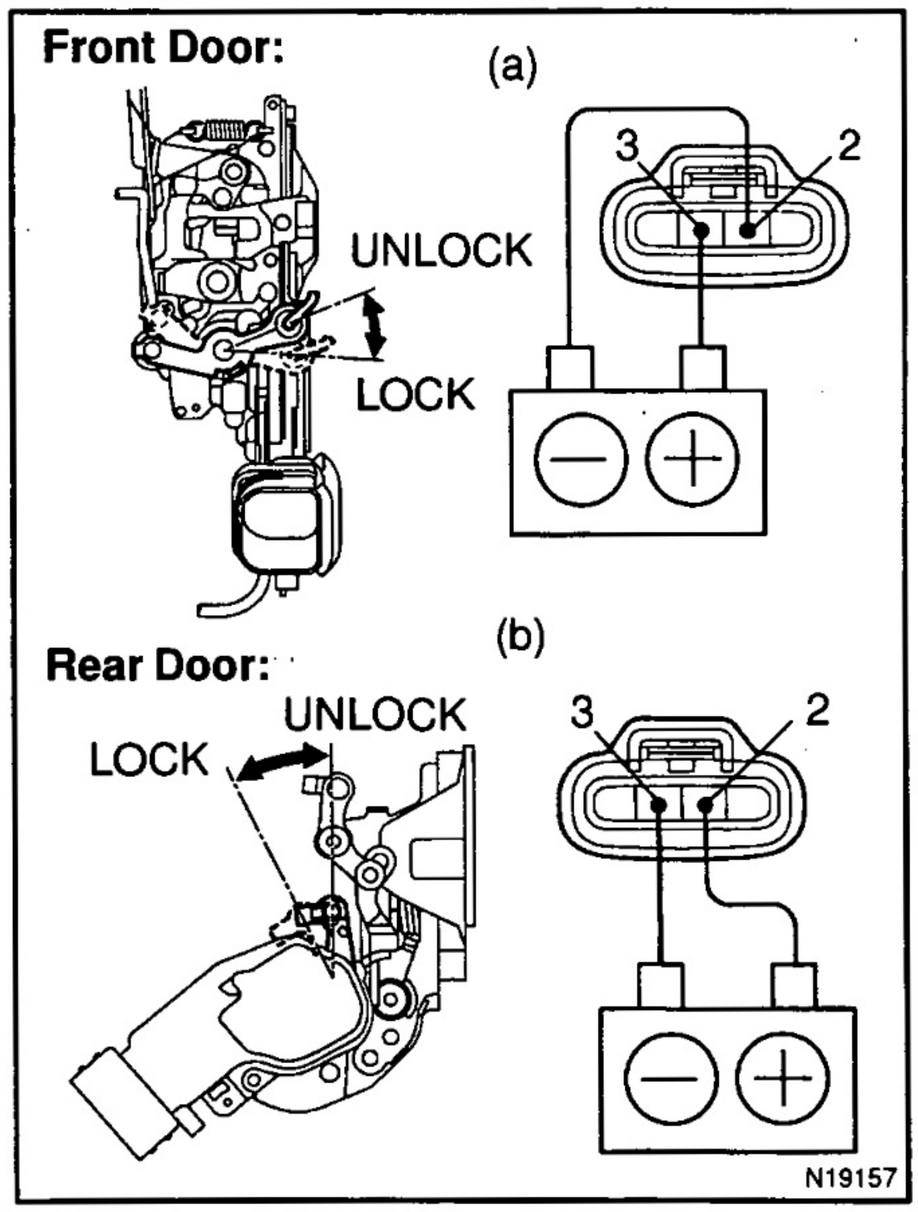
If continuity is not as specified, replace the switch.



2. INSPECT BACK DOOR KEY LOCK AND UNLOCK SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
LOCK	6 – 7	Continuity
OFF	7 – 8	No continuity
UNLOCK	6 – 8	Continuity

If continuity is not as specified, replace the switch.

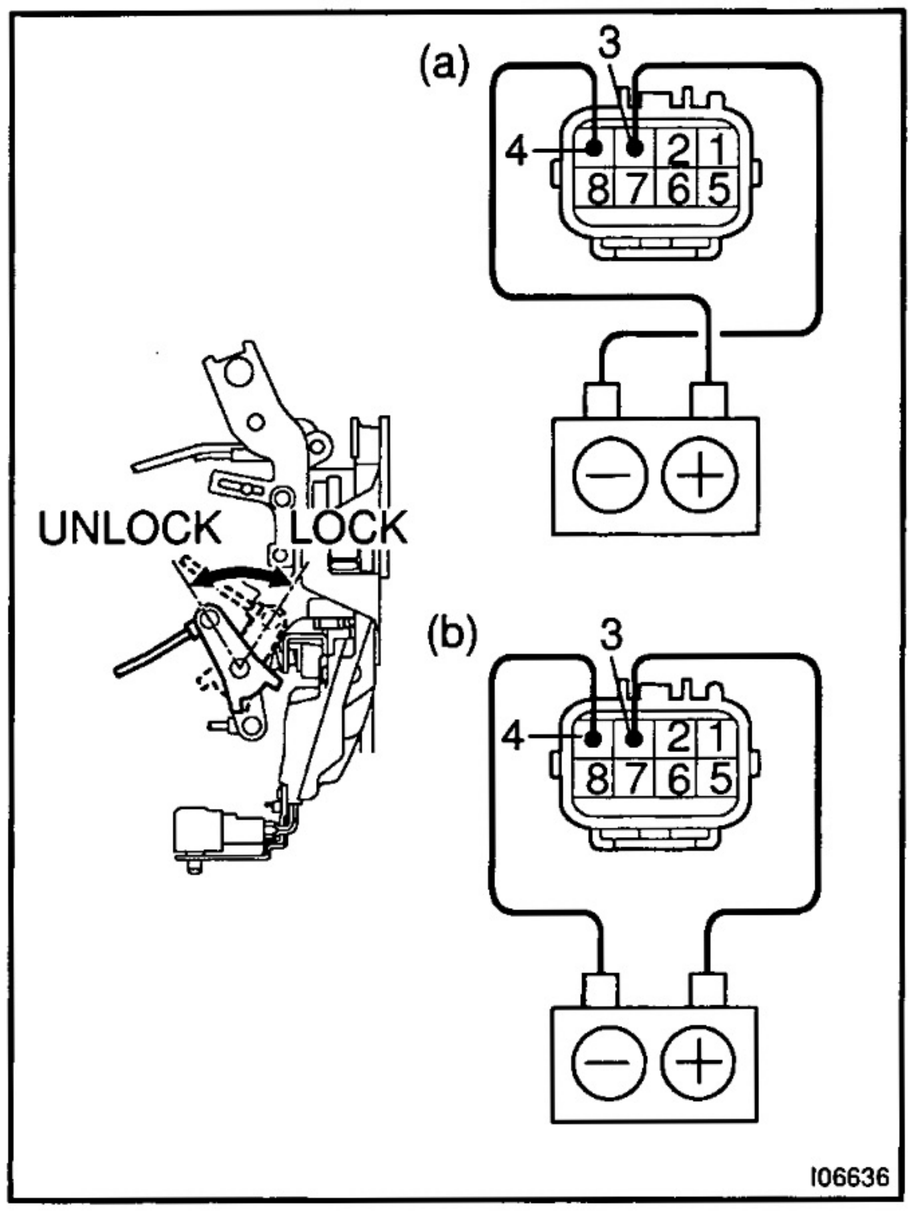


3. INSPECT FRONT AND REAR DOOR LOCK MOTOR OPERATION

(a) Connect the positive (+) lead from the battery to terminal 3 and the negative (–) lead to terminal 2, the check that the door lock link moves to the UNLOCK position.

(b) Reverse the polarity, and check that the door lock link moves to the LOCK position.

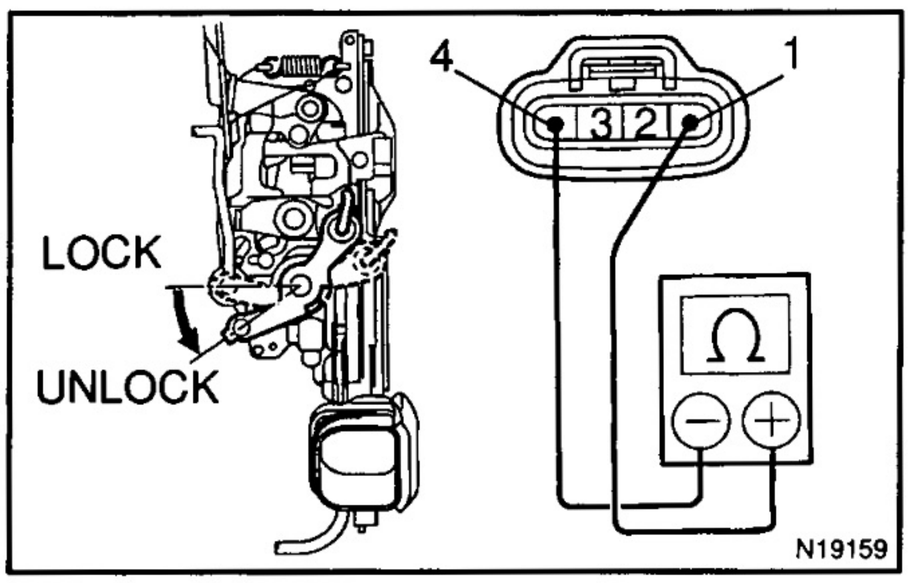
If operation is not as specified, replace the door lock assembly.



4. INSPECT BACK DOOR LOCK MOTOR OPERATION

(a) Connect the positive (+) lead from the battery to terminal 4 and the negative (–) lead to terminal 3, the check that the door lock link moves to the UNLOCK position.

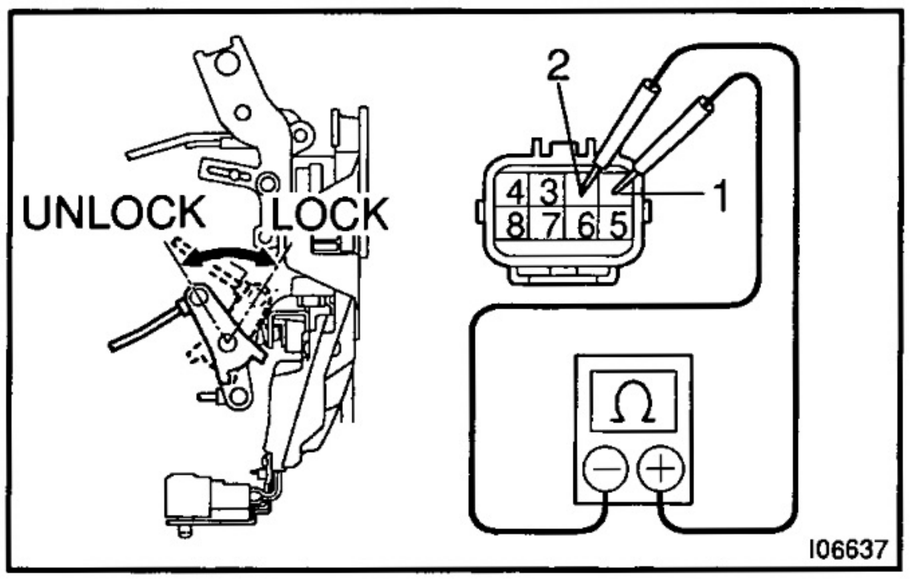
(b) Reverse the polarity, and check that the door lock link moves to the LOCK position.



5. INSPECT FRONT DOOR UNLOCK DETECTION SWITCH CONTINUITY

Switch position	Condition	Specified condition
OFF (Door Lock set to LOCK)	–	No continuity
ON (Door Lock set to UNLOCK)	1 – 4	Continuity

If continuity is not as specified, replace the switch.



6. INSPECT BACK DOOR UNLOCK DETECTION SWITCH CONTINUITY

Switch position	Condition	Specified condition
OFF (Door Lock set to LOCK)	–	No continuity
ON (Door Lock set to UNLOCK)	1 – 2	Continuity

If continuity is not as specified, replace the switch.

BODY

WINDSHIELD BO–1
BACK DOOR GLASS BO–6
INSTRUMENT PANEL BO–10
REAR NO.2 SEAT BO–18
SEAT BELT PRETENSIONER
(Electrical Type) BO–23
PINTLE HOOK BO–32

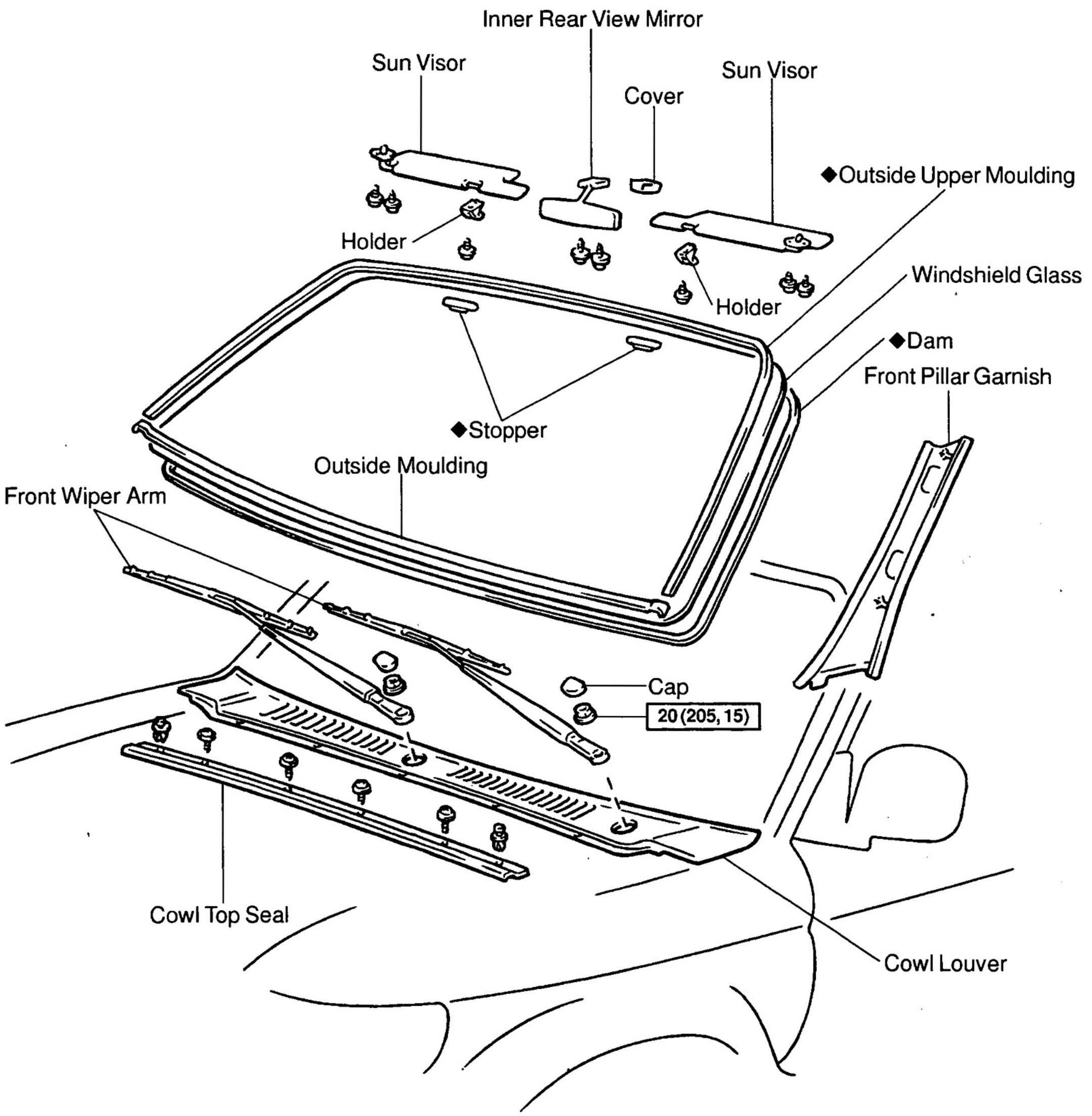
REFER TO LAND CRUISER/LAND CRUISER PRADO REPAIR MANUAL FOR CHASSIS AND BODY (Pub. No. RM517E)

NOTE: The above pages contain only the points which differ from the above listed manual.

WINDSHIELD

COMPONENTS

BO1SY–01

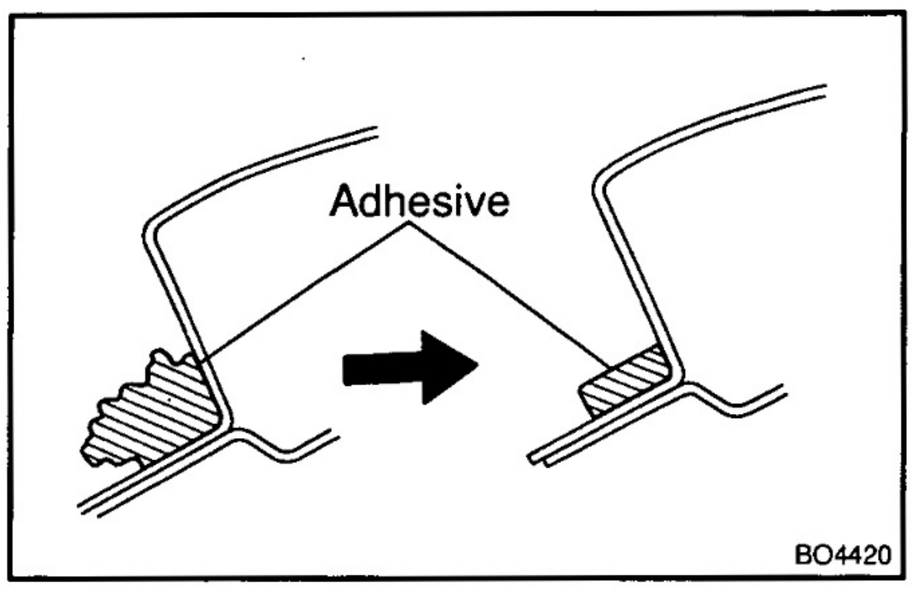


N·m (kgf·cm, ft·lbf) : Specified torque

◆ Non–reusable part

N19790

BO1SZ–01



INSTALLATION

1. CLEAN AND SHAPE CONTACT SURFACE OF BODY

(a) Using a knife, cut away any rough areas on the body.

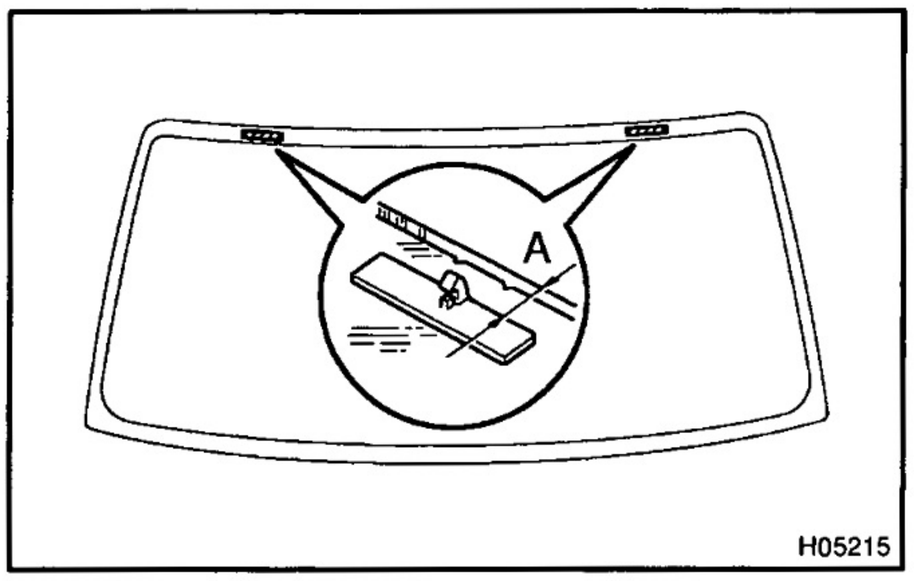
HINT:

Leave as much of the adhesive on the body as possible.

(b) Clean the cutting surface of the adhesive with a piece of shop rag saturated in cleaner.

HINT:

Even if all the adhesive has been removed, clean the body.



2. REPLACE STOPPER

(a) Remove the damaged stopper.

(b) Cut off the old adhesive around the stopper installation area.

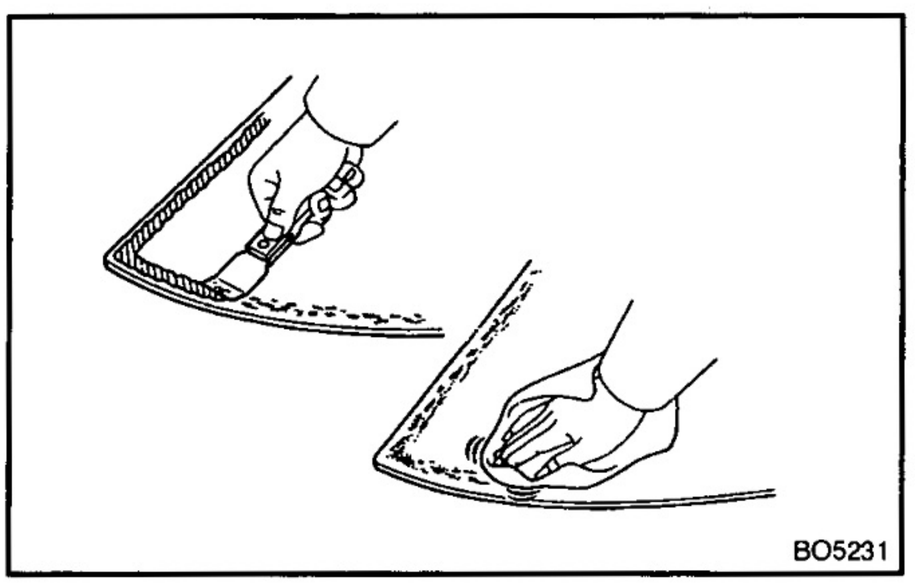
NOTICE:

Be careful not to damage the body.

(c) Clean the installation area.

(d) Install a new stopper onto the glass.

A: 8.0 ± 1.0 mm (0.315 ± 0.039 in.)



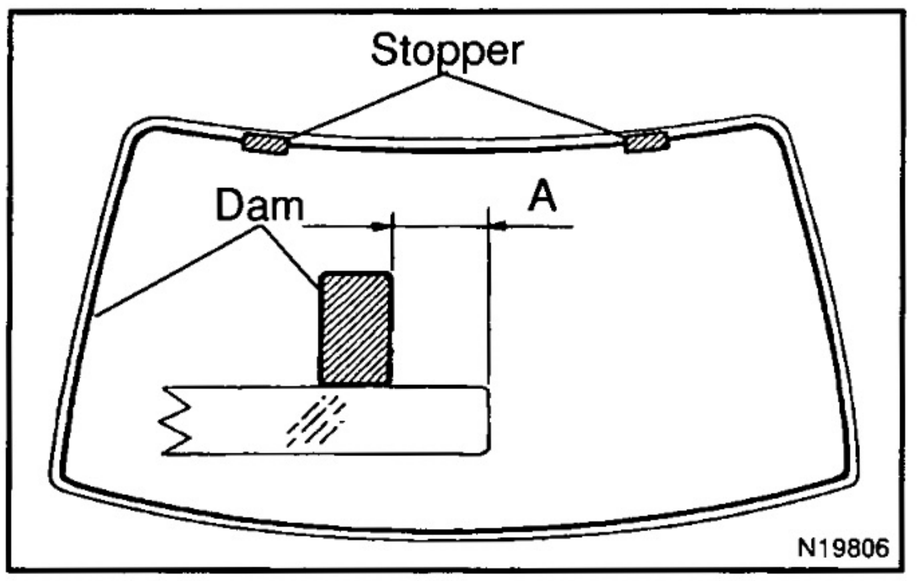
3. CLEAN REMOVED GLASS

(a) Using a scraper, remove the adhesive sticking to the glass.

(b) Clean the glass with cleaner.

NOTICE:

Do not touch the glass after cleaning it.



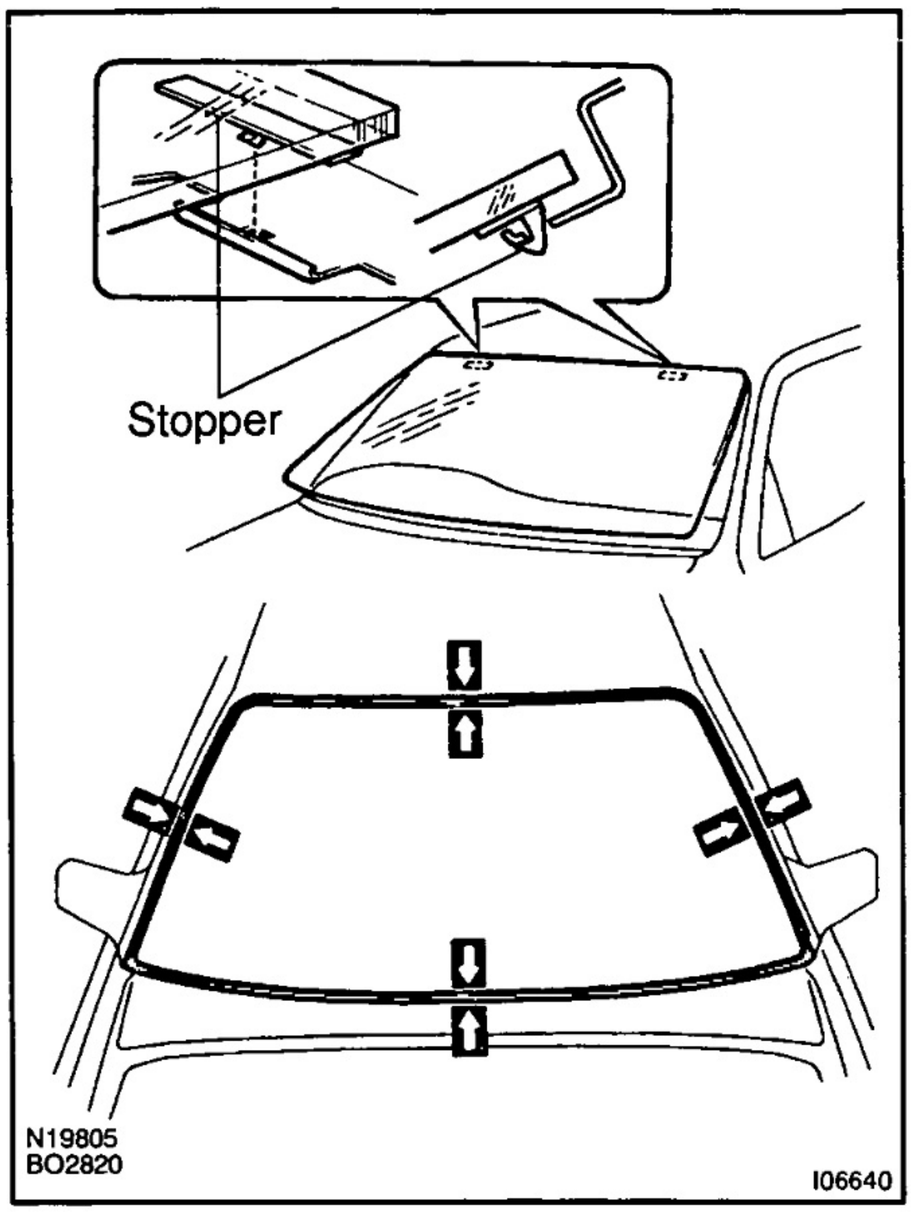
4. INSTALL DAM

Install the dam with double–stick tape all the way around of glass except where the stoppers are installed as shown on the illustration.

NOTICE:

Do not touch the glass face after cleaning it.

A: 7.0 ± 1.0 mm (0.276 ± 0.039 in.)



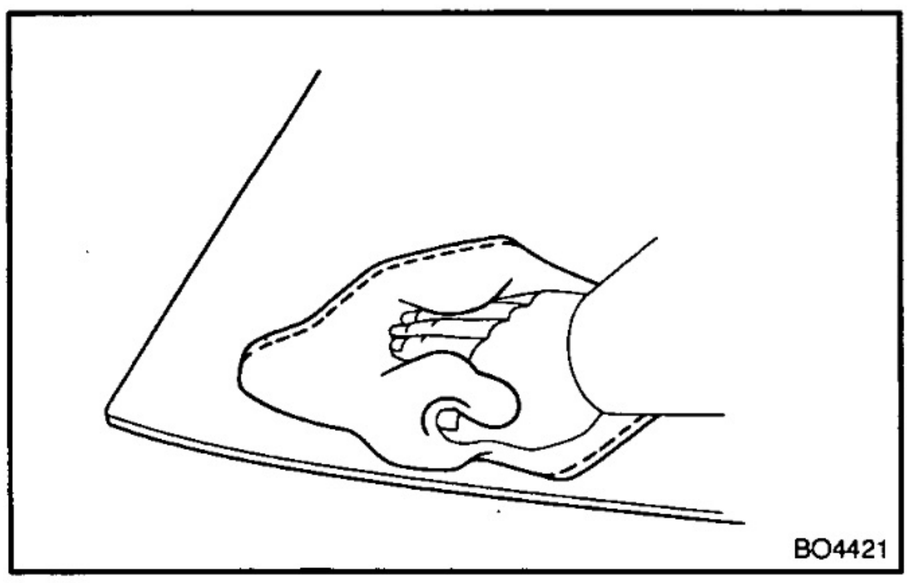
5. POSITION GLASS

(a) Place glass in the correct position.

(b) Check that all contacting parts of the glass rim are perfectly even and do not make contact with the fasteners.

(c) Place reference marks between the glass and body.

(d) Remove the glass.

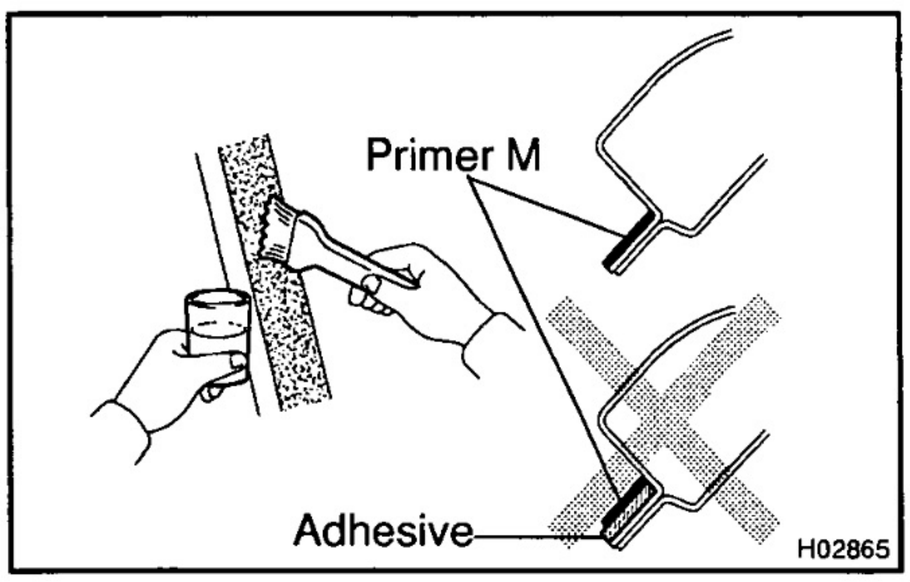


6. CLEAN CONTACT SURFACE OF GLASS

Using a cleaner, clean the contact surface black–colored area around the entire glass rim.

NOTICE:

Do not touch the glass face after cleaning it.

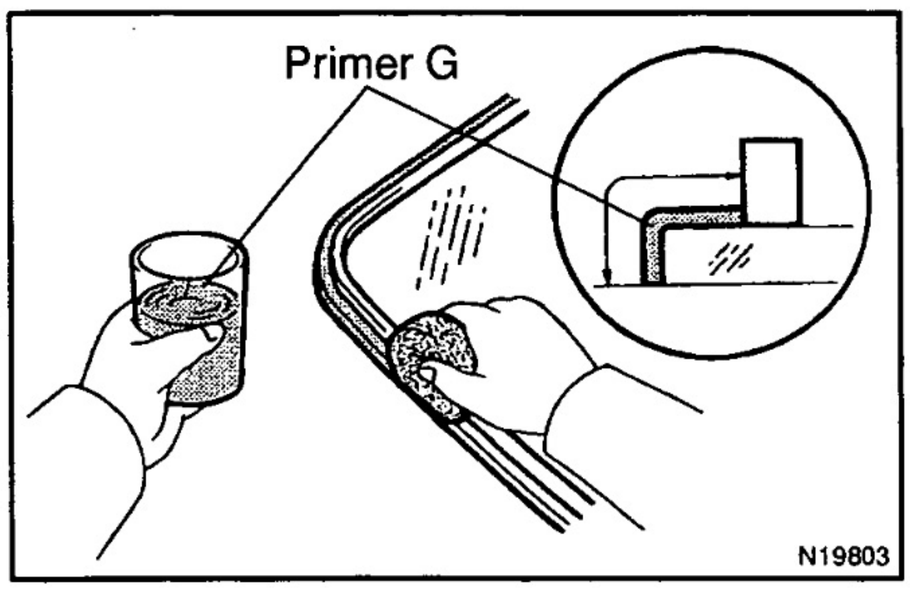


7. COAT CONTACT SURFACE OF BODY WITH PRIMER "M"

Using a brush, coat primer M to the exposed part of body on the vehicle side.

NOTICE:

- **Let the primer coating dry for 3 minutes or more.**
- **Do not coat Primer M to the adhesive.**
- **Do not keep any of the opened Primer M for later use.**



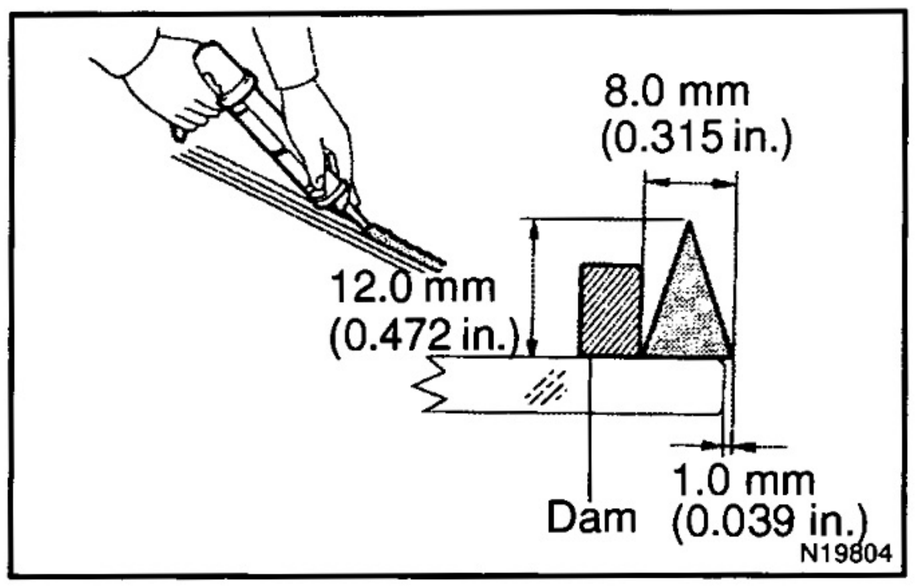
8. COAT CONTACT SURFACE OF GLASS WITH PRIMER "G"

(a) Using a brush or a sponge, coat the edge of the glass and the contact surface with Primer G.

(b) Before the primer dries, wipe it off with a clean shop rag.

NOTICE:

- **Let the primer coating dry for 3 minutes or more.**
- **Do not keep any of the opened Primer G for later use.**



9. APPLY ADHESIVE

(a) Cut off the tip of the cartridge nozzle.

Part No. 08850–00801 or equivalent

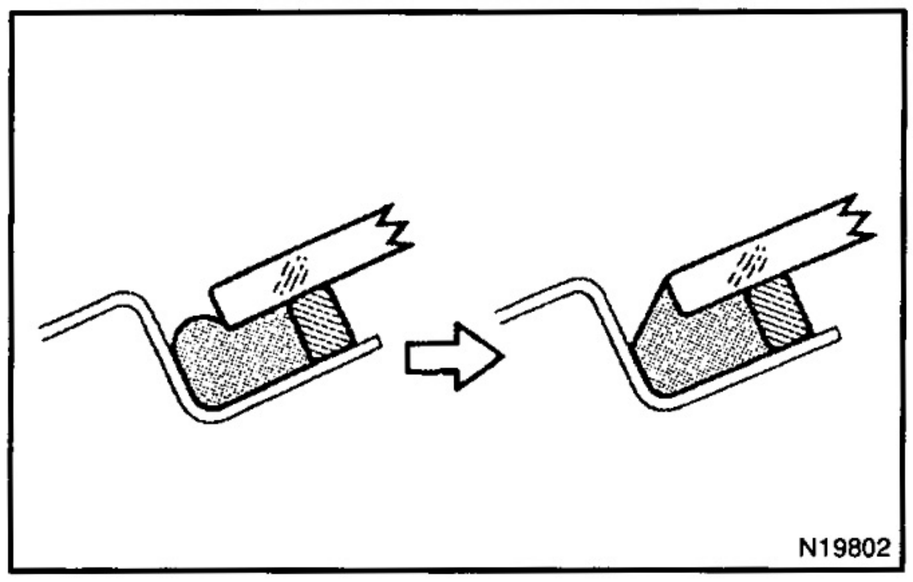
HINT:

After cutting off the tip, use all adhesive within the time described in the chart below.

Temperature	Tackfree time
35 °C (95 °F)	15 minute
20 °C (68 °F)	100 minute
5 °C (41 °F)	8 hour

(b) Load the cartridge into the sealer gun.

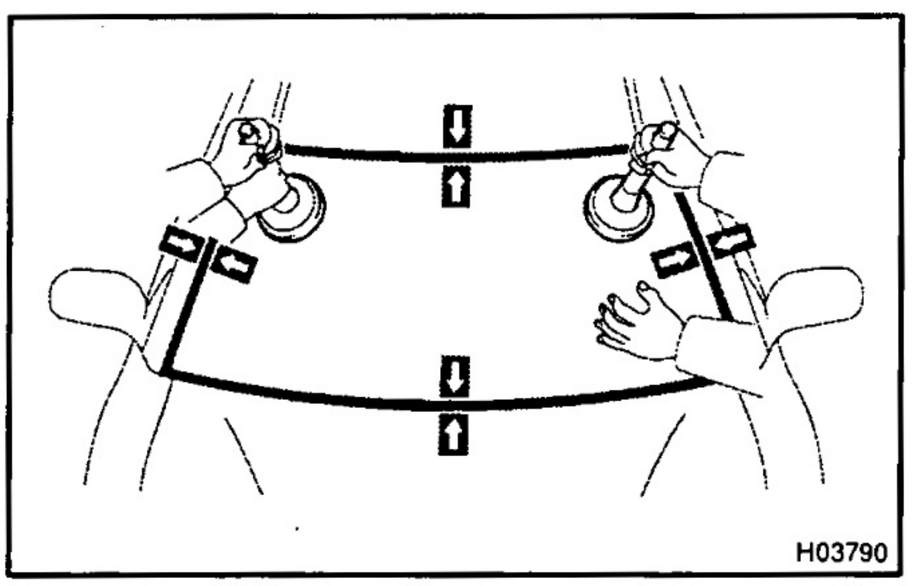
(c) Coat the glass with adhesive as shown.



10. INSTALL GLASS

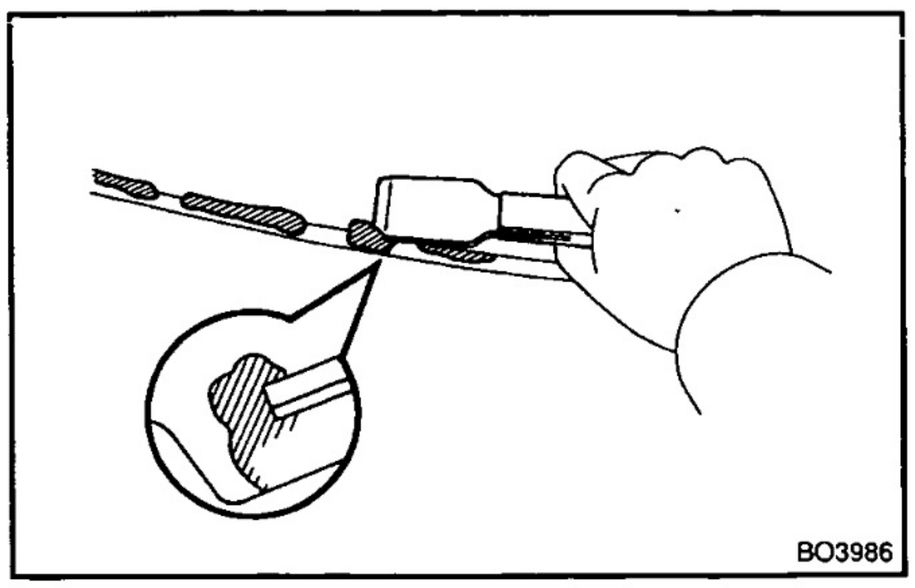
HINT:

Confirm that the dam is attached the body panel as shown in the illustration.



(a) Position the glass so that the reference marks are lined up, and press in gently along the rim.

(b) Using a spatula, apply adhesive on the glass rim.

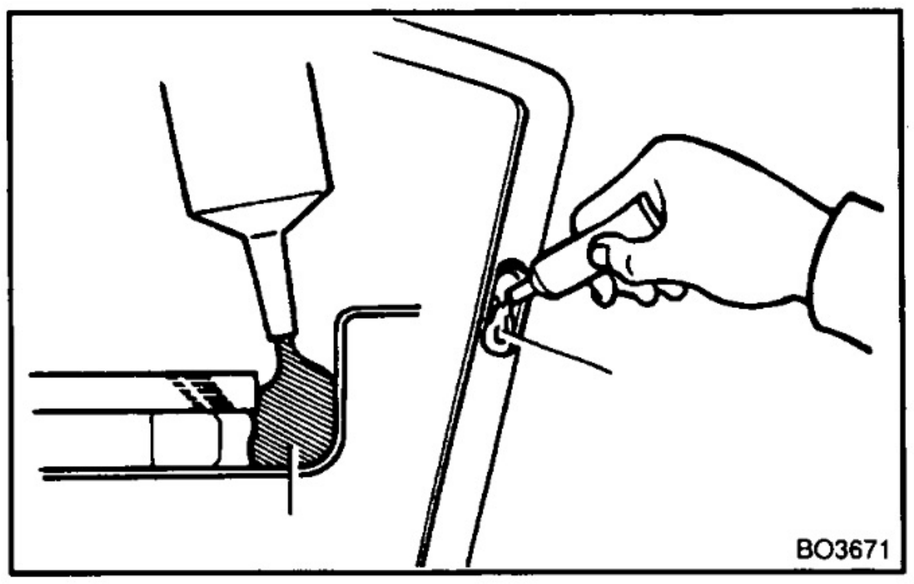

BO3986

(c) Use a scraper to remove any excessive or protruding adhesive.
(d) Hold the windshield glass in place securely with a protective tape or equivalent until the adhesive hardened.

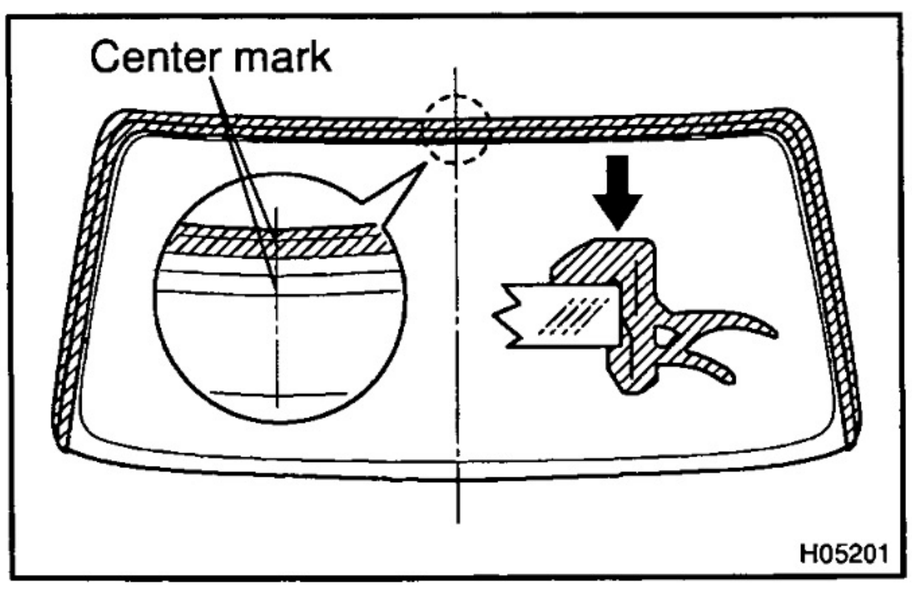
NOTICE:
Take care not to drive the vehicle during the time described in the chart below.

Temperature	Minimum time prior to drive the vehicle
35 °C (95 °F)	1.5 hour
20 °C (68 °F)	5 hour
5 °C (41 °F)	24 hour

11. INSPECT FOR LEAKS AND REPAIR
(a) Conduct a leak test after the hardening time has elapsed.
(b) Seal any leak with auto glass sealer.
Part No. 08833–00030 or equivalent


BO3671

12. APPLY ADHESIVE TO MOULDING INSTALLATION AREA
Coat the glass with adhesive at the moulding installation area.
Part No. 08833–00030 or equivalent



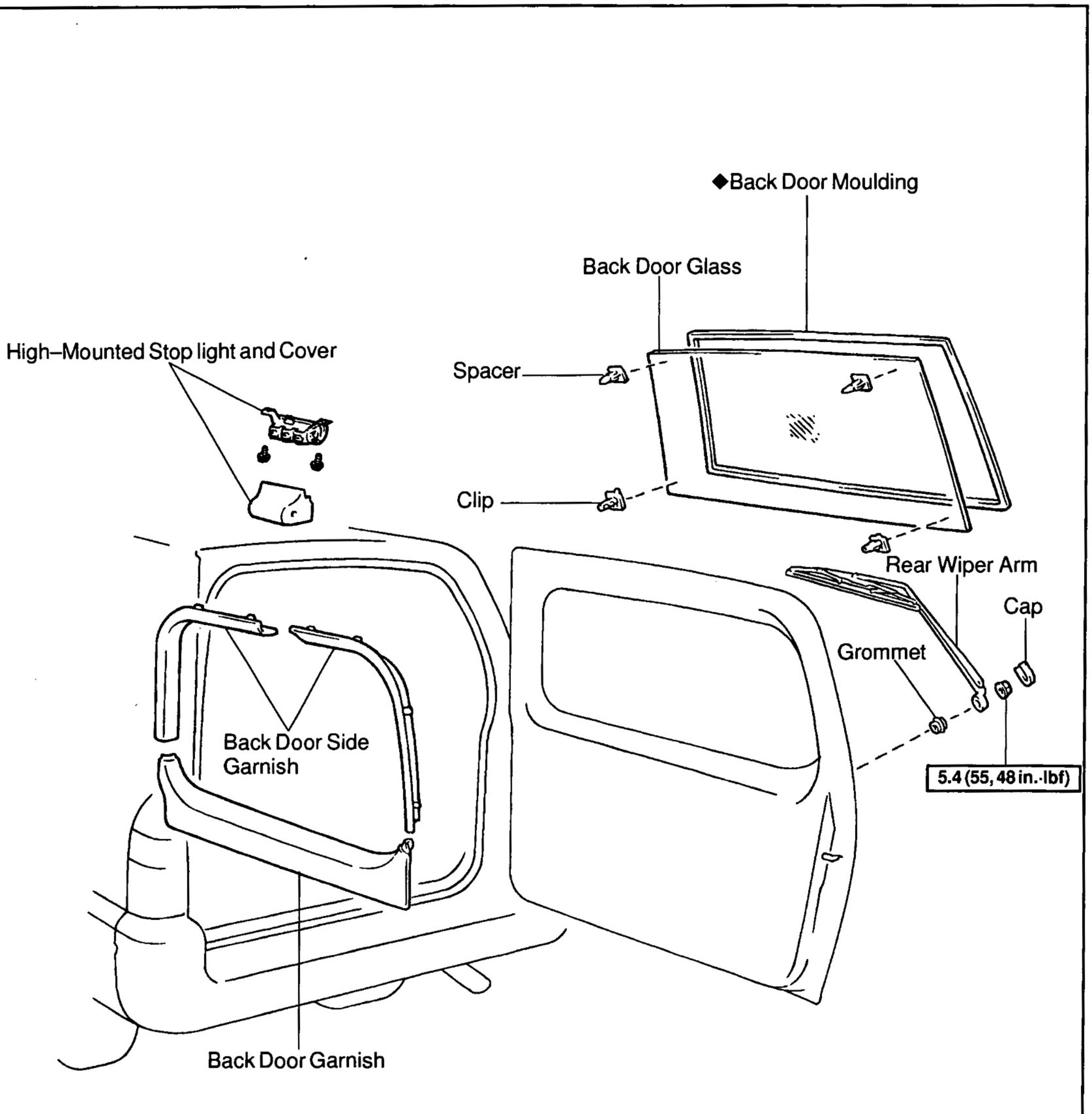
H05201

13. INSTALL OUTSIDE UPPER MOULDING
Place the moulding onto the body and tap it by hand.
14. INSTALL OUTSIDE MOULDING
15. INSTALL THESE PARTS:
(a) Cowl louver
(b) Wiper arms
Torque: 21 N·m (205 kgf·cm, 15 ft·lbf)
(c) Sun visors and holders
(d) Inner rear view mirror
(e) Map lamp assembly
(f) Front pillar garnishes
(g) Assist grips

BACK DOOR GLASS

COMPONENTS

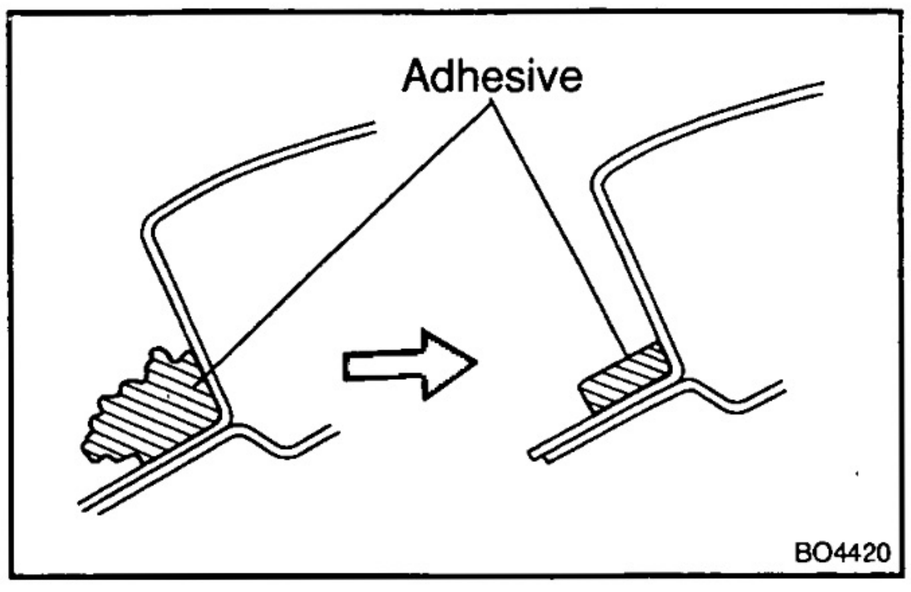
BO1T0–01



N·m (kgf·cm, ft·lbf) : Specified torque
◆Non–reusable part

N19789

BO1T1–01



INSTALLATION

1. CLEAN AND SHAPE CONTACT SURFACE OF BODY

(a) Using a knife, cut away any rough areas on the body.

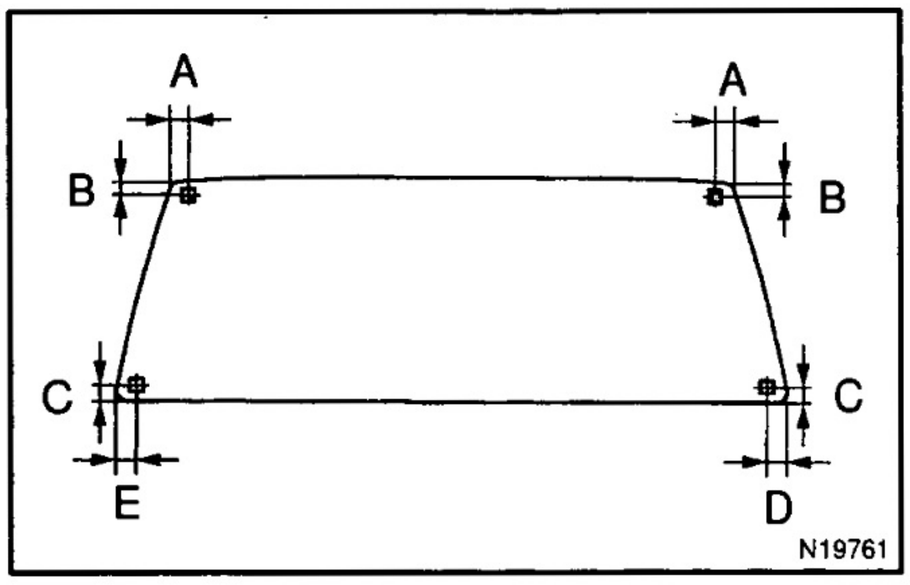
HINT:

Leave as much of the adhesive on the body as possible.

(b) Clean the cutting surface of the adhesive with a piece of shop rag saturated in cleaner.

HINT:

Even if all the adhesive has been removed, clean the body.



2. REPLACE SPACER AND CLIP

(a) Remove the damaged spacers and clips.

(b) Cut off the old adhesive around the spacers and clips installation area.

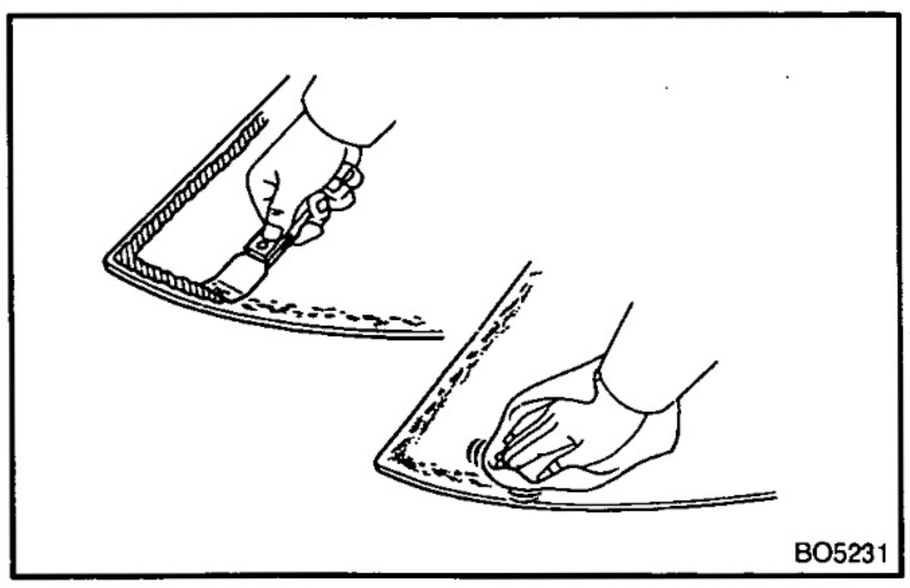
NOTICE:

Be careful not to damage the back door glass.

(c) Clean the installation area.

(d) Install a new spacers and clips onto the glass as shown in the illustration.

A: 38.9 mm (1.531 in.)
B: 41.2 mm (1.622 in.)
C: 44.1 mm (1.736 in.)
D: 52.1 mm (2.051 in.)
E: 58.1 mm (2.287 in.)



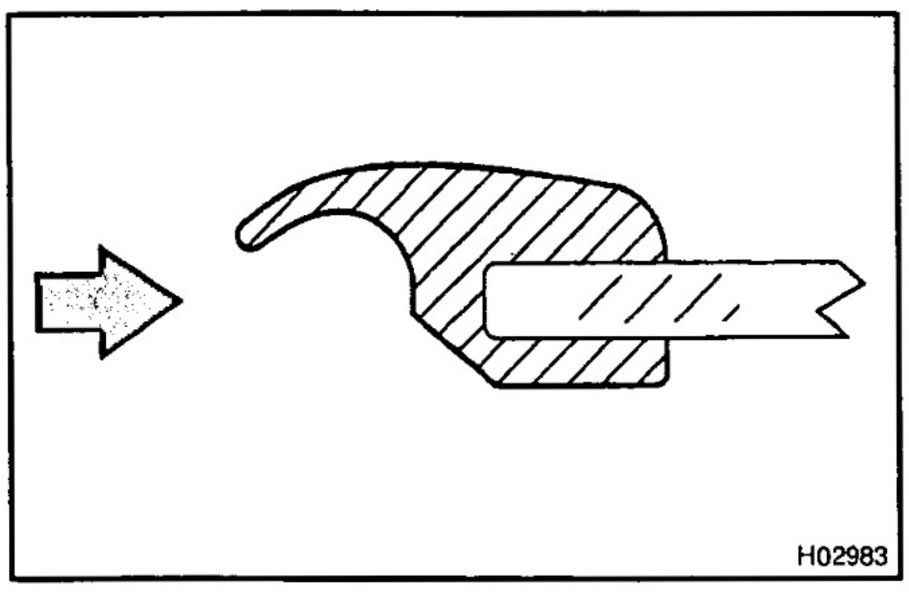
3. CLEAN REMOVED GLASS

(a) Using a scraper, remove the adhesive sticking to the glass.

(b) Clean the glass with cleaner.

NOTICE:

Do not touch the glass surface after cleaning it.

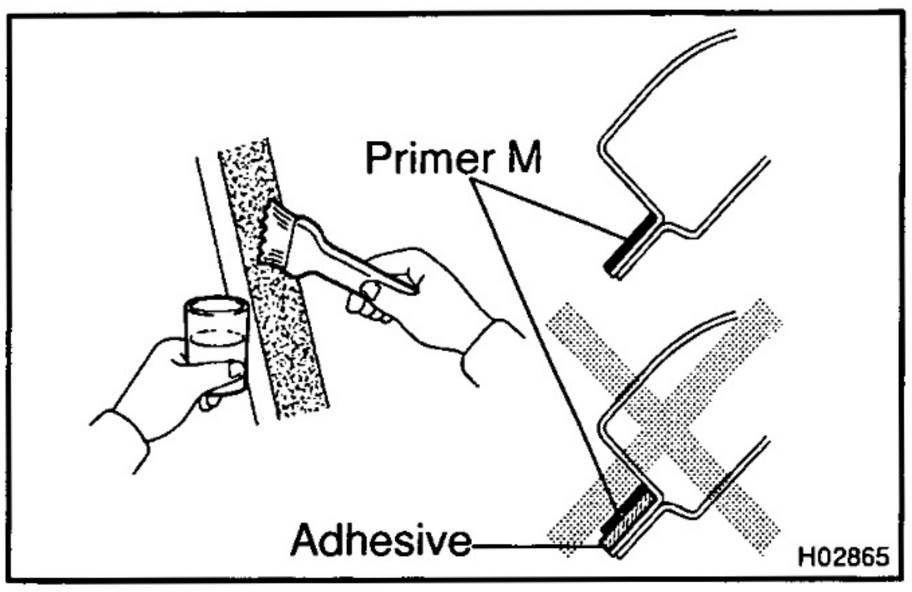


4. INSTALL BACK WINDOW MOULDING

Install a new back window moulding as shown in the illustration.

NOTICE:

Do not touch the glass surface after cleaning it.

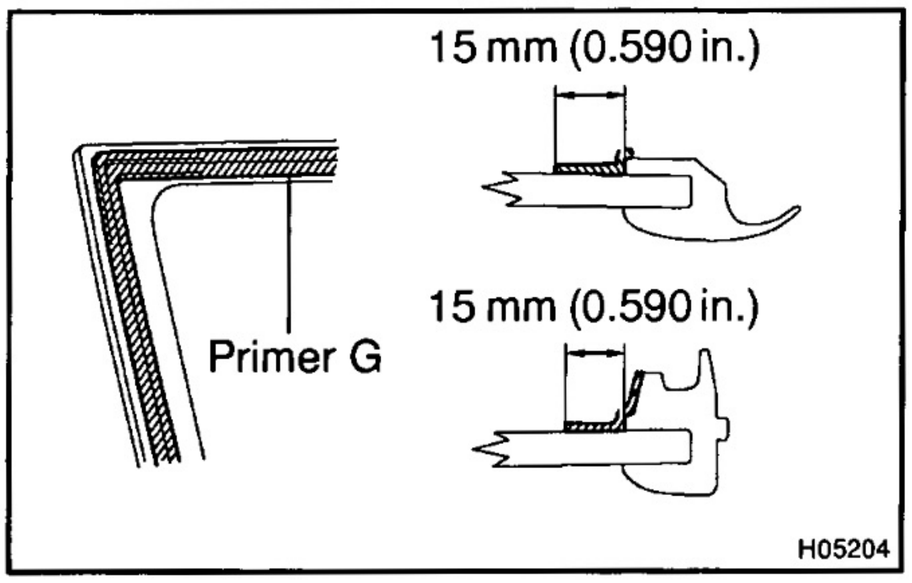


5. COAT CONTACT SURFACE OF BODY WITH PRIMER "M"

Using a brush, coat the contact surface on the body with primer M.

NOTICE:

- **Let the primer coating dry for 3 minutes or more.**
- **Do not coat primer M to the adhesive.**
- **Do not keep any of the opened primer M for later use.**



BO

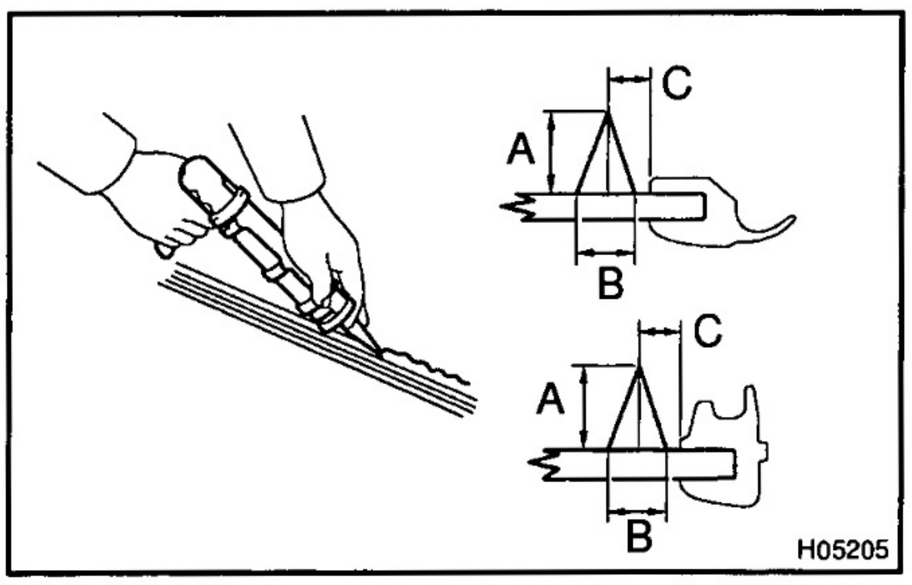
6. COAT CONTACT SURFACE OF GLASS WITH PRIMER "G"

(a) Using a brush or sponge, coat the edge of the glass and the contact surface with primer G.

(b) Before the primer dries, wipe it off with a clean shop rag.

NOTICE:

- **Let the primer coating dry for 3 minutes or more.**
- **Do not keep any of the opened primer G for later use.**



7. APPLY ADHESIVE

(a) Cut off the tip of the cartridge nozzle.

Part No. 08850–00801 or equivalent

HINT:

After cutting off the tip, use all adhesive within the time described in the chart below.

Temperature	Tackfree time
35 °C (95 °F)	15 minute
20 °C (68 °F)	100 minute
5 °C (41 °F)	8 hour

(b) Load the cartridge into the sealer gun.

(c) Coat the glass with adhesive as shown.

A: 12.0 mm (0.472 in.) or more

B: 8.0 mm (0.315 in.) or more

C: 6.0 mm (0.236 in.)

8. INSTALL BACK DOOR GLASS

(a) Install the glass to the body.

(b) Use adhesive tape to keep the glass installed tightly against the body.

NOTICE:

Take care not to drive the vehicle during the time described in the table below.

Temperature	Minimum time prior to driving the vehicle
35 °C (95 °F)	1.5 hour
20 °C (68 °F)	5 hour
5 °C (41 °F)	24 hour

9. INSPECT FOR LEAK AND REPAIR

(a) Conduct a leak test after the hardening time has elapsed.

(b) Seal any leak with sealant.
Part No. 08833–00030 or equivalent

10. CONNECT DEFOGGER CONNECTOR

11. INSTALL THESE PARTS:

(a) w/ High–Mounted Stop Light:
High–mounted stop light and cover

(b) Back door garnish

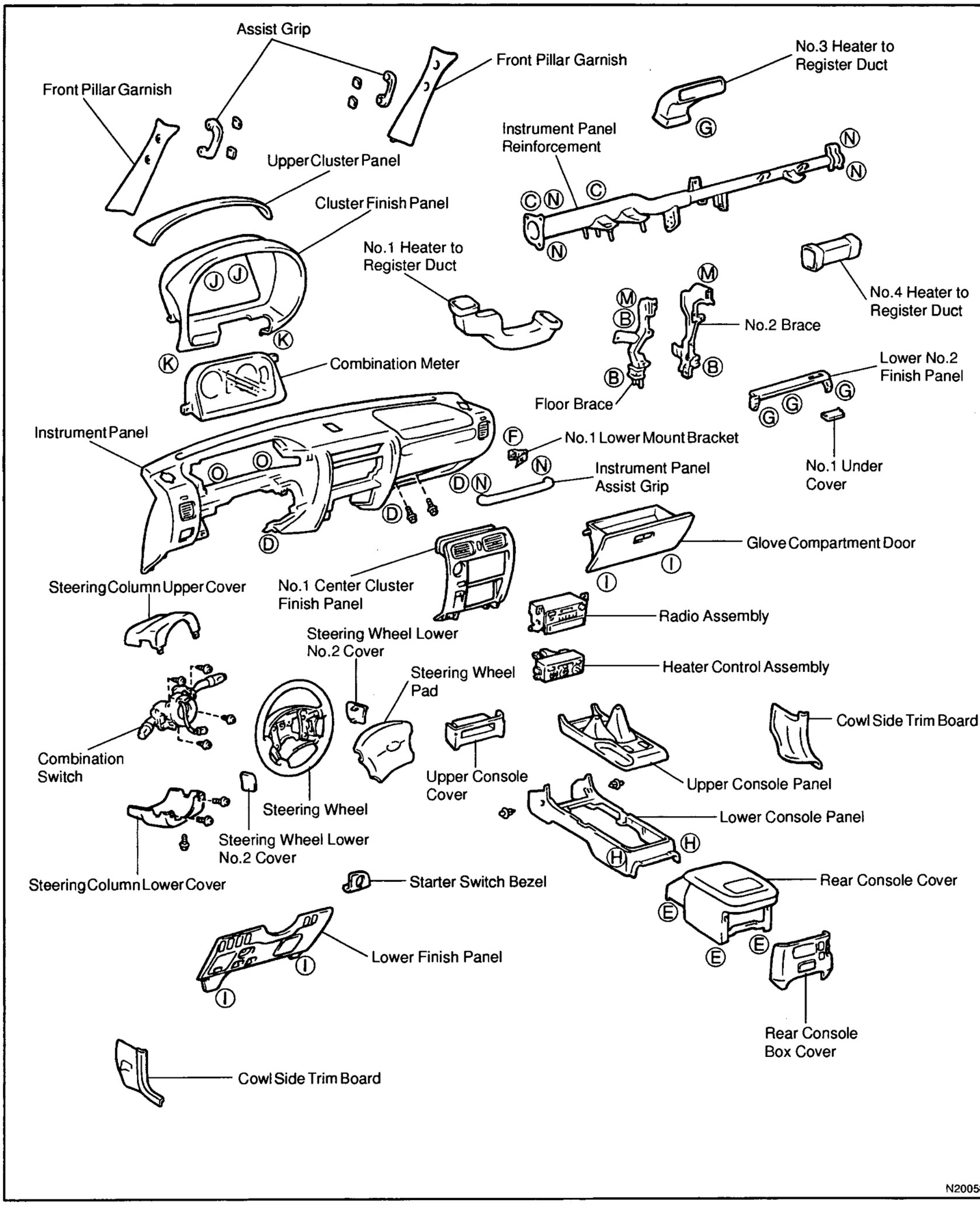
(c) Back door side garnishes

(d) Rear wiper arm
Torque: 5.4 N·m (55 kgf·cm, 48 in.·lbf)

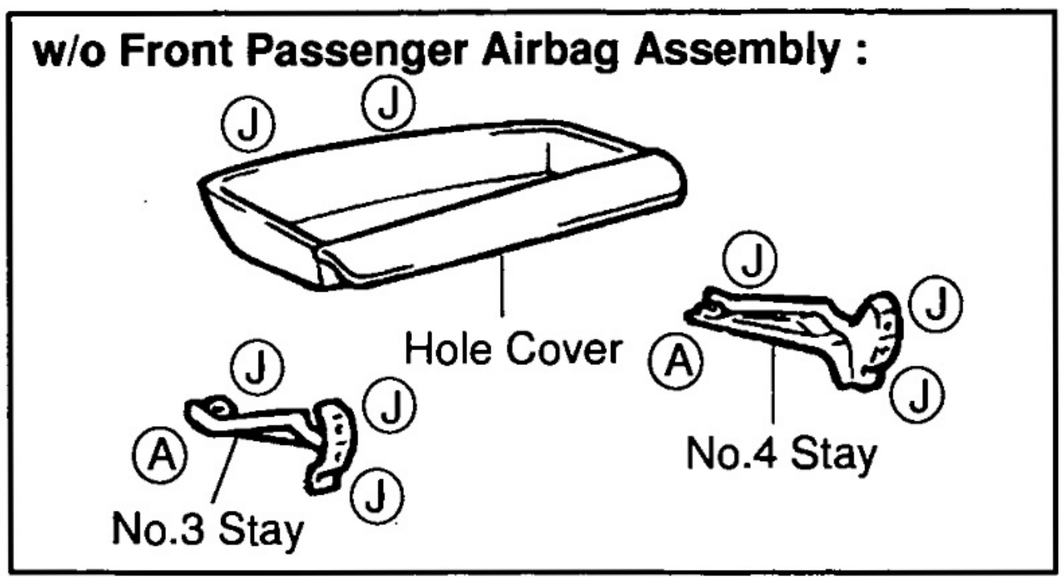
INSTRUMENT PANEL

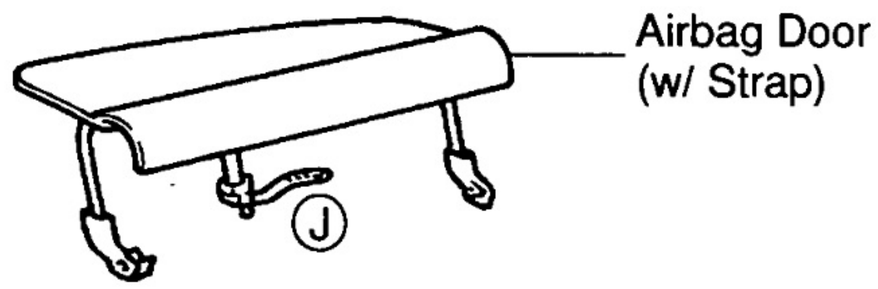
COMPONENTS

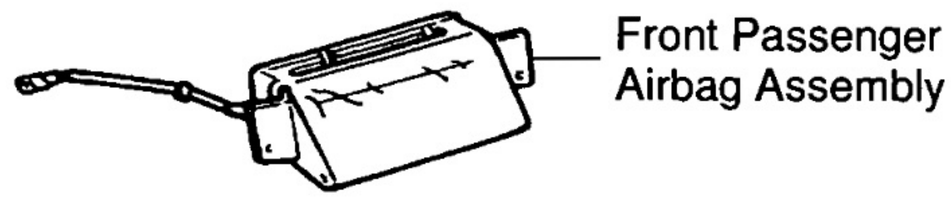
BO1T9–01

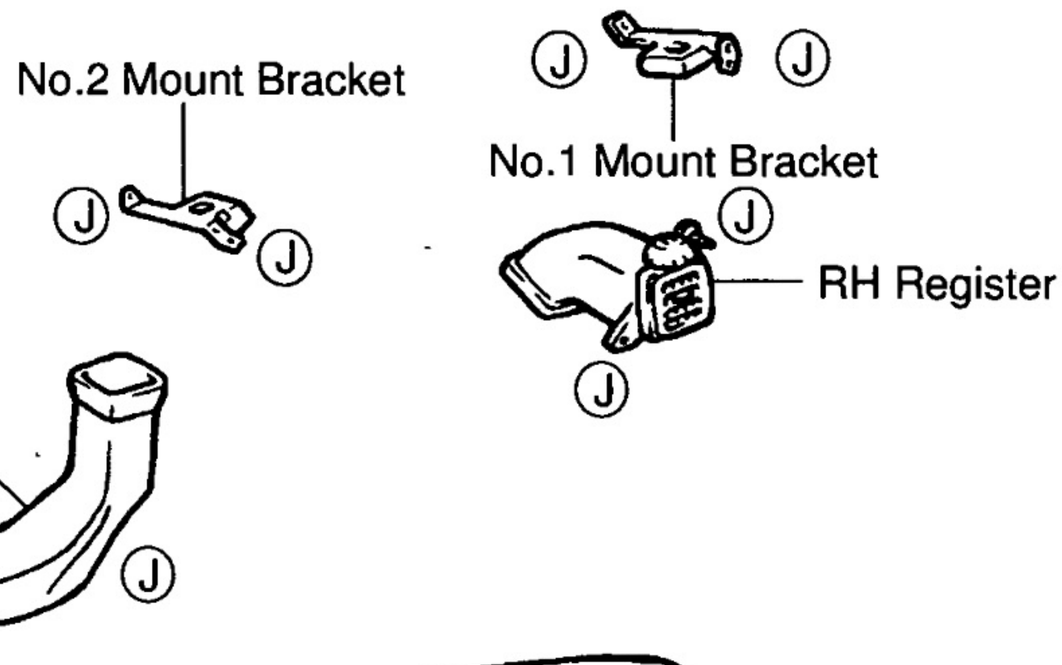


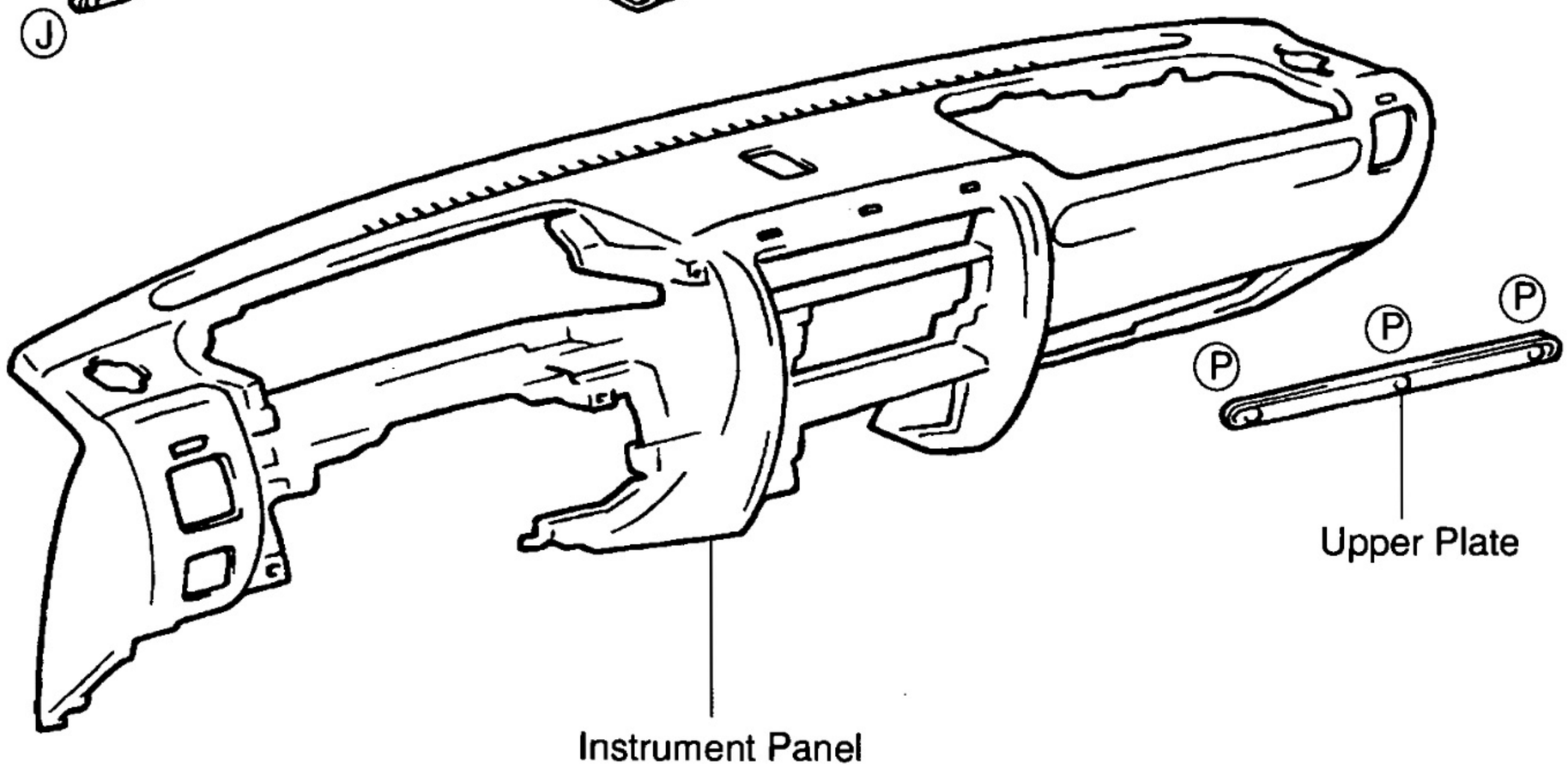
N20058


w/o Front Passenger Airbag Assembly :
J
Hole Cover
A
No.3 Stay
No.4 Stay


Airbag Door
(w/ Strap)
J


Front Passenger
Airbag Assembly

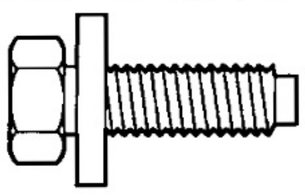
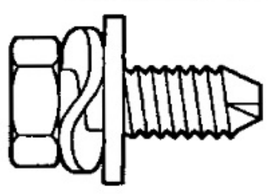
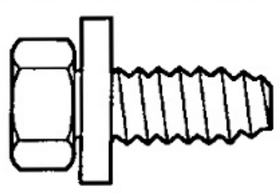
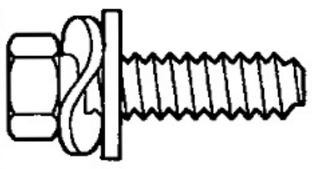
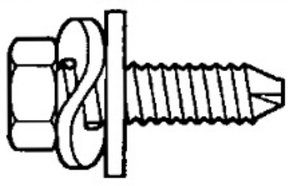
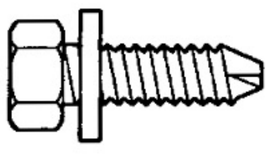
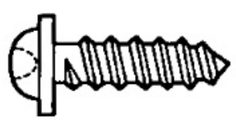
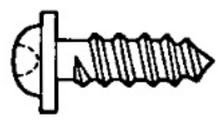
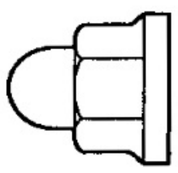
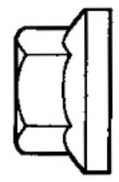
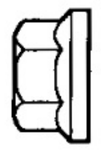

No.2 Mount Bracket
No.1 Mount Bracket
No.5 Heater to
Register Duct
RH Register
LH Register
J


P
Upper Plate
Instrument Panel

H05984

HINT:
Screw shapes and size are indicated in the table below. The codes (A – P) correspond to those indicated on the previous page.

mm (in.)

	Shape	Size		Shape	Size		Shape	Size
Ⓐ		ø = 8 (0.31) L = 22 (0.87)	Ⓑ		ø = 8 (0.31) L = 18 (0.71)	Ⓒ		ø = 8 (0.31) L = 16 (0.71)
Ⓓ		ø = 6 (0.24) L = 22 (0.87)	Ⓔ		ø = 6 (0.24) L = 20 (0.79)	Ⓕ		ø = 6 (0.24) L = 18 (0.71)
Ⓖ		ø = 5.22 (0.2055) L = 16 (0.63)	Ⓗ		ø = 5 (0.20) L = 16 (0.63)	Ⓘ		ø = 5 (0.20) L = 14 (0.55)
Ⓙ		ø = 5 (0.20) L = 14 (0.55)	Ⓚ		ø = 5 (0.20) L = 14 (0.55)	Ⓛ		ø = 5 (0.20) L = 12 (0.47)
Ⓜ		ø = 8 (0.31)	Ⓝ		ø = 6 (0.24)	Ⓞ		ø = 6 (0.24)
Ⓟ		ø = 8 (0.31)						

BO1TA–01

REMOVAL

1. REMOVE THESE PARTS:

(a) Front door scuff plates

(b) Cowl side trim boards

2. REMOVE STEERING WHEEL

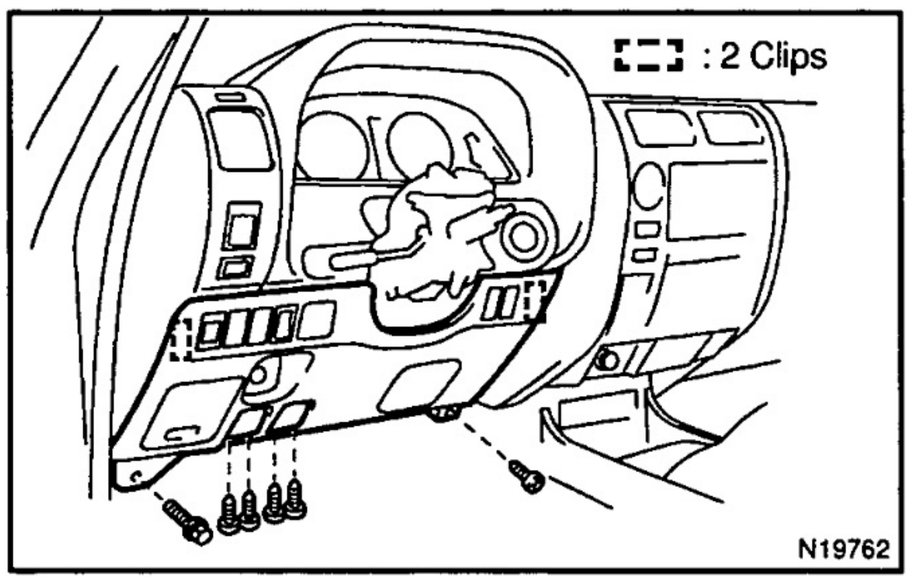
(See page SR–1)

3. REMOVE THESE PARTS:

(a) Assist grips

(b) Front pillar garnishes

(c) Steering column cover



4. REMOVE LOWER FINISH PANEL

(a) Remove the 2 screws and hood lock release lever.

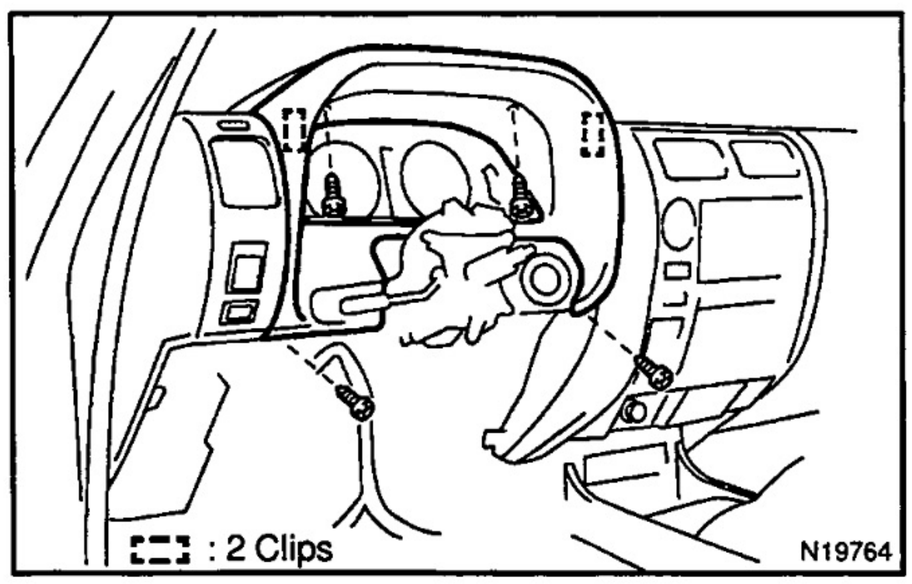
(b) Remove the 2 screws and fuel lid opener.

(c) Remove the 2 bolts and panel then disconnect the connectors.

5. REMOVE THESE PARTS:

(a) Starter switch bezel

(b) No.1 heater to register duct



6. REMOVE CLUSTER FINISH PANEL

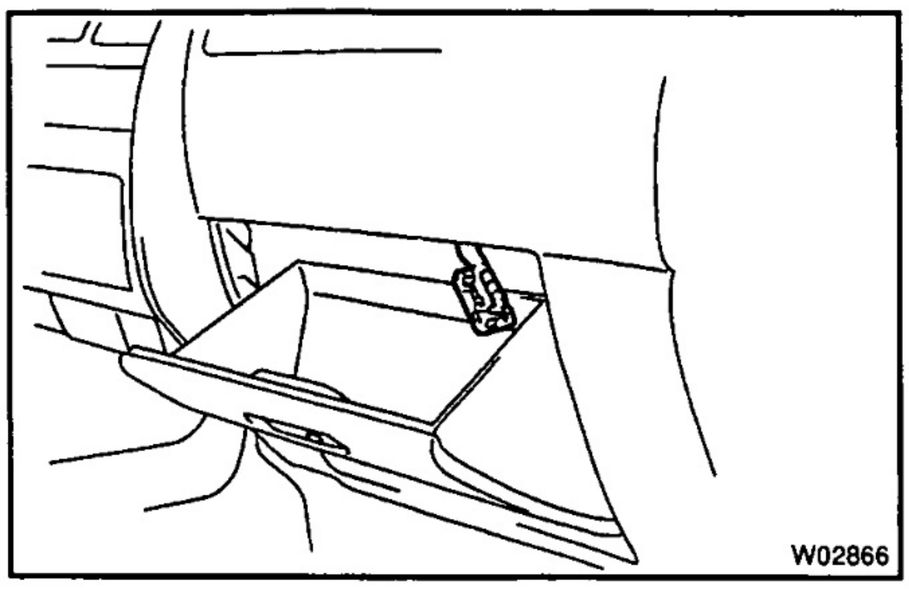
Remove the 4 screws and panel.

7. REMOVE THESE PARTS:

(a) Upper cluster finish panel

(b) Combination meter

(c) Instrument assist grip



8. REMOVE GLOVE COMPARTMENT DOOR

(a) w/ Front Passenger Airbag Assembly:
Remove the No.1 under cover inside the glove compartment door.

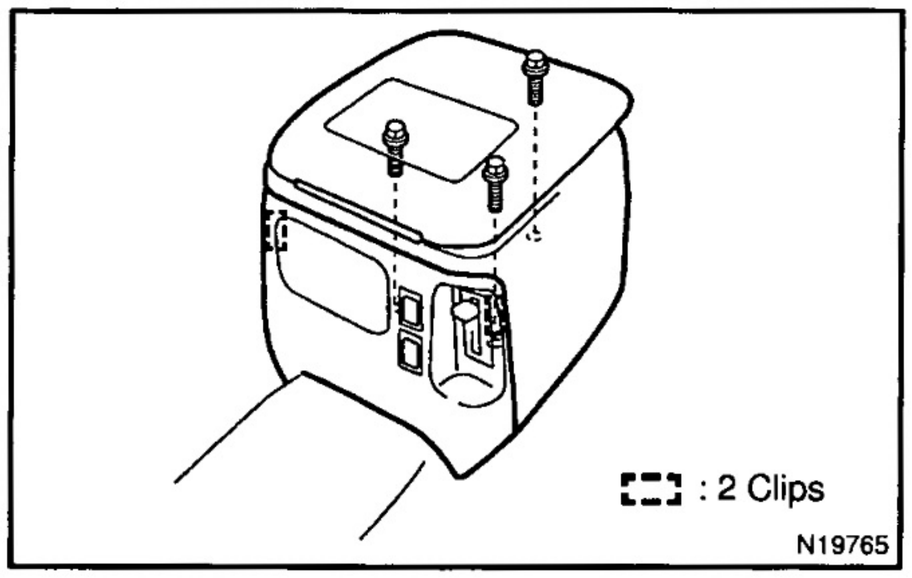
NOTICE:

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

(b) w/ Front Passenger Airbag Assembly:
Pull up and disconnect the airbag connector.
(See page RS–26)

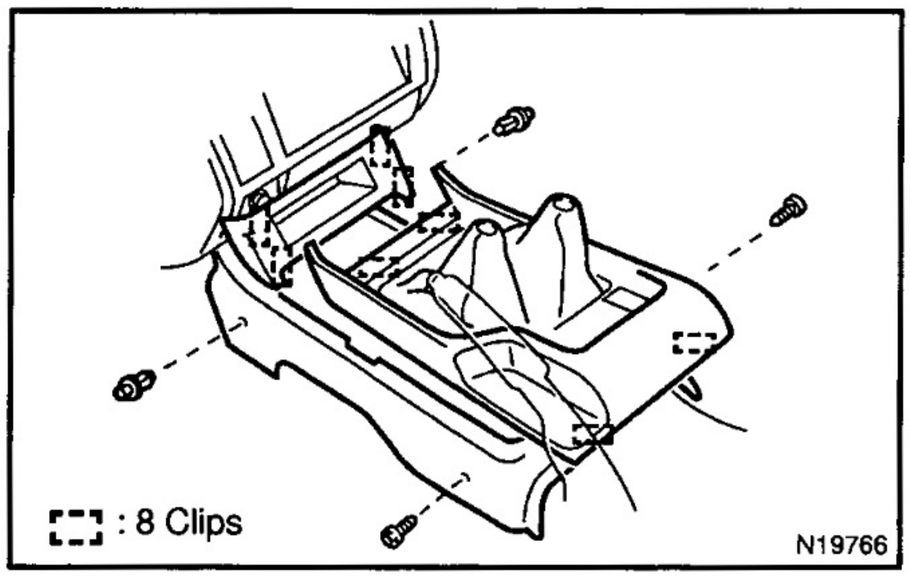
(c) Remove the 2 screws and glove compartment door.
(d) Remove the 3 screws and lower No.2 finish panel.

9. REMOVE NO.4 HEATER TO REGISTER DUCT



10. w/ Console Box:
REMOVE REAR CONSOLE BOX

(a) Remove the rear console box cover, then disconnect the connectors.
(b) Remove the 3 bolts and rear console box, then disconnect the connectors.

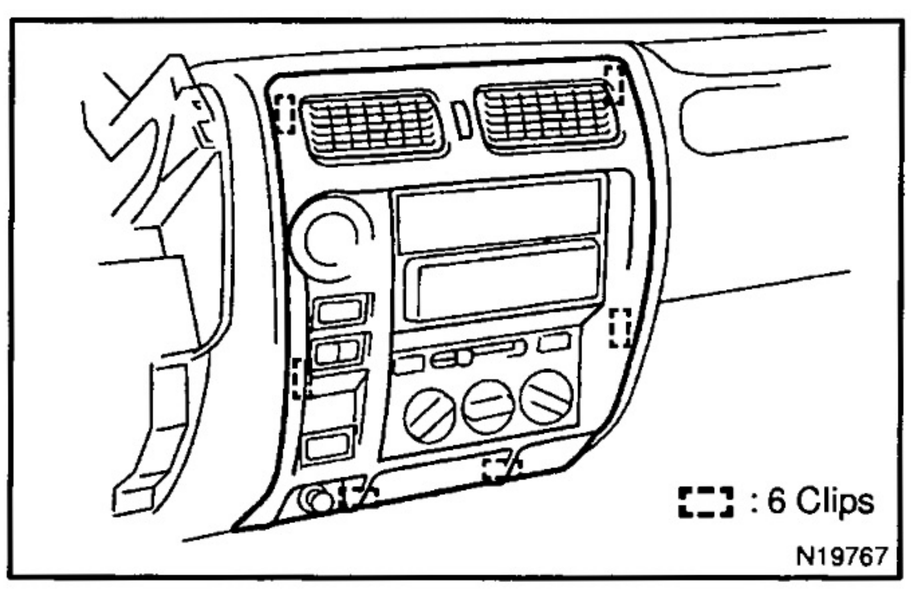


11. w/ Console Box:
REMOVE THESE PARTS:

(a) Upper console cover
(b) Upper console panel
(c) Lower console box

12. w/o Console Box:
REMOVE LOWER CENTER COVER

Remove the 2 clips and cover.

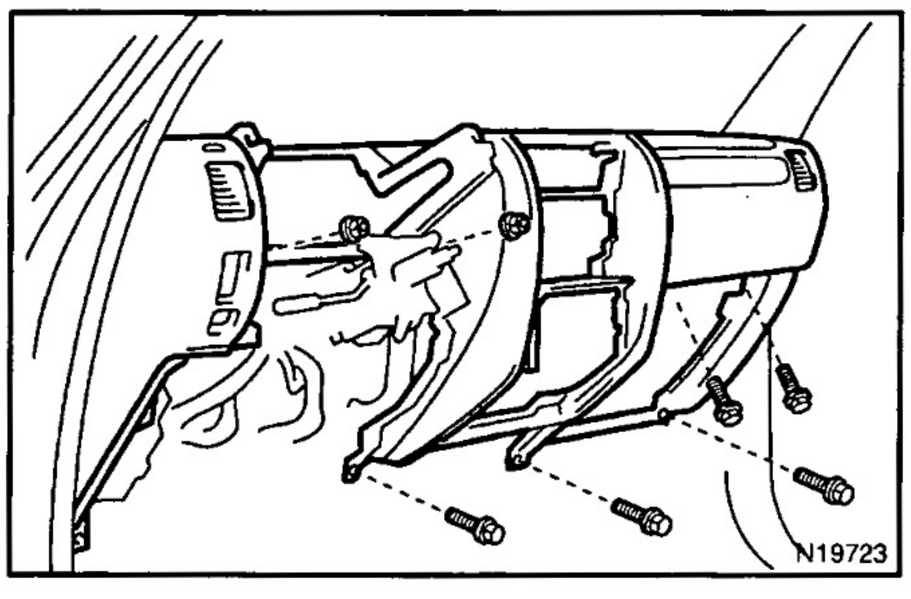


13. REMOVE NO.1 CENTER CLUSTER FINISH PANEL

Remove the panel, then disconnect the connector.

14. REMOVE THESE PARTS:

(a) Radio assembly
(b) Heater control assembly
(Refer to Pub. No. RM517E)



15. REMOVE INSTRUMENT PANEL

(a) Remove the 5 bolts and 2 nuts.
(b) Remove the instrument panel.
Torque: Passenger airbag assembly bolts
18 N·m (184 kgf·cm, 13 ft·lbf)

16. REMOVE INSTRUMENT PANEL REINFORCEMENT

(a) Remove the 2 bolts, nut and floor brace.
(b) Remove the bolt, nut and No.2 brace.
(c) Remove the screw and No.3 heater to register duct.
(d) Remove the 2 bolts, 4 nuts and reinforcement.

DISASSEMBLY

1. REMOVE THESE PARTS:

(a) No.5 heater to register duct

(b) LH and RH instrument panel register

(c) Center bracket

2. w/o Front Passenger Airbag Assembly:
REMOVE THESE PARTS:

(a) No.3 instrument panel stay

(b) No.4 instrument panel stay

(c) Instrument panel hole cover

3. w/ Front Passenger Airbag Assembly:
REMOVE FRONT PASSENGER AIRBAG DISASSEMBLY
(See page RS–26)

BO1TC–01

REASSEMBLY

Reassembly is in the reverse order of disassembly (See page BO–15).

BO1TD–01

INSTALLATION

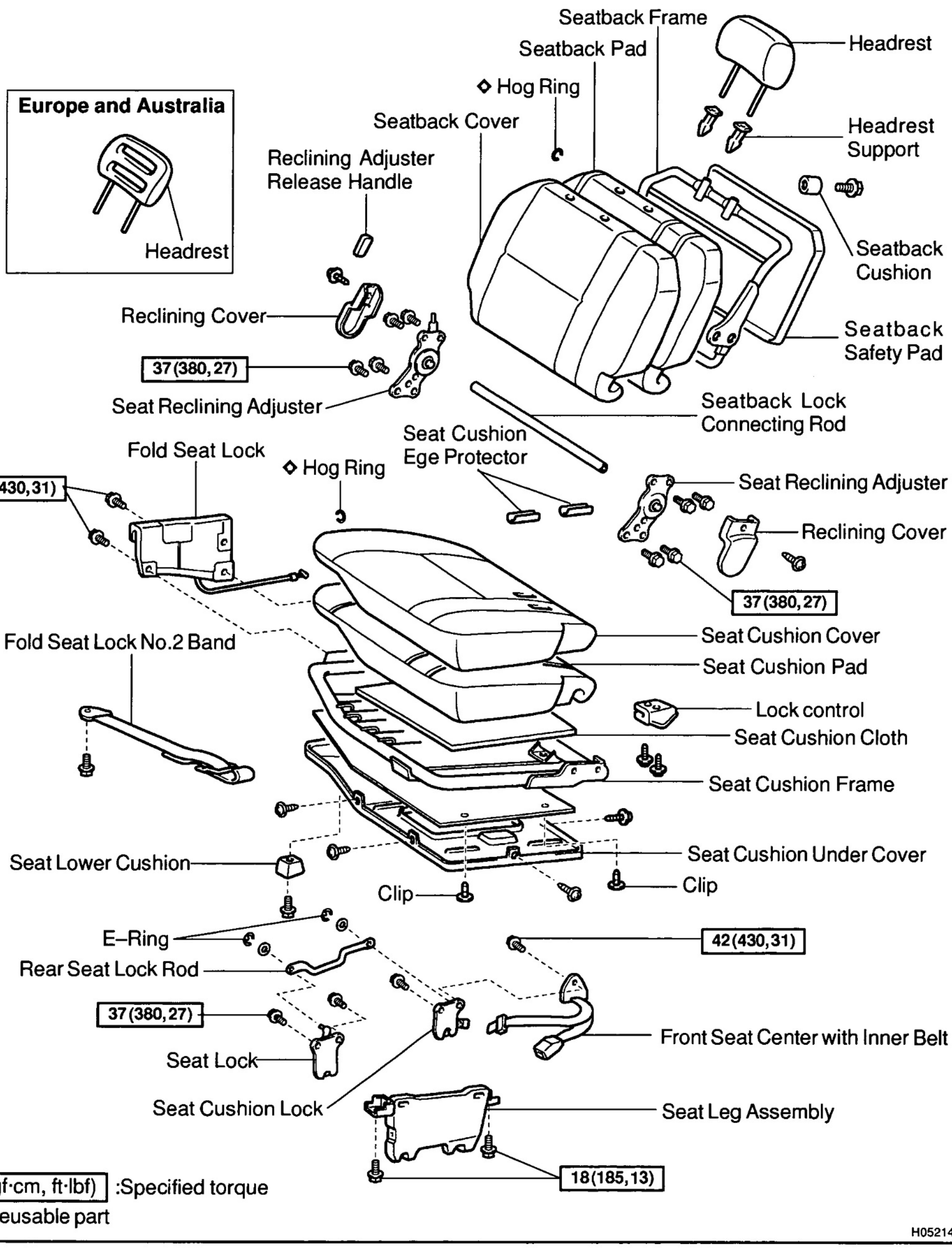
Installation is in the reverse order of removal (See page BO–13).

REAR NO.2 SEAT

COMPONENTS

BO1T2–01

5 DOOR MODELS:



BO1T3-01

DISASSEMBLY

1. REMOVE THESE PARTS:

(a) Headrest
(b) Reclining adjuster release handle
(c) Seatback cushion

2. REMOVE SEATBACK ASSEMBLY

(a) Release the seatback cover hook.
(b) Pull the seatback cover upward.
(c) Remove the 2 screws and reclining covers.
(d) Remove the 4 bolts.
(e) Disconnect the seatback lock connecting rod, then remove the seatback assembly.

3. REMOVE SEATBACK COVER

(a) Remove the headrest supports.
(b) Remove the seatback safety pad.
(c) Remove the seatback frame from the seatback cover with pad.
(d) Remove the hog rings and seatback cover from the seatback pad.

4. REMOVE THESE PARTS:

(a) Seat lower cushion
(b) Seat cushion ege protector

5. REMOVE SEAT LEG

(a) Release the seat cushion under carpet hook.
(b) Remove the 5 screws and seat cushion under carpet.
(c) Remove the bolt and fold seat stopper No.2 band.
(d) Remove the bolt and front seat center with inner belt.
(e) Remove the 2 bolts and seat leg assembly.
(f) Remove the 2 E–rings and rear seat lock rod.
(g) Remove the 2 bolts and seat lock.
(h) Remove the bolt and seat cushion lock.

6. REMOVE FOLD SEAT LOCK

(a) Remove the 2 screws and lock control.
(b) Remove the 2 bolts and fold seat lock assembly.

7. REMOVE SEAT CUSHION ASSEMBLY

Remove the 4 bolts and seat cushion assembly.

8. REMOVE SEAT CUSHION COVER

(a) Remove the seat cushion frame from the seat cushion cover with pad.
(b) Remove the hog rings and seat cushion from the seat cushion pad.

BO1T4–01

INSPECTION

INSPECT RECLINING LOCK POSITION SLIPPING OFF

When reclining the seat, inspect that the seat reclining adjusters are released at the same time.

HINT:

When the reclining lock positions slip off, disassemble the seat to adjust the position.

BO1T5-01

REASSEMBLY

1. INSTALL SEAT CUSHION COVER

(a) Install the seat cushion cover with new hog rings to the seat cushion pad.

(b) Install the seat cushion cover with pad to the seat cushion frame.

HINT:

When installing hog rings, take care to prevent wrinkles as little as possible.

2. INSTALL SEAT CUSHION ASSEMBLY

Install the seat cushion assembly with 4 bolts.

Torque: 37 N·m (380 kgf·cm, 27 ft·lbf)

3. INSTALL FOLD SEAT LOCK

(a) Install the fold seat lock assembly with 2 bolts.

Torque: 42 N·m (430 kgf·cm, 31 ft·lbf)

(b) Install the lock control with 2 screws.

4. INSTALL SEAT LEG

(a) Install the seat cushion lock with bolt.

Torque: 37 N·m (380 kgf·cm, 27 ft·lbf)

(b) Install the seat lock with 2 bolts.

Torque: 37 N·m (380 kgf·cm, 27 ft·lbf)

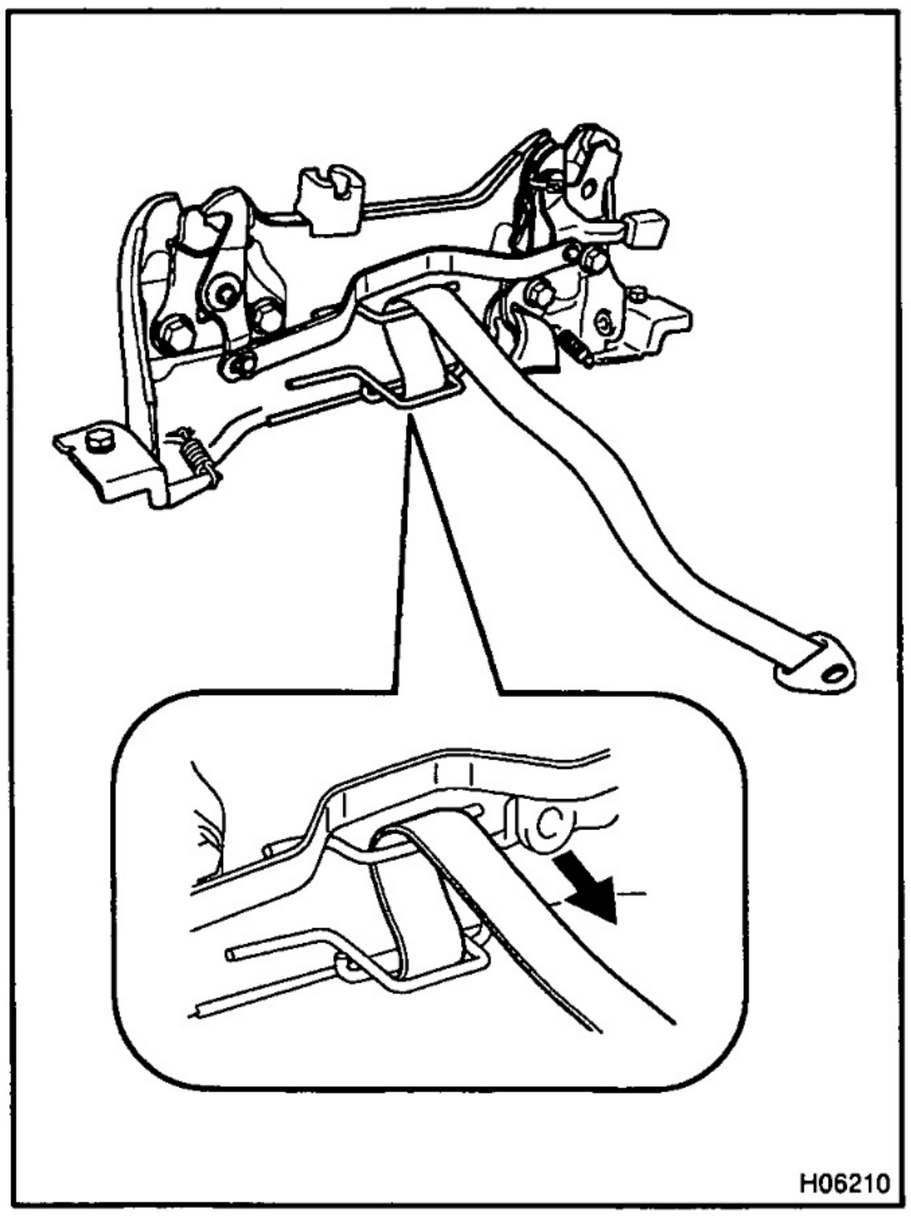
(c) Install the rear seat lock rod with 2 E–rings.

(d) Install the seat leg assembly with 2 bolts.

Torque: 18 N·m (185 kgf·cm, 13 ft·lbf)

(e) Install the front seat center with inner belt.

Torque: 42 N·m (430 kgf·cm, 31 ft·lbf)



(f) Install the fold seat stopper No.2 band, as shown in the illustration.

(g) Install the seat cushion under carpet with 5 screws.

(h) Install the seat cushion under carpet hook.

5. INSTALL THESE PARTS:

(a) Seat cushion ege protector

(b) Seat lower cushion

6. INSTALL SEATBACK COVER

(a) Install the seatback cover with new hog rings to the seatback pad.

(b) Install the seatback frame to the seatback cover with pad.

(c) Install the seatback safety pad.

(d) Install the headrest supports.

7. INSTALL SEATBACK ASSEMBLY

(a) Connect the seatback lock connecting rod to the seat reclining adjusters.

(b) Install the 4 bolts.

Torque: 37 N·m (380 kgf·cm, 27 ft·lbf)

(c) Install the reclining covers with 2 screws.

(d) Install the seatback cover hook.

8. INSTALL THESE PARTS:

(a) Seatback cushion

(b) Reclining adjuster release handle

(c) Headrest

SEAT BELT PRETENSIONER (Electrical Type)

BO06G–04

REMOVAL

NOTICE:

- **If the wiring connector of the supplemental restraint system 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 them with new parts.**

1. REMOVE THESE PARTS:

(a) Front door scuff plate
(b) 5 door:
Rear door scuff plate
(c) 5 door:
Lower center pillar garnish
(d) 3 door:
Quarter trim and hole cover

2. REMOVE FRONT SEAT OUTER BELT

CAUTION:

Never disassemble the front seat outer belt.

NOTICE:

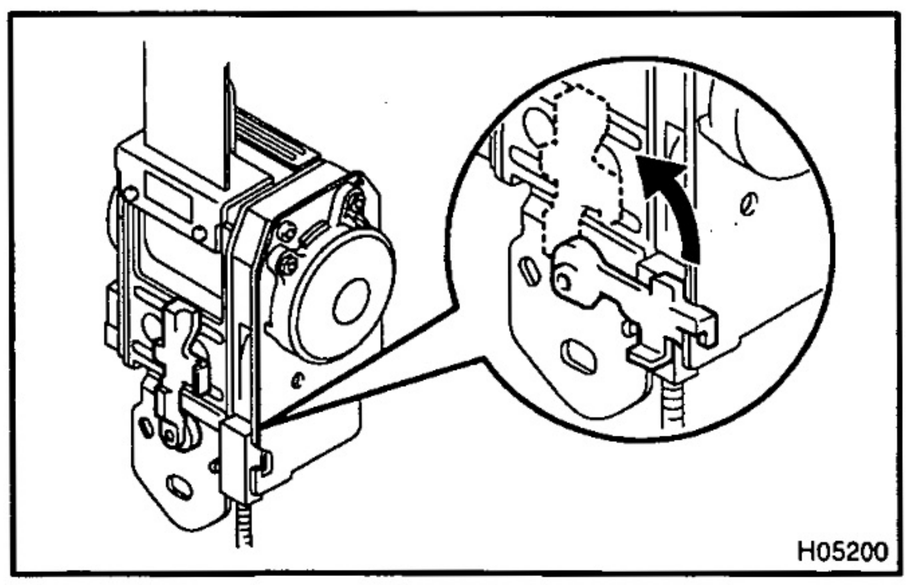
When removing the front outer seat belt, take care not to pull the seat belt pretensioner wire harness.

(a) Using a screwdriver, remove the anchor caps.

HINT:

Tape the screwdriver tip before use.

(b) Remove the bolt and shoulder anchor.



(c) Disconnect the pretensioner connector holder as shown in the illustration.
(d) Disconnect the pretensioner connector.
(e) Remove the 2 bolts and front seat outer belt.

BO168-02

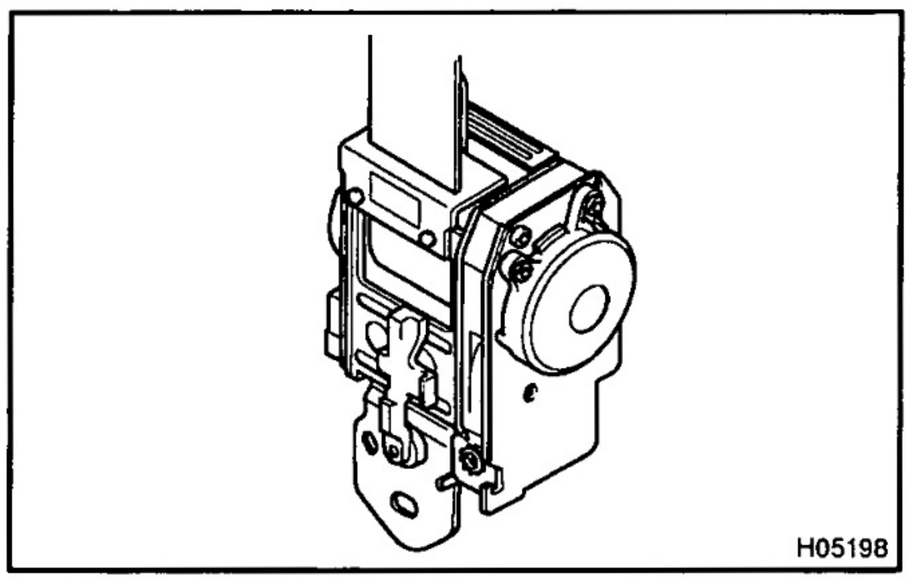
INSPECTION

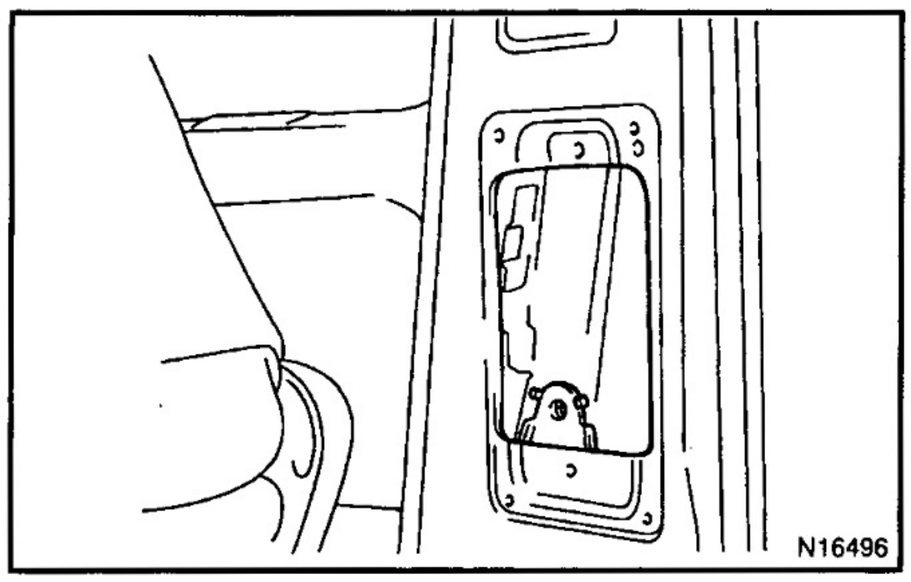
1. PRETENSIONER IS NOT ACTIVATED

(a) Perform a diagnostic system check.
(See page DI–3)

(b) Perform a visual check which includes the following items with the front seat outer belt removed from the vehicle.
- Check for cuts and cracks in, or marked discoloration of the center pillar lower garnish.
- Check for cuts and cracks in wire harness, and for chipping in connectors.
- Check for deformation of the center pillar.

CAUTION:
For removal and installation of the front seat outer belt, see page BO–23 and BO–31.
Be sure to follow the correct procedure.


H05198


N16496

2. PRETENSIONER IS ACTIVATED

(a) Perform a diagnostic system check.
(See page DI–3)

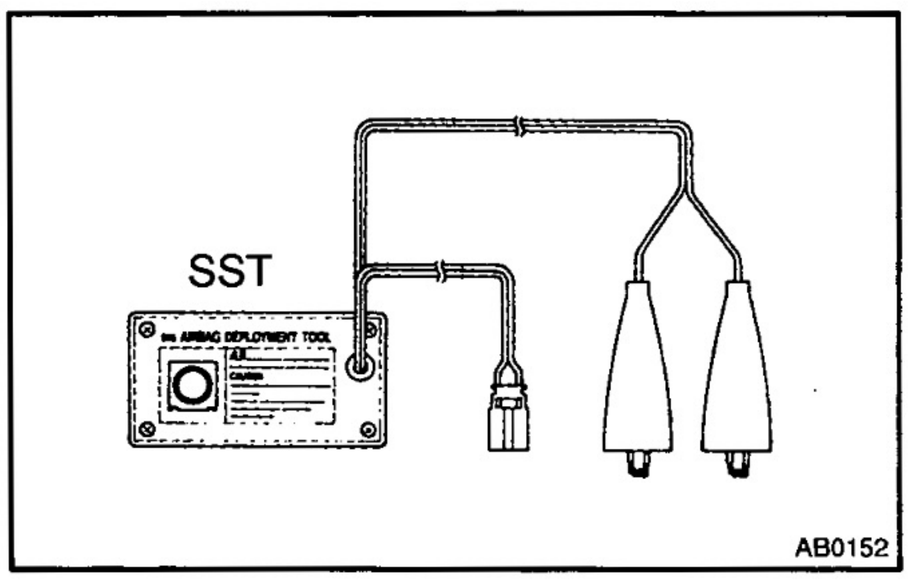
(b) Perform a visual check which includes the following items with the front seat outer belt removed from the vehicle.
- Check for deformation of the center pillar.
- Check for damage on the connector and wire harness.

BO061–04

DISPOSAL

HINT:

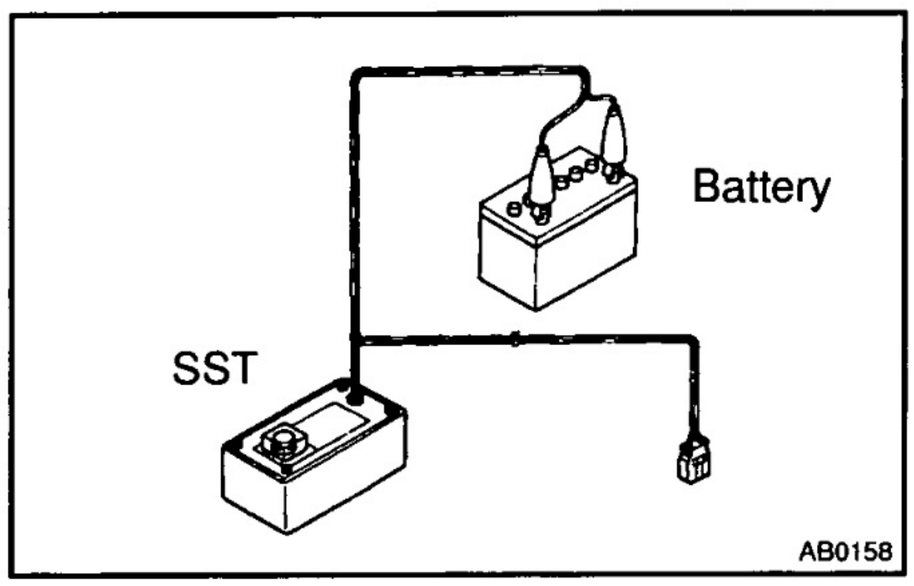
When scrapping vehicles equipped with a supplemental restraint system or disposing of a front seat outer belt (with seat belt pretensioner) always first activate the seat belt pretensioner in accordance with the procedure described below. If any abnormality occurs with the seat belt pretensioner operation, contact the SERVICE DEPT. of the DISTRIBUTOR. when disposing of a front seat outer belt (with seat belt pretensioner) deployed in a collision, follow the same procedure given in step 1–(d) in "DISPOSAL".



CAUTION:

- **Never dispose of front seat outer belt which has an undeployed pretensioner.**
- **The seat belt pretensioner produces a sizeable exploding sound when it deploys, so perform the operation out–of–door and where it will not create a nuisance to nearby residents.**
- **When deploying the seat belt pretensioner, always use the specified SST. (SRS Airbag Deployment Tool) Perform the operation in a place away from electrical noise.**

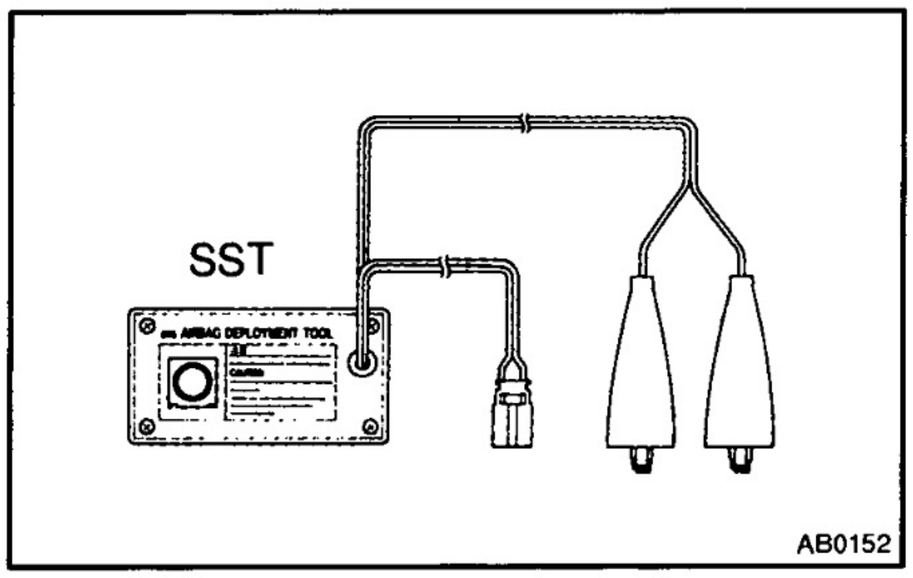
  SST 09082–00700, 09082–00740
- **When deploying a front seat outer belt (with seat belt pretensioner), perform the operation from at least 10 m (33 ft) away from the front seat outer belt.**
- **Use gloves and safety glasses when handling a front seat outer belt with operated pretensioner.**
- **Always wash your hands with water after completing the operation.**
- **Do not apply water, etc. to a front seat outer belt with operated pretensioner.**



1. SEAT BELT PRETENSIONER DEPLOYMENT WHEN SCRAPPING VEHICLE

HINT:

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

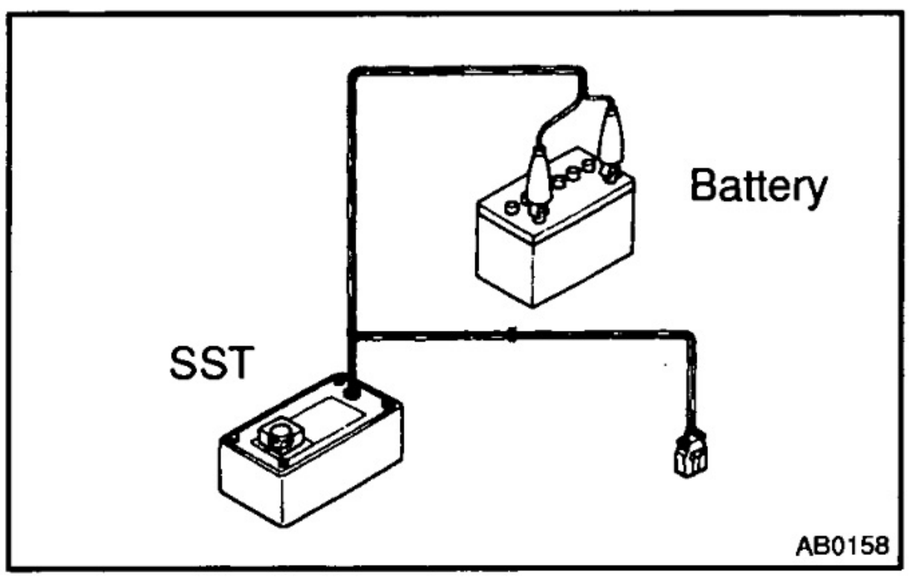


(a) Check functioning of SST.

CAUTION:

When deploying the seat belt pretensioner, always use the specified SST: SRS Airbag Deployment Tool.

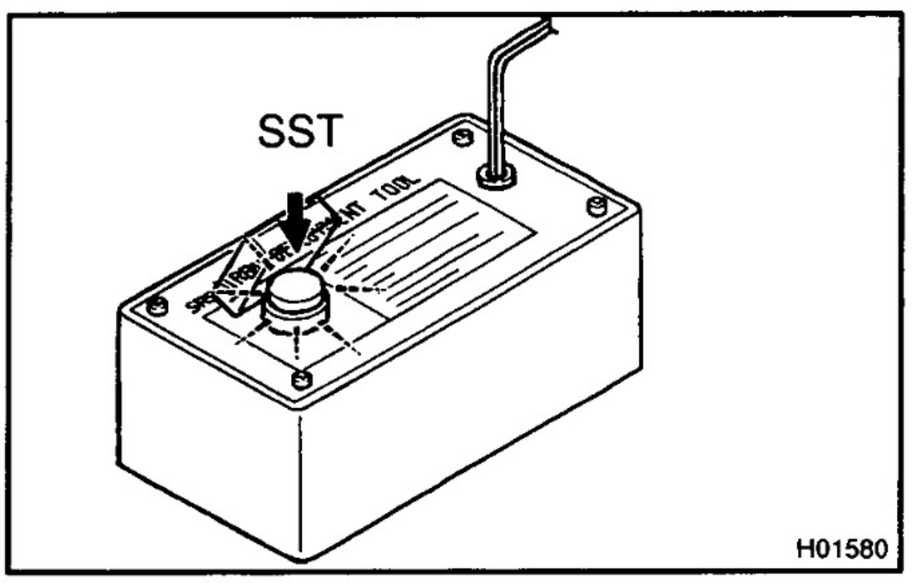
SST 09082–00700, 09082–00740



(1) Connect the 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 will be connected with the seat belt pretensioner.



(2) Check functioning of SST.
Press the SST activation switch, and check 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.

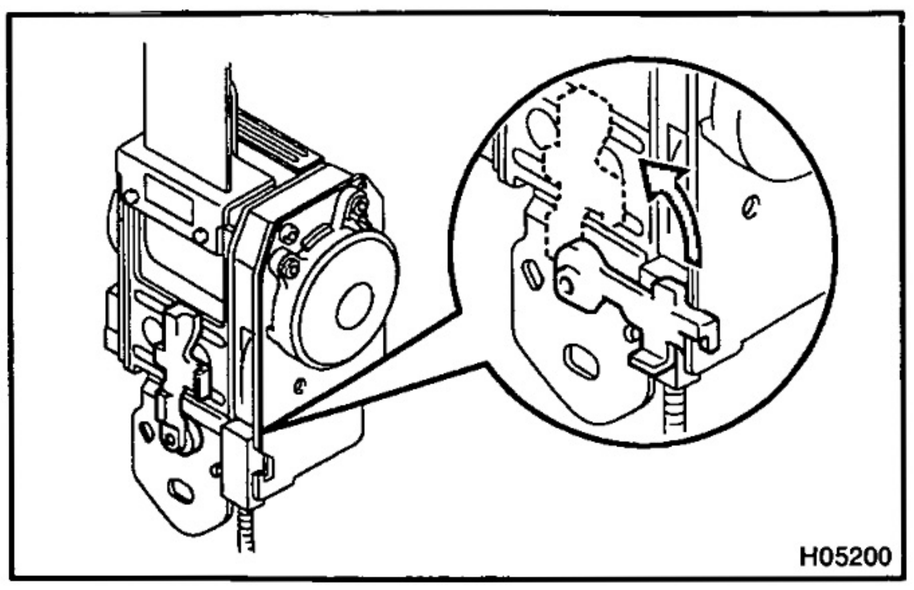
(b) Install the SST.

(1) Remove the front door scuff plate.

(2) 5 door:
Remove the rear door scuff plate.

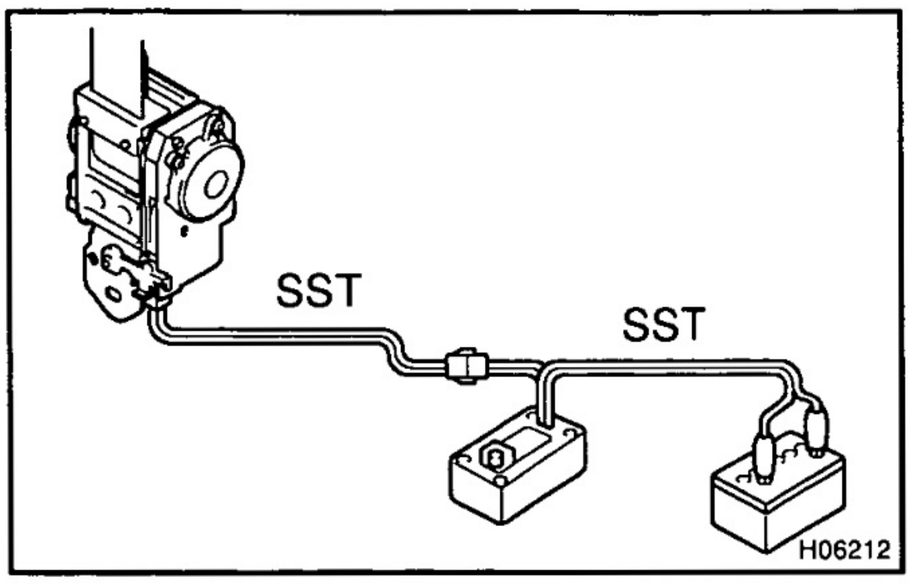
(3) 5 door:
Remove the lower center pillar garnish.

(4) 3 door:
Remove the quarter trim and hole cover.



(5) Disconnect the pretensioner connector holder as shown in the illustration.
(6) Disconnect the pretensioner connector.
(7) Buckle the front seat belt and check that there is no looseness and slack in the front seat inner belt and front seat outer belt.

SST 09082–00700, 09082–00740

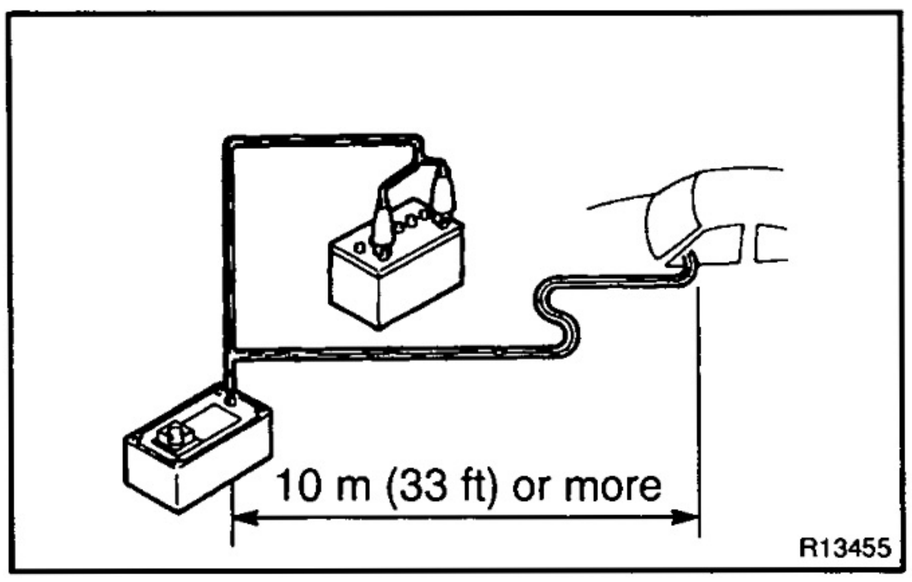


(8) Connect the 2 SST, then connect them to the seat belt pretensioner.

SST 09082–00700, 09082–00740

NOTICE:

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



(9) Move the SST to at least 10mm (33 ft) from the front of the vehicle.
(10) Close all the doors and windows of the vehicle.

NOTICE:

Take care not to damage the SST wire harness.

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

(c) Deploy the airbag.
(1) Confirm that no one is inside the vehicle or within 10 m (33 ft) area around of the vehicle.
(2) Press the SST activation switch and activate the seat belt pretensioner.

HINT:

The seat belt pretensioner operates simultaneously as the LED of the SST activation switch light up.

(d) Disposal of front seat outer belt (with seat belt pretensioner).

CAUTION:

- **The front seat outer belt is very hot when the seat belt pretensioner is deployed, so leave it alone for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a front seat outer belt with deployed seat belt pretensioner.**
- **Always wash your hands with water after completing the operation.**
- **Do not apply water, etc. to a front seat outer belt with deployed seat belt pretensioner.**
  When scrapping a vehicle, activate the seat belt pretensioner and scrap the vehicle with operated front seat outer belt still installed.

2. DEPLOYMENT WHEN DISPOSING OF FRONT SEAT OUTER BELT ONLY

NOTICE:

- **When disposing of the front seat outer belt (with seat belt pretensioner) only, never use the customer's vehicle to deploy the seat belt pretensioner.**
- **Be sure to following the procedure given below when deploying the seat belt pretensioner.**

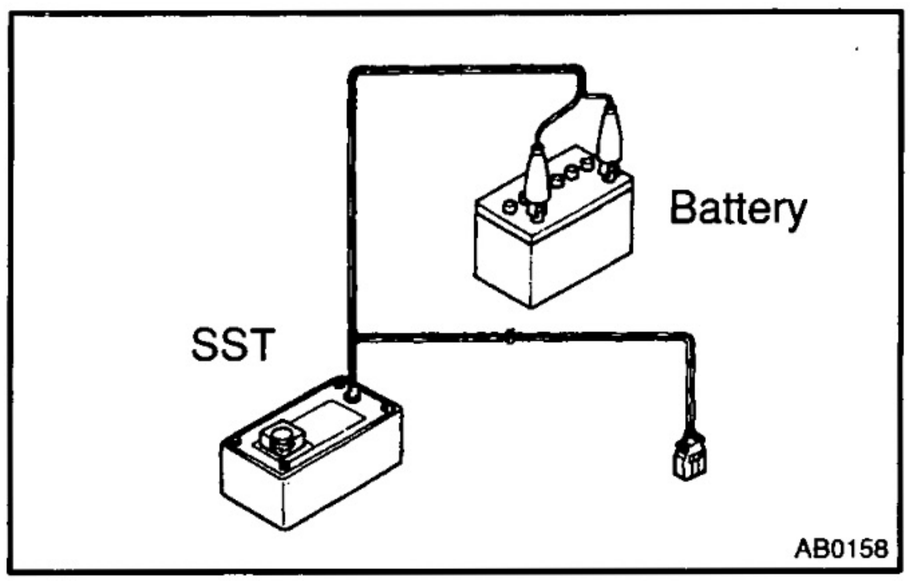
HINT:

Have a battery ready as the power source when deploying the seat belt pretensioner.

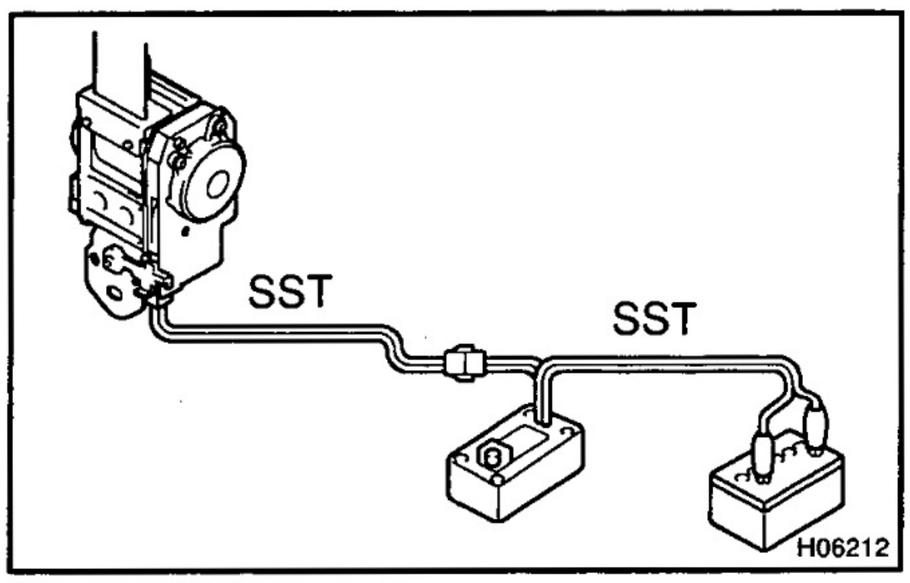
(a) Remove the front seat outer belt.
(See page BO–23)

HINT:

Cut the belt near the seat belt retractor.



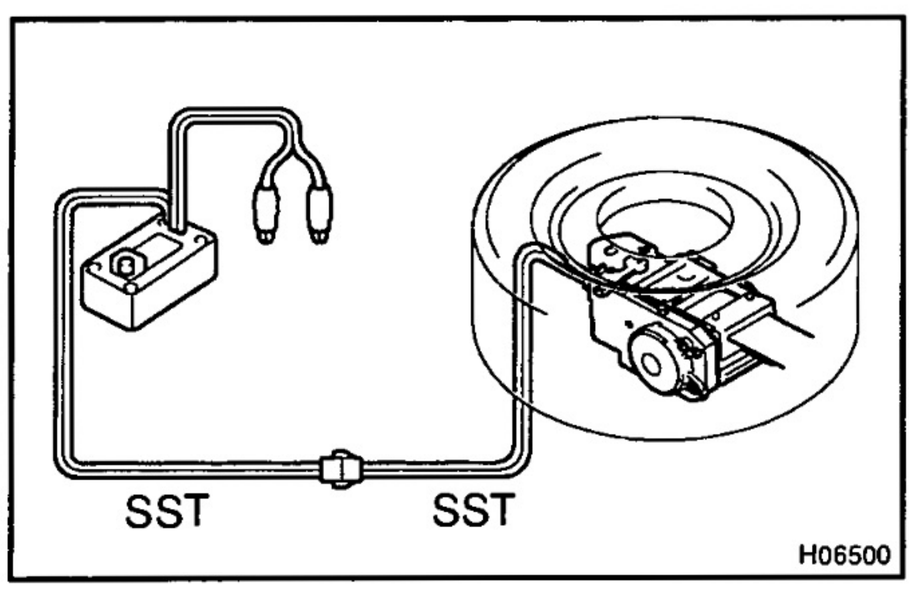
(b) Check functioning of SST.
(See step 1–(a))
SST 09082–00700, 09082–00740



(c) Install the SST.
(1) Connect the 2 SST, then connect them to the seat belt pretensioner.
SST 09082–00700, 09082–00740

NOTICE:

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



(2) Locate the front seat outer belt on the ground and cover it by the disc wheel with tire.

NOTICE:

Place the front seat outer belt shown in the illustration.

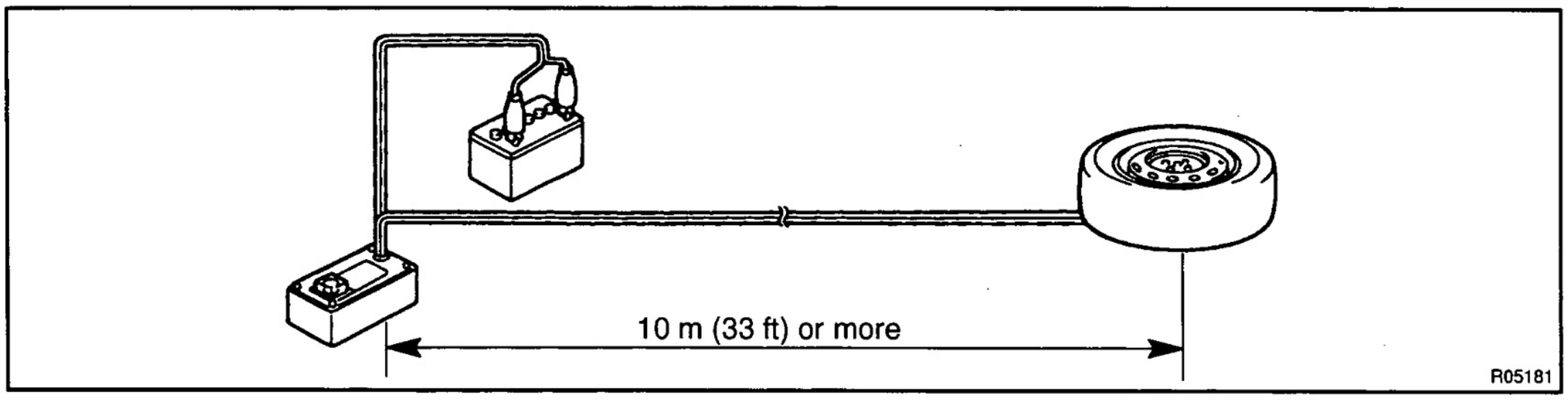
(3) Move the SST to as least 10 m (33 ft) from the disc wheel.

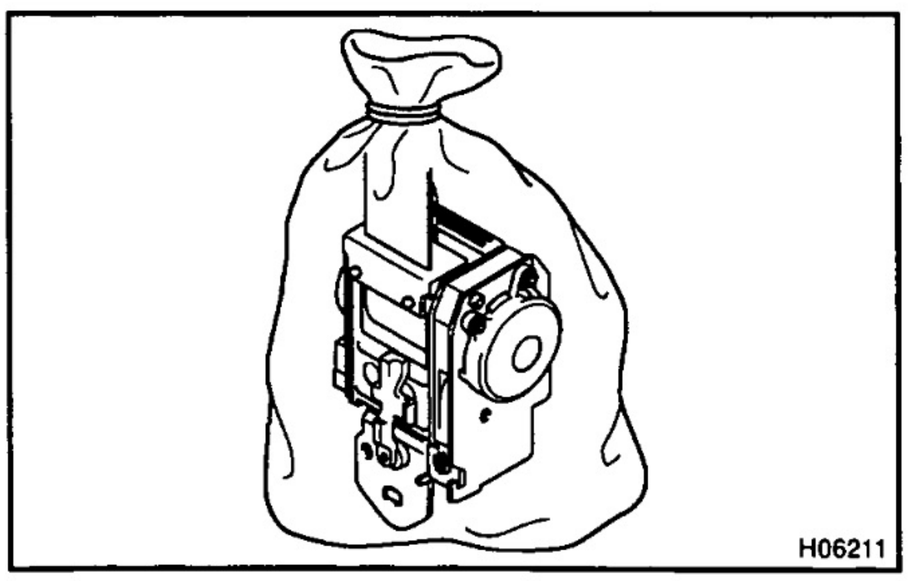
NOTICE:

Take care not to damage the SST wire harness.

(d) Deploy the seat belt pretensioner.
  (1) Connect the SST red clip to the battery positive (+) terminal and black clip to the battery negative (–) terminal.
  (2) Check that no one is within 10 m (33 ft) area around of the disc wheel.
  (3) Press the SST activation switch and activate the seat belt pretensioner.

HINT:
The seat belt pretensioner operates simultaneously as the LED of the SST activation switch lights up.





(e) Disposal of front seat outer belt (with seat belt pretensioner).

CAUTION:
- **The front seat outer belt is very hot when the seat belt pretensioner is deployed, so leave it alone for at least 30 minutes after deployment.**
- **Use gloves and safety glasses when handling a front seat outer belt with deployed seat belt pretensioner.**
- **Always wash your hands with water after completing the operation.**
- **Do not apply water, etc. to a front seat outer belt with deployed seat belt pretensioner.**
  (1) Remove the disc wheel and SST.
  (2) Place the front seat outer belt in a vinyl bag, tie the end tightly and dispose of in it the same way as other general parts.

BO06J–04

REPLACEMENT

REPLACE REQUIREMENTS

In the following cases, replace the seat belt pretensioner.

- If the seat belt pretensioner has been activated.
- If the seat belt pretensioner has been found to be faulty in troubleshooting.
- If the front seat outer belt has been found to be faulty during the check in items 1–(b) or 2–(b).
- If the front seat outer belt has been dropped.

CAUTION:

For removal and installation of the seat belt pretensioner, see page BO–23 and BO–31. Be sure to follow the correct procedure.

BO06K–04

INSTALLATION

NOTICE:

Never use seat belt pretensioner from another vehicle. When replace parts, replace them with new parts.

1. INSTALL FRONT SEAT OUTER BELT

(a) Install the front seat belt parts by following the reverse order of removal and torque the following bolts.

(1) Front seat outer belt retractor

Torque:

Upper bolt: 5.4 N·m (55 kgf·cm, 48 in.·lbf)

Lower bolt: 42 N·m (430 kgf·cm, 31 ft·lbf)

(2) Seat belt shoulder anchor

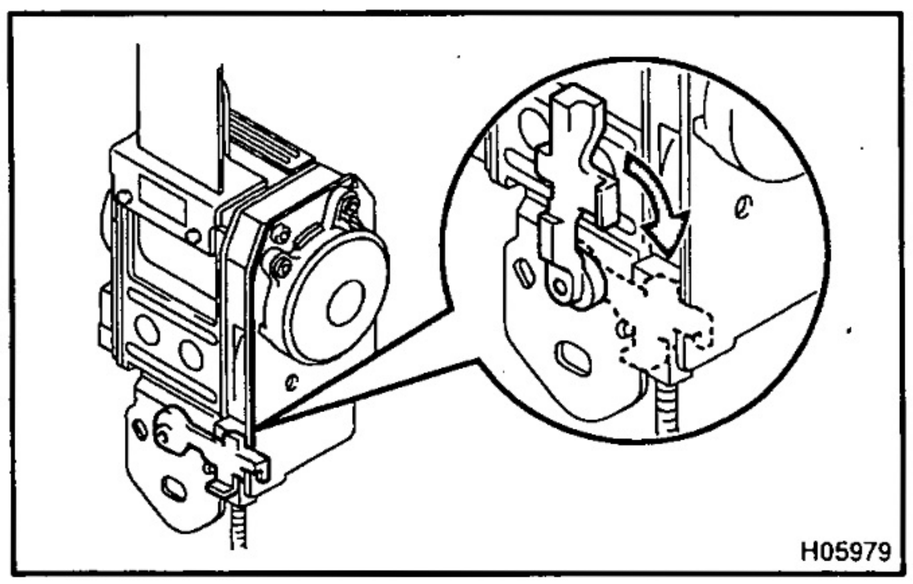
Torque: 42 N·m (430 kgf·cm, 31 ft·lbf)

(b) Install the anchor caps.

NOTICE:

- **Make sure that the front seat outer belt is installed with the specified torque.**
- **If the front seat outer belt has been dropped, or there are cracks, dents or other defects in the case or connector, replace the front seat outer belt with a new one.**
- **When installing the front seat outer belt, take care that the wiring does not interfere with other parts and is not pinched between other parts.**

(c) Connect the pretensioner connector.



(d) Connect the pretensioner connector holder as shown in the illustration.

NOTICE:

Confirm if the pretensioner connector holder is surely fixed or not.

2. INSTALL THESE PARTS:

(a) 3 door:
Quarter trim and hold cover

(b) 5 door:
Lower center pillar garnish and hold cover

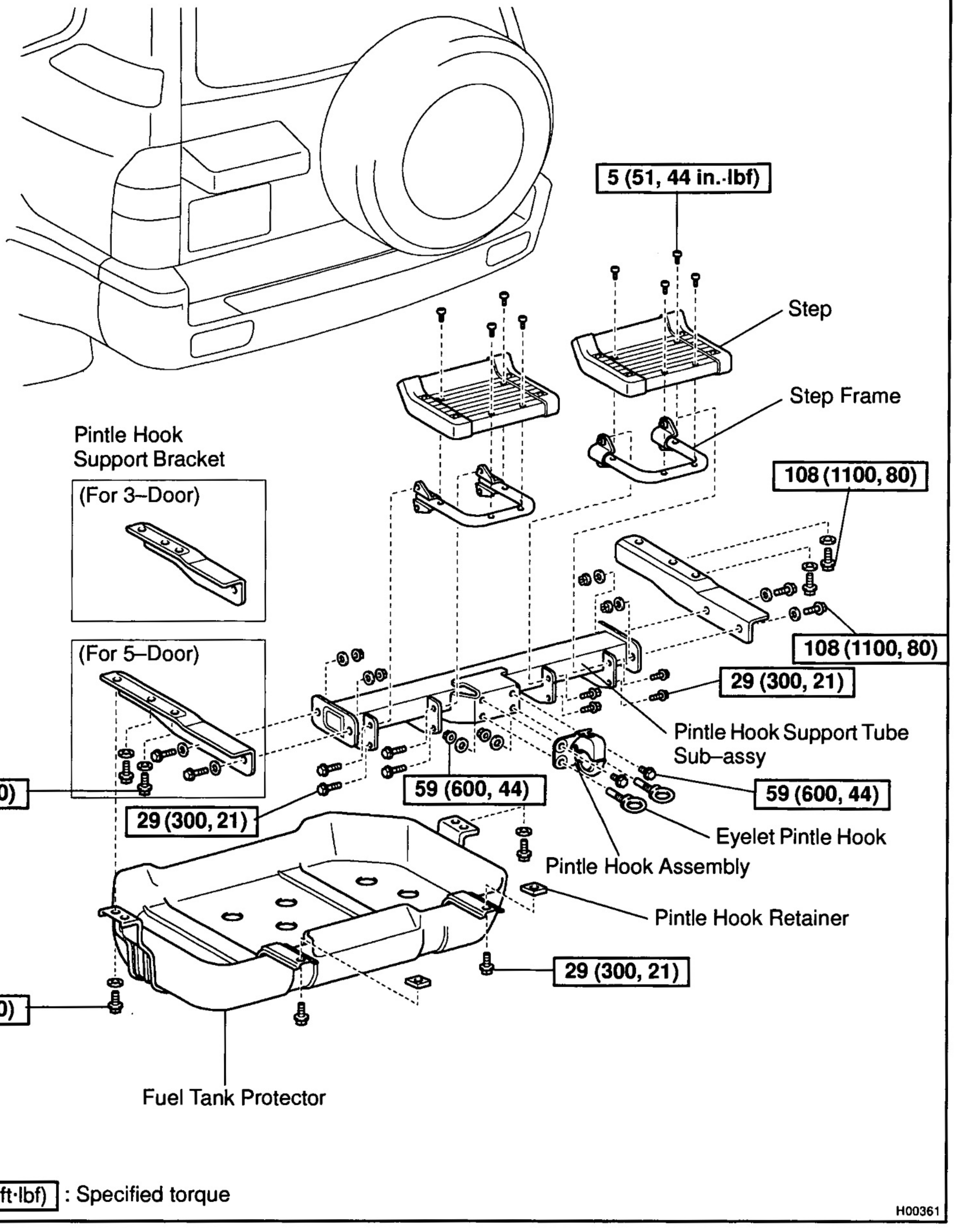
(c) 5 door:
Rear door scuff plate

(d) Front door scuff plate

PINTLE HOOK

COMPONENTS

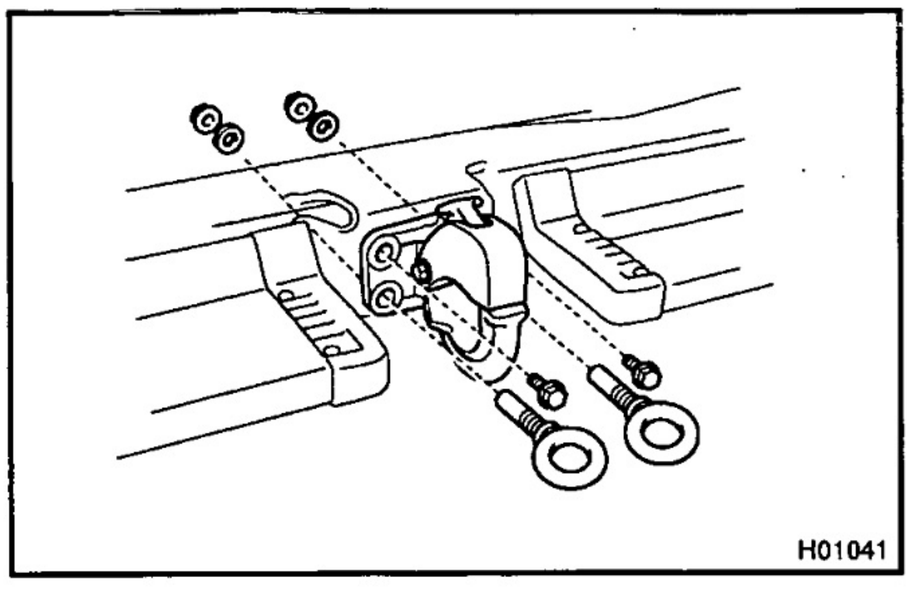
BO1T6–01



N·m (kgf·cm, ft·lbf) : Specified torque

H00361

BO1T7–01

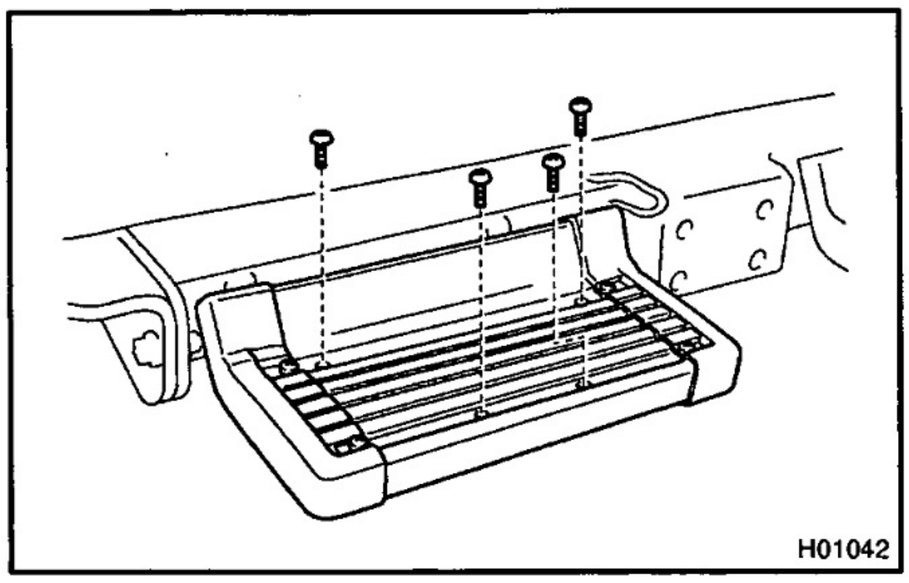

H01041

REMOVAL

1. REMOVE PINTLE HOOK

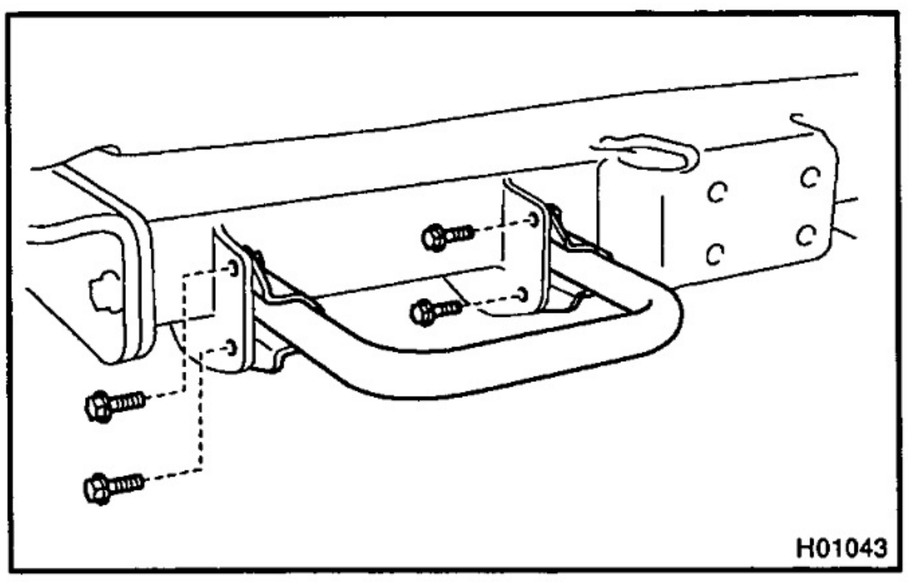
(a) Remove the 2 eyelet bolts, 2 washers and nuts.
Torque: 59 N·m (600 kgf·cm, 44 ft·lbf)

(b) Remove the 2 bolts and pintle hook.
Torque: 59 N·m (600 kgf·cm, 44 ft·lbf)

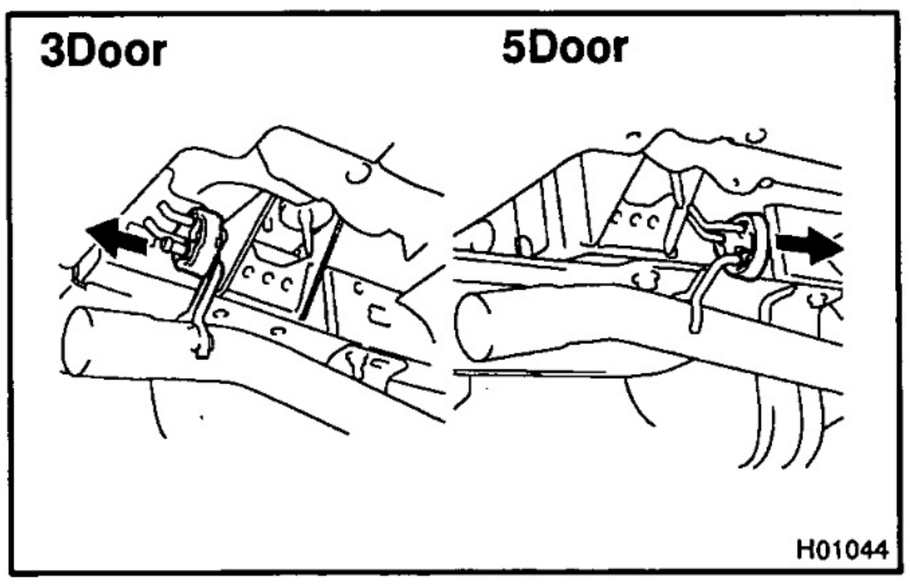

H01042

2. REMOVE BACK STEP

(a) Remove the 8 screws and 2 back steps.

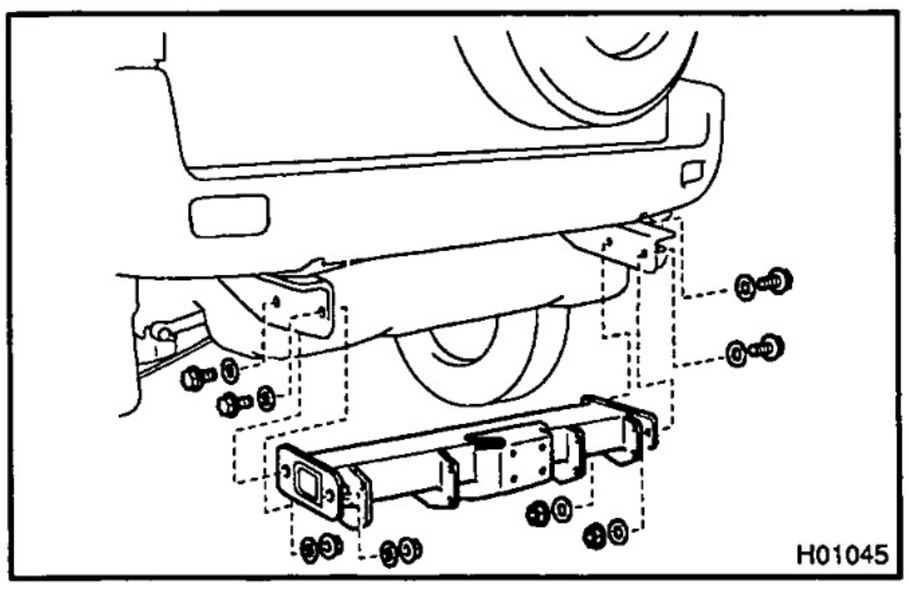

H01043

(b) Remove the 8 bolts and 2 back step support brackets.
Torque: 29 N·m (300 kgf·cm, 21 ft·lbf)



H01044

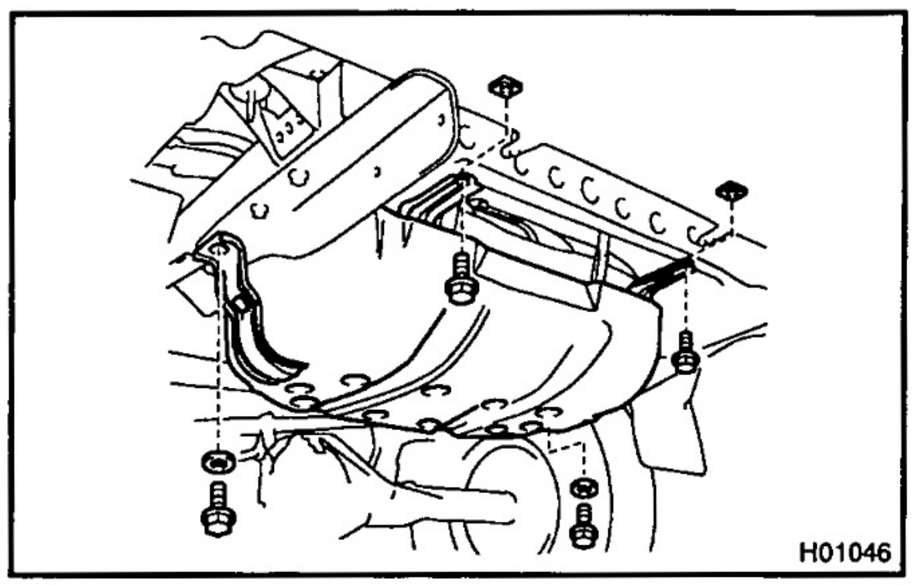
3. REMOVE EXHAUST PIPE SUPPORT


H01045

4. REMOVE PINTLE HOOK SUPPORT TUBE

Remove the 4 bolts, 8 washers, 4 nuts and pintle hook support tube.

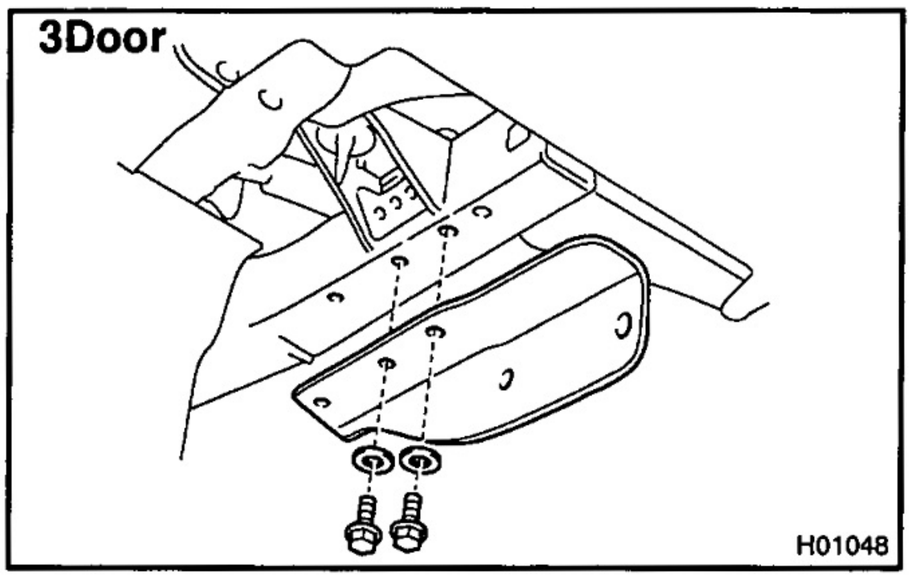
Torque: 108 N·m (1100 kgf·cm, 80 ft·lbf)



5. REMOVE FUEL TANK PROTECTOR

(a) Remove the 2 bolts and 2 retainers.
Torque: 29 N·m (300 kgf·cm, 21 ft·lbf)

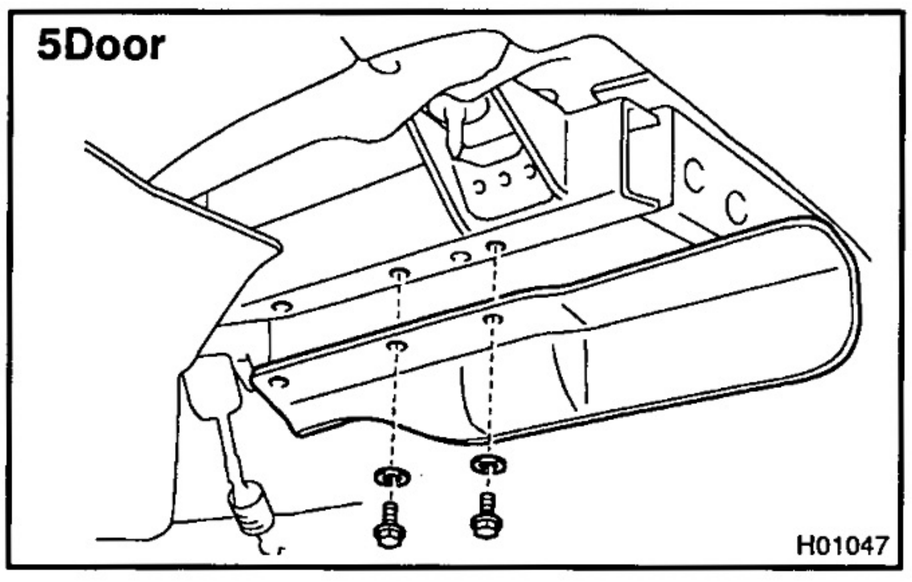
(b) Remove the 2 bolts, 2 washers and fuel tank protector.
Torque: 108 N·m (1100 kgf·cm, 80 ft·lbf)



6. REMOVE PINTLE HOOK SUPPORT BRACKET

Remove the 4 bolts, 4 washers and 2 pintle hook support brackets.

Torque: 108 N·m (1100 kgf·cm, 80 ft·lbf)



BO1T8–01

INSTALLATION

Installation is in the reverse order of removal (See page BO–33).

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TOYOTA

Land Cruiser UZJ100, FZJ105, HZJ105
Land Cruiser Prado VZJ95, RZJ95
Corolla AE112

Keyless Entry System – Repair Manual Supplement (October 1999)

The enclosed Repair Manual Supplement has been issued to cover the repair and diagnosis of the Vision Keyless Entry System fitted to the following models.

Production Change Effective from (For Reference Only)

Vehicle Model		Production Date
Land Cruiser UZJ100, FZJ105, HZJ105	RV, GXL, GXV	January 1998
Land Cruiser Prado VZJ95, RZJ95	Snowy, Limited Edition World Cup	April 1998
	RV, GXL, VX, GRANDE	June 1999
Corolla AE112		October 1999

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TOYOTA QUALITY SERVICE
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Vehicle Application Charts

Land Cruiser 100 Series

Grade	Keyless Entry	Alarm Upgrade
GXV	OE	DIO
GXL	OE	DIO
RV	DIO	DIO
STD	N/A	N/A

Land Cruiser Prado

Grade	Keyless Entry	Alarm Upgrade
GRANDE	OE	DIO
VX	OE	DIO
GXL	OE	DIO
RV	DIO	DIO

Note: Limited Edition World Cup and Snowy are equivalent to GXL grade.

Corolla

Grade	Keyless Entry	Alarm Upgrade
ULTIMA	OE	OE
LEVIN	OE	OE
CONQUEST	OE	OE
ASCENT	DIO	DIO

LEGEND

OE = Original Equipment (factory fit)

DIO = Dealer Installed Option (or customer installed option)

N/A = Not Applicable

KEYLESS ENTRY SYSTEM

The keyless entry system allows remote unlocking of the doors. A small radio transmitter utilising code-hopping technology is used to communicate with the keyless entry control module.

The keyless entry module can be programmed to recognise a maximum of 3 keypads.

The keyless entry system can also be programmed to function as an alarm once the optional accessory battery back-up siren is installed.

Note: The keyless entry system or keypads are not associated with the engine immobiliser system.

Keypads

The keypad is a small radio transmitter utilising code-hopping technology for security. The unique code is used to communicate with the keyless entry control module to either lock or unlock the doors.

There are two styles of transmitters which are compatible and operate at 303.825MHz.

(P/N: PZQ71 60015)

This style of transmitter uses 2 X 3 volt CR1616 lithium button cell batteries.

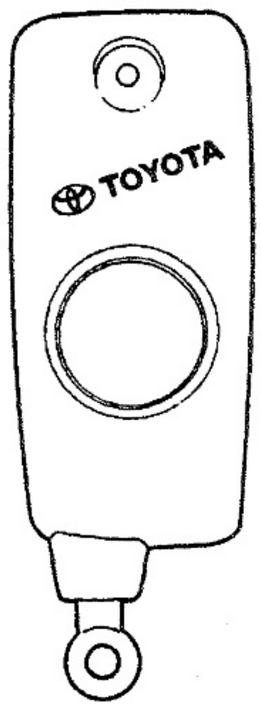
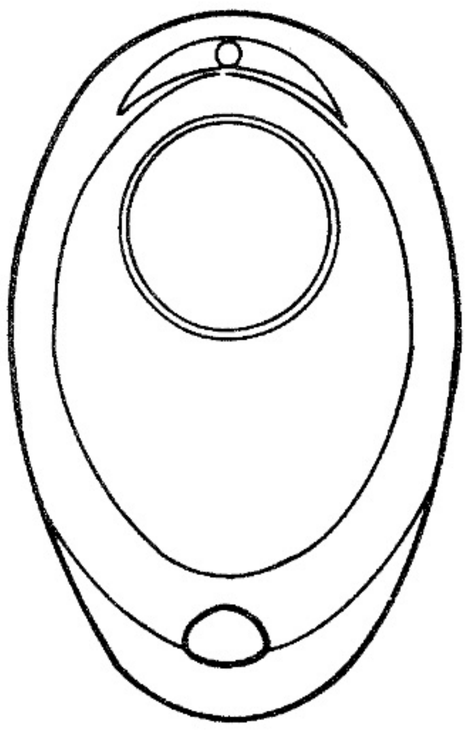


Fig 1

(P/N: PZQ71 60042)



This style of transmitter uses 1 X 3 volt CR2032 lithium button cell battery.

Fig 2

Both transmitters have a range of approximately 10 meters and a battery life of approximately 3 years.

When the keypad is used, the keyless entry control module operates the hazard warning lamps to indicate successful operation.

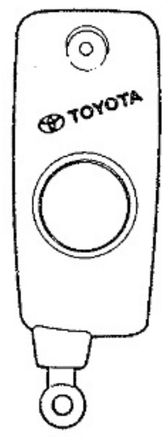
NOTE: Keypads will only operate when the ignition switch is in the OFF position.

Battery Check

Flow chart to suit transmitter (P/N PZQ7160015) as shown in Figure 1.

After performing a visual check of the transmitter, the battery voltage (if suspect) will need to be checked using a multi-meter.

(P/N: PZQ71 60015)



START

Press and hold the button on the transmitter

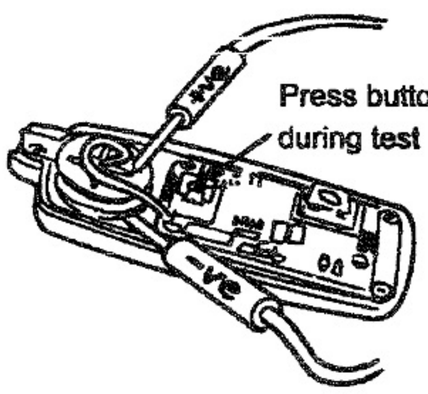
Does the LED light up?

No

Replace battery. Refer to page 6.

Yes

Check the battery voltage



VOLTAGE	ACTION
4V or more	Batteries are OK
3.9V or less	Replace batteries

Is battery voltage OK?

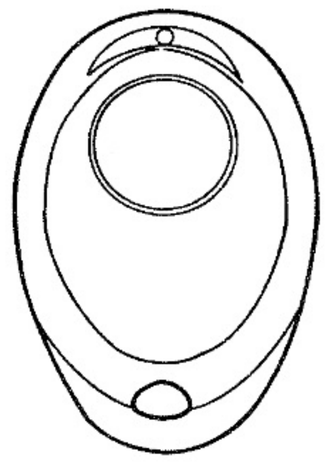
No

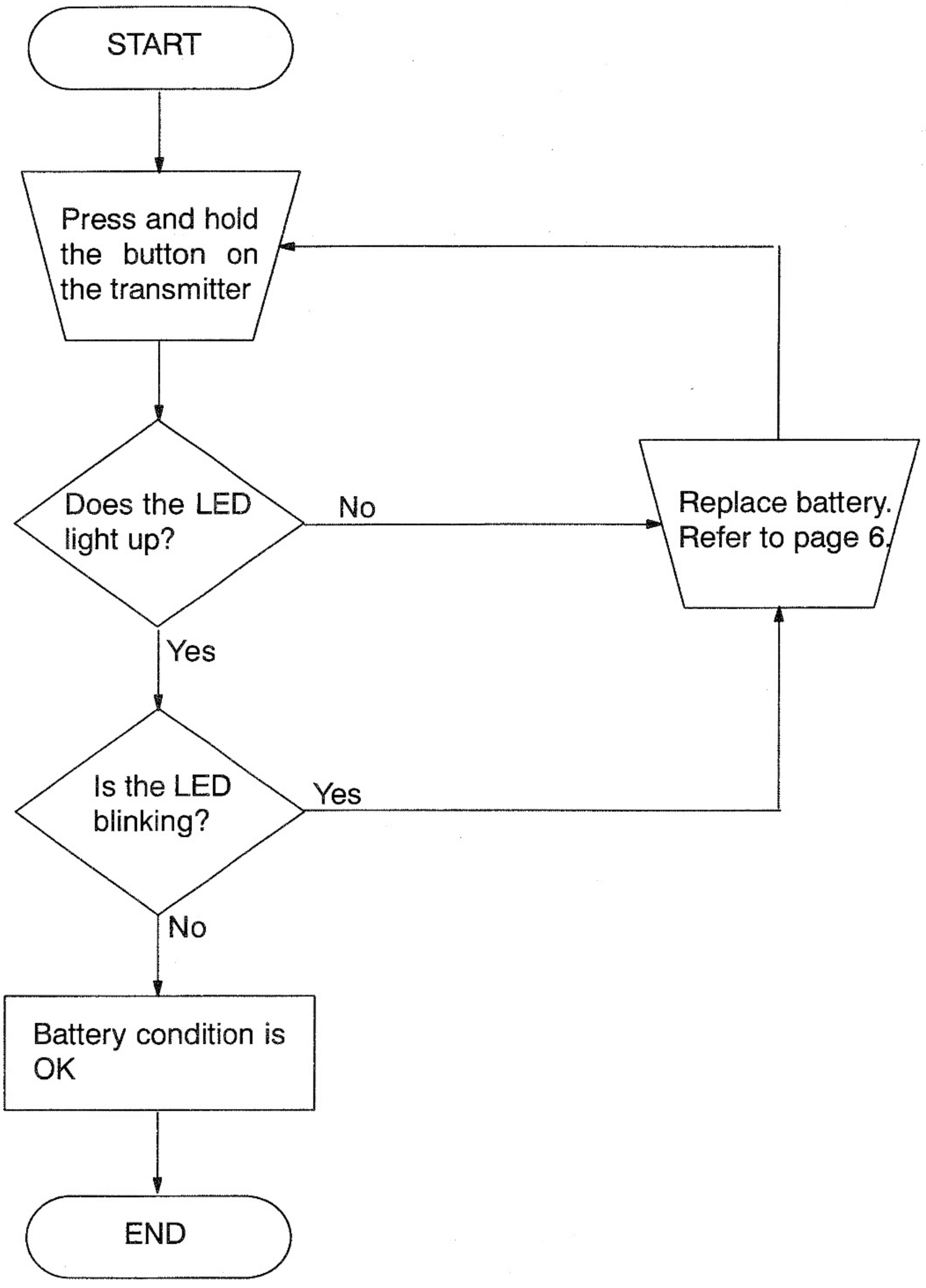
Yes

END

Flow chart to suit transmitter (P/N PZQ7160042) as shown in Figure 2.
This transmitter is capable of checking its own battery voltage and will report a low battery via the red LED.

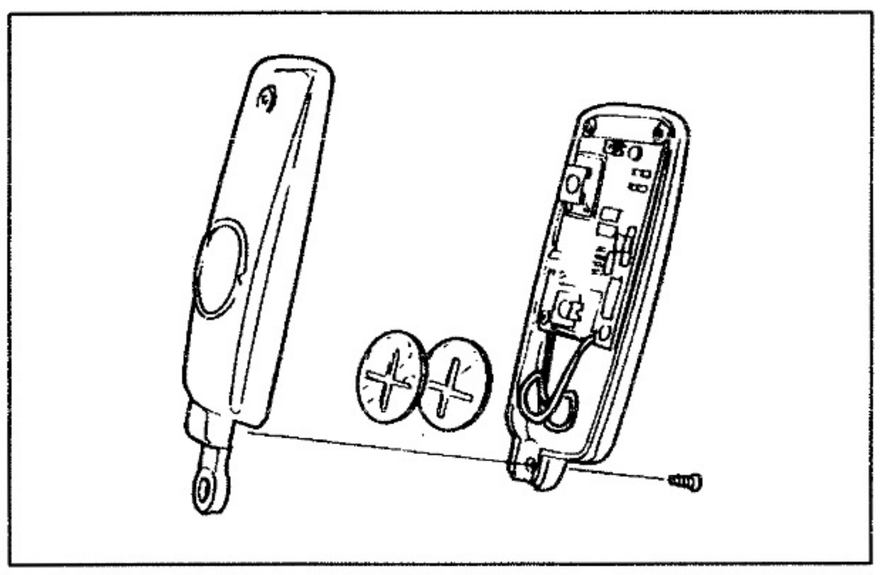
(P/N: PZQ71 60042)





Battery Replacement

For Remote Control Transmitter P/N PZQ71 60015



Battery life is approximately 3 years, depending on usage.

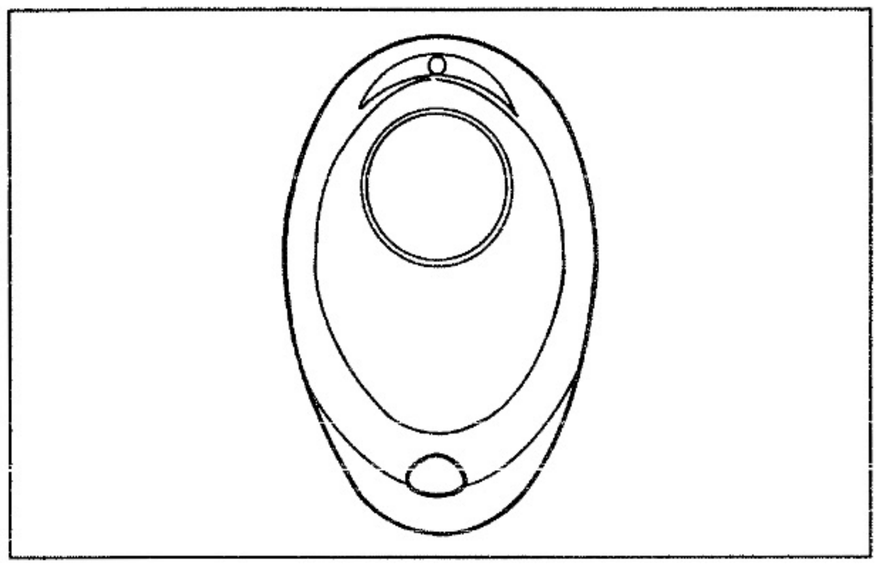
To replace the batteries, remove the screw on the underside of the transmitter. Gently prise the face cover from the bottom cover. Take out the old batteries and replace with new batteries, ensuring correct polarity.

Batteries: 2 x CR 1616 or equivalent.

Note:

- If signs of water damage are evident (i.e. corrosion, etc.), replace the transmitter.
- Never wet or submerge the transmitter in water.

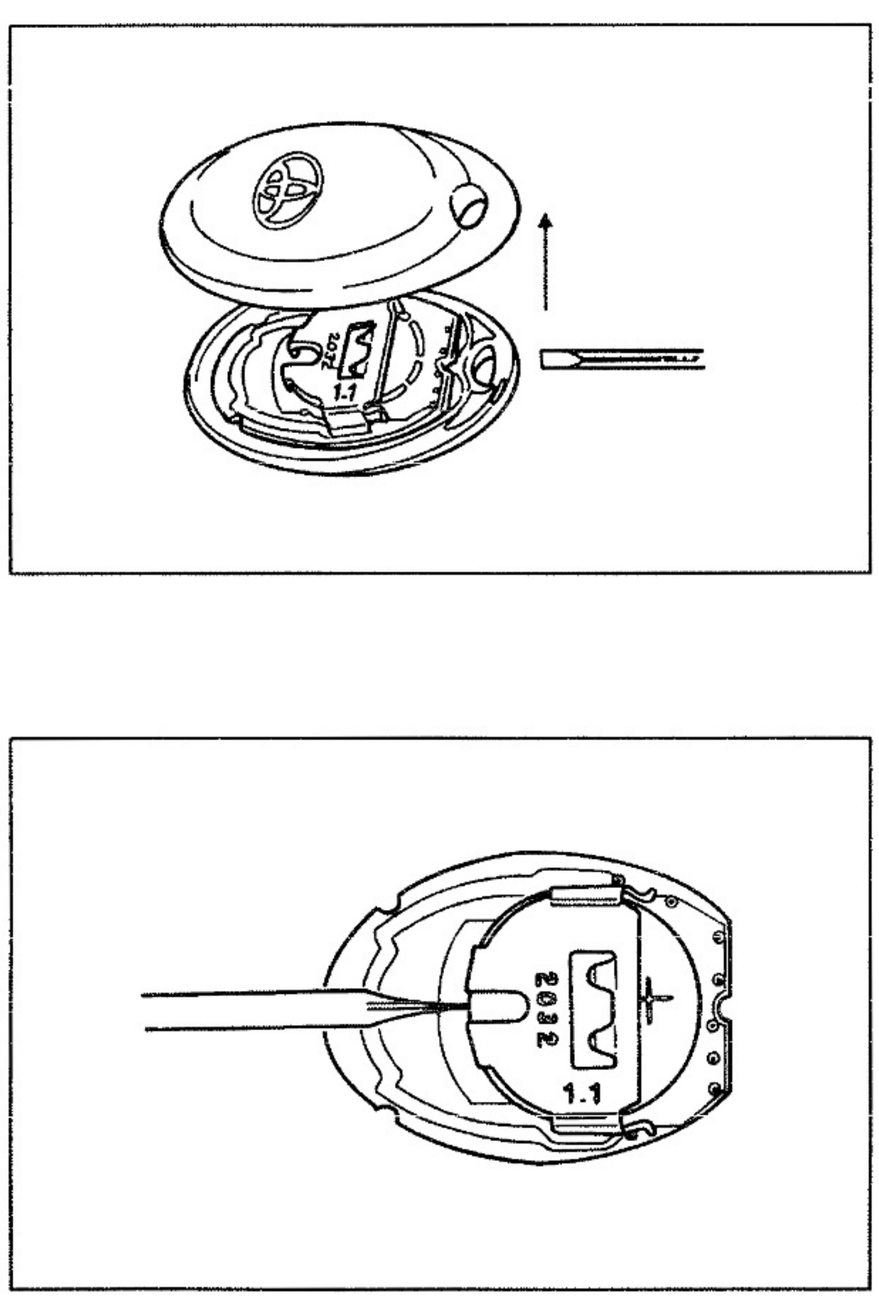
For Remote Control Transmitter P/N PZQ71 60042



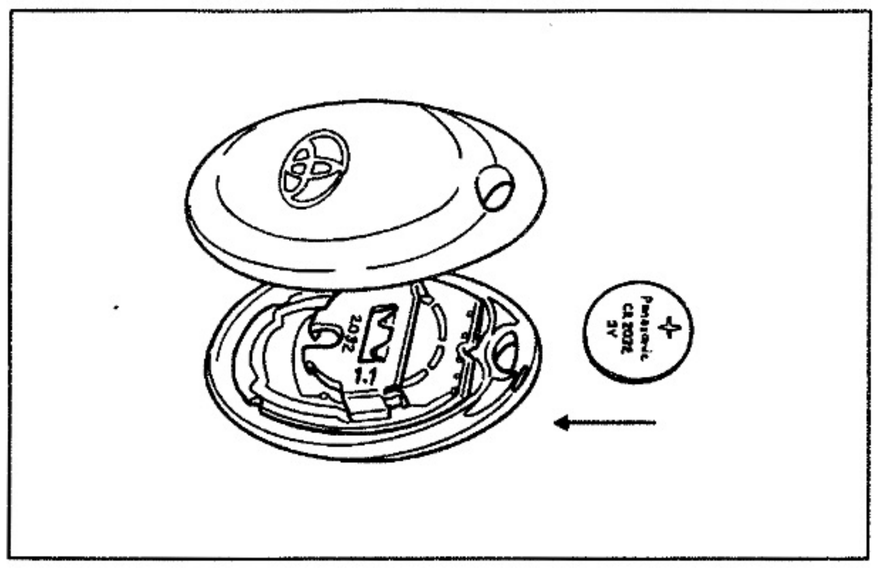
Using a small flat blade screwdriver, remove the back cover in an upward movement, as shown in the illustration.

Note:

- Check the case and silicon sealing membrane for damage. If signs of damage are evident, replace the transmitter.



Remove the battery by pushing with the point of a small flat blade screw driver as shown in the illustration.



Ensure that the battery is wiped clean using tissue paper. Insert the new battery using tissue paper in the direction shown in the illustration. Ensure that the + symbol is visible when installed. Battery Part Number: CR2032 or equivalent.

Note:

- If signs of water damage are evident (i.e. corrosion, etc.), replace the transmitter.

Programming Transmitters

When entering the transmitter programming mode, all transmitters (maximum of three) which will be required to operate the system will have to be programmed at the same time. The unit has been designed this way for the security of the user, so that if a transmitter is lost it will be erased from memory when programming the existing transmitters.

Procedure (with at least one functional transmitter)

(a) Ensure a door is open.

(b) Lock then unlock the vehicle using the transmitter.

(c) Within 20 seconds of unlocking the vehicle, turn the ignition key from the "OFF" position to the "ON" position 20 times leaving the key in the "OFF" position after the twentieth turn.

(d) The vehicle's indicators will flash 20 times to indicate successful entry.

(e) Once the indicators have finished flashing, press the button on each of the transmitters.

(f) Once finished, turn the ignition key to the "ON" position to lock in and exit from the programming mode.

Procedure (without transmitter)

(a) Ensure a door is open.

(b) **If upgrade alarm fitted:** Disconnect the negative battery cable, wait 5 seconds then reconnect. **Note:** If the system begins to sound the alarm, complete the manual override procedure (see system owner's manual). On completion of the manual override, continue with this procedure.

If upgrade alarm NOT fitted:

- **If the vehicle was last unlocked with the transmitter:** Disconnect the negative battery cable, wait 5 seconds then reconnect it, turn the ignition "OFF" to "ON" 10 times, then continue with this procedure.
- **If the vehicle was last locked with the transmitter:** Turn the ignition "OFF" to "ON" 10 times, then continue with this procedure.

(c) Within 20 seconds, turn the ignition key from the "OFF" to "ON" position 20 times leaving the key in the "OFF" position after the twentieth turn.

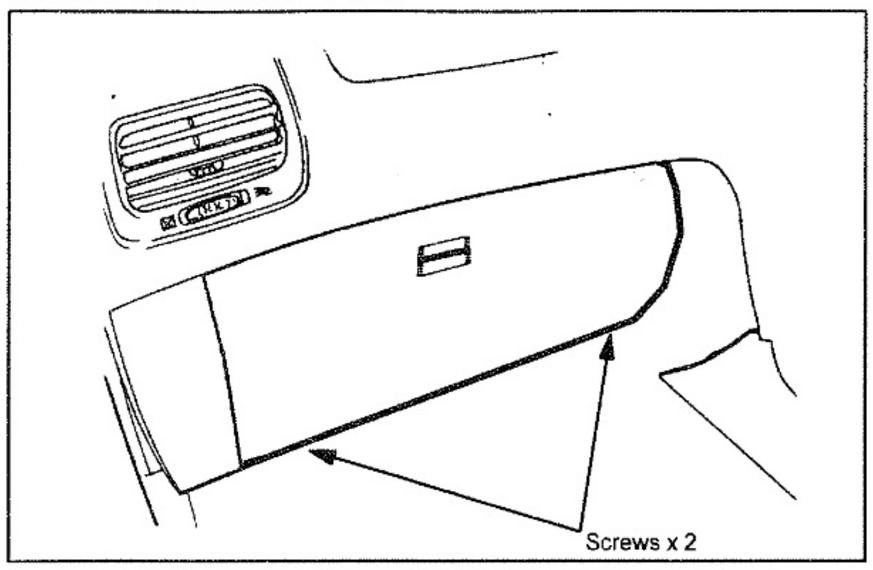
(d) The vehicle's indicators will flash 20 times to indicate successful entry.

(e) Once the indicators have finished flashing, press the button on each transmitter.

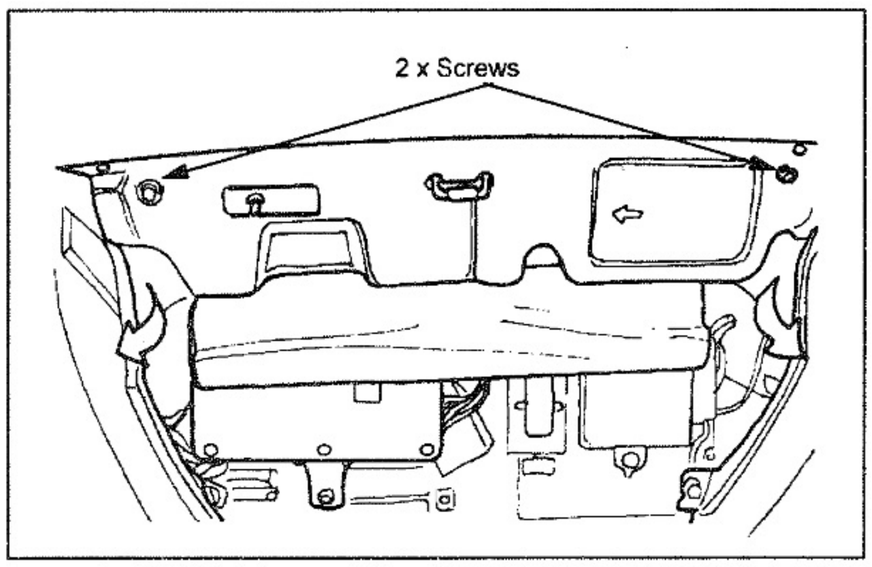
(f) Once finished turn the ignition key to the "ON" position to lock in and exit from the programming mode.

Control Module Locations

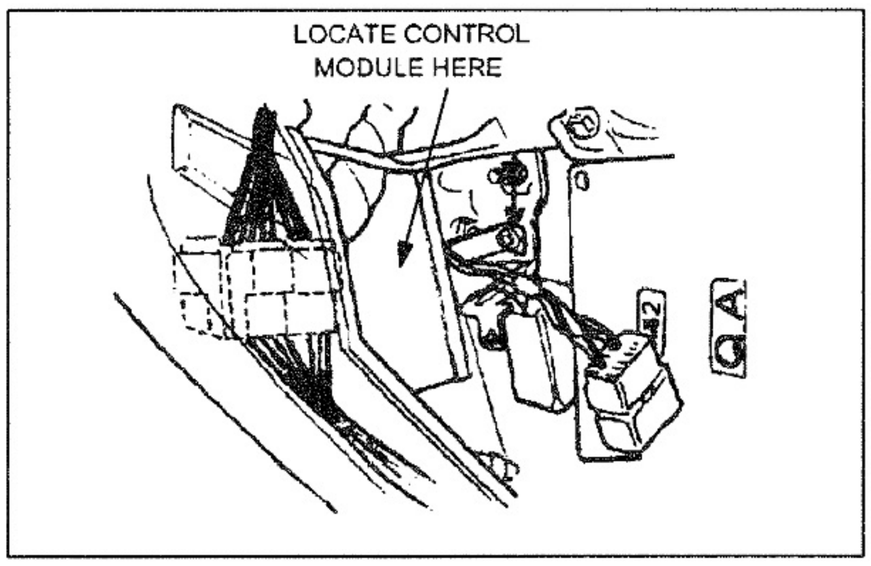
Land Cruiser 100



1. Remove the glovebox

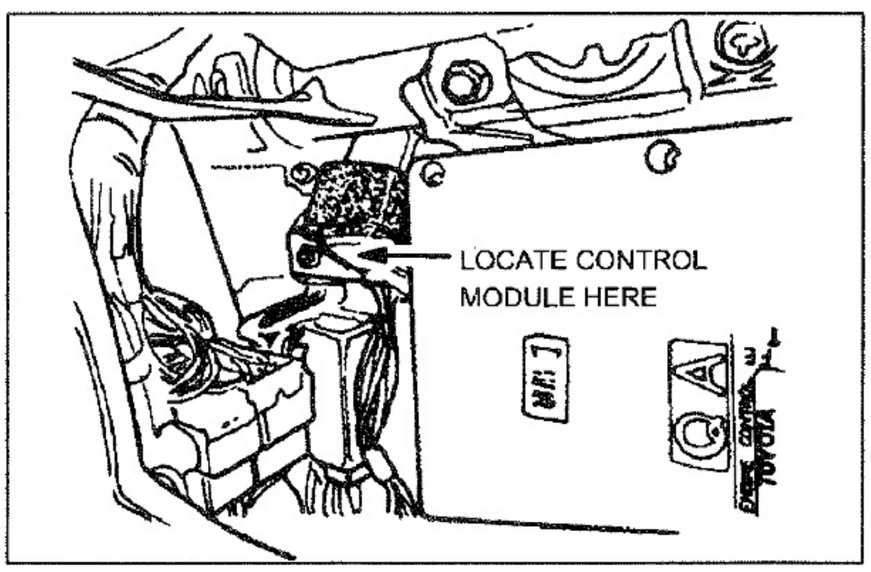


2. Remove the glovebox inner panel



3. Location of the control module:

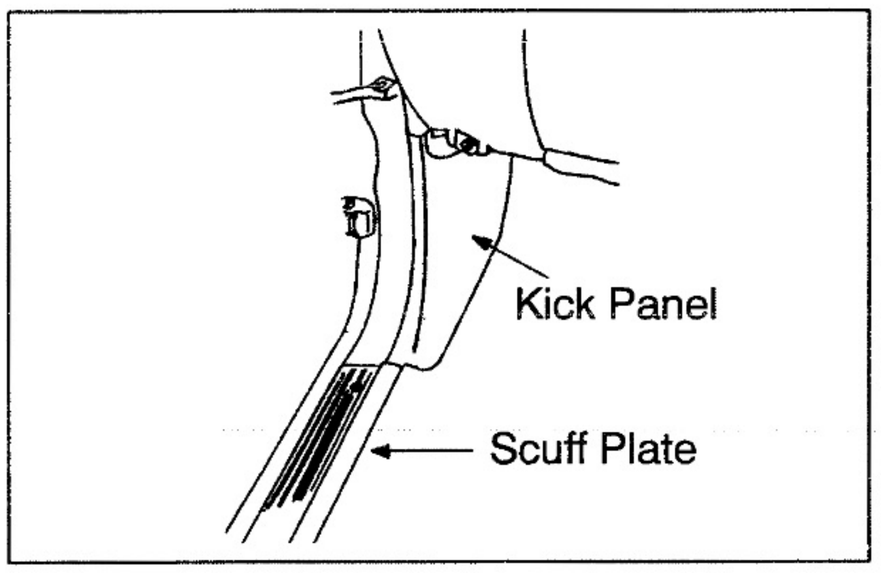
- From January 1998 to June 1999

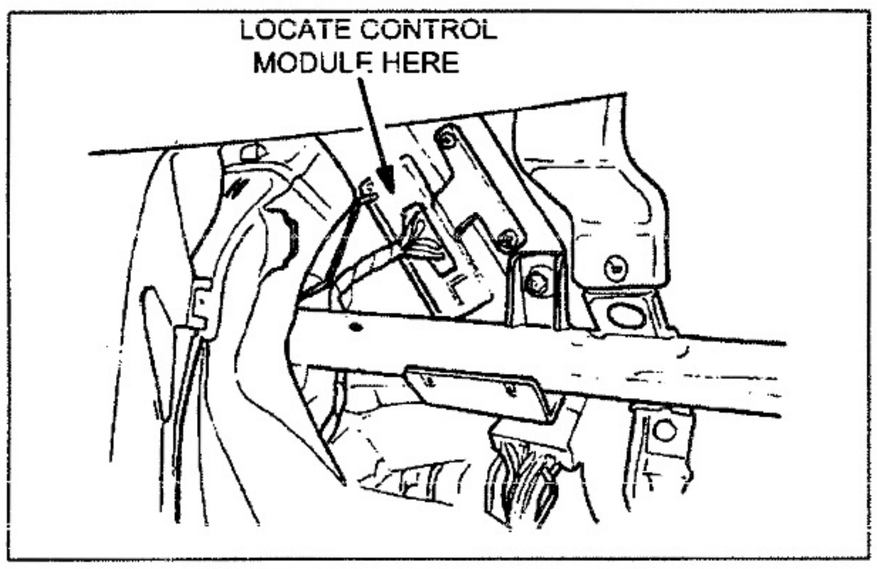


- From July 1999

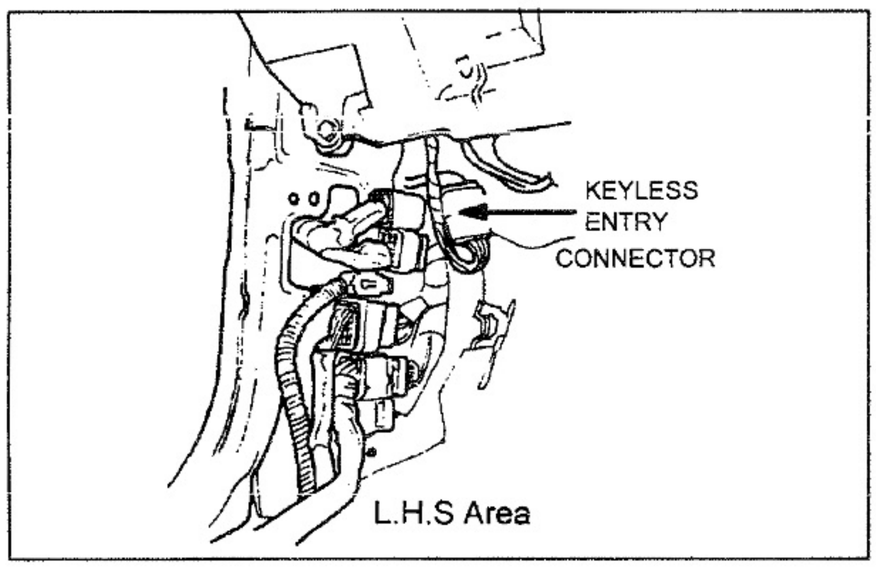
Land Cruiser Prado Limited Edition World Cup from April - June 1998 and Snowy from April - June 1999

1. Remove glovebox, refer to page 9, item 1
2. Remove the glovebox inner panel, refer to page 9, item 2
3. Remove the near side scuff plate and kick panel



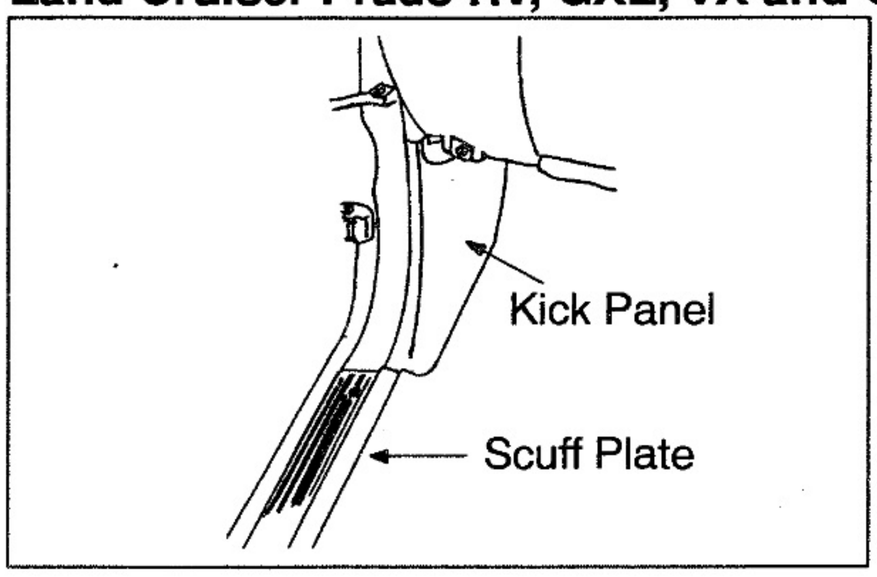


4. Location of the control module

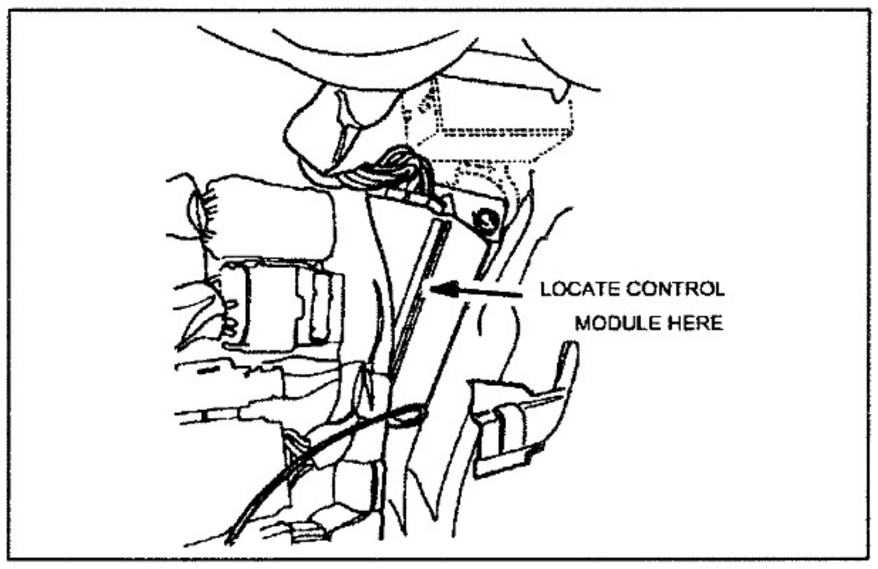


5. Location of keyless entry connector

Land Cruiser Prado RV, GXL, VX and GRANDE from 1999

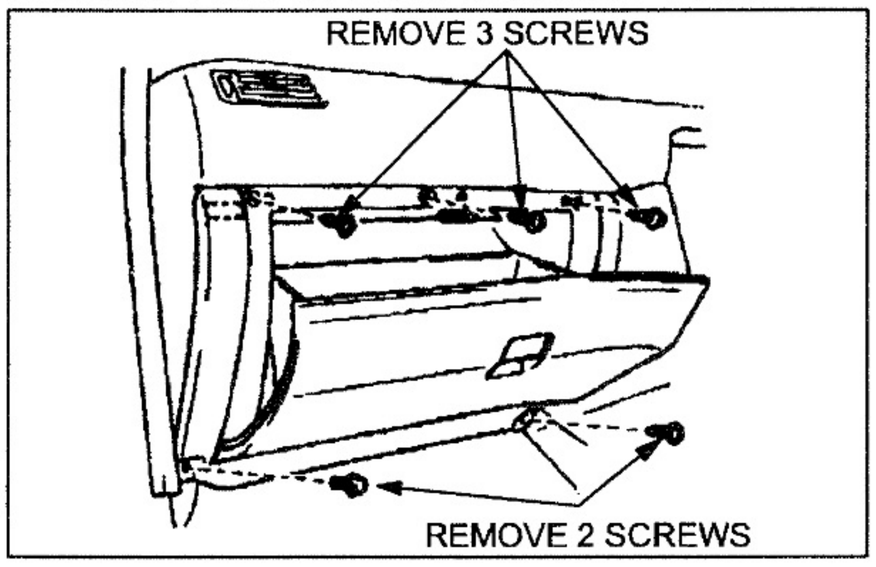


1. Remove the near side scuff plate and kick panel

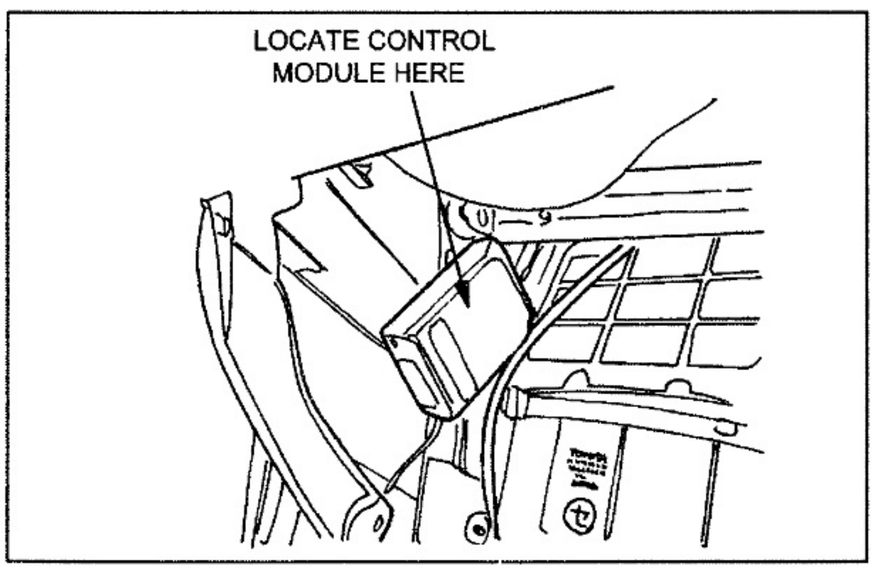


2. Location of the control module

Corolla AE112 from October 1999



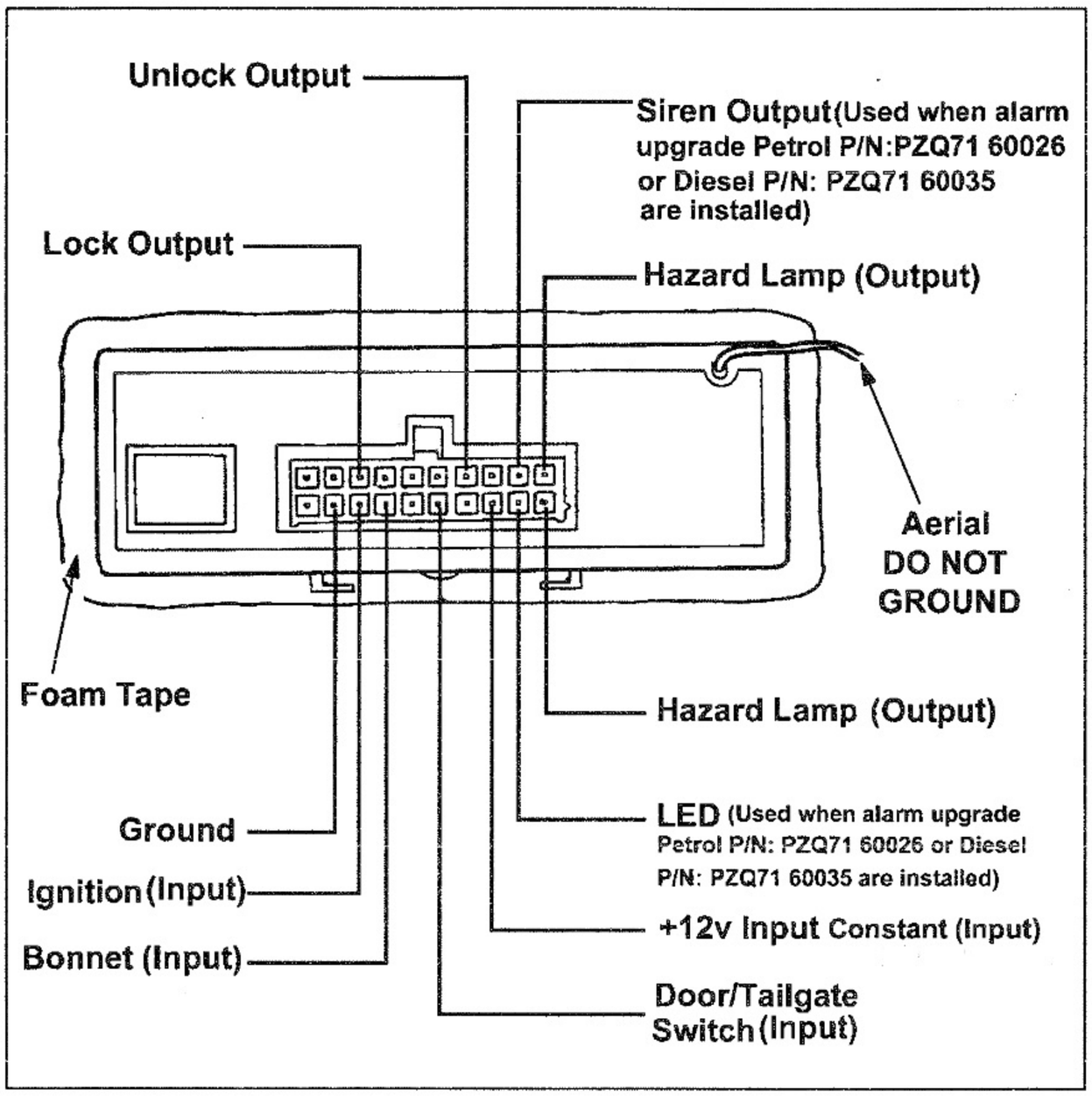
1. Remove the glovebox



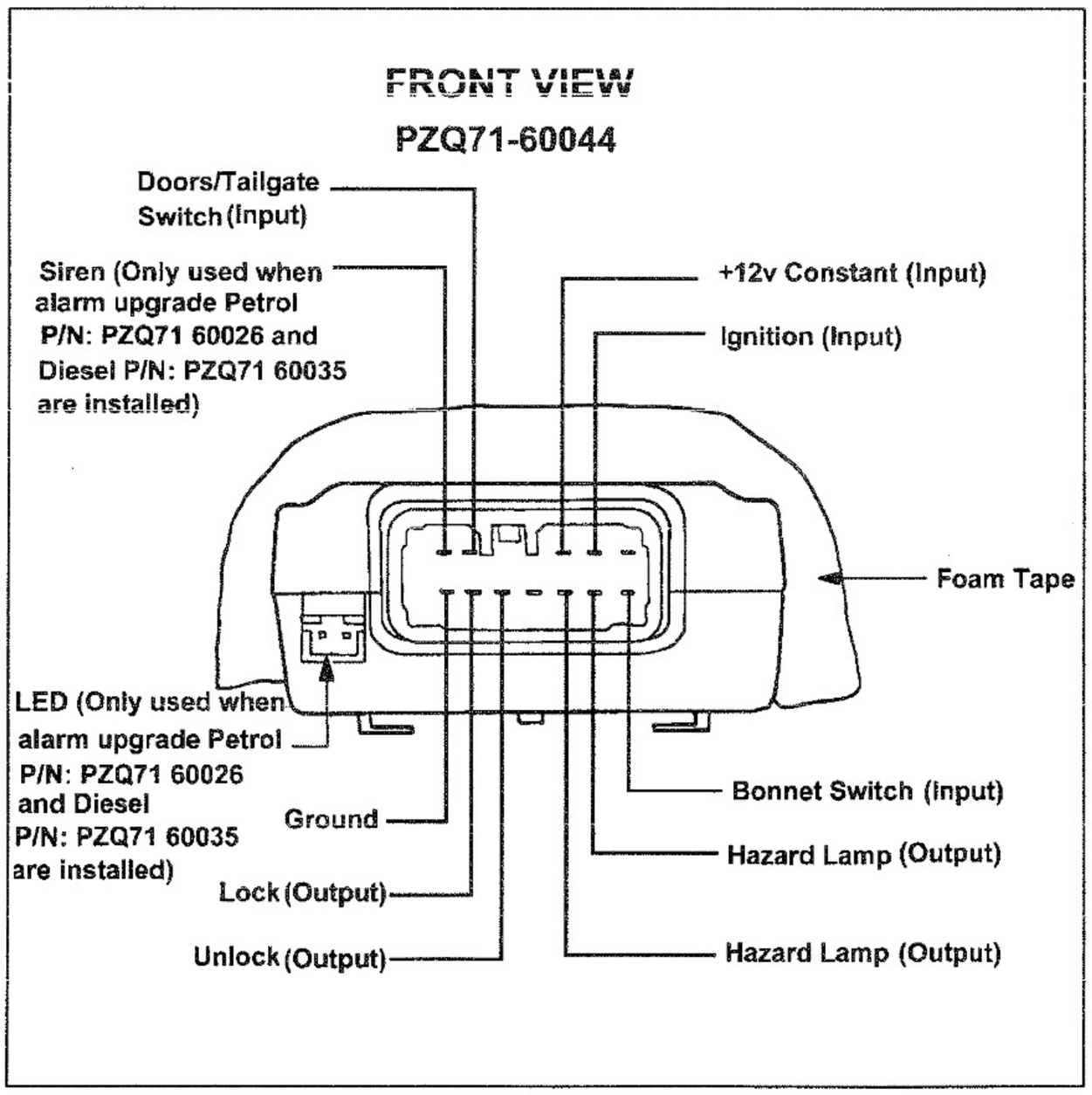
2. Location of the control module

Control Module Diagrams

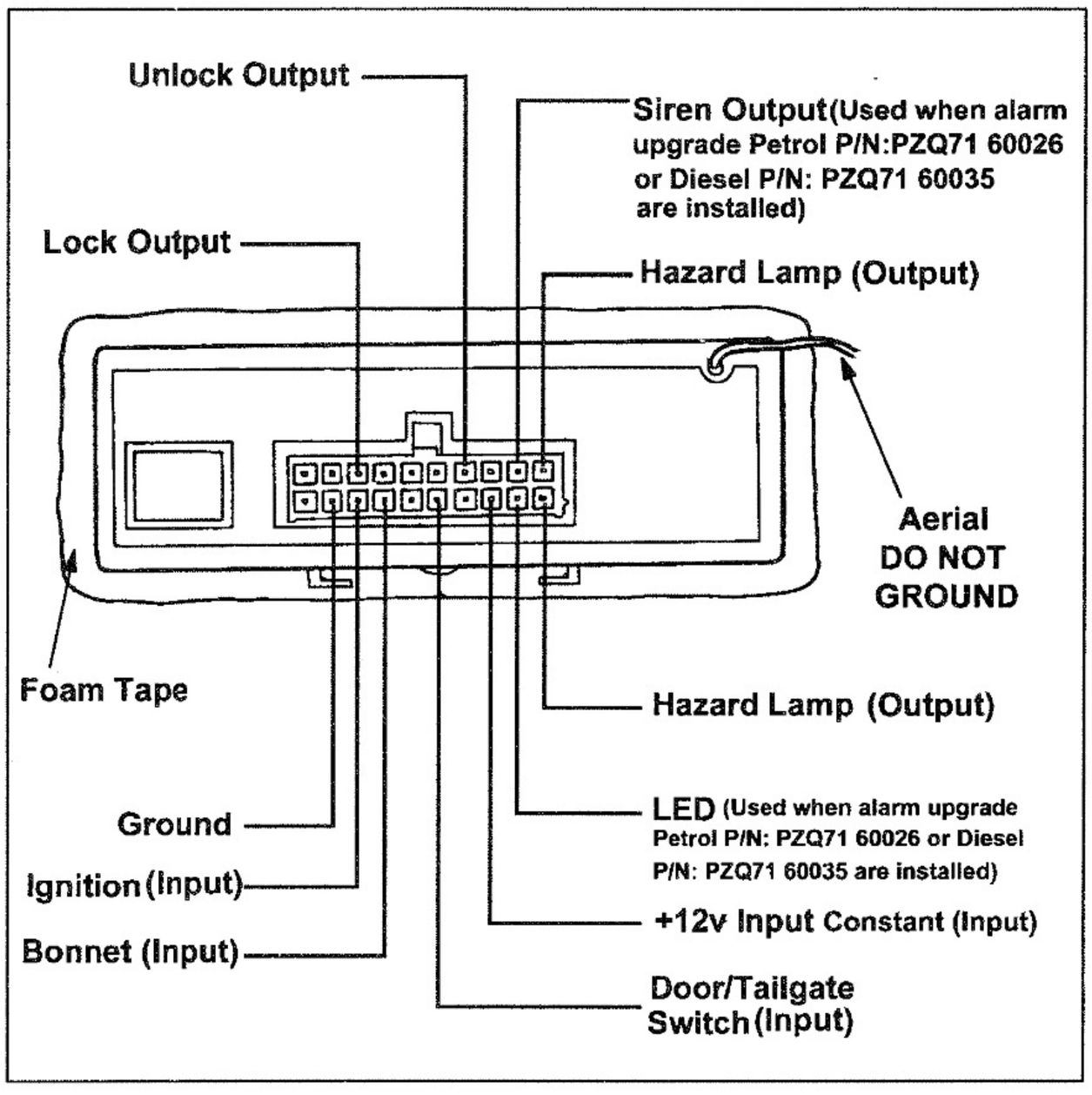
Land Cruiser 100 from January 1998 to June 1999 (P/N PZQ71-60014)



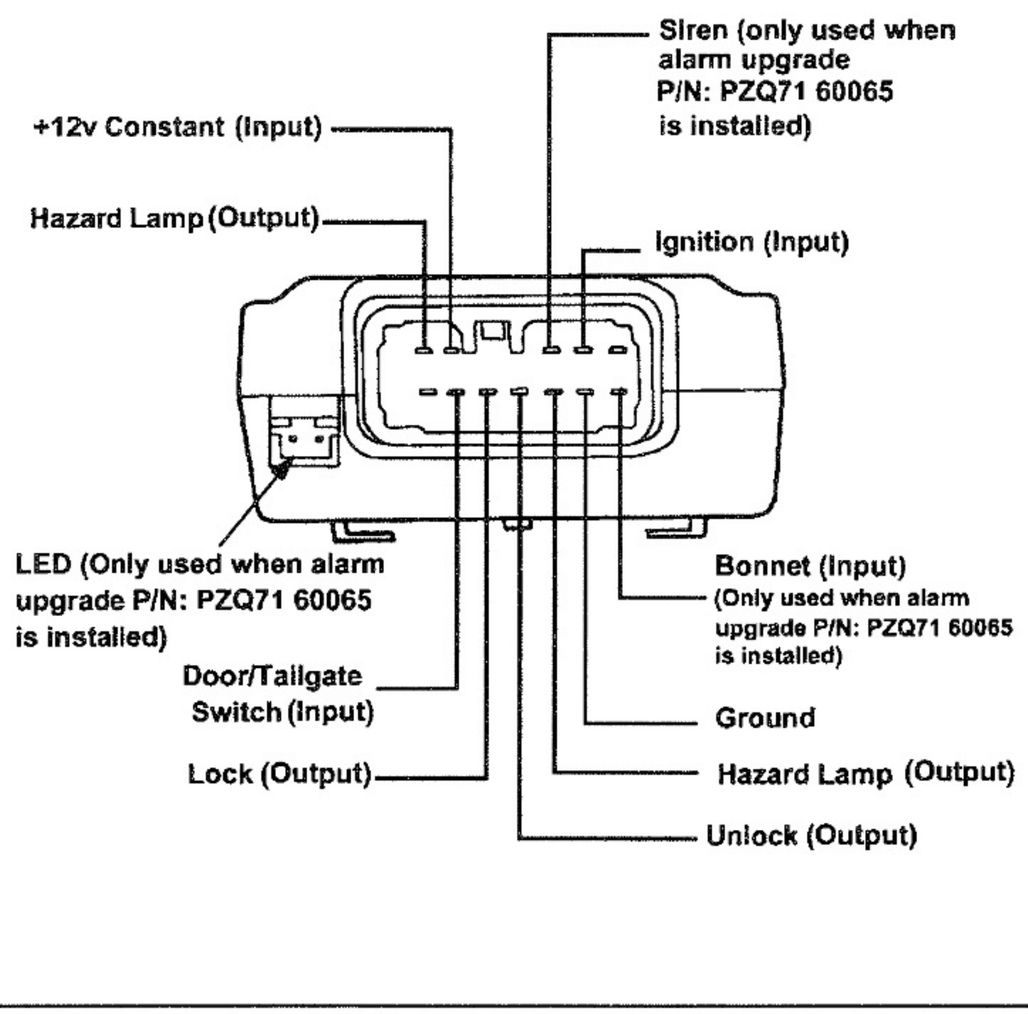
Land Cruiser 100 from July 1999 (P/N PZQ71-60044)



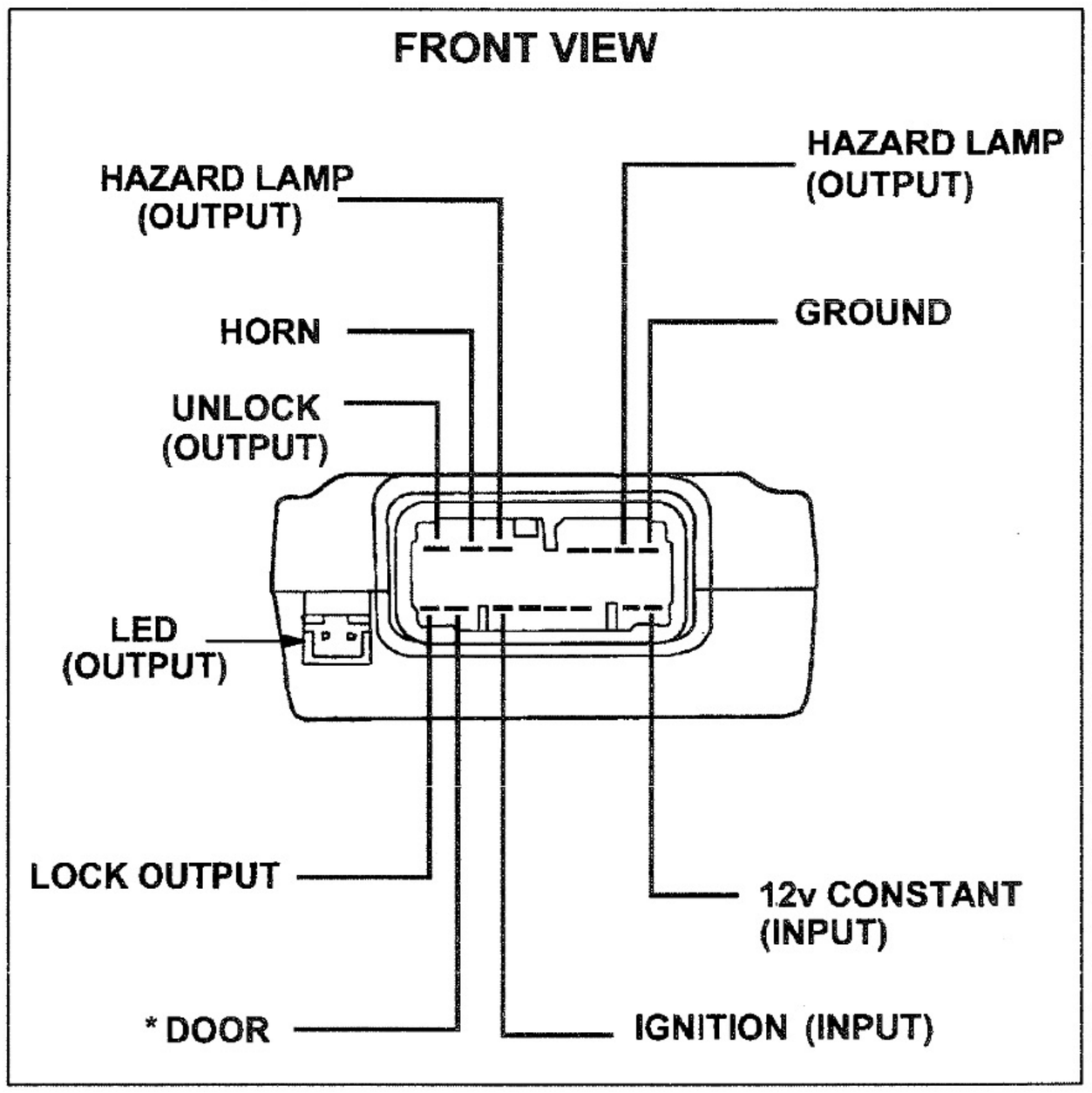
Land Cruiser Prado World Cup Limited Edition from April to June 1998 and Snowy from April to June 1999 (P/N PZQ71 60014)



Land Cruiser Prado from June 1999 (P/N PZQ71 60073)



Corolla AE112 from October 1999 (P/N PZQ71 12050



* 4 Doors on sedan.
5 doors on hatch.

100 Series AUG 02 ON PZQ71 1271

Part Number List

Land Cruiser 100 from January 1998 to June 1999

Part Number	Part Name
PZQ71 60010	Remote Central Locking Kit
PZQ71 60042	Transmitter
PZQ71 60012	Control Module Bracket
PZQ71 60013	Wiring Loom (For Remote Central Locking Kit)
PZQ71 60014	Control Module
PZQ71 60026	Alarm Upgrade Kit – Petrol Models
PZQ71 60035	Alarm Upgrade Kit – Diesel Models
PZQ71 60021	Battery Backup Siren (for Alarm Upgrade)
PZQ71 60022	Siren Bracket (for Alarm Upgrade)
PZQ71 60023	Alarm Wiring Harness (for Alarm Upgrade – Petrol)
PZQ71 60036	Alarm Wiring Harness (for Alarm Upgrade – Diesel)
PZQ71 60024	LED Wiring (for Alarm Upgrade)
PZQ71 60025	Installation Hardware Bag (for Alarm Upgrade)

Land Cruiser 100 from July 1999

Part Number	Part Name
PZQ71 60040	Remote Central Locking Kit
PZQ71 60042	Transmitter
PZQ71 60043	Mounting Bracket and Screw (for Control Module)
PZQ71 60044	Control Module
PZQ71 60026	Alarm Upgrade Kit – Petrol Models
PZQ71 60035	Alarm Upgrade Kit – Diesel Models
PZQ71 60021	Battery Backup Siren (for Alarm Upgrade)
PZQ71 60022	Siren Bracket (for Alarm Upgrade)
PZQ71 60023	Alarm Wiring Harness (for Alarm Upgrade – Petrol)
PZQ71 60036	Alarm Wiring Harness (for Alarm Upgrade – Diesel)
PZQ71 60024	LED Wiring (for Alarm Upgrade)
PZQ71 60025	Installation Hardware Bag (for Alarm Upgrade)

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Part Number List

Land Cruiser Prado World Cup Limited Edition from April to June 1998 and Snowy LE from April to June 1999

Part Number	Part Name
PZQ71 60050	Remote Central Locking Kit
PZQ71 60042	Transmitter
PZQ71 60072	Control Module Bracket
PZQ71 60014	Control Module

Land Cruiser Prado from June 1999

Part Number	Part Name
PZQ71 60070	Remote Central Locking Kit
PZQ71 60042	Transmitter
PZQ71 60072	Mounting Bracket and Screw (for Control Module)
PZQ71 60073	Control Module
PZQ71 60066	Wiring Harness (for Prado Alarm Upgrade)
PZQ71 60067	LED Loom for Alarm Upgrade
PZQ71 60068	Siren Bracket
PZQ71 60021	Battery Backup Siren (for Alarm Upgrade)
PZQ71 60065	Alarm Upgrade Kit

Corolla AE112 from October 1999

Part Number	Part Name
PZQ71 12040	Remote Central Locking Kit plus Alarm (TPZQ71 12040 for factory fit)
PZQ71 60042	Transmitter
PZQ71 12055	Control Module Bracket
PZQ71 12060	Wiring Loom
PZQ71 12050	Control Module