

GROUP 00

GENERAL

<BODY AND CHASSIS>

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HOW TO USE THIS MANUAL

M1001000100370

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.00-28](#).

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:

M/T: Manual transaxle, or models equipped with manual transaxle.

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

MFI: Multiport fuel injection, or engines equipped with multiport fuel injection.

A/C: Air conditioning.

2.0L Engine: 2.0 liter <4G94> engine, or a model equipped with such an engine.

PCM: Powertrain control module

ECM: Engine control module

SWS: Simplified Wiring System

NOTES

EXPLANATION OF MANUAL CONTENTS

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

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.

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 assembly is impossible in reverse order of disassembly 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.

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

Indicates the group title.

Indicates the section title.

Indicates the group number.

Indicates the page number.

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 .)

113 ± 9 N·m
80 ± 7 ft·lb

29 ± 4 N·m
22 ± 3 ft·lb

2

1

7

3

4

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

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

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

2

1

9

7

6

5

4

3

2

1

10

11

12

8

6

5

4

BRAKE CALIPER KIT

PAD SET

SHIM KIT

SEAL AND BOOT KIT

REMOVAL STEPS

1. BRAKE HOSE CONNECTION

2. GASKET

REMOVAL STEPS (Cont.)

>>A<< 3. DISC BRAKE ASSEMBLY

4. BRAKE DISC

Required Special Tool:

• MB990520: Disc Brake Piston Expander

INSTALLATION SERVICE POINT

>>A<< DISC BRAKE ASSEMBLY INSTALLATION

1. To check the brake drag force after mounting the pad, measure the hub torque in the advancing direction using a spring balance with the pad is removed.

CAUTION

Do not allow any oil, grease or other contamination to contact the friction surfaces of the pads and brake discs.

2. After re-installing the caliper support to the knuckle, install the pad clips and the pads to the caliper support.

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

2

1

9

7

6

5

4

3

2

1

LUBRICATION AND SEALING POINTS

PISTON SEAL

GREASE REPAIR KIT GREASE

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.

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 the correct operation of the system is understood. 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

M1001000200322

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

TROUBLESHOOTING CONTENTS

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 diagnosis 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 scan tool displays a diagnostic trouble code, find the applicable inspection procedure according to this chart.

5. SYMPTOM CHART

If there are symptoms, even though the scan tools show 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.00-7.)

7. SYMPTOM PROCEDURES

Indicates the inspection procedures corresponding to each symptom listed in the Symptom Chart. (Refer to P.00-7.)

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. Connect a needle-nosed wire probe to a voltmeter probe.

CAUTION

Short-circuiting the positive (+) 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 needle-nosed wire probe into each of the ECU connector terminals from the wire side, 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 reach the connector terminals.

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 "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 ECU harness-side 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.

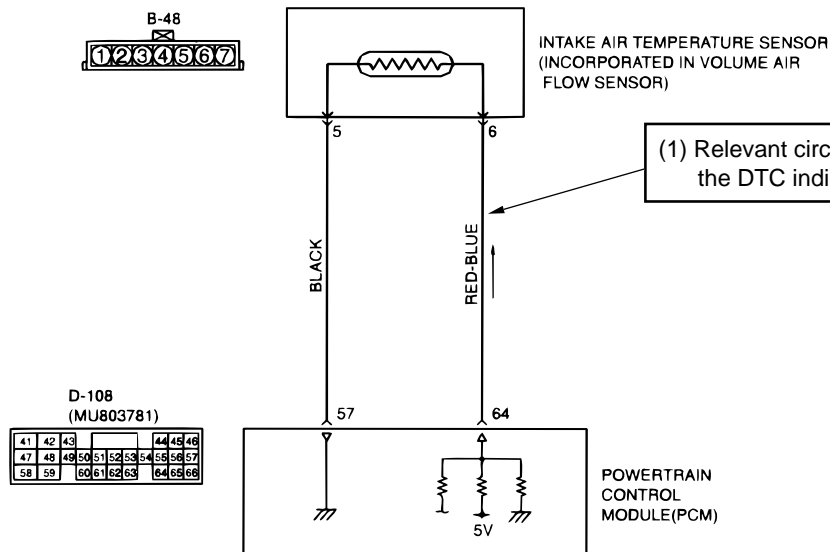
10. INSPECTION PROCEDURES USING AN OSCILLOSCOPE

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

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 P0110: Intake Air Temperature Circuit Malfunction

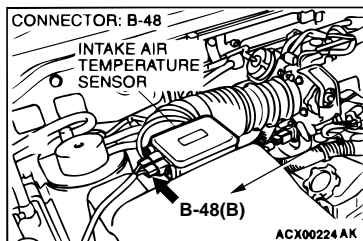


(1) Relevant circuit(s) of the component which the DTC indicates are described.

(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.

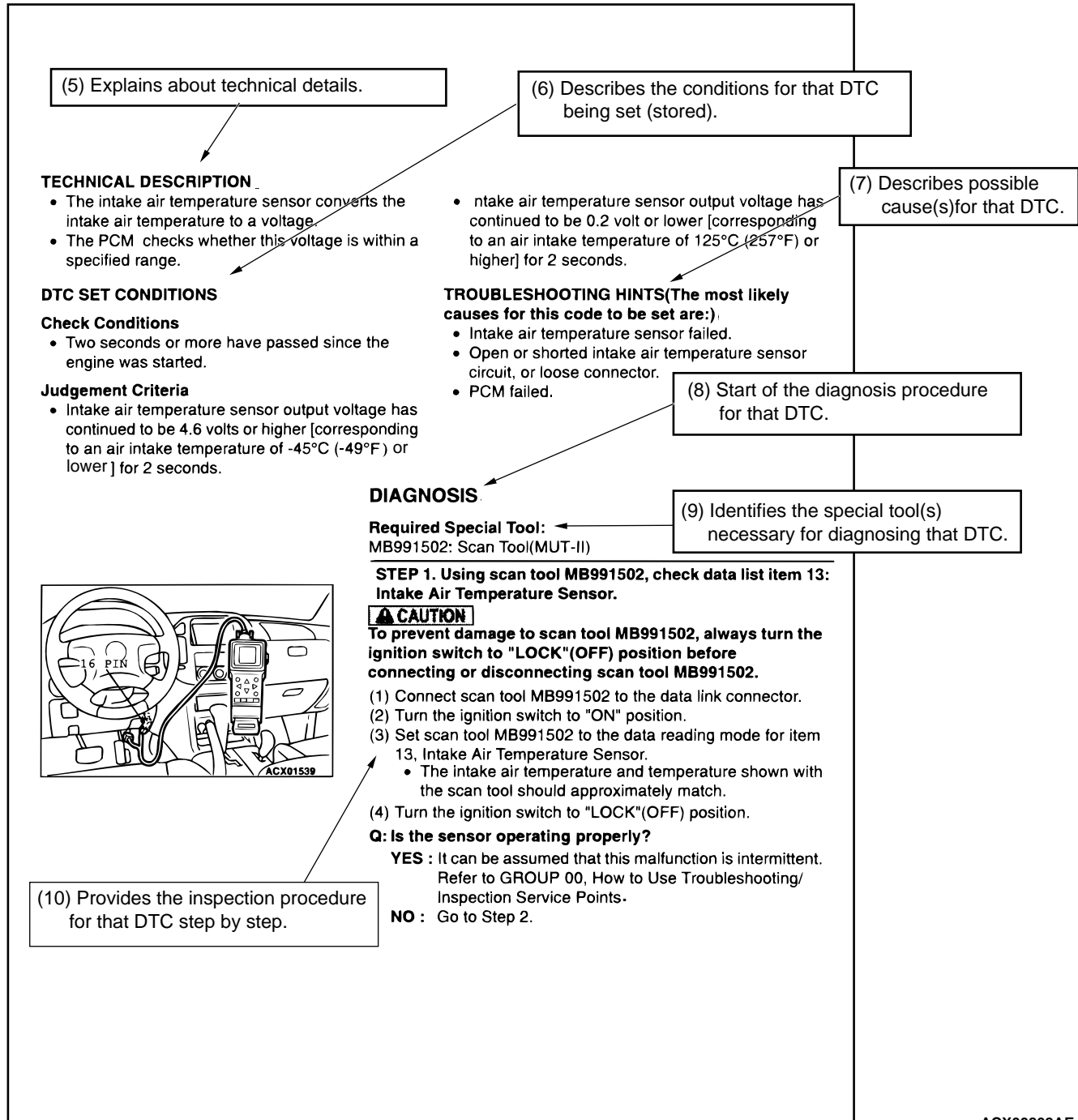
(4) Explains about the operation principle of the component or its relevant parts in that circuit.



CIRCUIT OPERATION

- Approximately 5 volts are applied to the intake air temperature sensor output terminal (terminal 6) from the PCM (terminal 64) via the resistor in the PCM. The ground terminal (terminal 5) is grounded with or PCM (terminal 57).
- The intake air temperature sensor is a negative temperature coefficient type of resistor. When the intake air temperature rises, the resistance decreases.
- The intake air temperature sensor output voltage increases when the resistance increases and decreases when the resistance decreases.

ACX00861AE



ACX00862AE

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.00-15."

MEASURES TO TAKE AFTER REPLACING THE ECU

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

CONNECTOR MEASUREMENT SERVICE POINTS

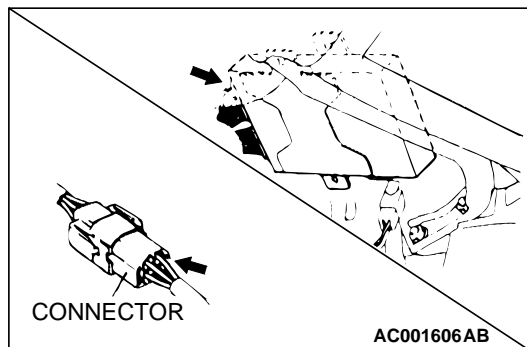
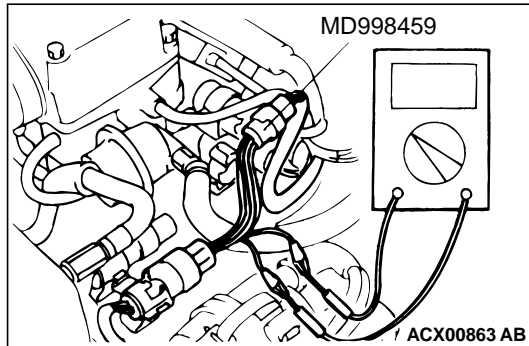
Turn the ignition switch to the "LOCK" (OFF) position when connecting and disconnecting the connectors. Turn the ignition switch to "ON" when measuring, unless there are instructions to the contrary.

IF INSPECTING WITH THE CONNECTOR CONNECTED**Required Special Tool:**

MD998459: Test Harness

Waterproof Connectors

Be sure to use special tool, MB998459. Never insert a test probe from the harness side, as this will reduce the waterproof performance and result in corrosion.

**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 backprobing tool for this purpose.

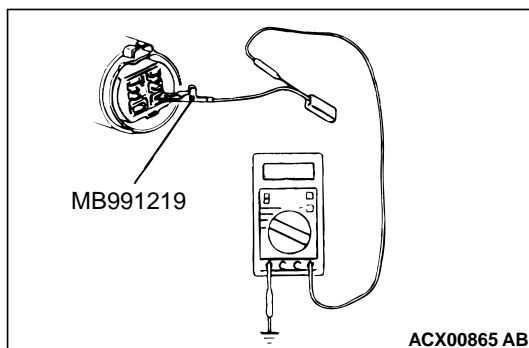
IF INSPECTING WITH THE CONNECTOR DISCONNECTED**<When Inspecting a Female Pin>**

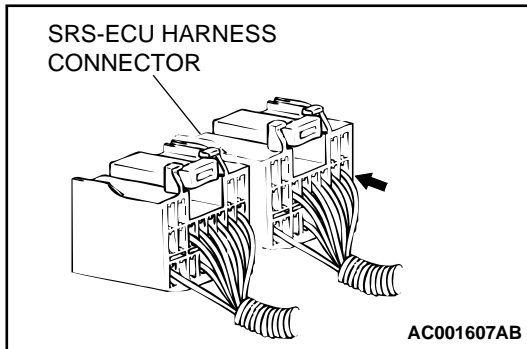
- From front side of the connector

Required Special Tool:

MB991219: Inspection Harness (Included in MB991223, Harness Set)

The inspection harness 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

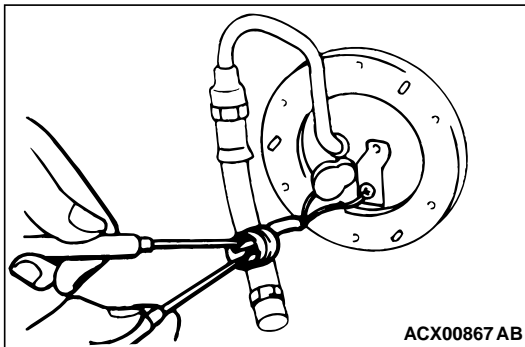
Insert the backprobing tool into the connector from the harness side, and connect the tester to the backprobing tool. If any tool other than the backprobing tool is used, it may cause damage to the harness and other components. Furthermore, measurement should not be carried out by touching the backprobing 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 backprobing tool, the plating may break, which will decrease reliability.

<When Inspecting a Male Pin>

⚠ CAUTION

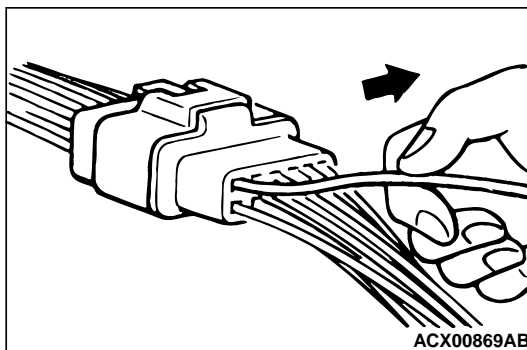
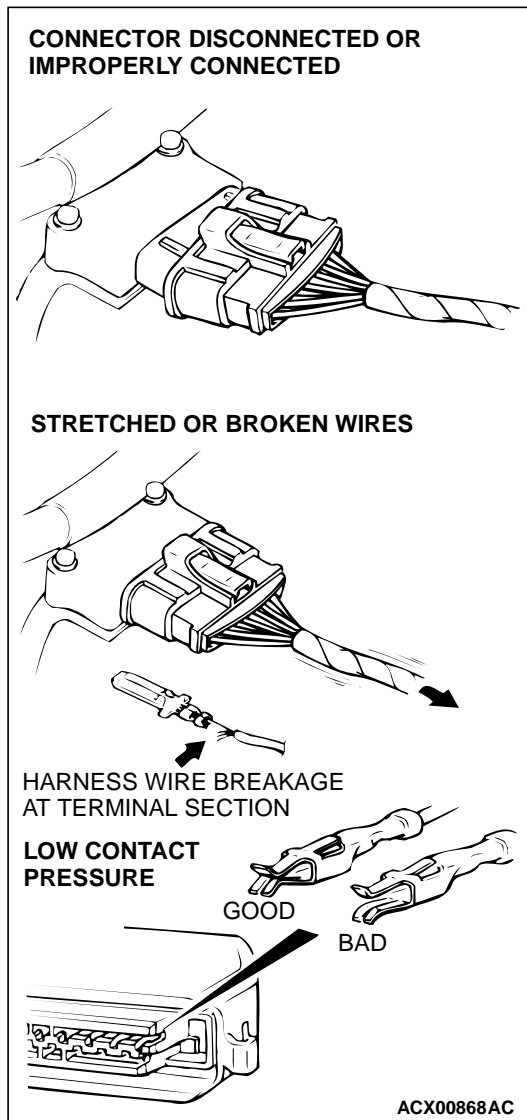
At this time, be careful not to short the connector pins with the test probes. Doing so may damage the circuits inside the ECU.

Touch the pin directly with the test probe.



CONNECTOR INSPECTION SERVICE POINTS**VISUAL INSPECTION**

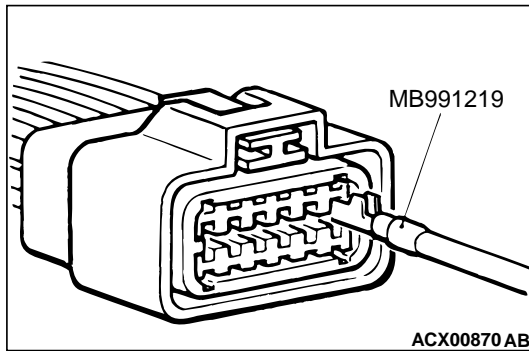
- Connector is disconnected or improperly connected
- Connector pins are pulled out
- Stretched or broken wires at terminal section
- Low contact pressure between male and female terminals
- Low connection pressure due to rusted terminals or foreign matter lodged in terminals

**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

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.

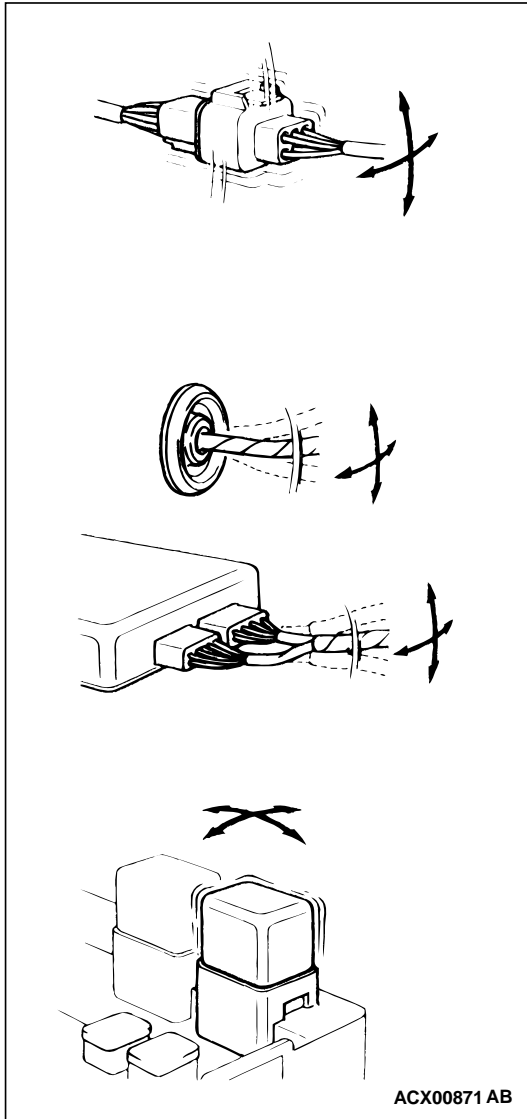
For temperature and/or moisture condition related intermittent malfunctions, try to change the conditions of the suspected circuit components, then use the simulation tests below.

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

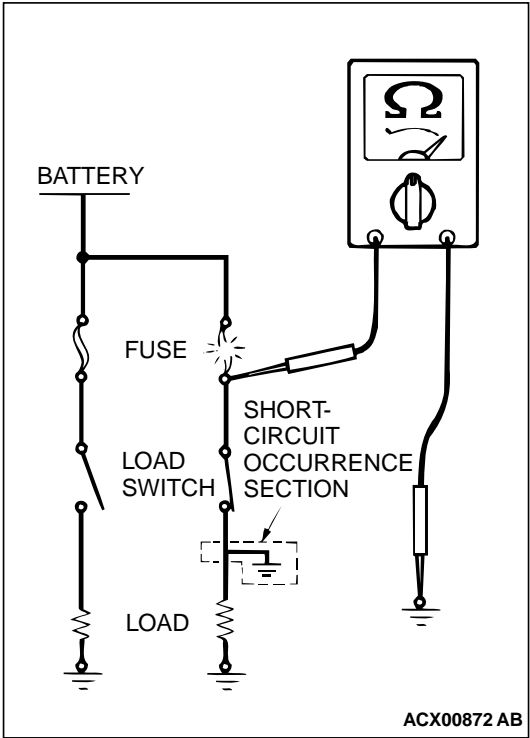
NOTE: In case of difficulty in finding the cause of the intermittent malfunction, the data recorder function in the scan tool is effective.



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 80B, SPLICE LOCATION [P.00E-2](#).
- Shake the part or sensor.

INSPECTION SERVICE POINTS FOR A BLOWN FUSE



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 0Ω at this time, there is a short somewhere between these switches and the load. If the resistance is not 0Ω , there is no short at the present time, but a momentary short has probably caused the fuse to blow.

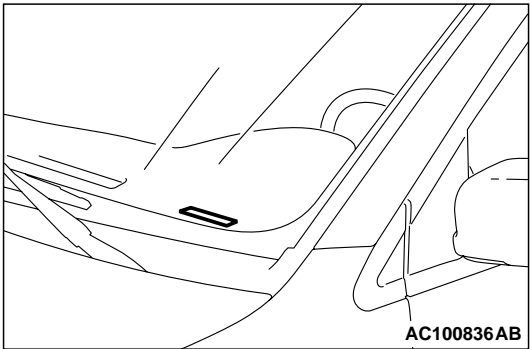
The main causes of a short circuit are the following.

- 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.)

VEHICLE IDENTIFICATION

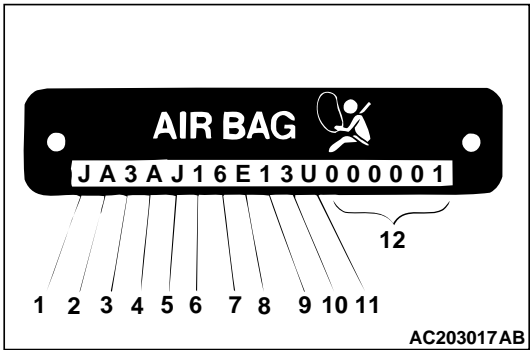
VEHICLE IDENTIFICATION

M1001000400393



VEHICLES IDENTIFICATION NUMBER LOCATION

The vehicle identification number (VIN) is located on a plate attached to the left top side of the instrument panel.



VEHICLE IDENTIFICATION CODE CHART PLATE

All vehicle identification numbers contain 17 digits. The vehicle number is a code which tells country, make, vehicle type, etc.

NO.	ITEM	CONTENT
1	Country	J: Japan
2	Make	A: Mitsubishi
3	Vehicle type	3: Passenger car
4	Others	A: Driver and passenger air bags

NO.	ITEM	CONTENT
5	Line	J: LANCER
6	Price class	1: Economy
		2: Low
		3: Medium
		8: Sports
7	Body	6: 4-door sedan
8	Engine	E: 2.0L
9	Check digits*	0, 1, 2, 3, -----9, X
10	Model year	3: 2003 year
11	Plant	U: Mizushima
12	Serial number	000001 to 999999

*NOTE: *: Check digit means a single number, or letter X, used to verify the accuracy of transcription of vehicle identification number.*

VEHICLE IDENTIFICATION NUMBER LIST

VEHICLES FOR FEDERAL EMISSION REGULATION

VIN (EXCEPT SEQUENCE NUMBER)	BRAND	ENGINE DISPLACEMENT	MODEL CODE
JA3AJ16E_3U	MITSUBISHI LANCER	2.0L	CS6ASRSEL2M
JA3AJ26E_3U			CS6ASNME2M
			CS6ASRMEL2M
JA3AJ36E_3U			CS6ASRDEL2M
JA3AJ86E_3U			CS6ASNHEL2M
			CS6ASRHEL2M

VEHICLES FOR CALIFORNIA EMISSION REGULATION

VIN (EXCEPT SEQUENCE NUMBER)	BRAND	ENGINE DISPLACEMENT	MODEL CODE
JA3AJ16E_3U	MITSUBISHI LANCER	2.0L	CS6ASRSEL7M
JA3AJ26E_3U			CS6ASNME7M
			CS6ASRMEL7M
JA3AJ36E_3U			CS6ASRDEL7M
JA3AJ86E_3U			CS6ASNHEL7M
			CS6ASRHEL7M

VEHICLES FOR CANADA EMISSION REGULATION

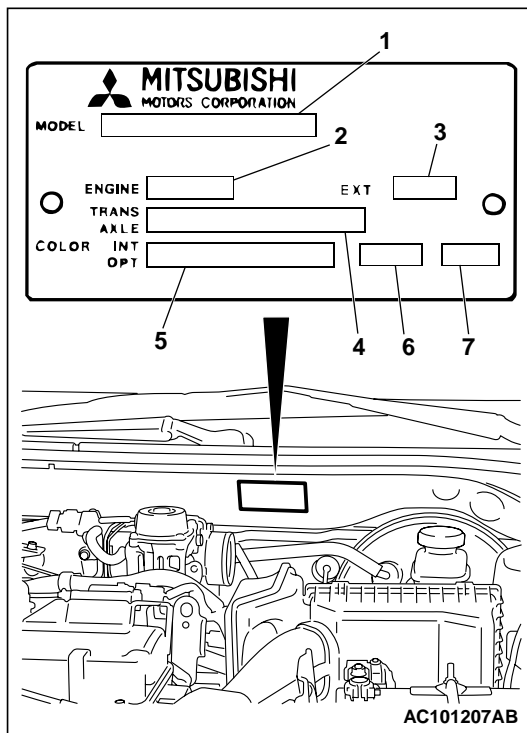
VIN (EXCEPT SEQUENCE NUMBER)	BRAND	ENGINE DISPLACEMENT	MODEL CODE
JA3AJ16E_3U	MITSUBISHI LANCER	2.0L	CS6ASNSEL3M
			CS6ASRSEL3M
JA3AJ26E_3U			CS6ASNME3M
			CS6ASRME3M
JA3AJ36E_3U			CS6ASRDE3M
JA3AJ86E_3U			CS6ASNHE3M
			CS6ASRHE3M

VEHICLE IDENTIFICATION CODE PLATE

M1001005400279

The vehicle information code plate is riveted onto the cowl top outer panel in the engine compartment.

The plate shows model code, engine model, transaxle model and body color code.



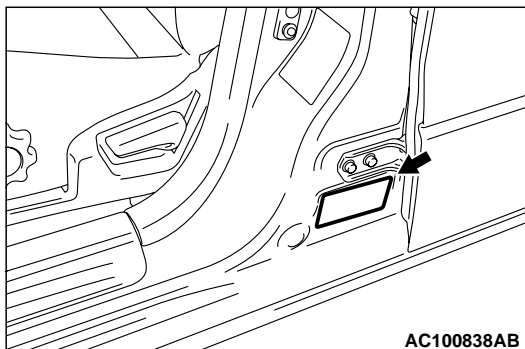
NO.	ITEM	CONTENT
1	MODEL	CS6ASRSE L2M CS6AS: Vehicle model RSEL2M: Model series
2	ENGINE	4G94 Engine model
3	EXT	ZZZ Exterior code
4	TRANS AXLE	F4A42 F4A42:Transaxle model
5	COLOR	W83 W83: Body color code
6	INT	62E 62E: Interior code
7	OPT	ZT7 ZT7: Equipment code

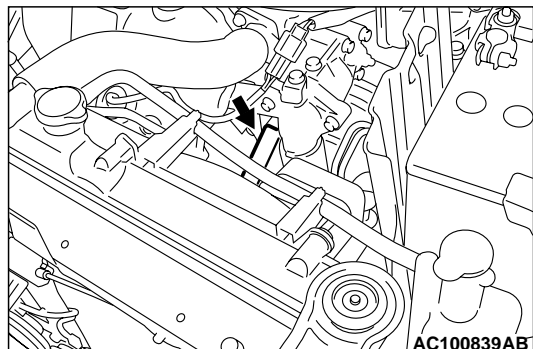
For monotone color vehicles, the body color code shall be indicated.

VEHICLE SAFETY CERTIFICATION LABEL

The vehicle safety certification label is attached to the face of the left door sill.

This label indicates the month and year of manufacture, Gross Vehicle Weight Rating (GVWR), front and rear Gross Axle Weight Rating (GAWR), and Vehicle Identification Number (VIN).





ENGINE MODEL STAMPING

The engine model is stamped on the cylinder block.
These engine model numbers are as shown as follows.

ENGINE MODEL	ENGINE DISPLACEMENT
4G94	2.0L

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

THEFT PROTECTION

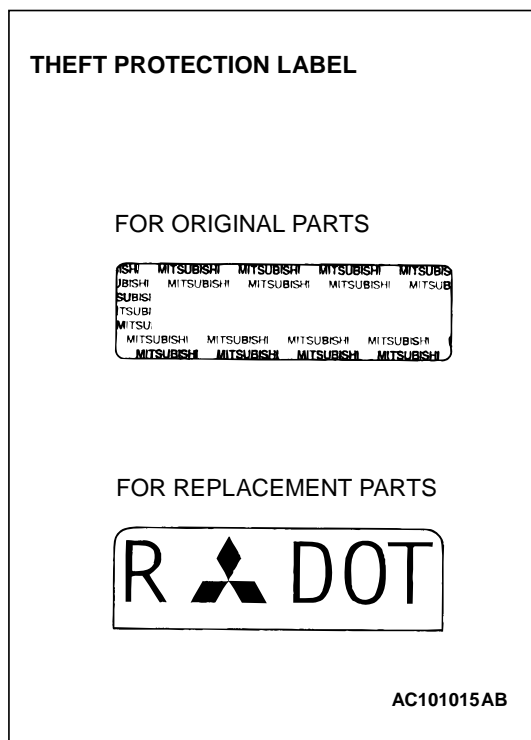
In order to protect against theft, a Vehicle Identification Number (VIN) is attached as a plate or label to the following major parts of the engine and transaxle, as well as main outer panels: Engine cylinder block, Transaxle housing, Fender, Doors, Trunk lid, Quarter panel, Hood, Bumpers

In addition, a theft-protection label is attached to replacement parts for the body outer panel main components, and the same data is stamped into replacement parts for the engine and the transaxle.

CAUTION

Cautions regarding panel repairs:

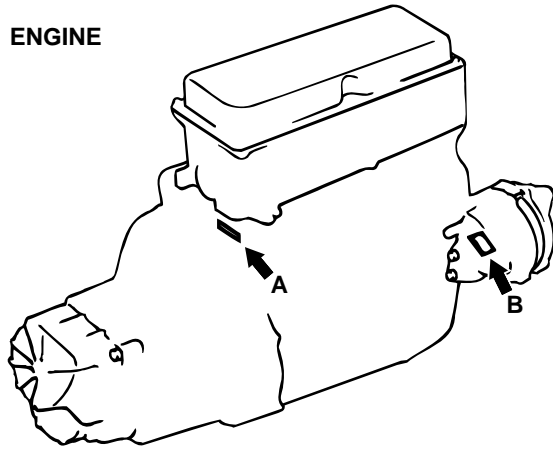
1. When repainting original parts, do so after first masking the theft-protection label. After painting, be sure to peel off the masking tape.
2. The theft-protection label for replacement parts is covered by masking tape, so such parts can be painted as is. The masking tape should be removed after painting is finished.
3. The theft-protection label should not be removed from original parts or replacement parts.



LOCATIONS

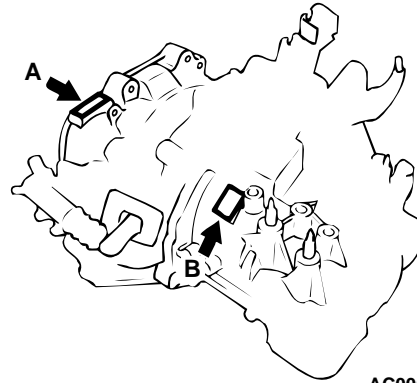
LABEL AREA (A: FOR ORIGINAL EQUIPMENT PARTS, B: FOR REPLACEMENT PARTS)

ENGINE



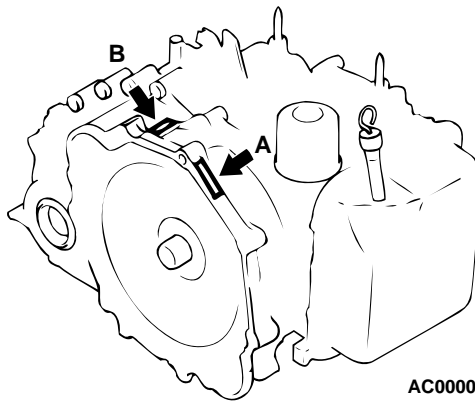
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MANUAL TRANSAXLE



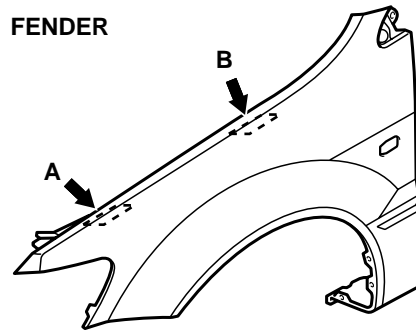
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AUTOMATIC TRANSAXLE



AC000060AB

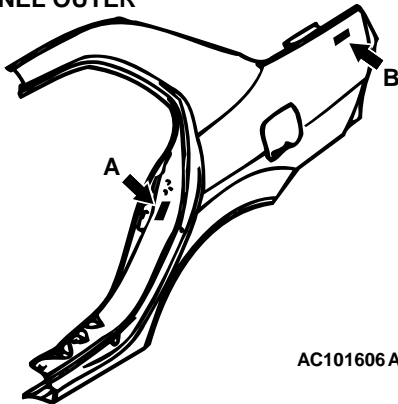
FENDER



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THE ILLUSTRATION INDICATES LEFT OUTER SIDE.
RIGHT SIDE IS SYMMETRICALLY OPPOSITE.

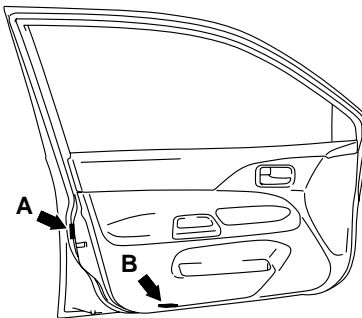
QUARTER PANEL OUTER



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THE ILLUSTRATION INDICATES LEFT OUTER SIDE.
RIGHT SIDE IS SYMMETRICALLY OPPOSITE.

FRONT DOOR

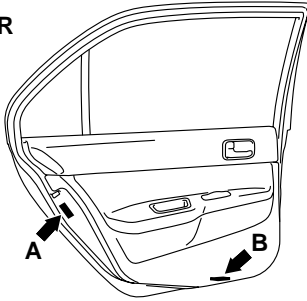


THE ILLUSTRATION INDICATES LEFT INNER SIDE.
RIGHT SIDE IS SYMMETRICALLY OPPOSITE.

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LABEL AREA (A: FOR ORIGINAL EQUIPMENT PARTS, B: FOR REPLACEMENT PARTS)

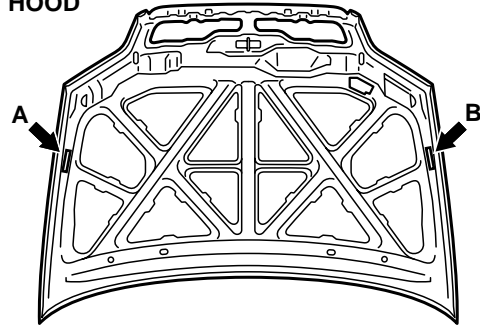
REAR DOOR



THE ILLUSTRATION INDICATES LEFT INNER SIDE.
RIGHT SIDE IS SYMMETRICALLY OPPOSITE.

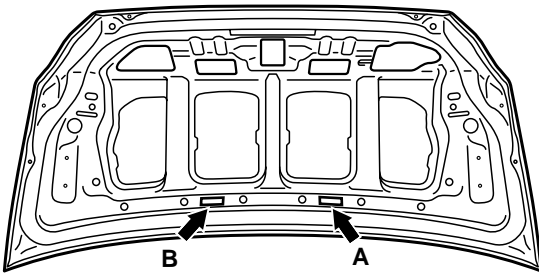
AC101608AB

HOOD



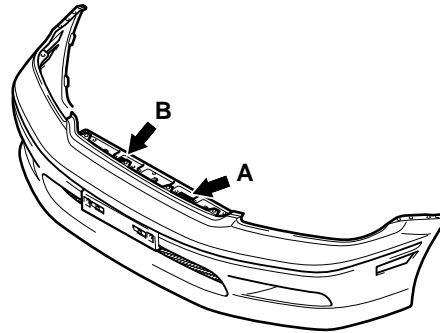
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TRUNK LID



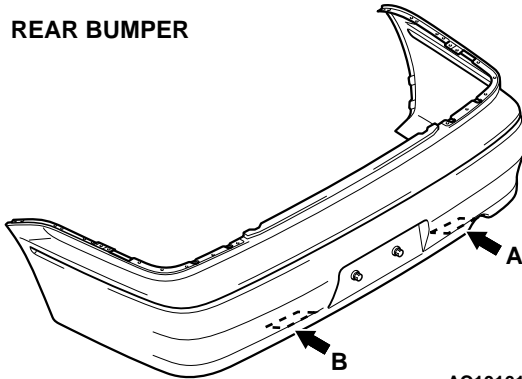
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FRONT BUMPER



AC101609AB

REAR BUMPER



AC101610AB

PRECAUTIONS BEFORE SERVICE

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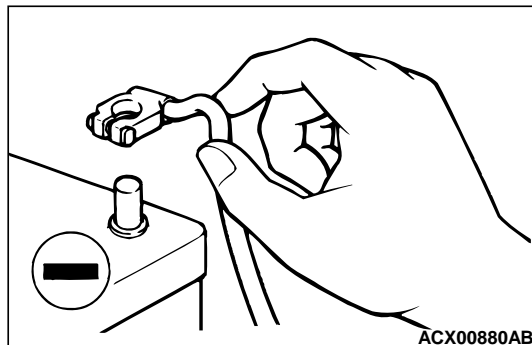
SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

1. Items to review when servicing SRS
 - (1) Be sure to read GROUP 52B, Supplemental Restraint System (SRS). For safe operation, please follow the directions and heed all warnings.
 - (2) 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.
 - (3) Warning labels must be heeded when servicing or handling SRS components. Warning labels can be found in the following locations.
 - Sun visor
 - Glove box
 - Center pillar
 - SRS-ECU
 - Steering wheel
 - Clock spring
 - Joint cover
 - 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
 - (4) Always use the designated special tools and test equipment.
 - (5) 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.
 - (6) Never attempt to disassemble or repair the SRS components (SRS-ECU, air bag module, side impact sensor, clock spring and seat belt pre-tensioner). If there is a defect, replace the defective part.
 - (7) Whenever you finish servicing the SRS, check the SRS warning light operation to make sure that the system functions properly.
 - (8) 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 [P.52Ba-43](#), Air Bag Module Disposal Procedures.)
2. Observe the following when carrying out operations on places where SRS components are installed, including operations not directly related to the SRS air bag.
 - (1) When removing or installing parts, do not allow any impact or shock to occur to the SRS components.
 - (2) If heat damage may occur during paint work, remove the SRS components. After re-installing them, check the SRS warning light operation to make sure that the system functions properly.
 - SRS-ECU, air bag module, clock spring, side impact sensor: 93°C (200°F) or more
 - Seat belt pre-tensioner: 90°C (194°F) or more

SERVICING ELECTRICAL SYSTEM

⚠ 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.
2. When servicing the electrical system, disconnect the negative cable terminal from the battery.

Engine coolant temperature: 85 – 95°C (185 – 203°F)

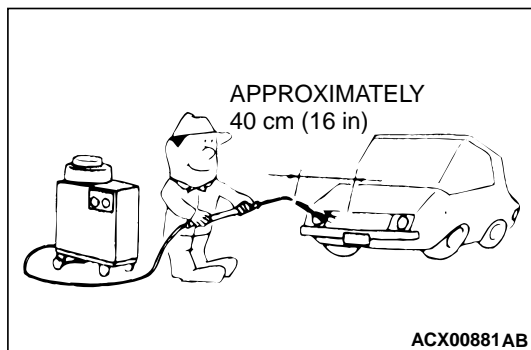
Lights and all accessories: OFF

Transaxle: "N" or "P" position

Steering wheel: straight-forward position

VEHICLE WASHING

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 40 cm (16 inches) from any plastic parts and all opening parts (doors, luggage compartment, etc.).



APPLYING ANTI-CORROSION AGENT OR OTHER UNDERCOAT AGENTS

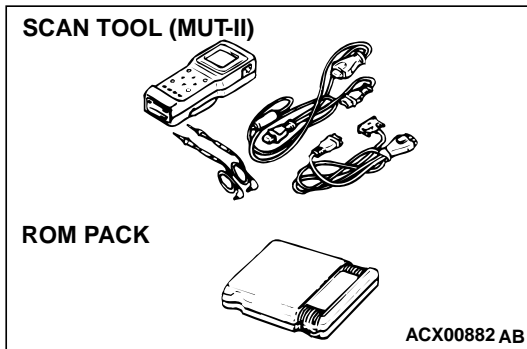
Be careful not to apply oil or grease to the heated oxygen sensor. If applied, the sensor may malfunction. Protect the heated oxygen sensor with a cover before applying anti-corrosion agent, etc.

SCAN TOOL (MUT-II)

CAUTION

Turn the ignition switch to "LOCK" (OFF) position before disconnecting or connecting the scan tool.

To operate the scan tool, refer to "MUT-II/MUT-II+ Reference Manual."



TOWING AND HOISTING

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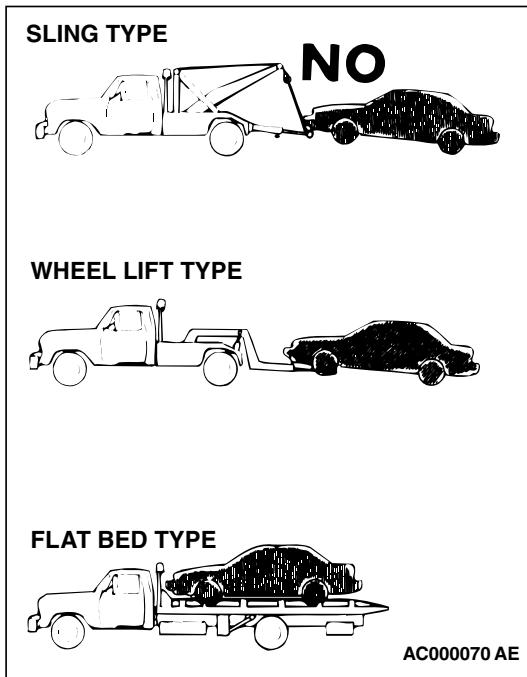
WRECKER TOWING RECOMMENDATION

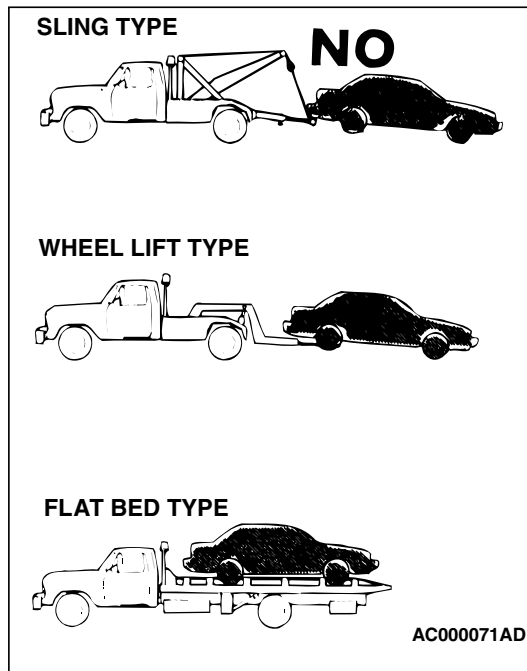
FRONT TOWING PICKUP

CAUTION

This vehicle cannot be towed by a wrecker using sling-type equipment; otherwise the bumper may become deformed. If this vehicle is towed, use wheel lift or flat bed equipment.

The vehicle may be towed on its rear wheels for extended distances provided the parking brake is released. It is recommended that vehicles be towed using the front pickup whenever possible.



**REAR TOWING PICKUP****⚠ CAUTION**

- This vehicle cannot be towed by a wrecker using sling-type equipment; otherwise the lower arm may become deformed. If this vehicle is towed, use a wheel lift or flat bed equipment.
- 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.

Automatic transmission vehicle may be towed on the front wheels at speeds not to exceed 50 km/h (30 mph) for distances not to exceed 30 km (18 miles).

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:

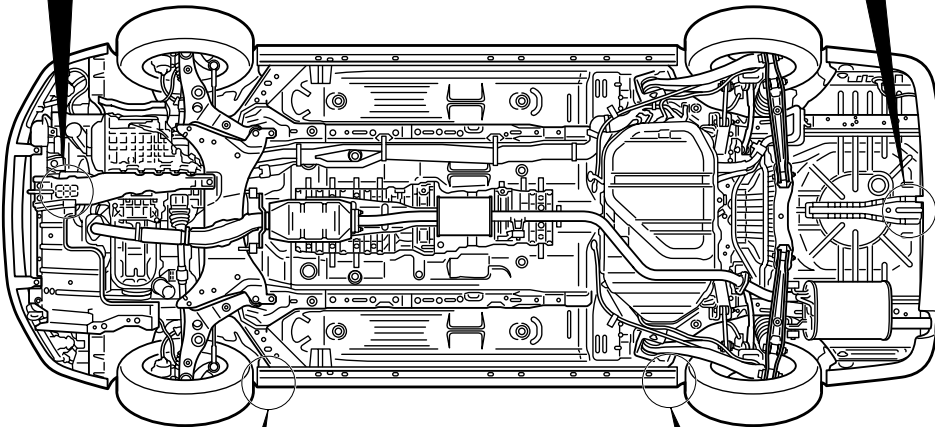
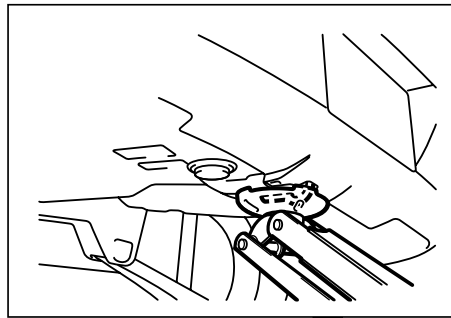
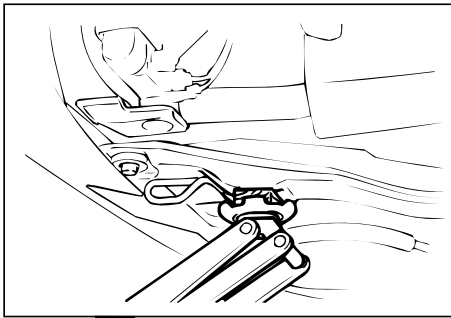
1. DO NOT LIFT OR TOW THE VEHICLE BY ATTACHING TO OR WRAPPING AROUND THE BUMPER.
2. Any loose, protruding, or damaged parts such as hoods, doors, fenders, trim, etc. should be secured or removed prior to moving the vehicle.
3. Refrain from going under a vehicle when it is lifted by the towing equipment, 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

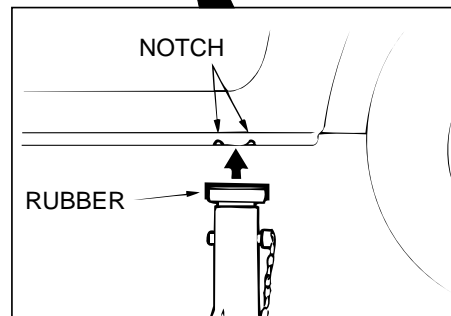
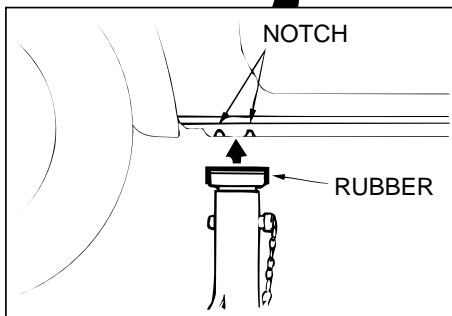
FLOOR JACK

CAUTION

- Never support 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, or the side sill area will be damaged.



RIGID RACK



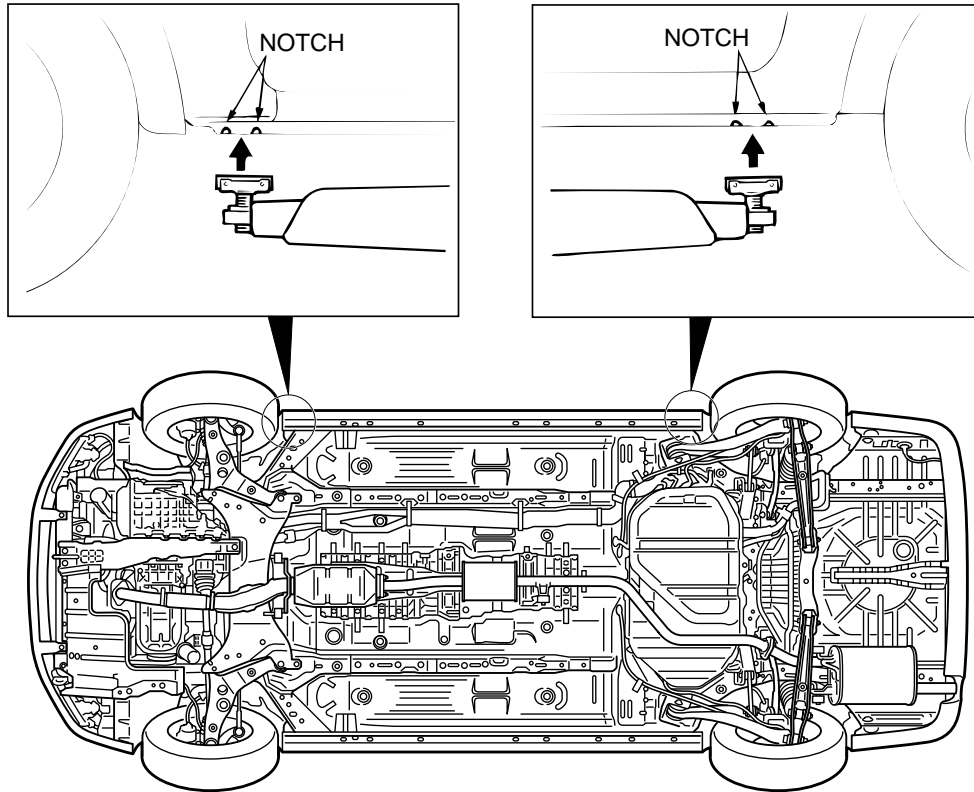
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POST TYPE

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

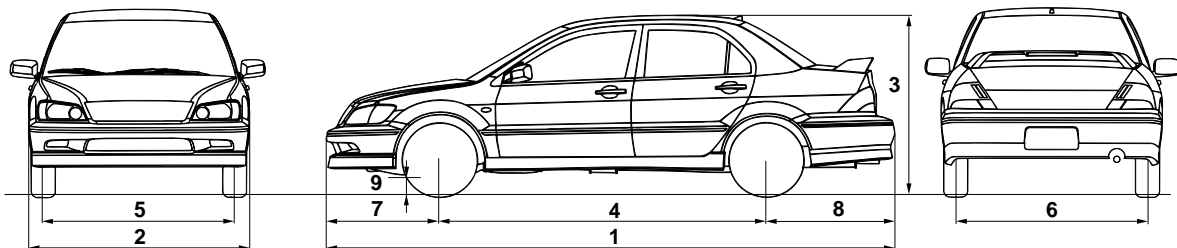
When service procedures require removing rear suspension, fuel tank and spare tire, place additional weight on rear end of vehicle or anchor vehicle to hoist to prevent tipping when the location of the center of gravity changes.



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GENERAL DATA AND SPECIFICATIONS

M1001000900291



AC101604AB

GENERAL SPECIFICATIONS

ITEM			CS6A SNSEL 3M	CS6A SRSEL		CS6A SNMEL 2M/7M/3M
				2M/7M	3M	
Vehicle dimension mm (in)	Overall length	1	4,510 (177.6)	4,510 (177.6)	4,510 (177.6)	4,510 (177.6)
	Overall width	2	1,695 (66.7)	1,695 (66.7)	1,695 (66.7)	1,695 (66.7)
	Overall height (unladen)	3	1,430 (56.3)	1,430 (56.3)	1,430 (56.3)	1,430 (56.3)
	Wheelbase	4	2,600 (102.4)	2,600 (102.4)	2,600 (102.4)	2,600 (102.4)
	Tread-front	5	1,470 (57.9)	1,470 (57.9)	1,470 (57.9)	1,470 (57.9)
	Tread-rear	6	1,470 (57.9)	1,470 (57.9)	1,470 (57.9)	1,470 (57.9)
	Overhang-front	7	895 (35.2)	895 (35.2)	895 (35.2)	895 (35.2)
	Overhang-rear	8	1,015 (40.0)	1,015 (40.0)	1,015 (40.0)	1,015 (40.0)
	Minimum running ground clearance	9	150 (5.9) <Vehicles with 14 × 5JJ wheel> 165 (6.5) <Vehicles with 15 × 6JJ wheel>			
Vehicle weight kg (lb)	Curb weight		1,181 (2,604)	1,232 (2,716)	1,201 (2,648)	1,211 (2,670)
	Gross vehicle weight rating		1,660 (3,660)	1,660 (3,660)	1,660 (3,660)	1,660 (3,660)
	Gross axle weight rating-front		920 (2,028)	920 (2,028)	920 (2,028)	920 (2,028)
	Gross axle weight rating-rear		780 (1,720)	780 (1,720)	780 (1,720)	780 (1,720)
Seating capacity			5			
Engine	Model No.	4G94				
	Displacement	2.0L				
Transaxle	Model No.	F5M42	F4A42		F5M42	
	Type	5-speed manual	4-speed automatic		5-speed manual	
Fuel system	Fuel supply system	Electronic controlled multiport fuel injection				

ITEM			CS6A SRMEL 2M/7M/3M	CS6A SRDEL 2M/7M/3M	CS6A SNHEL 2M/7M/3M	CS6A SRHEL 2M/7M/3M
Vehicle dimension mm (in)	Overall length	1	4,510 (177.6)	4,510 (177.6)	4,510 (177.6)	4,510 (177.6)
	Overall width	2	1,695 (66.7)	1,695 (66.7)	1,695 (66.7)	1,695 (66.7)
	Overall height (unladen)	3	1,430 (56.3)	1,430 (56.3)	1,430 (56.3)	1,430 (56.3)
	Wheelbase	4	2,600 (102.4)	2,600 (102.4)	2,600 (102.4)	2,600 (102.4)
	Tread-front	5	1,470 (57.9)	1,470 (57.9)	1,470 (57.9)	1,470 (57.9)
	Tread-rear	6	1,470 (57.9)	1,470 (57.9)	1,470 (57.9)	1,470 (57.9)
	Overhang-front	7	895 (35.2)	895 (35.2)	895 (35.2)	895 (35.2)
	Overhang-rear	8	1,015 (40.0)	1,015 (40.0)	1,015 (40.0)	1,015 (40.0)

ITEM			CS6A SRMEL 2M/7M/3M	CS6A SRDEL 2M/7M/3M	CS6A SNHEL 2M/7M/3M	CS6A SRHEL 2M/7M/3M
	Minimum running ground clearance	9	150 (5.9) <Vehicles with 14 × 5JJ wheel> 165 (6.5) <Vehicles with 15 × 6JJ wheel>			
Vehicle weight kg (lb)	Curb weight		1,231 (2,714)	1,240 (2,734)	1,225 (2,701)	1,245 (2,745)
	Gross vehicle weight rating		1,660 (3,660)	1,660 (3,660)	1,660 (3,660)	1,660 (3,660)
	Gross axle weight rating-front		920 (2,028)	920 (2,028)	920 (2,028)	920 (2,028)
	Gross axle weight rating-rear		780 (1,720)	780 (1,720)	780 (1,720)	780 (1,720)
Seating capacity			5			
Engine	Model No.		4G94			
	Displacement		2.0L			
Transaxle	Model No.		F4A42	F4A42	F5M42	F4A42
	Type		4-speed automatic	4-speed automatic	5-speed manual	4-speed automatic
Fuel system	Fuel supply system		Electronic controlled multiport fuel injection			

TIGHTENING TORQUE

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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)	9.0 ± 2.0 N·m (79 ± 18 in-lb)	10 ± 2 N·m (89 ± 17 in-lb)
M8	1.25	12 ± 2 N·m (107 ± 17 in-lb)	22 ± 4 N·m (16 ± 3 ft-lb)	25 ± 4 N·m (18 ± 3 ft-lb)
M10	1.25	24 ± 4 N·m (18 ± 3 ft-lb)	44 ± 10 N·m (33 ± 7 ft-lb)	53 ± 7 N·m (39 ± 5 ft-lb)
M12	1.25	41 ± 8 N·m (30 ± 6 ft-lb)	83 ± 12 N·m (61 ± 9 ft-lb)	98 ± 12 N·m (72 ± 9 ft-lb)
M14	1.5	73 ± 12 N·m (54 ± 9 ft-lb)	140 ± 20 N·m (104 ± 14 ft-lb)	155 ± 25 N·m (115 ± 18 ft-lb)

THREAD SIZE		STANDARD TIGHTENING TORQUE		
NOMINAL BOLT DIAMETER (mm)	PITCH (mm)	HEAD MARK "4"	HEAD MARK "7"	HEAD MARK "8"
M16	1.5	110 ± 20 N·m (81 ± 15 ft-lb)	210 ± 30 N·m (155 ± 22 ft-lb)	235 ± 35 N·m (174 ± 25 ft-lb)
M18	1.5	165 ± 25 N·m (122 ± 18 ft-lb)	300 ± 40 N·m (222 ± 29 ft-lb)	340 ± 50 N·m (251 ± 37 ft-lb)
M20	1.5	225 ± 35 N·m (166 ± 26 ft-lb)	410 ± 60 N·m (303 ± 44 ft-lb)	480 ± 70 N·m (354 ± 52 ft-lb)
M22	1.5	300 ± 40 N·m (222 ± 29 ft-lb)	555 ± 85 N·m (410 ± 62 ft-lb)	645 ± 95 N·m (476 ± 70 ft-lb)
M24	1.5	395 ± 55 N·m (292 ± 40 ft-lb)	735 ± 105 N·m (543 ± 77 ft-lb)	855 ± 125 N·m (631 ± 92 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)	27 ± 5 N·m (20 ± 4 ft-lb)
M10	1.25	26 ± 4 N·m (19 ± 3 ft-lb)	49 ± 9 N·m (36 ± 7 ft-lb)	58 ± 7 N·m (43 ± 5 ft-lb)
M10	1.5	24 ± 4 N·m (18 ± 3 ft-lb)	45 ± 8 N·m (33 ± 6 ft-lb)	55 ± 10 N·m (41 ± 7 ft-lb)
M12	1.25	46 ± 8 N·m (34 ± 6 ft-lb)	95 ± 15 N·m (70 ± 11 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

M1001001200284

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), the American Petroleum Institute (API) and the National Lubricating Grease Institute (NLGI).

MAINTENANCE SCHEDULES

Information for service maintenance is provided in the "SCHEDULED MAINTENANCE TABLE." Three schedules are provided; one for "Required Maintenance," one for "General Maintenance" and one for "Severe Usage Service."

The item numbers in "SCHEDULED MAINTENANCE TABLE" correspond to the section numbers in "MAINTENANCE SERVICE."

SEVERE SERVICE

Vehicles operating under severe service conditions will require more frequent service.

Component service information is included for vehicles operating under one or more of the following conditions:

1. Trailer towing or police, taxi or commercial type operation.
2. Operation of Vehicle
 - (1) Short-trip operation at freezing temperature (engine not thoroughly warmed up)
 - (2) More than 50% operation in heavy city traffic during hot weather above 32°C (90°F)
 - (3) Extensive idling
 - (4) Driving in sandy areas
 - (5) Driving in salty areas
 - (6) Driving in dusty conditions
 - (7) Driving off-road

ENGINE OIL

CAUTION

Test results submitted to EPA 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 gasoline, thinners, or solvents.

Either of the following engine oils should be used:

1. Engine oil displaying ILSAC certification mark.
2. Engine oil conforming to the API classification SJ EC or SJ/CD EC.

For further details, refer to "LUBRICANTS SELECTION."

LUBRICANTS AND GREASES

Semi-solid lubricants bear the NLGI designation and are further classified as grades 0, 1, 2, 3, etc. Whenever "Chassis Lubricant" is specified, Multipurpose Grease, NLGI grade Number 2, should be used.

FUEL USAGE STATEMENT

CAUTION

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

This vehicle must use unleaded gasoline only.

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

The 2.0L model is designed to operate on unleaded gasoline having a minimum octane rating of 87 [(MON + RON)/2], or 91 RON.

NOTE:

- MON: Motor Octane Number
- RON: Research Octane Number

GASOLINE CONTAINING ALCOHOL

Some gasoline 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.

Gasohol: A mixture of 10% ethanol (grain alcohol) 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 gasoline.

Methanol: **Do not use gasoline 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 gasoline containing methanol may not be covered by the new vehicle warranty.

GASOLINE CONTAINING METHYL TERTIARY BUTYL ETHER (MTBE)

Unleaded gasoline containing 15% or less MTBE may be used in your vehicle. (Fuel containing MTBE over 15% in volume may cause reduced engine performance and produce vapor lock or hard starting.

MATERIALS ADDED TO FUEL

Indiscriminate use of fuel system cleaning agents should be avoided. Many of these 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

M1001001300281

RECOMMENDED LUBRICANTS

LUBRICANT	SPECIFICATION	REMARK
Engine oil	Engine oil displaying ILSAC certification mark ("Starburst" symbol) conforming to API classification SJ EC or SJ/CD EC	For further details, refer to "LUBRICANTS SELECTION" section.
Manual transaxle	API classification GL-4	SAE grade number: SAE75W-90 or 75W/85W
Automatic transaxle	MAZDA genuine ATF SP III	-
Power steering fluid	GENUINE MAZDA POWER STEERING FLUID	-
Brakes	Conforming to DOT 3 or DOT 4	-
Engine coolant	MAZDA genuine coolant or an equivalent	-
Door hinges, back door hinges	Engine oil	-

LUBRICANT CAPACITY TABLE

DESCRIPTION	SPECIFICATION
Engine oil dm ³ (qt)	Oil pan (excluding oil filter) 3.5 (3.7)
	Oil filter 0.3 (0.32)
Engine coolant dm ³ (qt)	5.0 (5.3)
Manual transaxle dm ³ (qt)	2.2 (2.3)
Automatic transaxle dm ³ (qt)	7.7 (8.1)
Power steering dm ³ (qt)	1.2 (1.3)
Fuel tank dm ³ (gal)	50 (13.2)

LUBRICANT SELECTION

ENGINE OIL

CAUTION

Never use nondetergent or straight mineral oil.

Oil Identification Symbol

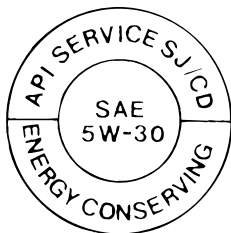
Use only engine oils displaying the ILSAC certification mark ("Starburst" symbol) on the container.

ILSAC CERTIFICATION MARK
("STARBURST" SYMBOL)



ACX00394AI

API SERVICE SYMBOL

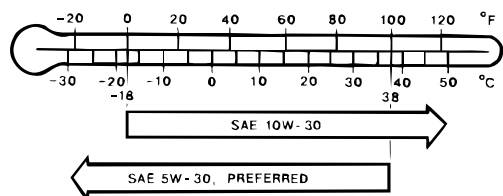


ACX00886AB

If these oils are not available, an API classification SJ EC or SJ/CD EC can be used.

Oil Viscosity

The SAE grade number indicates the viscosity of the oil. A proper SAE grade number should be selected according to ambient temperature.



ACX00887AB

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 60%, 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.

COOLANT TEMPERATURE °C (°F) AND SPECIFIC GRAVITY					FREEZING TEMPERATURE	SAFE OPERATING TEMPERATURE	COOLANT CONCENTRATION (SPECIFIC VOLUME)
10 (50)	20 (68)	30 (86)	40 (104)	50 (122)	°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)

SCHEDULED MAINTENANCE TABLE

M1001001400299

SCHEDULED MAINTENANCE SERVICE FOR EMISSION CONTROL AND PROPER VEHICLE PERFORMANCE

Inspection and service should be performed any time a malfunction is observed or suspected.

NO.	EMISSION CONTROL SYSTEM MAINTENANCE	SERVICE INTERVALS	KILOMETERS IN THOUSANDS	24	48	72	96	120	144	168
			MILEAGE IN THOUSANDS	15	30	45	60	75	90	105
1	Fuel system (tank, pipe line and connection, and fuel tank filler tube cap)	Check for leaks every 5 years or					X			
2	Fuel hoses	Check condition every 2 years or			X		X		X	
3	Air cleaner element	Replace at			X		X		X	
4	Evaporative emission control system (except evaporative emission canister)	Check for leaks and clogging every 5 years or					X			
5	Spark plugs	Replace			X		X		X	
6	Ignition cables	Replace every 5 years or					X			

GENERAL MAINTENANCE SERVICE FOR PROPER VEHICLE PERFORMANCE

NO.	GENERAL MAINTENANCE	SERVICE INTERVALS	KILOMETERS IN THOUSANDS	24	48	72	96	120	144	168
			MILEAGE IN THOUSANDS	15	30	45	60	75	90	105
7	Timing belt	Replace at					X ^{*1}		At 160,000 km ^{*2} (100,000 miles)	
8	Drive belt (for generator, water pump, power steering oil pump and A/C compressor)	Check condition at			X		X		X	
9	Engine oil	Change oil every 12 months or	Every 12,000 km (7,500 miles)							
10	Engine oil filter	Replace every 12 months or ^{*3}		X	X	X	X	X	X	X
11	Manual transaxle oil	Check oil level every 24 months or			X		X		X	

NO.	GENERAL MAINTENANCE	SERVICE INTERVALS	KILOMETERS IN THOUSANDS	24	48	72	96	120	144	168
			MILEAGE IN THOUSANDS	15	30	45	60	75	90	105
12	Automatic transaxle fluid* ⁴	Check A/T fluid level every 12 months or		X	X	X	X	X	X	X
13	Engine coolant	Change	at first 4 years or				X			
			after that every 2 years or				Every 48,000km (30,000 miles)		X	
14	Disc brake pads	Inspect for wear every 12 months or		X	X	X	X	X	X	X
15	Rear drum brake linings and rear wheel cylinders	Inspect for wear and leaks every 2 years or			X		X		X	
16	Brake hoses	Check for deterioration or leaks every 12 months or		X	X	X	X	X	X	X
17	Ball joint and steering linkage seals	Inspect for grease leaks and damage every 2 years or			X		X		X	
18	Drive shaft boots	Inspect for grease leaks and damage every 12 months or		X	X	X	X	X	X	X
19	SRS air bag	Inspect the SRS system at		10 years						
20	Exhaust system (connections, pipes and converter heat shields)	Check and service as required every 2 years or			X		X		X	
21	Tires	Rotate every 12 months or		Every 12,000 km (7,500 miles)						

NOTE:

*1: For California, Massachusetts, Vermont and Maine, this maintenance is recommended but not required.

*2: Not required if belt was previously changed.

*3: If the mileage is less than 12,000 km (7,500 miles) each year, the oil filter should be replaced at every oil change.

*4: Change fluid under severe usage conditions only.

SCHEDULED MAINTENANCE UNDER SEVERE USAGE CONDITIONS

Maintenance should be carried out according to the following table:

NO.	MAINTENANCE ITEM	SERVICE INTERVALS	KILOMETERS IN THOUSANDS	24	48	72	96	120	144	168	SEVERE USAGE CONDITIONS
			MILEAGE IN THOUSANDS	15	30	45	60	75	90	105	
3	Air cleaner element	Replace at		X	X	X	X	X	X	X	A and E
5	Spark plugs	Replace at		X	X	X	X	X	X	X	B and D
9	Engine oil	Change every 3 months or		Every 4,800 km (3,000 miles)							A, B, C, D and G
10	Engine oil filter	Replace every 6 months or		Every 9,600 km (6,000 miles)							A, B, C, D and G
11	Manual transaxle oil	Change oil at			X		X		X		B, G and H
12	Automatic transaxle fluid	Change A/T fluid at			X		X		X		B, G and H
14	Disc brake pads	Inspect for wear every 6 months or		Every 9,600 km (6,000 miles)							A and F
15	Rear drum brake linings and rear wheel cylinders	Inspect for wear every 12 months or		Every 2,400 km (15,000 miles)							A and F
21	Tires	Rotate every 6 months or		Every 9,600 km (6,000 miles)							B, C, E, G and H

Severe usage conditions:

A: Driving in dusty conditions

B: Trailer towing, or police, taxi, or commercial type operation

C: Extensive idling, driving in stop and go traffic

D: Short-trip operation at freezing temperatures (engine not thoroughly warmed up)

E: Driving in sandy areas

F: Driving in salty areas

G: More than 50% operation in heavy city traffic or at sustained high speeds during hot weather above 32°C (90°F)

H: Driving off-road

MAINTENANCE SERVICE

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

M1001001600271

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

2. FUEL HOSES (CHECK CONDITION)

M1001001700267

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 hoses should be replaced.

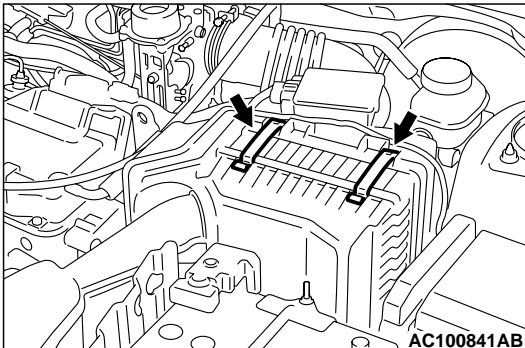
3. AIR CLEANER ELEMENT (REPLACE)

M1001001800275

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

**4. EVAPORATIVE EMISSION CONTROL SYSTEM
(EXCEPT EVAPORATIVE EMISSION CANISTER)
(CHECK FOR CLOGGING)**

M1001001900261

If the fuel-vapor vent line is clogged or damaged, fuel vapor will escape into the atmosphere causing excessive emissions. 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.

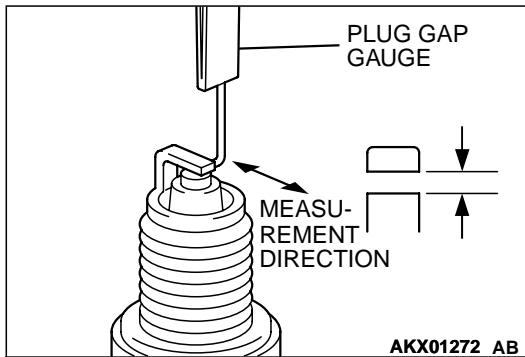
5. SPARK PLUGS (REPLACE)

M1001002000131

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. See the list below:

Spark plug type

MAKER	IDENTIFICATION NO.
NGK	BKR5E-11
DENSO	K16PR-U11
CHAMPION	RC10YC4



2. The new plugs should be checked for the proper gap.
Spark plug gap: 1.0 – 1.1 mm (0.039 – 0.043 inch)
3. Install the spark plugs and tighten to 25 N·m (18 ft-lb)

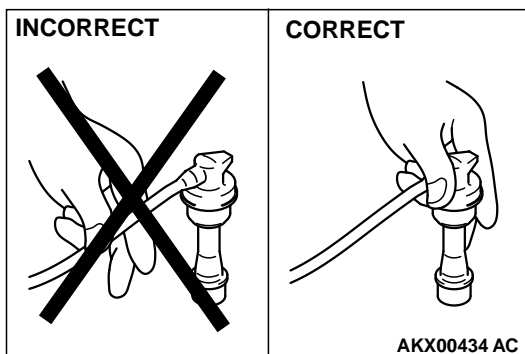
6. IGNITION CABLES (REPLACE)

M1001002100127

⚠ CAUTION

When disconnecting an ignition cable, be sure to hold the cable boot. If the cable is disconnected by pulling on the cable alone, you might break the cable.

The ignition cables should be replaced periodically with new ones. After replacing, make sure that the ignition cables are routed properly and fully seated.



7. TIMING BELT (REPLACE)

M1001002300165

Replace the belt with a new one according to the maintenance schedule on (P.00-33) to assure proper engine performance. For removal and installation procedures, refer to GROUP 11A, Timing Belt P.11A-35.

8. DRIVE BELT (FOR GENERATOR, POWER STEERING OIL PUMP AND A/C COMPRESSOR) (CHECK CONDITION)

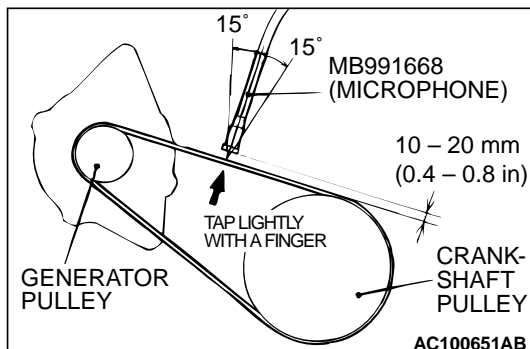
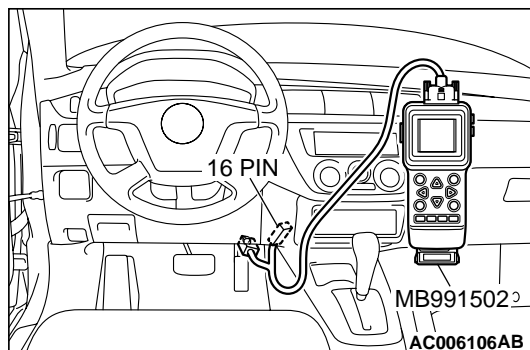
M1001002500288

Generator Drive Belt Tension Check

<When using scan tool MB991502>

Required Special Tools:

- MB991502: Scan Tool (MUT-II)
- MB991668: Belt Tension Meter Set

**CAUTION**

To prevent damage to scan tool MB991502, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991502.

1. Connect special tool MB991668 to scan tool MB991502.
2. Connect scan tool MB991502 to the data link connector.
3. Turn the ignition switch to the "ON" position and select "Belt Tension Measurement" from the menu scan tool MB991502 screen.

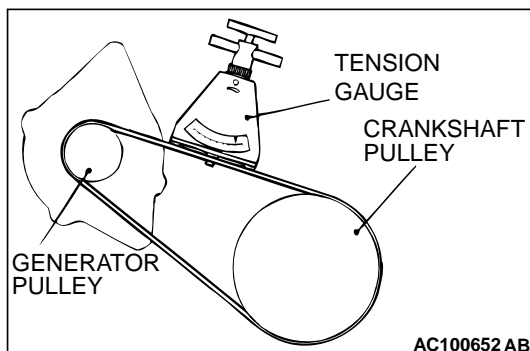
4. Hold special tool MB991668 (microphone) near the center of the drive belt between the pulleys (at the place indicated by the arrow), about 10 – 20 mm (0.4 – 0.8 inch) away from the rear surface of the belt and perpendicular to the belt (within ± 15 degree angle).

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 is loud 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. 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:

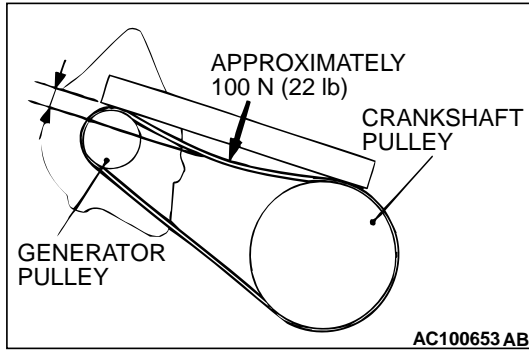
ITEM	WHEN CHECKED	DURING ADJUSTMENT	DURING REPLACEMENT
Vibration frequency Hz	143 – 185	155 – 175	203 – 234

**<When using the 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)	588 – 784 (132 – 176)

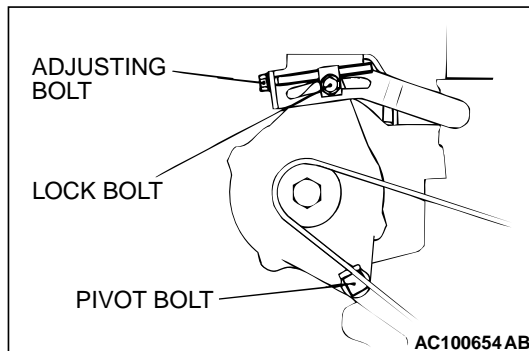


<Belt deflection check>

Apply approximately 100 N (22 pound) 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)	9.7 – 12.9 (0.38 – 0.51)	10.5 – 12.0 (0.41 – 0.47)	6.7 – 8.5 (0.26 – 0.33)



Generator Drive Belt Tension Adjustment

1. Loosen the nut of the generator pivot bolt.
2. Loosen the lock bolt.
3. Turn the adjusting bolt to adjust the belt vibration frequency, belt tension or deflection to the standard value.

⚠ CAUTION

Check after turning the crankshaft one or more rotations clockwise.

Standard value:

ITEM	WHEN CHECKED	DURING ADJUSTMENT	DURING REPLACEMENT
Vibration frequency Hz	143 – 185	155 – 175	203 – 234
Tension N (lb)	294 – 490 (66 – 110)	343 – 441 (77 – 99)	588 – 784 (132 – 176)
Deflection (Reference value) mm (in)	9.7 – 12.9 (0.38 – 0.51)	10.5 – 12.0 (0.41 – 0.47)	6.7 – 8.5 (0.26 – 0.33)

4. Tighten the lock bolt.

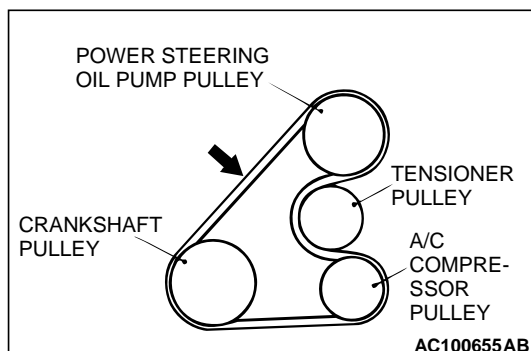
Tightening torque: 23 ± 2 N·m (16 ± 2 ft-lb)

5. Tighten the nut of the generator pivot bolt.

Tightening torque: 44 ± 10 N·m (33 ± 7 ft-lb)

6. Tighten the adjusting bolt.

Tightening torque: 5.0 ± 1.0 N·m (44 ± 8 in-lb)



Power Steering Oil Pump and A/C Compressor Drive Belt Tension Check and Adjustment

Check the drive belt tension by the following procedure.

<When using scan tool MB991502>

Required Special Tools:

- MB991502: Scan Tool (MUT-II)
- MB991668: Belt Tension Meter Set

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.00-37](#) for details on the method of measuring the vibration frequency using the scan tool.

<When using a tension gauge>

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

<Belt deflection check>

Apply approximately 100 N (22 pound) 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
Vibration frequency Hz	114 – 139	121 – 133	145 – 166
Tension N (lb)	392 – 588 (88 – 132)	441 – 539 (99 – 121)	637 – 833 (143 – 187)
Deflection (Reference value) mm (in)	10.0 – 12.0 (0.39 – 0.47)	10.0 – 11.0 (0.39 – 0.43)	7.0 – 9.0 (0.27 – 0.35)

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

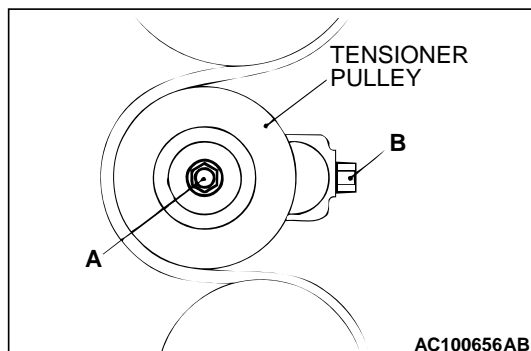
1. Loosen the tension pulley fixing nut A behind the tension pulley.
2. Adjust the belt deflection amount using the adjusting bolt B.
3. Tighten the fixing nut A.

Tightening torque: 26 ± 4 N·m (19 ± 3 ft-lb)

CAUTION

Check after turning the crankshaft one or more rotations clockwise.

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



9. ENGINE OIL (CHANGE)

M1001002600274

Use the specified oil. (Refer to P.00-31.)

1. After warming up the engine, remove the oil filler cap.

⚠ WARNING

Use care, oil could be hot.

2. Remove the drain plug to allow the engine oil to drain.
3. Replace the drain plug gasket with a new one, and then tighten the drain plug to the specified torque.

Tightening torque: 39 ± 5 N·m (29 ± 4 ft·lb)

NOTE: Install the drain plug gasket so it faces in the direction shown in the illustration.

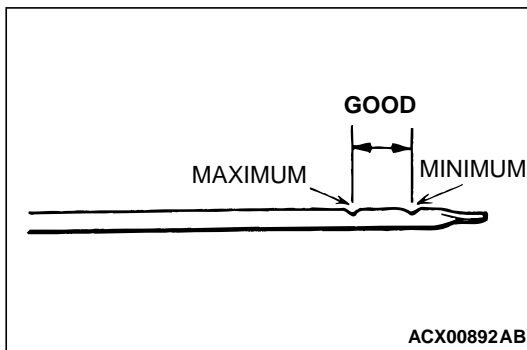
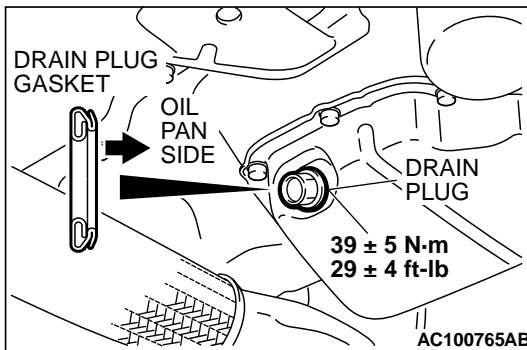
4. Pour new engine oil in through the oil filler tube.

Engine oil capacity:

- 3.5 dm^3 (3.7 quarts)

[add 0.3 dm^3 (0.32 quarts) if replacing the oil filter.]

5. Start the engine and run it at idle for a few minutes.
6. Stop the engine and check to ensure that the engine oil level is within the level range indicated on the dip stick.



10. ENGINE OIL FILTER (REPLACE)

M1001002700260

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 1,765 kPa (256 psi) are high quality filters and are recommended as follows:

Mitsubishi Oil Filter Part Number:

**MD136466, MD322508, MD325714, MD332687,
MD360935, MD365876 or equivalent**

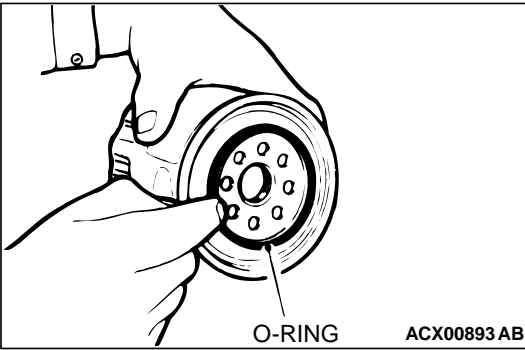
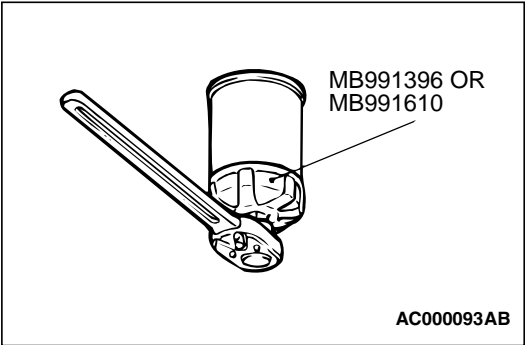
Engine Oil Filter Selection

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 1,765 kPa (256 psi) [manufacturer's specifications] to avoid filter and ultimately engine damage. The following is a high-quality filter and is strongly recommended for use on this vehicle: Mitsubishi Engine Oil Filter Part number MD136466, MD322508, MD325714, MD332687, MD360935 and MD365876.

Any replacement oil filter should be installed in accordance with the oil filter manufacturer's installation instructions.

Oil Filter Replacement

- 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 contact surface of the filter bracket.



- 4. Lubricate the O-ring of the new oil filter with a small amount of new engine oil.

- 5. Screw on the oil filter by hand until it touches the surface of the flange and then tighten it with an oil filter wrench.

NUMBER	SPECIAL TOOL	TIGHTENING TORQUE
MD360935	MB991396 or equivalent	Approximately one turn [14 ± 2 N·m (124 ± 18 in-lb)]
MD325714 MD332687 MD365876	MB991396 or equivalent	Approximately 3/4 turn [16 ± 4 N·m (12 ± 3 ft-lb)]
MD136466 MD322508	General service tool	Approximately 3/4 turn [17 ± 3 N·m (34 ± 2 ft-lb)]

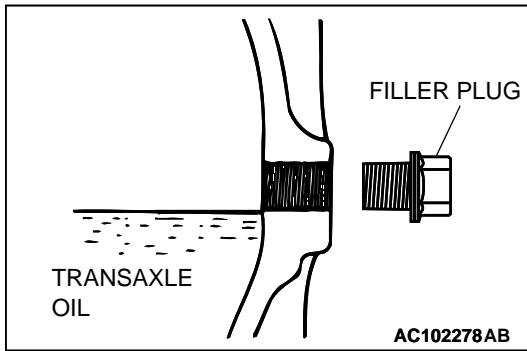
- 6. Add new engine oil through the oil filler.

11. MANUAL TRANSAXLE OIL

M1001002800159

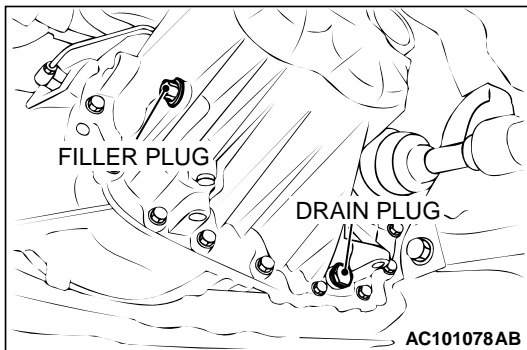
Check oil level

Inspect each component for evidence of leakage. Check the oil level by removing the filler plug.



1. Remove the filler plug.
2. Check that the oil is not noticeably dirty, and that it has a suitable viscosity.
3. Tighten the filler plug to the specified torque.

Tightening torque: 32 ± 2 N·m (24 ± 1 ft-lb)



Change oil

1. Remove the filler plug.
2. Remove the drain plug and drain the oil.
3. Tighten the drain plug to the specified torque.
4. Fill with Hypoid gear oil SAE 75W-90 or 75W-85W conforming to API classification GL-4 until the level comes to the lower portion of filler plug hole.

Quantity: 2.2 dm^3 (2.3 quarts)

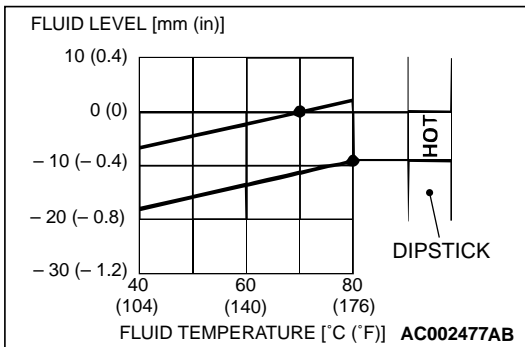
5. Tighten the filler plug to the specified torque.

Tightening torque: 32 ± 2 N·m (24 ± 1 ft-lb)

12. AUTOMATIC TRANSAXLE FLUID

M1001002900253

Checking A/T fluid level



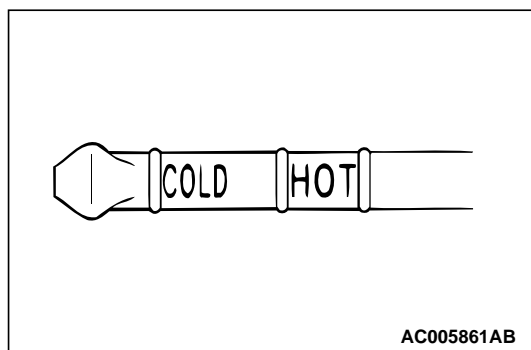
1. Drive the vehicle until the A/T fluid temperature rises to the normal temperature [70 – 80°C (158 – 176°F)].

NOTE: The A/T fluid temperature is measured with MUT-II.

NOTE: If it takes some amount of time until the A/T fluid reaches its normal operating temperature [70 – 80°C (158 – 176°F)], check the A/T 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 A/T fluid, and then move the selector lever to the "N" position.
4. After wiping off any dirt from around the dipstick, remove the dipstick and check the condition of the A/T fluid.

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



5. Check that the A/T fluid level is at the "HOT" mark on the dipstick. If the A/T fluid level is lower than this, pour in more MITSUBISHI genuine ATF SP-III or equivalent until the level reaches the "HOT" mark.

NOTE: If the A/T fluid level is too low, the oil pump will draw in air along with the A/T fluid, which will cause bubbles to form. If the A/T 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.

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

6. Securely insert the dipstick.

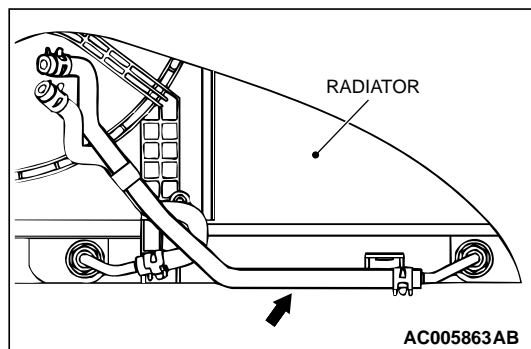
NOTE: The A/T fluid should always be replaced when:

- When overhauling the transaxle
- When the oil is noticeably dirty or burnt (vehicle was driven under severe conditions)

Change A/T fluid

If you have an A/T fluid changer, use this changer to replace the A/T fluid. If you do not have an A/T fluid changer, replace the A/T fluid by the following procedure:

1. Disconnect the hose shown in the illustration which connects the transaxle and the oil cooler (inside the radiator). Place a container under the hose to collect the A/T fluid.



CAUTION

The engine should be stopped within one minute after it is started. If all the A/T fluid has drained out before then, the engine should be stopped at that point.

2. Start the engine and let the A/T fluid drain out.
(Running conditions: "N" range with engine idling)

Approximately 3.5 dm³ (3.7 quarts) of A/T fluid should be removed.

3. Remove the drain plug from the bottom of the transaxle case to drain the A/T fluid.

Approximately 2.0 dm³ (2.1 quarts) of A/T fluid should be removed.

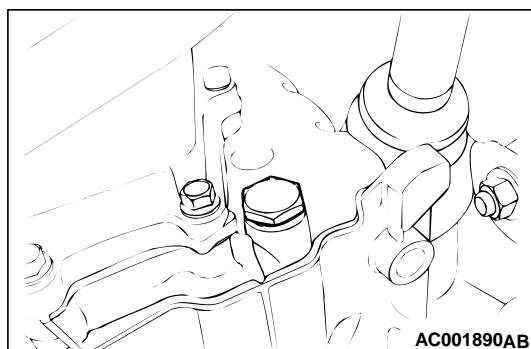
4. Install the drain plug with a new gasket, and tighten it to the specified torque.

Tightening torque: 32 ± 2 N·m (24 ± 1 ft·lb)

CAUTION

Stop pouring if the full volume of A/T fluid can not be added.

5. Add new A/T fluid (DIAMOND ATF SP III or equivalent) through the oil filter tube.



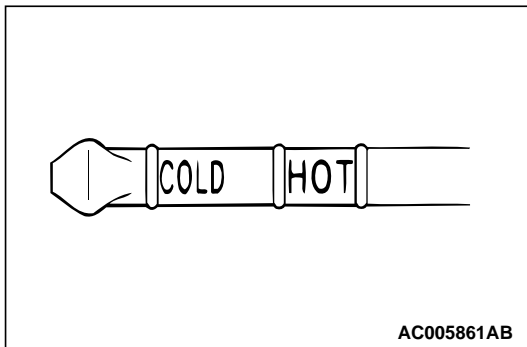
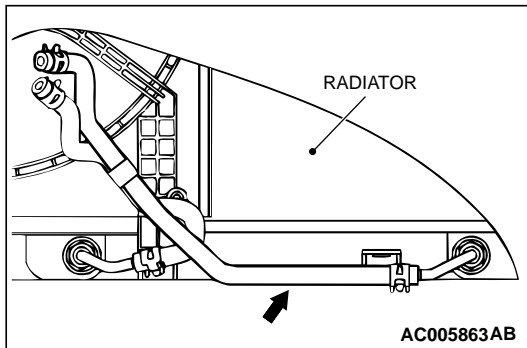
Approximately 5.5 dm³ (5.8 quarts) of A/T fluid should be added.

6. Repeat the procedure in Step 2. (to pump out the rest of the contaminated A/T fluid)
7. Add new A/T fluid (DIAMOND ATF SP III or equivalent) through the oil filter tube.

Approximately 3.5 dm³ (3.7 quarts) of A/T fluid should be added.

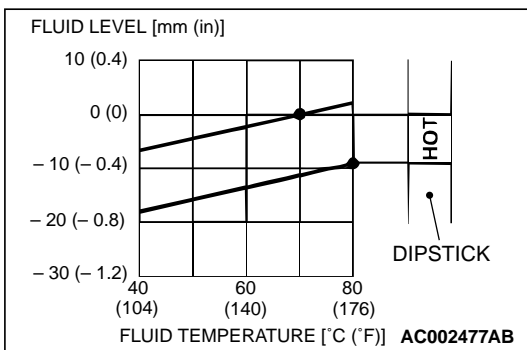
NOTE: Check for contamination or a burnt odor. If the A/T fluid is still contaminated or burnt, repeat Steps 6 and 7 before proceeding to Step 8.

8. Reconnect the hose which was disconnected in step 1 above, and firmly replace the dipstick.
9. Start the engine and run it at idle for 1 – 2 minutes.
10. Move the selector lever through all positions, and then move it to the "N" position.



11. Check that the A/T fluid level is at the "COLD" mark on the dipstick. If the level is lower than this, pour in more A/T fluid.
12. Drive the vehicle until the A/T fluid temperature rises to the normal temperature [70 – 80°C (158 – 176°F)], and then check the A/T fluid level again. The A/T fluid level must be at the "HOT" mark.

NOTE: The A/T fluid temperature is measured with scan tool (MUT-II). The "COLD" level is for reference only; the "HOT" level should be regarded as the standard level.



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

13. If the A/T fluid is under the specified level, pour in more A/T fluid. If the A/T fluid is over the specified level, drain the excessive A/T fluid from the drain plug to adjust A/T fluid level to the specified level.
14. Firmly insert the dipstick into the oil filler tube.

13. ENGINE COOLANT (CHANGE)

M1001003100272

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

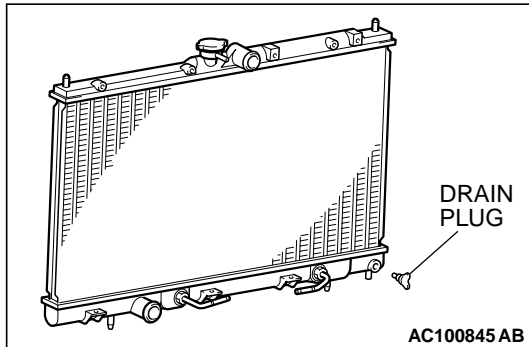
Changing Coolant

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. Remove the radiator cap, radiator drain plug and if equipped engine coolant drain plug to drain the coolant.
4. Remove the reserve tank and drain the coolant.
5. After completely draining the coolant, reinstall the drain plugs and flush the engine and radiator using a radiator cleaning fluid.
6. After the flushing is completed, completely drain the cleaning fluid and install the radiator and engine drain plugs.

⚠ 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.

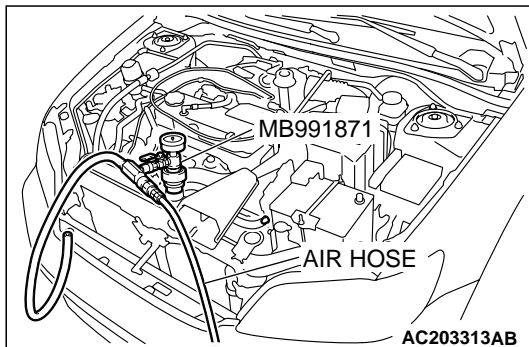
7. By referring to the section on coolant, select an appropriate concentration for safe operating temperature within the range of 30 to 60%. Use special tool MB991871 to refill the coolant. A convenient mixture is a 50% water and 50% antifreeze solution [freezing point: -31°C (-32.8°F)].

Recommended antifreeze:

MITSUBISHI GENUINE Part number MD970389 or equivalent

Quantity: 5.0 dm³ (5.3 quarts)

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



8. Reinstall the radiator cap.
9. Start the engine and let it warm up until the thermostat opens.
10. After repeatedly revving the engine up to 3,000 r/min several times, then stop the engine.
11. Remove the radiator cap after the engine has become cold, and pour in coolant up to the brim. Reinstall the cap.

⚠ CAUTION

Do not overfill the reserve tank.

12. Add coolant to the reserve tank between the "FULL" and "LOW" mark if necessary.

14. DISC BRAKE PADS (INSPECT FOR WEAR)

M1001003200246

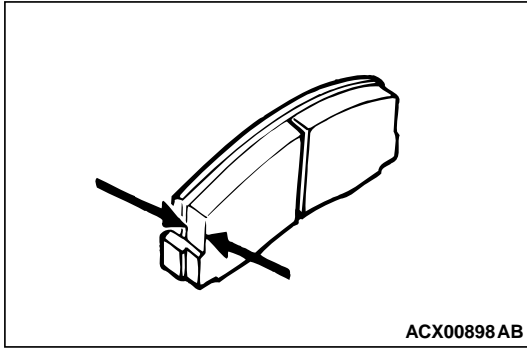
Check for fluid contamination and wear. Replace the complete set of pads if any one pad is defective.

Thickness of lining

Minimum limit: 2.0 mm (0.08 inch)

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. REAR DRUM BRAKE LININGS AND REAR WHEEL CYLINDERS (INSPECT FOR WEAR AND LEAKS)

M1001003300221

1. Remove the brake drum and check the thickness of brake shoe lining for wear. Check the automatic brake adjusting system by hand to see if it operates smoothly. Also see if the gears are in proper mesh with each other. To assure smooth operation, apply a very thin coat of multipurpose grease to the friction surface of the adjuster and link shaft.

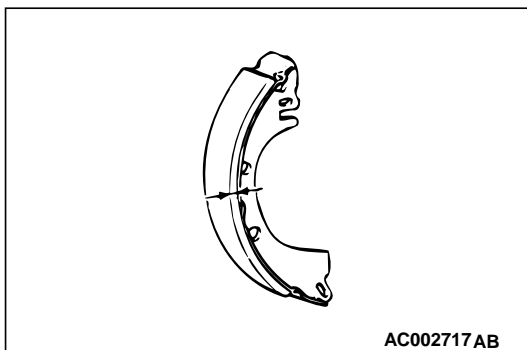
CAUTION

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

2. Inspect the wheel cylinder boot for evidence of a brake fluid leak. Visually check the boot for cuts, tears or heat cracks. (A slight amount of fluid on the boot may not be a leak, but may be preservative fluid used at assembly.) Check the brake shoes for wear.

Thickness of lining

Minimum limit: 1.0 mm (0.04 inch)



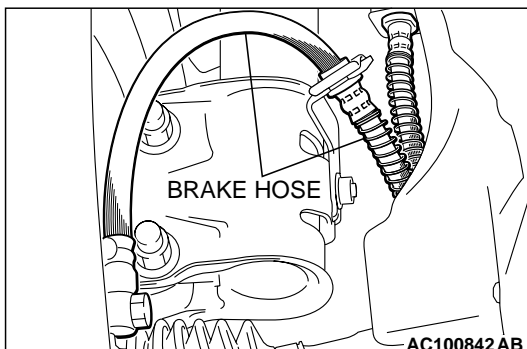
16. BRAKE HOSES (CHECK FOR DETERIORATION OR LEAKS)

M1001003400251

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

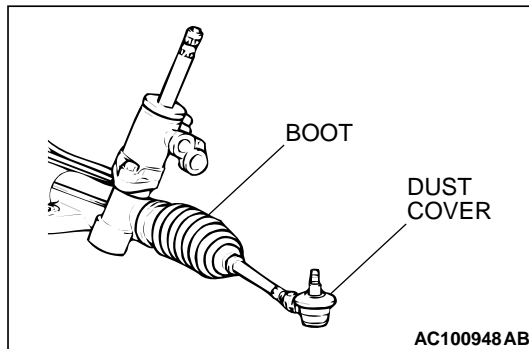
The hoses should be checked for:

1. Incorrect length, severe surface cracking, pulling, 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, tire or chassis.



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

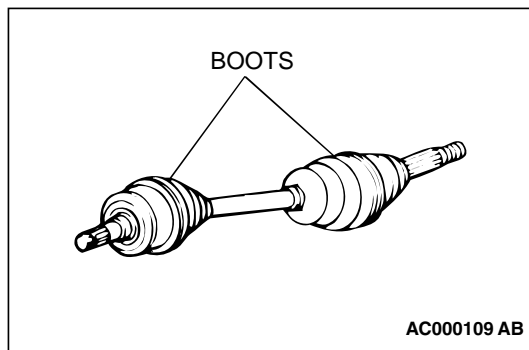
M1001003500247



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

M1001003600244

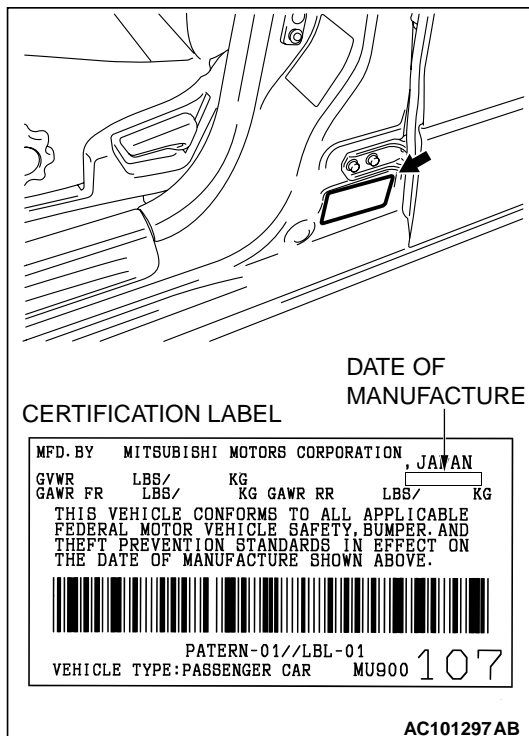


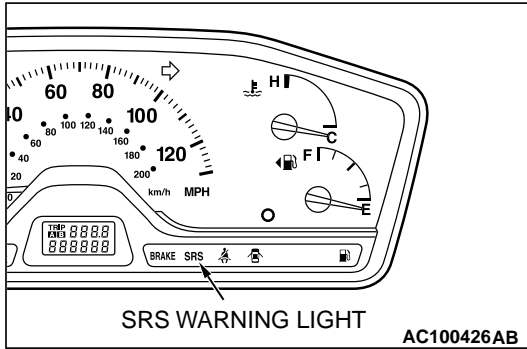
1. These components, which are permanently lubricated at the factory, do not require periodic lubrication. Damaged seals and boots should be replaced to prevent leakage or grease contamination.
2. Inspect the dust cover and boots for proper sealing, leakage and damage. Replace them if defective.

19. SRS AIR BAG (INSPECT FOR SRS SYSTEM)

M1001003700263

The SRS must be inspected by an authorized dealer 10 years after the car manufacture date shown on the certification label located on the left center sill.





SRS Warning Light Check

Turn the ignition key to the "ON" position. Does the "SRS" warning light illuminate for about seven seconds, and then remain off for at least five seconds after turning OFF? If yes, the SRS system is functioning properly. If no, refer to GROUP 52B, Diagnosis [P.52Bb-6](#).

SRS Component Visual Check

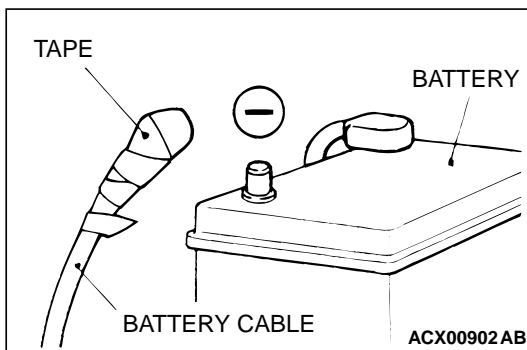
⚠ DANGER

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-7](#).)
3. Disconnect a connector from the SRS-ECU.



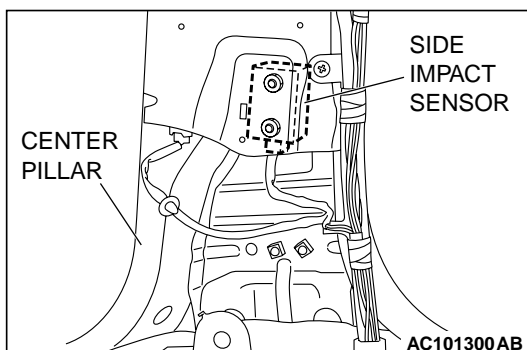
Side Impact Sensors

⚠ WARNING

- **If the side impact sensor is not installed securely and correctly, the side-airbag 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).

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



Replace The Side Impact Sensor If It Fails The Visual Check

Refer to GROUP 52B, Side Impact Sensor [P.52Ba-37](#).

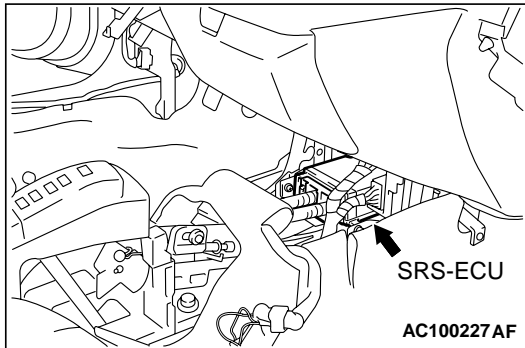
SRS Air Bag Control Unit (SRS-ECU)**⚠ WARNING**

The SRS may not activate if the SRS-ECU (with built-in safing G-sensor and analog G-sensor) 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 and brackets for dents, cracks, deformation or rust.
2. Check the connector for damage, and check the terminals for deformation or rust.

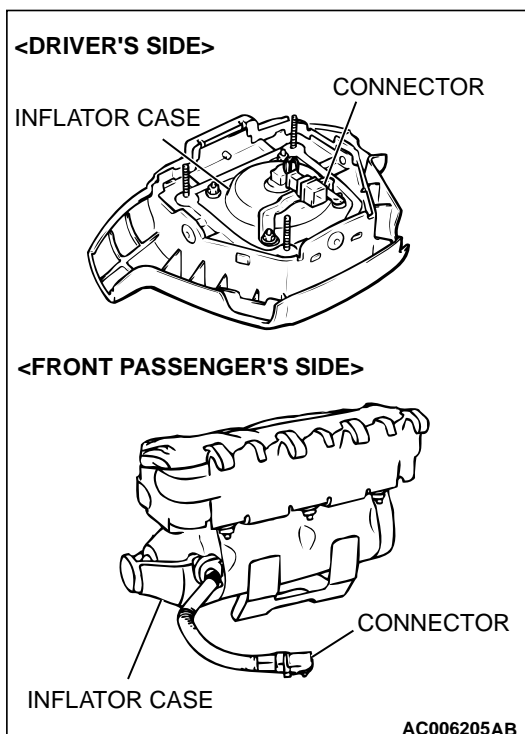
Replace the SRS-ECU if it fails the visual checks above.

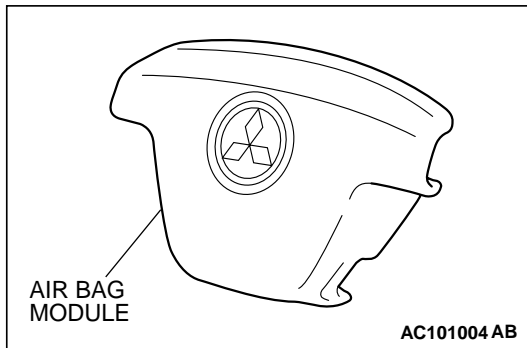
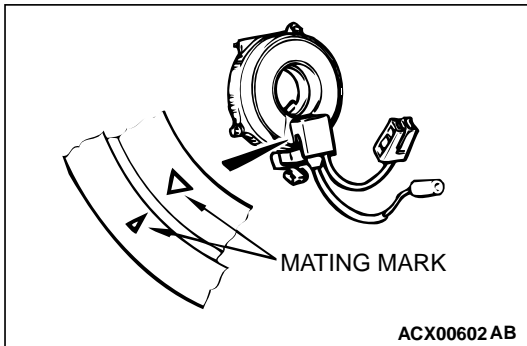
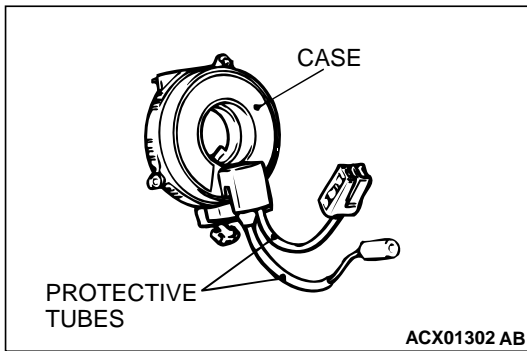
(Refer to GROUP 52B, SRS Air Bag Control Unit [P.52Ba-25](#).)

**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.

1. Remove the air bag module, steering wheel and clock spring.
(Refer to GROUP 52B, Air Bag Module and Clock Spring [P.52Ba-27](#).)
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 a turn, or the flat cable within the clock spring may be severed, obstructing normal operation of the SRS and possibly leading 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 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.52Ba-27](#).)
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.

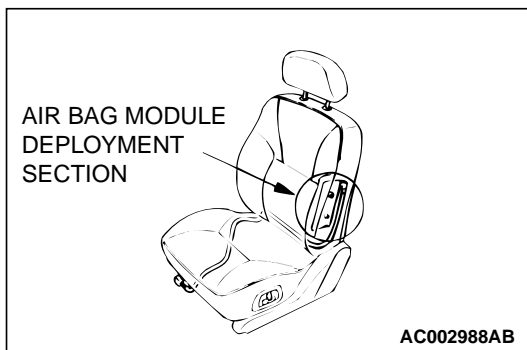
11. Check the steering wheel for excessive free play.
REPLACE ANY PART IF IT FAILS VISUAL INSPECTION.
(Refer to GROUP 52B, Air Bag Module and Clock Spring [P.52Ba-27](#).)

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.52Ba-43](#).)***
- ***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.



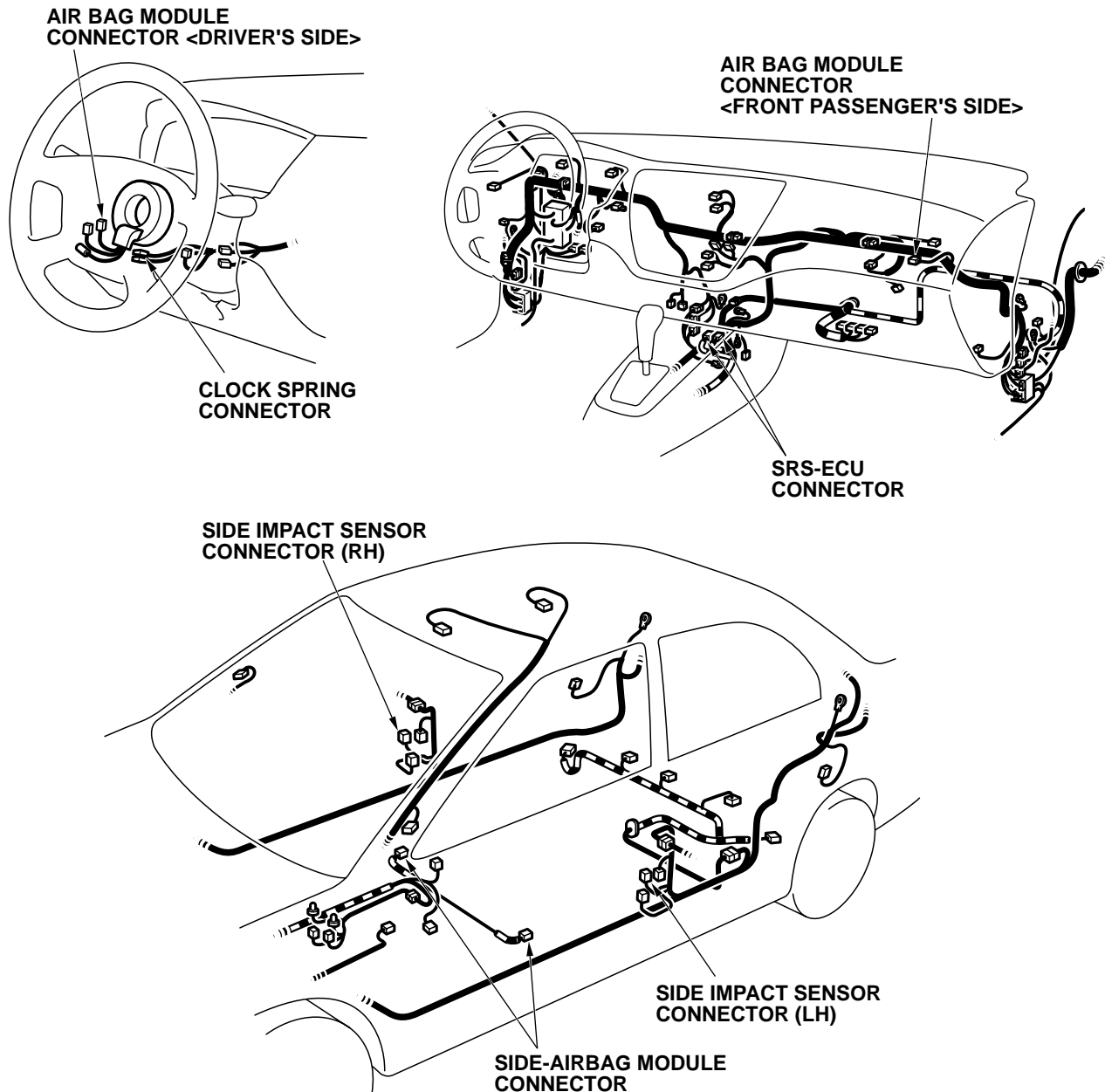
Seat belt with pre-tensioner

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.

Wiring Harness



AC101005AB

1. Check the connector for poor connection.

⚠ DANGER

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 binding; check the connectors for damage; and the terminals for deformation. REPLACE ANY CONNECTOR OR HARNESS THAT FAILS THE VISUAL INSPECTION. (Refer to GROUP 52B, SRS Service Precaution [P.52Ba-27.](#))

**20. EXHAUST SYSTEM (CONNECTIONS, PIPES
AND CONVERTER HEAT SHIELDS) (CHECK AND
SERVICE AS REQUIRED)**

M1001005800244

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.

21. TIRES (ROTATE)

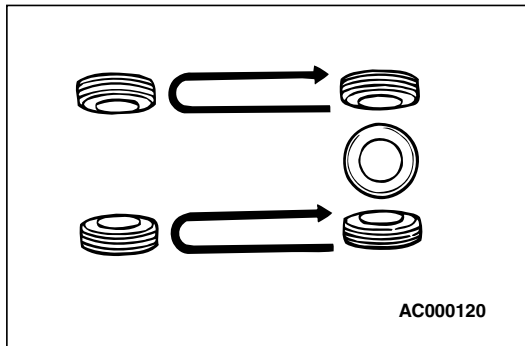
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Rotate tires regularly to equalize tire wear and help extend tire life. Recommended tire rotation is every 12,000 km (7,500 miles) under normal driving conditions and every 9,600 km (6,000 miles) in severe driving conditions.

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

When rotating tires, check for uneven wear, damage, and wheel alignment. Abnormal wear is usually caused by incorrect tire 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 tires on the vehicle.



MAIN SEALANT AND ADHESIVE TABLE

M1001003800260

APPLICATION		3M™ NO.	LOCTITE®/ PERMATEX® NO.
ENGINE AND DRIVETRAIN	Between rocker cover and camshaft bearing cap. Between rocker cover, semicircular packing and cylinder head. Between oil pressure switch and engine.	3M™ AAD Part No. 8660 Ultrapro High Temp. Silicone Gasket or 3M™ AAD Part No. 8679 Black/8678 Black Press-In-Place Silicone gasket strips	Permatex® Ultra Black 598, No.82180
	Between engine coolant temperature switch, engine coolant temperature sensor, thermo valve, thermo switch, joint, engine coolant temperature gauge unit (large-size) and engine	3M™ AAD Part No. 8731 Medium Strength Blue Threadlocker	Loctite®242 Blue Service Tool Removable 24200
	Between oil pan and engine block	3M™ AAD Part No. 8672, 3M™ AAD Part No. 8704 or 3M™ AAD Part No. 8679/ 3M™ AAD Part No. 8678 or	Permatex® Ultra Gray 599, No.82194
WEATHER- STRIPPING FOR GLASS	Between tempered glass, body flanges, and weatherstrip	3M™ AAD Part No. 8509 Auto Bedding and Glazing Compound or 3M™ AAD Part No. 8633 Windo-weld Resealant	—
WEATHER- STRIPPING FOR GLASS	Between laminated glass and weatherstrip	3M™ AAD Part No. 8633	—
INTERIOR	Adhesive of vinyl chloride cloth	3M™ AAD Part No. 8088 General Trim Adhesive or 3M™ AAD Part No. 8064 Vinyl Trim Adhesive	Permatex® Vinyl Repair Kit No.81786
	Adhesion of door weatherstrip	3M™ AAD Part No. 8001 (yellow) or 3M™ AAD Part No. 8008 (black) Super Weatherstrip Adhesive or 3M™ AAD Part No. 8011 Black Weatherstrip Adhesive	Permatex® Super Black Weatherstrip Adhesive No.82, 81850
	Sealing of various grommets and packing	3M™ AAD Part No. 8509 or 3M™ AAD Part No. 8678	—
	Adhesion of headliners and various interior decorative materials	3M™ AAD Part No. 8088 General Trim Adhesive or 3M™ AAD Part No. 8090 Super Trim Adhesive	Permatex® Spray Adhesive No.82019

APPLICATION		3M™ NO.	LOCTITE®/ PERMATEX® NO.
BODY SEALANTS	Sealing of sheet metal joints, drip rail, floor, side panels, trunk, front panel, tail gate hinge	3M™ AAD Part No. 8531 Heavy Drip-Check Sealer (gray) or 3M™ AAD Part No. 8302 Ultrapro Autobody Sealant (clear) or 3M™ AAD Part No. 8361 Urethane A/B Sealant (gray or white)	—
	Miscellaneous body sealants (originally mounted w/ adhesive tape) <ul style="list-style-type: none"> • Waterproof door film • Fender panel • Splash shield • Mud guard • Rear combination lamp 	3M™ AAD Part No. 8633 Windo-weld Resealant	—
	Fuel Tank and Pad	3M™ AAD Part No. 8088 General Trim Adhesive or 3M™ AAD Part No. 8090 Super Trim Adhesive	Permatex® Spray Adhesive No.82019
CHASSIS SEALANT	Sealing of various flange faces and threaded parts. Packing of fuel gauge unit	3M™ AAD Part No. 8730 High Strength Red Thread lock or 3M™ AAD Part No. 8731 Medium Strength Blue Threadlocker	Loctite® 272 High Strength and High Temperature 27200
	Sealing of various threaded parts, dust covers. Differential carrier packing, dust covers and ball joint and linkage. Packing and shims of steering box, sealing of rack support cover and top cover of steering box housing, seal of junction face of knuckle arm flange	3M™ AAD Part No. 8672 Ultrapro High Temp. Silicone Gasket or 3M™ AAD Part No. 8679 (black) or 3M™ AAD Part No. 8678 (black) Press-In-Place Silicone gasket strips 3M™ AAD Part No. 8661 or 3M™ AAD Part No. 8663 Super Silicone sealant	Permatex® The Right Stuff No.25223
	Seal of brake shoe hold-down pin and wheel cylinder of drum brakes	3M™ AAD Part No. 8633 Windo-weld Resealant	—

APPLICATION		3M™ NO.	LOCTITE®/ PERMATEX® NO.
QUICK FIX ADHESIVE	—	3M™ AAD Part No. 8155 Quick Fix Adhesive	Loctite® Quicktite Super Glue 21309
ANAEROBIC STRONG SEALING AGENT	Fixing of various threads, bolts, screws. Fixing of differential drive gear bolt, Connecting of tilt steering bolt. Fan, pulley, gear sealing of small gaps and flange faces	3M™ AAD Part No. 8730 High Strength Threadlocker or 3M™ AAD Part No. 8731 Medium Strength Threadlocker	Loctite® 271, High- Strength Threadlocker 27100 or 27200
UNDERCOATING AGENT	-	3M™ AAD Part No. 8883 Rubberized Undercoating Aerosol or 3M™ AAD Part No. 8864 Body Schutz Undercoating (qt)	Permatex® Heavy-Duty Undercoating 81833

NOTES