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**GROUP 00**

**GENERAL**

**CONTENTS**

**GENERAL** ..... **00**

**GENERAL<ELECTRICAL>** ..... **00E**

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## NOTES

## GROUP 00

## GENERAL

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# HOW TO USE THIS MANUAL

M1001000101016

## SCOPE OF MAINTENANCE, REPAIR AND SERVICING EXPLANATIONS

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

## ON-VEHICLE SERVICE

"On-vehicle Service" is procedures for performing inspections and adjustments of particularly important locations with regard to the construction and for maintenance and servicing, but other inspection (for looseness, play, cracking, damage, etc.) must also be performed.

## INSPECTION

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

## DEFINITION OF TERMS

### STANDARD VALUE

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

### LIMIT

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

## REFERENCE VALUE

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

## 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.

## INDICATION OF TIGHTENING TORQUE

Tightening torques (units: N·m) are set to take into account the central value and the allowable tolerance. The central value is the target value, and the allowable tolerance provides the checking range for tightening torques. If bolts and nuts are not provided with tightening torques, refer to [P.00-37](#).

## MODEL INDICATIONS

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

2500:Indicates an engine with the 2,477mL <4D56> diesel engine.

3200:Indicates an engine with the 3,200mL <4M41> diesel engine.

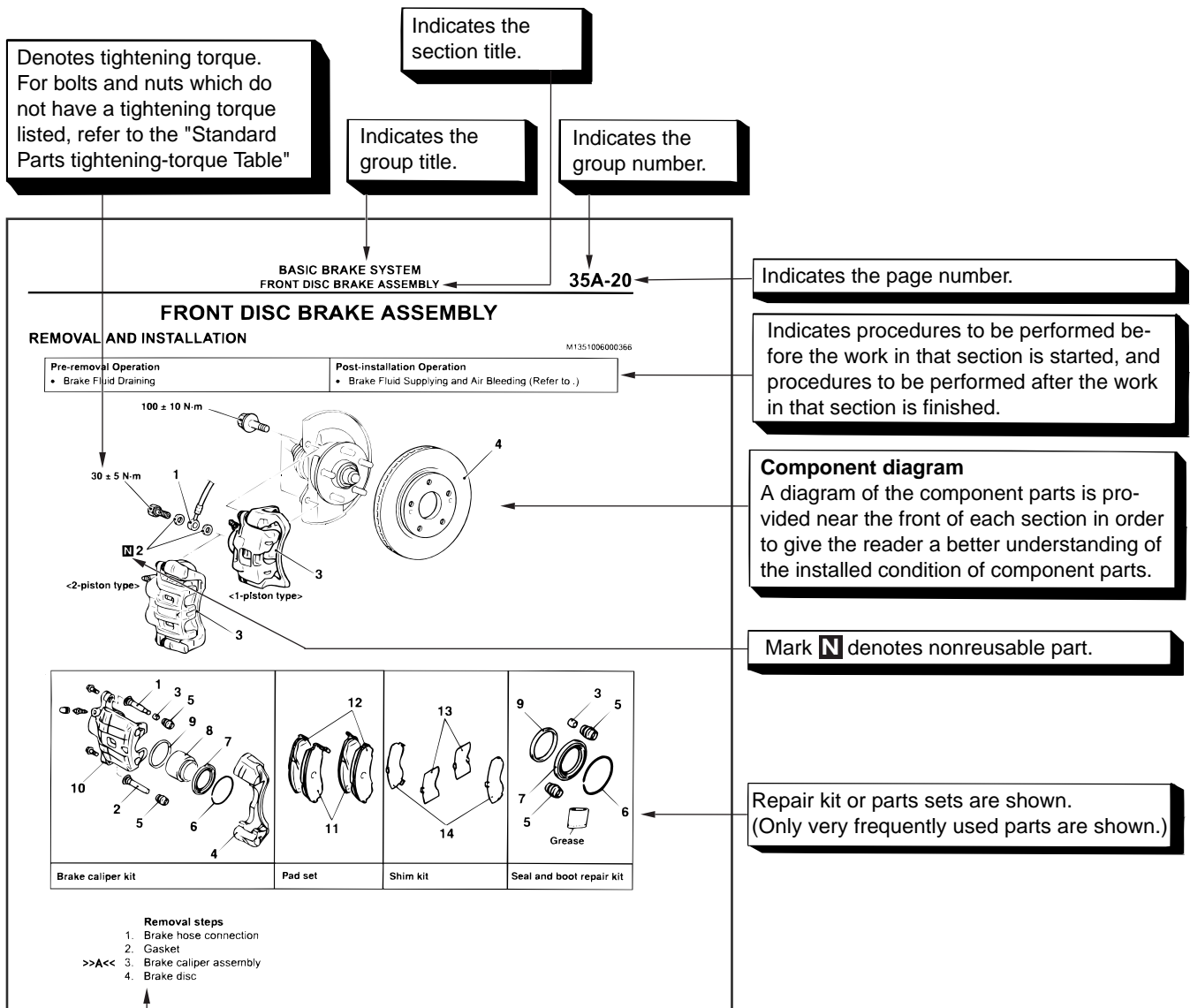
DOHC: Indicates an engine with the double overhead camshaft.

M/T:Indicates the manual transmission.

A/T:Indicates the automatic transmission.

A/C:Indicates the air conditioner.

EXPLANATION OF MANUAL CONTENTS



**Maintenance and servicing procedures**

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

- Removal steps :  
The part designation number corresponds to the number in the illustration to indicate removal steps.
- Disassembly steps :  
The part designation number corresponds to the number in the illustration to indicate disassembly steps.

- Installation steps :  
Specified in case installation is impossible in reverse order of removal steps. Omitted if installation is possible in reverse order of removal steps.
- Reassembly steps :  
Specified in case installation is impossible in reverse order of removal steps. Omitted if reassembly is possible in reverse order of disassembly steps.

**Classifications of major maintenance / service points**

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

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

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

**BASIC BRAKE SYSTEM**  
FRONT DISC BRAKE ASSEMBLY

**35A-21**

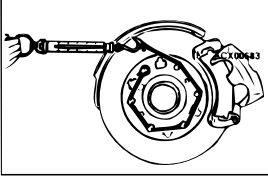
**INSTALLATION SERVICE POINT** ←

>>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.

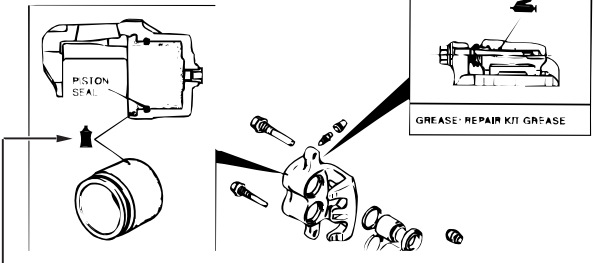
2. After re-installing the caliper support to the knuckle, install the pad clips and the pads to the caliper support.



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

**LUBRICATION AND SEALING POINTS** ←

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








Indicates (by symbols) where lubrication is necessary.

**Symbols for lubrication, sealants and adhesives**

Symbols are used to show the locations for lubrication and for application of sealants and adhesives.

These symbols are included in the diagram of component parts or on the page following the component parts page. The symbols do not always have accompanying text to support that symbol.

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

# HOW TO USE TROUBLESHOOTING/INSPECTION SERVICE POINTS

## CONTENTS OF TROUBLESHOOTING

M1001013300211

### CAUTION

During diagnosis, a diagnosis code associated with other system may be set when the ignition switch is turned on with connector(s) disconnected. On completion, confirm all systems for diagnosis code(s). If diagnosis code(s) are set, erase them all.

### WARNING

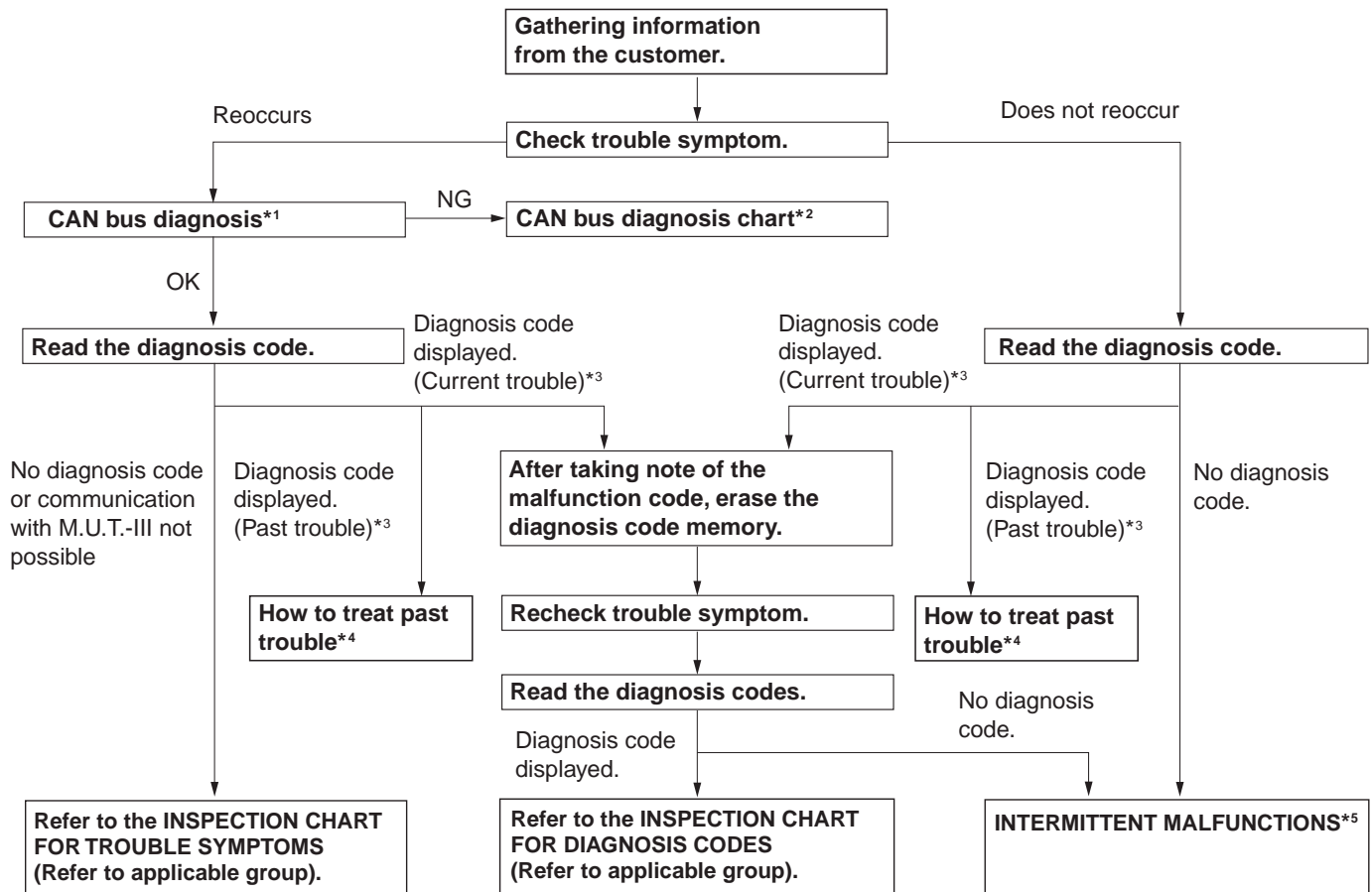
*Since the radiator fan rotates during CAN bus line diagnostics, make sure that no one is servicing the engine compartment before diagnosing the CAN bus line. Since the CAN communication stops when diagnosing the CAN bus line, the ETACS-ECU detects the time-out of the engine-ECU, and activates the radiator fan to prevent overheating as fail-safe.*

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

## 1. STANDARD FLOW OF DIAGNOSIS TROUBLESHOOTING

Troubleshooting sections are based on the diagnostic flow as below. If the diagnostic flow is different from that given below, or if additional explanation is required, the details of such differences or additions will also be listed.

## Diagnosis method



AC501888

- \*1: For how to diagnose CAN bus lines, refer to GROUP 54C .
- \*2: For the CAN bus diagnosis chart, refer to GROUP 54C .
- \*3: When the M.U.T.-III detects a diagnosis code, its display informs users whether a mechanical problem currently exists or whether it existed before. The message for the former state identifies it as a "Active" and the message for the latter identifies it as a "Stored".
- \*4: For how to treat past trouble, refer to [P.00-13](#).
- \*5: For how to cope with intermittent malfunctions, refer to [P.00-12](#).

## 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. DIAGNOSIS FUNCTION

Details which are different from those in the "Diagnosis Function [P.00-7](#)" section are described.

## 4. DIAGNOSIS CODE CHART

Diagnostic trouble codes and diagnostic items are shown.

## 5. DIAGNOSIS CODE PROCEDURES

Indicates the inspection procedures corresponding to each diagnosis code (Refer to How to Use Inspection Procedures [P.00-8](#)).

## 6. TROUBLE SYMPTOM CHART

If there are trouble symptoms even though the M.U.T.-III does not find any diagnosis codes, Inspection procedures for each trouble symptom will be found by means of this chart.



## 7. SYMPTOM PROCEDURES

Indicates the inspection procedures corresponding to each symptoms classified in the Symptom Chart (Refer to How to Use Inspection Procedures P.00-8).

## 8. SERVICE DATA REFERENCE TABLE

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

## 9. ACTUATOR TEST TABLE

The Actuator Test item numbers, inspection items, and judgment values have been provided in this chart as reference information.

## 10. CHECK AT ECU TERMINALS

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

## 11. INSPECTION PROCEDURE BY USING AN OSCILLOSCOPE

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

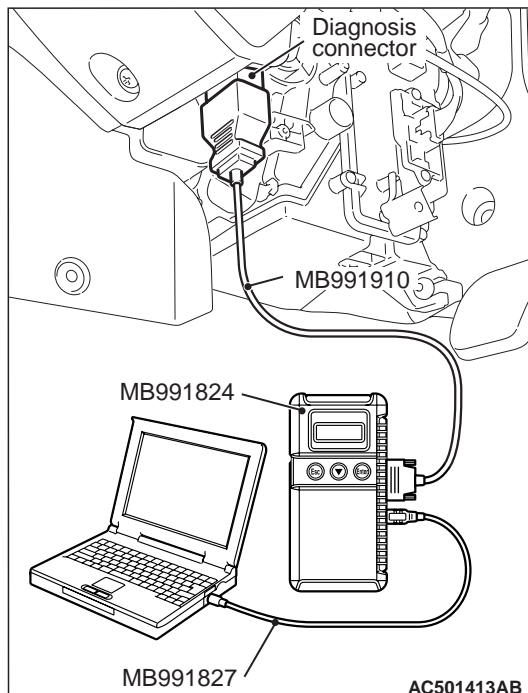
## DIAGNOSIS FUNCTION

M1001013400100

### HOW TO READ DIAGNOSIS CODE

#### **CAUTION**

Before connecting or disconnecting the M.U.T.-III, turn the ignition switch to the "LOCK" (OFF) position.



Connect the M.U.T.-III to the 16-pin diagnosis connector, and read the diagnosis code.

*NOTE: For details on how to use the M.U.T.-III, refer to the "M.U.T.-III operation manual."*

1. Ensure that the ignition switch is at the "LOCK" (OFF).
2. Start up the personal computer.
3. Connect M.U.T.-III USB cable MB991827 to special tool Vehicle Communication Interface (V.C.I.) MB991824 and the personal computer.
4. Connect M.U.T.-III main harness A MB991910 to the V.C.I.
5. Connect the M.U.T.-III main harness A to the diagnosis connector.
6. Turn the V.C.I. power switch to the "ON" position.

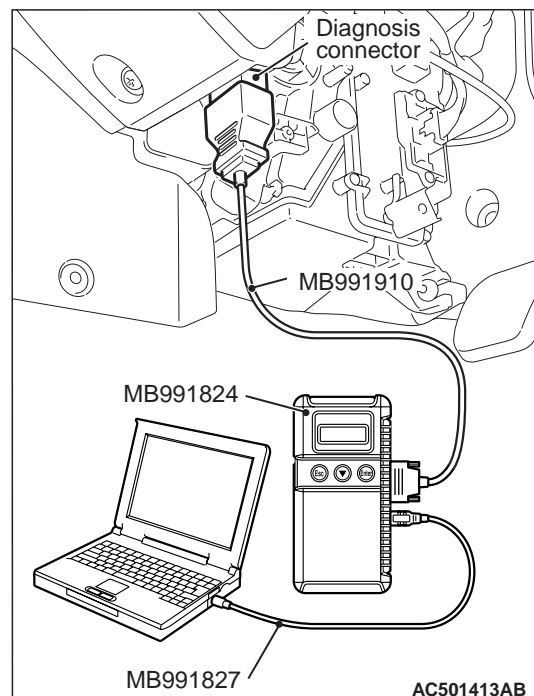
*NOTE: When the V.C.I. is energized, the V.C.I. indicator lamp will be illuminated in a green colour.*

7. Start the M.U.T.-III system on the personal computer and turn the ignition switch to the "ON" position.
8. Read the diagnosis code.
9. Disconnecting the M.U.T.-III is the reverse of the connecting sequence, making sure that the ignition switch is at the "LOCK" (OFF).

## ERASING DIAGNOSIS CODE

#### **CAUTION**

Before connecting or disconnecting the M.U.T.-III, turn the ignition switch to the "LOCK" (OFF) position.

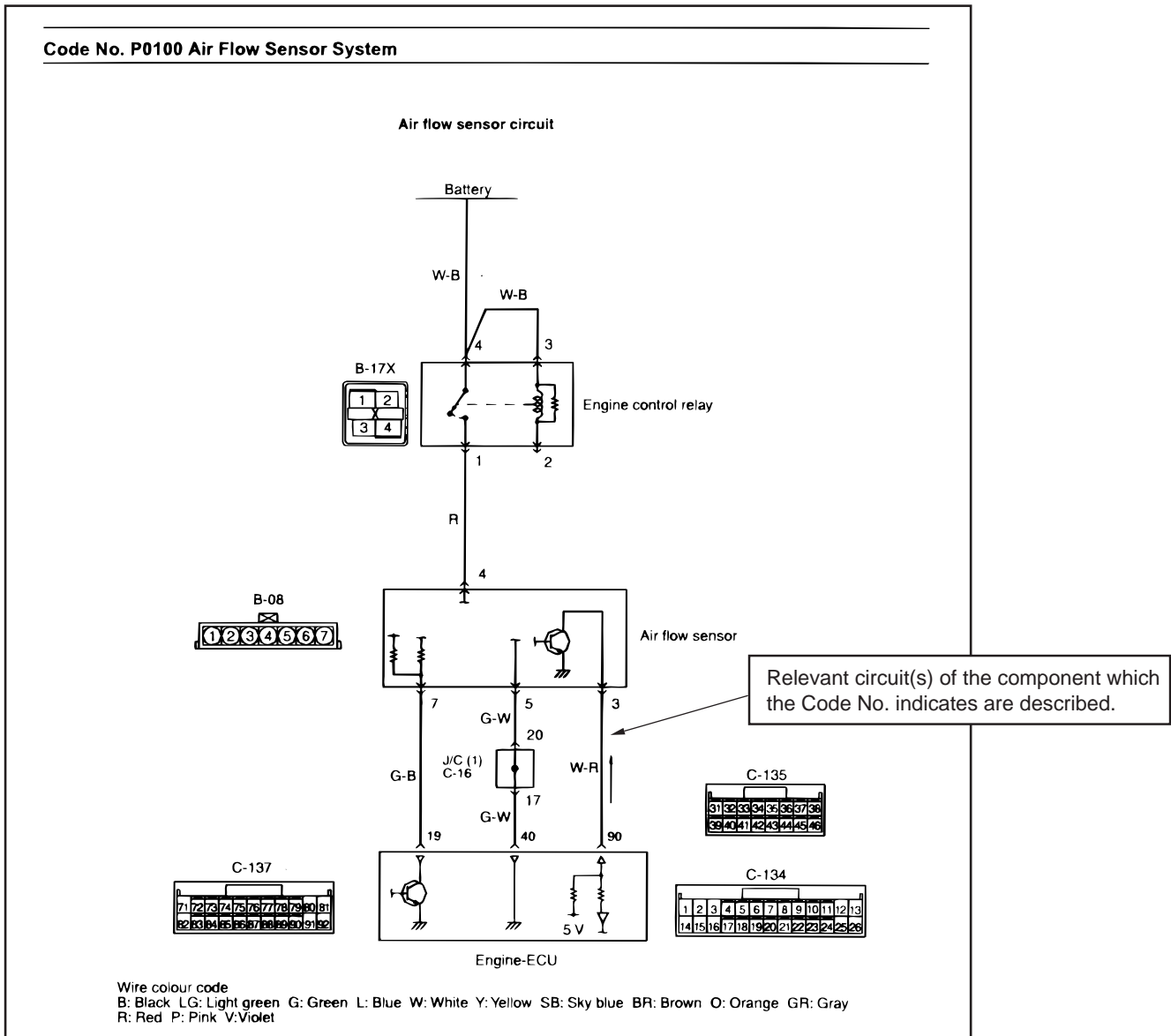


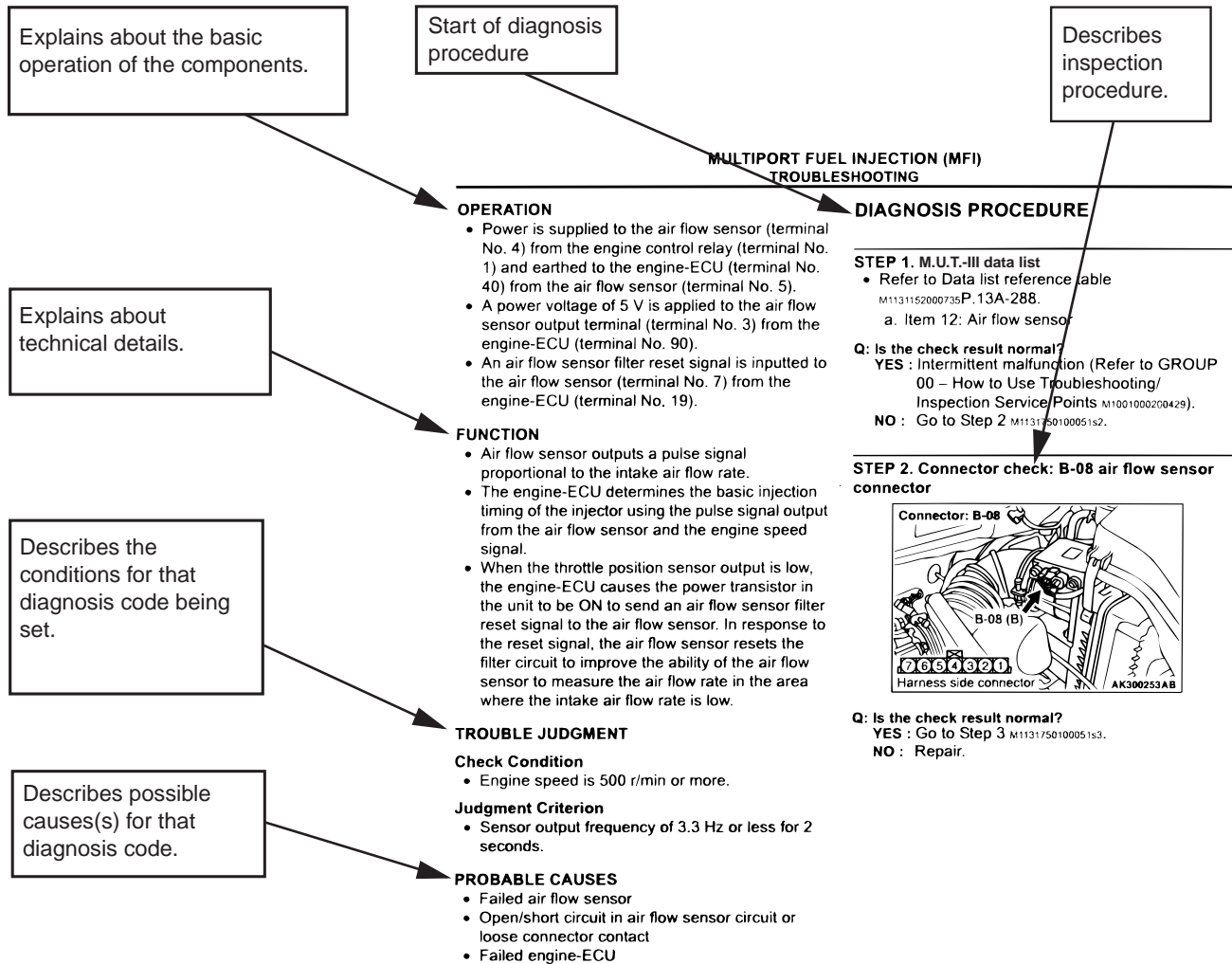
Connect the M.U.T.-III to the diagnosis connector, and erase the diagnosis code. The procedure is the same as "How to Read Diagnosis Code ."

**HOW TO USE THE INSPECTION PROCEDURES**

M1001013500237

The causes of many of the problems occurring in electric circuitry are generally the connectors, components, the ECU, the wiring 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.





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## CURRENT TROUBLE

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

## PAST TROUBLE

Indicates that the status is "Stored" and the trouble is historic. Since the trouble may still be present, set the vehicle to the diagnosis code detection condition and check that the status changes to "Active". If the status does not change from "Stored", observe the applicable inspection procedure with particular emphasis on connector(s) and wiring harness.

## HARNESS CHECK

Check for an open or short circuit in the harness between the terminals which are faulty according to the connector measurements. Carry out this inspection while referring to the Electrical Wiring Manual. Here, "Check the wiring harness between the 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.00-12."

## 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

M1001013600223

### ⚠ CAUTION

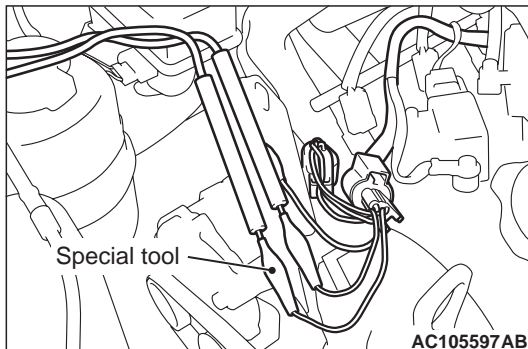
During diagnosis, a diagnosis code associated with other system may be set when the ignition switch is turned on with connector(s) disconnected. On completion, confirm all systems for diagnosis code(s). If diagnosis code(s) are set, erase them all.

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

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

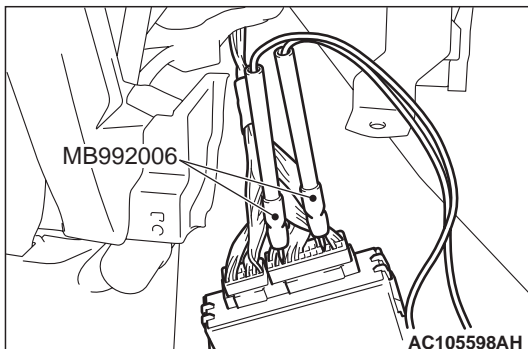
### ⚠ CAUTION

Never insert a test probe from the harness side, as this will reduce the waterproof performance and result in corrosion.



Use the special tools such as test harness, harness connector or check harness.

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

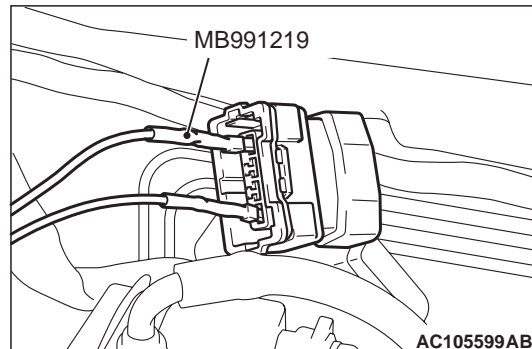


Inspect by inserting a test probe from the harness side. If the connector is too small to insert a test probe (e.g. control unit connector), do not insert it forcibly. Use special tool extra fine probe (MB992006).

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

### ⚠ CAUTION

- Use special tool check harness (MB991219). If the test bar is inserted forcibly, it will cause a poor contact.
- If the connector is disconnected, a diagnosis code may be stored for the system to be checked or other systems.

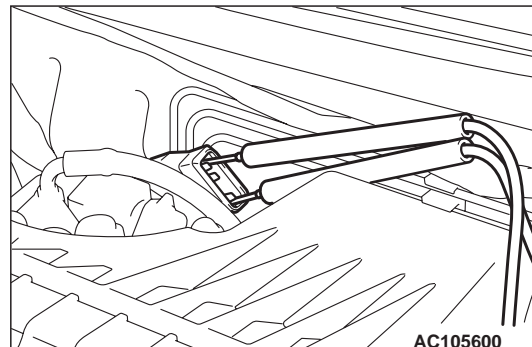


Use check harness (MB991219) of special tool harness set (MB991223).

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

### ⚠ CAUTION

- Be careful not to short the connector pins with the test bars. To do so may damage the circuits inside the ECU.
- If the connector is disconnected, a diagnosis code may be stored for the system to be checked or other systems.

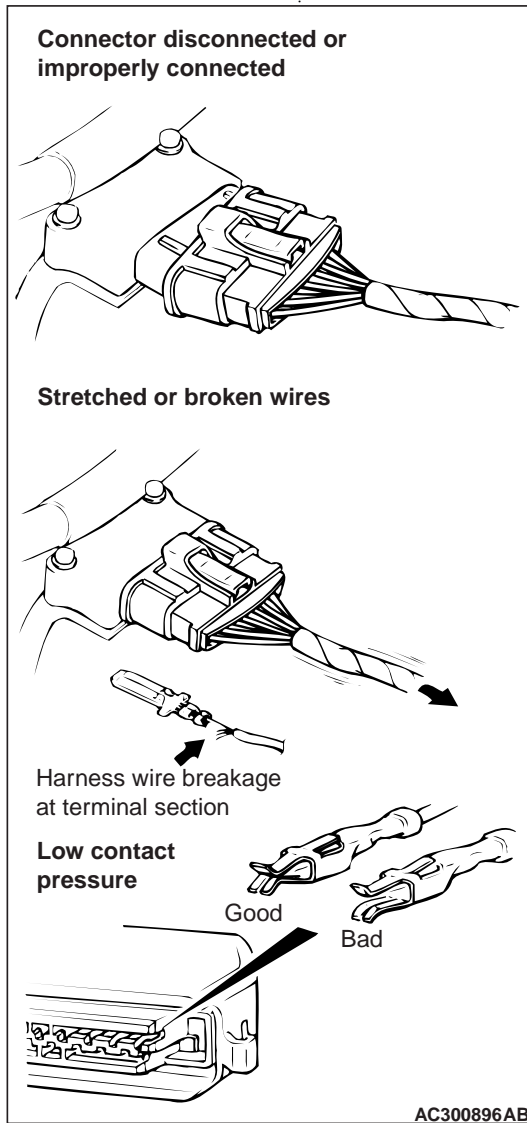


Touch the pin directly with the test bar.

## CONNECTOR INSPECTION SERVICE POINTS

M1001013700189

### VISUAL INSPECTION

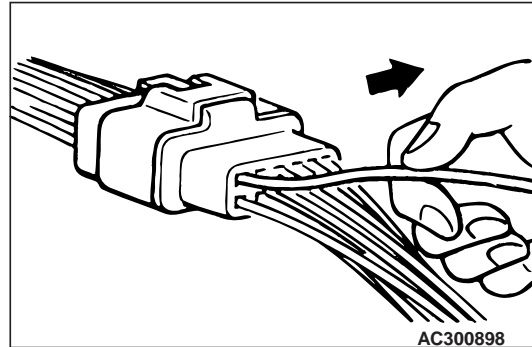


Connector is disconnected or improperly connected

- Connector pins are pulled out
- Due to harness tension at terminal section

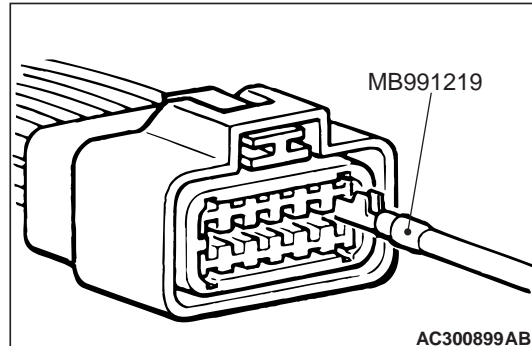
- Low contact pressure between male and female terminals
- Low connection pressure due to rusted terminals or foreign matter lodged in terminals

### CONNECTOR PIN INSPECTION



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

### CONNECTOR ENGAGEMENT INSPECTION



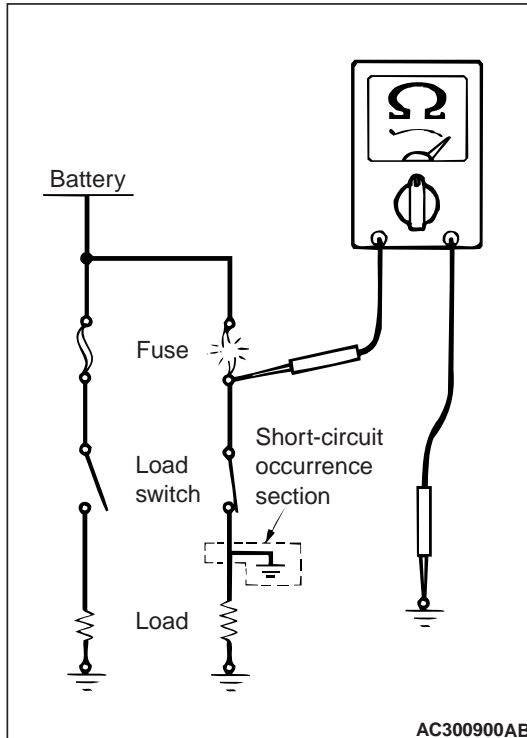
Use special tool inspection harness (MB991219) (connector pin connection pressure inspection harness of the inspection harness set) to inspect the engagement of the male pins and female pins. (Pin drawing force: 1 N or more)

INSPECTION SERVICE POINTS FOR A  
BLOWN FUSE

M1001013800186

**CAUTION**

A diagnosis code may be stored due to a blown fuse.



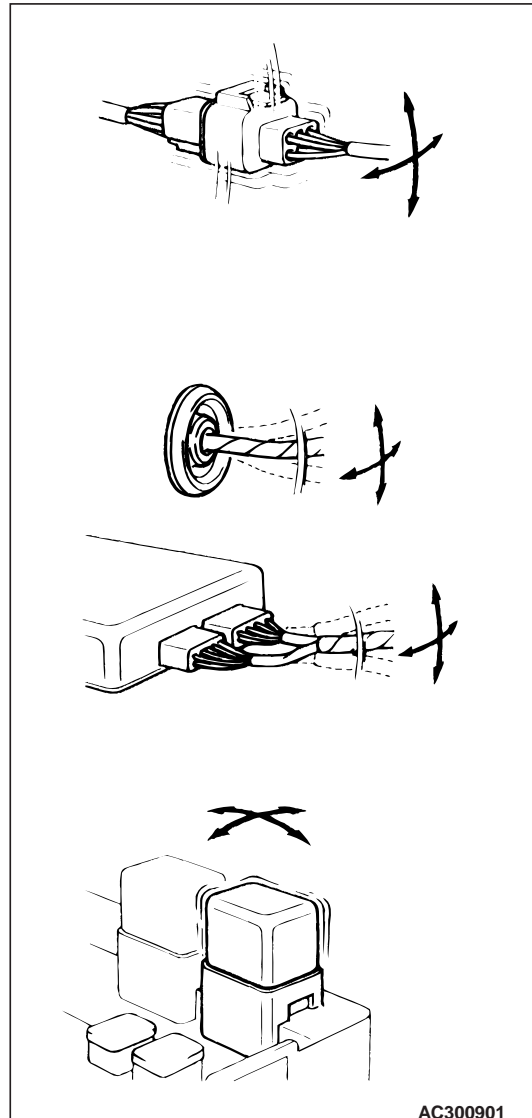
Remove the blown fuse and measure the resistance between the load side of the blown fuse and the earth. Close the switches of all circuits which are connected to this fuse. If the resistance is almost  $0 \Omega$  at this time, there is a short somewhere between these switches and the load. If the resistance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

The main causes of a short circuit are the following.

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

HOW TO COPE WITH INTERMITTENT  
MALFUNCTIONS

M1001013900183



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

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

*NOTE: If determining the cause is difficult, the drive recorder function of the M.U.T.-III can also be used. (For details on how to use the M.U.T.-III, refer to the "M.U.T.-III operation manual").*

## HOW TO TREAT PAST TROUBLE

M1001014100157

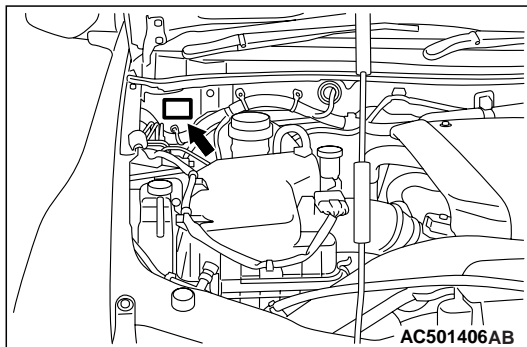
Since the trouble may still be present even the status is "Stored", set the vehicle to the diagnosis code detection condition and check that the status changes to "Active". If the status does not change from "Stored", carry out the following procedure.

1. Establish from the customer whether a fuse or connector has been replaced or disconnected.
2. If yes, erase the diagnosis code, and then check that no diagnostic code is reset. If no diagnosis code is reset, the diagnosis is complete.
3. If no, follow the applicable Diagnostic Trouble Code Chart. Then check the wiring harness and connector, and refer to "How to Cope with Intermittent Malfunction P.00-12."

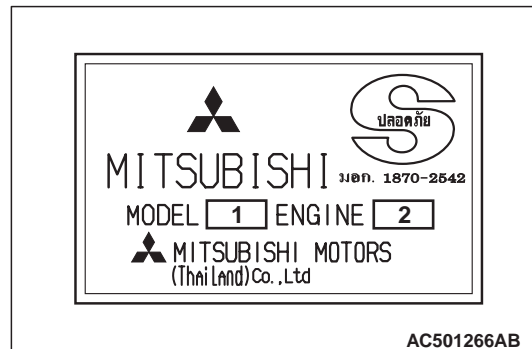
## VEHICLE IDENTIFICATION

M1001000401255

### VEHICLE NAME PLATE



The name plate is riveted to the cowl top outer panel in the engine compartment.



No.	Item	Content	
1	MODEL	KA4	Vehicle model
		KB4	
		KB8	
2	ENGINE	4D56	Engine model
		4M41	

## MODELS

## &lt;CLUB CAB&gt;

Model code		Engine model	Transmission model		Fuel supply system	
KA4T	NCNMFRU	4D56 IDI (Indirect Diesel Injection) SOHC engine with Turbo charger (2,477 mL)	2WD (rear axle drive)	R5M21 (5-speed manual transmission)	Electrical fuel injection (distribution type injection pump system)	
	NCNUZRU	4D56 DI-D (Direct Injection-Diesel) DOHC engine with Turbo charger (2,477 mL)		R5MB1 (5-speed manual transmission)		Electrical fuel injection (common rail engine control system)
	NCRUZRU			R4AW4 (4-speed automatic transmission)		
KB4T	GCNHZRU	4D56 DI-D (Direct Injection-Diesel) DOHC engine with Inter cooler, Turbo charger (2,477 mL)	4WD (easy select 4WD)	V5MB1 (5-speed manual transmission)		
KB8T	GCNHZRU	4M41 DI-D (Direct Injection-Diesel) engine with Inter cooler, Turbo charger (3,200 mL)				

## &lt;DOUBLE CAB&gt;

Model code		Engine model	Transmission model		Fuel supply system
KA4T	NJNMZRU	4D56 DI-D (Direct Injection-Diesel) DOHC engine with Turbo charger (2,477 mL)	2WD (rear axle drive)	R5MB1 (5-speed manual transmission)	Electrical fuel injection (common rail engine control system)
	NJNUZRU			R4AW4 (4-speed automatic transmission)	
	NJRUZRU				
KB4T	GJNHZRU	4D56 DI-D (Direct Injection-Diesel) DOHC engine with Inter cooler, Turbo charger (2,477 mL)	4WD (easy select 4WD)	V5MB1 (5-speed manual transmission)	
KB8T	GJNHZRU	4M41 DI-D (Direct Injection-Diesel) engine with Inter cooler, Turbo charger (3,200 mL)			
	GJNXZRU		V4A5A (4-speed automatic transmission)		
	GJRXZRU				



**MODEL CODE**

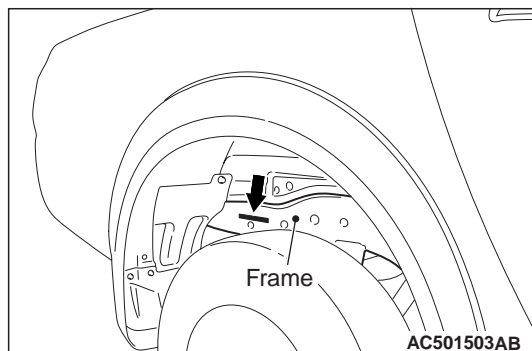
**K A 4 T N J N U Z R U**  
 | | | | | | | | | | |  
 1 2 3 4 5 6 7 8 9 10 11

AC407365AB

No.	Item	Content	
1	Development	K	TRITON
2	Drive system	A	2WD
		B	4WD
3	Engine type	4	2,477 mL
		8	3,200 mL
4	Sort	T	Truck
5	Vehicle width	N	Standard
		G	Wide fender
6	Body style	C	Club cab
		J	Double cab
7	Transmission type	N	5-speed manual transmission
		R	4-speed automatic transmission
8	Vehicle grade	M	GL
		U	GLX
		H	GLS
		X	GLS-S
9	Specification engine feature	F	Turbo charger
9	Specification engine feature	Z	Inter cooler, turbo charger
10	Steering wheel location	R	Right hand
11	Destination	U	For Thailand

## CHASSIS NUMBER

The chassis number is stamped on the side wall of the frame near the rear wheel (RH).



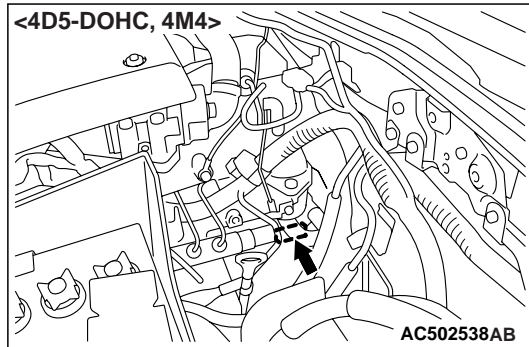
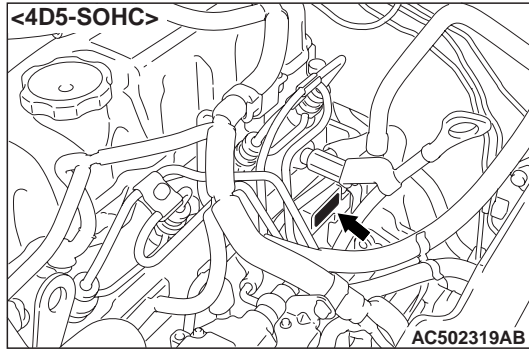
**M M T J N K B 8 0 7 D 000001**

1 2 3 4 5 6 7 8 9 10 11 12

AC501425AB

No.	Item	Content
1	Country of manufacture	M Asia
2	Maker (distribution channel)	M MMC Sittipol Co., Ltd. (Thailand)
3	Destination and steering wheel location	T For Thailand, right hand
4	Body style	C Club cab
		J Double cab
5	Transmission type	N 5-speed manual transmission
		R 4-speed automatic transmission
6	Vehicle line	K MITSUBISHI TRITON
7	Development order	A 2-wheel drive
		B 4-wheel drive
8	Engine type	4 2,477mL diesel engine
		8 3,200mL diesel engine
9	MSC internal purpose	0 No meaning
10	Model year	7 2006
11	Plant	D MMC Sittipol Co., Ltd.
12	Serial number	- -

**ENGINE MODEL STAMPING**



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

Engine model	Engine displacement
4D56	2,477 mL
4M41	3,200 mL

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

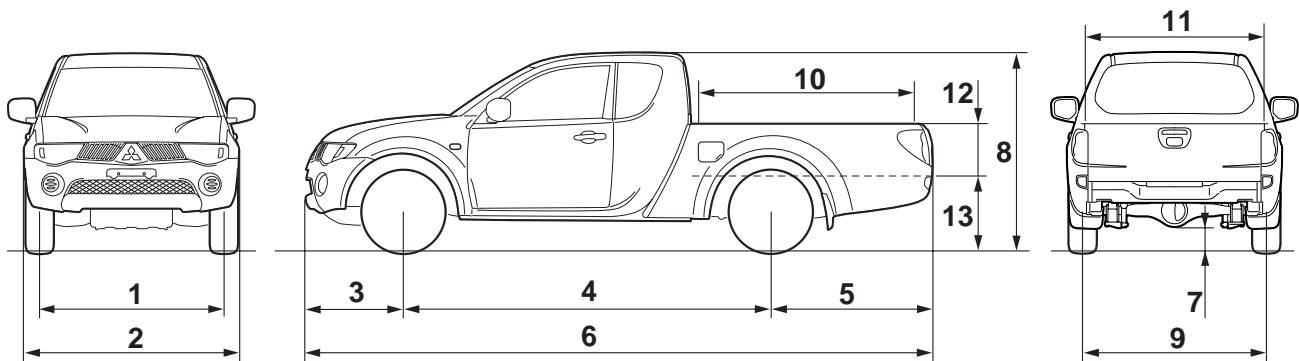
Engine serial number	AA0201 to YY9999
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**GENERAL DATA AND SPECIFICATIONS**

M1001000900945

**CLUB CAB**

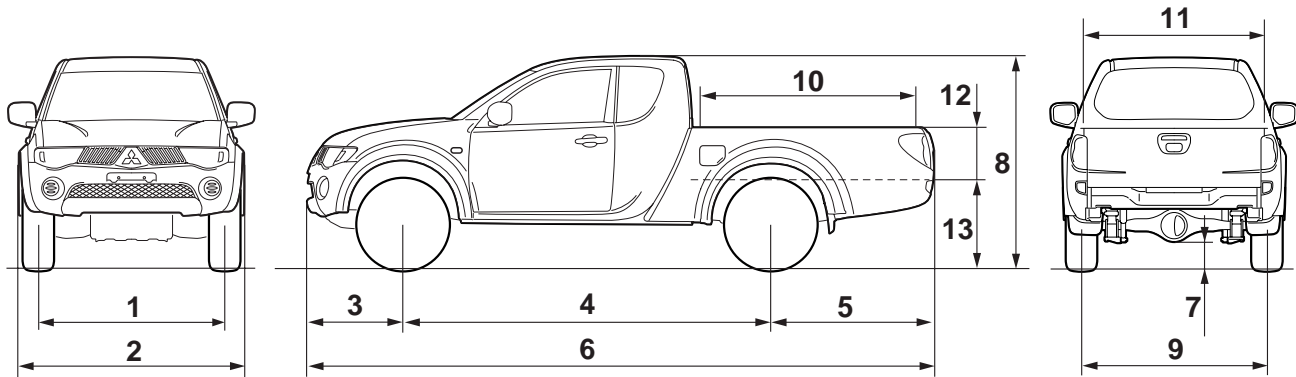
<2WD>



AC502183AB

Items			KA4T		
			NCNMFRU	NCNUZRU	NCRUZRU
Vehicle dimensions mm	Front track	1	1,505	1,505	1,505
	Overall width	2	1,750	1,750	1,750
	Front overhang	3	785	785	785
	Wheel base	4	3,000	3,000	3,000
	Rear overhang	5	1,325	1,325	1,325
	Overall length	6	5,110	5,110	5,110
	Ground clearance (unladen)	7	200	195	195
	Overall height (unladen)	8	1,660	1,655	1,655
	Rear track	9	1,500	1,500	1,500
	BED interior length	10	1,805	1,805	1,805
	BED interior width	11	1,470	1,470	1,470
	BED interior height	12	405	405	405
	Cargo floor height (unladen)	13	725	720	720
Vehicle weight kg	Kerb weight		1,565	1,600	1,600
	Max. gross vehicle weight		2,285	2,330	2,330
	Max. axle weight rating-front		1,030	1,030	1,030
	Max. axle weight rating-rear		1,500	1,500	1,500
Seating capacity			2	2	2
Engine	Model No.		4D56 IDI (Indirect Diesel Injection) engine with Turbo charger	4D56 DI-D (Direct Injection-Diesel) engine with Turbo charger	4D56 DI-D (Direct Injection-Diesel) engine with Turbo charger
	Total displacement mL		2,477	2,477	2,477
	Max. output kW (SP)/rpm		66 (90)/4,000	81 (110)/4,000	81 (110)/4,000
	Max. torque N·m/rpm		196 (20)/2,000	240 (24.5)/2,000	240 (24.5)/2,000
Transmission	Model No.		R5M21	R5MB1	R4AW4
	Type		5-speed manual	5-speed manual	4-speed automatic
Fuel system	Fuel supply system		Electrical fuel injection (distribution type injection pump system)	Electrical fuel injection (common rail engine control system)	Electrical fuel injection (common rail engine control system)
Max speed km/h			150	160	158
Turning radius m			5.7	5.7	5.7

**<4WD>**



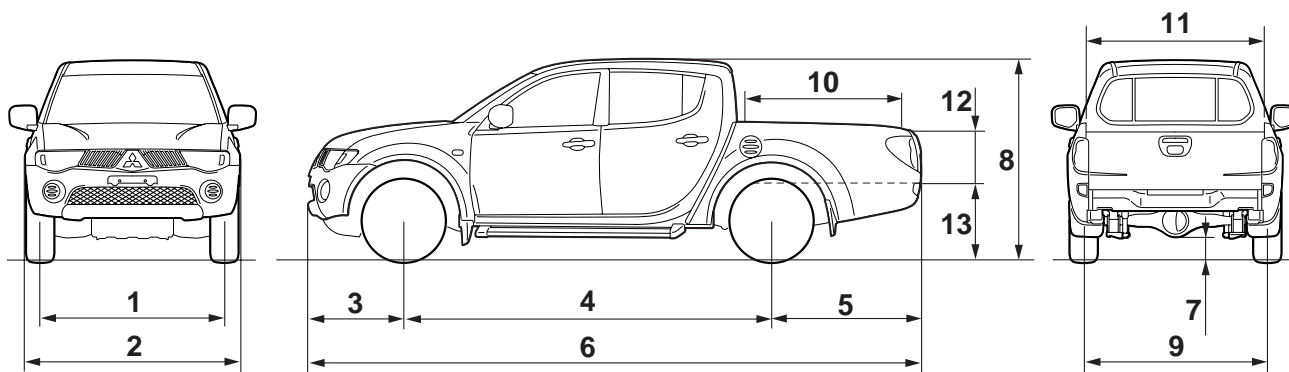
AC502184 AB

Items		KB4T		KB8T	
		GCNHZRU		GCNHZRU	
Vehicle dimensions mm	Front track	1	1,520	1,520	
	Overall width	2	1,800	1,800	
	Front overhang	3	785	785	
	Wheel base	4	3,000	3,000	
	Rear overhang	5	1,325	1,325	
	Overall length	6	5,110	5,110	
	Ground clearance (unladen)	7	205	205	
	Overall height (unladen)	8	1,780	1,780	
	Rear track	9	1,515	1,515	
	BED interior length	10	1,805	1,805	
	BED interior width	11	1,470	1,470	
	BED interior height	12	405	405	
	Cargo floor height (unladen)	13	860	860	
Vehicle weight kg	Kerb weight	1,795		1,840	
	Max. gross vehicle weight	2,535		2,605	
	Max. axle weight rating-front	1,250		1,250	
	Max. axle weight rating-rear	1,600		1,600	
Seating capacity		2		2	
Engine	Model No.	4D56 DI-D (Direct Injection-Diesel) engine with Inter cooler, Turbo charger		4M41 DI-D (Direct Injection-Diesel) engine with Inter cooler, Turbo charger	
	Total displacement mL	2,477		3,200	
	Max. output kW (PS)/rpm	100 (136)/4,000		118 (136)/3,800	
	Max. torque N· m/rpm	314 (32)/2,000		343 (35)/2,000	
Transmission	Model No.	V5MB1			
	Type	5-speed manual			

Items		KB4T	KB8T
		GCNHZRU	GCNHZRU
Fuel system	Fuel supply system	Electrical fuel injection (common rail engine control system)	Electrical fuel injection (common rail engine control system)
Max speed km/h		175	175
Turning radius m		5.9	5.9

**DOUBLE CAB**

&lt;2WD&gt;



AC502185AB

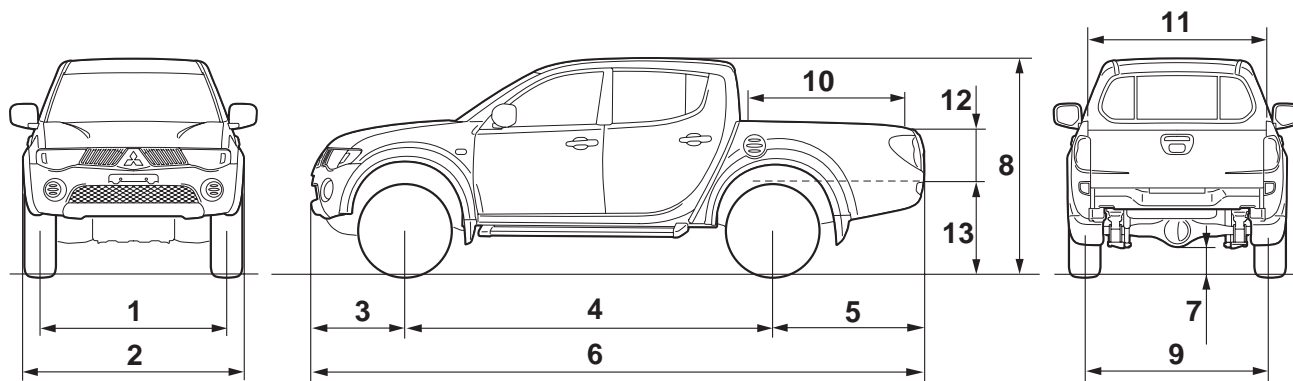
Items			KA4T		
			NJNMZRU	NJNUZRU	NJRZRU
Vehicle dimensions mm	Front track	1	1,505	1,505	1,505
	Overall width	2	1,750	1,750	1,750
	Front overhang	3	785	785	785
	Wheel base	4	3,000	3,000	3,000
	Rear overhang	5	1,210	1,210	1,210
	Overall length	6	4,995	4,995	4,995
	Ground clearance (unladen)	7	200	195	195
	Overall height (unladen)	8	1,655	1,650	1,650
	Rear track	9	1,500	1,500	1,500
	BED interior length	10	1,325	1,325	1,325
	BED interior width	11	1,470	1,470	1,470
	BED interior height	12	405	405	405
	Cargo floor height (unladen)	13	715	710	710
Vehicle weight kg	Kerb weight		1,640	1,640	1,640
	Max. gross vehicle weight		2,330	2,330	2,330
	Max. axle weight rating-front		1,030	1,030	1,030
	Max. axle weight rating-rear		1,500	1,500	1,500
Seating capacity			5	5	5

**GENERAL  
GENERAL DATA AND SPECIFICATIONS**

**00-21**

Items		KA4T		
		NJNMZRU	NJNUZRU	NJRUZRU
Engine	Model No.	4D56 DI-D (Direct Injection-Diesel) engine with Turbo charger	4D56 DI-D (Direct Injection-Diesel) engine with Turbo charger	4D56 DI-D (Direct Injection-Diesel) engine with Turbo charger
	Total displacement mL	2,477	2,477	2,477
	Max. output kW (PS)/rpm	81 (110)/4,000	81 (110)/4,000	81 (110)/4,000
	Max. torque N· m/rpm	240 (24.5)/2,000	240 (24.5)/2,000	240 (24.5)/2,000
Transmission	Model No.	R5MB1	R5MB1	R4AW4
	Type	5-speed manual	5-speed manual	4-speed automatic
Fuel system	Fuel supply system	Electrical fuel injection (common rail engine control system)	Electrical fuel injection (common rail engine control system)	Electrical fuel injection (common rail engine control system)
Max speed km/h		160	160	158
Turning radius m		5.7	5.7	5.7

&lt;4WD&gt;



AC502186AB

Items		KB4T		KB8T		
			GJNHZRU	GJNHZRU	GJNXZRU	GJRXZRU
Vehicle dimensions mm	Front track	1	1,520	1,520	1,520	1,520
	Overall width	2	1,800	1,800	1,800	1,800
	Front overhang	3	785	785	785	785
	Wheel base	4	3,000	3,000	3,000	3,000
	Rear overhang	5	1,210	1,210	1,210	1,210
	Overall length	6	4,995	4,995	4,995	4,995
	Ground clearance (unladen)	7	205	205	205	205
	Overall height (unladen)	8	1,780	1,780	1,780	1,780
	Rear track	9	1,515	1,515	1,515	1,515
	BED interior length	10	1,325	1,325	1,325	1,325
	BED interior width	11	1,470	1,470	1,470	1,470
	BED interior height	12	405	405	405	405
	Cargo floor height (unladen)	13	850	850	850	850
Vehicle weight kg	Kerb weight		1,860	1,920	1,930	1,940
	Max. gross vehicle weight		2,535	2,605	2,605	2,605
	Max. axle weight rating-front		1,250	1,250	1,250	1,250
	Max. axle weight rating-rear		1,600	1,600	1,600	1,600
Seating capacity			5	5	5	5
Engine	Model No.		4D56 DI-D (Direct Injection-Diesel) engine with Inter cooler, Turbo charger	4M41 DI-D (Direct Injection-Diesel) engine with Inter cooler, Turbo charger	4M41 DI-D (Direct Injection-Diesel) engine with Inter cooler, Turbo charger	4M41 DI-D (Direct Injection-Diesel) engine with Inter cooler, Turbo charger
	Total displacement mL		2,477	3,200	3,200	3,200
	Max. output kW (PS)/rpm		100 (136)/4,000	118 (160)/3,800	118 (160)/3,800	118 (160)/3,800
	Max. torque N·m/rpm		314 (32)/2,000	343 (35)/2,000	343 (35)/2,000	343 (35)/2,000



Items		KB4T	KB8T		
		GJNHZRU	GJNHZRU	GJNXZRU	GJRXZRU
Transmission	Model No.	V5MB1	V5MB1	V5MB1	V4A5A
	Type	5-speed manual	5-speed manual	5-speed manual	4-speed automatic
Fuel system	Fuel supply system	Electrical fuel injection (common rail engine control system)	Electrical fuel injection (common rail engine control system)	Electrical fuel injection (common rail engine control system)	Electrical fuel injection (common rail engine control system)
Max speed km/h		175	175	175	175
Turning radius m		5.9	5.9	5.9	5.9

## PRECAUTIONS BEFORE SERVICE

### SUPPLEMENTAL RESTRAINT SYSTEM (SRS) AND SEAT BELT WITH PRE-TENSIONER

M1001011600238

**⚠ CAUTION**

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.
  - SRS air bag control unit (SRS-ECU)
  - Front impact sensor
  - Clock spring
  - Driver's and front passenger's air bag modules
  - Seat belt with 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. Do not place anything on top of it.

6. Never attempt to disassemble or repair the SRS components (SRS-ECU, air bag module and clock spring).
7. Whenever you finish servicing the SRS, check the SRS warning lamp 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 –Air Bag Module Disposal Procedures).

Observe the following when carrying out operations on places where SRS components are installed, including operations not directly related to the SRS air bag.

1. When removing or installing parts, do not allow any impact or shock to the SRS components.
2. If heat damage may occur during paint work, remove the SRS-ECU, the air bag module, clock spring, the front impact sensor, and the seat belt pre-tensioner.
  - SRS-ECU, air bag module, clock spring, front impact sensor: 93 °C or more
  - Seat belt pre-tensioner: 90 °C or more

**WHAT THE COMMON RAIL ENGINE LEARNS**

M1001012500018

After fuel-related parts are replaced, the common rail engine must register their identification codes with the engine-ECU and execute learning.

The table below shows what should be registered and learned after each type of operation.

*NOTE: When the engine-ECU is replaced, collect in advance the injector identification code from the current engine-ECU. Doing it makes registration easy.*

**Correspondence table**

Registration and learning item	Operation type		
	Injector replacement	Supply pump replacement	Engine-ECU replacement
Injector identification code registration	applicable	–	applicable
Small injection quantity learning	applicable	–	applicable
Supply pump correction learning	–	applicable	–

**REGISTRATION AND LEARNING PROCEDURE****Injector identification code registration**

Refer to P.00-24, INJECTOR IDENTIFICATION CODE REGISTRATION PROCEDURE.

**Small injection quantity learning**

Refer to P.00-25, SMALL INJECTION QUANTITY LEARNING PROCEDURE.

**Supply pump correction learning**

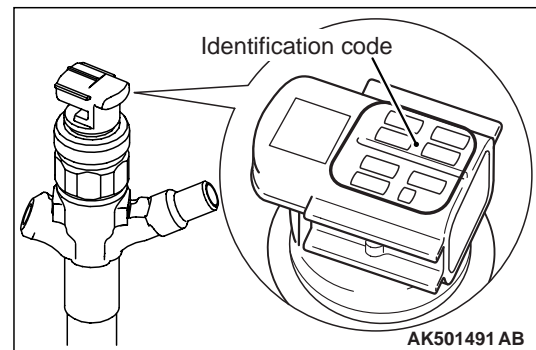
Refer to P.00-26, SUPPLY PUMP CORRECTION LEARNING PROCEDURE.

**INJECTOR IDENTIFICATION CODE REGISTRATION PROCEDURE**

M1001012600015

**CAUTION**

1. If the injector identification code is not registered, the engine warning lamp goes on and diagnosis code No. P1626 is logged.
2. Failure to register the injector identification code correctly will cause rough idling, abnormal noise, and emission deterioration.

**PURPOSE**

Because individual injectors have different injection characteristics, the engine-ECU corrects injection time for each cylinder to improve injection accuracy. For this reason, when the injector or engine-ECU is replaced, injector correction data must be registered afterwards in the engine-ECU using the Multi Use Tester III (M.U.T.-III).

Correction data is converted into an identification code consisting of 30 alphanumeric characters and printed on the injector connector.

## REGISTRATION PROCEDURE

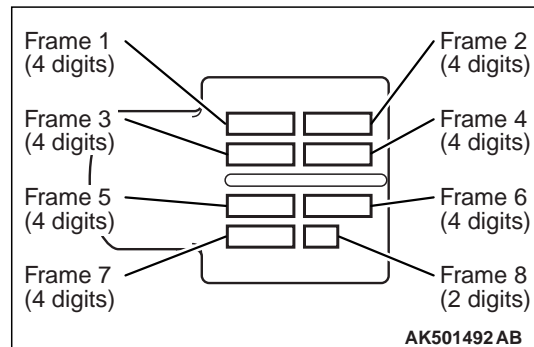
1. When replacing the engine-ECU, connect the current engine-ECU to the body harness.

*NOTE: This operation is purposed to read the injector identification code stored in the engine-ECU.*

*Reading the identification code in this way before replacement can eliminate manual input of the identification code after replacement.*

2. After the ignition switch is in "LOCK" (OFF) position, connect the M.U.T.-III to the diagnosis connector.
3. Turn the ignition switch to "ON" position.
4. Select SPECIAL FUNCTION from the function menu.
5. When the current engine-ECU is still mounted, read and register the injector identification code as follows:
  - (1) Select Read Injector ID Code (for engine-ECU replacement) from the SPECIAL FUNCTION menu.
  - (2) Select Write and Save Injector ID Code from the menu to read data from the current engine-ECU and save the data if it could be read normally.
  - (3) Mount the new engine-ECU on the vehicle.
  - (4) Select SPECIAL FUNCTION from the function menu.
  - (5) Select Write Injector ID Code (for engine-ECU replacement) from the SPECIAL FUNCTION menu.
  - (6) Select SAVED INJECTOR ID WRITING from the Write Injector ID Code menu to write the data, which was saved previously, to the engine-ECU.
6. If the injector has been replaced or data has not been read from the current engine-ECU, register the injector identification code as follows:

- (1) Select Write Injector ID Code from the SPECIAL FUNCTION menu.
- (2) If the injector was replaced, specify whether to write to every cylinder or a specific cylinder.



- (3) Select the write mode from the menu, enter the identification code printed on the injector, and execute writing.

### ⚠ CAUTION

**Even if the number of the cylinder to be registered does not match the actual injector mounting location, registration ends normally. Specify the cylinder number correctly.**

*NOTE: The identification code is displayed in order of the frame numbers when it is read.*

7. Make sure that the engine warning lamp that is on changes to blinking, indicating the registration is complete.

*NOTE: When the injector is replaced, executing the write operation also clears the values of small injection quantity learning.*

8. Execute small injection quantity learning.  
Refer to [P.00-25](#), the SMALL INJECTION QUANTITY LEARNING PROCEDURE for the learning procedure.
9. Confirm that the engine warning lamp is off.  
Confirm also that the diagnosis code is not stored.

## SMALL INJECTION QUANTITY LEARNING PROCEDURE

M1001014300010

### ⚠ CAUTION

1. **If small injection quantity learning has not been executed, the engine warning lamp blinks.**
2. **When the requirements for learning are satisfied by operation after replacement of the engine-ECU, learning is automatically executed even if no instruction is given from the M.U.T.-III. Accordingly, the malfunction indicator lamp goes off. However, the learning thus executed is tentative and limited. Be sure to complete learning using the M.U.T.-III.**

### PURPOSE

To keep emission and noise level at adequate levels, the engine-ECU must learn injector fuel injection in idle mode.

During learning, the engine-ECU calculates actual injection from each cylinder based on changes in engine speeds and corrects pilot injection control. It then keeps records of this amount of correction as a learned value.

For this reason, after the engine-ECU or injector is replaced, learning must be executed using the M.U.T.-III.

*NOTE: Engine friction changes or injector deterioration over time may cause fluctuation in pilot injection. After use over time, it may prevent injection of an accurate amount of fuel according to the indication by the engine-ECU. This is why learning must be executed again periodically.*

*For this reason, the engine-ECU periodically leans injection according to the cumulative mileage. Note that making the M.U.T.-III learn again resets the cumulative mileage.*

*NOTE: The engine sound may change or idling engine speeds may increase during injection learning. These are not abnormalities.*

## LEARNING PROCEDURE

1. After the ignition switch is in "LOCK" (OFF) position, connect the M.U.T.-III to the diagnosis connector.
2. Put the vehicle in the following idling stable conditions:
  - Engine coolant temperature: 80 –90° C

## SUPPLY PUMP CORRECTION LEARNING PROCEDURE

### PURPOSE

The engine-ECU learns the relation between the suction control valve (linear solenoid valve) of the supply pump drive current and the fuel injection volume.

- Automatic transmission fluid temperature: 60° C or higher
  - Lamps, A/C condenser fan and all accessories: OFF
  - Transmission: Neutral <M/T>, "P" range <A/T>
  - Power steering: Static state
3. Select SPECIAL FUNCTION from the function menu.
  4. Select SMALL INJECTION QUANTITY LEARNING from the SPECIAL FUNCTION menu to execute learning.

### CAUTION

**If the vehicle conditions go out of the learning conditions during idling, learning is interrupted.**

**To reexecute learning, the ignition switch must once be turned off.**

5. Continue idling for about 3 minutes before learning is completed.
6. Confirm that the engine warning lamp is off. If it still blinks, reexecute learning.

M1001014400017

The learning value is calculated from the suction control valve drive current and the rail pressure sensor output voltage.

When the supply pump is replaced, therefore, this learning must be executed.

Re-learning is executed when the engine is idling after the learning value in the engine-ECU has been reset by the M.U.T.-III.