MITSUBISHI MOTORS

SERVICE BULLETIN

PUBLICATION GROUP, AFTER SALES SERVICE DEP.
MITSUBISHI MOTOR SALES EUROPE BV

SERVICE BULLETIN	No.: ESB-98E13-001	
	Date: 1998-05-31	<Model> (EC,EXP) CARISMA / <M/Y> 98-10
Subject: CORRECTION OF '98 CARISMA GDI WORKSHOP MANUAL GROUP 13J		
Group: FUEL		
INFORMATION	O. Kai - E.V.P. & G.M. After Sales Service Dept.	

1. Description:

In the Group 13J of the '98 CARISMA GDI Workshop Manual, additions have been made to the GDI - Troubleshooting and to the GDI - Fuel Pump (Hight Pressure) Removal/Installation procedures.

2. Applicable Manuals:

Manual	Pub. No.	Language	Page(s)
'98 CARISMA GDI Workshop Manual	PWDE9502-C	(English)	13J-11, 25, 99, 102
	PWDS9503-C	(Spanish)	
	PWDF9504-C	(French)	
	PWDG9505-C	(German)	
	PWDD9506-C	(Dutch)	
	PWDW9507-C	(Swedish)	
	PWDI9508-C	(Italian)	

3. Details:

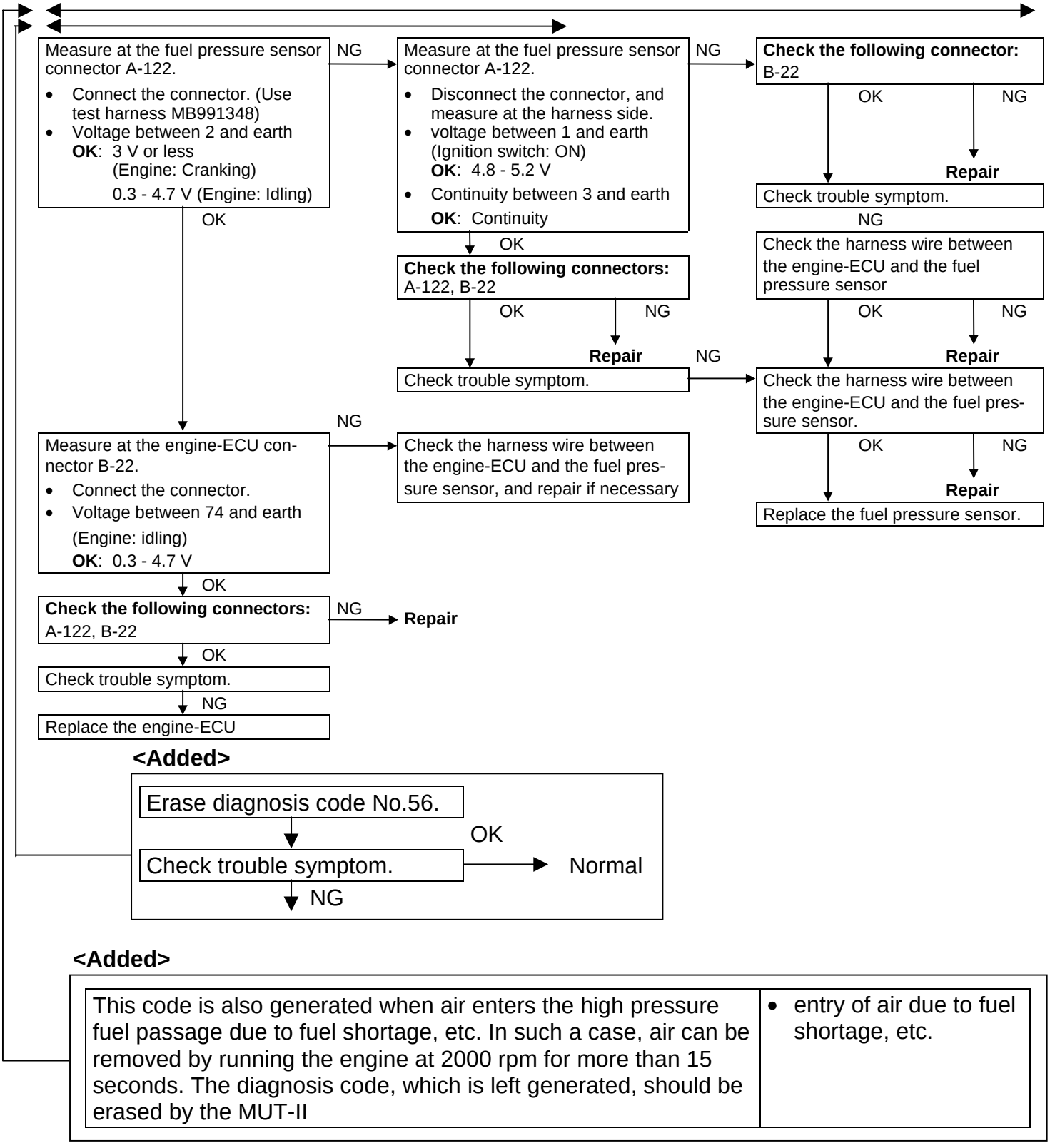
INSPECTION CHART FOR DIAGNOSIS CODES

Code No.	Diagnosis item	Reference page
11	Oxygen sensor system	13J-12
12	Air flow sensor system	13J-13
13	Intake air temperature sensor system	13J-14
14	Throttle position sensor system	13J-15
21	Engine coolant temperature sensor system	13J-16
22	Crank angle sensor system	13J-17
23	Camshaft position sensor system	13J-18
24	Vehicle speed sensor system	13J-19
25	Barometric pressure sensor system	13J-20
31	Detonation sensor system	13J-21
41	Injector system	13J-22
44	Abnormal combustion	13J-23
54	Immobilizer system	13J-24
56	Fuel pressure sensor system	13J-25
58	Excessive intake air amount	13J-26
61	Communication wire with A/T-ECU system	13J-26
64	alternator FR terminal system	13J-27
66	Brake vacuum sensor system	13J-28

NOTE
Code No.56 may be output when air enters the high pressure fuel passage due to fuel shortage, etc.

<Added>

Code No. 56 Fuel pressure sensor system	Probable cause
Range of check • Ignition switch: ON Set conditions • Sensor output voltage is 4.7 V or more or • Sensor output voltage is 0.3 V or less	• Malfunction of the fuel pressure sensor • Open circuit or short-circuited harness wire of the fuel pressure sensor • Malfunction of the enginge-ECU



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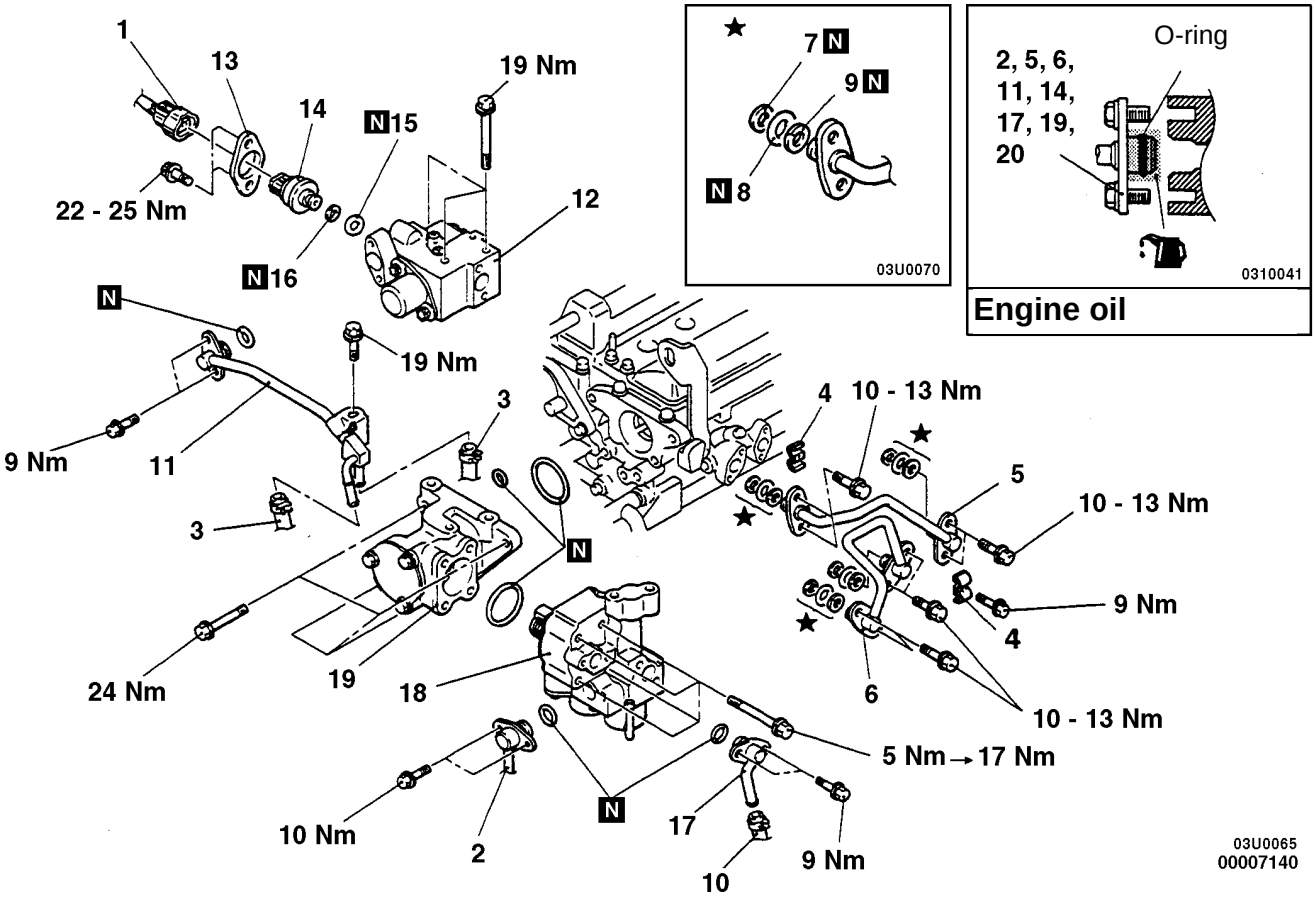
This code is also generated when air enters the high pressure fuel passage due to fuel shortage, etc. In such a case, air can be removed by running the engine at 2000 rpm for more than 15 seconds. The diagnosis code, which is left generated, should be erased by the MUT-II	• entry of air due to fuel shortage, etc.

FUEL PUMP (HIGH PRESSURE)

REMOVAL AND INSTALLATION

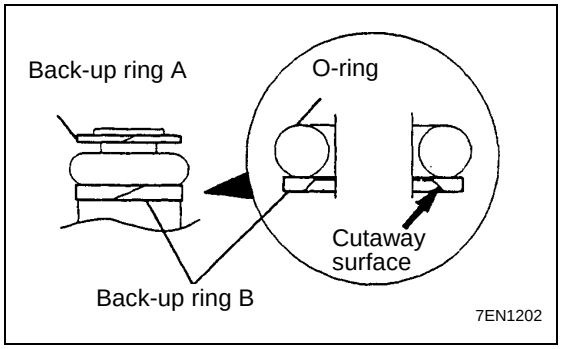
Pre-removal and Post-Installation Operation
- Engine Coolant Draining an Supplying
- Prevention of fuel discharge <before removal only>
- Air Intake Hose Assembly Removal and Installation
- Engine Cover Removal and Installation
- Ignition Coil Removal and Installation
- Throttle Body Removal and Installation (Refer to 13J-105.)
- Accelerator Cable Adjustment <after installation only>
- Fuel Leak Check <after installation only>



▶J◀ • Air bleeding of high pressure fuel pump

Removal steps

1. Fuel pressure sensor connector
▶I◀ 2. High-pressure fuel hose connection
3. Fuel return hose connection
4. Clamp
▶H◀ 5. Fuel return pipe assembly
▶H◀ 6. Fuel feed pipe assembly
▶G◀ 7. Back-up ring A
▶G◀ 8. O-ring
▶G◀ 9. Back-up ring B
10. Fuel hose connection
▶F◀ 11. Fuel return lower pipe assembly
12. Fuel pressure regulator (high pressure) assembly
◀A▶ ▶E◀ 13. Flange
▶E◀ 14. Fuel pressure sensor
▶D◀ 15. O-ring
▶D◀ 16. Back-up ring
▶C◀ 17. Fuel nipple assembly
▶B◀ 18. Fuel pump (high pressure)
▶A◀ 19. Pump camshaft case assembly



▶J◀ BACK-UP RING B/O-RING/BACK-UP RING A INSTALLATION

Install the back-up rings and the O-ring as shown in the illustration.

Caution

1. **Install the back-up ring B facing its cutaway surface toward the opposite side of the O-ring as shown in the illustration.**
2. **Confirm the outer diameter of the back-up ring A. Take care not to install the back-up ring for the fuel pressure sensor by mistake. (Outer diameter of the back-up ring A: 14.8 mm)**

▶H◀ FUEL FEED PIPE ASSEMBLY/FUEL RETURN PIPE ASSEMBLY INSTALLATION

Apply a small amount of fresh engine oil to the O-ring.

Caution

Take care not to let any of the engine oil get inside the fuel pump (high pressure) or the delivery pipe assembly.

▶I◀ HIGH-PRESSURE FUEL HOSE INSTALLATION

1. Apply a small amount of fresh engine oil to the O-ring.

Caution

Take care not to let any of the engine oil get inside the fuel pump (high pressure).

2. While being careful not to damage the O-ring, turn the high-pressure fuel hose tot he left and right and connect in to the fuel pump (high pressure). After connecting, check that the hose turns smoothly.
3. If the hose does not turn smoothly, the cause may be that the O-ring is getting caught. Disconnect the hose, check the O-ring for damage and re-connect the hose to the fuel pump (high pressure) and then re-check.

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▶J◀ HIGH PRESSURE FUEL PUMP AIR BLEEDING

1. Run the engine at 2000 rpm for more than 15 seconds to remove air from inside the pump.
2. NOTE
3. When the high pressure fuel pump is removed, air may enter the pump. At this time, abnormal fuel pressure causes the diagnosis code No.56 to be output.
4. After that, check the diagnosis code using MUT-II. If the code No.56 is output for the fuel pressure sensor system, erase it.