

# GROUP 00

# GENERAL

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## HOW TO USE THIS MANUAL

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### MAINTENANCE, REPAIR AND SERVICING EXPLANATIONS

This manual provides explanations, etc. concerning procedures for the inspection, maintenance, repair and servicing of the subject model. Unless otherwise specified, each service procedure covers all models. Procedures covering specific models are identified by the model codes, or similar designation (engine type, transaxle type, etc). A description of these designations is covered in this manual under "VEHICLE IDENTIFICATION."

### ON-VEHICLE SERVICE

The "ON-VEHICLE SERVICE" section has procedures for performing inspections and adjustments of particularly important components. These procedures are done with regard to maintenance and servicing, but other inspections (looseness, play, cracking, damage, etc.) must also be performed.

### SERVICE PROCEDURES

The service steps are arranged in numerical order. Attention to be paid in performing vehicle service are described in detail in SERVICE POINTS.

### DEFINITION OF TERMS

#### STANDARD VALUE

Indicates the value used as the standard for judging whether or not a part or adjustment is correct.

#### LIMIT

Shows the maximum or minimum value for judging whether or not a part or adjustment is acceptable.

#### 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).

### DANGER, WARNING, AND CAUTION

DANGER, WARNING, and CAUTION call special attention to a necessary action or to an action that must be avoided. The differences among DANGER, WARNING, and CAUTION are as follows:

- If a DANGER is not followed, the result is severe bodily harm or even death.
- If a WARNING is not followed, the result could be bodily injury.
- If a CAUTION is not followed, the result could be damage to the vehicle, vehicle components or service equipment.

### TIGHTENING TORQUE INDICATION

The tightening torque indicates a median and its tolerance by a unit of N·m (in·lb.) or N·m (ft·lb.). For fasteners with no assigned torque value, refer to [P.00-32](#).

### SPECIAL TOOL NOTE

Only MMC special tool part numbers are called out in the repair sections of this manual. Please refer to the special tool cross-reference chart located at the beginning of each group, for the special tool number that is available in your market.

### ABBREVIATIONS

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

A/T: Automatic transaxle, or models equipped with automatic transaxle.

MPI: Multipoint fuel injection, or engines equipped with multiport fuel injection.

A/C: Air conditioning.

3.8L engine: 3.8 litre <6G75> engine, or a model equipped with such an engine.

ABS: Anti-lock Braking System

TCL: Traction Control System

ECU: Electronic Control Unit

V.C.I.: Vehicle Communication Interface

SWS: Simplified Wiring System

CAN: Controller Area Network

M/T: Manual Transmission

SRS: Supplemental Restraint System

Denotes tightening torque. □  
If there is no indication of □  
tightening torque, refer to □  
tightening torque.

Indicates the  
section title.

Indicates the  
group title.

Indicates the  
group number.

Indicates the page number.

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.

Mark **N** denotes non-reusable part.

**Component diagram**  
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.

**BASIC BRAKE SYSTEM**  
**FRONT DISC BRAKE ASSEMBLY**

**35A-81**

**FRONT DISC BRAKE ASSEMBLY**

**REMOVAL AND INSTALLATION**

**Pre-removal Operation**

- Brake Fluid Draining

**Post-installation Operation**

- Brake Fluid Supplying and Air Bleeding (Refer to .)

**REMOVAL STEPS**

1. BRAKE HOSE CONNECTION
2. GASKET

**REMOVAL STEPS (Cont.)**

3. DISC BRAKE ASSEMBLY
4. BRAKE DISC

**Required Special Tool:**

- MB990520: Disc Brake Piston Expander

**Maintenance and servicing procedures**

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

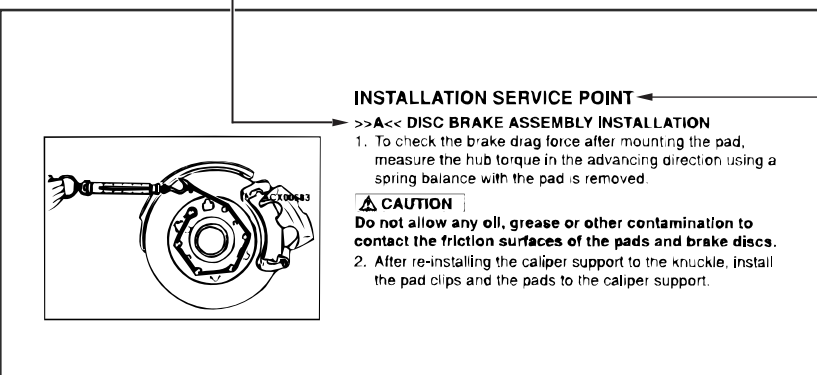
- **Removal steps :**  
The part designation number corresponds to the number in the illustration to indicate removal □ steps.
- **Disassembly steps :**  
The part designation number corresponds to the number in the illustration to indicate disassembly steps.
- **Installation steps :**  
Specified in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

### Classifications of major maintenance / service points

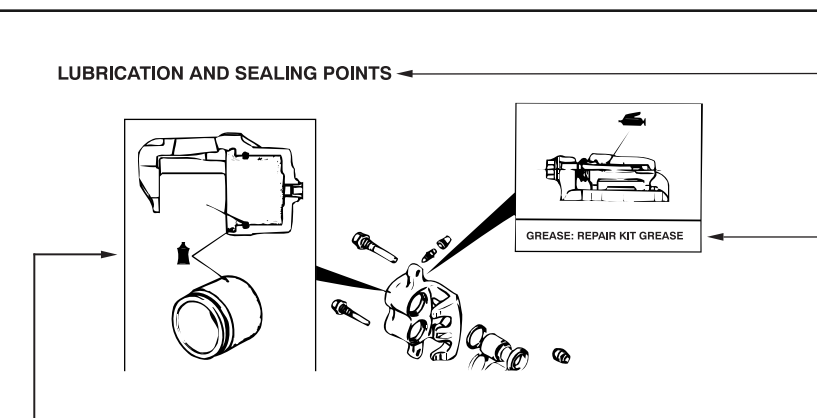
When there are major points relative to maintenance and servicing procedures (such as essential maintenance and service points, maintenance and service standard values, information regarding the use of special tools, etc.). These are arranged together as major maintenance and service points and explained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

<<A>> : Indicates that there are essential points for removal or disassembly.

>>A<< : Indicates that there are essential points for installation or assembly.



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








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.

Indicates (by symbols) where lubrication is necessary.

### Symbols for lubrication, sealants and adhesives

Symbols are used to show the locations for lubrication and for application of sealants and adhesives. □ These symbols are included in the diagram of □ component parts or on the page following the □ component parts page. The symbols do not always □ have accompanying text to support that symbol.

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

# TROUBLESHOOTING GUIDELINES

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## VERIFY THE COMPLAINT

- Make sure the customer's complaint and the service writer's work order description are understood before starting work.
- Make sure you understand the correct operation of the system. Read the service manual description to verify normal system operation.
- Operate the system to see the symptoms. Look for other symptoms that were not reported by the customer, or on the work order, that may be related to the problem.

## DETERMINE POSSIBLE CAUSES

Compare the confirmed symptoms to the diagnostic symptom indexes to find the right diagnosis procedure.

If the confirmed symptoms cannot be found on any symptom index, determine other possible causes.

- Analyze the system diagrams and list all possible causes for the problem symptoms.
- Rank all these possible causes in order of probability, based on how much of the system they cover, how likely they are to be the cause, and how easy they will be to check. Be sure to take experience into account. Consider the causes of similar problems seen in the past. The list of causes should be ranked in order from general to specific, from most-likely to least-likely, and from easy-to-check to hard-to-check.

## FIND THE PROBLEM

After the symptoms have been confirmed, and probable causes have been identified, the next step is to make step-by-step checks of the suspected system components, junctions, and links in logical order. Use the diagnostic procedures in the service manual whenever possible. Follow these procedures carefully to avoid missing an important step in the diagnosis sequence. It might be the skipped step that leads to the solution of the problem.

If the service manual doesn't have step-by-step procedures to help diagnose the problem, make a series of checks based on the ranked list of probable causes. Troubleshooting checks should be made in the order that the list of causes was ranked:

- general to specific
- most-likely to least-likely
- easy-to-check to hard-to-check

## REPAIR THE PROBLEM

When the step-by-step troubleshooting checks find a fault, perform the proper repairs. Make sure to fix the root cause of the problem, not just the symptom. Just fixing the symptom, without fixing the root cause, will cause the symptom to eventually return.

## VERIFY THE REPAIR

After repairs are made, recheck the operation of the system to confirm that the problem is eliminated. Be sure to check the system thoroughly. Sometimes new problems are revealed after repairs have been made.

# HOW TO USE TROUBLESHOOTING/INSPECTION SERVICE POINTS

## TROUBLESHOOTING CONTENTS

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### CAUTION

- During diagnosis, a DTC code associated with other system may be set when the ignition switch is turned on with connector(s) disconnected. On completion, confirm all systems for DTC code(s). If DTC code(s) are set, erase them all.
- When the DIAGNOSTIC TOOL (MUT-III) detects a diagnostic trouble code, its display informs users whether a mechanical problem currently exists ("current trouble") or whether it existed before but normal operation has been restored ("past trouble"). However, if an MPI, TPMS or SRS airbag-related DTC is set, "Active DTC/Stored DTC" is not displayed. In this case, follow the diagnosis procedure for current trouble.
- If a trouble, detected in a CAN communication-capable system, can be reproduced, diagnose the CAN bus lines (Refer to GROUP 54C, Can Bus Line Diagnostics Chart [P.54C-15](#) or [P.54C-15](#)).

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

### 1. STANDARD FLOW OF DIAGNOSTIC TROUBLESHOOTING

Troubleshooting strategy is shown in each group.

### 2. SYSTEM OPERATION AND SYMPTOM VERIFICATION TESTS

If verification of the symptom(s) is difficult, procedures for checking operation and verifying symptoms are shown.

### 3. DIAGNOSTIC FUNCTION

The following trouble code diagnoses are shown.

- How to read diagnostic trouble codes
- How to erase diagnostic trouble codes
- Input inspection service points

### 4. DIAGNOSTIC TROUBLE CODE CHART

If the MUT-III displays a diagnostic trouble code, find the applicable inspection procedure according to this chart.

### 5. SYMPTOM CHART

If there are symptoms, even though the MUT-III shows that no DTCs are set, inspection procedures for each symptom will be found by using this chart.

### 6. DIAGNOSTIC TROUBLE CODE PROCEDURES

Indicates the inspection procedures corresponding to each diagnostic trouble code. (Refer to [P.00-9](#)).

### 7. SYMPTOM PROCEDURES

Indicates the inspection procedures corresponding to each symptom listed in the Symptom Chart (Refer to [P.00-9](#)).

### 8. SERVICE DATA REFERENCE TABLE

Inspection items and normal judgment 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.

### TERMINAL VOLTAGE CHECKS

1. Use correct tool to check each pin location on the ENGINE-ECU Check harness MB992044 and measure with voltmeter.

### CAUTION

**Short-circuiting the positive (+) test probe between a connector terminal and ground could damage the vehicle wiring, the sensor, the ECU, or all three. Use care to prevent this!**

2. Insert the correct terminal tool into each of the ENGINE-ECU check harness connector terminals, and measure the voltage while referring to the check chart.

*NOTE: Measure voltage with the ECU connectors connected.*

*You may find it convenient to pull out the ECU to make it easier to connect the ENGINE-ECU check harness.*

*Checks don't have to be carried out in the order given in the chart.*

3. If voltage readings differ from normal condition values, check related sensors, actuators, and wiring. Replace or repair as needed.
4. After repair or replacement, recheck with the voltmeter to confirm that the repair has corrected the problem.

## TERMINAL RESISTANCE AND CONTINUITY CHECKS

1. Turn the ignition switch to the "LOCK" (OFF) position.
2. Disconnect the ECU connector.

### CAUTION

**If resistance and continuity checks are performed on the wrong terminals, damage to the vehicle wiring, sensors, ECU, and/or ohmmeter may occur. Use care to prevent this!**

3. Measure the resistance and check for continuity between the terminals of the ENGIN-ECU check harness MB992044 connector while referring to the check chart.

*NOTE: Checks don't have to be carried out in the order given in the chart.*

4. If the ohmmeter shows any deviation from the Normal Condition value, check the corresponding sensor, actuator and related electrical wiring, then repair or replace.
5. After repair or replacement, recheck with the ohmmeter to confirm that the repair has corrected the problem.

## 10. INSPECTION PROCEDURES USING AN OSCILLOSCOPE

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



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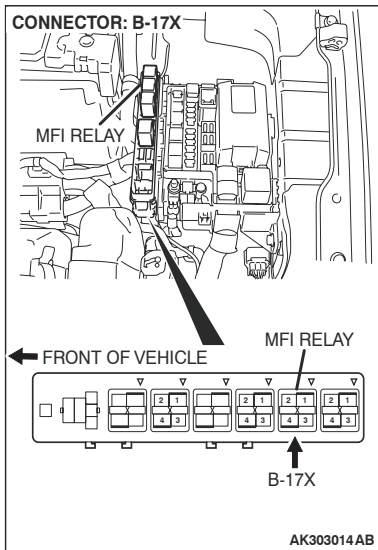
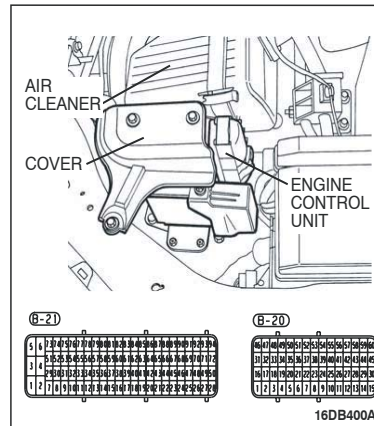
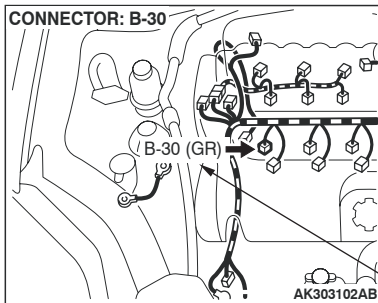
## HOW TO USE THE INSPECTION PROCEDURES

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

### DTC P0202: Injector Circuit Malfunction - Cylinder 2.

#### ⚠ CAUTION

If DTC P0202 has been set, TCL related DTC U1120 is also set. After P0202 has been diagnosed, don't forget to erase DTC U1120.



(2) For connector color, refer to GROUP 80A, How to read configuration diagrams.

(3) Shows the location of the connector(s) from the circuit(s) above.

(4) Explains about the operation principle of the component or its relevant parts in that circuit.

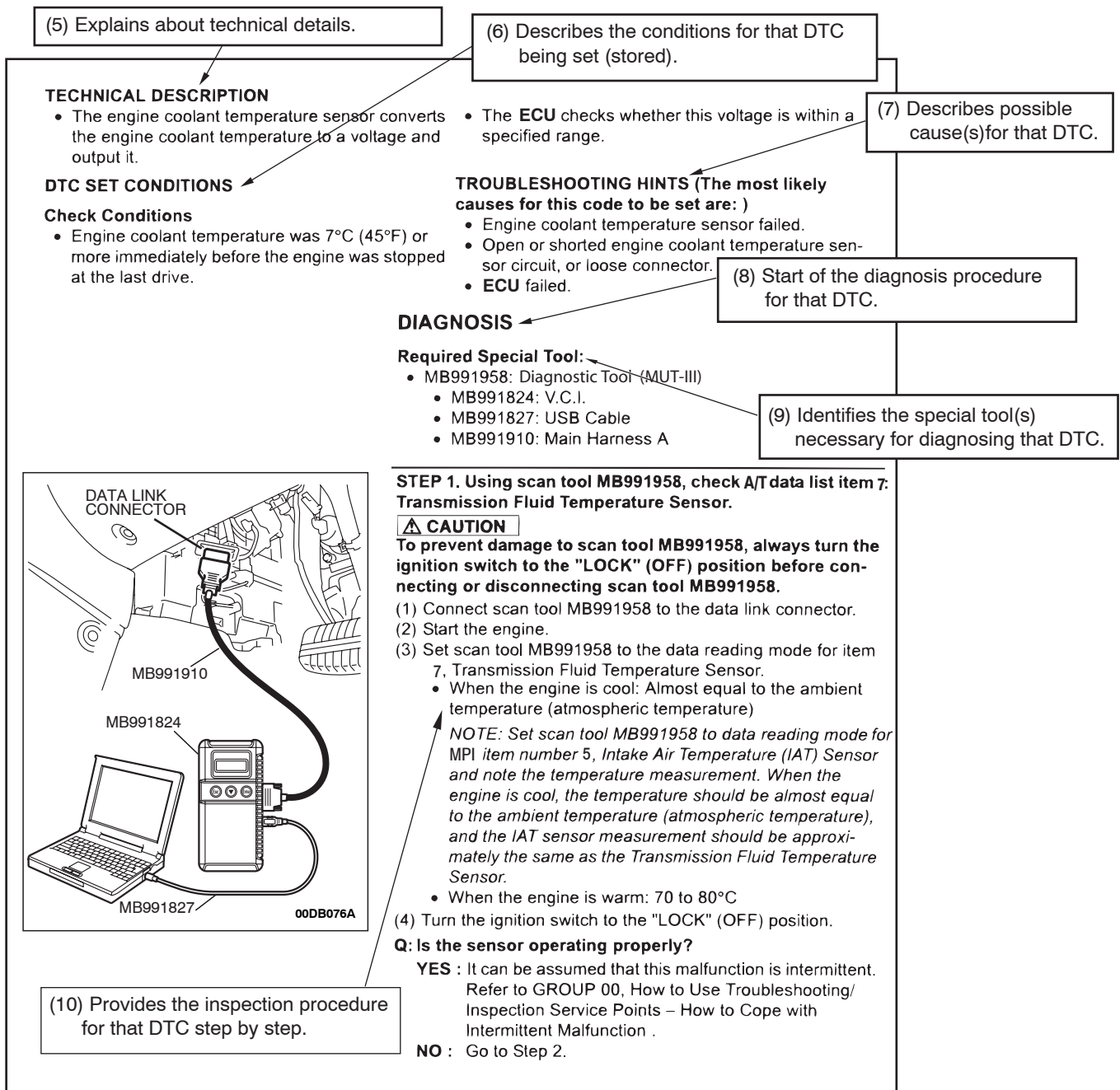
#### CIRCUIT OPERATION

- Refer to DTC P0300 - Random/Multiple Misfire- [P.13B-481](#) and Misfire Cylinder 2- [P.13B-487](#).
- The injector power is supplied from the MFI relay (terminal No. 4).
- The ECU controls the injector by turning the power transistor in the ECU "ON" and "OFF".

#### TROUBLESHOOTING HINTS (The most likely causes for this code to be set are:)

- No. 2 cylinder injector failed.
- Open or shorted to ground No.2 cylinder injector circuit.
- Shorted to battery, No.2 cylinder injector circuit.
- Harness or connector damage.
- Refer to component locations [GROUP-70](#)
- Refer to configuration diagrams [GROUP-80](#)
- Refer to circuit diagrams [GROUP-90](#)

(1) Relevant circuit(s) and location(s) of the component are described in these reference links.



00DB077A

## CURRENT TROUBLE

Indicates that the trouble is currently present. Carry out troubleshooting as described in the applicable inspection procedure.

## PAST TROUBLE

Indicates that the trouble is historic, but normal operation has been restored. Observe the applicable inspection procedure with particular emphasis on connector(s) and wiring harness.

## HARNESS INSPECTION

Check for an open or short circuit in the harness between the terminals which were faulty according to the connector measurements. Carry out this inspection while referring to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Here, "Check harness between power supply and terminal xx" also includes checking for blown fuse. For inspection service points when there is a blown fuse, refer to "Inspection Service Points for a Blown Fuse [P.00-16](#)."

## 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.

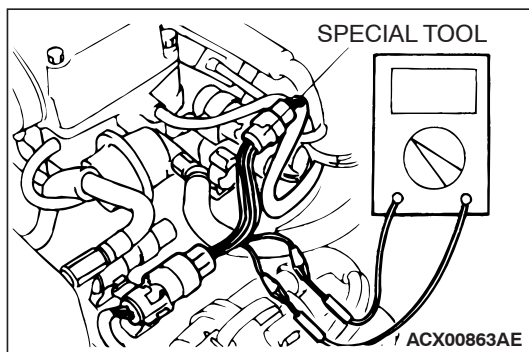
## CONNECTOR MEASUREMENT SERVICE POINTS

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Turn the ignition switch to the "LOCK" (OFF) position when connecting and disconnecting the connectors. Turn the ignition switch to "ON" when measuring, unless there are instructions to the contrary.

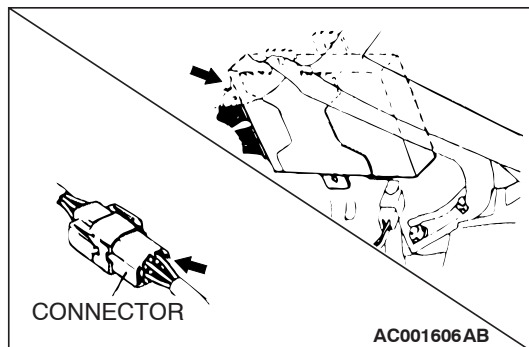
### IF INSPECTING WITH THE CONNECTOR CONNECTED <WATERPROOF CONNECTORS>

Be sure to use special tool. Never insert a test probe from the harness side, as this will reduce the waterproof performance and result in corrosion.



### IF INSPECTING WITH THE CONNECTOR CONNECTED <ORDINARY (NON-WATERPROOF) CONNECTORS>

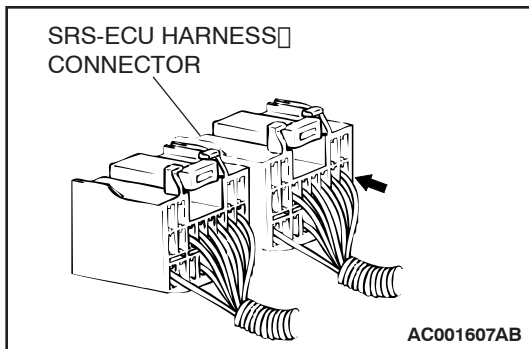
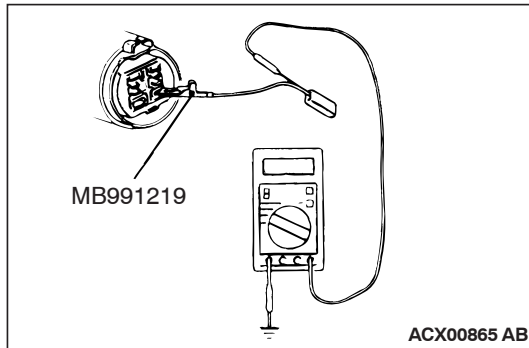
Check by inserting the multi-meter test probe from the harness side. Note that if the connector (control unit, etc.) is too small to permit insertion of the test probe, it should not be forced; use the test probe tool for this purpose.



## IF INSPECTING WITH THE CONNECTOR DISCONNECTED <WHEN INSPECTING A FEMALE PIN>

### Required Special Tool:

- MB991219: Inspection Harness (Included in MB991223, Harness Set)
- The special tool MB991219 for connector pin contact pressure should be used. The test probe should never be forcibly inserted, as it may cause a defective contact.



- From back side of the connector (SRS-ECU harness side connector)
- Since the SRS-ECU harness connector is plated to improve conductivity, observe the warning below when checking this connector.

### **⚠ WARNING**

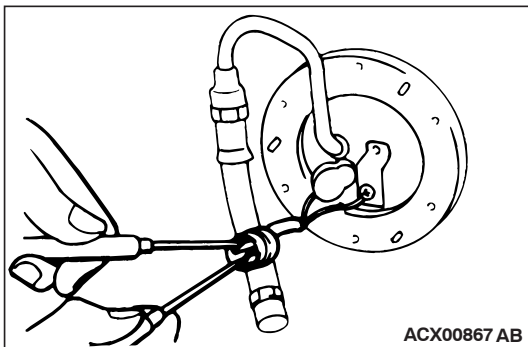
***Insert the test probe tool into the connector from the harness side, and connect the tester to the test probe tool. If any tool other than the test probe tool is used, it may cause damage to the harness and other components. Furthermore, measurement should not be carried out by touching the test probe tool directly against the terminals from the front of the connector. The terminals are plated to increase their conductivity, so that if they are touched directly by the test probe tool, the plating may break, which will decrease reliability.***

## IF INSPECTING WITH THE CONNECTOR DISCONNECTED <WHEN INSPECTING A MALE PIN>

### **⚠ CAUTION**

**At this time, be careful not to short the connector pins with the test probes. Doing so may damage the circuits inside the ECU.**

Touch the pin directly with the test probe.

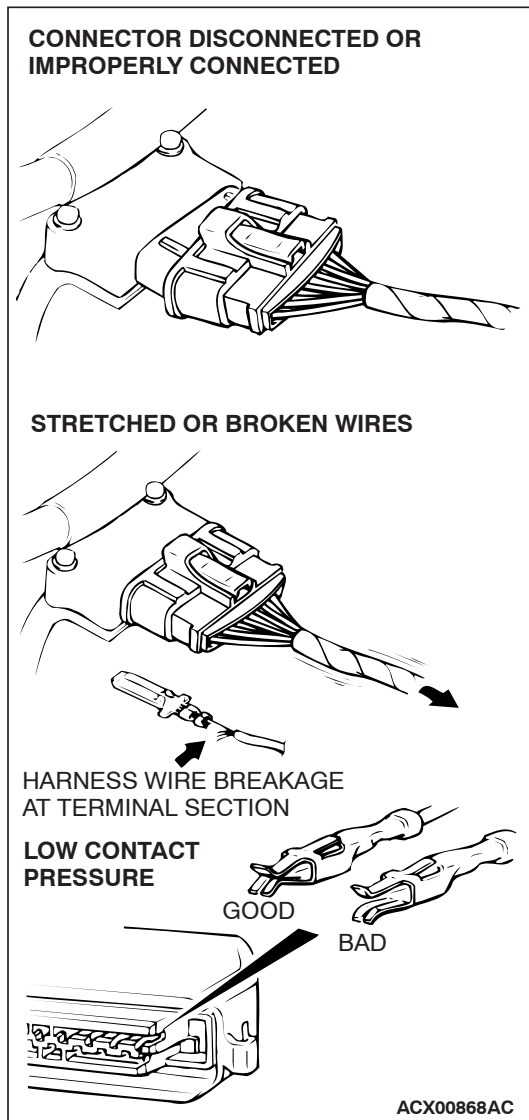


## CONNECTOR INSPECTION SERVICE POINTS

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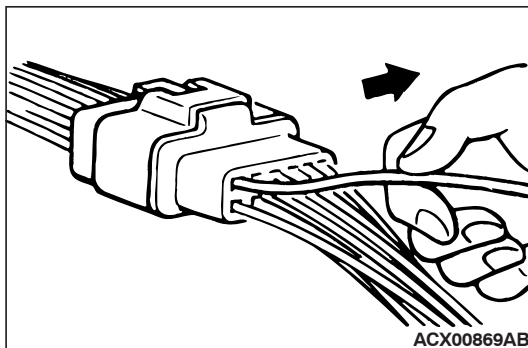
### VISUAL INSPECTION

- Connector is disconnected or improperly connected
- Connector pins are pulled out
- Stretched or broken wires 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 when the connector body is connected, because the pins may pull out of the back side of the connector. Therefore, gently pull the wires one by one to make sure that no pins pull out of the connector.

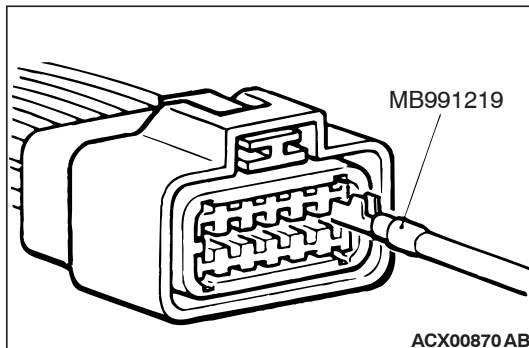


## CONNECTOR ENGAGEMENT INSPECTION

### Required Special Tool:

- MB991219: Inspection Harness (contained in MB991223 Test Harness)

Use special tool MB991219 to inspect the engagement of the male pins and female pins. [Pin drawing force: 1 N (0.2 pound) or more]



## HOW TO COPE WITH INTERMITTENT MALFUNCTIONS

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Most intermittent malfunctions occur under certain conditions. If those conditions can be identified, the cause will be easier to find.

### TO COPE WITH INTERMITTENT MALFUNCTION; 1. ASK THE CUSTOMER ABOUT THE MALFUNCTION

Ask what it feels like, what it sounds like, etc. Then ask about driving conditions, weather, frequency of occurrence, and so on.

### 2. DETERMINE THE CONDITIONS FROM THE CUSTOMER'S RESPONSES

Typically, almost all intermittent malfunctions occur from conditions like vibration, temperature and/or moisture change, poor connections. From the customer's responses, it should be reasoned which condition is most likely.

### 3. USE SIMULATION TEST

Use the simulation tests below to attempt to duplicate the customer's complaint. Determine the most likely circuit(s) and perform the simulation tests on the connectors and parts of that circuit(s). Be sure to use the inspection procedures provided for diagnostic trouble codes and trouble symptoms.

For temperature and/or moisture condition related intermittent malfunctions, try to change the conditions of the suspected circuit components, then use the simulation tests below.

#### 4. VERIFY THE INTERMITTENT MALFUNCTION IS ELIMINATED

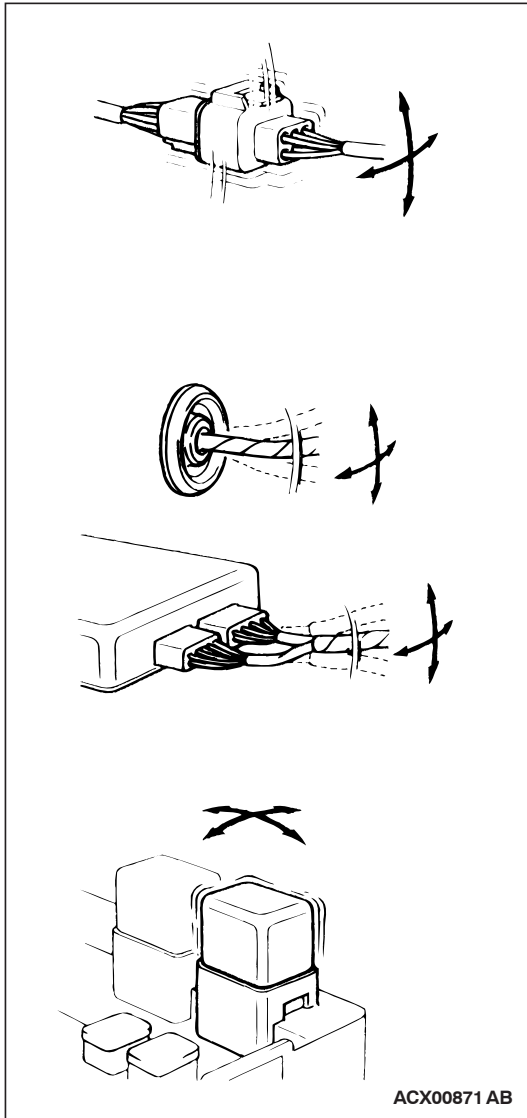
Repair the malfunctioning part and try to duplicate the condition(s) again to verify the intermittent malfunction has been eliminated.

#### SIMULATION TESTS

*NOTE: In case of difficulty in finding the cause of the intermittent malfunction, the data recorder function in the DIAGNOSTIC TOOL (MUT-III) is effective.*

For these simulation tests, shake, then gently bend, pull, and twist the wiring of each of these examples to duplicate the intermittent malfunction.

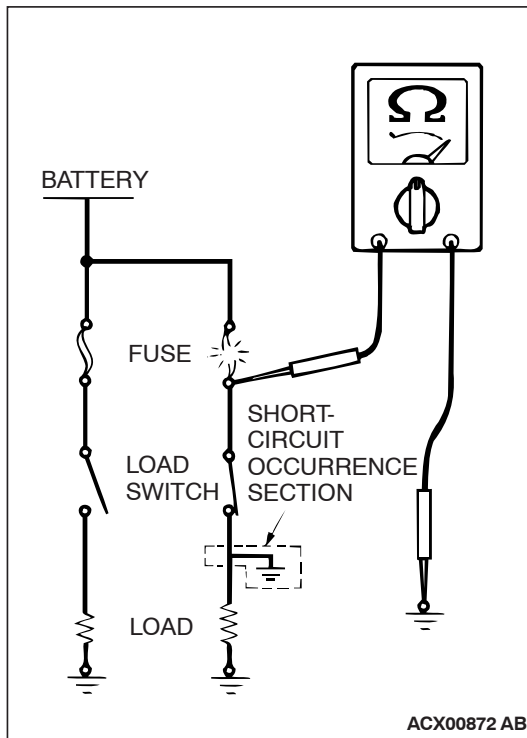
- Shake the connector up-and-down, and right-and-left.
- Shake the wiring harness up-and-down, and right-and-left. Especially, check the splice points of wiring harnesses carefully. Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#).
- Shake the part or sensor.





## INSPECTION SERVICE POINTS FOR A BLOWN FUSE

M1001013800067



Remove the blown fuse and measure the resistance between the load side of the blown fuse and the ground. Close the switches of all circuits which are connected to this fuse. 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).

## HOW TO TREAT CURRENT TROUBLE

M1001014000020

1. Make a note of the diagnostic trouble code, and erase it.
2. Check the trouble symptom again.
3. Check for diagnostic trouble codes again.
4. If a diagnostic trouble code is set, follow the applicable Diagnostic Trouble Code Chart.
5. If no diagnostic trouble code is set, refer to "How to Cope with Intermittent Malfunction [P.00-14](#)."

## HOW TO TREAT PAST TROUBLE

M1001014100050

1. Establish from the customer whether a fuse or connector has been replaced or disconnected.
2. If yes, erase the diagnostic trouble code, and then check that no diagnostic code is reset. If no diagnostic trouble code is reset, the diagnosis is complete.
3. If no, follow the applicable Diagnostic Trouble Code Chart. Then check the wiring harness and connector, and refer to "How to Cope with Intermittent Malfunction [P.00-14](#)."



## AFFILIATED DTC REFERENCE TABLE

M1001013000027

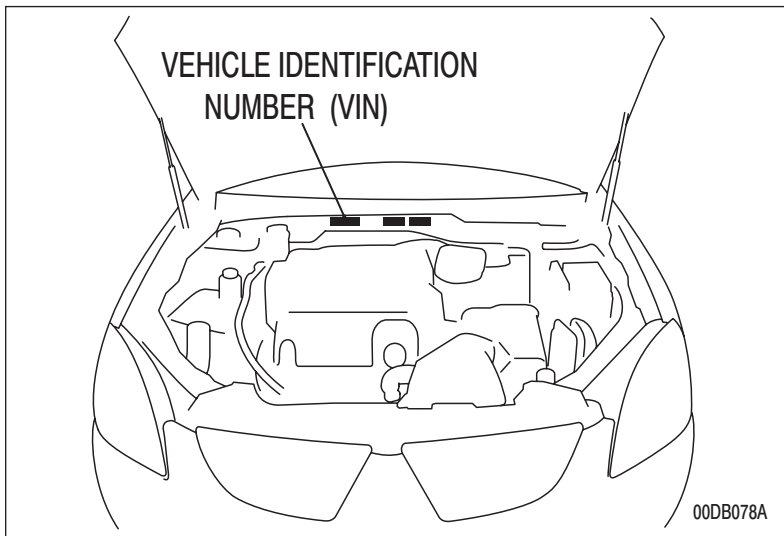
For vehicles with CAN, when DTC which influences the transmission data is set to the ECU which sends the data, DTC also could be set to the ECU which receives and controls the transmission data. The table below shows the relativity of DTC between ECUs.

AFFILIATED DTC's	RESULTS					
	P0513	P2138	TBA	U1120	U1100	U1110
U1120	X	-	X	-	-	-
U1100	-	-	-	-	-	-
U1120	X	X	X	X	-	X
U1110	-	-	-	-	-	-
TBA	-	-	-	-	-	-

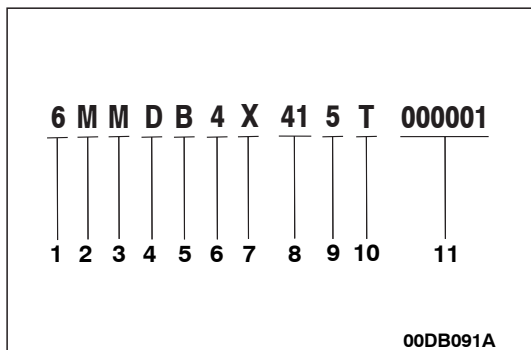
## VEHICLE IDENTIFICATION

## VEHICLE IDENTIFICATION NUMBER

M1001000401028



The vehicle identification number (VIN) is stamped on the bulkhead in the engine compartment and also on the compliance plate itself. It provides information for vehicle identification purposes and should be quoted when ordering parts or in any correspondence related to the vehicle



NO.	ITEM	CONTENT
1	Geographic Area	<b>6:</b> Australia
2	Country within Geographic area	<b>M:</b> Australia
3	Manufacturer	<b>M:</b> Mitsubishi Motors
4	Car line	<b>D:</b> 380
5	Series	<b>B:</b> Series
6	Engine/ Transmission combinations	<b>1:</b> 3.8 litre MPI <unleaded fuel> (5-speed manual) <b>4:</b> 3.8 litre MPI <unleaded fuel> (5-speed A/T)
7	Price class	<b>D:</b> 380 <b>V:</b> 380VRX <b>X:</b> 380GT <b>H:</b> 380LS, 380LX(full option pack)
8	Body Type	<b>41:</b> Sedan
9	Year	<b>5:</b> 2005
10	Assembly Plant	<b>T:</b> Tonsley Park
11	Body number	000001 to 999999

## VEHICLE INFORMATION NUMBER LIST

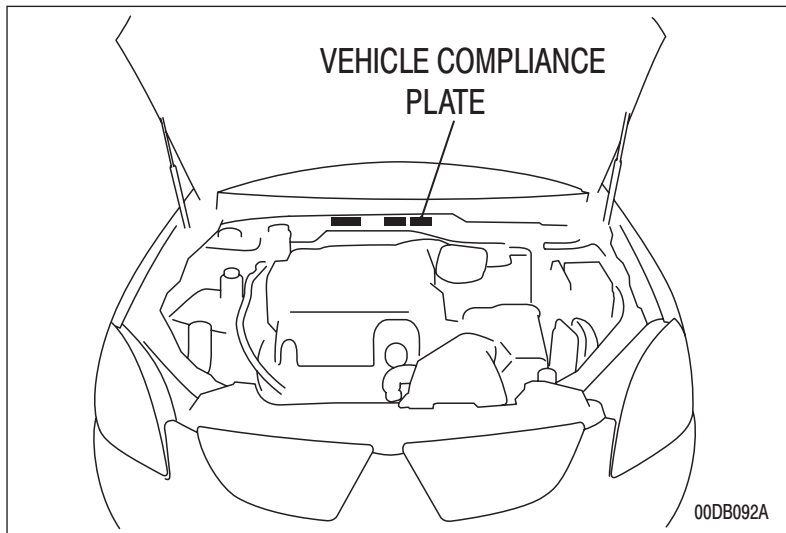
DL1ASNLERJ	DL1ASYLERJ	DL1ASNHERJ	DL1ASYHERJ	DL1ASYXERJ	DL1ASYDERJ
380 5M/T SEDAN	380 5A/T SEDAN	380VRX 5M/T SEDAN	380VRX 5A/T SEDAN	380GT 5A/T SEDAN	380LS** 5A/T SEDAN
DB1D41	DB4D41	DB1V41	DB4V41	DB4X41	DB4H41

NOTE: \*\* = Becomes 380LX as a full option pack.

## VEHICLE COMPLIANCE PLATE

The Compliance Plate is attached to the bulkhead (adjacent to the Data Plate) in the engine compartment and must never be removed from the vehicle

All vehicles are manufactured to confirm to specific safety, environmental or consumer protective requirements as defined by the Australian Design Rules (ADR).

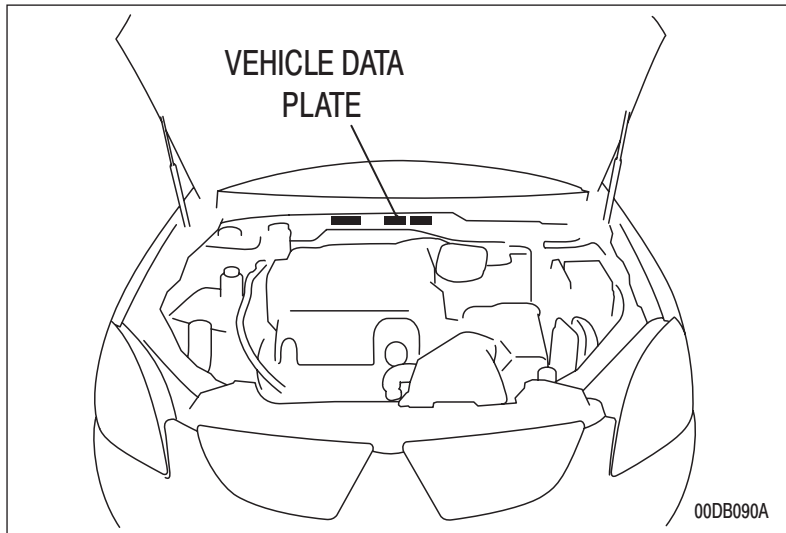


<b>APPROVAL No.</b> <b>MITSUBISHI MOTORS AUST. LTD.</b> <b>MITSUBISHI</b>	<b>CATEGORY</b>  
<b>G.V.M.</b> <b>V.I.N.</b>	<b>SEATS</b>
<b>THIS VEHICLE WAS MANUFACTURED TO COMPLY WITH THE MOTOR VEHICLE STANDARDS ACT 1989</b>	

AF0001879

## VEHICLE DATA PLATE

M1001005400707



MODEL		BUILT	
OPTIONS		PAINT	
		TRIM	
		SOA	
<b>USE GENUINE MITSUBISHI PARTS</b>			
ALL CORRESPONDENCE MUST QUOTE INFORMATION SHOWN ABOVE			

AF0001866

The vehicle data plate is attached on the bulk-head, between the vehicle identification number (VIN) and the compliance plate at the top outer panel in the engine compartment.

The plate shows vehicle option codes, trim codes and a daily body sequential build number.

## AUSTRALIAN DESIGN RULES

Australian Design Rules require the manufacturer of components and/ or a complete vehicle to conform to specific safety, environmental or consumer protective requirements as defined by that particular rule. There is legislation that requires, amongst other things that no modifications be made to a vehicle that would cause that vehicle not to comply with the Design Rules of that vehicle (parts replacement using approved Mitsubishi Motors Australia Limited components is permissible). Before interchanging or adding optional equipment or using non-Genuine Parts, it is recommended that advice be sought from an Authorised Mitsubishi Motors Australia Limited Dealer or from a Mitsubishi Motors Australia Limited Regional Office, because it is possible to inadvertently cause a vehicle not to comply with a Design Rule.

### OPTION CODES (380 Series)

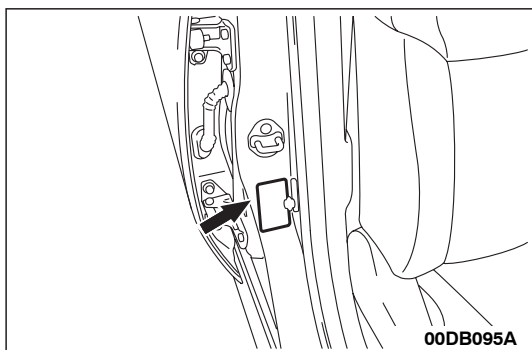
OPTION CODE:	ITEM
G39	Sunroof
C73	Leather (380 VRX)
J40	Traction Control
W51	16" Alloy Wheels
W54	17" Alloy Wheels + Sports Suspension + Strut Tower Bar
R06	Satellite Navigation Accommodation Package
J07	LX MARK (Only in combination with G39, C78, K40, W54) on 380-LS model
G39, C73	Sunroof + Leather
J40, W51	Traction Control + 16" Alloy Wheels
C78, K40	Leather (380 LS) + Power Seats
G05, J06	ECM + Vanity Mirror Lamp
J40, W51, G39	Traction Control + 16 " Alloy Wheels + Sunroof
G39, C78, K40	Sunroof + Leather (380 LS) + Power Seats
G39, C78, K40, W54	Sunroof + Leather (380 LS) + Power Seats + 17" Alloy Wheels + Sports Suspension + Strut Tower Bar
G39, C78, K40, W54, J07	Sunroof + Leather (380 LS) + Power Seats + 17" Alloy Wheels + Sports Suspension + Strut Tower Bar + LX Badging

### EXPORT CODES

OPTION CODE	ITEM
X71	Fiji
X62	New Zealand
A18	Export Preparation (wax and brake bags)
X30	Brunei

### TYRE AND LOADING INFORMATION PLACARD

The tyre and loading information placard is located on the inside sill of the driver's door.

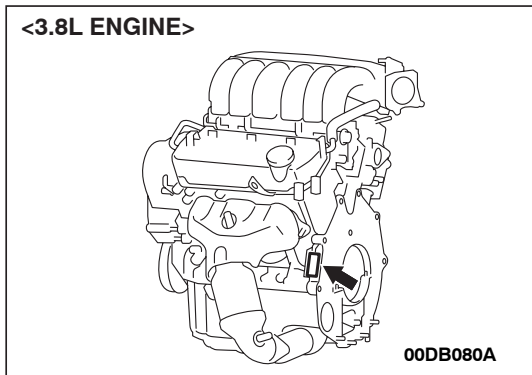


## ENGINE MODEL STAMPING

The engine model is stamped on the cylinder block.  
The engine model number is as shown as follow.

ENGINE MODEL	ENGINE DISPLACEMENT
6G75	3828cc

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



## PRECAUTIONS BEFORE SERVICE

### SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

M1001011600056

- Items to review when servicing SRS:
  - Be sure to read GROUP 52B, Supplemental Restraint System (SRS). For safe operation, please follow the directions and heed all warnings.
  - 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.
  - Warning labels must be heeded when servicing or handling SRS components. Warning labels can be found in the following locations.
    - Front impact sensor
    - Hood
    - Sun visor
    - Instrument panel (passenger's side)
    - SRS-ECU
    - Steering wheel
    - Clock spring
    - Air bag module (Driver's or front passenger's)
    - Side-airbag module (Driver's side or front passenger's side)
    - Side impact sensor
    - Seat belt pre-tensioner
  - Always use the designated special tools and test equipment.
  - 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 upward.
  - Never attempt to disassemble or repair the SRS components (SRS-ECU, air bag module and clock spring). If there is a defect, replace the defective part.
  - Whenever you finish servicing the SRS, check the SRS warning light operation to make sure that the system functions properly.
  - 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 Module Disposal Procedures [P.52B-254](#)).
- Observe the following when carrying out operations on places where SRS components are installed, including operations not directly related to the SRS air bag.
  - When removing or installing parts, do not allow any impact or shock to occur to the SRS components.
  - If heat damage may occur during paint work, remove the SRS-ECU, the air bag module, clock spring, the front impact sensor, the side impact sensor, and the seat belt pre-tensioner.
    - SRS-ECU, air bag module, clock spring, front impact sensor, the side impact sensor: 93°C (200°F) or more
    - Seat belt pre-tensioner: 90°C (194°F) or more

## HOW TO PERFORM VEHICLE IDENTIFICATION NUMBER (VIN) WRITING

M1001011400063

The Vehicle Identification Number (VIN) is stored in the ECU by the vehicle manufacture. If the VIN to be stored in the ECU is eliminated fraudulently, the Malfunction Indicator Lamp (Check Engine Lamp) illuminates and Diagnostic Trouble Code (DTC) No.P0630 (VIN malfunction) is shown. When the ECU is replaced, and entry of the VIN necessary due to DTC No. P0630 (VIN malfunction). Enter the VIN in accordance with the procedure as follows:

### WRITING PROCEDURE

#### Required Special Tools:

- Diagnostic Tool (MUT-III)
  - MB991824: V.C.I.
  - MB991827: MUT-III USB Cable
  - MB991910: MUT-III Main Harness A (BLUE)

#### **⚠ CAUTION**

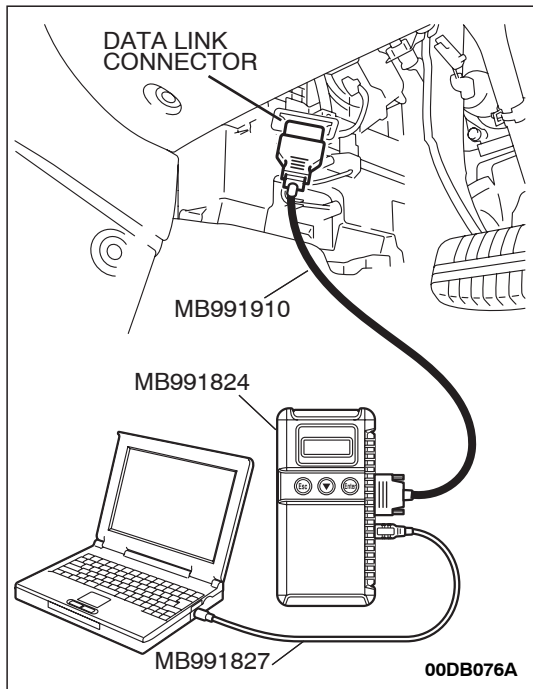
**To prevent damage to DIAGNOSTIC TOOL (MUT-III), always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting.**

1. Connect Diagnostic Tool to the data link connector.
2. Turn the ignition switch to the "ON" position.
3. Confirm DTC No.P0630 (EEPROM malfunction) is not shown.

*NOTE: When DTC No. P0630 (EEPROM malfunction) is shown, the VIN cannot be stored even if entered. Therefore, the troubleshooting is performed when this DTC is shown.*

4. Select "Coding" form the menu screen.
5. Select "VIN writing" form the menu screen.
6. Enter the VIN.
7. After entry of the VIN, turn the ignition switch to the "LOCK" (OFF) position. After ten seconds or more passed, turn to the "ON" position again.
8. Confirm DTC No.P0630 (VIN malfunction) is not shown.

*NOTE: When DTC No.P0630 (VIN malfunction) is shown, enter the VIN again because that would be not appropriate.*

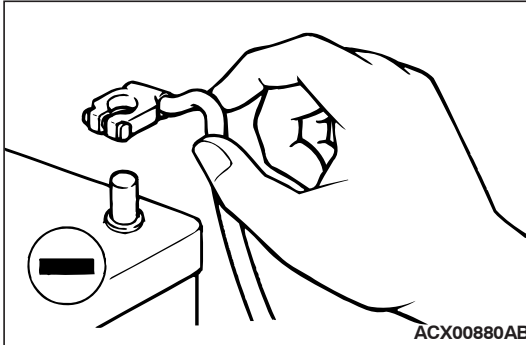


## SERVICING ELECTRICAL SYSTEM

M1001011900057

### **⚠ WARNING**

**Battery posts, terminals and related accessories contain lead and lead compounds. WASH HANDS AFTER HANDLING.**



1. Note the following before proceeding with working on the electrical system.

Never perform unauthorized modifications to any electrical device or wiring. Such modifications might lead to a vehicle malfunction, over-capacity or short-circuit that could result in a fire in the vehicle.

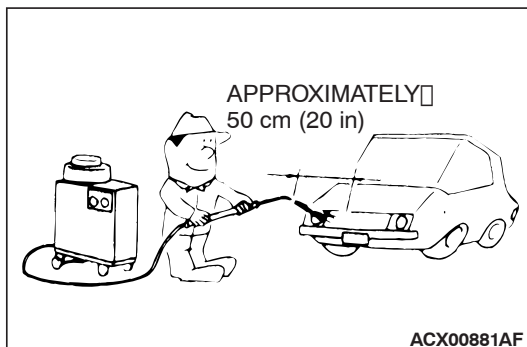
### **⚠ CAUTION**

- Before connecting or disconnecting the negative battery cable, be sure to turn the ignition switch to the "LOCK" (OFF) position and turn off the lights (If this is not done, there is the possibility of semiconductor parts being damaged).
  - After completion of the work (and the negative battery terminals is connected), warm up the engine and allow it to idle for approximately 10 minutes under the conditions described below in order to stabilize engine control conditions, and then check to be sure that the idle is satisfactory.
    - Engine coolant temperature: 85 to 95°C (185 to 203°F)
    - Lights and all accessories: OFF
    - Transaxle: "N" or "P" position
    - Steering wheel: straight-forward position
2. When servicing the electrical system, disconnect the negative cable terminal from the battery.

## VEHICLE WASHING

M1001012000057

If high-pressure car-washing equipment or steam car-washing equipment is used to wash the vehicle, be sure to maintain the spray nozzle at a distance of at least approximately 50 cm (20 inches) from any plastic parts and all opening parts (doors, luggage compartment, etc.).





## APPLICATION OF ANTI-CORROSION AGENTS AND UNDERCOATS

M1001011000043

Do not to apply oil or grease to the heated oxygen sensor. If applied, the sensor may malfunction. Protect the heated oxygen sensor with a cover before applying anti-corrosion agent, etc.

## DIAGNOSTIC TOOL (MUT-III)

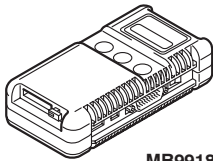
M1001012200062

### CAUTION

Turn the ignition switch to the "LOCK" (OFF) position before disconnecting or connecting the diagnostic tool (MUT-III).

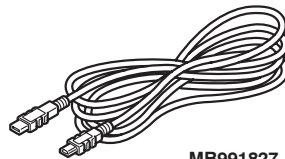
*NOTE: MUT-III trigger harness is not necessary when pushing V.C.I. ENTER key.*

VEHICLE COMMUNICATION □  
INTERFACE (V.C.I.)



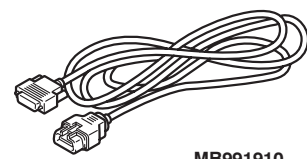
MB991824

MUT-III USB CABLE



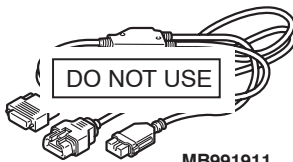
MB991827

MUT-III MAIN HARNESS A



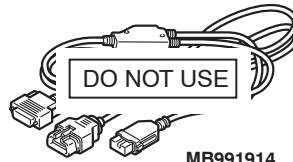
MB991910

MUT-III MAIN HARNESS B



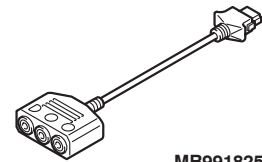
MB991911

MUT-III MAIN HARNESS C



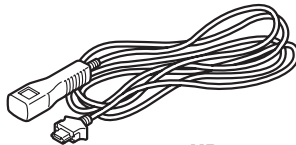
MB991914

MUT-III MEASUREMENT ADAPTER



MB991825

MUT-III TRIGGER HARNESS



MB991826

AC2010881AD

## TOWING AND HOISTING

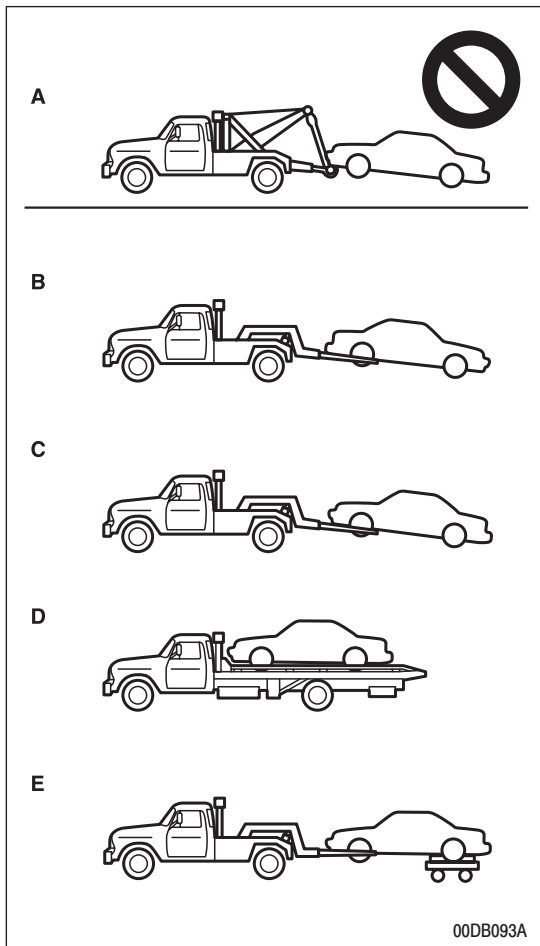
M1001000800380

### TOWING THE VEHICLE BY A TOW TRUCK

#### CAUTION

This vehicle cannot be towed by a tow truck using sling-type equipment (TYPE A) as illustrated; otherwise it will damage the bumper and front end. If this vehicle is towed, use wheel lift or flat bed equipment.

- If the transmission is malfunctioning or damaged, transport the vehicle with the driving wheels on a car-rriage (TYPE C, D or E) as illustrated.
- If you tow the vehicles with an A/T with the driving wheels on the ground (TYPE B) as illustrated, make sure that the towing speed and distance given below are never exceeded, causing damage to the transmission.
  - Towing speed: 50km/h
  - Towing distance: 30km
- For the towing speed and the towing distance, follow the local driving laws and regulations.



### TOWING WITH FRONT WHEELS OFF THE GROUND (TYPE C)

The vehicle may be towed on its rear wheels for extended distances provided the parking brake is released and gearshift lever is in the "Neutral" position (M/T) or the selector lever is in the "N" (NEUTRAL) position (A/T). It is recommended that vehicles be towed using the front pickup whenever possible.

#### CAUTION

[For vehicles equipped with the traction control system (TCL)]

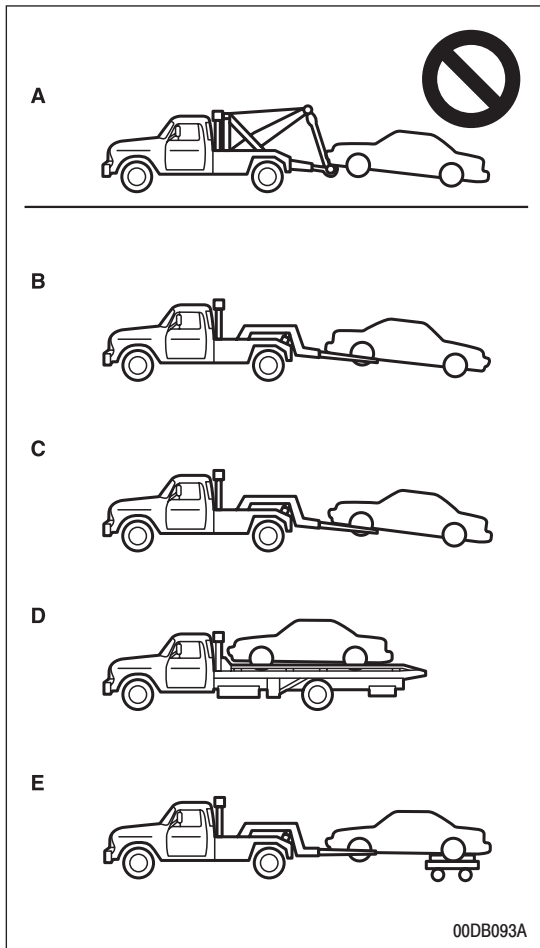
- If the vehicle is towed with the ignition key in the "ON" position and only the front wheels or only the rear wheels raised off the ground, a malfunction may occur in the device

## TOWING WITH REAR WHEELS OFF THE GROUND (TYPE B)

Place the gearshift lever in the "Neutral" position (M/T) or the selector lever in the "N" (NEUTRAL) position (A/T). Turn the ignition key to the "ACC" position and secure the steering wheel in a straight-ahead position with a rope or tie-down strap. Never place the ignition key in the "LOCK" position when towing.

### CAUTION

- Never tow an A/T vehicle with the rear wheels up (and the front wheels on the ground) when the automatic transmission fluid level is low. This may cause serious and expensive damage to the transmission.
- Do not use the steering column lock to secure the front wheels for towing.
- Make sure the transaxle is in Neutral if vehicle will have drive wheels on the ground.
- If these requirements cannot be met, the front wheels must be placed on a tow dolly.



## TOWING WHEN KEYS ARE NOT AVAILABLE

When a locked vehicle must be towed and keys are not available, the vehicle may be lifted and towed from the front, provided the parking brake is released. If not released, the rear wheels should be placed on a tow dolly.

## SAFETY PRECAUTIONS

The following precautions should be taken when towing the vehicle:

1. DO NOT LIFT OR TOW THE VEHICLE BY ATTACHING TO OR WRAPPING AROUND THE BUMPER.
2. Any loose, protruding, or damaged parts such as hoods, doors, fenders, trim, etc. should be secured or removed prior to moving the vehicle.

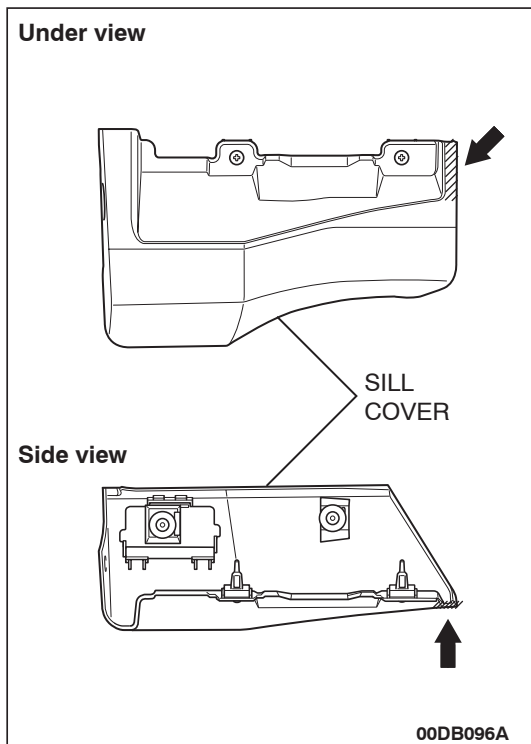
3. Refrain from going under a vehicle when it is lifted by the towing equipment, unless the vehicle is adequately supported by safety stands.
4. Never allow passengers to ride in a towed vehicle.
5. State and local rules and regulations must be followed when towing a vehicle.

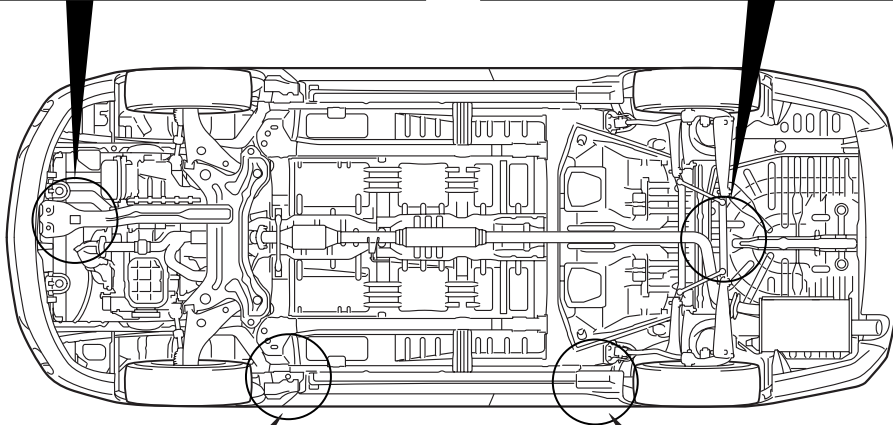
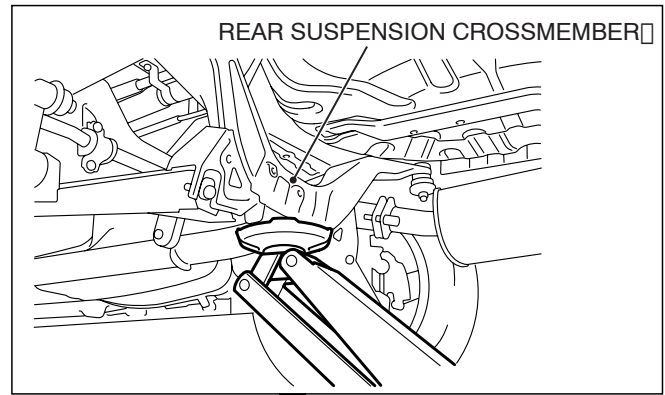
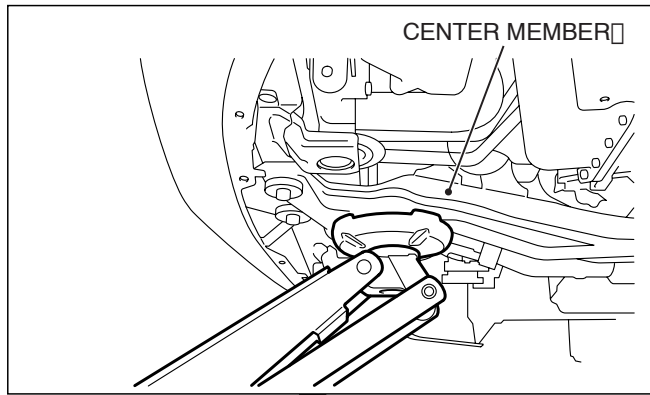
## LIFTING, JACKING SUPPORT LOCATION

### FLOOR JACK

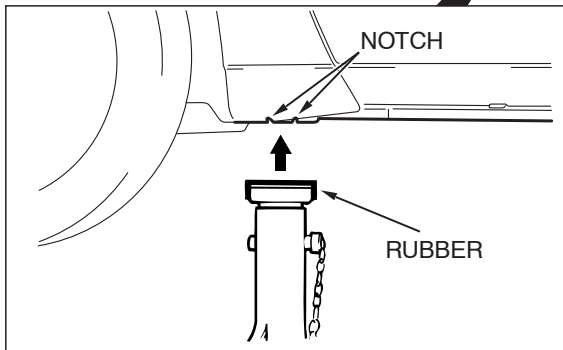
#### CAUTION

- Never place a support at any point other than the specified one, or that point will be deformed.
- For lifting, put rubber or similar material between the side sill and rigid rack, otherwise the side sill area will be damaged.



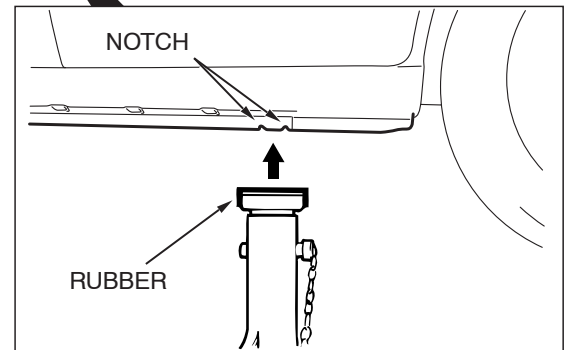


RIGID RACK



RIGID RACK

AC307266AB

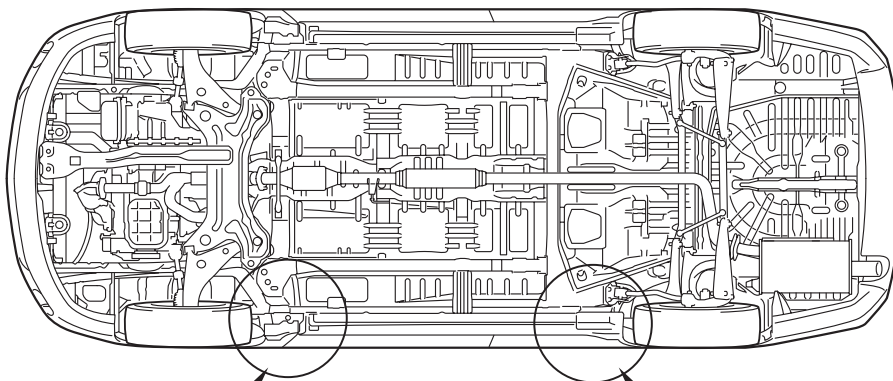
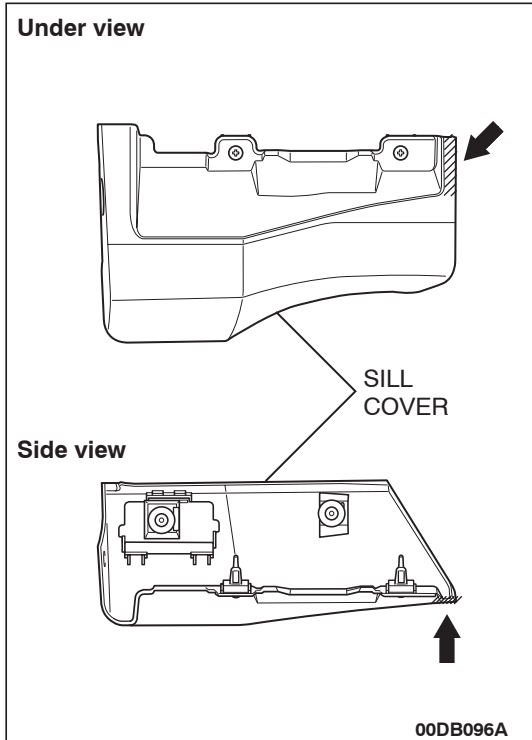


## POST TYPE

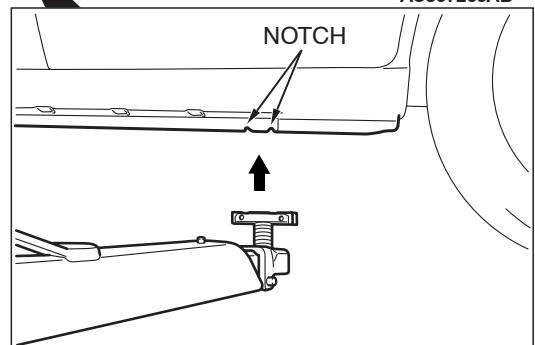
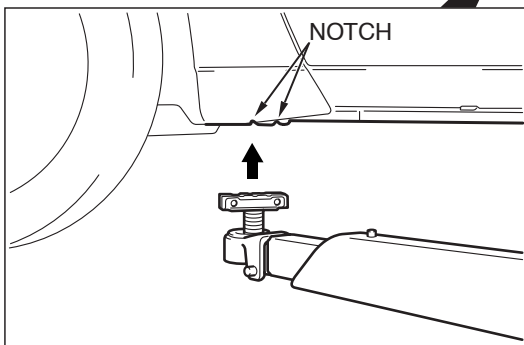
Special care should be taken when raising the vehicle on a frame contact type hoist. The hoist must be equipped with the proper adapters in order to support the vehicle at the proper locations.

**⚠ CAUTION**

- When service procedures require removing rear suspension, fuel tank and spare tyre, place additional weight on the rear end of vehicle, or anchor vehicle to hoist to prevent tipping when the location of the center of gravity changes.
- If the lifting support area contacts with the sill cover (arrow area as shown in the illustration), the sill cover will be damaged. Ensure that the lifting support does not contact the sill cover.



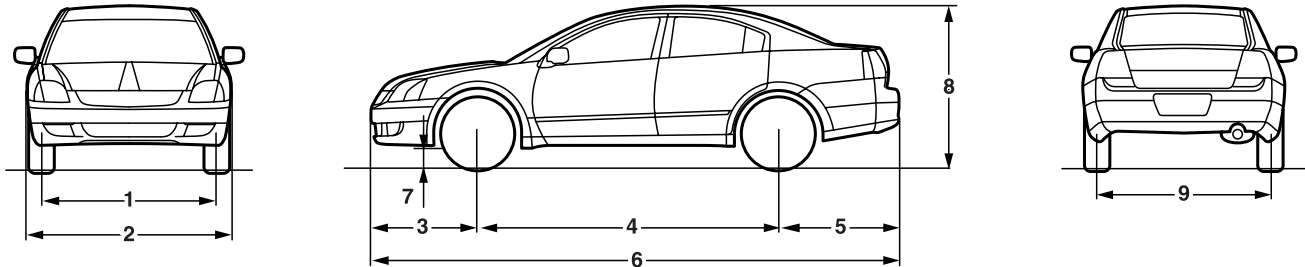
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# GENERAL DATA AND SPECIFICATIONS

M1001000900473

## GENERAL SPECIFICATIONS



AA1003149

### <3.8L ENGINE>

ITEM			380, 380LS, 380LX		380VRX, 380GT		
Vehicle dimension mm	Front track	1	1,570mm				
	Overall width	2	1,840mm				
	Front overhang	3	984mm		989mm		
	Wheelbase	4	2,750mm				
	Rear overhang	5	1103mm		1116mm		
	Overall length	6	4837mm		4855mm		
	Ground clearance (unladen)	7	162mm				
	Overall height (unladen)	8	1480mm				
	Rear track	9	1,570mm				
ITEM		MANUAL TRANS.		AUTOMATIC TRANS.			
		380	380 VRX	380	380 VRX	380 LS/LX	380 GT
Vehicle weight kg	Kerb mass (without optional parts)	1,625	1,630	1,665	1,670	1,660	1,700
	Kerb mass (with full optional parts)	1,642	1,652	1,682	1,692	1,698	1,700
	Maximum gross vehicle mass	2,080		2,125			
	Maximum axle mass rating-front	1,180					
	Maximum axle mass rating-rear	1,010					
Ride height (mm)	Front ride height	410			Measured from lowest point of fender (wheel arch) to the centre of the wheel.		
	Rear ride height	393					
Seating capacity		5					

ITEM		380, 380LS, 380LX	380VRX, 380GT
Engine	Model No.	6G75	
	Total displacement	3,828cc	
Automatic Transaxle	Model No.	F5A5A-4-C2Z	
	Type	5-speed automatic	
Manual Trans.	Model No.	F 5M51	
	Type	5-speed manual	
Fuel system	Fuel supply system	Electronic controlled multipoint fuel injection (MPI)	

## TIGHTENING TORQUE

M1001001100555

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		STANDARD TIGHTENING TORQUE		
NOMINAL BOLT DIAMETER (mm)	PITCH (mm)	HEAD MARK "4"	HEAD MARK "7"	HEAD MARK "8"
M5	0.8	2.5 ± 0.5 N·m (23 ± 4 in-lb)	5.0 ± 1.0 N·m (44 ± 9 in-lb)	6.0 ± 1.0 N·m (53 ± 9 in-lb)
M6	1.0	5.0 ± 1.0 N·m (44 ± 9 in-lb)	8.5 ± 1.5 N·m (76 ± 13 in-lb)	10 ± 2 N·m (89 ± 17 in-lb)
M8	1.25	11 ± 2 N·m (98 ± 17 in-lb)	20 ± 4 N·m (15 ± 3 ft-lb)	24 ± 4 N·m (18 ± 3 ft-lb)
M10	1.25	23 ± 4 N·m (17 ± 3 ft-lb)	42 ± 8 N·m (31 ± 6 ft-lb)	53 ± 7 N·m (39 ± 5 ft-lb)
M12	1.25	42 ± 8 N·m (31 ± 6 ft-lb)	80 ± 10 N·m (59 ± 7 ft-lb)	93 ± 12 N·m (68 ± 9 ft-lb)
M14	1.5	70 ± 10 N·m (52 ± 7 ft-lb)	130 ± 20 N·m (96 ± 15 ft-lb)	150 ± 20 N·m (111 ± 14 ft-lb)
M16	1.5	105 ± 15 N·m (78 ± 11 ft-lb)	195 ± 25 N·m (144 ± 18 ft-lb)	230 ± 30 N·m (170 ± 22 ft-lb)
M18	1.5	150 ± 20 N·m (111 ± 14 ft-lb)	290 ± 40 N·m (214 ± 29 ft-lb)	335 ± 45 N·m (247 ± 33 ft-lb)



THREAD SIZE		STANDARD TIGHTENING TORQUE		
NOMINAL BOLT DIAMETER (mm)	PITCH (mm)	HEAD MARK "4"	HEAD MARK "7"	HEAD MARK "8"
M20	1.5	210 ± 30 N·m (155 ± 22 ft-lb)	400 ± 60 N·m (295 ± 44 ft-lb)	465 ± 65 N·m (343 ± 48 ft-lb)
M22	1.5	290 ± 40 N·m (214 ± 29 ft-lb)	540 ± 80 N·m (398 ± 59 ft-lb)	630 ± 90 N·m (465 ± 66 ft-lb)
M24	1.5	375 ± 55 N·m (277 ± 40 ft-lb)	705 ± 105 N·m (520 ± 77 ft-lb)	820 ± 120 N·m (605 ± 88 ft-lb)

**FLANGE BOLT AND NUT TIGHTENING TORQUE**

THREAD SIZE		STANDARD TIGHTENING TORQUE		
NOMINAL BOLT DIAMETER (mm)	PITCH (mm)	HEAD MARK "4"	HEAD MARK "7"	HEAD MARK "8"
M6	1.0	5.0 ± 1.0 N·m (44 ± 9 in-lb)	10 ± 2 N·m (89 ± 17 in-lb)	12 ± 2 N·m (107 ± 17 in-lb)
M8	1.25	13 ± 2 N·m (111 ± 22 in-lb)	24 ± 4 N·m (18 ± 3 ft-lb)	28 ± 5 N·m (20 ± 4 ft-lb)
M10	1.25	26 ± 5 N·m (19 ± 4 ft-lb)	50 ± 5 N·m (37 ± 4 ft-lb)	58 ± 7 N·m (43 ± 5 ft-lb)
M10	1.5	25 ± 4 N·m (18 ± 3 ft-lb)	46 ± 8 N·m (34 ± 6 ft-lb)	55 ± 5 N·m (41 ± 3 ft-lb)
M12	1.25	47 ± 9 N·m (35 ± 6 ft-lb)	93 ± 12 N·m (68 ± 9 ft-lb)	105 ± 15 N·m (78 ± 11 ft-lb)
M12	1.75	43 ± 8 N·m (32 ± 6 ft-lb)	83 ± 12 N·m (61 ± 9 ft-lb)	98 ± 12 N·m (72 ± 9 ft-lb)

## LUBRICATION AND MAINTENANCE

M1001001200336

Maintenance and lubrication service recommendations have been compiled to provide maximum protection for the vehicle owner's investment against all reasonable types of driving conditions. Since these conditions vary with the individual vehicle owner's driving habits, the area in which the vehicle is operated and the type of driving to which the vehicle is subjected, it is necessary to prescribe lubrication and maintenance service on a time frequency as well as mileage interval basis.

Oils, lubricants and greases are classified and graded according to standards recommended by the Society of Automotive Engineers (SAE) and the Australian Petroleum Institute (API).

### MAINTENANCE SCHEDULES

For Information on service maintenance refer to the "Service handbook".

### ENGINE OIL

#### CAUTION

Tests have shown that laboratory animals develop skin cancer after prolonged contact with used engine oil. Accordingly, the potential exists for humans to develop a number of skin disorders, including cancer, from such exposure to used engine oil. Therefore, when changing engine oil, be careful not to touch it as much as possible. Protective clothing and gloves, that cannot be penetrated by oil, should be worn. The skin should be thoroughly washed with soap and water, or use waterless hand cleaner, to remove any used engine oil. Do not use petrol, thinners, or solvents.

Either of the following engine oils should be used:

1. Engine oil conforming to the ACEA classification:  
"For service A1, A2 or A3.
2. Engine oil conforming to the API classification:  
"For service SG" or higher.

### FUEL USAGE STATEMENT

#### CAUTION

**Using leaded petrol in this car will damage the catalytic converters and heated oxygen sensors, and affect the warranty coverage validity.**

This vehicle must use unleaded petrol only.

This vehicle has a fuel filler tube which is especially designed to accept only the smaller-diameter unleaded petrol dispensing nozzle.

The 3.8L model is designed to operate on unleaded petrol having an octane rating (DIN 51607) of 90 RON or higher.

### PETROL CONTAINING ALCOHOL

Some petrol sold at service stations contain alcohol although they may not be so identified.

Using fuels containing alcohol is not recommended unless the nature of the blend can be determined as being satisfactory, as follows.

Gasohol: A mixture of 10% ethanol and 90% unleaded gasoline may be used in your vehicle. If driveability problems are experienced as a result of using gasohol, it is recommended that the vehicle be operated on petrol.

Methanol: **Do not use petrol containing methanol (wood alcohol).** Using this type of alcohol can result in vehicle performance deterioration and damage critical parts in the fuel system components. Fuel system damage and performance problems resulting from the use of petrol containing methanol may not be covered by the new vehicle warranty.

### MATERIALS ADDED TO FUEL

Indiscriminate use of fuel system cleaning agents should be avoided. Many materials intended for gum and varnish removal may contain highly active solvents or similar ingredients that can be harmful to gasket and diaphragm materials used in fuel system component parts.

## RECOMMENDED LUBRICANTS AND LUBRICANT CAPACITIES TABLE

M1001001300504

### RECOMMENDED LUBRICANTS

LUBRICANT	SPECIFICATION
Engine oil	Engine oils conforming to ACEA A1, A2 or A3 and AP1 SG or higher
Automatic Transmission fluid	Genuine Mitsubishi Motors ATF-SP III
Manual Transmission fluid	Genuine Mitsubishi Motors MTF
Power steering fluid	ATF DEXRON III or DEXRON II
Brakes fluid	Conforming to DOT 3 or DOT 4
Engine coolant	Genuine Mitsubishi Motors coolant
Refrigerant (air conditioning)	HFC-134a

### LUBRICANT CAPACITY TABLE

#### <3.8L ENGINE>

DESCRIPTION		SPECIFICATION
Engine oil (Litres)	Oil pan (excluding oil filter)	4.0
	Oil filter	0.3
Engine coolant (Litres)		8.7
Automatic Transmission fluid (Litres)		8.4
Manual Transmission fluid (Litres)		2.8
Power steering fluid (Litres)		1.2
Fuel tank (Litres)		67.0
Washer fluid (Litres)		5.0
Refrigerant (air conditioning) (grams)		435g - 475g

## SELECTION OF COOLANT

### COOLANT

Relationship between Coolant Concentration and Specific Gravity

#### CAUTION

- If the concentration of the coolant is below 30%, the anti-corrosion property will be adversely affected. In addition, if the concentration is above 50%, both the anti-freeze and engine cooling properties will decrease, affecting the engine adversely. For these reasons, be sure to maintain the concentration level within the specified range.
- Do not use a mixture of different brands of anti-freeze.

ENGINE COOLANT TEMPERATURE °C (°F) AND SPECIFIC GRAVITY					FREEZING TEMPERATURE	SAFE OPERATING TEMPERATURE	COOLANT CONCENTRATION (SPECIFIC VOLUME)
10	20	30	40	50	°C (°F)	°C (°F)	%
1.054	1.050	1.046	1.042	1.036	−16 (3.2)	−11 (12.2)	30
1.063	1.058	1.054	1.049	1.044	−20 (−4)	−15 (5)	35
1.071	1.067	1.062	1.057	1.052	−25 (−13)	−20 (−4)	40
1.079	1.074	1.069	1.064	1.058	−30 (−22)	−25 (−13)	45
1.087	1.082	1.076	1.070	1.064	−36 (−32.8)	−31 (−23.8)	50
1.095	1.090	1.084	1.077	1.070	−42 (−44)	−37 (−35)	55
1.103	1.098	1.092	1.084	1.076	−50 (−58)	−45 (−49)	60

#### Example

The safe operating temperature is −15°C (5° F) when the specific gravity is 1.058 at the coolant temperature of 20°C (68°F)

## MAINTENANCE SERVICE

### 1. FUEL SYSTEM (TANK, PIPE LINE AND CONNECTION, AND FUEL TANK FILLER TUBE CAP) (CHECK FOR LEAKS)

M1001001600312

Check for damage or leakage in the fuel lines and connections.

### 2. FUEL HOSES (CHECK CONDITION)

M1001001700308

1. Inspect the surface of fuel hoses for heat and mechanical damage. Hard and brittle rubber, cracking, tears, cuts, abrasions and excessive swelling indicate deterioration of the rubber.
2. If the fabric casing of the rubber hose is exposed by cracks and abrasions in the fuel system, the hose should be replaced.

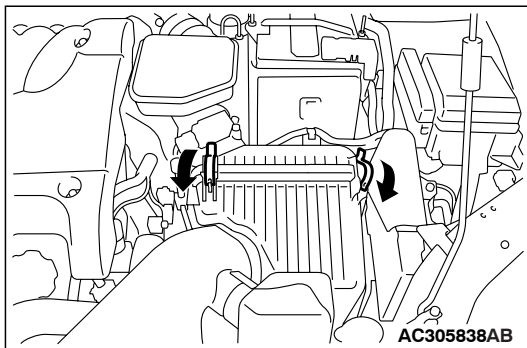
### 3. AIR CLEANER FILTER (REPLACE)

M1001001800338

The air cleaner element will become dirty during use, reducing its effectiveness. Replace it with a new one.

#### REPLACEMENT OF AIR CLEANER ELEMENT

1. Unclamp the air cleaner housing cover.
2. Remove the air cleaner element and install a new one.
3. When clamping the air cleaner housing cover in place, be sure that the cover is completely closed.



### 4. EVAPORATIVE EMISSION CANISTER (CHECK FOR CLOGGING)

M1001001900324

If the fuel-vapor canister is clogged or damaged, excess fuel vapor will escape into the atmosphere causing a strong fuel vapour smell to emit from engine compartment. Disconnect the line at both ends, and blow it clean with compressed air. Remove the fuel tank filler tube cap from the filler tube and check to see if there is evidence that the seal makes improper contact to the filler tube.

## 5. SPARK PLUGS (REPLACE)

M1001002000346

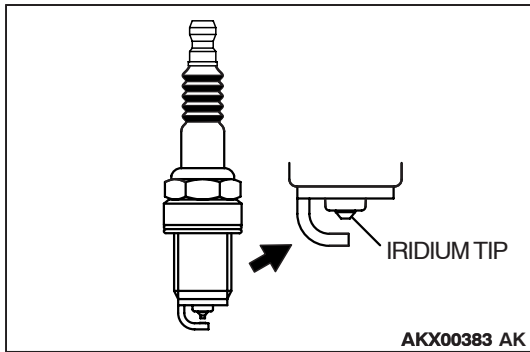
### CAUTION

**Iridium plugs are used. Use care not to damage the iridium tips of the plugs. Do not adjust the spark plug gap.**

1. Spark plugs must spark properly to assure proper engine performance and reduce exhaust emission level. Therefore, they should be replaced periodically with new ones( Refer to Maintenance Schedule).

Spark plug type

MAKER	3.8L ENGINE
BOSCH	FR8DI30



2. The new plugs should be checked for the proper gap.

**Spark plug gap: 1.0 – 1.1 mm**

3. Install the spark plugs and tighten to  $25 \pm 5$  N·m ( $18 \pm 4$  ft-lb).

## 6. TIMING BELT (REPLACE)

M1001002300273

Replace the belt with a new one according to the vehicle maintenance schedule to assure proper engine performance.

### <3.8L ENGINE>

For removal and installation procedures, refer to GROUP 11C, Engine Mechanical <3.8L Engine> – Timing Belt – Removal and Installation [P.11A-46](#).

## 7. DRIVE BELTS (FOR ALTERNATOR, POWER STEERING PUMP AND AIR CONDITIONING) (CHECK)

M1001008700031

### ALTERNATOR DRIVE BELT TENSION CHECK <3.8L ENGINE>

#### WHEN USING DIAGNOSTIC TOOL (MUT-III)

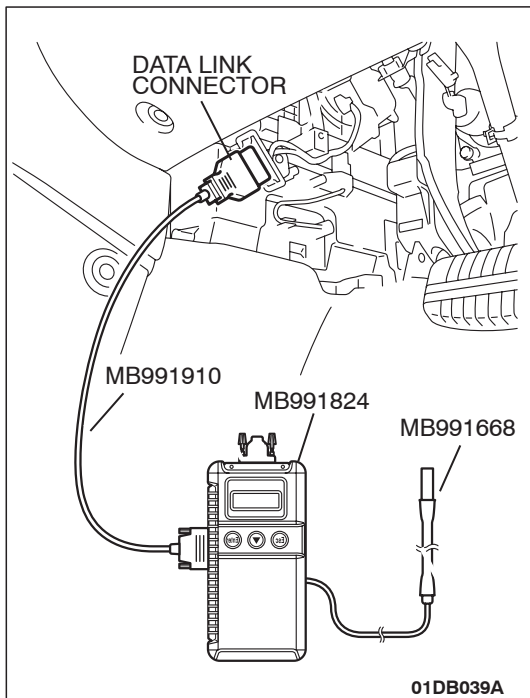
##### Required Special Tools:

- MB991668: Belt Tension Meter Set
- Diagnostic Tool (MUT-III)
  - MB991824: Vehicle Communication Interface (V.C.I.)
  - MB991910: MUT-III Main Harness A (BLUE)

##### **⚠ CAUTION**

To prevent damage to DIAGNOSTIC TOOL (MUT-III), always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting.

1. Connect Belt Tension Meter Set (MB991668) to V.C.I (MB991824).
2. Connect MUT-III Main Harness A (BLUE) (MB991910) to V.C.I (MB991824).
3. Connect MUT-III Main Harness A (BLUE) (MB991910) to the data link connector.
4. Turn the ignition switch to the "ON" position and select "Belt Tension" from the menu V.C.I (MB991824) screen.



**CAUTION**

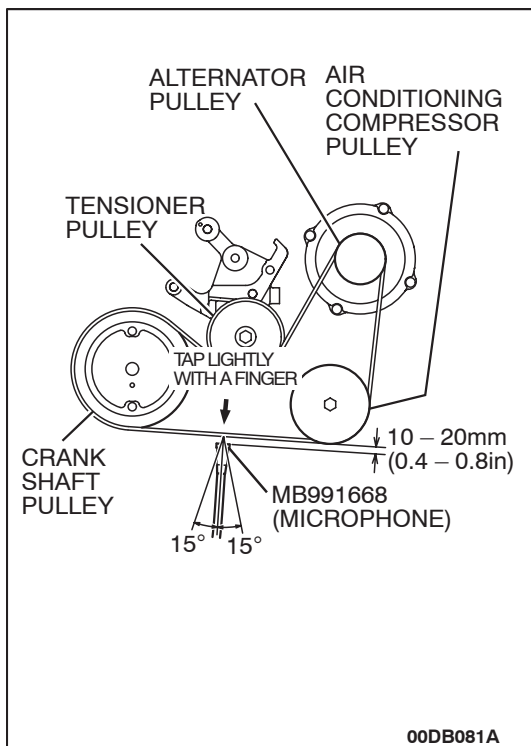
- The temperature of the surface of the belt should be as close as possible to underhood temperature.
- Do not let any contaminants such as water or oil get onto the microphone.
- If strong gusts of wind blow against the microphone or if there are any loud sources of noise nearby, the values measured by the microphone may not correspond to actual values.
- If the microphone is touching the belt while the measurement is being made, the values measured by the microphone may not correspond to actual values.
- Do not take the measurement while the vehicle's engine is running.

5. Hold special tool MB991668 (microphone) to the middle of the drive belt between the pulleys (at the place indicated by the arrow), about 10 – 20 mm (0.4 – 0.8 inch) away from the rear surface of the belt and so that it is perpendicular to the belt (within an angle of  $\pm 15$  degree angle).
6. Gently tap the middle of the belt between the pulleys (the place indicated by the arrow) with your finger as shown in the illustration, and check that the vibration frequency of the belt is within the standard value.

**Standard value:**

Part No.	Vibration frequency Hz
MD368275	133 – 158
MN158101, MN187016	143 – 169

*NOTE: Because the frequency depends on the belt material, confirm Part No. shown on the reverse of the belt.*

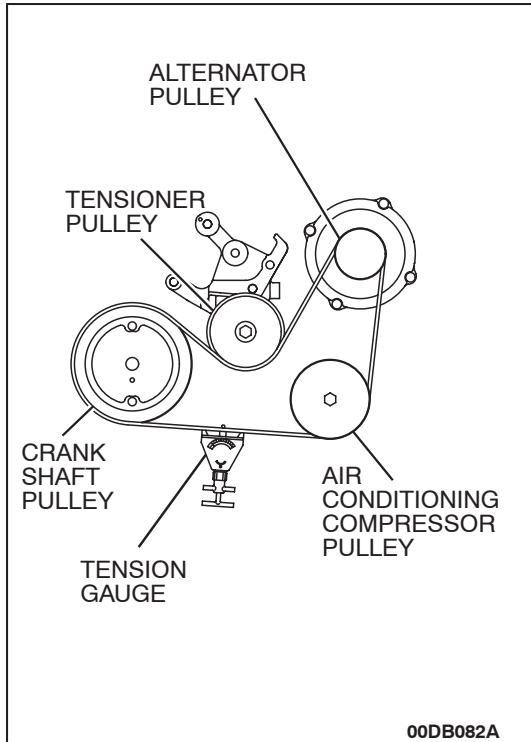




## WHEN USING THE TENSION GAUGE

Use a belt tension gauge to check that the belt tension is within the standard value.

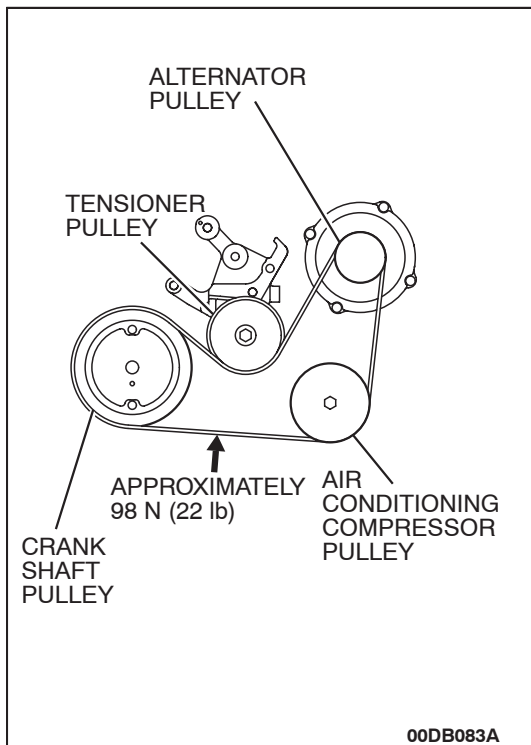
**Standard value: 490 – 686 N (110 – 154 lb)**



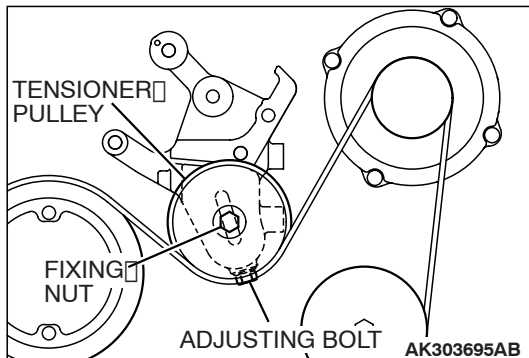
## BELT DEFLECTION CHECK

Apply approximately 98 N (22 lb) of force to the middle of the drive belt between the pulleys (at the place indicated by the arrow) and check that the amount of deflection is within the standard value.

**Standard value: 8.4 – 10.7 mm (0.33 – 0.42 in)**



## ALTERNATOR DRIVE BELT TENSION ADJUSTMENT



1. Loosen the tensioner pulley fixing nut.
2. With the tensioner pulley fixing nut temporarily tightened to  $15 \pm 5$  N·m ( $11 \pm 4$  ft-lb), set the belt tension or deflection amount to the standard value using the adjusting bolt.

**Standard value:**

ITEMS	DURING ADJUSTMENT	DURING REPLACEMENT
Vibration frequency Hz	150 – 163	180 – 202
Tension N (lb)	539 – 637 (121 – 143)	785 – 981 (176 – 221)
Deflection (Reference value) mm (in)	8.9 – 10.1 (0.35 – 0.40)	6.2 – 7.5 (0.24 – 0.30)

3. Tighten the tension pulley fixing nut.

**Tightening torque:  $49 \pm 10$  N·m ( $36 \pm 7$  ft-lb)**

## POWER STEERING DRIVE BELT TENSION CHECK

### WHEN USING DIAGNOSTIC TOOL (MUT-III)

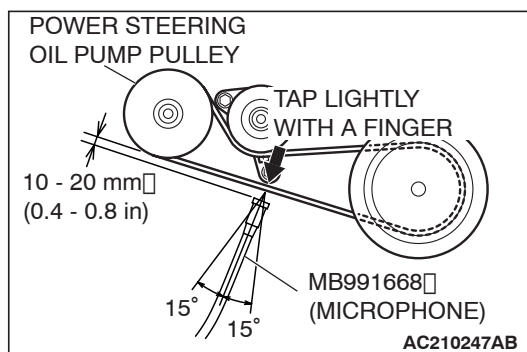
**Required Special Tools:**

- MB991668: Belt Tension Meter Set
- Diagnostic Tool (MUT-III)
  - MB991824: Vehicle Communication Interface (V.C.I.)
  - MB991910: MUT-III Main Harness A (BLUE)

Gently tap the middle of the belt between the pulleys (the location indicated by the arrow) with your finger as shown in the illustration, and check that the vibration frequency of the belt is within the standard value.

**NOTE:** Refer to [P.00-39](#) for details on the method of measuring the vibration frequency using the scan tool.

**Standard value:**



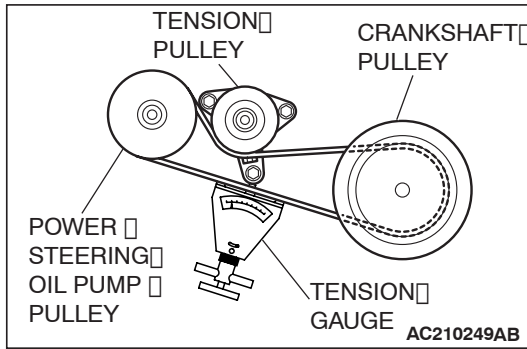
ITEM	WHEN CHECKED	DURING ADJUSTME NT	DURING REPLACEM ENT
Vibration frequency Hz	124 – 160	134 – 151	160 – 189

## WHEN USING A TENSION GAUGE

Use a belt tension gauge to check that the belt tension is within the standard value.

**Standard value:**

ITEM	WHEN CHECKED	DURING ADJUSTMENT	DURING REPLACEMENT
Tension N (lb)	294 – 490 (66 – 110)	343 – 441 (77 – 99)	490 – 686 (110 – 154)

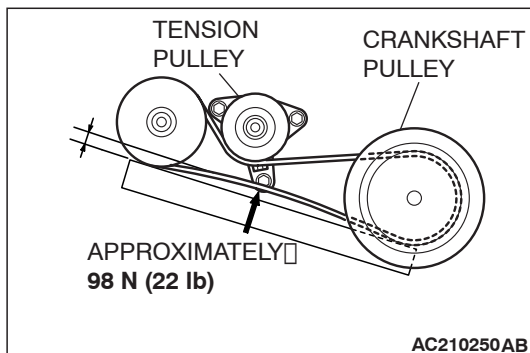


## BELT DEFLECTION CHECK

Apply approximately 98 N (22 lb) of force to the middle of the drive belt between the pulleys (at the place indicated by the arrow) and check that the amount of deflection is within the standard value.

**Standard value:**

ITEM	WHEN CHECKED	DURING ADJUSTMENT	DURING REPLACEMENT
Deflection (Reference value) mm (in)	12.3 – 16.2 (0.48 – 0.64)	13.2 – 15.1 (0.52 – 0.59)	9.6 – 12.3 (0.38 – 0.48)



if the tension or deflection is outside the standard value, adjust by the following procedure.

1. Loosen the tensioner pulley lock nut.
2. Adjust the belt tension to the standard value by turning the adjusting bolt. The tension will increase when turning the adjusting bolt clockwise, and decrease when turning counterclockwise.

3. Tighten the lock nut to the specified torque.

**Tightening torque:  $49 \pm 9$  N·m ( $36 \pm 7$  ft-lb)**

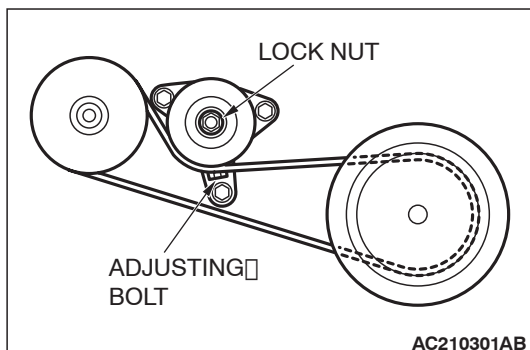
4. Tighten the adjusting bolt.

**Tightening torque:  $5.0 \pm 1.0$  N·m ( $44 \pm 9$  in-lb)**

### **CAUTION**

**Check after turning the crankshaft one or more rotations clockwise.**

5. Check the belt deflection amount and tension, and readjust if necessary.



## 8. EXHAUST SYSTEM (CONNECTIONS PORTION OF MUFFLER, MUFFLER PIPES AND CONVERTER HEAT SHIELDS) (CHECK AND SERVICE AS REQUIRED)

M1001005800299

1. Check for holes and exhaust gas leaks due to damage, corrosion, etc.
2. Check the joints and connections for looseness and exhaust gas leaks.
3. Check the rubber hangers and brackets for damage.

## 9. ENGINE OIL (CHANGE)

M1001002600360

Use the specified oil. (Refer to P.00-35.)

### **⚠ WARNING**

**Use care as oil could be hot.**

1. After warming up the engine, remove the oil filler cap.
2. Remove the drain plug to allow the engine oil to drain.
3. Install a new drain plug gasket so that it faces in the direction shown in the illustration, and then tighten the drain plug to the specified torque.

**Tightening torque:  $39 \pm 5 \text{ N}\cdot\text{m}$  ( $29 \pm 3 \text{ ft}\cdot\text{lb}$ )**

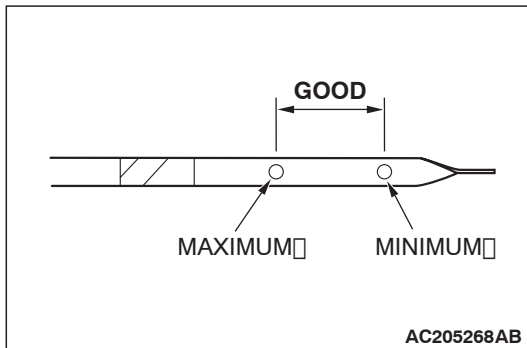
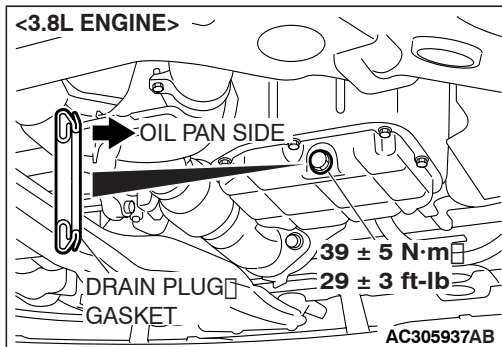
4. Pour new engine oil in through the oil filler hole.

**Specified Engine Oil:**

**Total quantity:**

**<3.8L Engine> 4.6 Litres**

5. Install the engine oil filler cap.
6. Start the engine and run it at idle for a few minutes.
7. Pull out the oil dipstick slowly and check that the oil level is within the marks on the oil dipstick.
8. Check that the oil is not excessively dirty, that there is no coolant or petrol mixed in, and that it has sufficient viscosity.



## 10. ENGINE OIL FILTER (REPLACE)

M1001002700345

The quality of replacement filters varies considerably. Only high quality filters should be used to assure most efficient service. Genuine oil filters require that the filter is capable of withstanding a pressure of 1,800 kPa (261 psi) are high quality filters.

## Engine Oil Filter Selection

This vehicle is equipped with a full-flow, throw-away oil filter. The same type of filter is recommended as a replacement filter for this vehicle. It is possible, particularly in cold weather, that this vehicle may develop high oil pressure for a short duration. Make sure that any replacement filter used on this vehicle is a high-quality filter. The filter must withstand a pressure of 1,800 kPa (261 psi) [manufacturer's specifications] to avoid filter and ultimately engine damage. The Genuine Mitsubishi high-quality filter and is strongly recommended for use on this vehicle. Any replacement oil filter should be installed in accordance with the oil filter manufacturer's installation instructions.

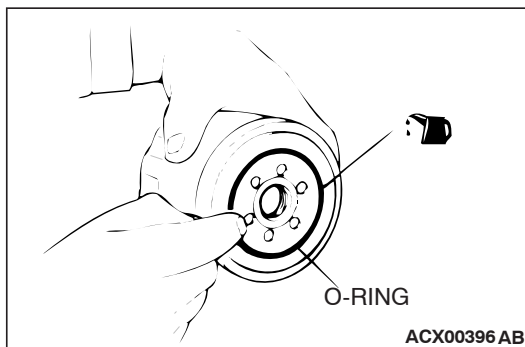
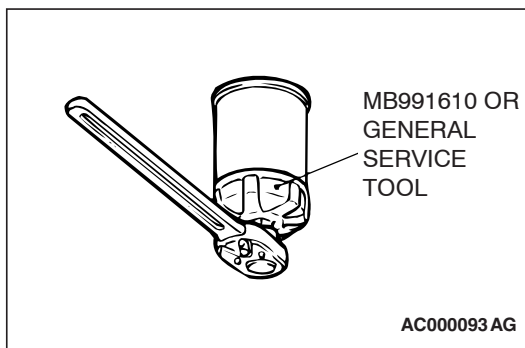
## Oil Filter Replacement



**WARNING**

***Use care as oil could be hot.***

1. Drain the engine oil by removing the oil drain plug.
2. Use an oil filter wrench to remove the engine oil filter.
3. Clean the filter bracket side mounting surface and ensure the old O-ring has been removed.



4. Apply a small amount of engine oil to the O-ring of the new oil filter.
5. Where the oil filter O-ring touches the oil pan flange, tighten the oil filter to the specified torque using the commercially-available tool.

**Tightening torque:**

**: Approximately 3/4 turn [14 ± 2 N·m]**

6. Add new engine oil through the oil filler.

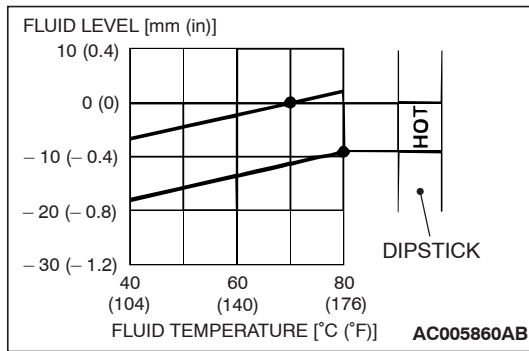
## 11. TRANSMISSION FLUID

M1001002900338

### TRANSMISSION FLUID CHECK

1. Drive the vehicle until the transmission fluid temperature rises to the normal operating temperature [70 – 80°C (158 – 176°F)].

**NOTE:** The transmission fluid temperature is measured with Diagnostic Tool (MUT-III).



*NOTE: If it takes some amount of time until the transmission fluid reaches its normal operating temperature [70 – 80°C (158 – 176°F)], check the transmission fluid level by referring to the left diagram.*

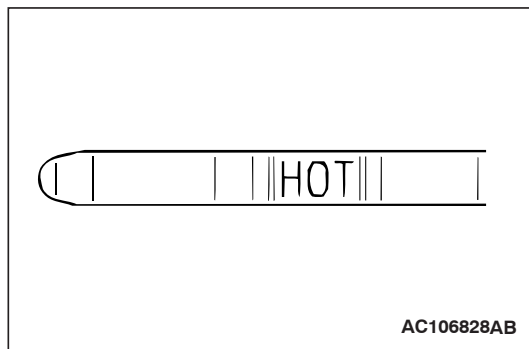
2. Park the vehicle on a level surface.
3. Move the selector lever through all positions to fill the torque converter and the hydraulic circuits with fluid, and then move the selector lever to the "N" position.
4. After wiping off any dirt around the dipstick, remove the dipstick and check the condition of the transmission fluid.

*NOTE: If the transmission fluid smells as if it is burnt, it means that the transmission fluid has been contaminated by fine particles from the bushings and friction materials. Transaxle overhaul and cooler line flushing may be necessary.*

5. Check transmission fluid level is at the "HOT" mark on the dipstick. If the transmission fluid level is less than this, add DIAMOND ATF SP III until the level reaches the "HOT" mark.

*NOTE: If the transmission fluid level is too low, the oil pump will draw in air along with the transmission fluid, which will cause to form bubbles. If the transmission fluid level is too high, rotating components inside the transaxle will churn the fluid and air into a foamy liquid. Both conditions (level too low or too high) will cause the hydraulic pressure to drop, which will result in late shifting and slipping of the clutches and brakes.*

*NOTE: In either case, air bubbles can interfere with normal valve, clutch, and brake operation. Also, foaming can cause transmission fluid to escape from the transaxle vent where it may be mistaken for a leak.*



6. Securely insert the dipstick.

*NOTE: The transmission fluid should always be replaced under the following conditions:*

- *When troubleshooting the transaxle.*
- *When overhauling the transaxle.*
- *When the transmission fluid is noticeably dirty or burnt (driving under severe conditions).*

## TRANSMISSION FLUID CHANGE

Refer to GROUP 23A, Automatic Transmission - On-vehicle Service [P.23A-296](#).

## 12. ENGINE COOLANT (CHANGE)

M1001003100357

Check the cooling system parts such as the radiator, heater and oil cooler hoses, thermostat and their connections for leakage and damage.

### CHANGING COOLANT

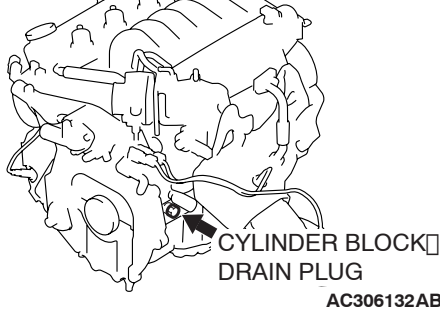
1. Set the temperature control knob to the "HOT" position.
2. Run the engine until the engine coolant warms, and then stop the engine.

#### **WARNING**

***When removing the radiator cap, use care to avoid contact with hot coolant or steam. Place a shop towel over the cap and turn the cap counterclockwise a little to let the pressure escape through the vinyl tube. After relieving the steam pressure, remove the cap by slowly turning it counterclockwise.***

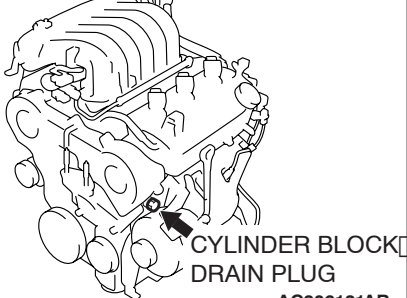
3. Drain the water from the radiator, heater core and engine after unplugging the radiator drain plug and removing the radiator cap.

## &lt;3.8L ENGINE: RIGHT BANK&gt;



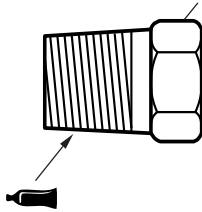
AC306132AB

## &lt;3.8L ENGINE: LEFT BANK&gt;

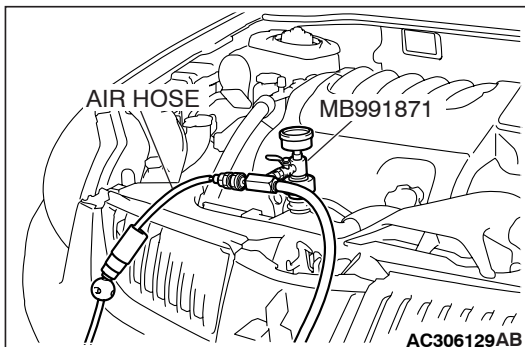


AC306131AB

## &lt;3.8L ENGINE: LEFT BANK&gt;

CYLINDER BLOCK  
DRAIN PLUG

AC200625AD



AC306129AB

4. Drain the water in the water jacket by unplugging the drain plug of the cylinder block.
5. Remove the radiator condenser tank assembly and drain the coolant.
6. Drain the coolant then clean the path of the coolant by injecting water into the radiator from the radiator cap area.

7. Apply the designated sealant to the screw area of the cylinder block drain plug, and then tighten to the standard torque.

**Specified sealant: Loctite 577 or equivalent**

**Tightening torque:**

**<3.8L Engine>  $39 \pm 5$  N·m**

8. Securely tighten the radiator drain plug.
9. Assemble the radiator condenser tank assembly.

**⚠ CAUTION**

**Do not use alcohol or methanol anti-freeze or any engine coolants mixed with alcohol or methanol anti-freeze. The use of an improper anti-freeze can cause corrosion of the aluminum components.**

10. By referring to the section on coolant, select an appropriate concentration for safe operating temperature within the range of 30 to 60%. Use special tool MB991871 to refill the coolant. A convenient mixture is a 50% water and 50% antifreeze solution [freezing point:  $-31^{\circ}\text{C}$  ( $-32.8^{\circ}\text{F}$ )].

**Recommended antifreeze: Long Life Antifreeze Coolant or an equivalent**

**Quantity:**

**<3.8L Engine> 8.7 Litres**

*NOTE: For how to use special tool MB991871, refer to its manufacturer's instructions.*

11. Reinstall the radiator cap.
12. Start the engine and let it warm up until the thermostat opens.
13. After repeatedly revving the engine up to 3,000 r/min several times, stop the engine.



14. Remove the radiator cap after the engine has cooled, and pour in coolant up to the brim. Reinstall the cap.

**⚠ CAUTION**

**Do not overfill the radiator condenser tank assembly.**

15. Add coolant to the radiator condenser tank assembly between the "FULL" and "LOW" mark if necessary.

### 13. COOLANT HOSES (RADIATOR HOSE, HEATER HOSE) (INSPECT)

M1001009700034

Inspect the surface of radiator hoses and heater hoses for heat and mechanical damage. Hard and brittle rubber, cracking, tears, cuts, abrasions and excessive swelling indicate deterioration of the rubber.

### 14. DISC BRAKE PADS, ROTORS (INSPECT FOR WEAR)

M1001003200291

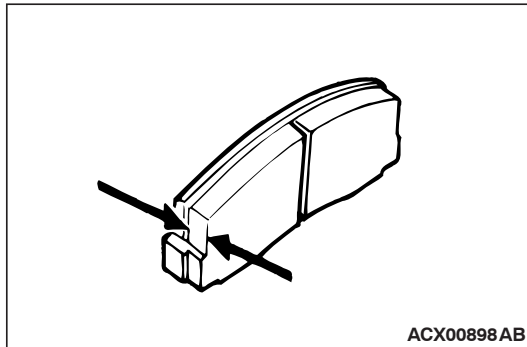
Check for fluid contamination and wear. Replace the complete set of pads if any one pad is defective.

**Thickness of lining**

**Minimum limit: 2.0 mm**

**⚠ CAUTION**

**The pads for the right and left wheels should be replaced at the same time. Never split or intermix brake pad sets. All four pads must be replaced as a complete set.**



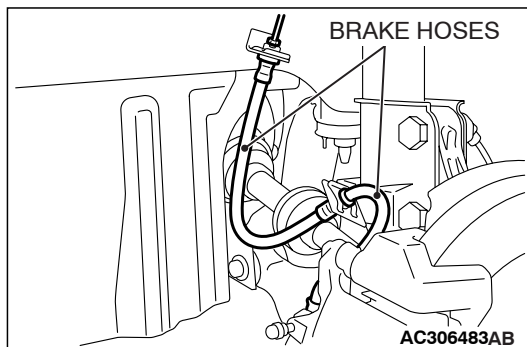
### 15. BRAKE HOSES (CHECK FOR DETERIORATION OR LEAKS)

M1001003400314

Inspection of brake hoses should be included in all brake service operations.

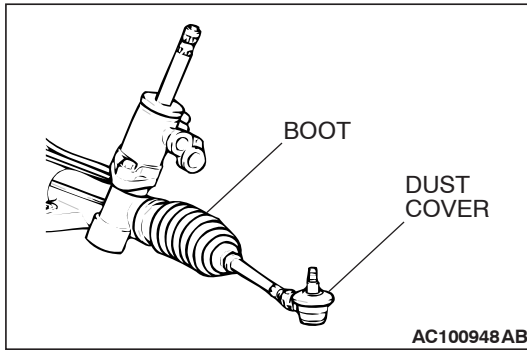
The hoses should be checked for:

1. Incorrect length, severe surface cracking, stretching, scuffing or worn spots (If the fabric casing of the hoses is exposed by cracks or abrasion in the rubber hose cover, the hoses should be replaced. Eventual deterioration of the hose and possible bursting failure may occur).
2. Incorrect installation, twisting or interference with wheel, tyre or chassis.



**16. BALL JOINT AND STEERING LINKAGE SEALS (INSPECT FOR GREASE LEAKS AND DAMAGE)**

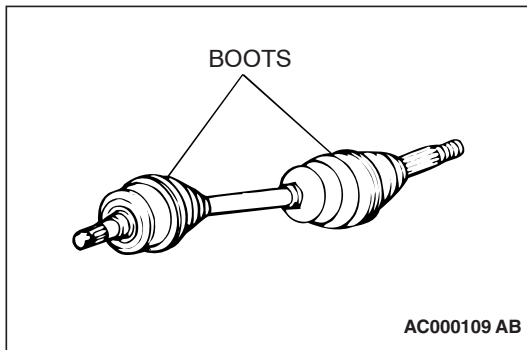
M1001003500322



1. These components, which are permanently lubricated at the factory, do not require periodic lubrication. Damaged seals and boots should be replaced to prevent leakage or grease contamination.
2. Inspect the dust cover and boots for proper sealing, leakage and damage, and replace them if defective.

**17. DRIVE SHAFT BOOTS (INSPECT FOR GREASE LEAKS AND DAMAGE)**

M1001003600318



1. These components, which are permanently lubricated at the factory, do not require periodic lubrication. Damaged seals and boots should be replaced to prevent leakage or grease contamination.
2. Inspect the dust cover and boots for proper sealing, leakage and damage. Replace them if defective.

## 18. SUSPENSION SYSTEM (INSPECT FOR LOOSENESS AND DAMAGE)

M1001009600048

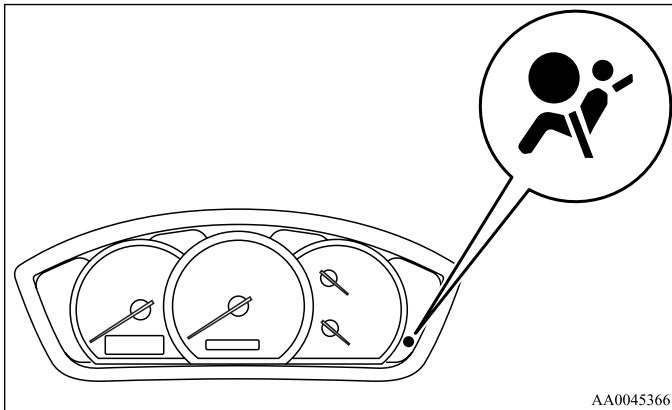
Visually inspect the front/rear suspension components for deterioration and damage. Re-tighten the front/rear suspension components retaining bolts to specified torque.

## 19. SRS AIR BAG (INSPECT FOR SRS SYSTEM)

M1001003700326

The entire SRS including air bag and pre-tensioner seat belt must be inspected by an authorized MITSUBISHI MOTORS dealer 10 years.

### SRS WARNING LIGHT CHECK



AA0045366

Turn the ignition key to the "ON" position. Does the "SRS" warning light illuminate for several seconds, and then go out? If yes, the SRS system is functioning properly. If no, refer to GROUP 52B, Diagnosis [P.52B-215](#).

### SRS COMPONENT VISUAL CHECK

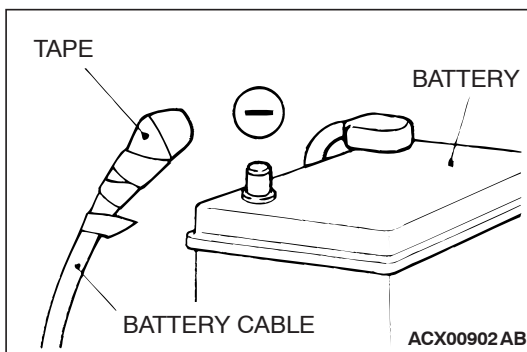
#### **⚠ DANGER**

***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 for a short time 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.***

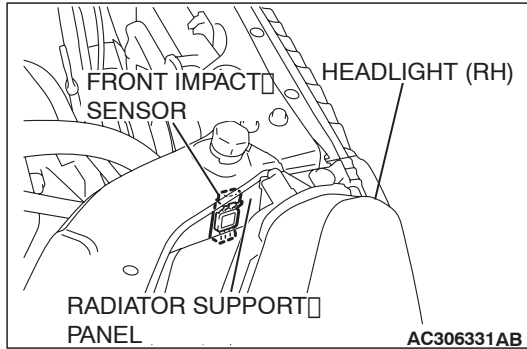
#### **⚠ WARNING**

***Battery posts, terminals and related accessories contain lead and lead compounds. WASH HANDS AFTER HANDLING.***

1. Turn the ignition switch to the "LOCK" (OFF) position, disconnect the negative battery cable and tape the terminal.
2. Remove the floor console assembly (Refer to GROUP 52A, Floor Console [P.52A-10](#)).
3. Disconnect a connector from the SRS-ECU.



ACX00902 AB



## FRONT IMPACT SENSORS

1. Check that the arrows on the sensors face toward the front of the vehicle.

### **⚠ WARNING**

- ***The SRS may not activate if a front impact sensor is not installed properly, which could result in serious injury or death to the vehicle's driver and passenger.***
- ***If a dent, crack, deformation or rust is detected, replace with a new sensor.***

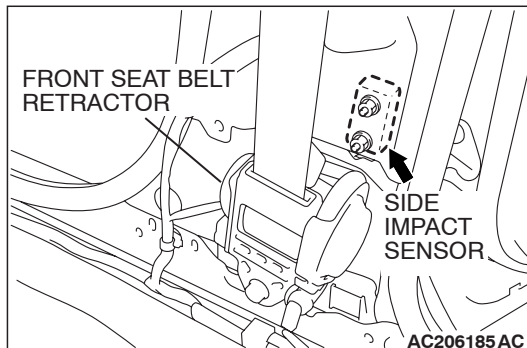
2. Check the front side member and front impact sensor for deformation or rust.
3. Check the front impact sensor wiring harness for binding; Check the connector for damage; and check the terminals for deformation.

Replace the sensor and/or wiring harness if they fail the visual check (Refer to GROUP 52B, SRS Service Precautions [P.52B-16](#) and GROUP 52B, Front Impact Sensor [P.52B-231](#)).

## SIDE IMPACT SENSORS

### **⚠ WARNING**

- ***If the side impact sensor is not installed securely and correctly, the side-air bag may not operate normally.***
- ***If a dent, crack, deformation or rust is detected, replace with a new sensor.***



1. Check the side impact sensor and bracket for dents, cracks or deformation. The side impact sensors are located inside the center pillars (LH/RH).
2. Check the connector for damage, and terminal for deformation.
3. Check that there is no bending or corrosion in the center pillars (LH/RH).

Replace the side impact sensor if it fails the visual check (Refer to GROUP 52B, Side Impact Sensor [P.52B-247](#)).

**NOTE:** The illustration shows the left side impact sensor (RH). The position of the other side impact sensor (LH) is symmetrical to this.

## SRS AIR BAG CONTROL UNIT (SRS-ECU)

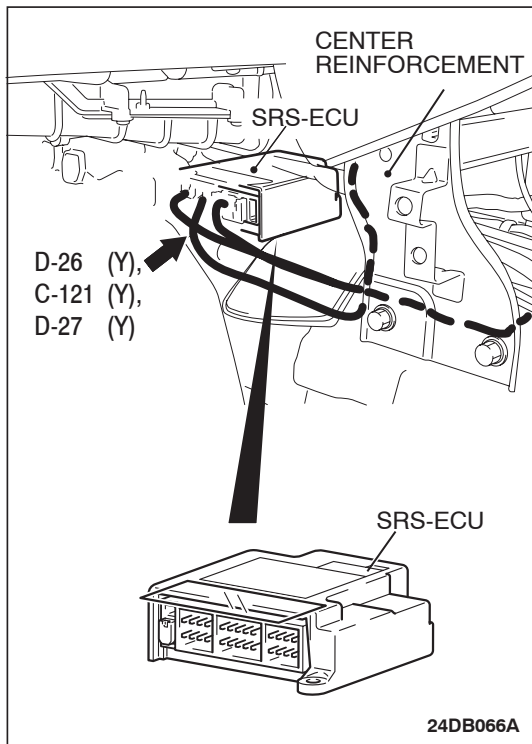
### **WARNING**

***The SRS may not activate if the SRS-ECU is not installed properly, which could result in serious injury or death to the vehicle's driver and front passenger.***

1. Check the SRS-ECU case for dents, cracks, deformation or rust.
2. Check the connector for damage, and check the terminals for deformation or rust.

Replace the SRS-ECU if it fails the visual checks above  
(Refer to GROUP 52B, SRS Air Bag Control Unit

[P.52B-234](#)).

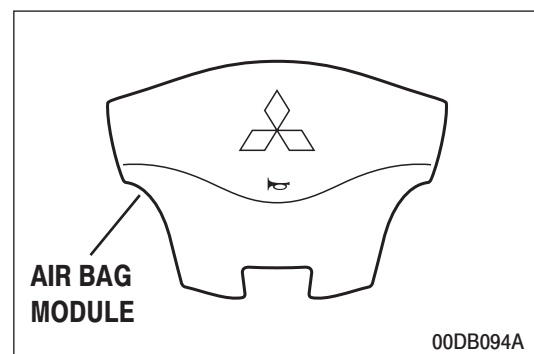
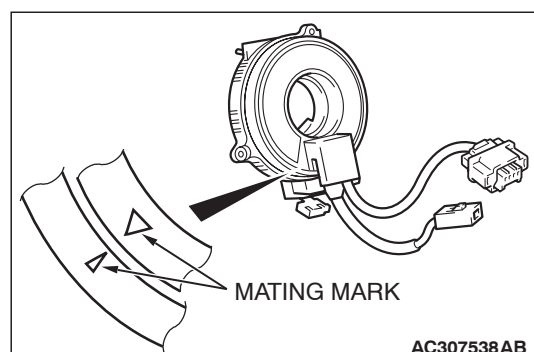
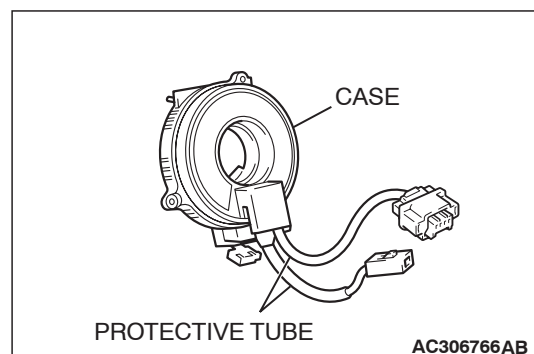
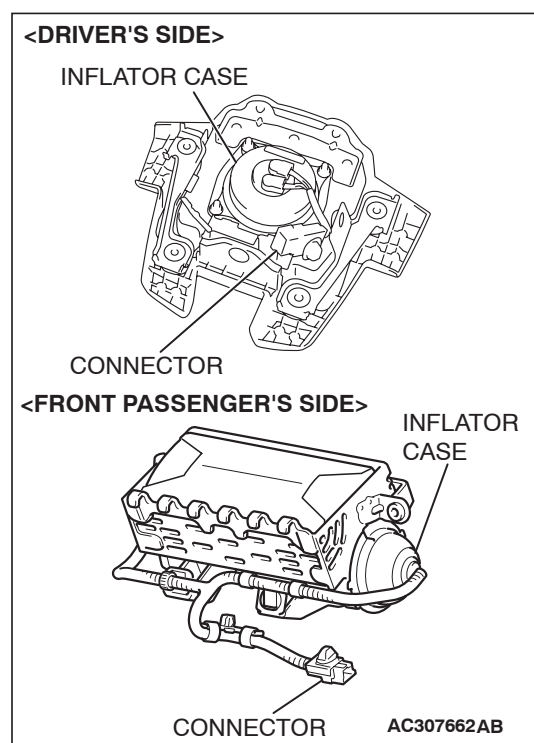


## AIR BAG MODULE, STEERING WHEEL AND CLOCK SPRING

### **WARNING**

- ***The removed air bag module should be stored in a clean, dry place with the pad cover face up.***
- ***Replace any visually inspected part if it fails the following inspection.***

1. Remove the air bag module, steering wheel and clock spring.  
(Refer to GROUP 52B, Air Bag Module and Clock Spring [P.52B-237](#)).
2. Check the pad cover for dents, cracks or deformation.



3. Check the connector for damage and deformed terminals, and check the harness for binding.
4. Check the air bag inflator case for dents, cracks or deformation.
5. Check the harness (built into the steering wheel) and connectors for damage, and check the terminals for deformation.

6. Check the clock spring connectors and protective tube for damage, and terminals for deformities.
7. Visually check the case for damage.

**⚠ WARNING**

***If the clock spring's mating mark is not properly aligned, the steering wheel may not completely rotate during turn, or the flat cable within the clock spring may be severed, obstructing normal operation of the SRS and possibly lead to serious injury to the vehicle's driver and front passenger.***

8. Align the mating marks of the clock spring first. After turning the front wheels to the straight-ahead position, install the clock spring to the column.

**Mating Marks Alignment;**

After turning the clock spring fully clockwise, turn it approximately 3 3/4 turns counterclockwise until the mating marks are aligned.

9. Install the steering column covers, steering wheel and air bag module (Refer to GROUP 52B, Air Bag Module and Clock Spring P.52B-237).
10. Check the steering wheel for noise, binding or difficult operation.

**⚠ DANGER**

***The SRS may not activate if any of the above components are not installed properly, which could result in serious injury or death to the vehicle's driver and front passenger.***

11. Check the steering wheel for excessive free play.

Replace any part if it fails visual inspection (Refer to GROUP 52B, Air Bag Module and Clock Spring [P.52B-237](#)).

## FRONT SEATBACK ASSEMBLY WITH SIDE-AIRBAG MODULE

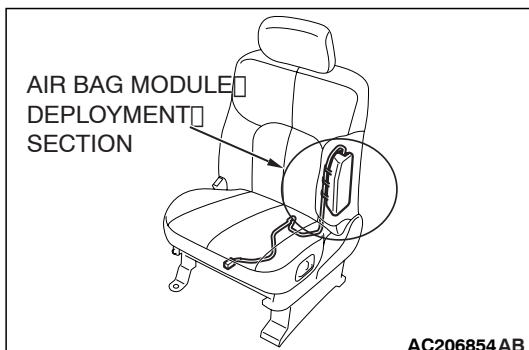
**⚠ WARNING**

- ***If any improper part is found during the following inspection, replace the front seatback assembly with a new one.***
- ***Dispose of the old one according to the specified procedure (Refer to GROUP 52B, Air Bag Module Disposal Procedures [P.52B-254](#)).***
- ***Never attempt to measure the circuit resistance of the air bag module (squib) even if you are using the specified tester. If the circuit resistance is measured with a tester, accidental air bag deployment will result in serious personal injury.***

1. Check the air bag module deployment section for dents or deformation.

2. Check the connector for damage; Check the terminals for deformation; and check the harness for binding.

Replace the front seat if it fails the visual checks above (Refer to GROUP 52A, Front Seat [P.52A-33](#)).



## SEAT BELT WITH PRE-TENSIONER

**⚠ WARNING**

- ***If the seat belt pre-tensioner is not installed securely and correctly, the seat belt pre-tensioner may not operate normally.***
- ***If a dent, crack, deformation or rust is detected, replace with a new seat belt pre-tensioner.***

1. Check the seat belt pre-tensioner for dents or deformation.

2. Check that the seat belt pre-tensioner is installed correctly to the vehicle body.

Replace the seat belt pre-tensioner if it fails the visual checks above (Refer to GROUP 52B, Seat Belt Pre-tensioner [P.52B-250](#)).

**WIRING HARNESS**

1. Check the connector for poor connection.



***The SRS system may not operate if SRS harnesses or connectors are damaged or improperly connected, which could result in serious injury or death to the vehicle's driver and front passenger.***

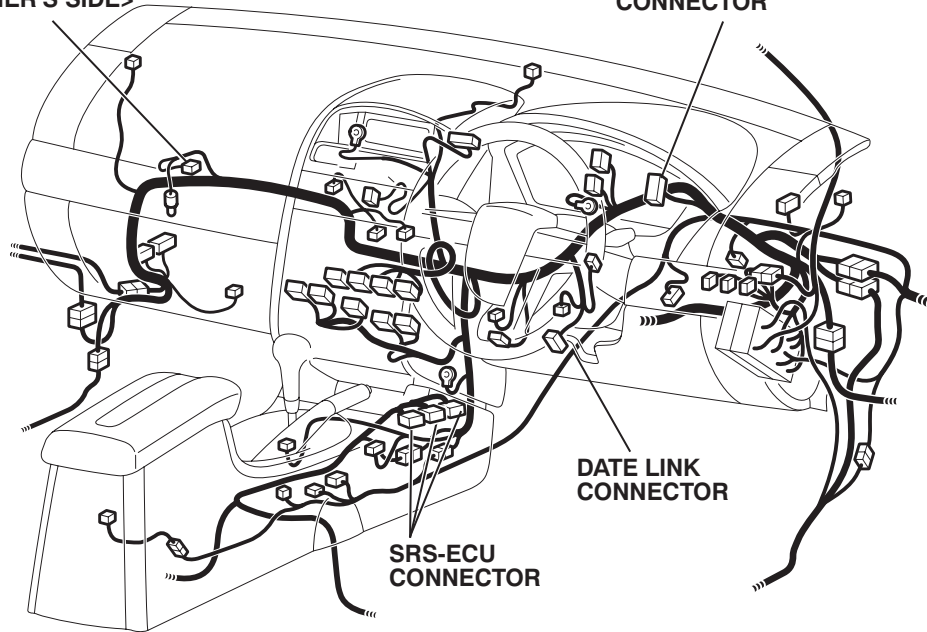
2. Check the harness for binds, the connectors for damage, and the terminals for deformation. Replace any connector or harness that fails the visual inspection (Refer to GROUP 52B, SRS Precaution [P.52B-16](#)).



AIR BAG MODULE  
CONNECTOR  
<FRONT PASSENGER'S SIDE>

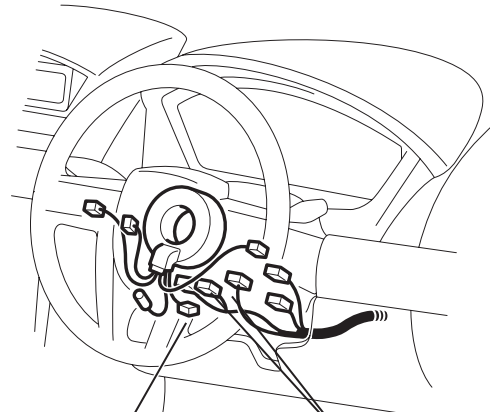
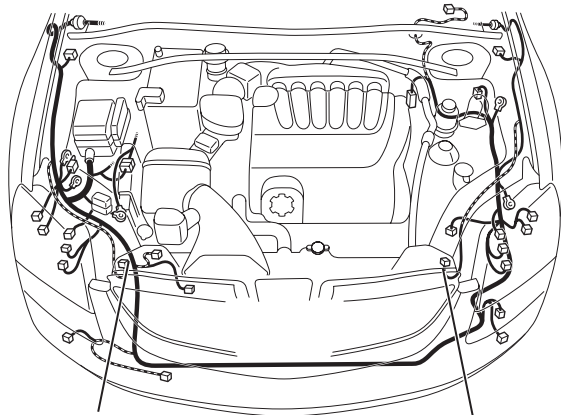
COMBINATION METER  
CONNECTOR

DASH PANEL



ENGINE ROOM

STEERING COLUMN



FRONT IMPACT SENSOR  
CONNECTOR (RH)

FRONT IMPACT SENSOR  
CONNECTOR (LH)

AIR BAG MODULE  
CONNECTOR  
<DRIVER'S SIDE>

CLOCK SPRING  
CONNECTOR

FLOOR AND ROOF

SIDE IMPACT SENSOR  
CONNECTOR (RH)

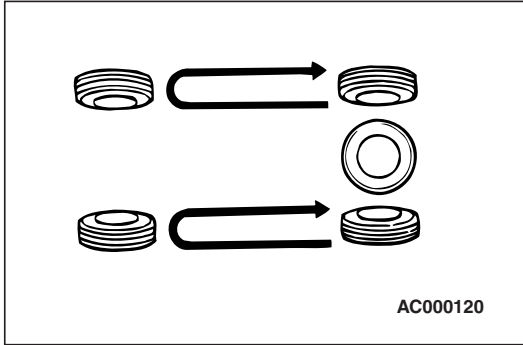
SEAT BELT PRETENSIONER  
CONNECTOR (RH)

SIDE AIR BAG MODULE  
CONNECTOR (RH)

SIDE AIR BAG MODULE  
CONNECTOR (LH)

SEAT BELT PRETENSIONER  
CONNECTOR (LH)

SIDE IMPACT SENSOR  
CONNECTOR (LH)



## 20. TYRES (ROTATE)

M1001008900303

Rotate tyres regularly to equalize tyre wear and help extend tyre life. Recommended tyre rotation is every 12,000 km under normal driving conditions and every 9,600 km in severe driving conditions.

Timing for the rotation may vary according to vehicle condition, road surface conditions, and individual driver's habits.

When rotating tyres, check for uneven wear, damage, and wheel alignment. Abnormal wear is usually caused by incorrect tyre pressure, improper wheel alignment, out-of balance wheels, or severe braking.

The first rotation is the most important, to achieve more uniform wear for all tyres on the vehicle.