

HOW TO USE THIS MANUAL

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 separate manuals covering the engine and the transmission.

ON-VEHICLE SERVICE

“On-vehicle Service” is procedures for performing inspections and adjustments of particularly important locations with regard to the construction and for maintenance and servicing, but other inspection (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.

INDICATION OF DESTINATION

Genera Export and GCC are used for convenience to indicate destination.

NOTE

1. “General Export” means territories other than Europe, GCC, Australia, New Zealand, the U.S.A. and Canada.
2. “GCC” indicates countries that are members of the (Persian) Gulf Cooperation Council of nations.
3. In some instances, vehicles with other specifications may be shipped to some countries.

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.

INDICATION OF TIGHTENING TORQUE

The tightening torque shown in this manual is a basic value with a tolerance of $\pm 10\%$ except the following cases when the upper and lower limits of tightening torque are given.

- (1) The tolerance of the basic value is within $\pm 10\%$.
- (2) Special bolts or the like are in use.
- (3) Special tightening methods are used.

MODEL INDICATIONS

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

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.
SOHC:	Indicates an engine with the single overhead camshaft, or a model equipped with such an engine.
MPI:	Indicates the multipoint injection, or engines equipped with the multipoint injection.
2WD:	Indicates the front wheel-drive vehicles.

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EXPLANATION OF MANUAL CONTENTS

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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.

Component Diagram

A diagram of the component parts is provided near the front of each section in order to give a reader a better understanding of the installed condition of component parts.

Indicates (by symbols) where lubrication is necessary.

Maintenance and Servicing Procedures

The numbers provided within the diagram indicate the sequence for maintenance and servicing procedures.

- 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.

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

STEERING – Power Steering Oil Pump

37A-29

POWER STEERING GEAR BOX

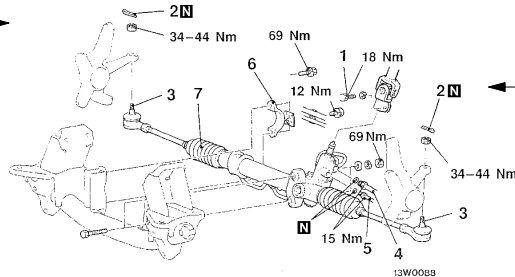
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REMOVAL AND INSTALLATION

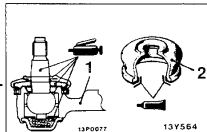
Pre-removal Operation

- (1) Power Steering Fluid Draining (Refer to P. 37A-10.)
- (2) Air Cleaner Assembly Removal
- (3) Under Cover Removal (Refer to GROUP 42 – Under Cover.)

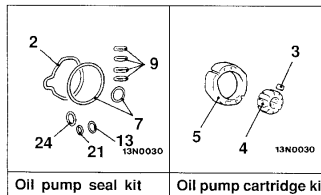
<2WD>



Denotes non-reusable part.

Denotes tightening torque.
For bolts and nuts which do not have a tightening torque listed, refer to the "Tightening torque".

Sealant: 3M ATD Part No. 8661 or equivalent



Oil pump seal kit

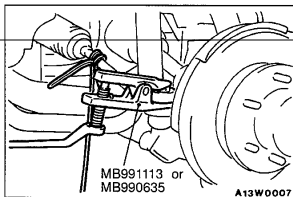
Oil pump cartridge kit

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

Removal steps

1. Lower shaft assembly and gear box connecting bolt
2. Split pin
3. Connection for tie-rod end and knuckle
4. Connection for return tube

5. Connection for pressure tube
6. Clamp
7. Gear box assembly



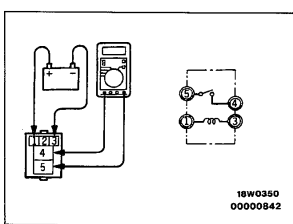
REMOVAL SERVICE POINTS

A TIE-ROD END DISCONNECTION

Caution

1. Using the special tool, loosen the tie rod end mounting nut. Only loosen the nut; do not remove it from the ball joint.
2. Support the special tool with a cord, etc. to prevent it from coming off.

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



HEADLAMP RELAY CONTINUITY INSPECTION

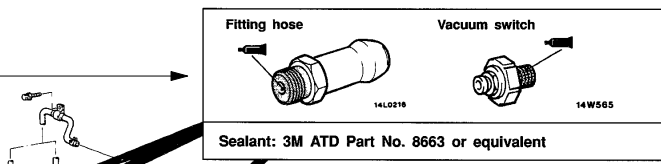
Battery voltage	Terminal No.			
	1	3	4	5
Power is not supplied	○—○	○—○	○—○	○—○
Power is supplied	⊕—⊖	⊕—⊖	⊕—⊖	⊕—⊖

○—○ indicates that there is a continuity between the terminals.

⊕—⊖ indicates terminals to which battery voltage is applied.

35A-26 BASIC BRAKE SYSTEM – Master Cylinder and Brake Booster

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.

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HOW TO USE TROUBLESHOOTING/INSPECTION SERVICE POINTS

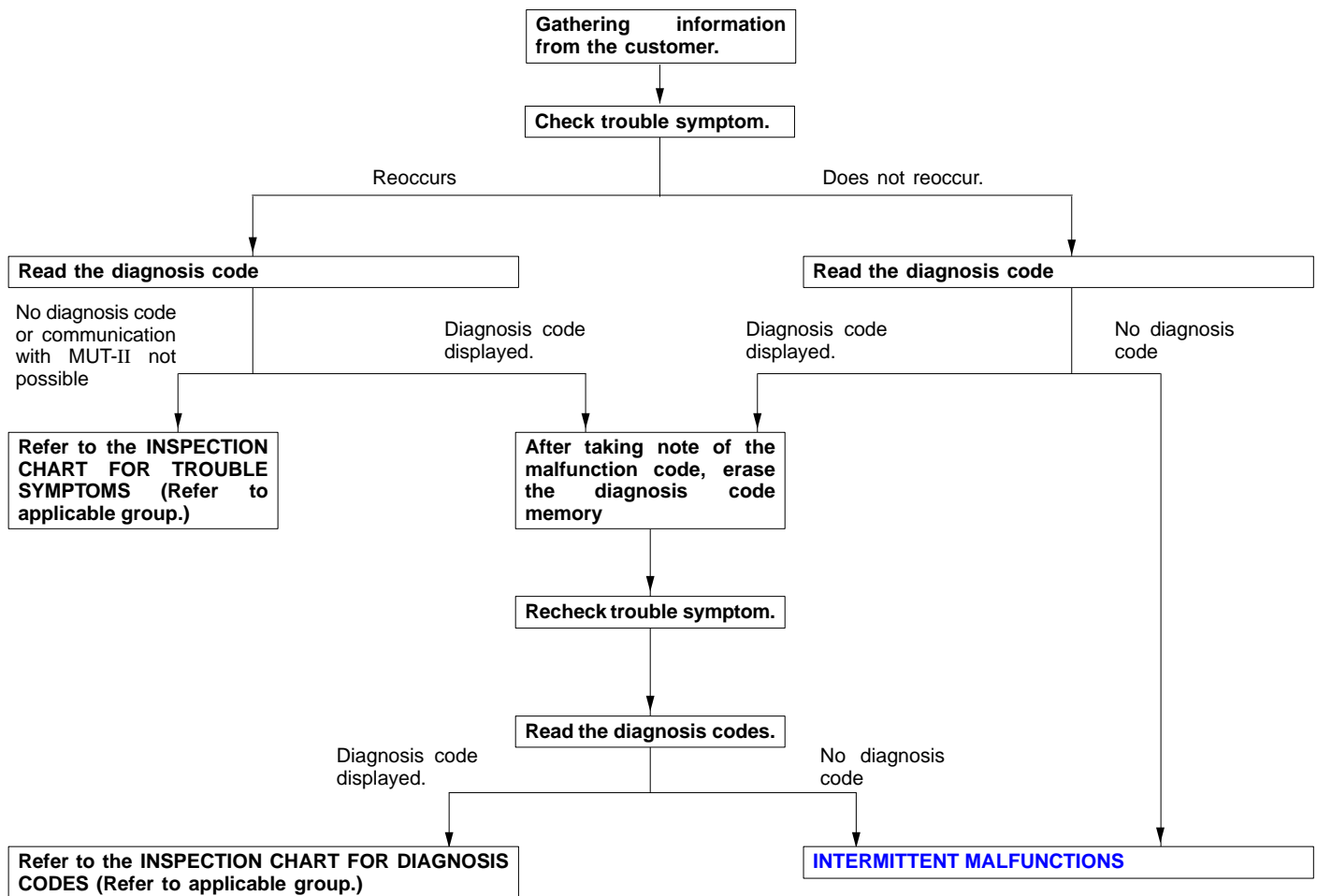
Troubleshooting of electronic control systems for which the MUT-II can be used follows the basic outline described below. Furthermore, even in systems for which the MUT-II cannot be used, part of these systems still follow this outline.

TROUBLESHOOTING CONTENTS

1. STANDARD FLOW OF DIAGNOSIS TROUBLESHOOTING

The troubleshooting sections follow the basic diagnosis flow which is given below. If the diagnosis flow is different from that given below, or if additional explanation is required, the details of such differences or additions will also be listed.

Diagnosis method



2. SYSTEM OPERATION AND SYMPTOM VERIFICATION TESTS

If verification of the trouble symptoms is difficult, procedures for checking operation and verifying trouble symptoms are shown.

3. DIAGNOSIS FUNCTION

Details which are different from those in the "Diagnosis Function" section on the next page are listed.

4. INSPECTION CHART FOR DIAGNOSIS CODES**5. INSPECTION PROCEDURE FOR DIAGNOSIS CODES**

Indicates the inspection procedures corresponding to each diagnosis code. (Refer to [how to use the inspection procedures.](#))

6. INSPECTION CHART FOR TROUBLE SYMPTOMS

If there are trouble symptoms even though the results of inspection using the MUT-II show that all diagnosis codes are normal, inspection procedures for each trouble symptom will be found by means of this chart.

7. INSPECTION PROCEDURE FOR TROUBLE SYMPTOM

Indicates the inspection procedures corresponding to each trouble symptoms classified in the Inspection Chart for Trouble Symptoms. (Refer to [how to use the inspection procedures.](#))

8. SERVICE DATA REFERENCE TABLE

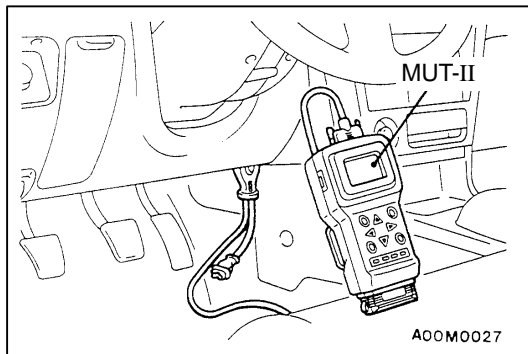
Inspection items and normal judgement values have been provided in this chart as reference information.

9. CHECK AT ECU TERMINALS

Terminal numbers for the ECU connectors, inspection items and standard values have been provided in this chart as reference information.

10. INSPECTION PROCEDURES USING AN OSCILLOSCOPE

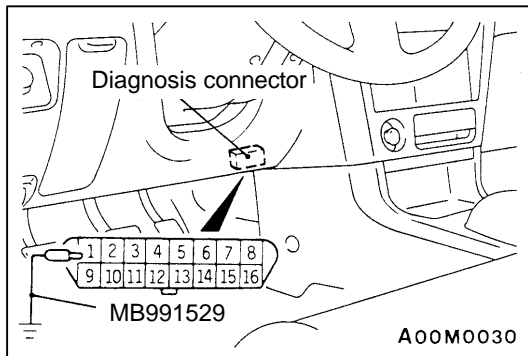
When there are inspection procedures using an oscilloscope, these are listed here.

**DIAGNOSIS FUNCTION****METHOD OF READING DIAGNOSIS CODES****WHEN USING THE MUT-II**

Connect the MUT-II to the diagnosis connector and take a reading of the diagnosis codes.

Caution

Turn off the ignition switch before connecting or disconnecting the MUT-II.

**WHEN USING THE WARNING LAMP**

1. Use the special tool to earth No.1 terminal (diagnosis control terminal) of the diagnosis connector.
2. To check ABS system, remove the valve relay.

NOTE

That is because the valve relay is off and the warning lamp remains illuminated if there is a fault in the ABS system.

3. Turn off the ignition switch.
4. Read out a diagnosis code by observing how the warning lamp flashes.

Applicable systems

System name	Warning lamp name
MPI	Engine warning lamp
A/T	Neutral position indicator lamp
ABS	ABS warning lamp

Indication of diagnosis code by warning lamp

When the diagnosis code No.24 is output	When no diagnosis code is output*
<p>1.5 secs. 0.5 sec. 0.5 sec.</p> <p>On Off</p> <p>Pause time 3 secs.</p> <p>Tens signal</p> <p>Place division 2 secs.</p> <p>Units signal</p> <p>A03X0113</p>	<p>0.5 sec. <MPI, A/T> 0.25 sec. <ABS></p> <p>On Off</p> <p>A03X0114</p>

NOTE

*: Even if the ABS system is normal, removing the valve relay causes the diagnosis code No.52 to be output.

METHOD OF ERASING DIAGNOSIS CODES**WHEN USING THE MUT-II**

Connect the MUT-II to the diagnosis connector and erase the diagnosis code.

Caution

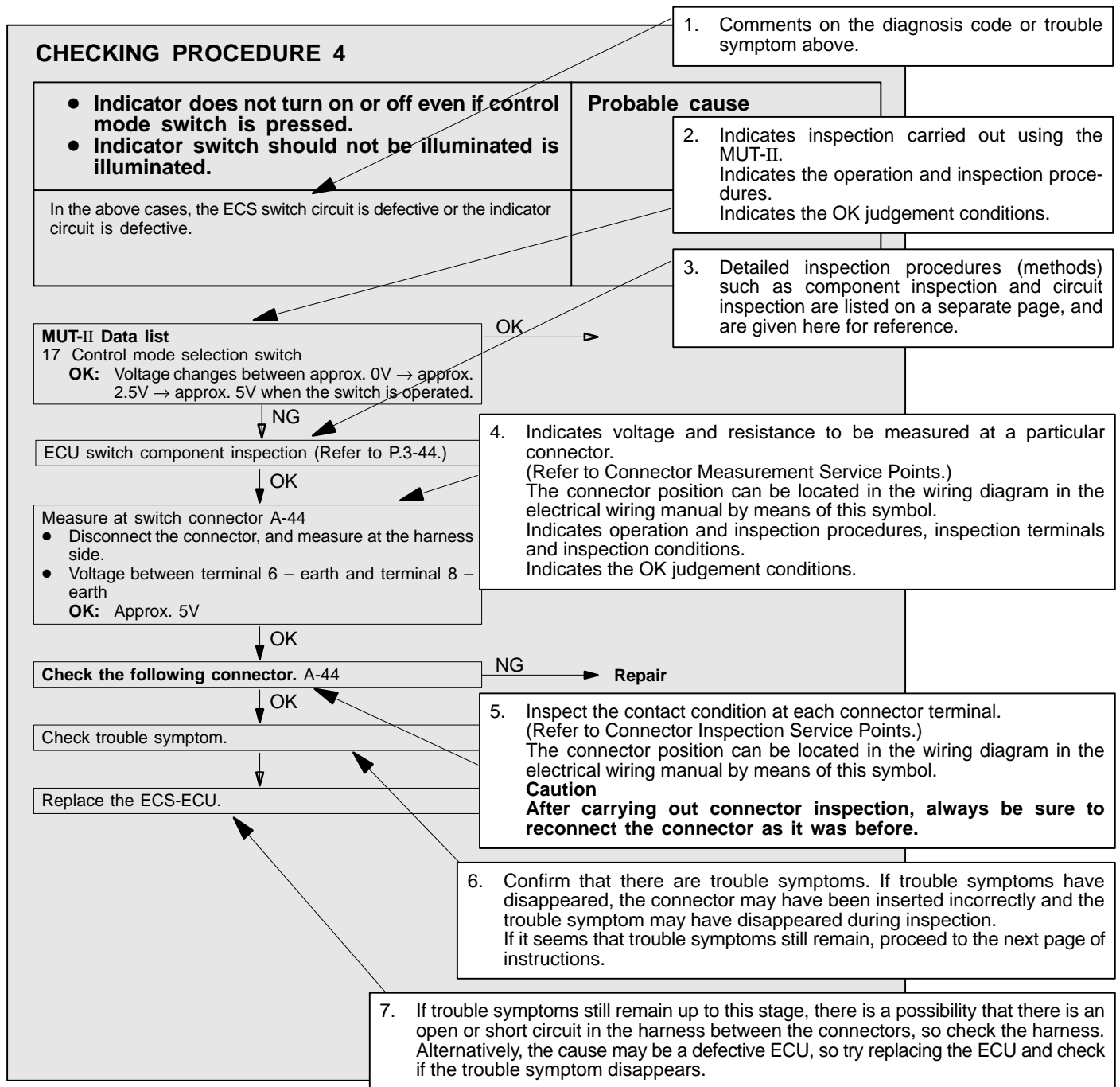
Turn off the ignition switch before connecting or disconnecting the MUT-II.

WHEN NOT USING THE MUT-II

- (1) Turn the ignition switch to OFF.
- (2) After disconnecting the battery cable from the battery (–) terminal for 10 seconds or more, reconnect the cable.
- (3) After the engine has warmed up, run it at idle for about 15 minutes.

HOW TO USE THE INSPECTION PROCEDURES

The causes of a high frequency of problems occurring in electronic circuitry are generally the connectors, components, the ECU and the harnesses between connectors, in that order. These inspection procedures follow this order, and they first try to discover a problem with a connector or a defective component.



HARNESS INSPECTION

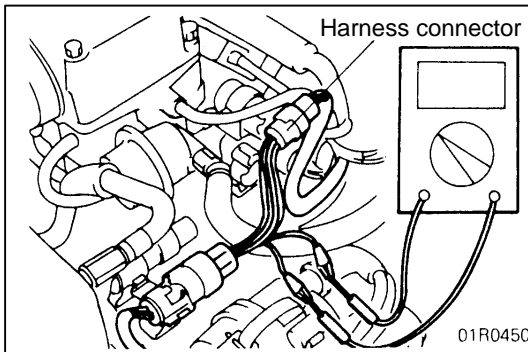
Check for an open or short circuit in the harness between the terminals which were defective according to the connector measurements. Carry out this inspection while referring to the electrical wiring manual. Here, "Check harness between power supply and terminal xx" also includes checking for blown fuses. For inspection service points when there is a blown fuse, refer to [Inspection Service Points for a Blown Fuse](#).

MEASURES TO TAKE AFTER REPLACING THE ECU

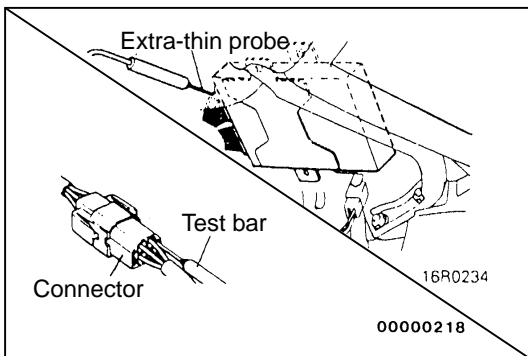
If the trouble symptoms have not disappeared even after replacing the ECU, repeat the inspection procedure from the beginning.

CONNECTOR MEASUREMENT SERVICE POINTS

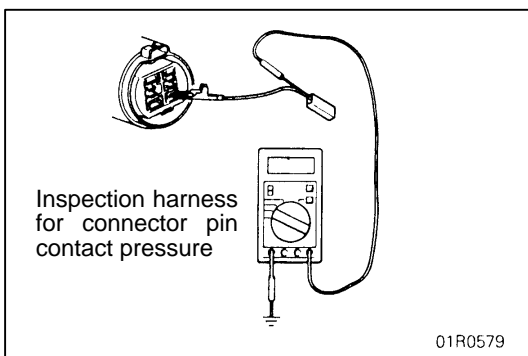
Turn the ignition switch to OFF when connecting/disconnecting the connectors, and turn the ignition switch to ON when measuring if there are no instructions to be contrary.

**IF INSPECTING WITH THE CONNECTOR CONNECTED (WITH CIRCUIT IN A CONDITION OF CONTINUITY)****Waterproof Connectors**

Be sure to use the special tool (harness connector). Never insert a test bar from the harness side, because to do so will reduce the waterproof performance and result in corrosion.

**Ordinary (non-waterproof) Connectors**

Check by inserting the test bar from the harness side. Note that if the connector (control unit, etc.) is too small to permit insertion of the test bar, it should not be forced; use a special tool (the extra-thin probe in the harness set for checking for this purpose).

**IF INSPECTING WITH THE CONNECTOR DISCONNECTED****<When Inspecting a Female Pin>**

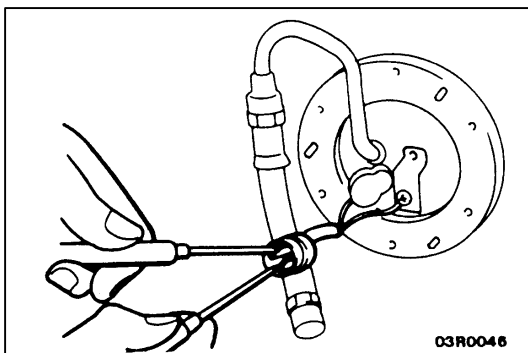
Use the special tool (inspection harness for connector pin contact pressure in the harness set for inspection). The inspection harness for connector pin contact pressure should be used. the test bar should never be forcibly inserted, as it may cause a defective contact.

<When Inspecting a Male Pin>

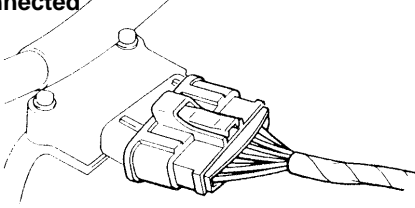
Touch the pin directly with the test bar.

Caution

At this time, be careful not to short the connector pins with the test bars. To do so may damage the circuits inside the ECU.

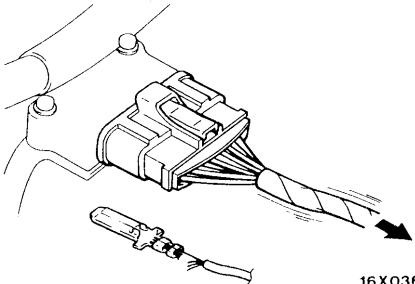


Connector disconnected or improperly connected



16S0256

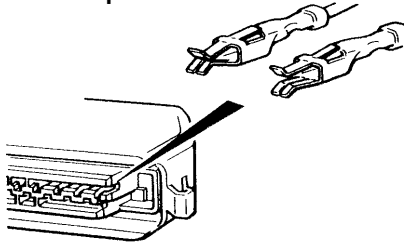
Defective connector contact



16X0369

Harness wire breakage at terminal section

Low contact pressure



16S0254
00000219

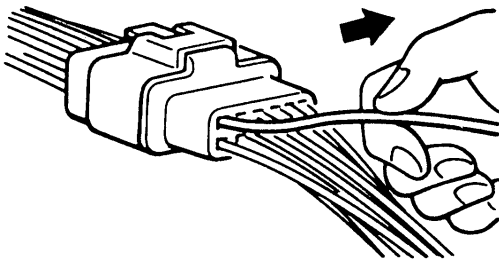
CONNECTOR INSPECTION

VISUAL INSPECTION

- Connector is disconnected or improperly connected
- Connector pins are pulled out
- Due to harness tension at terminal section
- Low contact pressure between male and female terminals
- Low connection pressure due to rusted terminals or foreign matter lodged in terminals

CONNECTOR PIN INSPECTION

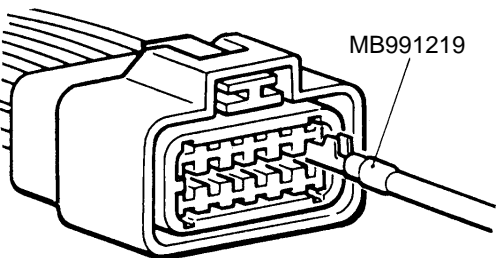
If the connector pin stopper is damaged, the terminal connections (male and female pins) will not be perfect even if the connector body is connected, and the pins may pull out of the reverse side of the connector. Therefore, gently pull the harnesses one by one to make sure that no pins pull out of the connector.



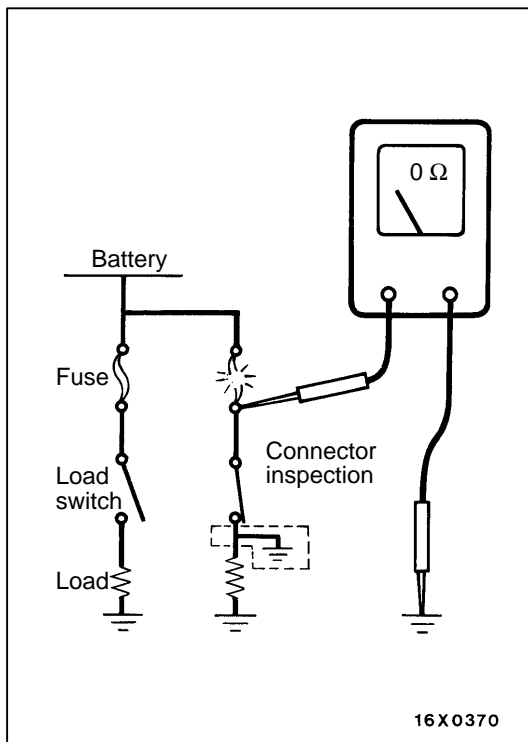
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CONNECTOR ENGAGEMENT INSPECTION

Use the special tool (connector pin connection pressure inspection harness of the inspection harness set) to inspect the engagement of the male pins and females pins. (Pin drawing force : 1 N or more)



16R1318



INSPECTION SERVICE POINTS FOR A BLOWN FUSE

Remove the fuse and measure the resistance between the load side of the fuse and the earth. Set the switches of all circuits which are connected to this fuse to a condition of continuity. If the resistance is almost $0\ \Omega$ at this time, there is a short somewhere between these switches and the load. If the resistance is not $0\ \Omega$, there is no short at the present time, but a momentary short has probably caused the fuse to blow.

The main causes of a short circuit are the following.

- Harness being clamped by the vehicle body
- Damage to the outer casing of the harness due to wear or heat
- Water getting into the connector or circuitry
- Human error (mistakenly shorting a circuit, etc.)

POINTS TO NOTE FOR INTERMITTENT MALFUNCTIONS

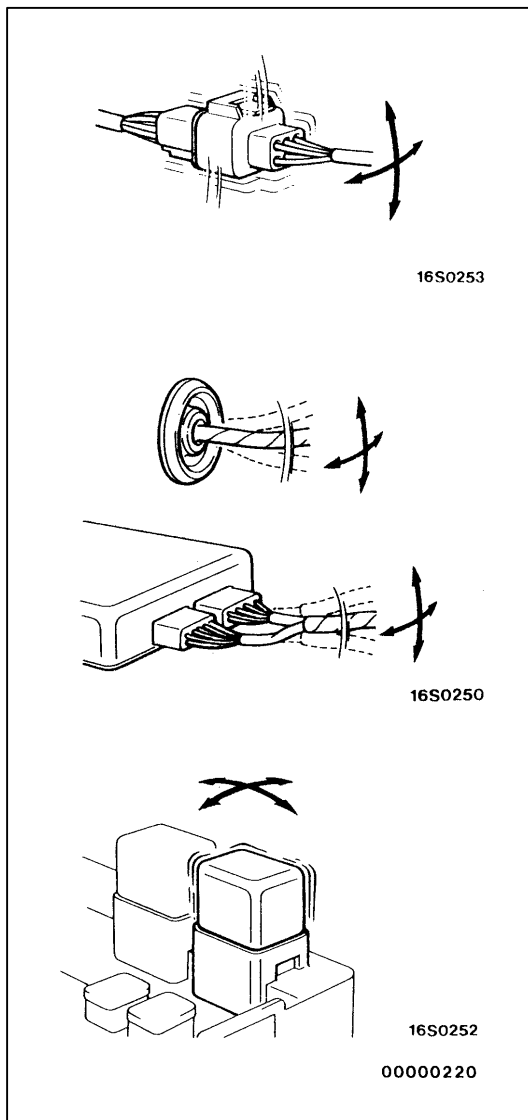
Intermittent malfunctions often occur under certain conditions, and if these conditions can be ascertained, determining the cause becomes simple. In order to ascertain the conditions under which an intermittent malfunction occurs, first ask the customer for details about the driving conditions, weather conditions, frequency of occurrence and trouble symptoms, and then try to recreate the trouble symptoms. Next, ascertain whether the reason why the trouble symptom occurred under these conditions is due to vibration, temperature or some other factor. If vibration is thought to be the cause, carry out the following checks with the connectors and components to confirm whether the trouble symptom occurs.

The objects to be checked are connectors and components which are indicated by inspection procedures or given as probable causes (which generates diagnosis codes or trouble symptoms.)

- Gently shake the connector up, down and to the left and right.
- Gently shake the wiring harness up, down and to the left and right.
- Gently rock each sensor and relay, etc. by hand.
- Gently shake the wiring harness at suspensions and other moving parts.

NOTE

If determining the cause is difficult, the flight recorder function of the MUT-II can also be used.

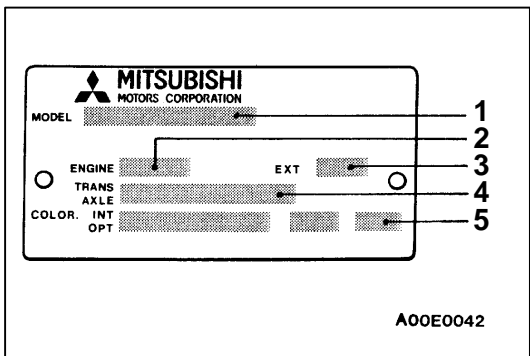
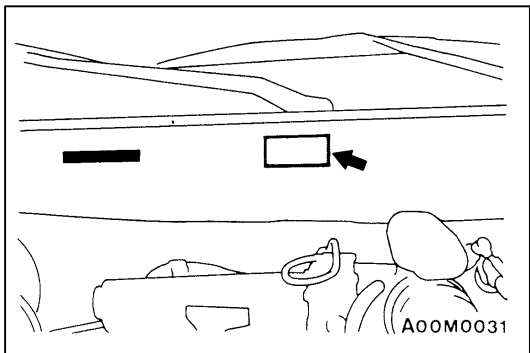


VEHICLE IDENTIFICATION

VEHICLE INFORMATION CODE PLATE

LOCATION

Vehicle information code plate is riveted on the toeboard inside the engine compartment.



CODE PLATE DESCRIPTION

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

No.	Item	Contents	
1	MODEL	CK1A SNJEL	CK1A: Vehicle model
			SNJEL: Model series
2	ENGINE	4G13	Engine model
3	EXT	B60B	Exterior code
4	TRANS AXLE	F5M41	Transmission code
5	COLOR INT OPT	B60 03V 41H	B60: Body colour code
			41H: Interior code
			03V: Equipment code

For monotone colour vehicles, the body colour code shall be indicated. For two-tone or three-way two-tone colour vehicles, each colour code only shall be indicated in series.

MODELS**VEHICLES FOR GENERAL EXPORT****<Hatchback>**

Model code		Engine model	Transmission model	Fuel supply system
CJ1A	MNDL	4G13-SOHC (1,299 mℓ)	F5M41 (2WD-5M/T)	Carburettor
	MNDR			
CJ2A	MNJL	4G15-SOHC (1,468 mℓ)	F5M41 (2WD-5M/T)	Carburettor
	MNJR		F4A41 (2WD-4A/T)	
	MRJL			
	MRJR			
CJ4A	MNJEL	4G92-SOHC (1,597 mℓ)	F5M41 (2WD-5M/T)	MPI
	MNJER		F4A41 (2WD-4A/T)	
	MRJEL			
	MRJER			

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Model code		Engine model	Transmission model	Fuel supply system
CK1A	SNML	4G13-SOHC (1,299 mℓ)	F5M41 (2WD-5M/T)	Carburettor
	SNMR			
	SNDL			
	SNDR			
	SRDL		F4A41 (2WD-4A/T)	
	SRDR			
	SNJL		F5M41 (2WD-5M/T)	
	SNJR			
	SRJL		F4A41 (2WD-4A/T)	
	SRJR			
	SNJEL		F5M41 (2WD-5M/T)	MPI
	SNJER			
	SRJEL		F4A41 (2WD-4A/T)	
	SRJER			
CK2A	SNJL	4G15-SOHC (1,468 mℓ)	F5M41 (2WD-5M/T)	Carburettor
	SNJR		F4A41 (2WD-4A/T)	
	SRJL			
	SRJR			
CK4A	SNJEL	4G92-SOHC (1,597 mℓ)	F5M41 (2WD-5M/T)	MPI
	SNJER		F4A41 (2WD-4A/T)	
	SRJEL			
	SRJER			

CJ	4	A	M	N	J	E	L	W
1	2	3	4	5	6	7	8	9

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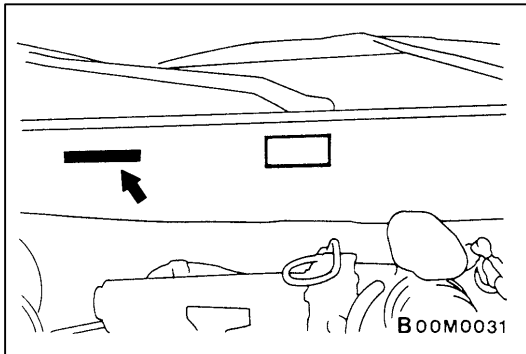
MODEL CODE

No.	Items	Contents
1	Development	CJ: MITSUBISHI COLT
		CK: MITSUBISHI LANCER
2	Engine type	1: 1,299 ml petrol engine
		2: 1,468 ml petrol engine
		4: 1,597 ml petrol engine
3	Sort	A: Passenger car
4	Body style	M: 2-door hatchback
		S: 4-door sedan
5	Transmission type	N: 5-speed manual transmission
		R: 4-speed automatic transmission
6	Trim level	M: EL
		D: GL
		J: GLX
7	Specified engine feature	None: SOHC-Carburettor
		E: SOHC-MPI
8	Steering wheel location	L: Left hand
		R: Right hand
9	Destination	None: For General Export
		W: For GCC

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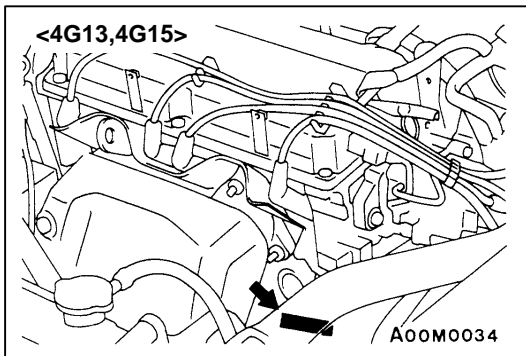
**CHASSIS NUMBER**

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

<u>C</u>	<u>M</u>	<u>N</u>	<u>CJ</u>	<u>1</u>	<u>A</u>	<u>T</u>	<u>U</u>	<u>00001</u>
1	2	3	4	5	6	7	8	9

00M0041

No.	Items	Contents	
1	Destination	C	For General Export, right hand drive
		D	For General Export or GCC, left hand drive
2	Body style	M	2-door hatchback
		S	4-door sedan
3	Transmission type	N	5-speed manual transmission
		R	4-speed automatic transmission
4	Development order	CJ	COLT
		CK	LANCER
5	Engine	1	4G13: 1,299 ml petrol engine
		2	4G15: 1,468 ml petrol engine
		4	4G92: 1,597 ml petrol engine
6	Sort	A	Passenger car
7	Model year	T	1996
8	Plant	U	Mizushima Motor Vehicle Works
9	Serial number	—	—

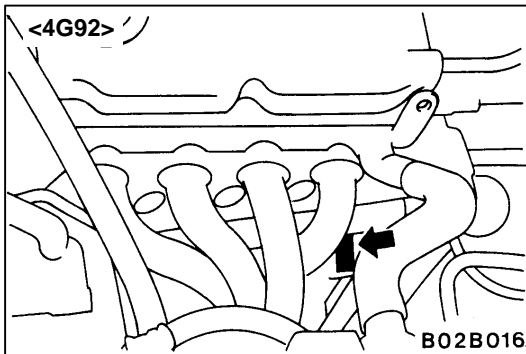
**ENGINE MODEL NUMBER**

1. The engine model number is stamped at the cylinder block as shown in the following.

Engine model	Engine displacement ml
4G13	1,299
4G15	1,468
4G92	1,597

2. The engine serial number is stamped near the engine model number.

Engine serial number	AA0201 to YY9999
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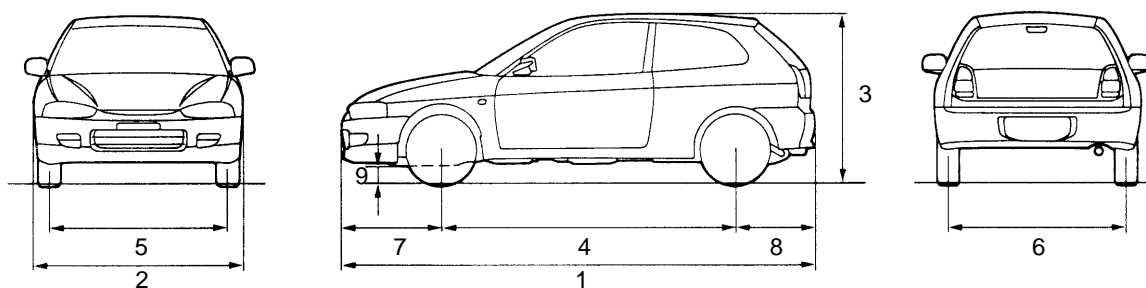


MAJOR SPECIFICATIONS <VEHICLES FOR GENERAL EXPORT> <HATCHBACK>

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00M0035

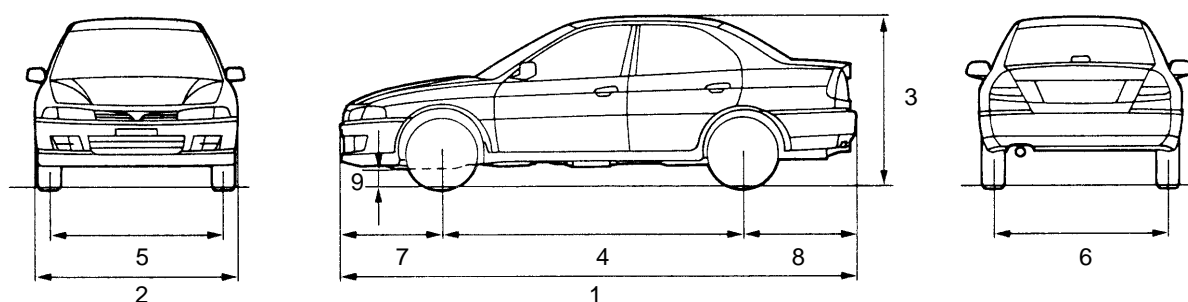
Items			CJ1A MNDL, MNDR	CJ2A MNJL, MNJR	CJ2A MRJL, MRJR	CJ4A MNJEL, MNJER	CJ4A MRJEL, MRJER
Vehicle dimensions mm	Overall length	1	3,870	3,870	3,870	3,870	3,870
	Overall width	2	1,680	1,680	1,680	1,680	1,680
	Overall height (unladen)	3	1,365* 1,385**	1,365* 1,385**	1,365* 1,385**	1,380* 1,400**	1,380* 1,400**
	Wheelbase	4	2,415	2,415	2,415	2,415	2,415
	Track-front	5	1,450	1,450	1,450	1,450	1,450
	Track-rear	6	1,460	1,460	1,460	1,460	1,460
	Overhang-front	7	795	795	795	795	795
	Overhang-rear	8	660	660	660	660	660
	Ground clearance (unladen)	9	150	150	150	165	165
Vehicle weight kg	Kerb weight		930	940	960	980	1,000
	Max. gross vehicle weight rating		1,470	1,470	1,470	1,505	1,505
	Max. axle weight rating-front		780	810	810	810	810
	Max. axle weight rating-rear		705	705	705	705	705
Seating capacity			5				
Engine	Model No.		4G13	4G15		4G92	
	Total displacement ml		1,299	1,468		1,597	
Transmis- sion	Model No.		F5M41	F5M41	F4A41	F5M41	F4A41
	Type		5-speed manual	5-speed manual	4-speed automatic	5-speed manual	4-speed automatic
Fuel system	Fuel supply system		Variable-venturi carburettor			Electronic controlled multipoint fuel injection	

NOTE

*: R.H. drive vehicles without roof spoiler

**: R.H. drive vehicles with roof spoiler

<SEDAN>



00M0036

Items			CK1A SNML, SNMR	CK1A SNDL, SNDR	CK1A SRDL, SRDR	CK1A SNJL, SNJR	CK1A SRJL, SRJR	CK1A SNJEL, SNJER	CK1A SRJEL, SRJER
Vehicle dimensions mm	Overall length	1	4,290	4,290	4,290	4,290	4,290	4,290	4,290
	Overall width	2	1,690	1,690	1,690	1,690	1,690	1,690	1,690
	Overall height (unladen)	3	1,395	1,395	1,395	1,395	1,395	1,410	1,410
	Wheelbase	4	2,500	2,500	2,500	2,500	2,500	2,500	2,500
	Track-front	5	1,450	1,450	1,450	1,450	1,450	1,450	1,450
	Track-rear	6	1,460	1,460	1,460	1,460	1,460	1,460	1,460
	Overhang-front	7	840	840	840	840	840	840	840
	Overhang-rear	8	950	950	950	950	950	950	950
	Ground clearance (unladen)	9	150	150	150	150	150	165	165
Vehicle weight kg	Kerb weight		960	965	985	975	995	990	1,010
	Max. gross vehicle weight rating		1,490	1,490	1,490	1,530	1,530	1,530	1,530
	Max. axle weight rating-front		780	780	780	820	820	820	820
	Max. axle weight rating-rear		720	720	720	720	720	720	720
Seating capacity			5						
Engine	Model No.	4G13							
	Total displacement ml	1,299							
Transmis- sion	Model No.	F5M41			F4A41	F5M41	F4A41	F5M41	F4A41
	Type	5-speed manual			4-speed auto- matic	5-speed manual	4-speed auto- matic	5-speed manual	4-speed auto- matic
Fuel system	Fuel supply system	Variable-venturi carburettor						Electronic con- trolled multipoint fuel injection	

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00 GENERAL 1996 – Major Specifications

Items			CK2A SNJL, SNJR	CK2A SRJL, SRJR	CK4A SNJEL, SNJER	CK4A SRJEL, SRJER
Vehicle dimensions mm	Overall length	1	4,290	4,290	4,290	4,290
	Overall width	2	1,690	1,690	1,690	1,690
	Overall height (unladen)	3	1,395	1,395	1,410	1,410
	Wheelbase	4	2,500	2,500	2,500	2,500
	Track-front	5	1,450	1,450	1,450	1,450
	Track-rear	6	1,460	1,460	1,460	1,460
	Overhang-front	7	840	840	840	840
	Overhang-rear	8	950	950	950	950
	Ground clearance (unladen)	9	150	150	165	165
Vehicle weight kg	Kerb weight		980	1,000	1,025	1,045
	Max. gross vehicle weight rating		1,530	1,530	1,530	1,530
	Max. axle weight rating-front		820	820	820	820
	Max. axle weight rating-rear		720	720	720	720
Seating capacity			5			
Engine	Model No.		4G15		4G92	
	Total displacement ml		1,468		1,597	
Transmis- sion	Model No.		F5M41	F4A41	F5M41	F4A41
	Type		5-speed manual	4-speed automatic	5-speed manual	4-speed automatic
Fuel system	Fuel supply system		Variable-venturi carburettor		Electronic controlled multipoint fuel injection	

MAIN

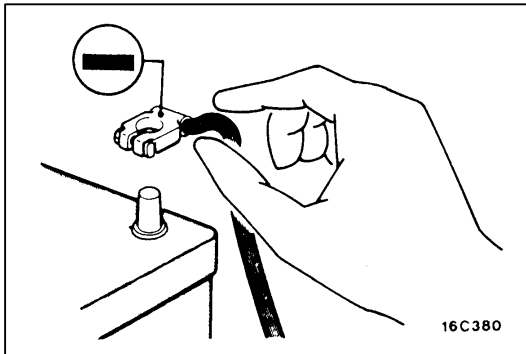
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PRECAUTIONS BEFORE SERVICE

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) Wait at least 60 seconds after disconnecting the battery cable before doing any further work.
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. (SRS air bag control unit, air bag module and clock spring.) If faulty, replace it.
 - (5) Warnings labels must be needed when servicing and handling SRS components. Warning labels are located in the following locations.
 - Sun visor
 - Glove box
 - SRS air bag control unit
 - Steering wheel
 - Steering gear and linkage
 - Air bag module
 - Clock spring
 - (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 is facing upwards.
 - (7) Be sure to deploy the air bag before disposing of air bag module or disposing of a vehicle equipped with an air bag. (Refer to [GROUP 52B – Air Bag Module 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 place 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, 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.)

APPLICATION OF ANTI-CORROSION AGENTS AND UNDERCOATS

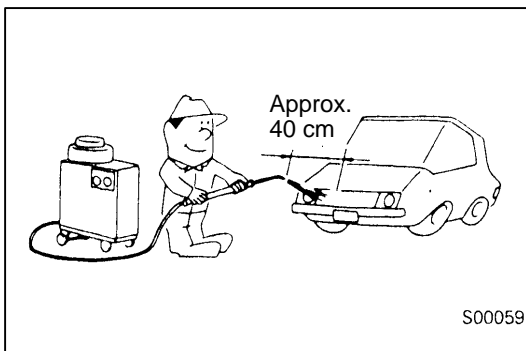
If oil or grease gets onto the oxygen sensor, it will cause a drop in the performance of the sensor.

Cover the oxygen sensor with a protective cover when applying anti-corrosion agents and undercoats.

PRE-INSPECTION CONDITION

“Pre-inspection condition” refers to the condition that the vehicle must be in before proper engine inspection can be carried out. If you see the words “Set the vehicle to the pre-inspection condition.” in this manual, it means to set the vehicle to the following condition.

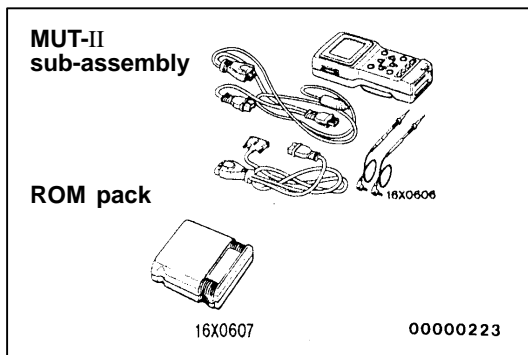
- Engine coolant temperature: 80–90°C
- Lamps, electric cooling fan and all accessories: OFF
- M/T: Neutral
- A/T: P range



VEHICLE WASHING

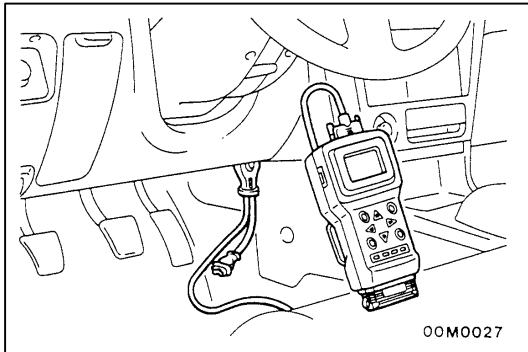
If high-pressure car-washing equipment or steam car-washing equipment is used to wash the vehicle, be sure to note the following information in order to avoid damage to plastic components, etc.

- Spray nozzle distance: Approx. 40 cm or more
- Spray pressure: 3,900 kPa or less
- Spray temperature: 82°C or less
- Time of concentrated spray to one point: within 30 sec.



MUT-II

Refer to the MUT-II INSTRUCTION MANUAL for instructions on handling the MUT-II.



Connect the MUT-II to the diagnosis connector as shown in the illustration.

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 separately 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)

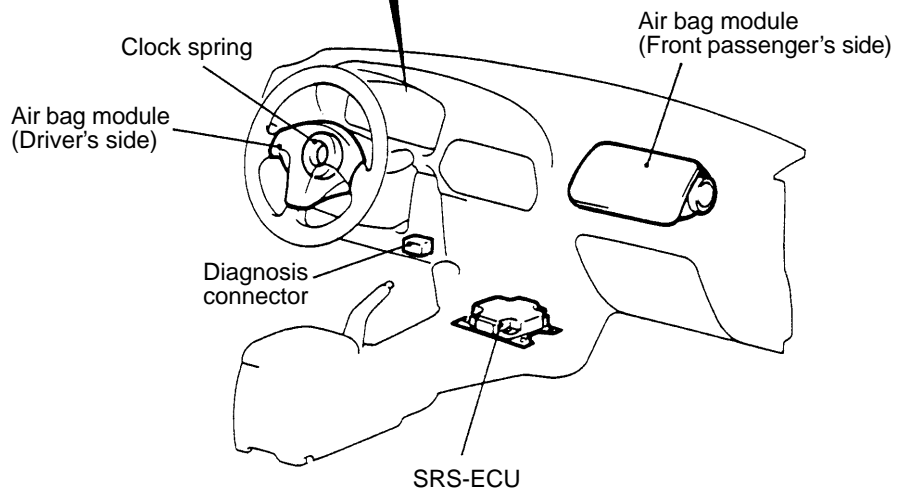
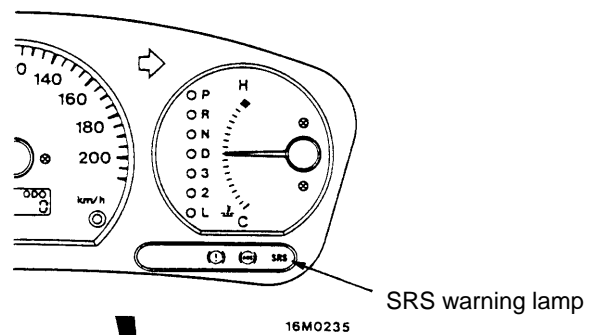
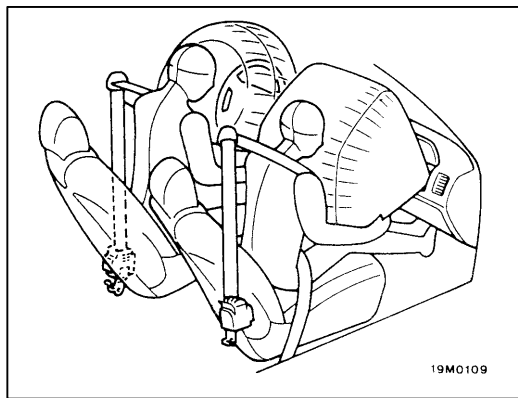
GENERAL INFORMATION

To improve safety, the SRS is available as optional parts.

The SRS consists of two air bag modules, SRS air bag control unit (SRS-ECU), SRS warning lamp and clock spring.

One air bag is located in the centre of the steering wheel and another above the glove box. Each air bag has a folded air bag and an inflator unit. The control unit under the floor console monitors the system and has a safing G sensor and an analog G sensor. The warning lamp on the instrument panel

indicates the operational status of the SRS. The clock spring is installed in the steering column. 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 bags) or the driver (by rendering the SRS inoperative).

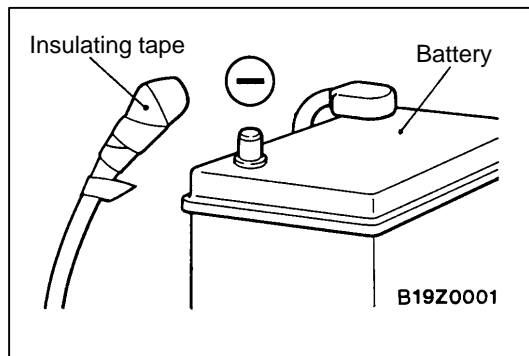


SRS SERVICE PRECAUTIONS

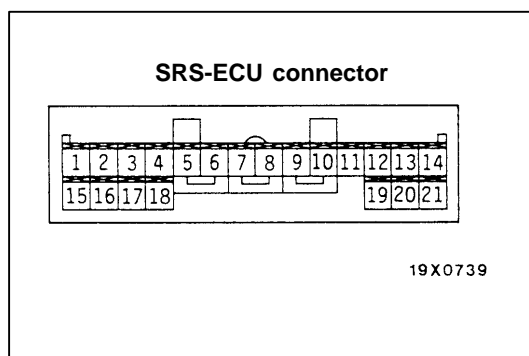
1. In order to avoid injury to yourself or others from accidental deployment of the air bag during servicing, read and carefully follow all the precautions and procedures described in this manual.
2. Do not use any electrical test equipment on or near SRS components, except those specified on GROUP 52B.
3. **Never Attempt to Repair the Following Components:**
 - SRS air bag control unit (SRS-ECU)
 - Clock Spring
 - Air Bag Module
(Driver's side or front passenger's side*)

NOTE

*: Vehicles with front passenger's air bag. If any of these components are diagnosed as faulty, they should only be replaced, in accordance with the procedures in Group 52B **INDIVIDUAL COMPONENTS SERVICE**.



4. 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 disconnected.



5. 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.

00 GENERAL 1996 – Supplemental Restraint System (SRS)

SRS-ECU terminal No.	Harness connector (No. of terminals, colour)	Destination of harness	Corrective action
1 to 4	21 pins, yellow	–	–
5		Body wiring harness → Clock spring → Air bag module (Driver's side)	Correct or replace each wiring harness. Replace clock spring.
6			
7*		Body wiring harness → Air bag module (Front passenger's side)	Correct or replace each wiring harness.
8*			
9,10		–	–
11		Body wiring harness → Diagnosis connector	Correct or replace each wiring harness.
12		–	–
13		Body wiring harness → Junction block (fuse No.2)	Correct or replace each wiring harness.
14		Body wiring harness → Junction block (fuse No.4)	
15		Body wiring harness → SRS warning lamp	
16 to 19		–	–
20		Body wiring harness → Earth	Correct or replace body wiring harness.
21			

NOTE

*: Vehicles with front passenger's air bag

- SRS components should not be subjected to heat over 93 °C; so remove the SRS-ECU, air bag module and clock spring before drying or baking the vehicle after painting.
- Whenever you finish servicing the SRS, check warning lamp operation to make sure that the system functions properly. (Refer to [GROUP 52B – SRS Maintenance](#).)
- Make certain that the ignition switch is OFF when the MUT-II is connected or disconnected.
- 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.

MAIN

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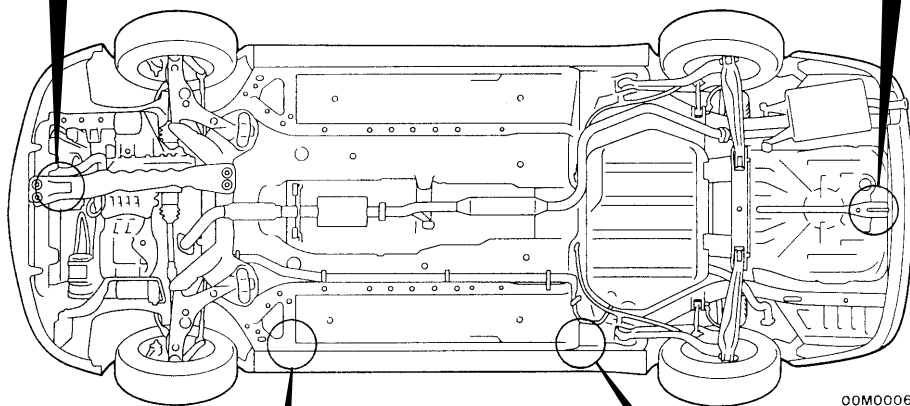
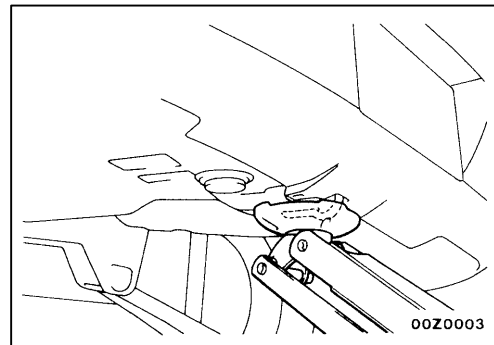
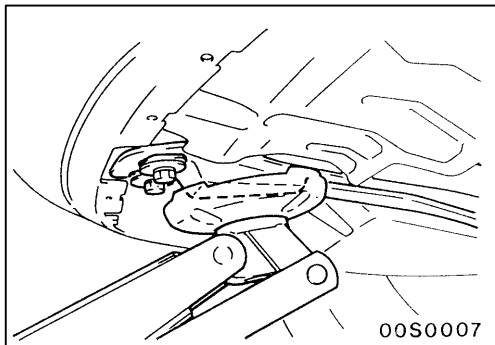
SUPPORT LOCATIONS FOR LIFTING AND JACKING

Caution

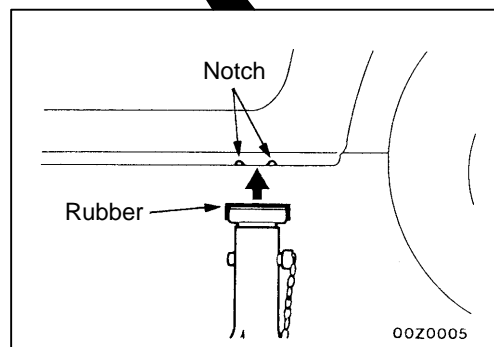
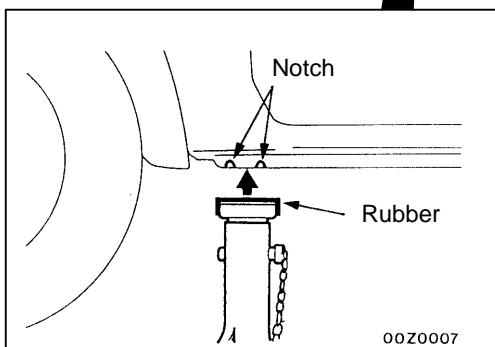
Do not support the vehicles at locations other than specified supporting points. If do so, this will cause damage, etc.

SUPPORT POSITIONS FOR A GARAGE JACK AND AXLE STANDS

GARAGE JACK



AXLE STANDS



SUPPORT POSITIONS FOR A SINGLE-POST LIFT OR DOUBLE-POST LIFT

Caution

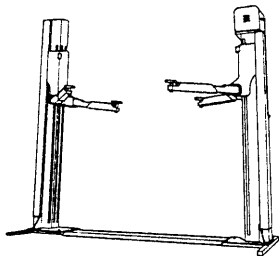
When service procedures require removing rear suspension, spare tyre and rear bumper, place additional weight on rear end of vehicle or anchor vehicle to hoist to prevent tipping of centre of gravity changes.

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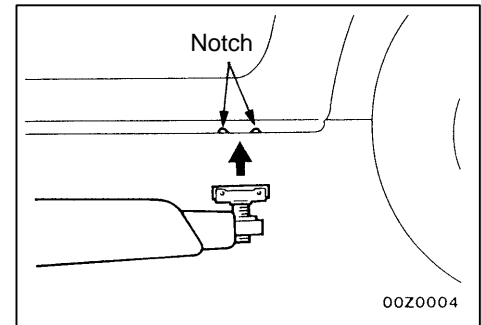
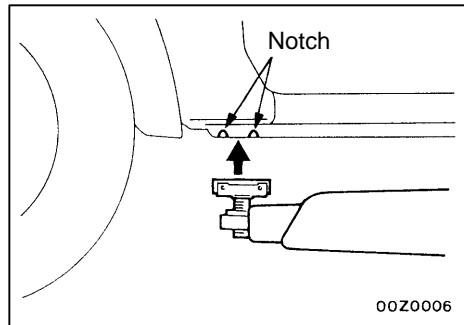
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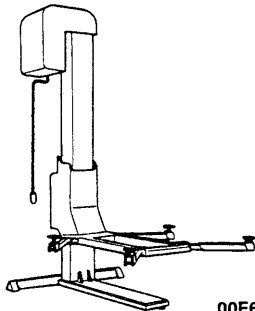
DOUBLE-POST LIFT



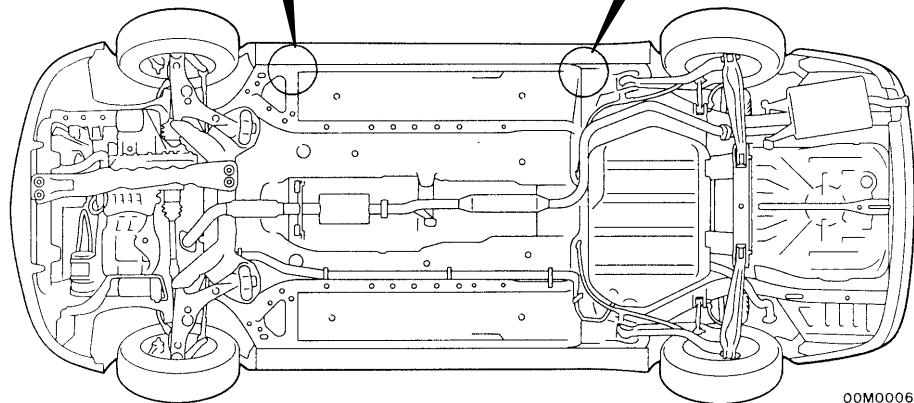
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SINGLE-POST LIFT



00E609



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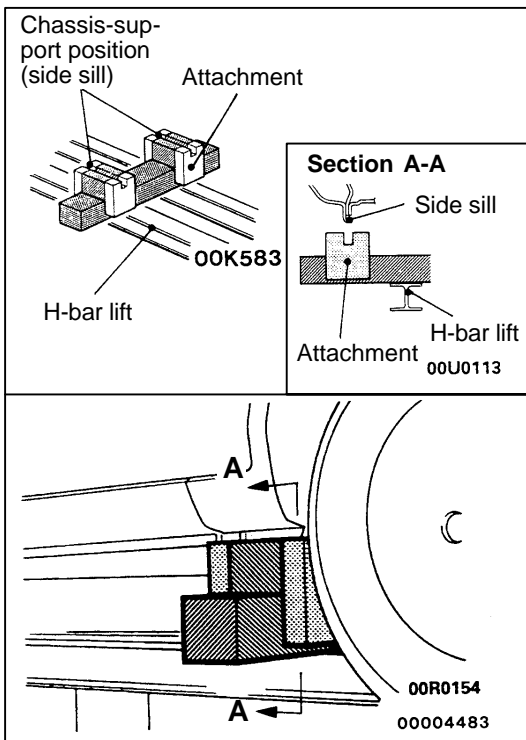
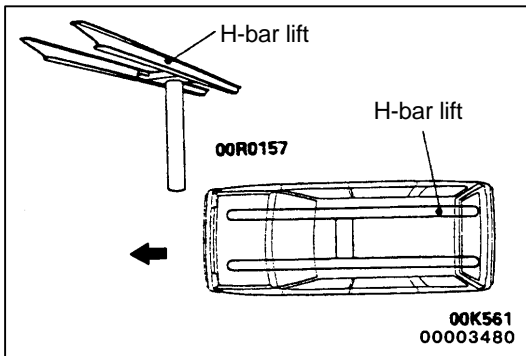
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SUPPORT POSITIONS AND SUPPORT METHOD FOR AN H-BAR LIFT

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.

PREPARATION OF “ATTACHMENTS”

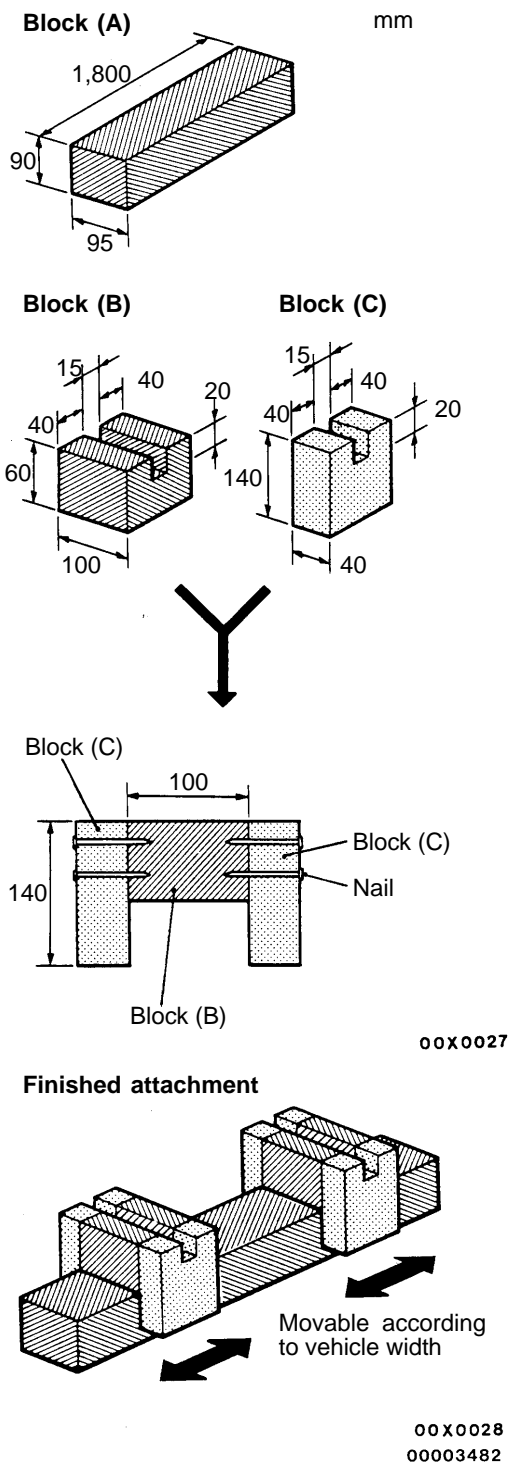
1. Prepare the blocks (wooden) and nails as shown in the figure.

Item	Dimensions mm	Quantity
Block (A)	90 × 95 × 1,800	2
Block (B)	60 × 100 × 95	4
Block (C)	140 × 40 × 95	8
Nail	70 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) blocks is sandwiches between (C) blocks.



TIGHTENING TORQUE

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

Thread size		Torque Nm		
Bolt nominal diameter (mm)	Pitch (mm)	Head mark "4"	Head mark "7"	Head mark "8"
M5	0.8	2.5	4.9	5.9
M6	1.0	4.9	8.8	9.8
M8	1.25	12	22	25
M10	1.25	24	44	52
M12	1.25	41	81	96
M14	1.5	72	137	157
M16	1.5	111	206	235
M18	1.5	167	304	343
M20	1.5	226	412	481
M22	1.5	304	559	647
M24	1.5	392	735	853

Flange bolt and nut tightening torque

Thread size		Torque Nm		
Bolt nominal diameter (mm)	Pitch (mm)	Head mark "4"	Head mark "7"	Head mark "8"
M6	1.0	4.9	9.8	12
M8	1.25	13	24	28
M10	1.25	26	49	57
M10	1.5	24	44	54
M12	1.25	46	93	103
M12	1.75	42	81	96