

GENERAL

CONTENTS

E01CA--

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00-2

NOTE

HOW TO USE THIS MANUAL

E01BAAV

SCOPE OF MAINTENANCE, REPAIR AND SERVICING EXPLANATIONS

This manual provides explanations, etc. concerning procedures for the inspection, maintenance, repair and servicing of the subject model. Note, however, that for engine and transmission-related component parts, this manual covers only on-vehicle inspections, adjustments, and the removal and installation procedures for major components. For detailed information concerning the inspection, checking, adjustment, disassembly and reassembly of the engine, transmission and major components after they have been removed from the vehicle, please refer to the separate manuals covering the engine and the transmission.

SERVICE ADJUSTMENT PROCEDURES

“Service adjustment procedures” are procedures for performing inspections and adjustments of particularly important locations with regard to the construction and for maintenance and servicing, but other inspections (for looseness, play, cracking, damage, etc.) must also be performed.

INSPECTION

Under this title are presented inspection and checking procedures to be performed by using special tools and measuring instruments and by feeling, but, for actual maintenance and servicing procedures, visual inspections should always be performed as well.

DEFINITION OF TERMS

STANDARD VALUE

Indicates the value used as the standard for judging the quality of a part or assembly on inspection or the value to which the part or assembly is corrected and adjusted. It is given by tolerance.

LIMIT

Shows the standard for judging the quality of a part or assembly on inspection and means the maximum or minimum value within which the part or assembly must be kept functionally or in strength. It is a value established outside the range of standard value.

REFERENCE VALUE

Indicates the adjustment value prior to starting the work (presented in order to facilitate assembly and adjustment procedures, and so they can be completed in a shorter time).

CAUTION

Indicates the presentation of information particularly vital to the worker during the performance of maintenance and servicing procedures in order to avoid the possibility of injury to the worker, or damage to component parts, or a reduction of component or vehicle function or performance, etc.

MODEL INDICATIONS

The following abbreviations are used in this manual for classification of model types.

3000: Indicates models equipped with the 3000 cc (6G72) petrol engine.

M/T: Indicates the manual transmission, or models equipped with the manual transmission.

A/T: Indicates the automatic transmission, or models equipped with the automatic transmission.

MPI: Indicates the multi-point injection, or engines equipped with the multi-point injection.


SOHC: Indicates an engine with the single overhead camshaft, or a model equipped with such an engine.

DOHC: Indicates an engine with the double overhead camshaft, or a model equipped with such an engine.

EXPLANATION OF MANUAL CONTENTS

Indicates procedures to be performed before the work in that section is started, and procedures to be performed after the work in that section is finished.

Maintenance and Servicing Procedures

- (1) A diagram of the component parts is provided near the front of each section in order to give the reader a better understanding of the installed condition of component parts.
- (2) The numbers provided within the diagram indicate the sequence for maintenance and servicing procedures; the symbol  indicates a nonreusable part; the tightening torque is provided where applicable.

- Removal steps:
The part designation number corresponds to the number in the illustration to indicate removal steps.
- Disassembly steps:
The part designation number corresponds to the number in the illustration to indicate disassembly steps.
- Installation steps:
Specified in case installation is impossible in reverse order of removal steps. Omitted if installation is possible in reverse order of removal steps.
- Reassembly steps:
Specified in case reassembly is impossible in reverse order of disassembly steps. Omitted if reassembly is possible in reverse order of disassembly steps.

Classifications of Major Maintenance/Service Points






When there are major points relative to maintenance and servicing procedures (such as essential maintenance and service points, maintenance and service standard values, information regarding the use of special tools, etc.), these are arranged together as major maintenance and service points and explained in detail.

- ◄►: Indicates that there are essential points for removal or disassembly.
- : Indicates that there are essential points for installation or reassembly.

Indicates (by symbols) where lubrication is necessary. In this example, multipurpose grease is to be applied (where indicated) to the steering gear box.

Symbols for Lubrication, Sealants and Adhesives

Information concerning the locations for lubrication and for application of sealants and adhesives is provided, by using symbols, in the diagram of component parts or on the page following the component parts page, and explained.

- : Grease (multipurpose grease unless there is a brand or type specified)
- : Sealant or adhesive
- : Brake fluid or automatic transmission fluid
- : Engine oil, gear oil or air conditioner compressor oil
- : Adhesive tape or butyl rubber tape

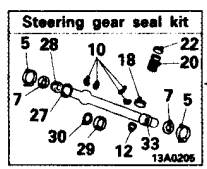
Indicates the group number. Indicates the page number. Indicates the group title. Indicates the section title.

This information is applicable for vehicles destined for Europe. This information is also applicable to vehicles (with specifications for Europe) that are shipped to General Export destinations.

37-24 STEERING – Power Steering Gear Box
POWER STEERING GEAR BOX <VEHICLES FOR EUROPE>

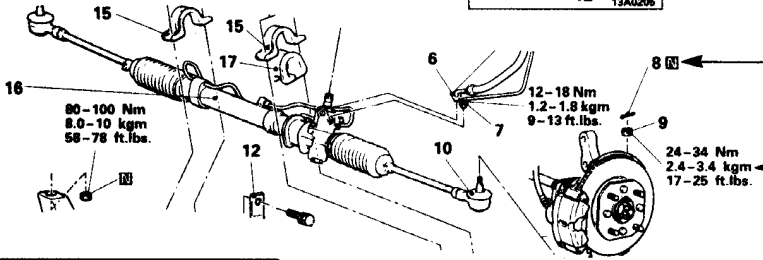
REMOVAL AND INSTALLATION

Pre-removal Operation
 • Draining of the Power Steering Fluid
 • Removal of the Air Cleaner <Vehicles with a Carburettor>



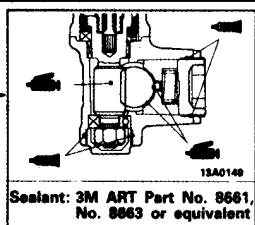
Repair kit or set parts are shown. (Only very frequently used parts are shown.)

<2WD>



Denotes non-reusable part.

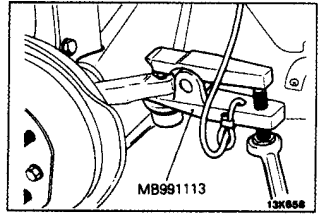
Denotes tightening torque.



Sealant: 3M ART Part No. 8661, No. 8663 or equivalent

- Removal steps**
1. Dust cover mounting bolts
 5. Connection for joint assembly and gear box
 6. Flare nut of return hose
 7. Flare nut of pressure hose assembly
 8. Split pins
 9. Tie-rod end and knuckle connecting nuts
 10. Tie-rod end ball joints
 11. Crossmember support bracket

Operating procedures, cautions, etc. on removal, installation, disassembly and reassembly are described.



SERVICE POINTS OF REMOVAL

5. DISCONNECTION OF JOINT ASSEMBLY AND GEAR BOX

Before disconnecting the joint assembly from the gear box, loosen the steering column assembly mounting bolts.

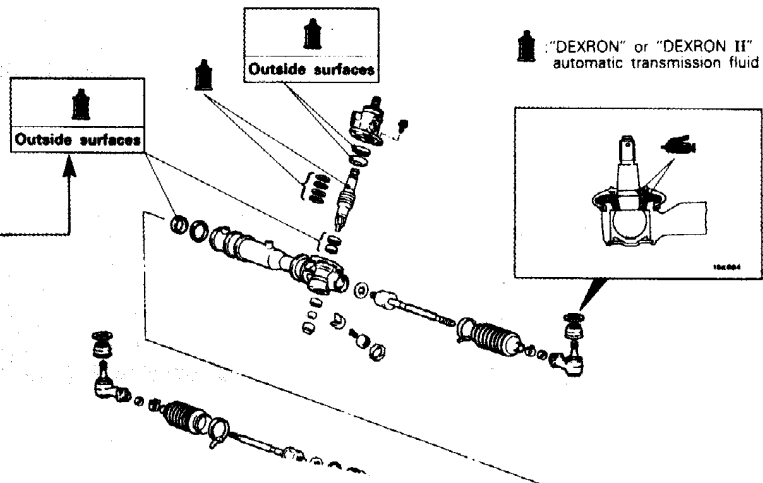
10. REMOVAL OF TIE-ROD END BALL JOINTS

Caution
 To prevent the special tool from jumping out, secure it by cord to a nearby part.

This number corresponds to the number appearing in "Removal steps", "Disassembly steps", "Installation steps" or "Reassembly steps".

37-28 STEERING – Power Steering Gear Box

LUBRICATION AND SEALING POINTS



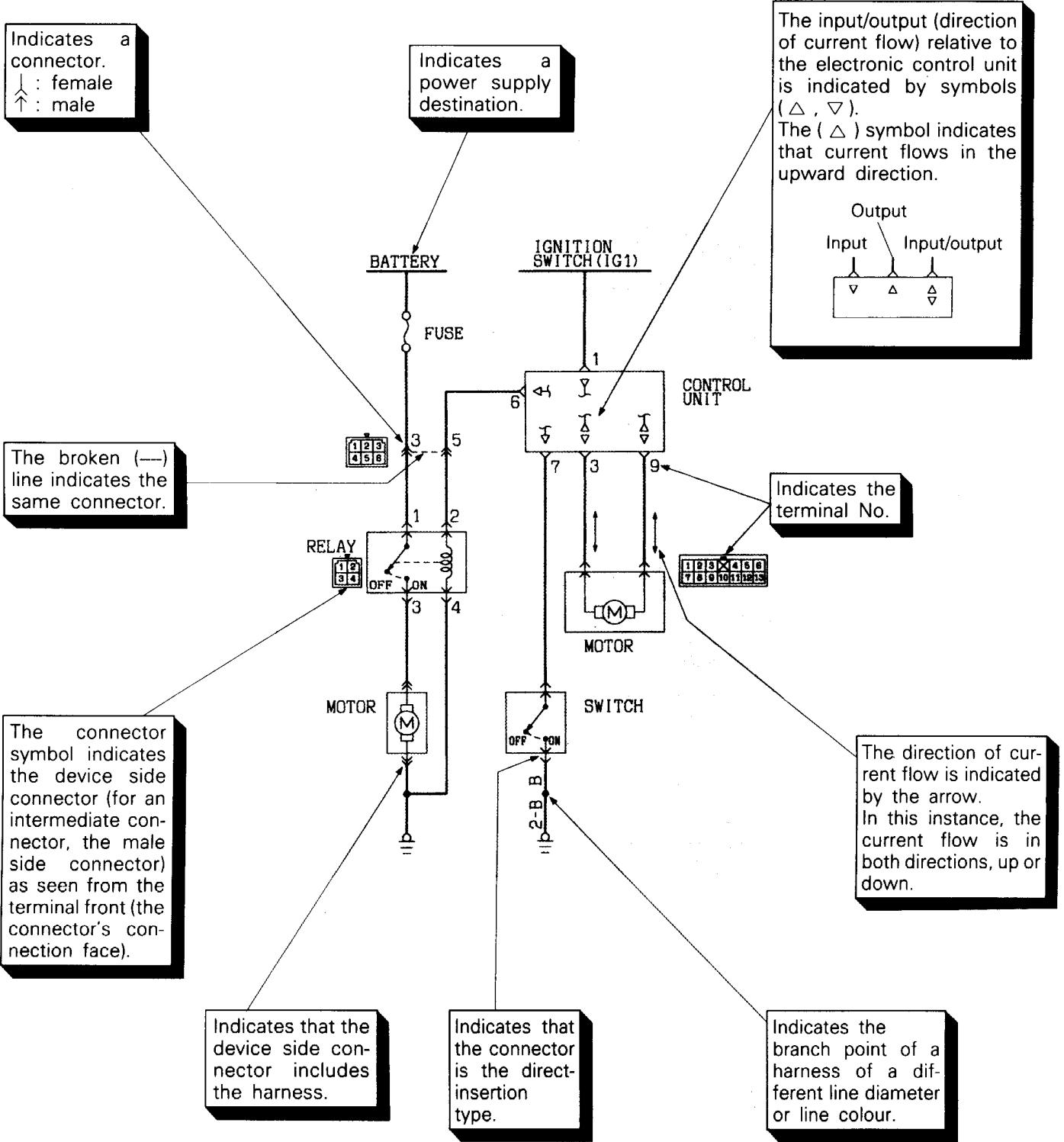
The title of the page (following the page on which the diagram of component parts is presented) indicating the locations of lubrication and sealing procedures.

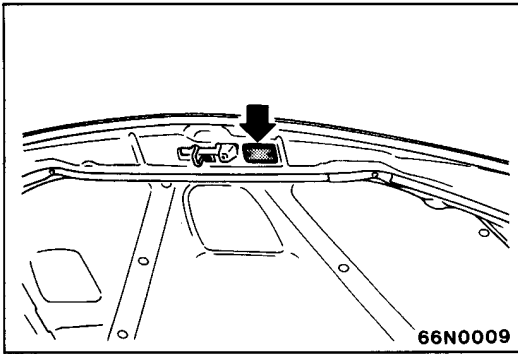
EXPLANATION OF CIRCUIT DIAGRAMS

The symbols used in circuit diagrams are used as described below.

NOTE

For detailed information concerning the reading of circuit diagrams, refer to the separate manual of "ELECTRICAL WIRING".



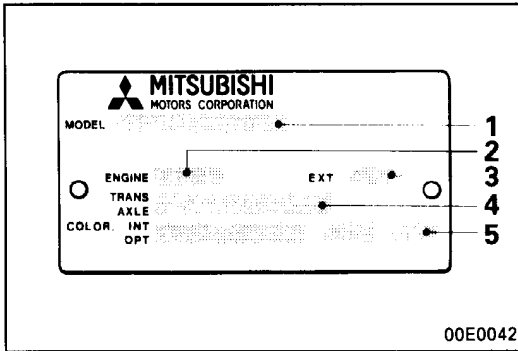


VEHICLE IDENTIFICATION VEHICLE INFORMATION CODE PLATE

E01DD--

LOCATION

Vehicle information code plate is riveted on the hood inner panel.



CODE PLATE DESCRIPTION

The plate shows model code, engine model, transmission model, and body colour code.

- | | | |
|----------------------|--------------------|---|
| 1. MODEL | F16AS XML6 | Model series
Vehicle model |
| 2. ENGINE | 6G72 | Engine model |
| 3. EXT | CA6A | Exterior code |
| 4. TRANS
AXLE | F5M33 | Transmission model |
| 5. COLOR, INT
OPT | R25 87V 03V | Equipment code
Interior code
Exterior colour code |

MODELS

Model code	Engine model	Transmission model
F16ASNHEL6	6G72-SOHC	F5M33-5 M/T
F16ASNHER6*3	6G72-SOHC	F5M33-5 M/T
F16ASRHEL6	6G72-SOHC	F4A33-ELC 4 A/T
F16ASRHER6*3	6G72-SOHC	F4A33-ELC 4 A/T
F16ASNXML6	6G72-DOHC	F5M33-5 M/T
F16ASNXMLR6*3	6G72-DOHC	F5M33-5 M/T
F16ASNUML6*1	6G72-DOHC	F5M33-5 M/T
F16ASNUMR6*2	6G72-SOHC	F5M33-5 M/T
F16ASRXML6	6G72-DOHC	F4A33-ELC 4 A/T
F16ASRXMLR6	6G72-DOHC	F4A33-ELC 4 A/T
F16ASRPML6	6G72-DOHC	F4A33-ELC 4 A/T
F16ASRPMR6	6G72-DOHC	F4A33-ELC 4 A/T

NOTE

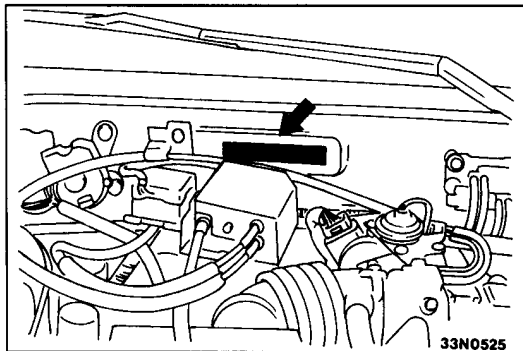
- *1: Vehicles built from June, 1992
- *2: Vehicles built from June, 1992 up to April, 1994
- *3: Vehicles built up to April, 1994

MODEL CODE

F 16 A S N X M L 6

1 2 3 4 5 6 7 8

1. Development order
F16 – 2,972 cc (181.3 cu.in.)
2. Sort
A – Passenger car
3. Body style
S – 4-door sedan
4. Transmission type
N – 5-speed manual transmission
R – 4-speed automatic transmission
5. Trim level
H – High line
X, U – Extra line
P – Premium line
6. Specified engine feature
E – Electronic injection
M – Double overhead camshaft
7. Steering wheel location
L – Left hand
R – Right hand
8. Destination
6 – For Europe



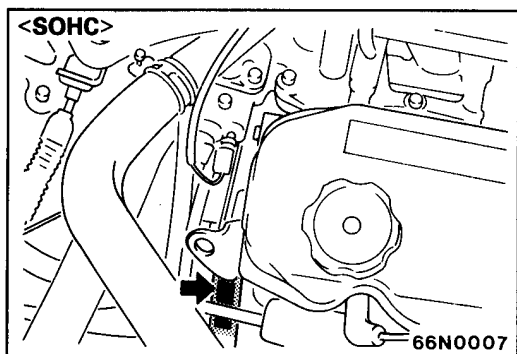
CHASSIS NUMBER

The chassis number is stamped on the toeboard inside the engine compartment.

⤴ **J M B S N F16A M Y 000001** ⤴

1 2 3 4 5 6 7 8 9 10 11

1. Asia
2. Japan
3. MITSUBISHI
4. Body style
A – For Europe, right hand drive
B – For Europe, left hand drive
5. Transmission type
N – 5-speed manual transmission
R – 4-speed automatic transmission
6. Development order
F16 – 2,972 cc (181.3 cu.in.)
7. Sort
A – Passenger car
8. Vehicle type
F16 – SIGMA
9. Model year
M – 1991
N – 1992
P – 1993
S – 1995
10. Plant
Y – Ohe Motor Vehicle Works
11. Serial number



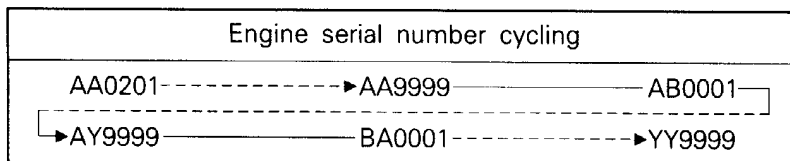
ENGINE MODEL NUMBER

1. The engine number is stamped on the engine cylinder block as shown in the illustration.

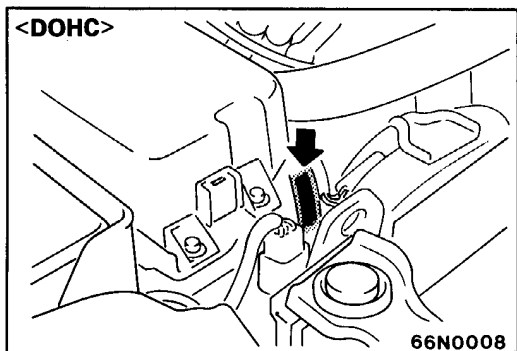
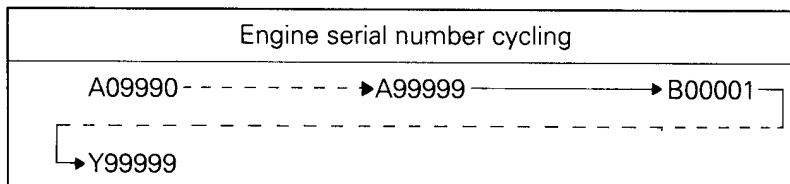
Engine model	Engine displacement cc (cu.in.)
6G72	2,972 (181.3)

2. The engine serial number is stamped near the engine model number, and the serial number cycles, as shown belows.

<Vehicles built up to May. 1993>



<Vehicles built from June. 1993>

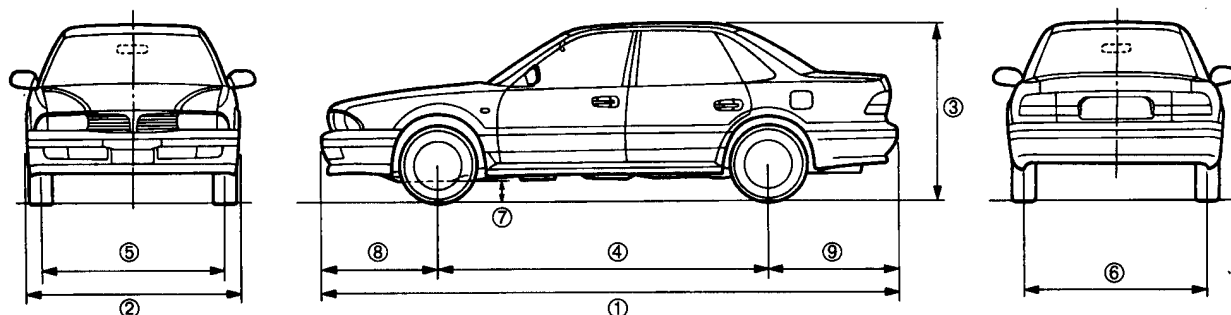


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NOTES

MAJOR SPECIFICATIONS

E9ADHAB



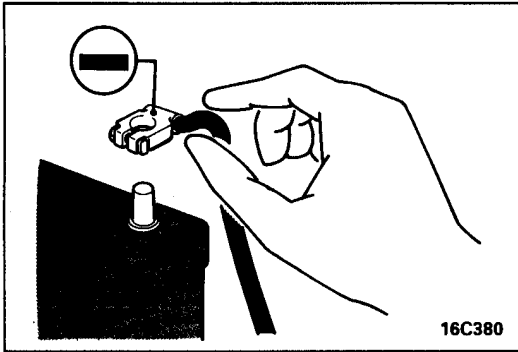
66N0010

Items	F16ASNHEL6 F16ASNHER6	F16ASRHEL6 F16ASRHER6	F16ASNXML6 F16ASNXMLR6 F16ASNUML6 F16ASNUMR6	F16ASRXML6 F16ASRXMLR6	F16ASRPML6 F16ASRPMLR6
Dimensions mm (in.)					
Overall length ①	4,750 (187.0)				
Overall width ②	1,775 (69.9)				
Overall height (unladen) ③	1,435 (56.5)				
Wheelbase ④	2,720 (107.0)				
Track – front ⑤	1,535 (60.4)				
Track – rear ⑥	1,530 (60.2)				
Ground clearance (unladen) ⑦	155 (6.1)				
Overhang – front ⑧	970 (38.2)				
Overhang – rear ⑨	1,060 (41.7)				
Weight kg (lbs.)					
Kerb weight	1,420–1,500 (3,130–3,307)	1,460–1,540 (3,219–3,395)	1,475–1,590 (3,252–3,505)	1,520–1,635 (3,351–3,605)	1,560–1,645 (3,439–3,627)
Gross vehicle weight	2,070 (4,564)				
Max. axle weight					
front	1,170 (2,579)	1,170 (2,579)	1,170 (2,579)	1,170 (2,579)	1,170 (2,579)
rear	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)	1,010 (2,227)
Seating capacity	5				
Engine					
Model	6G72				
Total displacement cc (cu. in.)	2,972 (181.3)				
Transmission					
Model	F5M33	F4A33	F5M33	F4A33	F4A33
Type	5-speed manual	4-speed automatic	5-speed manual	4-speed automatic	4-speed automatic

PRECAUTIONS BEFORE SERVICE

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

1. Items to follow when servicing SRS
 - (1) Be sure to read GROUP 52B – Supplemental Restraint System (SRS)
For safe operations, please follow the directions and heed all warnings.
 - (2) Always use the designated special tools and test equipment.
 - (3) The SRS system is designed to retain enough voltage to deploy the air bag even after the battery has been disconnected. Serious injury may result from unintended air bag deployment if work is done on the SRS system immediately after the battery cable is disconnected.
 - (4) Never attempt to disassemble or repair the SRS components (front impact sensors, SRS diagnosis unit, air bag module and clock spring). If faulty, replace it.
 - (5) Warning labels must be heeded when servicing or handling SRS components. Warning labels are located in the following locations.
 - Hood
 - Sun visor
 - Glove box
 - SRS diagnosis unit
 - Steering wheel
 - Air bag module
 - Clock spring
 - Steering gear and linkage clamp
 - (6) Store components removed from the SRS in a clean and dry place.
The air bag module should be stored on a flat surface and placed so that the pad surface facing upward.
Do not place anything on top of it.
 - (7) Be sure to deploy the air bag before disposing of the air bag module or disposing of a vehicle equipped with an air bag. (Refer to GROUP 52B – Air Bag Modules Disposal Procedures.)
 - (8) Whenever you finish servicing the SRS, check the SRS warning lamp operation to make sure that the system functions properly.
2. Observe the following when carrying out operations on places where SRS components are installed, including operations not directly related to the SRS air bag.
 - (1) When removing or installing parts do not allow any impact or shock to the SRS components.
 - (2) SRS components should not be subjected to heat over 93°C (200°F), so remove the SRS components before drying or baking the vehicle after painting.
After re-installing them check the SRS warning lamp operation to make sure that the system functions properly.



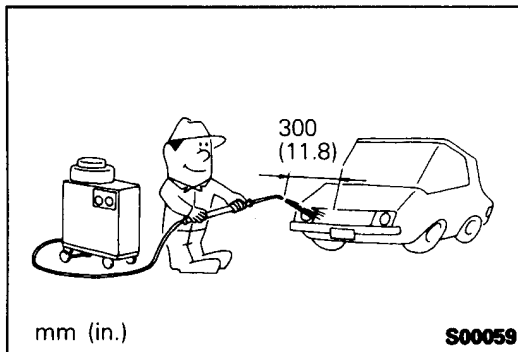
SERVICING THE ELECTRICAL SYSTEM

Before replacing a component related to the electrical system and before undertaking any repair procedures involving the electrical system, be sure to first disconnect the negative (-) cable from the battery in order to avoid damage caused by short-circuiting.

Caution

Before connecting or disconnecting the negative (-) cable, be sure to turn off the ignition switch and the lighting switch.

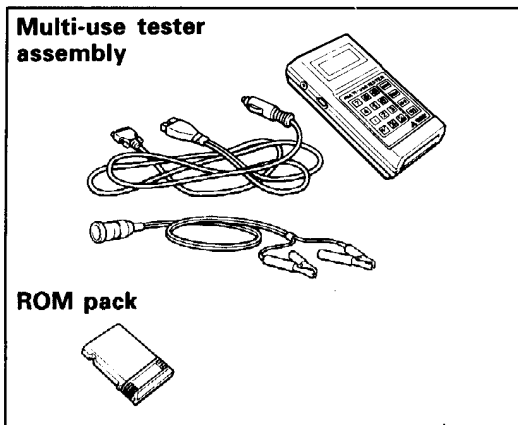
(If this is not done, there is the possibility of semiconductor parts being damaged.)



VEHICLE WASHING

If high-pressure car-washing equipment or steam car-washing equipment is used to wash the vehicle, be sure to note the following information in order to avoid damage to plastic components, etc.

- Spray nozzle distance: 300 mm (11.8 in.) or more
- Spray pressure: 4 Mpa (40 kg/cm², 569 psi) or less
- Spray temperature: 82°C (180°F) or less
- Time of concentrated spray to one point: within 30 sec.



MULTI-USE TESTER

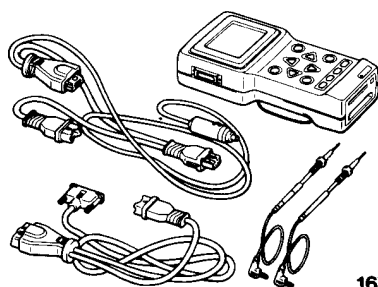
1. Refer to the MULTI-USE TESTER INSTRUCTION MANUAL for instructions on handling the multi-use tester.

Caution

Connection and disconnection of the multi-use tester should always be made with the ignition switch in the OFF position.

2. Always use a ROM pack that is appropriate for the vehicle.

ROM pack No.	Applicable vehicles
MB991419	Vehicles built up to May, 1992
MB991481	Vehicles built from June, 1992

MUT-II sub-assembly

16X0606

ROM pack

16X0607

MUT-II

To operate the MUT-II, refer to the "MUT-II OPERATING INSTRUCTION".

Caution

Connection and disconnection of the MUT-II should always be made with the ignition switch in the OFF position.

IN ORDER TO PREVENT VEHICLES FROM FIRE

“Improper installation of electrical or fuel related parts could cause a fire. In order to retain the high quality and safety of the vehicle, it is important that any accessories that may be fitted or modifications/repairs that may be carried out which involve the electrical or fuel systems, **MUST** be carried out in accordance with MMC’s Information/Instructions”.

ENGINE OILS**Health Warning**

Prolonged and repeated contact with mineral oil will result in the removal of natural fats from the skin, leading to dryness, irritation and dermatitis. In addition, used engine oil contains potentially harmful contaminants which may cause skin cancer. Adequate means of skin protection and washing facilities must be provided.

Recommended Precautions

The most effective precaution is to adapt working practices which prevent, as far as practicable, the risk of skin contact with mineral oils, for example by using enclosed systems for handling used engine oil and by degreasing components, where practicable, before handling them.

Other precautions:

- Avoid prolonged and repeated contact with oils, particularly used engine oils.
- Wear protective clothing, including impervious gloves where practicable.
- Avoid contaminating clothes, particularly underpants, with oil.
- Do not put oily rags in pockets, the use of overalls without pockets will avoid this.
- Do not wear heavily soiled clothing and oil-impregnated foot-wear. Overalls must be cleaned regularly and kept separate from personal clothing.
- Where there is a risk of eye contact, eye protection should be worn, for example, chemical goggles or face shields; in addition an eye wash facility should be provided.
- Obtain First Aid treatment immediately for open cuts and wounds.
- Wash regularly with soap and water to ensure all oil is removed, especially before meals (skin cleansers and nail brushes will help). After cleaning, the application of preparations containing lanolin to replace the natural skin oils is advised.
- Do not use petrol, kerosine, diesel fuel, gas oil, thinners or solvents for cleaning skin.
- Use barrier creams, applying them before each work period, to help the removal of oil from the skin after work.
- If skin disorders develop, obtain medical advice without delay.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)-AIR BAG

E01GA-A

The explanation below is for the vehicles without air bag in the passenger's side. As for the vehicles with air bag in the passenger's side, refer to the GROUP52B – General Information, SRS Service Precautions.

GENERAL INFORMATION

The Supplemental Restraint System (SRS) is designed to supplement the driver's seat belt to help reduce the risk or severity of injury to the driver by activating and deploying an air bag in certain frontal collisions.

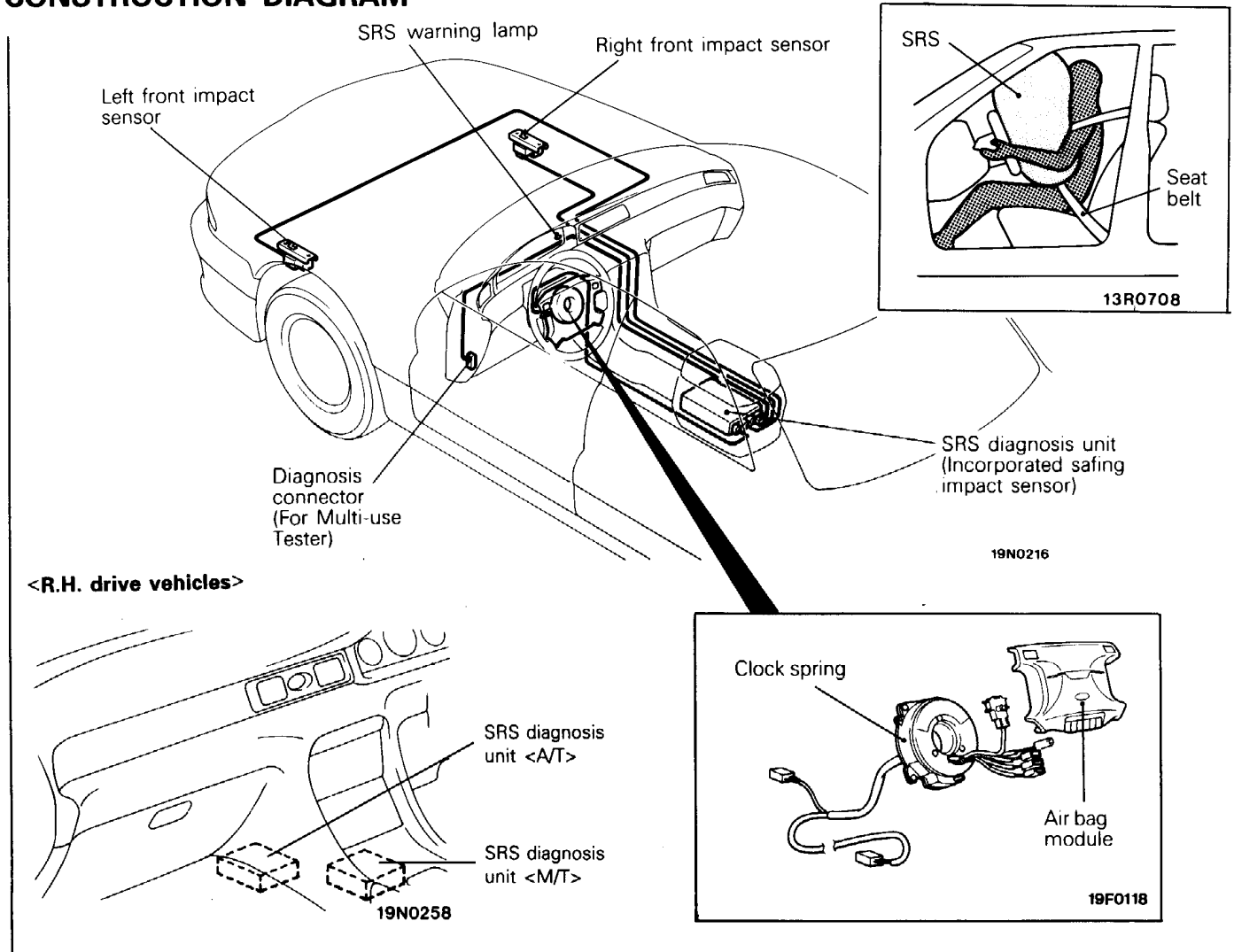
The SRS consists of: left front and right front impact sensors, one each located on the right and left side lower members; an air bag module which contains the folded air bag and an inflator unit located in the centre of the steering wheel; the SRS diagnosis unit located under the floor console assembly (underneath the centre of the instrument panel for R.H. drive vehicles), which monitors the system, and which contains a safing impact sensor; and SRS warning lamp located on the instrument panel, which indicates the

operational status of the SRS; a clock spring interconnection located within the steering column; wiring.

The SRS is designed so that the air bag will deploy when the safing sensor, plus either or both of the left front and right front impact sensors simultaneously activate while the ignition switch is "ON". That is designed to occur in frontal or near-frontal impacts of moderate to severe force.

Only authorized service personnel should do work on or around the SRS components. Those service personnel should read this manual carefully before starting any such work. Extreme care must be used when servicing the SRS, to avoid injury to the service personnel (by inadvertent deployment of the air bag) or the driver (by rendering the SRS inoperative).

CONSTRUCTION DIAGRAM



SRS SERVICE PRECAUTIONS

1. In order to avoid injury to yourself or others from accidental deployment of the air bag during servicing, read and carefully follow all the precautions and procedures described in this manual.
2. Do not use any electrical test equipment on or near SRS components, except those specified on GROUP 52B – Special Tools and Test Equipment.
Never use an analogue ohmmeter.
3. **Never Attempt to Repair the Following Components:**
 - Front Impact Sensors
 - SRS Diagnosis Unit (SDU)
 - Clock Spring
 - Air Bag Module

If any of these components are diagnosed as faulty, they should only be replaced, in accordance with the INDIVIDUAL COMPONENT SERVICE procedures in this manual.
4. Do not attempt to repair the wiring harness connectors of the SRS. If any of the connectors are diagnosed as faulty, replace the wiring harness. If the wires are diagnosed as faulty, replace or repair the wiring harness according to the following table.

<L.H. drive vehicles>

SDU Terminal No.	Harness Connector (No. of Terminals, Color)	Destination of Harness	Corrective Action	
1	2 pins, red	Clock spring	Replace clock spring.	
2				
3	2 pins, yellow	Front wiring harness → Front impact sensor (LH)	Replace with sensor cable.*	
4				
5	2 pins, blue	Front wiring harness → Front impact sensor (RH)		
6				
7 and 8	14 pins, red	—	—	
9		Body wiring harness → Diagnosis check pin	Correct or replace each wiring harness.	
10		Body wiring harness → Front wiring harness → Control wiring harness → Front wiring harness → Body wiring harness → Ignition switch (ST)		
11		Body wiring harness → Junction block (fuse No. 18)		
12		Body wiring harness → Instrument panel wiring harness → Junction block (fuse No. 12)		
13		Body wiring harness → Instrument panel wiring harness → SRS warning lamp		
14				
15 to 18		—	—	
19		Body wiring harness → Earth		Correct or replace body wiring harness.
20				

NOTE

- (1) The sensor cable marked with * is available as service part.
- (2) The sensor cable used as a replacement part is routed along the front wiring harness.

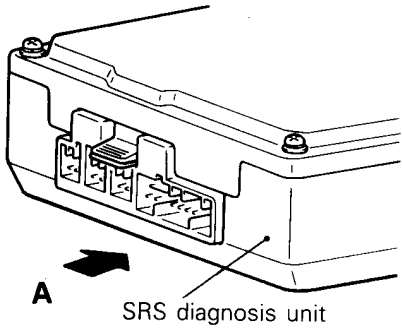
<R.H. drive vehicles>

SDU Terminal No.	Harness Connector (No. of Terminals, Color)	Destination of Harness	Corrective Action	
1	2 pins, red	Body wiring harness → Clock spring	Correct or replace body wiring harness or replace clock spring.	
2				
3	2 pins, yellow	Body wiring harness → Front wiring harness → Front impact (LH) sensor	Replace with sensor cable.*	
4				
5	2 pins, blue	Body wiring harness → Front wiring harness → Front impact (RH) sensor		
6				
7 and 8	14 pins, red	—	—	
9		Body wiring harness → Diagnosis check pin	Correct or replace each wiring harness	
10		Body wiring harness → Front wiring harness → Control wiring harness → Front wiring harness → Body wiring harness → Ignition switch (ST)		
11		Body wiring harness → Junction block (fuse No. 18)		
12		Body wiring harness → Instrument panel wiring harness → Junction block (fuse No. 12)		
13		Body wiring harness → Instrument panel wiring harness → SRS warning lamp		
14				
15 to 18		—	—	
19		Body wiring harness → Earth		Correct or replace body wiring harness
20				

NOTE

(1) The sensor cable marked with * is available as service part.

(2) The sensor cable used as a replacement part is routed along the body wiring harness and the front wiring harness.



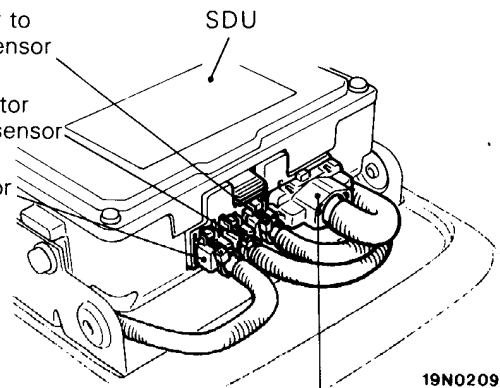
View A

13R0704

2-pin blue connector to right front impact sensor

2-pin yellow connector to left front impact sensor

2-pin red connector to clock spring

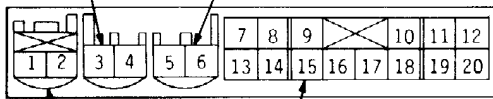


19N0209

14-pin red connector to body wiring harness

To front impact sensor (L.H.)

To front impact sensor (R.H.)

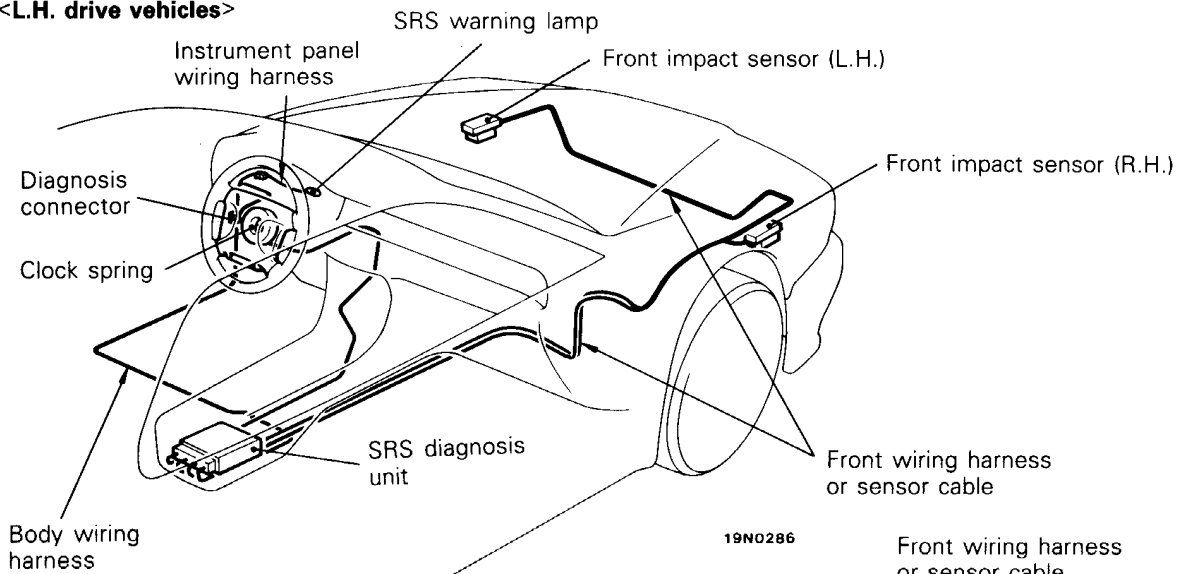


To body wiring harness (14-pin)

To clock spring

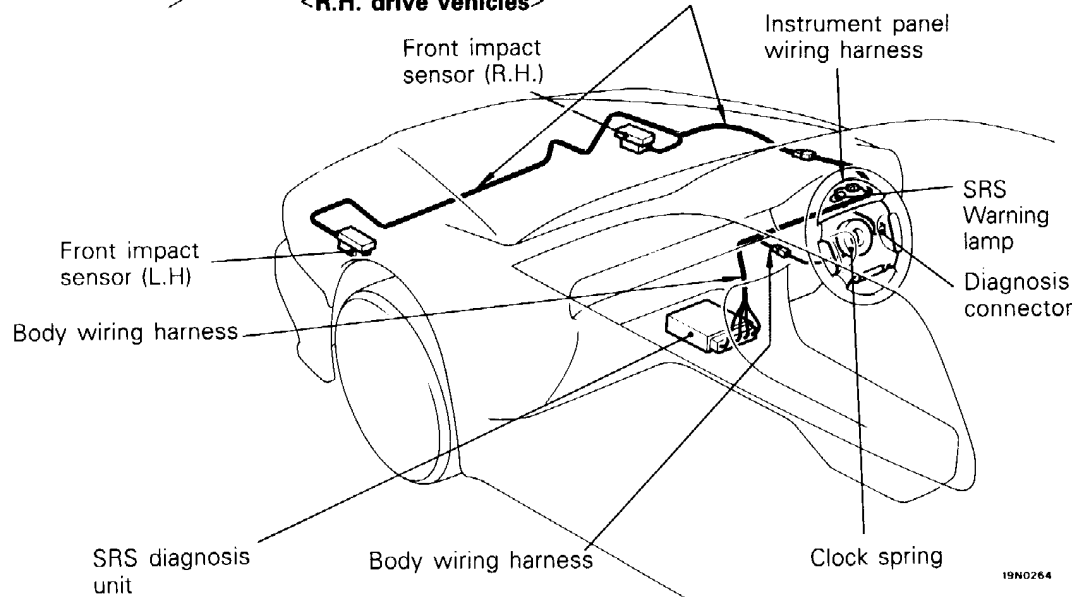
19N0200

<L.H. drive vehicles>



19N0286

<R.H. drive vehicles>



19N0264

00-11-5 GENERAL – Supplemental Restraint System (SRS)-Air Bag

- 5. After disconnecting the battery cable, wait 60 seconds or more before proceeding with the following work. The SRS system is designed to retain enough voltage to deploy the air bag for a short time even after the battery has been disconnected, so serious injury may result from unintended air bag deployment if work is done on the SRS system immediately after the battery cables are disconnectd.**
6. SRS components should not be subjected to heat over 93°C (200°F), so remove the front impact sensors, SRS diagnosis unit, air bag module and clock spring before drying or baking the vehicle after painting.
Recheck SRS system operability after re-installing the components.
7. Whenever you finish servicing the SRS, check the SRS warning lamp operation to make sure that the system functions properly. (Refer to GROUP 52B – Troubleshooting.)
8. Make certain that the ignition switch is OFF when the Multi-use Tester is connected or disconnected.
9. If you have any questions about the SRS, please contact your local distributor.

NOTE

SERIOUS INJURY CAN RESULT FROM UNINTENDED AIR BAG DEPLOYMENT. SO USE ONLY THE PROCEDURES AND EQUIPMENT SPECIFIED IN THIS MANUAL.

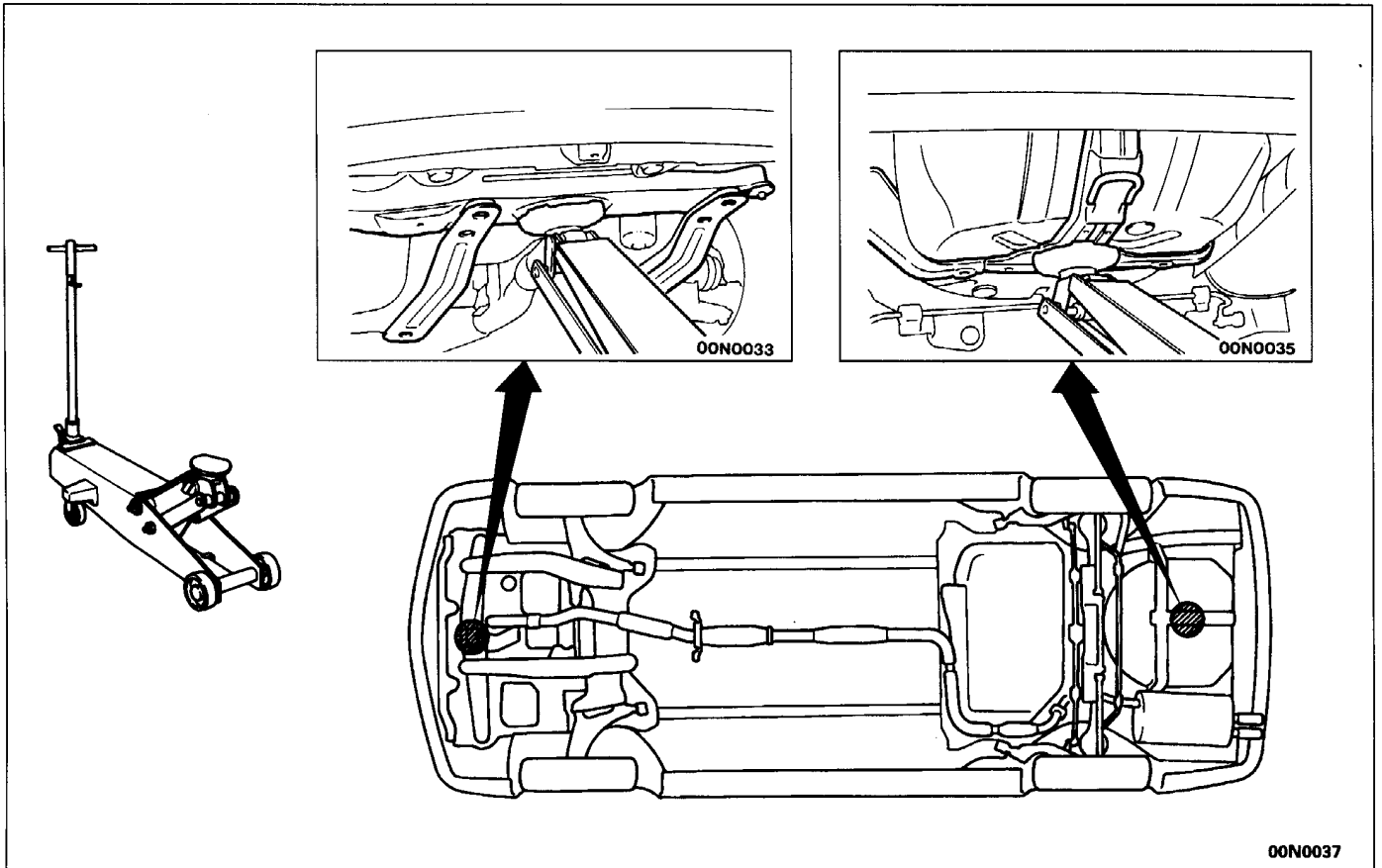
SUPPORT LOCATIONS FOR LIFTING AND JACKING

E01LB--

Caution

Do not support the vehicle at locations other than specified supporting points. If do so, this will cause damage etc.

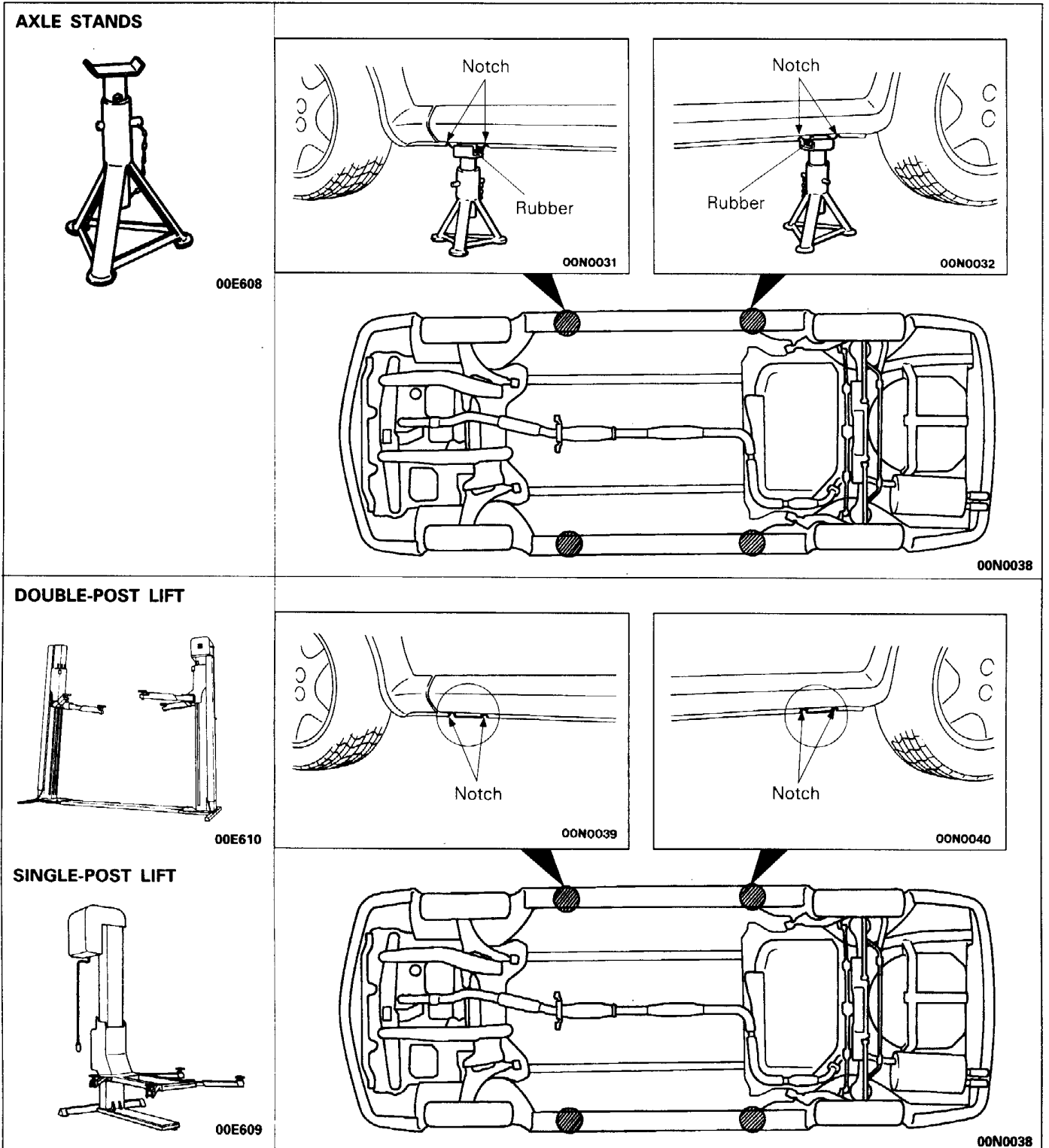
SUPPORT POSITIONS FOR A GARAGE JACK

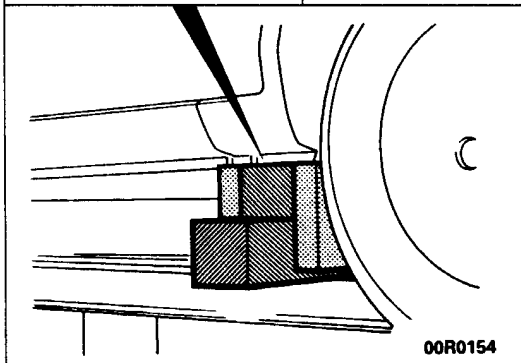
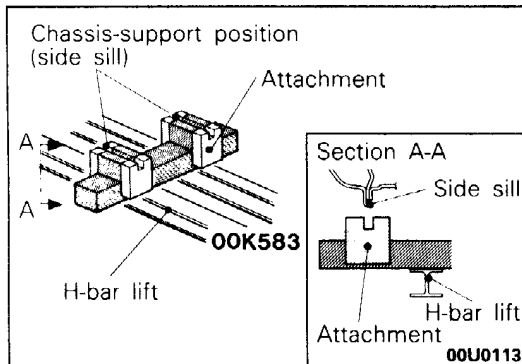
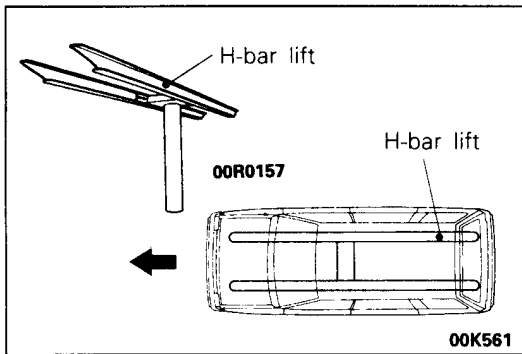


SUPPORT POSITIONS FOR AXLE STANDS, A SINGLE-POST LIFT OR DOUBLE-POST LIFT

Caution

When service procedures require removing rear suspension, fuel tank, spare tyre and rear bumper, place additional weight on rear end of vehicle or anchor vehicle to hoist to prevent tipping of centre of gravity changes.





SUPPORT POSITIONS AND SUPPORT METHOD FOR AN H-BAR LIFT

Caution

When service procedures require removing rear suspension, fuel tank, spare tyre and rear bumper, place additional weight on rear end of vehicle or anchor vehicle to hoist to prevent tipping of centre of gravity changes.

When H-bar lift is used to lift up vehicles, use of metallic attachment attached to the H-bar lift may cause damage to the suspension arm etc. Therefore, lift up the vehicle by the following procedure.

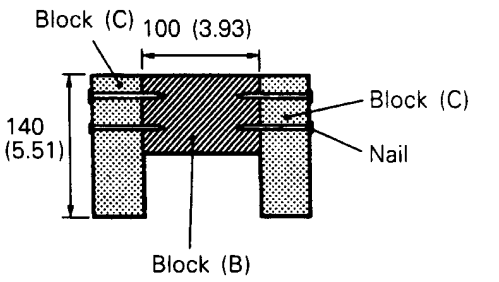
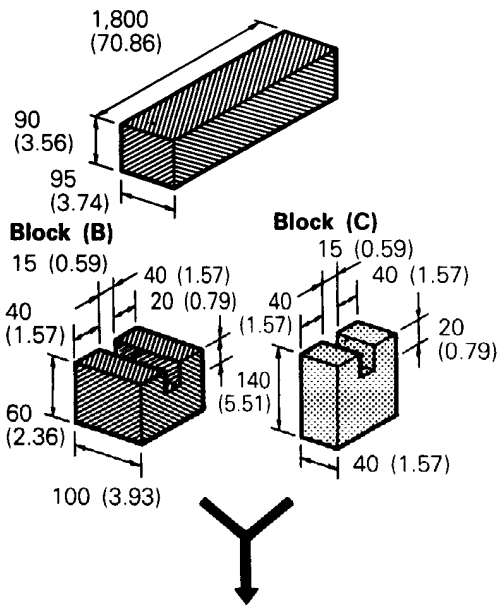
- (1) Place the vehicle on the H-bar lift (same direction).
- (2) Place attachments on the H-bar lift at the designated chassis-support positions. When making the attachments, refer to the section concerning making them.

Caution

If support is at any location other than the designated positions, the body or suspension might be deformed or otherwise damaged, so care should be taken to support only at the correct (designated) positions.

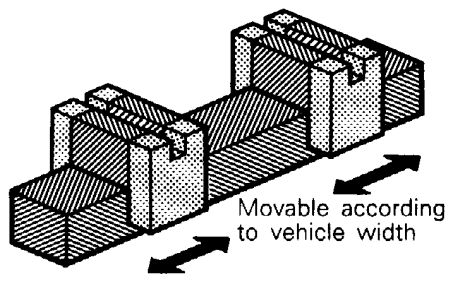
- (3) Raise the H-bar lift to the height at which the vehicle is slightly raised and check to be sure that the vehicle is correctly and sufficiently secured; then raise the vehicle.

Block (A) mm (in.)



00U0111

Finished attachment



00U0112

PREPARATION OF "ATTACHMENTS"

(1) Prepare the blocks (wooden) and nails as shown in the figure.

Item	Dimensions	mm (in.)	Q'ty
Block (A)	90 × 95 × 1,800 (3.54 × 3.74 × 70.86)		2
Block (B)	60 × 100 × 95 (2.36 × 3.93 × 3.74)		4
Block (C)	140 × 40 × 95 (5.51 × 1.57 × 3.74)		8
Nail	70 (2.76) or more		32

Caution

The wood selected for the blocks must be hard.

- (2) For the (B) blocks and (C) blocks, use a saw and chisel or similar tool to make grooves of the dimensions shown in the figure.
- (3) Make four "ATTACHMENTS" such as shown in the figure, nailing (B) and (C) blocks so that each (B) block is sandwiched between (C) blocks.

STANDARD PARTS-TIGHTENING-TORQUE TABLE

E01MA-

Each torque value in the table is a standard value for tightening under the following conditions.

- (1) Bolts, nuts and washers are all made of steel and plated with zinc.
- (2) The threads and bearing surface of bolts and nuts are all in dry condition.

The values in the table are not applicable:

- (1) If toothed washers are inserted.
- (2) If plastic parts are fastened.
- (3) If bolts are tightened to plastic or die-cast inserted nuts.
- (4) If self-tapping screws or self-locking nuts are used.

Standard bolt and nut tightening torque

Bolt nominal diameter (mm)	Pitch (mm)	Torque Nm (kgm, ft.lbs.)		
		Head mark ④	Head mark ⑦	Head mark ⑧
M5	0.8	2.5 (0.25, 1.8)	5 (0.5, 3.6)	6 (0.6, 4.3)
M6	1.0	5 (0.5, 3.6)	9 (0.9, 6.5)	10 (1.0, 7.2)
M8	1.25	12 (1.2, 8.7)	22 (2.2, 16)	25 (2.5, 18)
M10	1.25	24 (2.4, 17)	45 (4.5, 33)	53 (5.3, 38)
M12	1.25	42 (4.2, 30)	83 (8.3, 60)	98 (9.8, 71)
M14	1.5	73 (7.3, 53)	140 (14.0, 101)	160 (16.0, 116)
M16	1.5	113 (11.3, 82)	210 (21.0, 152)	240 (24.0, 174)
M18	1.5	170 (17.0, 123)	310 (31.0, 224)	350 (35.0, 253)
M20	1.5	230 (23.0, 166)	420 (42.0, 304)	490 (49.0, 354)
M22	1.5	310 (31.0, 224)	570 (57.0, 412)	660 (66.0, 477)
M24	1.5	400 (40.0, 289)	750 (75.0, 542)	870 (87.0, 629)

Flange bolt and nut tightening torque

Bolt nominal diameter (mm)	Pitch (mm)	Torque Nm (kgm, ft.lbs.)		
		Head mark ④	Head mark ⑦	Head mark ⑧
M6	1.0	5 (0.5, 3.6)	10 (1.0, 7.2)	12 (1.2, 8.7)
M8	1.25	13 (1.3, 9.4)	24 (2.4, 17)	28 (2.8, 20)
M10	1.25	26 (2.6, 19)	50 (5.0, 36)	58 (5.8, 42)
M10	1.5	24 (2.4, 17)	45 (4.5, 33)	55 (5.5, 40)
M12	1.25	47 (4.7, 34)	95 (9.5, 69)	105 (10.5, 76)
M12	1.75	43 (4.3, 31)	83 (8.3, 60)	98 (9.8, 71)

Taper thread tightening torque

Thread size	Torque Nm (kgm, ft.lbs.)	
	Female thread material: Light alloy	Female thread material: Steel
NPTF 1/6	7 (0.7, 5.0)	10 (1.0, 7.2)
PT 1/8	10 (1.0, 7.2)	18 (1.8, 13)
PT 1/4, NPTF 1/4	25 (2.5, 18)	40 (4.0, 29)
PT 3/8	48 (4.8, 35)	68 (6.8, 49)

NOTE: NPTF is dry seat pipe thread, while PT is pipe thread.

MAIN SEALANT AND ADHESIVE TABLE

E00ZA-

Application	Recommended brand
1. Sealants for engine accessories	
(1) Sealing between rocker cover and camshaft bearing cap (4G6 DOHC and 6G7 engines only)	3M ATD Part No. 8660 or equivalent
(2) ● Sealing between semi-circular packing and rocker cover and between semi-circular packing and cylinder head ● Oil pressure switch (except 4G1 and 6G7 engines)	3M ATD Part No. 8660 or equivalent
(3) Engine coolant temperature switch, Engine coolant temperature sensor, Thermo valve, Thermo switch, Joints, Engine coolant temperature gauge unit (large size)	3M Nut Locking Part No. 4171 or equivalent
(4) Engine coolant temperature gauge unit (small size, MD091056 only)	3M ATD Part No. 8660 or equivalent
(5) Oil pan (except 4G5 engine)	MITSUBISHI GENUINE Part No. MD970389 or equivalent
2. Sealing between glass and weatherstrip	
(1) ● Sealing between tempered glass and weatherstrip	3M ATD Part No. 8513 or equivalent
● Sealing between body flange and weatherstrip	3M ATD Part No. 8509 or equivalent
(2) Sealing between laminated glass and weatherstrip	3M ATD Part No. 8509 or equivalent

Application	Recommended brand
3. Adhesion with ribbon sealer	
● Waterproof film for door ● Fender panel ● Splash shield ● Mud guard ● Rear combination lamp	3M ATD Part No. 8625 or equivalent
4. Adhesives for interior trim	
(1) Adhesion of polyvinyl-chloride sheet	3M Part No. EC-1368 or equivalent
(2) Adhesion of door weatherstrip to body	3M ATD Part No. 8001 or 3M ATD Part No. 8011 or equivalent
(3) Sealing between grommet or packing and metal seal	3M ATD Part No. 8513 or equivalent
(4) ● Adhesion of headlining and other interior trim materials ● Adhesion of fuel tank to pad	3M Part No. EC-1368 or 3M ATD Part No. 8080 or equivalent
5. Body sealant	
● Sealing of sheet metal, drip rail, floor, body side panel, trunk, front panel and the like joints ● Sealing of tailgate hinges	3M ATD Part No. 8531 or 3M ATD Part No. 8646 or equivalent

Application	Recommended brand
6. Chassis sealant	
(1) ● Sealing of flange surfaces and threaded portions ● Fuel gauge unit packing	3M ATD Part No. 8659 or equivalent
(2) Sealing of flange surfaces, threaded portions, packing and dust cover ● Differential carrier packing ● Dust covers for ball joint and linkage ● Steering gear box packing and shims ● Steering gear housing rack support cover and top cover ● Mating surface of knuckle arm flange	3M ATD Part No. 8663 or equivalent
(3) Sealing between accelerator arm bracket and toeboard	Drying sealant
(4) Sealant for drum brake shoe hold-down pin and wheel cylinder	3M ATD Part No. 8513 or equivalent
7. Fast bonding adhesive Adhesion of all materials except polyethylene, polypropylene, fluorocarbon resin or other materials with highly absorbent surface	3M ATD Part No. 8155 or equivalent
8. Anaerobic fast bonding adhesives	
(1) Fixing of bolts and screws ● Tightening of drive gear to differential case ● Bolts for coupling tilt steering upper column with lower column	3M Stud locking Part No. 4170 or equivalent
(2) Fixing of bearing, fan, pulley and gear connections	
(3) Sealing of small recess or flange surface	
9. Undercoat	3M ATD Part No. 8864 or equivalent