

TABLE OF CONTENTS

Volume 1

Volume 2

Precautions..... 00-i
 Precautions 00-1

General Information 0-i
 General Information 0A-1
 Maintenance and Lubrication 0B-1

Engine 1-i
 Precautions 1-1
 Engine General Information and Diagnosis 1A-1
 Aux. Emission Control Devices 1B-1
 Engine Electrical Devices 1C-1
 Engine Mechanical 1D-1
 Engine Lubrication System 1E-1
 Engine Cooling System 1F-1
 Fuel System 1G-1
 Ignition System 1H-1
 Starting System 1I-1
 Charging System 1J-1
 Exhaust System 1K-1

Suspension 2-i
 Precautions 2-1
 Suspension General Diagnosis 2A-1
 Front Suspension 2B-1
 Rear Suspension 2C-1
 Wheels and Tires 2D-1

Driveline / Axle 3-i
 Precautions 3-1
 Drive Shaft / Axle 3A-1
 Differential 3B-1
 Transfer 3C-1
 Propeller Shaft 3D-1

Brakes 4-i
 Precautions 4-1
 Brake Control System and Diagnosis 4A-1
 Front Brakes 4B-1
 Rear Brakes 4C-1
 Parking Brake 4D-1
 ABS 4E-1
 Electronic Stability Program 4F-1

Precautions..... 00-i
 Precautions 00-1

Transmission / Transaxle 5-i
 Precautions 5-1
 Automatic Transmission/Transaxle 5A-1
 Manual Transmission/Transaxle 5B-1
 Clutch 5C-1

Steering 6-i
 Precautions 6-1
 Steering General Diagnosis 6A-1
 Steering Wheel and Column 6B-1
 Power Assisted Steering System 6C-1

HVAC 7-i
 Precautions 7-1
 Heater and Ventilation 7A-1
 Air Conditioning System 7B-1

Restraint 8-i
 Precautions 8-1
 Seat Belts 8A-1
 Air Bag System 8B-1

Body, Cab and Accessories 9-i
 Precautions 9-1
 Wiring Systems 9A-1
 Lighting Systems 9B-1
 Instrumentation / Driver Info. / Horn 9C-1
 Wipers / Washers 9D-1
 Glass / Windows / Mirrors 9E-1
 Security and Locks 9F-1
 Seats 9G-1
 Interior Trim 9H-1
 Sun Roof / T-Top / Convertible Top 9I-1
 Hood / Fenders / Doors 9J-1
 Body Structure 9K-1
 Paint / Coatings 9L-1
 Exterior Trim 9M-1

Control Systems 10-i
 Precautions 10-1
 Cruise Control System 10A-1
 Body Electrical Control System 10B-1
 Immobilizer Control System 10C-1
 Keyless Start System 10E-1

Section 00

Precautions

CONTENTS

Precautions	00-1	Precautions for Electrical Circuit Service	00-9
Precautions	00-1	Precautions for Installing Mobile Communication Equipment	00-11
Precautions for Vehicles Equipped with a Supplemental Restraint (Air Bag) System	00-1	Air Bag Warning	00-11
General Precautions	00-4	Discharge Headlight Warning	00-11
Precaution in Servicing Full-Time 4WD Vehicle	00-7	A/C System Caution.....	00-12
Precaution for Vehicle Equipped with ESP® System	00-9	Fastener Caution.....	00-12
Precautions for Catalytic Converter (Petrol Engine Model).....	00-9	Suspension Caution	00-12
Precautions for Catalytic Converter and Diesel Particulate Filter (Diesel Engine Model)	00-9	Wheels and Tires Caution.....	00-12
Precaution for CAN Communication System	00-9	Brakes Caution and Note	00-13
		Differential Gear Oil Note	00-13
		Repair Instructions	00-13
		Electrical Circuit Inspection Procedure	00-13
		Intermittent and Poor Connection Inspection	00-16

Precautions

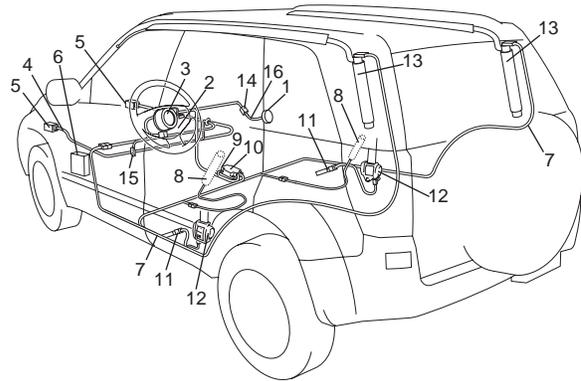
Precautions

Precautions for Vehicles Equipped with a Supplemental Restraint (Air Bag) System

S6JB0A0000001

▲ WARNING

- The configuration of air bag system parts are as shown in the figure. When it is necessary to service (remove, reinstall and inspect) these parts, be sure to follow procedures described in "Precautions on Service and Diagnosis of Air Bag System in Section 8B". Failure to follow proper procedures could result in possible air bag system activation, personal injury, damage to parts or air bag system being unable to activate when necessary.
- If the air bag system and another vehicle system both need repair, SUZUKI recommends that the air bag system be repaired first, to help avoid unintended air bag system activation.
- Do not modify the steering wheel, dashboard, or any other air bag system components.
Modifications can adversely affect air bag system performance and lead to injury.
- If the vehicle will be exposed to temperatures over 93 °C (200 °F) (for example, during a paint baking process), remove the air bag system components beforehand to avoid component damage or unintended air bag system activation.



15JB0A000003-02

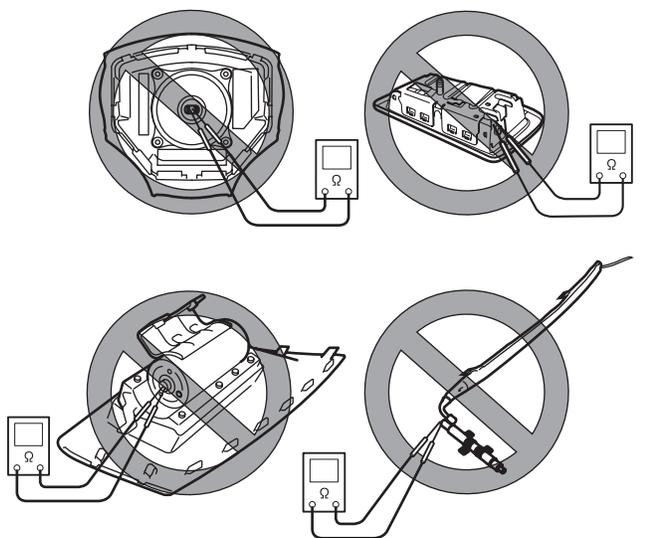
1. Passenger air bag (inflator) module	9. Ground for air bag system
2. Driver air bag (inflator) module	10. SDM
3. Contact coil assembly	11. Side-sensor (if equipped)
4. Air bag harness in main harness	12. Seat belt pretensioner
5. Forward-sensor	13. Side curtain-air bag (inflator) module (if equipped)
6. "A/B" fuse in junction block assembly	14. Air bag harness in instrument panel harness
7. Air bag harness in floor harness	15. "AIR BAG" monitor coupler (if equipped)
8. Side-air bag (inflator) module (if equipped)	16. Passenger air bag harness

Diagnosis

- When troubleshooting air bag system, be sure to follow "Air Bag Diagnostic System Check in Section 8B". Bypassing these procedures may result in extended diagnostic time, incorrect diagnosis, and incorrect parts replacement.
- Never use electrical test equipment other than that specified.

⚠ WARNING

Never attempt to measure the resistance of the air bag (inflator) modules (driver, passenger, side and curtain) and seat belt pretensioners (driver and passenger). It is very dangerous as the electric current from the tester may deploy the air bag or activate the pretensioners.



I5JB0A000001-02

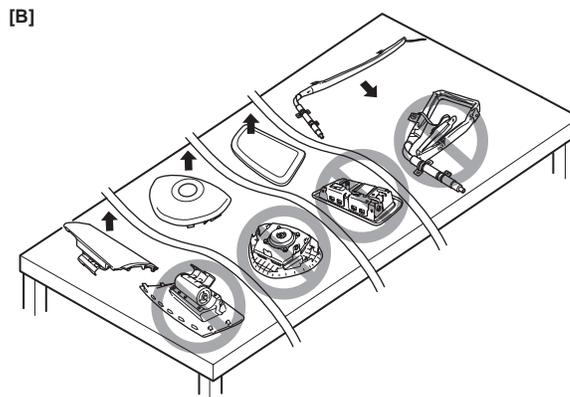
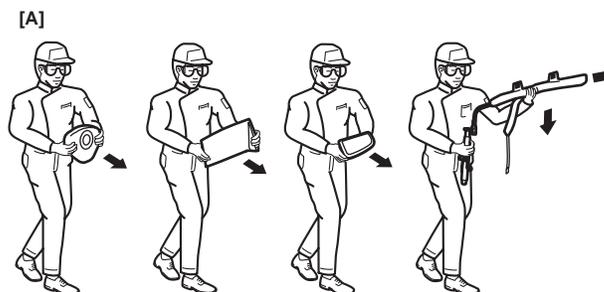
Servicing and Handling

⚠ WARNING

Many of service procedures require disconnection of "A/B" fuse and all air bag (inflator) module(s) from system circuit to avoid an accidental deployment.

Driver, Passenger, Side and Curtain Air Bag (Inflator) Modules

- For handling and storage of a live air bag (inflator) module, select a place where the ambient temperature below 65 °C (150 °F), without high humidity and away from electric noise.
- When carrying a live air bag (inflator) module, make sure the bag opening is pointed away from you. In case of an accidental deployment, the bag will then deploy with minimal chance of injury. Never carry the air bag (inflator) module by the wires or connector on the underside of the module. When placing a live air bag (inflator) module on a bench or other surface, always face the bag up, away from the surface. This is necessary so that a free space is provided to allow the air bag to expand in the unlikely event of accidental deployment. Otherwise, personal injury may result.



I5JB0A000002-02

[A]: Always carry air bag (inflator) module with trim cover (air bag opening) away from body.

[B]: Always place air bag (inflator) module on workbench with trim cover (air bag opening) up, away from loose objects.

00-3 Precautions:

- Never dispose of live (undeployed) air bag (inflator) modules (driver, passenger, side and curtain). If disposal is necessary, be sure to deploy them according to deployment procedures described in “Air Bag (Inflator) Module and Seat Belt Pretensioner Disposal in Section 8B”.
- The air bag (inflator) module immediately after deployment is very hot. Wait for at least half an hour to cool it off before proceeding the work.
- After an air bag (inflator) module has been deployed, the surface of the air bag may contain a powdery residue. This powder consists primarily of cornstarch (used to lubricate the bag as it inflates) and by-products of the chemical reaction. As with many service procedures, gloves and safety glasses should be worn.

▲ WARNING

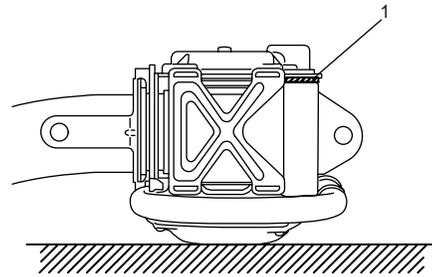
SDM

- During service procedures, be very careful when handling a Sensing and Diagnostic Module (SDM).
- Never strike or jar the SDM.
- Never power up the air bag system when the SDM is not rigidly attached to the vehicle. All SDM and mounting bracket fasteners must be carefully torqued and the arrow must be pointing toward the front of the vehicle to ensure proper operation of the air bag system. The SDM could be activated when powered while not rigidly attached to the vehicle which could cause deployment and result in personal injury.

▲ WARNING

Driver and Passenger Seat Belt Pretensioners

- For handling and storage of a live seat belt pretensioner, select a place where the ambient temperature below 65 °C (150 °F), without high humidity and away from electric noise.
- Never carry seat belt pretensioner by wire or connector of pretensioner. When placing a live seat belt pretensioner on the workbench or some place like that, be sure not to lay it with its exhaust hole (1) provided side facing down. It is also prohibited to put something on its face with an exhaust hole or to put a seat belt pretensioner on top of another. Otherwise, personal injury may result.
- Never dispose of live (inactivated) seat belt pretensioners (drive and passenger). If disposal is necessary, be sure to activate them according to activation procedures described in “Air Bag (Inflator) Module and Seat Belt Pretensioner Disposal in Section 8B” before disposal.
- The seat belt pretensioner immediately after activation is very hot. Wait for at least half an hour to cool it off before proceeding the work.
- With many service procedures, gloves and safety glasses should be worn to prevent any possible irritation of the skin or eyes.



I4JA01822118-01

⚠ CAUTION

- Even when the accident was light enough not to cause air bags to activate, be sure to inspect system parts and other related parts according to instructions under “Repair and Inspection Required after Accident in Section 8B”.
- When servicing parts other than air bag system, if shocks may be applied to air bag system component parts, remove those parts beforehand.
- When handling the air bag (inflator) modules (driver, passenger, side and curtain), forward sensors, side sensors or SDM, be careful not to drop it or apply an impact to it. If an excessive impact was applied (e.g., dropped from a height of 91.4 cm (3 feet) or more), never attempt disassembly or repair but replace it with a new one.
- When grease, cleaning agent, oil, water, etc. has got onto air bag (inflator) modules (driver, passenger, side and curtain), wipe off immediately with a dry cloth.
- Air bag wire harness is included in main harness, instrument panel harness, floor harness and seat harness. Air bag wire harness can be identified easily as the part of connector side wire harness is covered with a yellow protection tube and it has yellow connectors. Be very careful when handling it.
- When an open in air bag wire harness, damaged wire harness, connector or terminal is found, replace wire harness, connectors and terminals as an assembly.
- Do not apply power to the air bag system unless all components are connected or a diagnostic flow requests it, as this will set a DTC.
- Never use air bag system component parts from another vehicle.
- When using electric welding, be sure to temporarily disable air bag system referring to “Disabling Air Bag System in Section 8B”.
- Never expose air bag system component parts directly to hot air (drying or baking the vehicle after painting) or flames.
- WARNING / CAUTION labels are attached on each part of air bag system components. Be sure to follow the instructions.
- After vehicle is completely repaired, perform “Air Bag Diagnostic System Check in Section 8B”.

General Precautions

S6JB0A000002

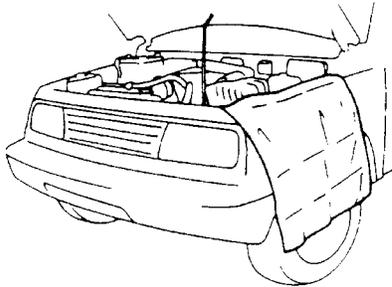
The WARNING and CAUTION describe some general precautions that you should observe when servicing a vehicle. These general precautions apply to many of the service procedures, and they will not necessarily be repeated with each procedure to which they apply.

⚠ WARNING

- Whenever raising a vehicle for service, be sure to follow the instructions under “Vehicle Lifting Points in Section 0A”.
- When it is necessary to do service work with the engine running, make sure that the parking brake is set fully and the transmission is in Neutral (for manual transmission vehicles) or Park (for automatic transmission vehicles), Keep hands, hair, clothing, tools, etc. away from the fan and belts when the engine is running.
- When it is necessary to run the engine indoors, make sure that the exhaust gas is forced outdoors.
- Do not perform service work in areas where combustible materials can come in contact with a hot exhaust system. When working with toxic or flammable materials (such as gasoline and refrigerant), make sure that the area you work in is well-ventilated.
- To avoid getting burned, keep away from hot metal parts such as the radiator, exhaust manifold, tail pipe, muffler, etc.
- New and used engine oil can be hazardous. Children and pets may be harmed by swallowing new or used oil. Keep new and used oil and used engine oil filters away from children and pets. Continuous contact with used engine oil has been found to cause [skin] cancer in laboratory animals. Brief contact with used oil may irritate skin. To minimize your exposure to used engine oil, wear a long-sleeve shirt and moisture-proof gloves (such as dish washing gloves) when changing engine oil. If engine oil contacts your skin, wash thoroughly with soap and water. Launder any clothing or rags if wet with oil, recycle or properly dispose of used oil and filters.
- Make sure the bonnet is fully closed and latched before driving. If it is not, it can fly up unexpectedly during driving, obstructing your view and resulting in an accident.

⚠ CAUTION

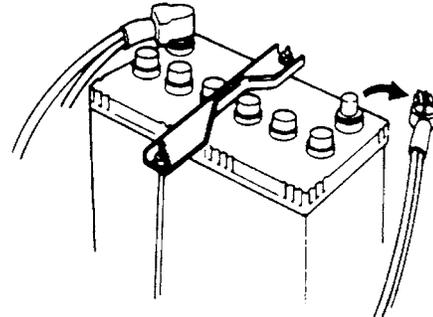
- Before starting any service work, cover fenders, seats and any other parts that are likely to get scratched or stained during servicing. Also, be aware that what you wear (e.g. buttons) may cause damage to the vehicle's finish.



IYSQ01010004-01

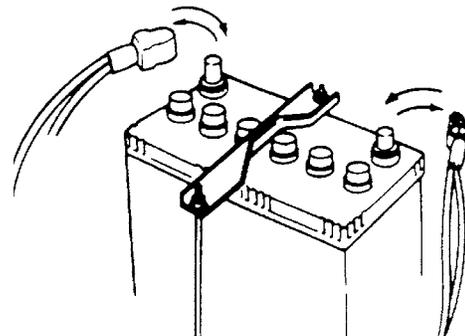
- When performing service to electrical parts that does not require use of battery power, disconnect the negative cable of the battery.
- When disconnecting the negative cable from the battery, be careful to the following.
 - Check and record DTCs in ECM, PS control module and/or immobilizer control module if necessary before disconnecting.
 - Record displayed contents of the clock and/or audio system, etc. before disconnecting and reset it as before after connecting.
 - For vehicle equipped with electric throttle body system, perform electric throttle body system calibration referring to “Electric Throttle Body System Calibration: For Petrol Engine Model in Section 1C” after reconnecting the negative cable to the battery.

- For vehicle equipped with power sliding roof (sunroof), initialize sliding roof position data in motor unit by performing “How to reactivate the system to prevent being pinched by the sunroof” in Sunroof section of Owner's manual.



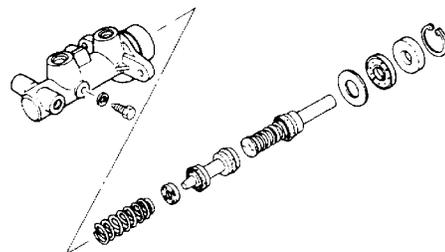
I2RH01010026-01

- When removing the battery, be sure to disconnect the negative cable first and then the positive cable. When reconnecting the battery, connect the positive cable first and then the negative cable, and replace the terminal cover.



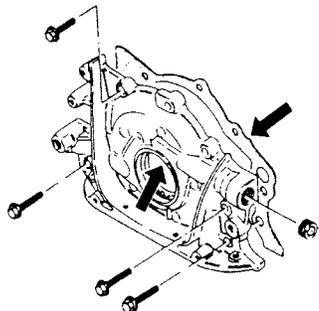
I2RH01010027-01

- When removing parts that are to be reused, be sure to keep them arranged in an orderly manner so that they may be reinstalled in the proper order and position.



I2RH01010028-01

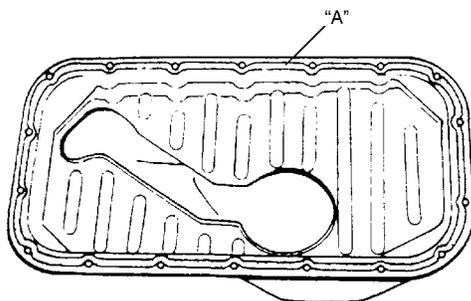
- Whenever you use oil seals, gaskets, packing, O-rings, locking washers, split pins, self-locking nuts, and certain other parts as specified, be sure to use new ones. Also, before installing new gaskets, packing, etc., be sure to remove any residual material from the mating surfaces.



I2RH01010029-01

- Make sure that all parts used in reassembly are perfectly clean.
- When use of a certain type of lubricant, bond or sealant is specified, be sure to remove the old one thoroughly and use the specified type.

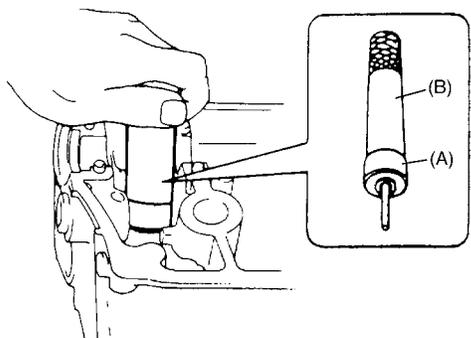
“A”: Sealant 99000-31150 (SUZUKI Bond No.1207C)



I2RH01010030-01

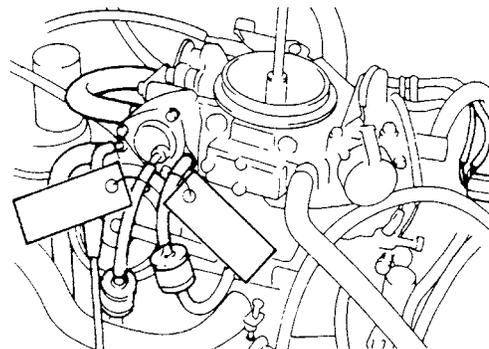
- Be sure to use special tools when instructed.

Special tool
 (A): 09917-98221
 (B): 09916-58210



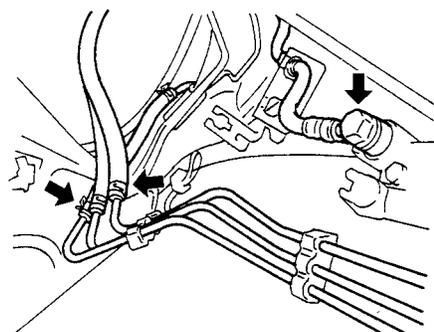
I2RH01010031-01

- When disconnecting vacuum hoses, attach a tag describing the correct installation positions so that the hoses can be reinstalled correctly.



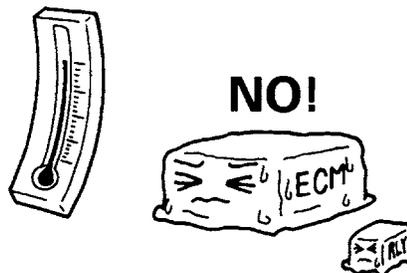
I2RH01010032-01

- After servicing fuel, oil, coolant, vacuum, exhaust or brake systems, check all lines related to the system for leaks.



I2RH01010033-01

- When servicing fuel system, be sure to observe WARNING in “Precautions on Fuel System Service: For Petrol Engine Model in Section 1G” or “Precautions on Fuel System Service: For Diesel Engine Model in Section 1G” to reduce the risk of fire and personal injury.
- When performing a work that produces a heat exceeding 80 °C in the vicinity of the electrical parts, remove the heat sensitive electrical part(s) beforehand.



I2RH01010034-01

00-7 Precautions:

- Use care not to expose connectors and electrical parts to water which will be a cause of a trouble.



I2RH01010035-01

- Always be careful not to handle electrical parts (computer, relay, etc.) in a rough manner or drop them.



I2RH01010036-01

Precaution in Servicing Full-Time 4WD Vehicle

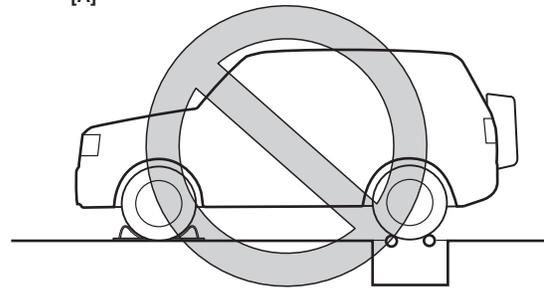
S6JB0A0000003

▲ WARNING

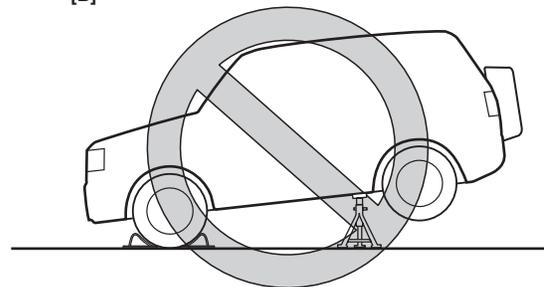
This full-time 4WD vehicle can not be converted to 2WD manually. Observe the following caution in servicing. Otherwise, front wheels drive rear wheels or vice-versa and vehicle accidents, drivetrain damage and personal injury may result.

- Never perform any of the following types of service work.
 - [A]: Testing with 2-wheel chassis dynamometer or speedometer tester (which tester roller is driven by vehicle wheels).
 - [B]: Driving front or rear wheels, which are jacked up.
 - [C]: Towing under the condition where either front or rear wheels can not rotate.

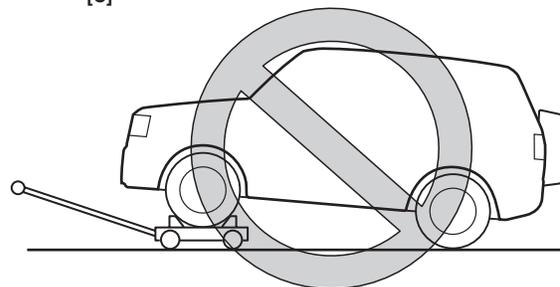
[A]



[B]



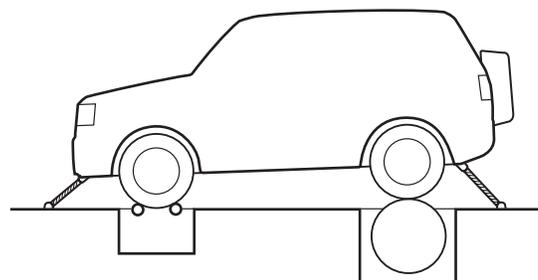
[C]



I5JB0A000004-02

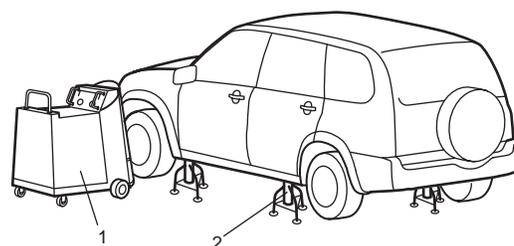
- When testing with 2-wheel brake tester, be sure to observe the following instructions. Otherwise, drive train damage and personal injury may result.
 - Shift transmission to N (Neutral) position.
 - Shift transfer to N (Neutral) position if transfer position is selectable.
 - Run engine at specified idle speed.
 - Rotate wheels (tires) by brake tester at vehicle speed below 5 km/h (3 mile/h).
 - Do not rotate wheels (tires) for 1 min. or more.
- When testing with 2-wheel speedometer tester (which wheels are driven by tester), be sure to observe the following instructions. Otherwise, drivetrain damage and personal injury may result.
 - Set rear wheels on tester roller and front wheels on free roller.
 - Shift transmission to N (Neutral) position.
 - Shift transfer to N (Neutral) position if transfer position is selectable.
 - Rotate wheels (tires) by tester at vehicle speed below 60 km/h (37 mile/h).
 - Do not rotate wheels (tires) for 1 min. or more.
 - Ensure that vehicle does not move using wire ropes or chains.
- When testing with 2-wheel chassis dynamometer, speedometer tester or brake tester, be sure to make the vehicle as rear wheel drive by removing front propeller shaft or as front wheel drive by removing rear propeller shaft, referring to “Transfer Warning: Motor-Shift Type (Transfer with Shift Actuator) in Section 3C” or “Transfer Warning: Non-Shift Type (Transfer without Shift Actuator) in Section 3C”.
Note that speedometer of vehicle does not display vehicle speed because rear wheel speed sensor signal is not output if rear propeller shaft is removed.

- When testing with 4-wheel free chassis dynamometer or speedometer tester (which tester roller is driven by vehicle wheels), be sure to shift transfer to 4H-Lock position according to the step 4) in “Transfer Warning: Motor-Shift Type (Transfer with Shift Actuator) in Section 3C”.



I5JB0A000006-01

- When using On-vehicle type wheel balancing equipment (1), be sure to jack up all for wheels, off the ground completely and support vehicle with safety stands (2). Be careful of the other wheels, which will rotate at the same time.



I5JB0A000005-02

⚠ CAUTION

- This vehicle should be towed under one of the following condition:
 - With all wheels on a flatbed truck.
 - With front or rear wheels lifted and a dolly under the other wheels.

Precaution for Vehicle Equipped with ESP® System

S6JB0A0000004

- When testing with any of the following equipments (when vehicle is tested by rotating wheels (tires) under vehicle stop), be sure to deactivate ESP® system referring to “Precautions in Speedometer Test or Other Tests in Section 4F” to obtain correct data. When vehicle acceleration is not sensed and wheels are rotating, ESP® control module judges that wheels are in slip condition and controls engine torque to reduce by TCS control.
 - 2 or 4-wheel chassis dynamometer
 - Speedometer tester
 - Brake tester
 - Etc.

ESP® control module

- When ESP® control module is removed / installed, do not use impact wrenches which generate shock or impact to avoid damaging sensors in ESP® control module.
- When any of the following operation is done, calibrate steering angle sensor, G sensor and master cylinder pressure sensor (in ESP® control module) referring to “Sensor Calibration in Section 4F”.
 - When battery or dome fuse is removed.
 - When steering angle sensor is replaced.
 - When ESP® control module is removed.
 - When yaw rate / G sensor assembly is removed.

Precautions for Catalytic Converter (Petrol Engine Model)

S6JB0A0000005

For vehicles equipped with a catalytic converter, use only unleaded gasoline and be careful not to let a large amount of unburned gasoline enter the converter or it can be damaged.

- Conduct a spark jump test only when necessary, make it as short as possible, and do not open the throttle.
- Conduct engine compression checks within the shortest possible time.
- Avoid situations which can result in engine misfire (e.g. starting the engine when the fuel tank is nearly empty.)

Precautions for Catalytic Converter and Diesel Particulate Filter (Diesel Engine Model)

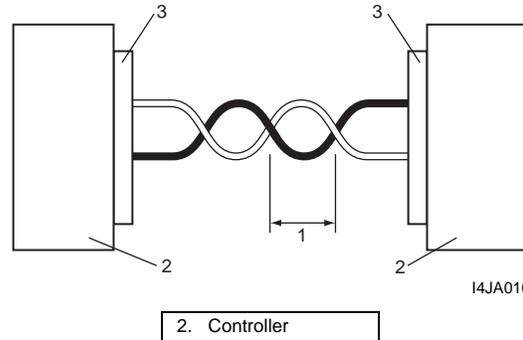
S6JB0A0000017

- Use only specified fuel and be careful not to let a large amount of unburned fuel enter the converter and filter or they can be damaged.
- Be careful not to expose catalytic converter and diesel particulate filter to excessive shock to avoid an damage to them.

Precaution for CAN Communication System

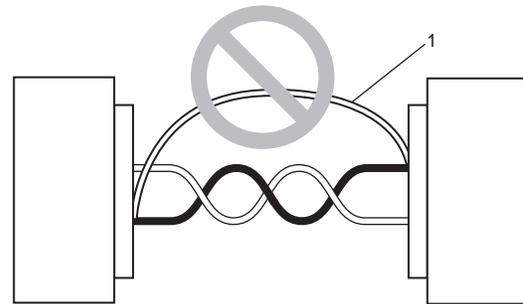
S6JB0A0000006

- The loose (1) in the wire harness twist of the CAN lines except around the connector (3) should be within 100 mm (3.9 in.). Refer to the wiring diagram for the CAN lines discrimination. Excessively-loosed lines may be influenced by the electric noise.



I4JA01000002-01

- Do not connect terminals of the CAN line using a bypass wire (1). Otherwise, the CAN line may be influenced by the electric noise.

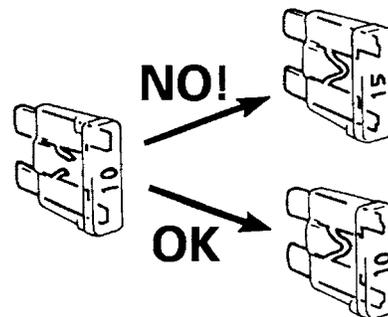


I4JA01000003-01

Precautions for Electrical Circuit Service

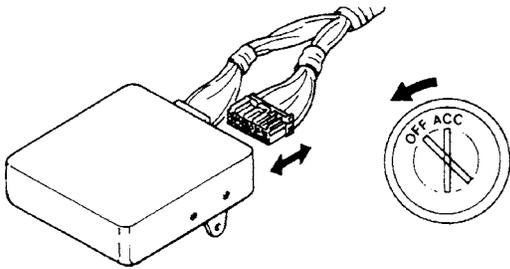
S6JB0A0000007

- When replacing a fuse, make sure to use a fuse of the specified capacity. Use of a fuse with a larger capacity will cause a damage to the electrical parts and a fire.



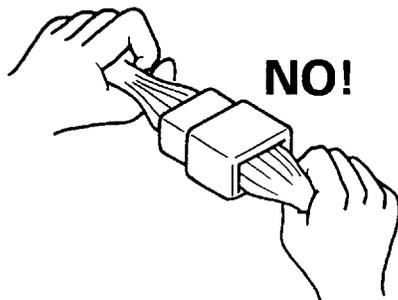
I2RH01010038-01

- When disconnecting and connecting coupler, make sure to turn ignition switch OFF, or electronic parts may get damaged.



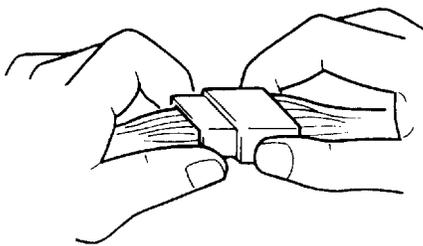
I2RH01010039-01

- When disconnecting connectors, never pull the wiring harness. Unlock the connector lock first and then pull them apart by holding connectors themselves.



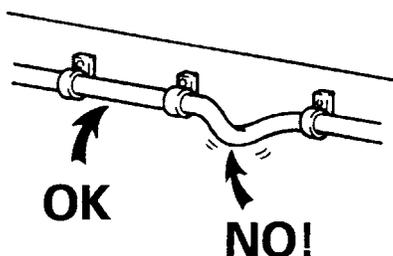
I2RH01010040-01

- When connecting connectors, also hold connectors and put them together until they lock securely (a click is heard).



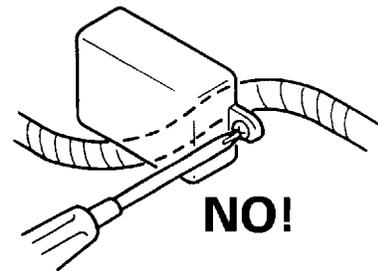
I2RH01010041-01

- When installing the wiring harness, fix it with clamps so that no slack is left.



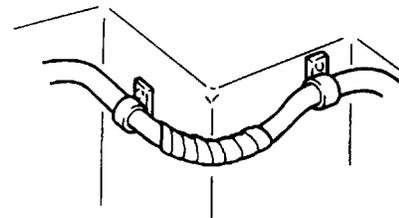
I2RH01010042-01

- When installing vehicle parts, be careful so that the wiring harness is not interfered with or caught by any other part.



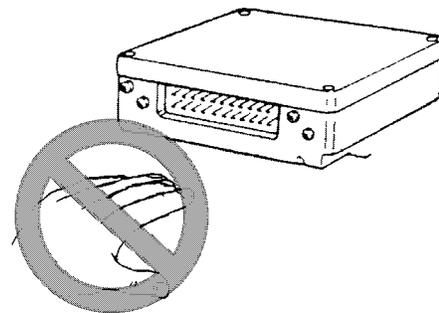
I2RH01010043-01

- To avoid damage to the harness, protect its part which may contact against a part forming a sharp angle by winding tape or the like around it.



I2RH01010044-01

- Be careful not to touch the electrical terminals of parts which use microcomputers (e.g. electronic control unit like as ECM, PCM, P/S controller, etc.). The static electricity from your body can damage these parts.

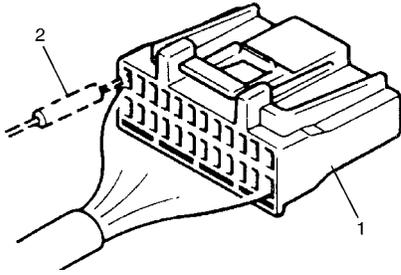


I3RM0A000004-01

- Never connect any tester (voltmeter, ohmmeter, or whatever) to electronic control unit when its coupler is disconnected. Attempt to do it may cause damage to it.
- Never connect an ohmmeter to electronic control unit with its coupler connected to it. Attempt to do it may cause damage to electronic control unit and sensors.
- Be sure to use a specified voltmeter / ohmmeter. Otherwise, accurate measurements may not be obtained or personal injury may result. If not specified, use a voltmeter with high impedance ($M \Omega/V$ minimum) or a digital type voltmeter.

00-11 Precautions:

- When taking measurements at electrical connectors using a tester probe, be sure to insert the probe (2) from the wire harness side (backside) of the connector (1).

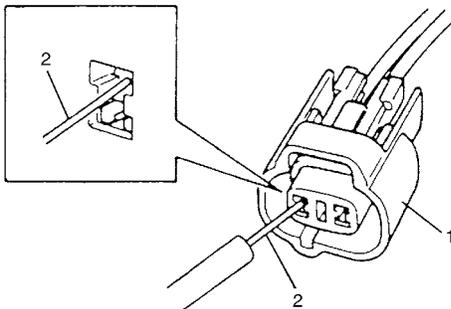


I2RH01010046-01

- When connecting meter probe (2) from terminal side of coupler (1) because it can't be connected from harness side, use extra care not to bend male terminal of coupler or force its female terminal open for connection.

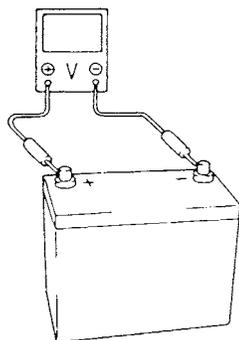
In case of such coupler as shown connect probe as shown to avoid opening female terminal.

Never connect probe where male terminal is supposed to fit.



I2RH01010047-01

- When checking connection of terminals, check its male half for bend and female half for excessive opening and both for locking (looseness), corrosion, dust, etc.
- Before measuring voltage at each terminal, check to make sure that battery voltage is 11 V or higher. Such terminal voltage check at low battery voltage will lead to erroneous diagnosis.



I2RH01010048-01

Precautions for Installing Mobile Communication Equipment

S6JB0A0000008

When installing mobile communication equipment such as CB (Citizens-Band)-radio or cellular-telephone, be sure to observe the following precautions. Failure to follow cautions may adversely affect electronic control system.

- Keep the antenna as far away as possible from the vehicle's electronic control unit.
- Keep the antenna feeder more than 20 cm (7.9 in.) away from electronic control unit and its wire harnesses.
- Do not run the antenna feeder parallel with other wire harnesses.
- Confirm that the antenna and feeder are correctly adjusted.

Air Bag Warning

S6JB0A0000009

▲ WARNING

For vehicles equipped with Supplemental Restraint (Air Bag) System:

- Service on and around the air bag system components or wiring must be performed only by an authorized SUZUKI dealer. Refer to "Air Bag System Components, Wiring and Connectors Location in Section 8B" in order to confirm whether you are performing service on or near the air bag system components or wiring. Please observe all "WARNING"s and "Precautions on Service and Diagnosis of Air Bag System in Section 8B" before performing service on or around the air bag system components or wiring. Failure to follow "WARNING"s could result in unintentional activation of the system or could render the system inoperative. Either of these two conditions may result in severe injury.
- Technical service work must be started at least 90 seconds after the ignition switch is turned to the "LOCK" position and the negative cable is disconnected from the battery. Otherwise, the system may be activated by reserve energy in the Sensing and Diagnostic Module (SDM).

Discharge Headlight Warning

S6JB0A0000010

▲ WARNING

When performing service on and around the discharge headlight, observe "Precautions for Discharge Headlight Service (If Equipped) in Section 9B". Neglecting the warnings may result in personal injury.

A/C System Caution

S6JB0A0000011

⚠ CAUTION

The air conditioning system of this vehicle uses refrigerant HFC-134a (R-134a). None of refrigerant, compressor oil and component parts is interchangeable between two types of A/C: one using refrigerant CFC-12 (R-12) and the other using refrigerant HFC-134a (R-134a).

Be sure to check which refrigerant is used before any service work including inspection and maintenance. For identification between these two types, refer to "A/C Refrigerant Type Description in Section 7B".

When replenishing or changing refrigerant and compressor oil and when replacing parts, make sure that the material or the part to be used is appropriate to the A/C installed in the vehicle being serviced.

Use of incorrect one will result in leakage of refrigerant, damage in parts or other faulty condition.

Fastener Caution

S6JB0A0000012

⚠ CAUTION

When fasteners are removed, always reinstall them at the same location from which they were removed. If a fastener needs to be replaced, use the correct part number fastener for that application. If the correct part number fastener is not available, a fastener of equal size and strength (or stronger) may be used. Fasteners that are not reused, and those requiring thread-locking compound, will be called out. The correct torque value must be used when installing fasteners that require it. If the above procedures are not followed, parts or system damage could result.

Suspension Caution

S6JB0A0000013

⚠ CAUTION

- All suspension fasteners are an important attaching part in that it could affect the performance of vital parts and systems, and/or could result in major repair expense. They must be replaced with one of the same part number or with an equivalent part if replacement becomes necessary. Do not use a replacement part of lesser quality or substitute design. Torque values must be used as specified during reassembly to assure proper retention of this part.
- Never attempt to heat, quench or straighten any suspension part. Replace it with a new part or damage to the part may result.

Wheels and Tires Caution

S6JB0A0000014

⚠ CAUTION

All wheel fasteners are important attaching parts in that they could affect the performance of vital parts and systems, and/or could result in major repair expense. They must be replaced with one of the same part number or with an equivalent part if replacement becomes necessary. Do not use a replacement part of lesser quality or substitute design. Torque values must be used as specified during reassembly to assure proper retention of all parts. There is to be no welding as it may result in extensive damage and weakening of the metal.

Brakes Caution and Note

S6JB0A0000015

⚠ CAUTION

All brake fasteners are important attaching parts in that they could affect the performance of vital parts and systems, and/or could result in major repair expense. They must be replaced with one of same part number or with an equivalent part if replacement becomes necessary. Do not use a replacement part of lesser quality or substitute design. Torque values must be used as specified during reassembly to assure proper retention of all parts. There is to be no welding as it may result in extensive damage and weakening of the metal.

NOTE

Before inspecting and servicing brakes for vehicle equipped with ABS (ESP®), make sure that ABS (ESP®) is in good condition.

Differential Gear Oil Note

S6JB0A0000016

NOTE

- When having driven through water, check immediately if water has entered (if so, oil is cloudy). Water mixed oil must be changed at once.
- Whenever vehicle is hoisted for any other service work than oil change, also be sure to check for oil leakage and status of breather hoses.

Repair Instructions

Electrical Circuit Inspection Procedure

S6JB0A0006001

While there are various electrical circuit inspection methods, described here is a general method to check its open and short circuit by using an ohmmeter and a voltmeter.

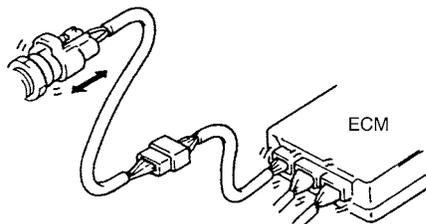
Open Circuit Check

Possible causes for the open circuit are as follows. As the cause is in the connector or terminal in many cases, they need to be checked particularly carefully.

- Loose connection of connector
- Poor contact of terminal (due to dirt, corrosion or rust on it, poor contact tension, entry of foreign object etc.)
- Wire harness being open

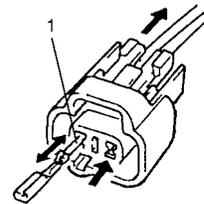
When checking system circuits including an electronic control unit such as ECM, TCM, ABS control module, etc., it is important to perform careful check, starting with items which are easier to check.

- 1) Disconnect negative cable from battery
- 2) Check each connector at both ends of the circuit being checked for loose connection. Also check lock condition of connector if equipped with connector lock.



I2RH01010049-01

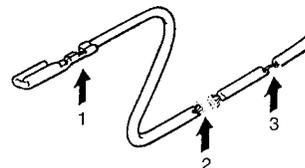
- 3) Using a test male terminal, check both terminals of the circuit being checked for contact tension of its female terminal. Check each terminal visually for poor contact (possibly caused by dirt, corrosion, rust entry of foreign object, etc.). At the same time, check to make sure that each terminal is locked in the connector fully.



I2RH01010050-01

1. Check contact tension by inserting and removing just for once.

- 4) Using continuity check or voltage check the following procedure, check the wire harness for open circuit and poor connection with its terminals. Locate abnormality, if any.

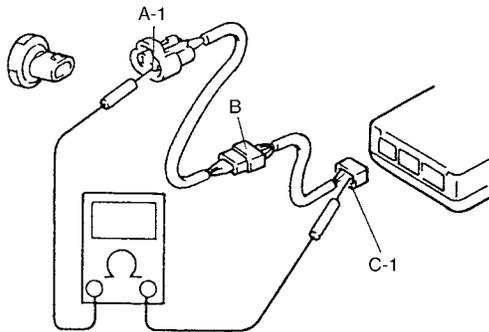


I2RH01010051-01

- | |
|--------------------------------------|
| 1. Looseness of crimping |
| 2. Open |
| 3. Thin wire (single strand of wire) |

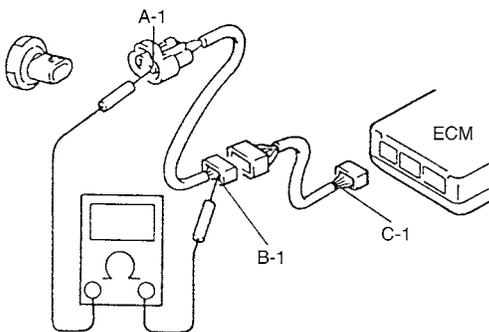
Continuity Check

- 1) Measure resistance between connector terminals at both ends of the circuit being checked (between "A-1" and "C-1" in the figure). If no continuity is indicated (infinity or over limit), that means that the circuit is open between terminals "A-1" and "C-1".



I2RH01010052-01

- 2) Disconnect the connector included in the circuit (connector-B in the figure) and measure resistance between terminals "A-1" and "B-1". If no continuity is indicated, that means that the circuit is open between terminals "A-1" and "B-1". If continuity is indicated, there is an open circuit between terminals "B-1" and "C-1" or an abnormality in connector-B.



I2RH01010053-01

Voltage Check

If voltage is supplied to the circuit being checked, voltage check can be used as circuit check.

- 1) With all connectors connected and voltage applied to the circuit being checked, measure voltage between each terminal and body ground.
 - a) If measurements were taken as shown in the figure and results were as listed in the following, it means that the circuit is open between terminals "B-1" and "A-1".

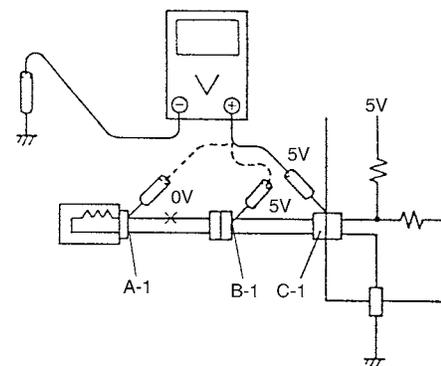
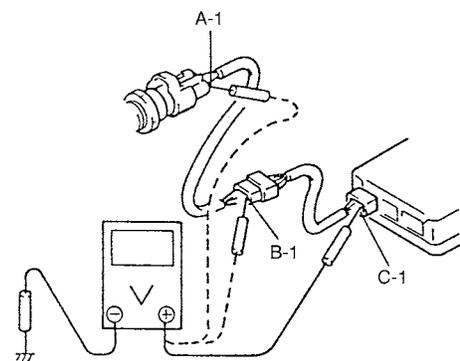
Voltage between each terminal and body ground

"C-1" and body ground: Approx. 5 V
 "B-1" and body ground: Approx. 5 V
 "A-1" and body ground: 0 V

- b) Also, if measured values were as listed in the following, it means that there is a resistance (abnormality) of such level that corresponds to the voltage drop in the circuit between terminals "A-1" and "B-1".

Voltage between

"C-1" and body ground: Approx. 5 V
 "B-1" and body ground: Approx. 5 V
 "A-1" and body ground: Approx. 3 V
 "A-1" and "B-1": 2V voltage drop



I5RH01000005-01

00-15 Precautions:

Short Circuit Check (Wire Harness to Ground)

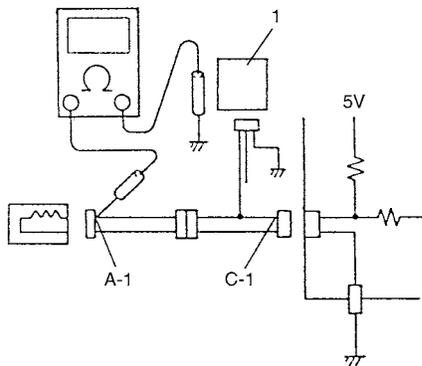
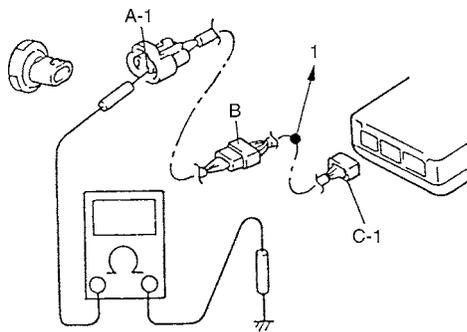
- 1) Disconnect negative cable at battery.
- 2) Disconnect connectors at both ends of the circuit to be checked.

NOTE

If the circuit to be checked is connected to other parts (1), disconnect all connectors of those parts.

Otherwise, diagnosis will be misled.

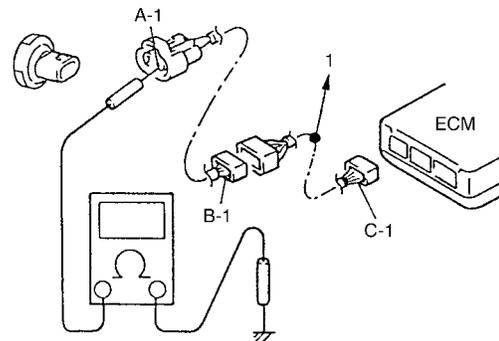
- 3) Measure resistance between terminal at one end of circuit ("A-1" terminal in the figure) and body ground. If continuity is indicated, it means that there is a short to ground between terminals "A-1" and "C-1" of the circuit.



I5RH01000006-01

1. To other parts

- 4) Disconnect the connector included in circuit (connector B) and measure resistance between "A-1" and body ground. If continuity is indicated, it means that the circuit is shorted to the ground between terminals "A-1" and "B-1".



I2RH01010056-01

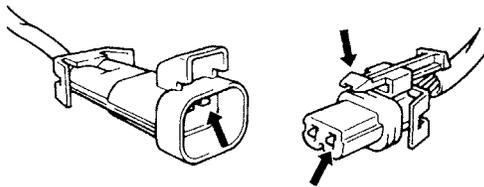
1. To other parts

Intermittent and Poor Connection Inspection

S6JB0A0006002

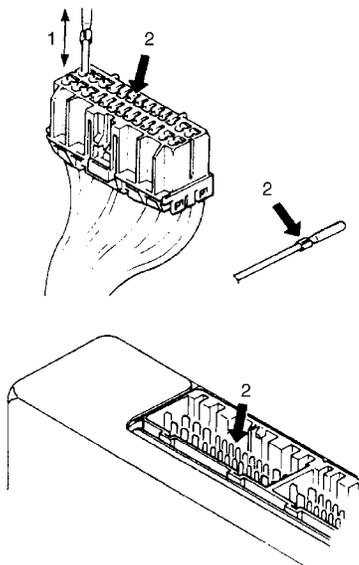
Most intermittent are caused by faulty electrical connections or wiring, although a sticking relay or solenoid can occasionally be at fault. When checking it for proper connection, perform careful check of suspect circuits for:

- Poor mating of connector halves, or terminals not fully seated in the connector body (backed out).
- Dirt or corrosion on the terminals. The terminals must be clean and free of any foreign material which could impede proper terminal contact. However, cleaning the terminal with a sand paper or the like is prohibited.
- Damaged connector body, exposing the terminals to moisture and dirt, as well as not maintaining proper terminal orientation with the component or mating connector.



I2RH01010057-01

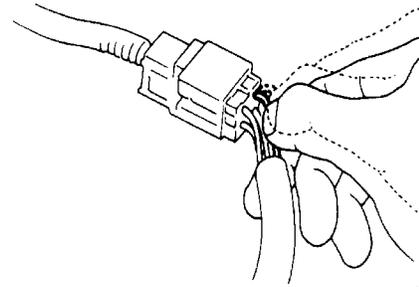
- Improperly formed or damaged terminals. Check each connector terminal in problem circuits carefully to ensure good contact tension by using the corresponding mating terminal. If contact tension is not enough, reform it to increase contact tension or replace.



I5RH01000007-01

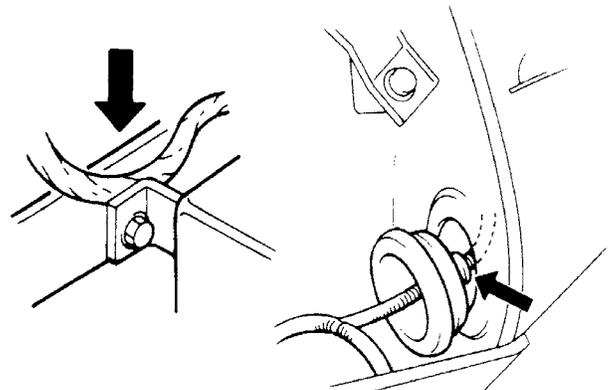
- | |
|--|
| <ol style="list-style-type: none"> 1. Check contact tension by inserting and removing just once. 2. Check each terminal for bend and proper alignment. |
|--|

- Poor terminal-to-wire connection. Check each wire harness in problem circuits for poor connection by shaking it by hand lightly. If any abnormal condition is found, repair or replace.



I2RH01010059-01

- Wire insulation which is rubbed through, causing an intermittent short as the bare area touches other wiring or parts of the vehicle.
- Wiring broken inside the insulation. This condition could cause continuity check to show a good circuit, but if only 1 or 2 strands of a multi-strand-type wire are intact, resistance could be far too high. If any abnormality is found, repair or replace.



I2RH01010060-01

Section 0

General Information

CONTENTS

General Information	0A-1	Air Cleaner Filter Replacement	0B-10
General Description	0A-1	Fuel Lines and Connections Inspection	0B-10
Abbreviations	0A-1	Fuel Filter Replacement (Petrol Engine Model)	0B-11
Symbols	0A-2	Fuel Filter Replacement (Diesel Engine Model)	0B-11
Wire Color Symbols	0A-3	Fuel Tank Inspection	0B-11
Fastener Information	0A-3	Crankcase Ventilation Hoses and Connections Inspection (Vehicle without A/F Sensor).....	0B-11
Vehicle Lifting Points.....	0A-6	PCV Valve Inspection	0B-11
Engine Supporting Points	0A-8	Fuel Evaporative Emission Control System Inspection.....	0B-11
Vehicle Identification Number	0A-8	Brake Discs and Pads Inspection	0B-11
Engine Identification Number.....	0A-9	Brake Drums and Shoes Inspection.....	0B-11
Transmission Identification Number.....	0A-9	Brake Hoses and Pipes Inspection	0B-12
Component Location	0A-10	Brake Fluid Change	0B-12
Warning, Caution and Information Label Location	0A-10	Parking Brake Lever and Cable Inspection.....	0B-12
Maintenance and Lubrication	0B-1	Clutch Fluid Inspection.....	0B-12
Precautions	0B-1	Tire / Wheel Inspection and Rotation	0B-13
Precautions for Maintenance and Lubrication.....	0B-1	Wheel Discs Inspection.....	0B-13
Scheduled Maintenance	0B-1	Wheel Bearing Inspection	0B-13
Maintenance Schedule under Normal Driving Conditions (Petrol Engine Model)	0B-1	Suspension System Inspection	0B-13
Maintenance Schedule under Normal Driving Conditions (Diesel Engine Model).....	0B-3	Steering System Inspection	0B-14
Maintenance Recommended under Severe Driving Conditions (Petrol Engine Model)	0B-4	Propeller Shafts and Drive Shafts Inspection....	0B-15
Maintenance Recommended under Severe Driving Conditions (Diesel Engine Model)	0B-5	Manual Transmission Oil Inspection	0B-15
Repair Instructions	0B-6	Manual Transmission Oil Change	0B-16
Engine Accessory Drive Belt Inspection (Petrol Engine Model)	0B-6	Automatic Transmission Fluid Inspection.....	0B-16
Engine Accessory Drive Belt Replacement (Petrol Engine Model)	0B-6	Automatic Transmission Fluid Change	0B-16
Engine Accessory Drive Belt, Tensioner and Idler Replacement (Diesel Engine Model)	0B-6	Automatic Transmission Fluid Cooler Hose Inspection.....	0B-16
Camshaft Timing Belt and Tensioner Replacement.....	0B-7	Transfer Oil Inspection (If Equipped)	0B-16
Valve Lash (Clearance) Inspection	0B-7	Differential Oil Inspection	0B-16
Engine Oil and Filter Change (Petrol Engine Model)	0B-7	Transfer (If Equipped) and Differential Oil Change.....	0B-17
Engine Oil and Filter Change (Diesel Engine Model)	0B-9	Power Steering (P/S) System Inspection	0B-17
Engine Coolant Change.....	0B-10	All Hinges, Latches and Locks Inspection.....	0B-18
Exhaust system Inspection	0B-10	HVAC Air Filter Inspection (If Equipped).....	0B-18
Spark Plugs Replacement	0B-10	HVAC Air Filter Replacement (If Equipped)	0B-18
Air Cleaner Filter Inspection.....	0B-10	Final Inspection for Maintenance Service	0B-18
		Specifications	0B-19
		Tightening Torque Specifications.....	0B-19
		Special Tools and Equipment	0B-20
		Recommended Fluids and Lubricants (Petrol Engine Model)	0B-20

0-ii Table of Contents

Recommended Fluids and Lubricants (Diesel
Engine Model)0B-20

Special Tool (Petrol Engine Model).....0B-20

General Information

General Description

Abbreviations

S6JB0A0101001

A:
ABDC: After Bottom Dead Center
ABS: Anti-lock Brake System
AC: Alternating Current
A/C: Air Conditioning
A-ELR: Automatic-Emergency Locking Retractor
A/F: Air Fuel Mixture Ratio
ALR: Automatic Locking Retractor
API: American Petroleum Institute
ATDC: After Top Dead Center
ATF: Automatic Transmission Fluid
A/T: Automatic Transmission
AWD: All Wheel Drive
B:
BBDC: Before Bottom Dead Center
BCM: Body Electrical Control Module
BDC: Bottom Dead Center
BTDC: Before Top Dead Center
B+: Battery Positive Voltage
C:
CAN: Controller Area Network
CKP Sensor: Crankshaft Position Sensor
CKT: Circuit
CMP Sensor: Camshaft Position Sensor
CO: Carbon Monoxide
CPP Switch: Clutch Pedal Position Switch (Clutch Switch, Clutch Start Switch)
CPU: Central Processing Unit
CRS: Child Restraint System
D:
DC: Direct Current
DLC: Data Link Connector (Assembly Line Diag. Link, ALDL, Serial Data Link, SDL)
DOHC: Double Over Head Camshaft
DOJ: Double Offset Joint
DRL: Daytime Running Light
DTC: Diagnostic Trouble Code (Diagnostic Code)

E:

EBCM: Electronic Brake Control Module, ABS Control Module
EBD: Electronic Brake Force Distribution
ECM: Engine Control Module
ECT Sensor: Engine Coolant Temperature Sensor (Water Temp. Sensor, WTS)
EFE Heater: Early Fuel Evaporation Heater (Positive Temperature Coefficient, PTC Heater)
EGR: Exhaust Gas Recirculation
EGRT Sensor: EGR Temperature Sensor (Recirculated Exhaust Gas Temp. Sensor, REGTS)
ELR: Emergency Locking Retractor
EPS: Electronic Power Steering
ESP®: Electronic Stability Program
EVAP: Evaporative Emission
EVAP Canister: Evaporative Emission Canister (Charcoal Canister)
F:
FWD: Front Wheel Drive
4WD: 4 Wheel Drive
G:
GEN: Generator
GND: Ground
H:
HC: Hydrocarbons
HO2S: Heated Oxygen Sensor
HVAC: Heating, Ventilating and Air Conditioning
I:
IAC Valve: Idle Air Control Valve (Idle Speed Control Solenoid Valve, ISC Solenoid Valve)
IAT Sensor: Intake Air Temperature Sensor (Air temperature Sensor, ATS)
ICM: Immobilizer Control Module
IG: Ignition
IMT: Intake Manifold Tuning
ISC Actuator: Idle Speed Control Actuator (Motor)
L:
LH: Left Hand
LSPV: Load Sensing Proportioning Valve

0A-2 General Information:

M:

MAF Sensor: Mass Air Flow Sensor (Air Flow Sensor, AFS, Air Flow Meter, AFM)

MAP Sensor: Manifold Absolute Pressure Sensor (Pressure Sensor, PS)

Max: Maximum

MFI: Multiport Fuel Injection (Multipoint Fuel Injection)

MIL: Malfunction Indicator Lamp ("SERVICE ENGINE SOON" Light)

Min: Minimum

M/T: Manual Transmission

N:

NOx: Nitrogen Oxides

O:

OBD: On-Board Diagnostic System (Self-Diagnosis Function)

OCM: Occupant Classification module

O/D: Overdrive

OHC: Over Head Camshaft

O2S: Oxygen Sensor

P:

PCM: Powertrain Control Module

PCV: Positive Crankcase Ventilation

PNP: Park / Neutral Position

PSP Switch: Power Steering Pressure Switch (P/S Pressure Switch)

P/S: Power Steering

R:

RH: Right Hand

S:

SAE: Society of Automotive Engineers

SDM: Sensing and Diagnostic Module (Air Bag Controller, Air bag Control Module)

SFI: Sequential Multiport Fuel Injection

SOHC: Single Over Head Camshaft

T:

TBI: Throttle Body Fuel Injection (Single-Point Fuel Injection, SPI)

TCC: Torque Converter Clutch

TCM: Transmission Control Module (A/T Controller, A/T Control Module)

TDC: Top Dead Center

TPMS: Tire Pressure Monitoring System

TP Sensor: Throttle Position Sensor

TVV: Thermal Vacuum Valve (Thermal Vacuum Switching Valve, TVSV, Bimetal Vacuum Switching Valve, BVSV)

TWC: Three Way Catalytic Converter (Three Way Catalyst)

2WD: 2 Wheel Drive

V:

VIN: Vehicle Identification Number

VSS: Vehicle Speed Sensor

VVT: Variable Valve Timing (Camshaft Position Control)

W:

WU-OC: Warm Up Oxidation Catalytic Converter

WU-TWC: Warm Up Three Way Catalytic Converter

Symbols

S6JB0A0101002

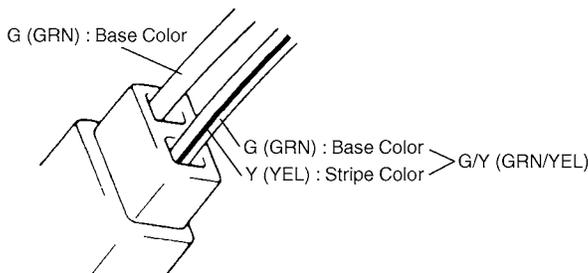
Symbol	Definition
	Tightening torque
	Apply oil (engine, transmission, transfer, differential)
	Apply fluid (brake, power steering, automatic fluid)
	Apply SUZUKI SUPER GREASE A 99000-25011
	Apply SUZUKI SUPER GREASE C 99000-25030
	Apply SUZUKI SUPER GREASE E 99000-25050
	Apply SUZUKI SUPER GREASE H 99000-25121
	Apply SUZUKI SUPER GREASE I 99000-25210
	Apply SUZUKI BOND NO. 1215 99000-31110
	Apply SUZUKI BOND NO. 1207F 99000-31250
	Apply SUZUKI BOND NO. 1217G 99000-31260
	Apply SUZUKI BOND NO. 1216B 99000-31230
	Apply SUZUKI SILICONE SEALANT 99000-31120
	Apply SUZUKI SEALING COMPOUND 366E 99000-31090
	Apply THREAD LOCK 1305 99000-32100
	Apply THREAD LOCK 1322 99000-32110
	Apply THREAD LOCK 1342 99000-32050
	Do not reuse.
	Note on reassembly.

Wire Color Symbols

S6JB0A0101003

Symbol	Wire Color
B	BLK
Bl	BLU
Br	BRN
G	GRN
Gr	GRY
Lbl	LT BLU
Lg	LT GRN
O, Or	ORN
R	RED
W	WHT
Y	YEL
P	PNK
V	PPL

There are two kinds of colored wire used in this vehicle. One is single-colored wire and the other is dual-colored (striped) wire. As the color symbol, the single-colored wire uses only one, three or five alphabets (i.e. "G" or "GRN"); the dual-colored wire uses two color symbols combination (i.e. "G/Y" or "GRN/YEL"). The first symbol represents the base color of the wire ("G" or "GRN" in the figure) and the second symbol represents the color of the stripe ("Y" or "YEL" in the figure).



I1SQ01010037-01

Fastener Information

S6JB0A0101004

Metric Fasteners

Most of the fasteners used for this vehicle are JIS-defined and ISO-defined metric fasteners. When replacing any fasteners, it is most important that replacement fasteners be the correct diameter, thread pitch and strength.

⚠ CAUTION

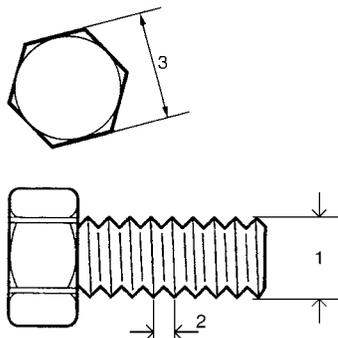
Even when the nominal diameter (1) of thread is the same, the thread pitch (2) or the width across flats (3) may vary between ISO and JIS. Refer to JIS-TO-ISO Main Fasteners Comparison Table below for the difference.

Installing a mismatched bolt or nut will cause damage to the thread.

Before installing, check the thread pitch for correct matching and then tighten it by hand temporarily. If it is tight, recheck the thread pitch.

JIS-TO-ISO Main Fasteners Comparison Table

		Nominal diameter				
		M6	M8	M10	M12	M14
JIS	Thread pitch	1.0	1.25	1.25	1.25	1.5
	Width across flats	10	12	14	17	19
ISO	Thread pitch	1.0	1.25	1.5	1.5	1.5
	Width across flats	10	13	16	18	21



I4RH0A010005-01

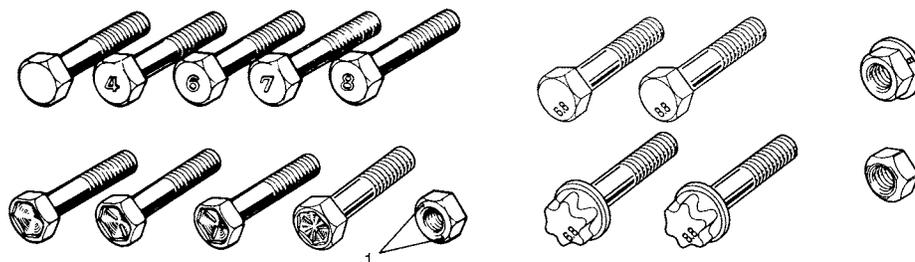
0A-4 General Information:

Fastener Strength Identification

Most commonly used metric fastener strength property classes are 4T, 6.8, 7T, 8.8 and radial line with the class identification embossed on the head of each bolt. Some metric nuts will be marked with punch, 6 or 8 mark strength identification on the nut face.

When replacing metric fasteners, be careful to use bolts and nuts of the same strength or greater than the original fasteners (the same number marking or higher). It is likewise important to select replacement fasteners of the correct diameter and thread pitch. Correct replacement bolts and nuts are available through the parts division.

Metric bolts: Identification class numbers or marks correspond to bolt strength (increasing numbers represent increasing strength).



1. Nut strength identification

IISQ01010003-01

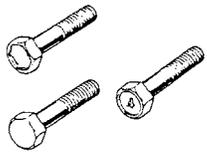
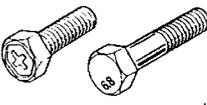
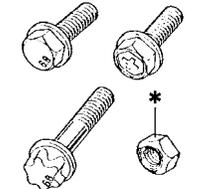
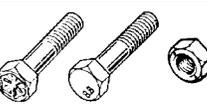
Standard Tightening Torque

Each fastener should be tightened to the torque specified in each section of this manual. If no description or specification is provided, refer to the following tightening torque chart for the applicable torque for each fastener. When a fastener of greater strength than the original one is used, however, use the torque specified for the original fastener.

NOTE

- For the flanged bolt, flanged nut and self-lock nut of 4T and 7T strength, add 10% to the tightening torque given in the following chart.
- The following chart is applicable only where the fastened parts are made of steel light alloy.

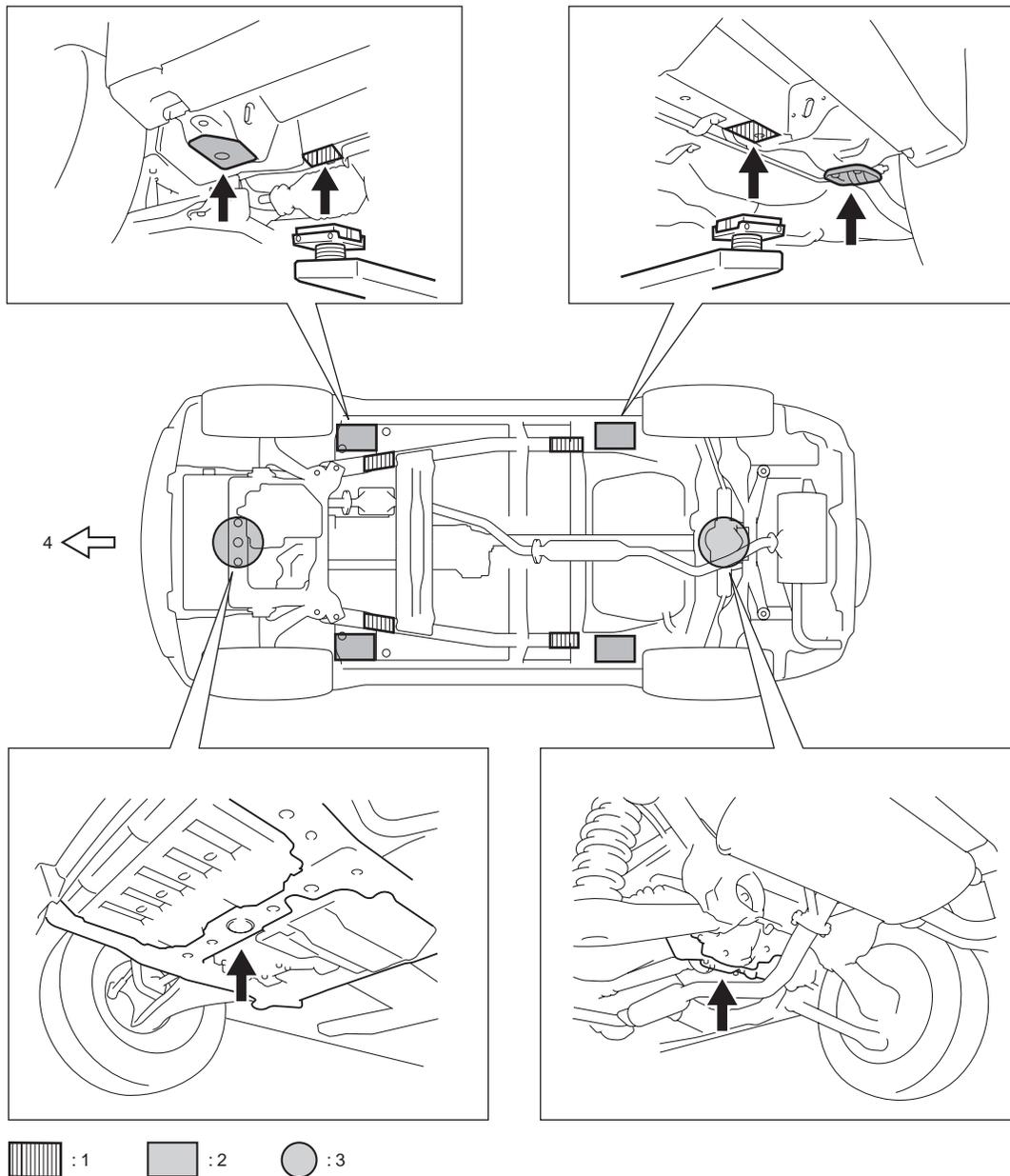
Tightening torque chart

Strength	Unit	Thread Diameter (Nominal Diameter) (mm)								
		4	5	6	8	10	12	14	16	18
A equivalent of 4T strength fastener										
 I1SQ01010004-01	N·m kgf-m lb-ft	1.5 0.15 1.0	3.0 0.30 2.5	5.5 0.55 4.0	13 1.3 9.5	29 2.9 21.0	45 4.5 32.5	65 6.5 47.0	105 10.5 76.0	160 16.0 116.0
A equivalent of 6.8 strength fastener without flange										
 I1SQ01010005-01	N·m kgf-m lb-ft	2.4 0.24 2.0	4.7 0.47 3.5	8.4 0.84 6.0	20 2.0 14.5	42 4.2 30.5	80 8.0 58.0	125 12.5 90.5	193 19.3 139.5	280 28.0 202.5
A equivalent of 6.8 strength fastener with flange *: Self-lock nut (6 strength)										
 I1SQ01010006-01	N·m kgf-m lb-ft	2.4 0.24 2.0	4.9 0.49 3.5	8.8 0.88 6.5	21 2.1 15.5	44 4.4 32.0	84 8.4 61.0	133 13.3 96.5	203 20.3 147.0	298 29.8 215.5
A equivalent of 7T strength fastener										
 I1SQ01010007-01	N·m kgf-m lb-ft	2.3 0.23 2.0	4.5 0.45 3.5	10 1.0 7.5	23 2.3 17.0	50 5.0 36.5	85 8.5 61.5	135 13.5 98.0	210 21 152.0	240 24 174.0
A equivalent of 8.8 strength bolt (8 strength nut) without flange										
 I1SQ01010008-01	N·m kgf-m lb-ft	3.1 0.31 2.5	6.3 0.63 4.5	11 1.1 8.0	27 2.7 19.5	56 5.6 40.5	105 10.5 76.0	168 16.8 121.5	258 25.8 187.0	373 37.3 270.0
A equivalent of 8.8 strength bolt (8 strength nut) with flange										
 I1SQ01010009-01	N·m kgf-m lb-ft	3.2 0.32 2.5	6.5 0.65 5.0	12 1.2 9.0	29 2.9 21.0	59 5.9 43.0	113 11.3 82.0	175 17.5 126.5	270 27 195.5	395 39.5 286.0

Vehicle Lifting Points

⚠ WARNING

- Before applying hoist to underbody, always take vehicle balance throughout service into consideration. Vehicle balance on hoist may change depending of what part to be removed.
- Before lifting up the vehicle, check to be sure that end of hoist arm is not in contact with brake pipe, fuel pipe, bracket or any other part.
- When using frame contact hoist, apply hoist as shown (right and left at the same position). Lift up the vehicle till 4 tires are a little off the ground and make sure that the vehicle will not fall off by trying to move vehicle body in both ways. Work can be started only after this confirmation.
- Make absolutely sure to lock hoist after vehicle is hoisted up.



I5JB0A010002-02

1. Support position for frame contact hoist (when engine assembly is not removed) and safety stand	3. Floor jack position
2. Support position for frame contact hoist (when engine assembly is removed)	4. Vehicle front

When using floor jack

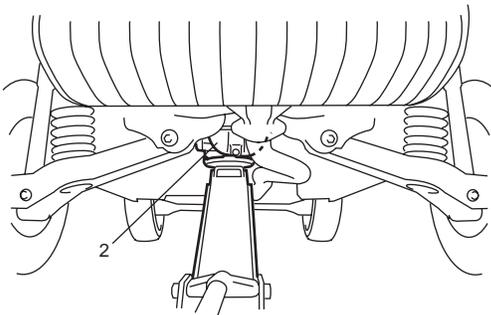
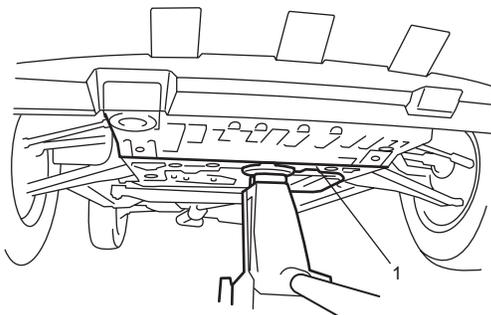
⚠ WARNING

- If the vehicle to be jacked up only at the front or rear end, be sure to block the wheels on ground in order to ensure safety.
After the vehicle is jacked up, be sure to support it on stands. It is extremely dangerous to do any work on the vehicle raised on jack alone.

⚠ CAUTION

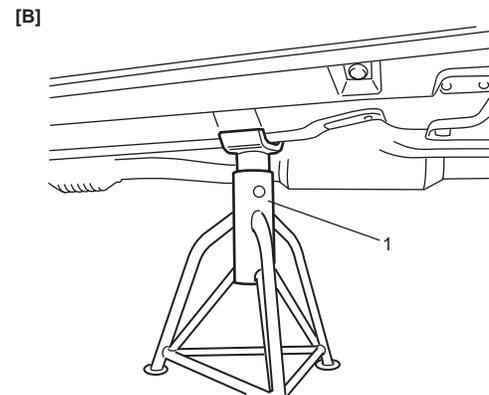
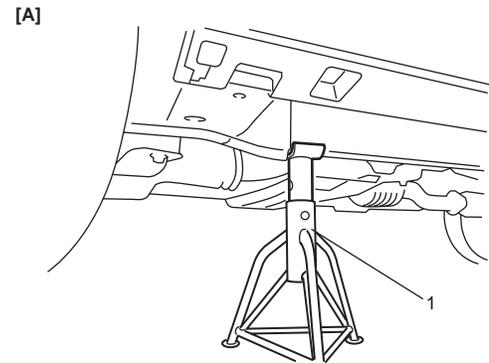
- Never apply jack against engine under cover, suspension parts (i.e., stabilizer, etc.) or vehicle floor, or it may get damaged.

In raising front or rear vehicle end off the floor by jacking, be sure to put the jack against the center portion of the front suspension frame (1) or rear differential (2).



I5JB0A010003-01

To perform service with either front or rear vehicle end jacked up, be sure to place safety stands (1) under chassis frame so that body is securely supported. And then check to ensure that chassis frame does not slide on safety stands (1) and the vehicle is held stable for safety's sake.



I5JB0A010004-02

[A]: Front

[B]: Rear

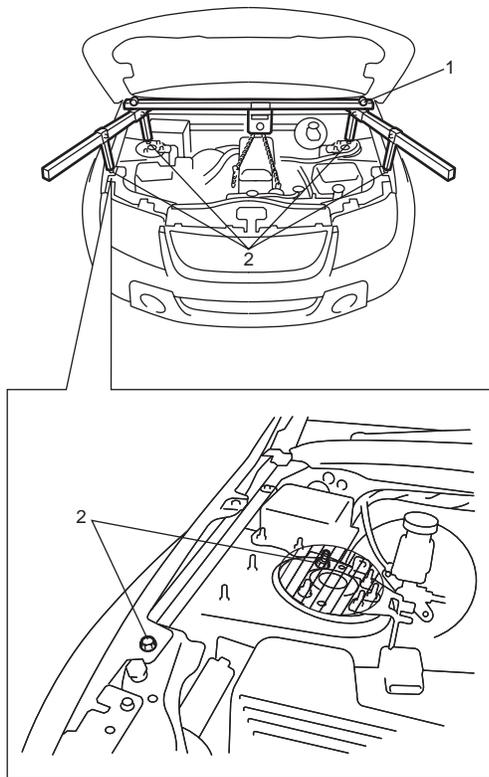
Engine Supporting Points

S6JB0A0101006

▲ WARNING

When using engine supporting device (1), be sure to observe the followings. Otherwise, not only deformation of vehicle body and/or engine hook but also personal injury may result.

- Apply supporting device at the specified positions (2) indicated in figure
- Install supporting device taking a well-balanced posture.
- Do not contact supporting device with other parts than specified positions and engine hooks.
- Do not remove engine rear mounting (transfer mounting) while supporting.
- Set support device so that side force applies to hook excessively. Excessive side force will deform hook.

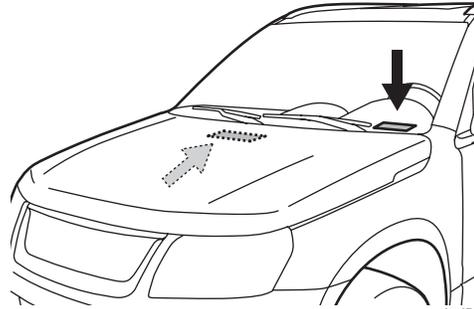


I5JB0A010005-02

Vehicle Identification Number

S6JB0A0101007

The vehicle identification number is punched on the front dash panel in engine room and it is also attached on the left front top of instrument panel depending on vehicle specification.

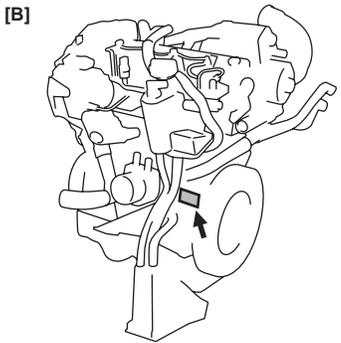
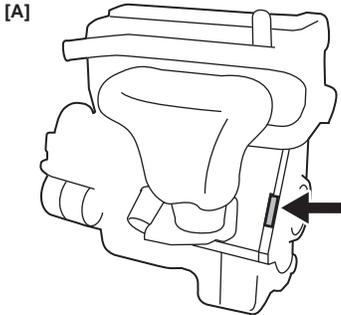


I5JB0A010001-02

Engine Identification Number

S6JB0A0101008

The number is punched on the cylinder block.



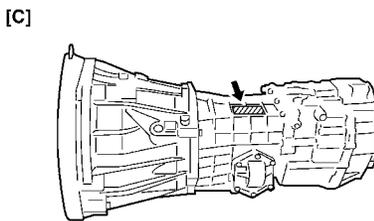
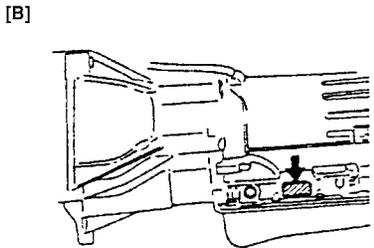
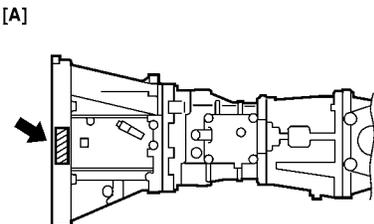
I6JB0A010001-01

[A]: Petrol engine model
[B]: Diesel engine model

Transmission Identification Number

S6JB0A0101009

The number is located on the transmission case.



I6JB0A010002-01

[A]: M/T (Petrol engine model)
[B]: 4A/T
[C]: M/T (Diesel engine model)

Component Location

Warning, Caution and Information Label Location

S6JB0A0103001

The figure shows main labels among others that are attached to vehicle component parts. When servicing and handling parts, refer to WARNING / CAUTION instructions printed on labels. If any WARNING / CAUTION label is found stained or damaged, clean or replace it as necessary.

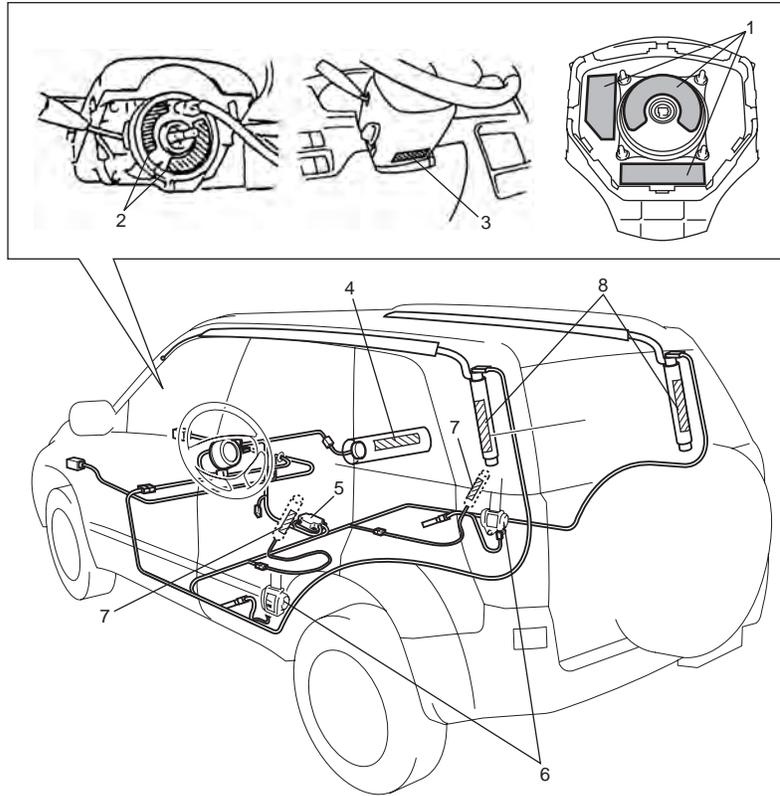
NOTE

Air bag labels are attached on the vehicle equipped with air bag system only.



I6JB0A010003-01

[A]: Petrol engine model	3. Degassing tank cap label	7. Jacking label
[B]: Diesel engine model	4. Engine cooling fan label	8. Parking (transfer) label (if equipped)
1. Smoke level label (diesel engine model)	5. Air bag label on sun visor	9. Side air bag label (Both RH and LH)
2. Radiator cap label	6. Air bag label and utility vehicle label on sun visor	10. Child seat label on instrument panel (if equipped)



I5JB0A010009-03

1. Air bag label on driver air bag (inflator) module	4. Air bag label on passenger air bag (inflator) module	7. Air bag label on side air bag module
2. Air bag label on contact coil assembly	5. Air bag label on SDM	8. Air bag label on curtain air bag module
3. Air bag label on steering column cover	6. Pretensioner label on seat belt pretensioner	

Maintenance and Lubrication

Precautions

Precautions for Maintenance and Lubrication

S6JB0A0200001

Air Bag Warning

Refer to "Air Bag Warning in Section 00".

Scheduled Maintenance

Maintenance Schedule under Normal Driving Conditions (Petrol Engine Model)

S6JB0A0205001

NOTE

- This interval should be judged by odometer reading or months, whichever comes first.
- This table includes service as scheduled up to 90,000 km (54,000 miles) mileage. Beyond 90,000 km (54,000 miles), carry out the same services at the same intervals respectively.

Interval	Km (x 1,000)								
	Miles (x 1,000)								
	15	30	45	60	75	90			
	9	18	27	36	45	54			
	12	24	36	48	60	72			
Engine									
Accessory drive belt (I: ☞, R: ☞)									
Valve lash (clearance) (I: ☞)									
Engine oil and oil filter (R: ☞)									
Engine coolant (R: ☞)									
Exhaust system (I: ☞)									
Ignition system									
*Spark plugs (R: ☞)	When unleaded fuel is used	Vehicle with A/F sensor	Nickel Plug	—	—	R	—	—	R
			Iridium Plug (Highly recommended)	Replace every 105,000 km (63,000 miles) or 84 months					
	When leaded fuel is used, refer to "Maintenance Recommended under Severe Driving Conditions (Petrol Engine Model)".	Vehicle without A/F sensor	Nickel Plug	—	R	—	R	—	R
			Iridium Plug	—	—	—	R	—	—
Fuel system									
Air cleaner filter (I: ☞, R: ☞)		Paved-road		I	I	R	I	I	R
		Dusty conditions		Refer to "Maintenance Recommended under Severe Driving Conditions (Petrol Engine Model)".					
Fuel lines and connections (I: ☞)									
Fuel filter (R: ☞)									
Fuel tank (I: ☞)									
Emission control system									
Crankcase ventilation hoses and connections (vehicle without A/F sensor) (I: ☞)									
*PCV valve (I: ☞)	Vehicle with A/F sensor		—	—	—	—	—	—	I
	Vehicle without A/F sensor		—	—	I	—	—	—	I
*Fuel evaporative emission control system (I: ☞)	Vehicle with A/F sensor		—	—	—	—	—	—	I
	Vehicle without A/F sensor		—	I	—	I	—	—	I
Brake									
Brake discs and pads (thickness, wear, damage) (I: ☞)									
Brake drums and shoes (wear, damage) (I: ☞)									
Brake hoses and pipes (leakage, damage, clamp) (I: ☞)									
Brake fluid (R: ☞)									
Brake lever and cable (damage, stroke, operation) (I: ☞)									
Inspect at first 15,000 km (9,000 miles only)									

Interval	Km (x 1,000)	15	30	45	60	75	90
	Miles (x 1,000)	9	18	27	36	45	54
	Months	12	24	36	48	60	72
Chassis and body							
Clutch (fluid leakage, level) (I: ☞)		—	I	—	I	—	I
Tires (wear, damage, rotation) / wheels (damage) (I: ☞ / ☞)		I	I	I	I	I	I
Suspension system (tightness, damage, rattle, breakage) (I: ☞)		—	I	—	I	—	I
Steering system (tightness, damage, breakage, rattle) (I: ☞)		—	I	—	I	—	I
Drive shaft (axle) boots / Propeller shafts (I: ☞)		—	—	I	—	—	I
Manual transmission oil (leakage, level) (I: ☞ 1st 15,000 km only) (R: ☞)		I	—	R	—	—	R
Automatic transmission fluid	Fluid level (I: ☞)	—	I	—	I	—	I
	Fluid change (R: ☞)	Replace every 165,000 km (99,000 miles)					
	Fluid hose (I: ☞)	—	—	—	I	—	—
Transfer oil (leakage, level) (I: ☞)		I	—	I	—	I	—
Differential oil (leakage, level) (R: ☞ 1st 15,000 km only) (I: ☞)		R or I	—	I	—	I	—
Power steering (if equipped) (I: ☞)		I	I	I	I	I	I
All latches, hinges and locks (I: ☞)		—	I	—	I	—	I
HVAC air filter (if equipped) (I: ☞) (R: ☞)		—	I	R	—	I	R

NOTE

- “R”: Replace or change
- “I”: Inspect and correct, replace or lubricate if necessary
- For Sweden, items with asterisk (*) should be performed by odometer reading only.
- For spark plugs, replace every 50,000 km if the local law requires.
- Nickel spark plug: BKR6E-11 (NGK) or K20PR-U11 (DENSO)
- Iridium spark plug: IFR6J11 (NGK) for M16 engine, IFR5J11 (NGK) for J20 engine