

# EMISSION CONTROL

## CONTENTS

E17AA--

<b>EMISSION CONTROL &lt;MPI&gt;</b> .....	<b>2</b>	<b>EMISSION CONTROL &lt;DIESEL&gt;</b> .....	<b>18</b>
<b>SPECIFICATIONS</b> .....	<b>2</b>	<b>SPECIFICATIONS</b> .....	<b>18</b>
General Specifications .....	2	General Specifications .....	18
Service Specifications .....	2	Service Specifications .....	18
<b>SERVICE ADJUSTMENT PROCEDURES</b> ....	<b>3</b>	<b>SPECIAL TOOLS</b> .....	<b>18</b>
Emission Control Device Reference Table ..	3	<b>SERVICE ADJUSTMENT PROCEDURES</b> ....	<b>19</b>
Component Layout .....	4	Component Layout .....	19
Vacuum Hose Piping Diagram .....	6	Exhaust Gas Recirculation (EGR) System	
Crankcase Emission Control System .....	8	<Vehicles with EGR> .....	20
Evaporative Emission Control System .....	10	Glow & EGR Control Unit	
Exhaust Gas Recirculation (EGR) System		<Super quick glow system> .....	23
<4G92 (Except MVV), 4G93> .....	13	Glow & EGR Control Unit	
Exhaust Gas Recirculation (EGR) System		<Self-regulating glow system> .....	24-1
<4G92-MVV> .....	15-1	<b>TWO-WAY VALVE</b> .....	<b>25</b>
<b>CATALYTIC CONVERTER</b> .....	<b>16</b>		
<b>CANISTER</b> .....	<b>17</b>		

**EMISSION CONTROL <MPI>****SPECIFICATIONS****GENERAL SPECIFICATIONS**

E17CA--

**<4G13>**

Items	Name	Specification
Crankcase emission control system	Positive crankcase ventilation (PCV) valve	Variable flow type (Purpose: HC reduction)
Evaporative emission control system	Canister Purge control solenoid valve	Equipped ON/OFF type solenoid valve (Purpose: HC reduction)
Exhaust emission control system	Air-fuel ratio control device – MPI system	Oxygen sensor feedback type (Purpose: CO, HC, NOx reduction)
	Catalytic converter	Monolith type (Purpose: CO, HC, NOx reduction)

**<4G92, 4G93>**

Items	Name	Specification
Crankcase emission control system	Positive crankcase ventilation (PCV) valve	Variable flow type (Purpose: HC reduction)
Evaporative emission control system	Canister Purge control solenoid valve	Equipped ON/OFF type solenoid valve (Purpose: HC reduction)
Exhaust emission control system	Air-fuel ratio control device – MPI system	Oxygen sensor feedback type (Purpose: CO, HC, NOx reduction)
	Exhaust gas recirculation system EGR valve EGR control solenoid valve	Single type ON/OFF type solenoid valve <Except MVV> Duty cycle type solenoid valve <MVV> (Purpose: NOx reduction)
	Catalytic converter	Monolith type (Purpose: CO, HC, NOx reduction)

**SERVICE SPECIFICATIONS**

E17CB--

Items	Specification
Purge control solenoid valve coil resistance [at 20°C (68°F)]	Ω 36–44
EGR control solenoid valve coil resistance [at 20°C (68°F)]	Ω 36–44

**SERVICE ADJUSTMENT PROCEDURES**

**EMISSION CONTROL DEVICE REFERENCE TABLE**

E17FE--

Emission control system Related parts	Crankcase emission control system	Evapora- tive emis- sion con- trol sys- tem	Air fuel ra- tio control system	Catalytic converter	Exhaust emission control system	Reference page for each part inspection
PCV valve	X					17-9
Purge control solenoid valve		X				17-12
MPI system component		X	X			Fuel (Group 13)
Catalytic converter				X		17-16
EGR valve*					X	17-14
EGR control solenoid valve*					X	17-15

NOTE

\*: <4G92, 4G93>

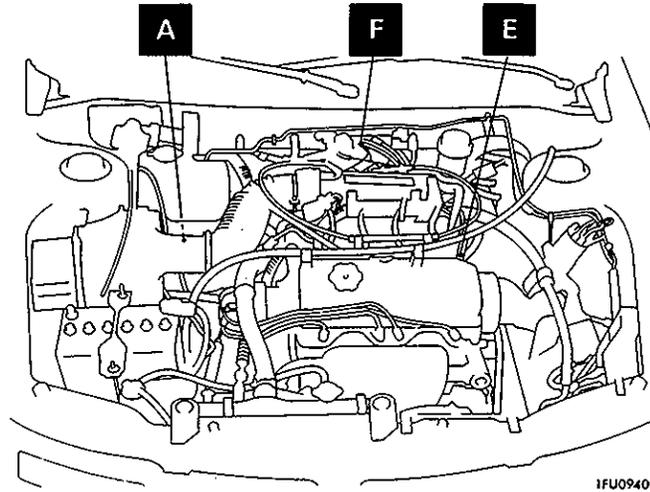
COMPONENT LAYOUT

Name	Symbol	Name	Symbol
Canister	A	EGR valve*	D
Catalytic converter	B	PCV valve	E
EGR control solenoid valve*	C	Purge control solenoid valve	F

NOTE

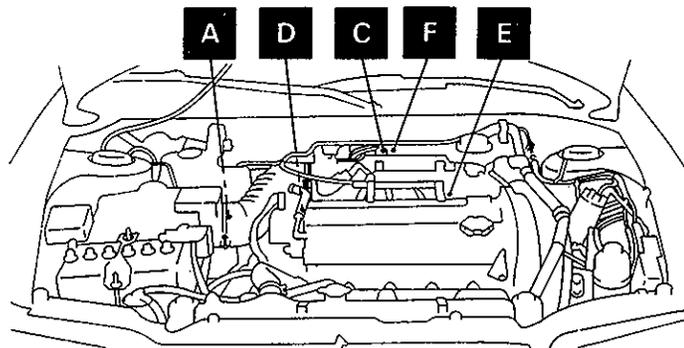
\*: <4G92, 4G93>

<4G13>



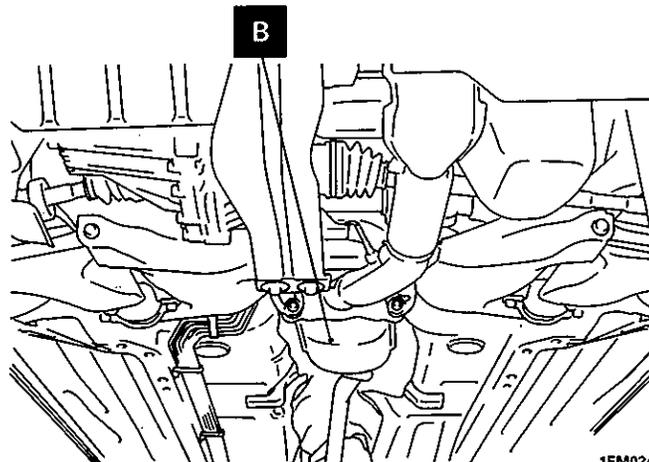
1FU0940

<4G92, 4G93>

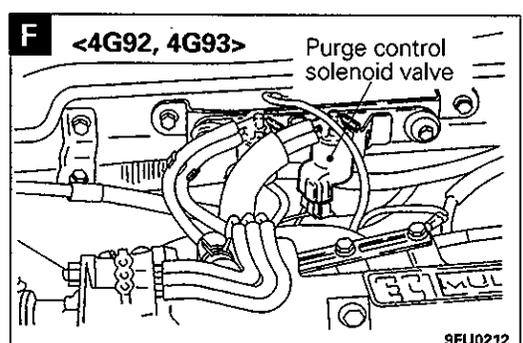
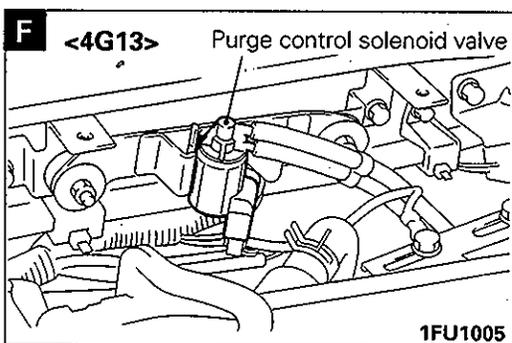
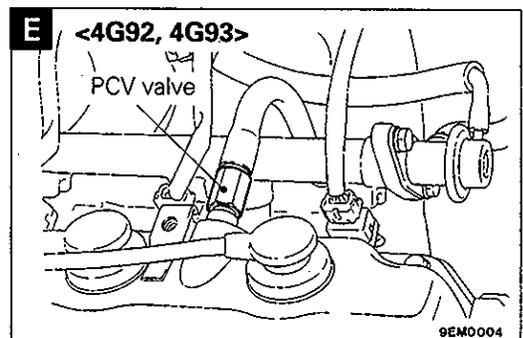
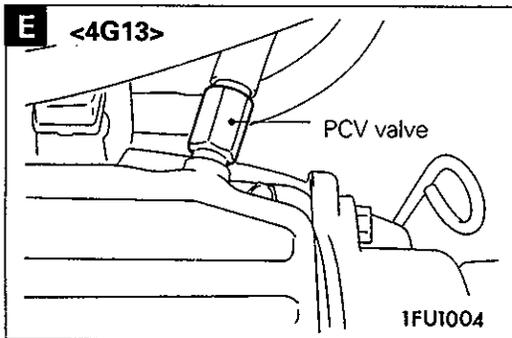
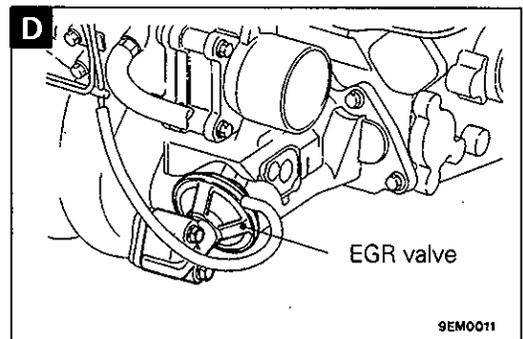
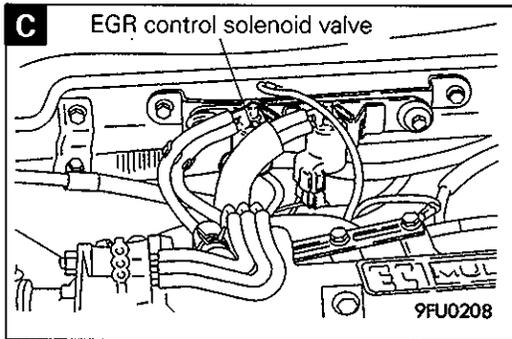
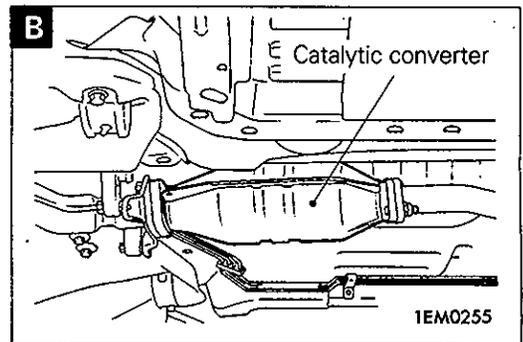
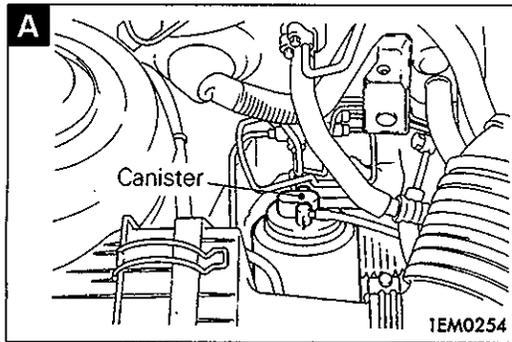


9FU0210

<4G13, 4G92, 4G93>

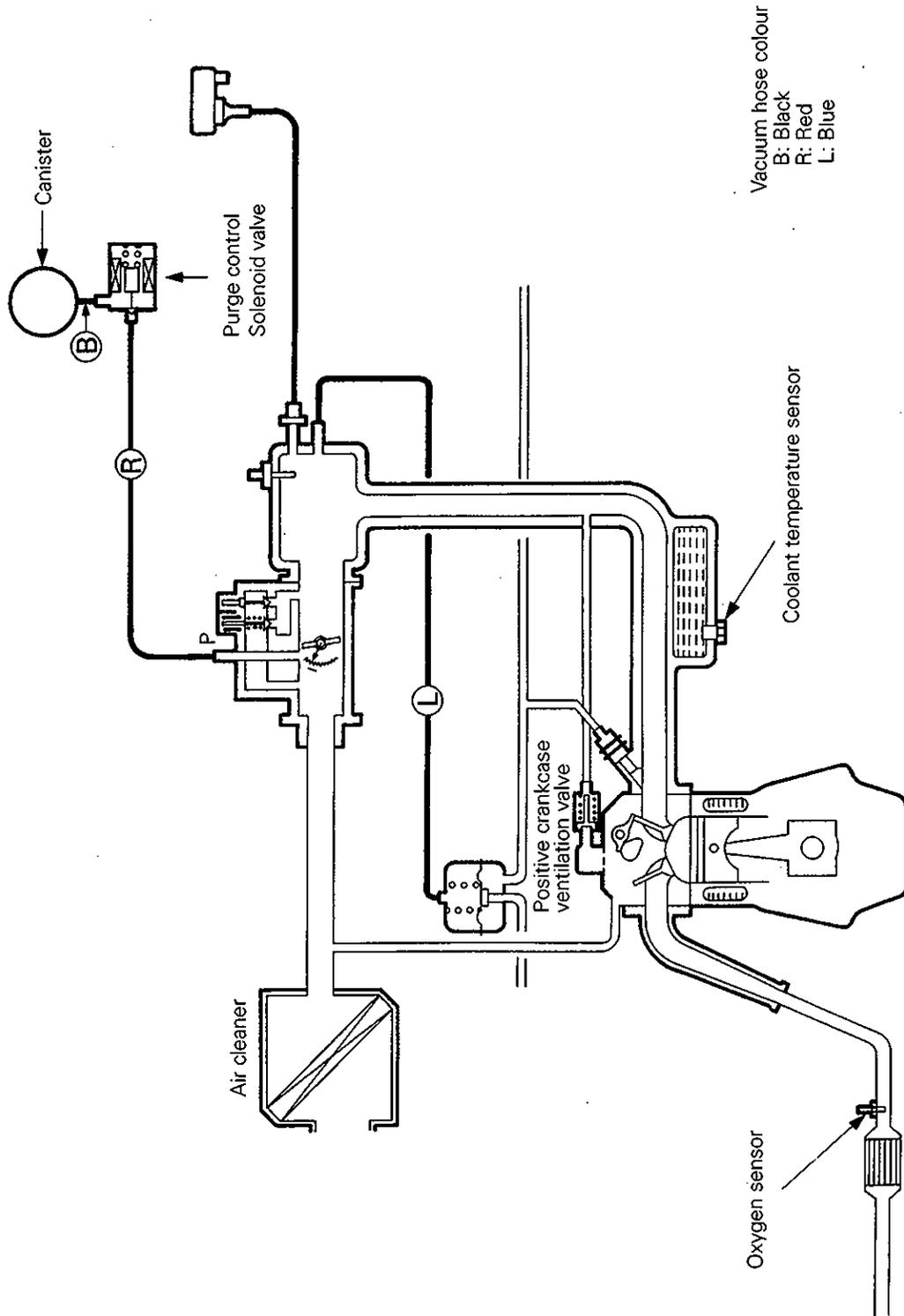


1EM0241



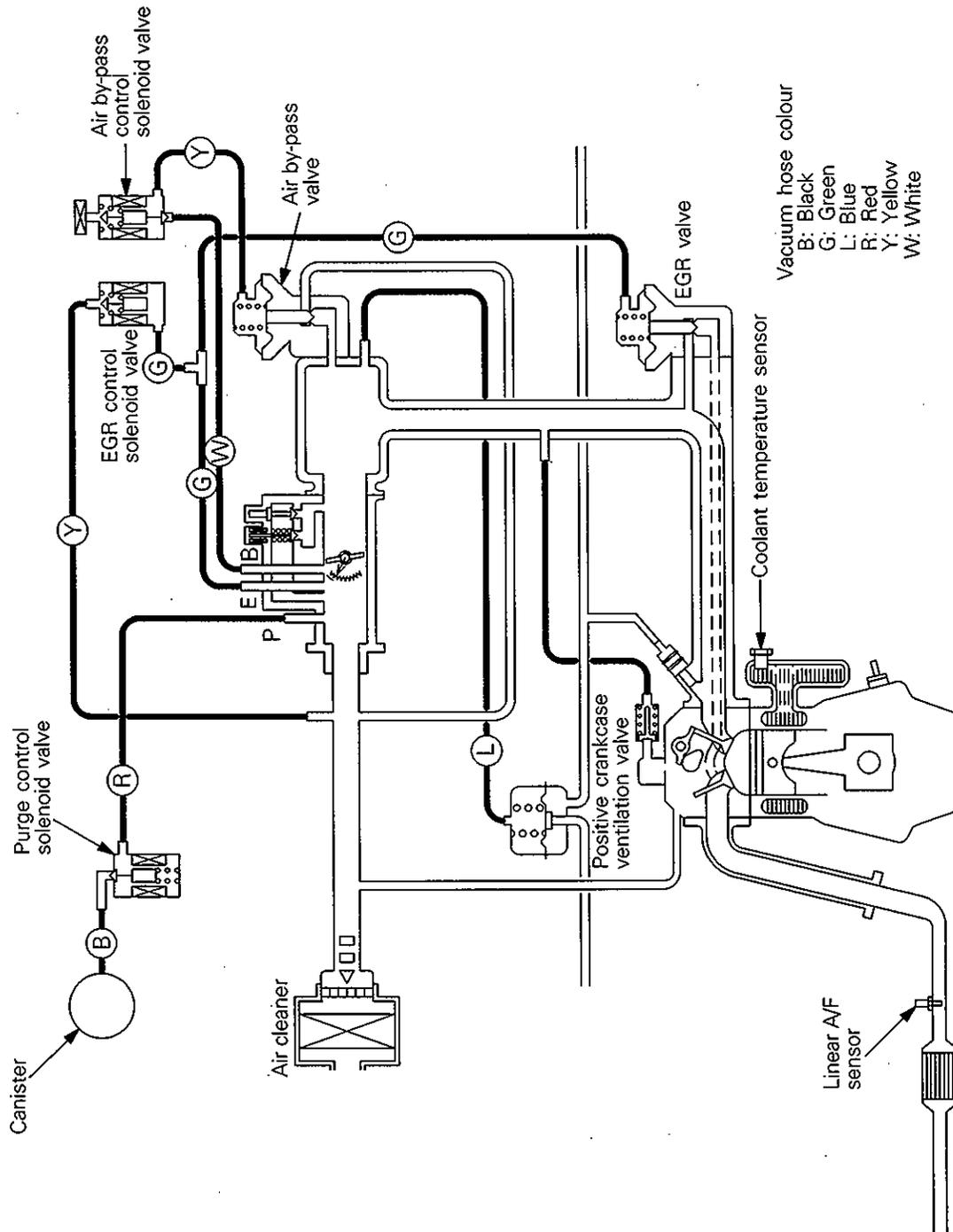
VACUUM HOSE PIPING DIAGRAM

<4G13>



1EM0256

<4G92-MVV>



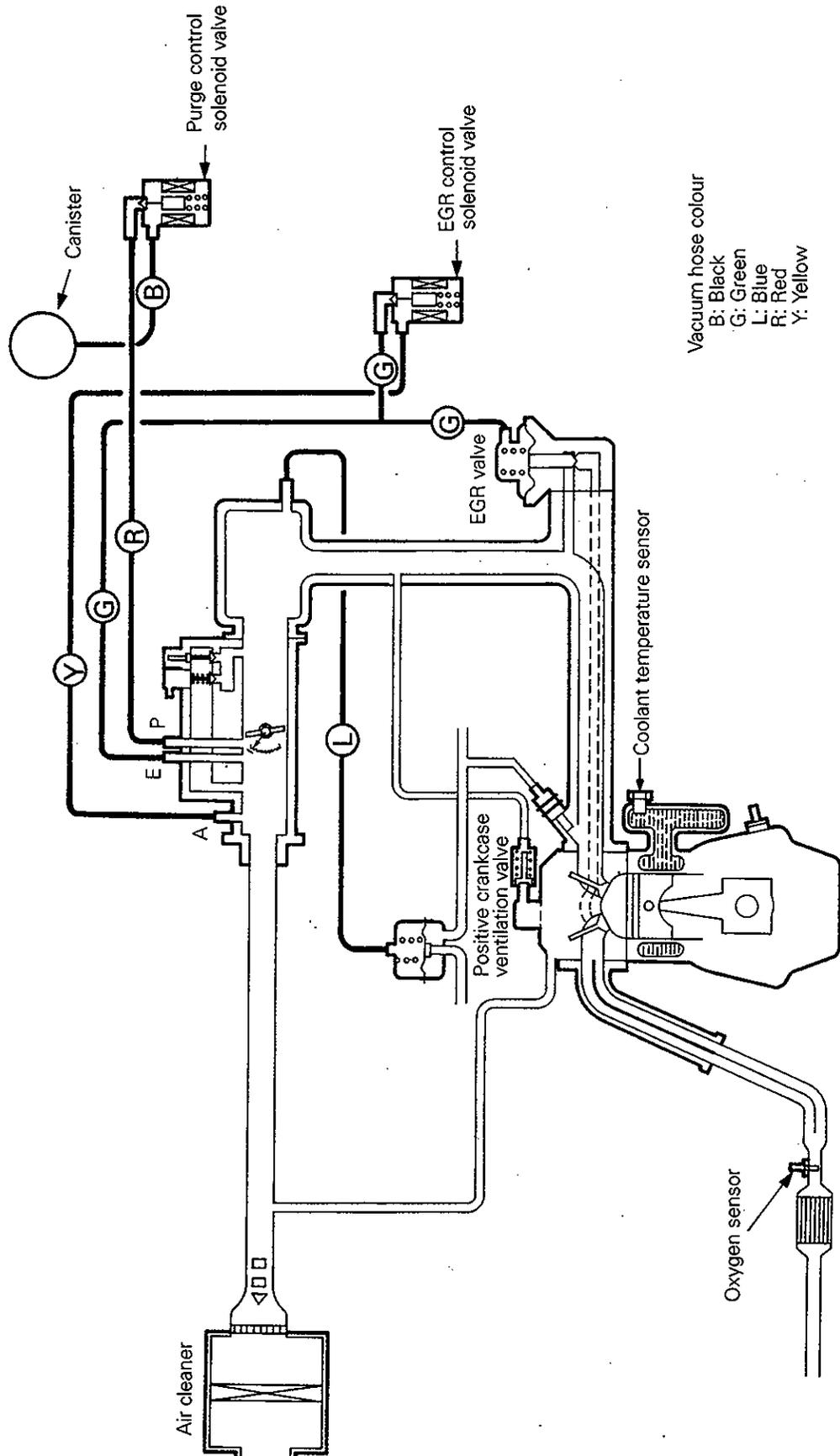
9EM0121

**17-6-2**

**NOTE**

---

<4G92 (Except MVV), 4G93>



Vacuum hose colour  
 B: Black  
 G: Green  
 L: Blue  
 R: Red  
 Y: Yellow

9EM0057

**INSPECTION**

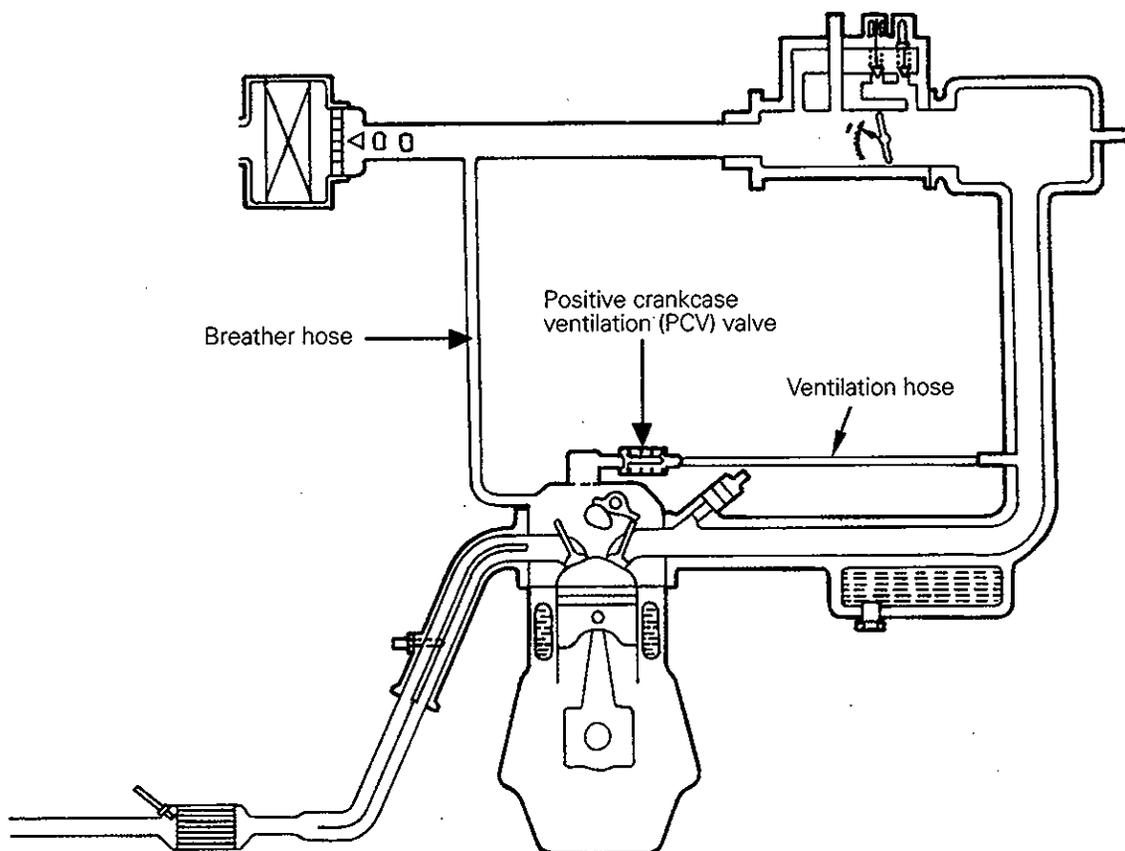
- (1) Using the piping diagram as a guide, check to be sure that the vacuum hoses are correctly connected.
- (2) Check the connection condition of the vacuum hoses, (removed, loose, etc.) and check to be sure that there are no bends or damage.

**INSTALLATION**

- (1) When connecting the vacuum hoses, they should be securely inserted onto the nipples.
- (2) Connect the hoses correctly, using the vacuum hose piping diagram as a guide.

**CRANKCASE EMISSION CONTROL SYSTEM**

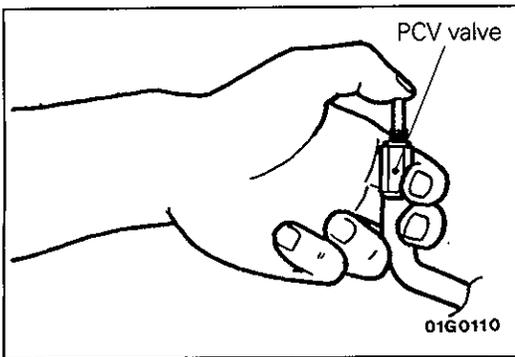
E17FCBM



6EM0347

**POSITIVE CRANKCASE VENTILATION SYSTEM****System Inspection**

- (1) Remove the ventilation hose from the positive crankcase ventilation (PCV) valve.
- (2) Remove the PCV valve from the rocker cover.
- (3) Reinstall the PCV valve at the ventilation hose.
- (4) Start the engine and run at idle.

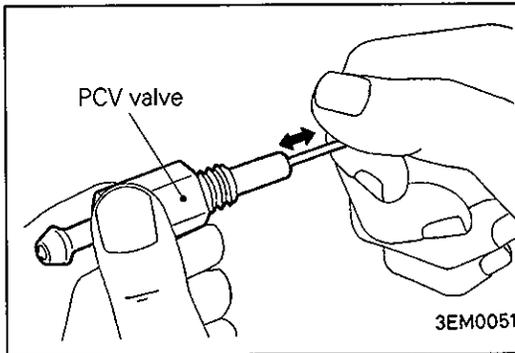


- (5) Place a finger at the opening of the PCV valve and confirm that vacuum of the intake manifold is felt.

**NOTE**

At this moment, the plunger in the PCV valve moves forward and backward.

- (6) If vacuum is not felt, clean the PCV valve or replace it.

**PCV Valve Inspection**

- (1) Slide in a narrow stick at the threaded side of the PCV valve and make sure that the plunger moves.
- (2) If the plunger does not move, there is a clogging in the PCV valve. In this case, clean or replace the valve.

**Installation**

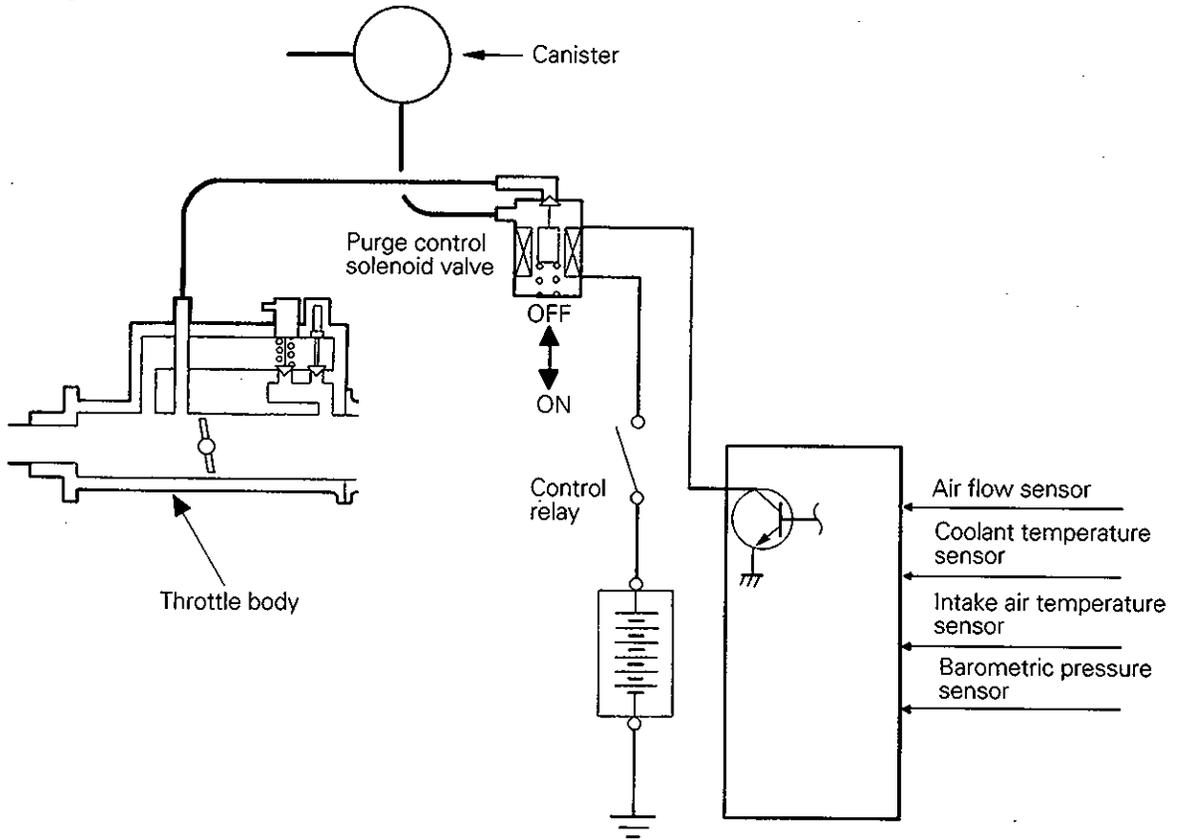
- (1) Install PCV valve and tighten to specified torque.

**Specified torque: 10 Nm (1.0 kgm, 7.2 ft.lbs.)**

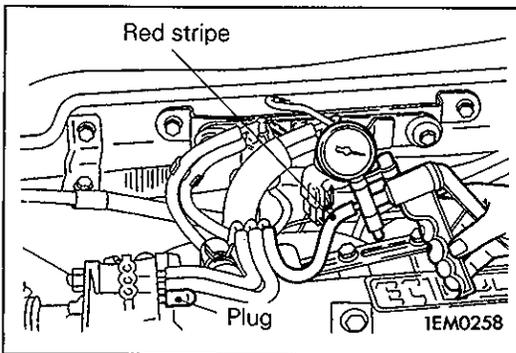
**EVAPORATIVE EMISSION CONTROL SYSTEM  
PURGE CONTROL SYSTEM**

E17FBBD

**System Inspection**



IEM0257



- (1) Disconnect the vacuum hose (red stripes) from the throttle body and connect it to a hand vacuum pump.
- (2) Plug the nipple from which the vacuum hose was removed.
- (3) When the engine is cold and hot, apply a vacuum while the engine is idling, and check the condition of the engine and the vacuum.

**When engine is cold**

**[Coolant temperature: 40°C (104°F) or less]**

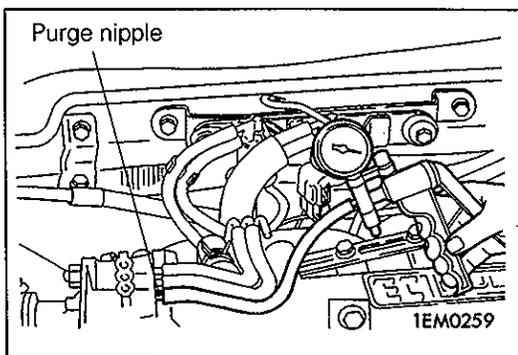
Vacuum	Engine status	Normal condition
53 kPa (400 mmHg, 15.7 in.Hg.)	3,000 r/min.	Vacuum is maintained

**When engine is hot**  
**[Coolant temperature: 80°C (176°F) or higher]**

Vacuum	Engine status	Normal condition
53 kPa (400 mmHg, 15.7 in.Hg)	Idling	Vacuum is maintained
	3,000 r/min.	Vacuum will leak for approximately 3 minutes after the engine is started. After 3 minutes have elapsed, the vacuum will be maintained momentarily, after which it will again leak.*

**NOTE**

\* The vacuum will leak continuously if the atmospheric pressure is approximately 77 kPa (580 mmHg, 22.8 in.Hg) or less, or the temperature of the intake air is approximately 50°C (122°F) or higher.



**Purge Port Vacuum Inspection**

**Check Condition**

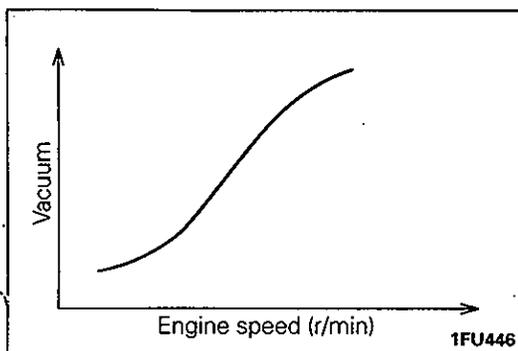
Coolant temperature: 80–95°C (176–203°F)

(1) Disconnect the vacuum hose (red stripe) from the throttle body purge vacuum nipple and connect a hand vacuum pump to the nipple.

(2) Start the engine and check to see that, after raising the engine speed by racing the engine, purge vacuum raises proportionately with the rise in engine speed.

**NOTE**

If there is a problem with the change in vacuum, it is possible that the throttle body purge port may be clogged and require cleaning.



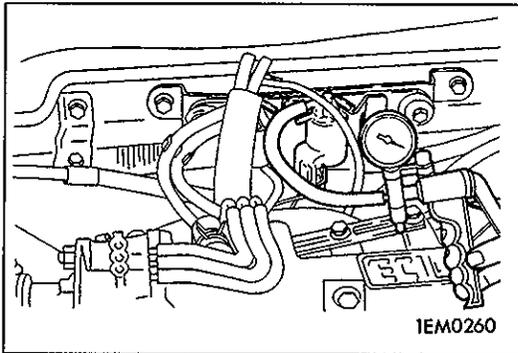
**Purge Control Solenoid Valve**

**Inspection**

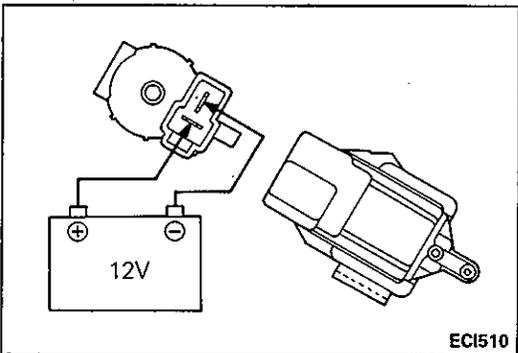
NOTE

When disconnecting the vacuum hose, always make a mark so that it can be reconnected at original position.

- (1) Disconnect the vacuum hose (black, red stripes) from the solenoid valve.
- (2) Disconnect the harness connector.

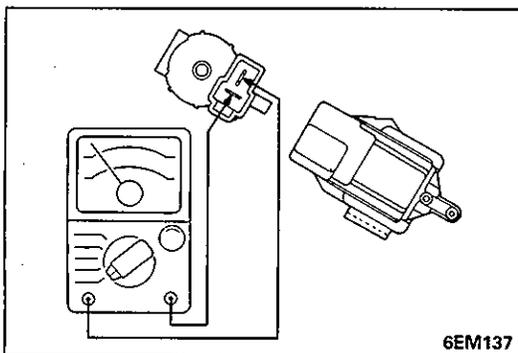


- (3) Connect a hand vacuum pump to the nipple to which the vacuum hose with red-stripes was connected.



- (4) Check airtightness by applying a vacuum with voltage applied directly from the battery to the purge control solenoid valve and without applying voltage.

Battery voltage	Normal condition
Applied	Vacuum leaks
Not applied	Vacuum maintained

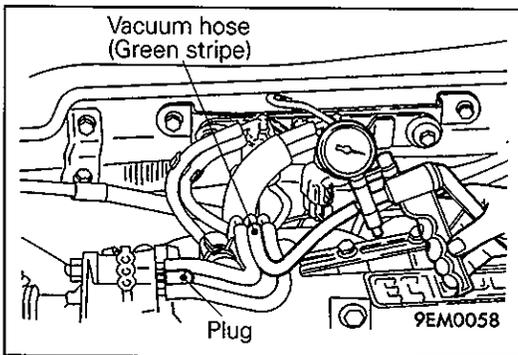
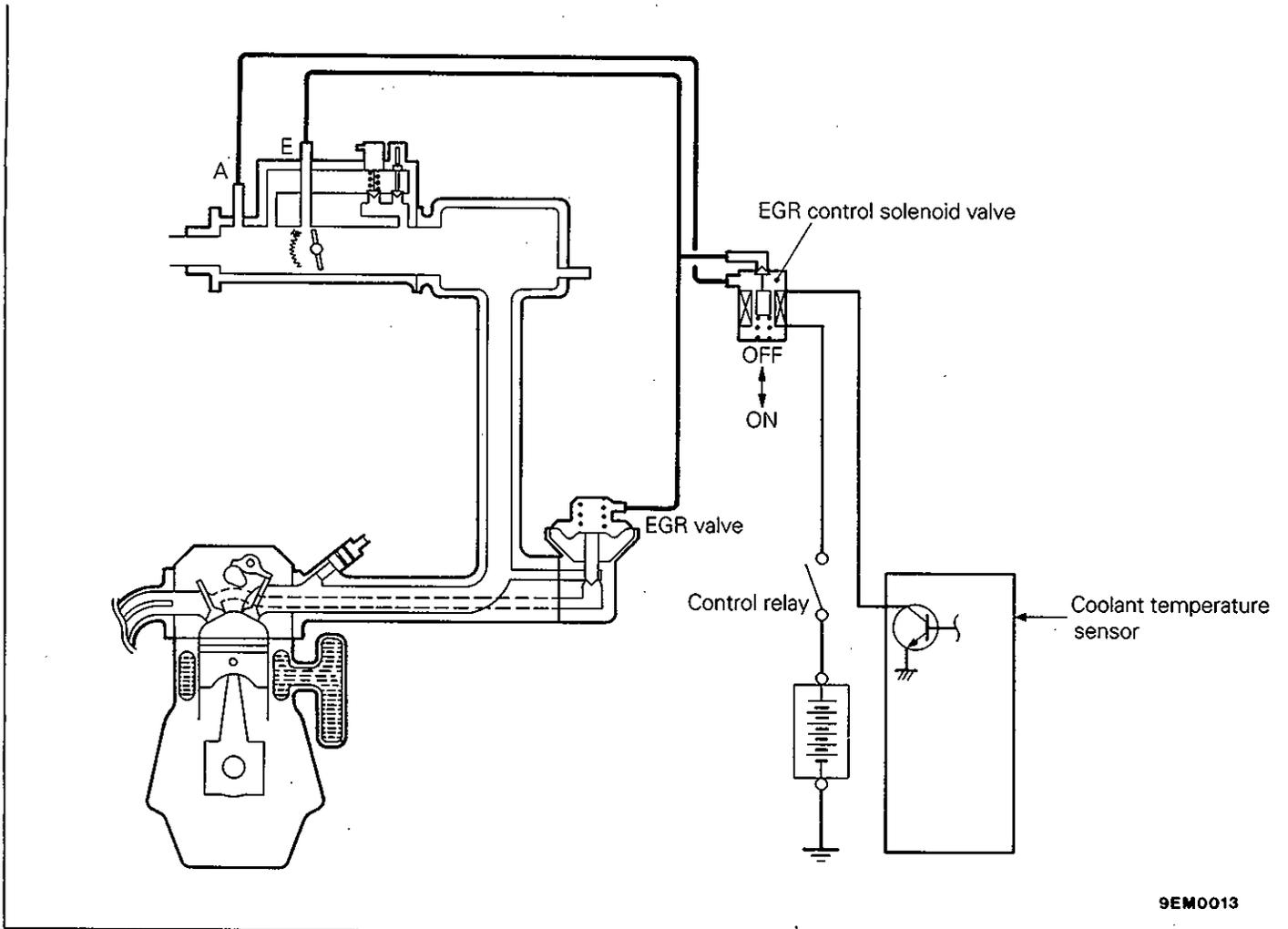


- (5) Measure the resistance between the terminals of the solenoid valve.

**Standard value: 36–44 Ω [at 20°C (68°F)]**

**EXHAUST GAS RECIRCULATION (EGR) SYSTEM <4G92 (Except MVV), 4G93>** E17FCBN

**System Inspection**



- (1) Remove the vacuum hose (green stripe) from the throttle body, and connect a hand vacuum pump to the vacuum hose.
- (2) Plug the nipple from which the vacuum hose was removed.
- (3) When the engine is cold and hot, apply a vacuum while the engine is idling, and check the condition of the engine and the vacuum.

**When engine is cold**  
**[Coolant temperature: 40°C (104°F) or less]**

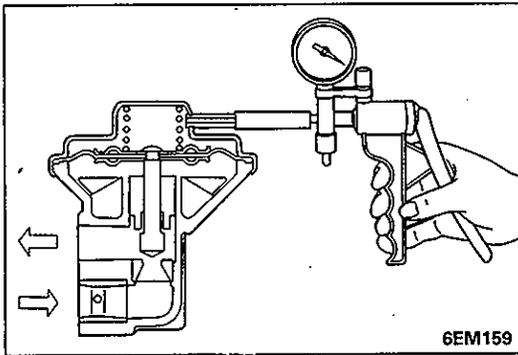
Hand vacuum pump	Normal condition	
	Engine	Vacuum
Vacuum is applied	No change	Vacuum leaks

**When engine is hot**  
**[Coolant temperature: 80°C (176°F) or higher]**

Hand vacuum pump	Normal condition	
	Engine	Vacuum
5.3 kPa (40 mmHg, 1.6 in.Hg) of vacuum is applied	No change	Vacuum is maintained
26 kPa (195 mmHg, 7.7 in.Hg) of vacuum is applied	Idling becomes slightly unstable	

**EGR Valve Inspection**

- (1) Remove the EGR valve and inspect for sticking, carbon deposits, etc. If found, clean with a suitable solvent so that the valve seats correctly.

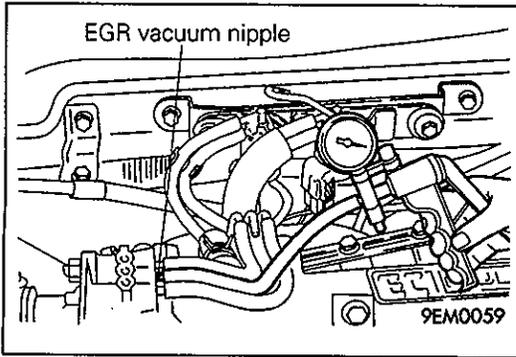


- (2) Connect a hand vacuum pump to the EGR valve.
- (3) Apply 67 kPa (500 mmHg, 20 in.Hg) of vacuum, and check to be sure that the vacuum is maintained.
- (4) Apply a vacuum and check the passage of air by blowing through one side of the EGR passage.

Vacuum	Passage of air
5.3 kPa (40 mmHg, 1.6 in.Hg) or less	Air is not blown out
26 kPa (195 mmHg, 7.7 in.Hg) or more	Air is blown out

**Installation**

- (1) Use a new gasket, and tighten to the specified torque.  
**Specified torque: 22 Nm (2.2 kgm, 16 ft.lbs.)**

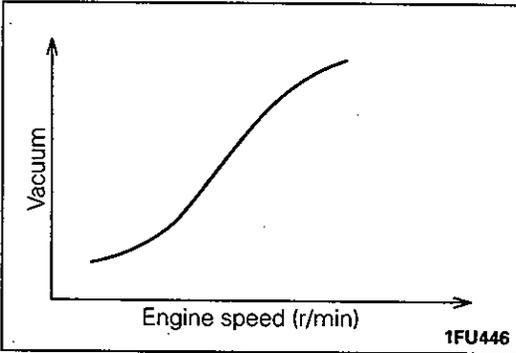


**EGR Valve Control Vacuum Inspection**

**Check Condition**

**Coolant temperature: 80–95°C (176–203°F)**

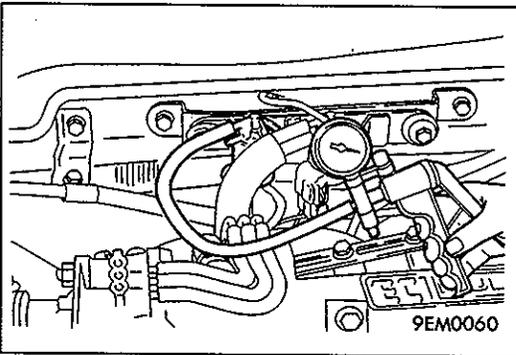
- (1) Disconnect the vacuum hose (green stripe) from the throttle body EGR vacuum nipple and connect a hand vacuum pump to the nipple.



- (2) Start the engine and check to see that, after raising the engine speed by racing the engine, EGR vacuum raises proportionately with the rise in engine speed.

**NOTE**

If there is a problem with the change in vacuum, it is possible that the throttle body EGR port may be clogged and require cleaning.



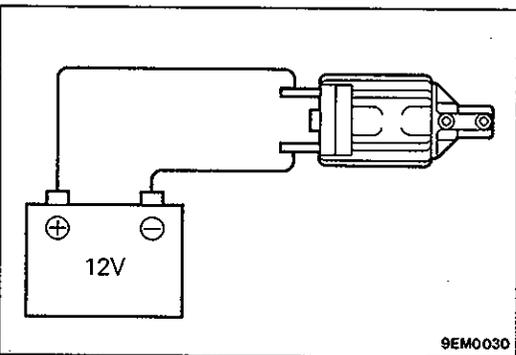
**EGR Control Solenoid Valve**

**Inspection**

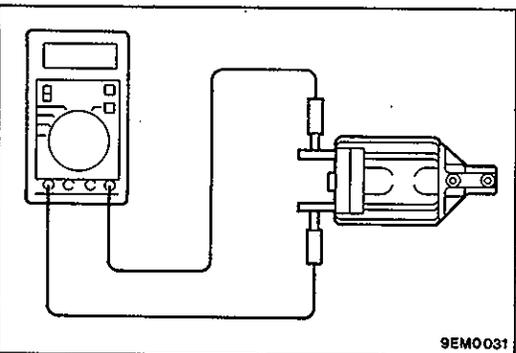
**NOTE**

When disconnecting the vacuum hose, always make a mark so that it can be reconnected at original position.

- (1) Disconnect the vacuum hose (yellow stripe, green stripe) from the solenoid valve.
- (2) Disconnect the harness connector.
- (3) Connect a hand vacuum pump to the nipple to which the green-striped vacuum hose was connected.
- (4) Check airtightness by applying a vacuum with voltage applied directly from the battery to the EGR control solenoid valve and without applying voltage.



Batter voltage	Normal condition
Applied	Vacuum leaks
Not applied	Vacuum maintained

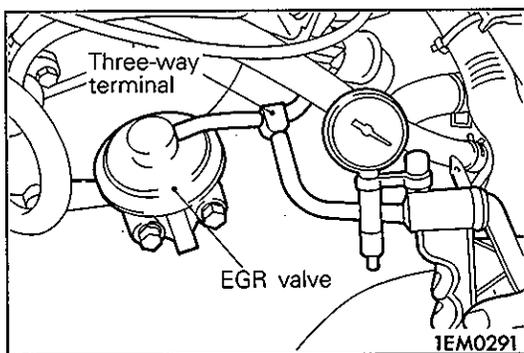
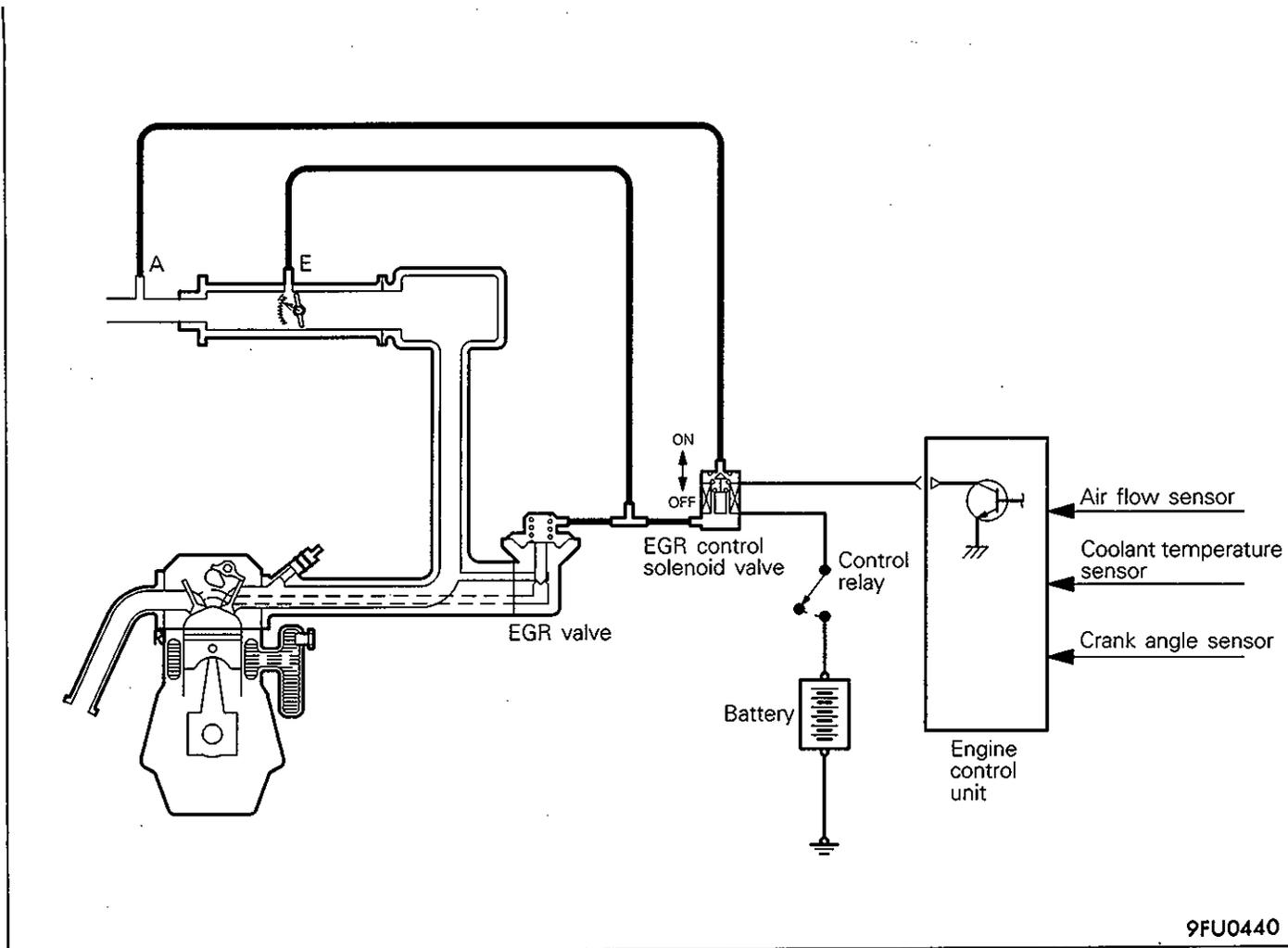


- (5) Measure the resistance between the terminals of the solenoid valve.

**Standard value: 36–44 Ω [at 20°C (68°F)]**

**EXHAUST GAS RECIRCULATION (EGR) SYSTEM <4G92-MVV>**

**System Inspection**



- (1) Disconnect the vacuum hose (green striped hose) from the EGR valve, and then connect a hand vacuum pump to the EGR valve and to the vacuum hose disconnected via the three-way terminal.
- (2) Regarding the engine in cold and hot conditions, check the condition of vacuum when a rapid racing has been performed by opening the throttle valve quickly.

**When engine is cold**

**[Engine coolant temperature: 20°C (68°F) or less]**

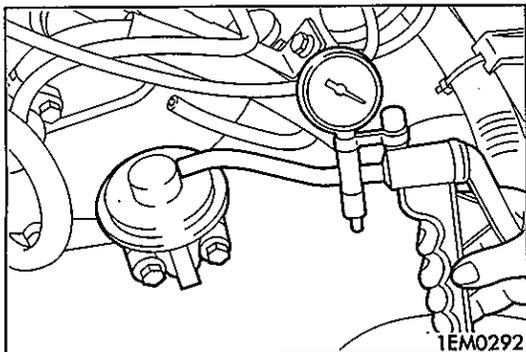
Throttle valve	Normal vacuum condition
Open quickly	No vacuum will generate (remained as barometric pressure [0 kPa (0 mmHg, 0 in.Hg)]).

**When engine is hot**

**[Engine coolant temperature: 70°C (158°F) or higher]**

Throttle valve	Normal vacuum condition
Open quickly	It will momentarily rise over 13 kPa (100 mmHg, 3.9 in.Hg).

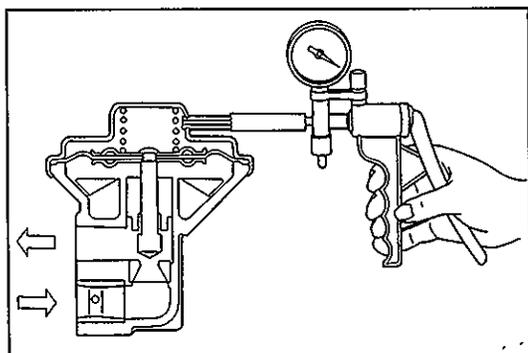
- (3) Disconnect the three-way terminal and the hand vacuum pump.



- (4) Connect the hand vacuum pump directly to the EGR valve.
- (5) Check whether the engine stalls or the idling is unstable when a vacuum of 27 kPa (200 mmHg, 7.9 in.Hg) or higher is applied during idling.

**EGR Valve Inspection**

- (1) Remove the EGR valve and inspect for sticking, carbon deposits, etc. If found, clean with a suitable solvent so that the valve seats correctly.



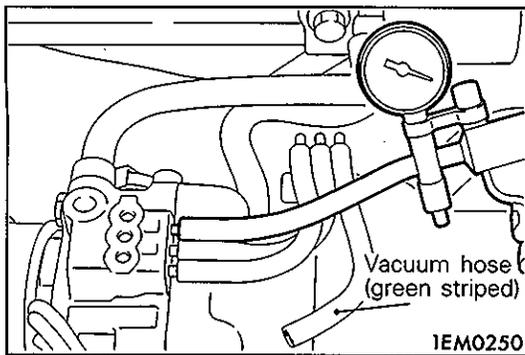
- (2) Connect a hand vacuum pump to the EGR valve.
- (3) Apply 67 kPa (500 mmHg, 20 in.Hg) of vacuum, and check to be sure that the vacuum is maintained.
- (4) Apply a vacuum and check the passage of air by blowing through one side of the EGR passage.

Vacuum	Passage of air
4.0 kPa (30 mmHg, 1.2 in.Hg) or less	Air is not blown out
16 kPa (120 mmHg, 4.7 in.Hg) or more	Air is blown out

**Installation**

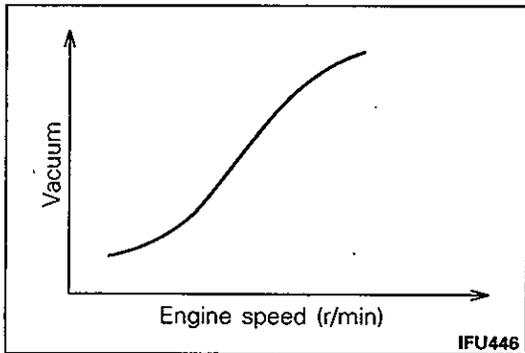
- (1) Use a new gasket, and tighten the installation bolt to the specified torque.

**Specified torque: 13 Nm (1.3 kgm, 9.4 ft.lbs.)**



**EGR Valve Control Vacuum Inspection**

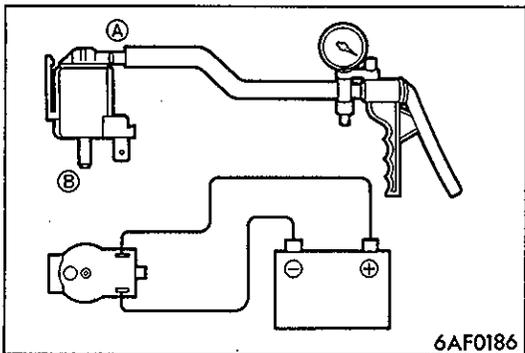
- (1) Disconnect the vacuum hose (green stripe) from the throttle body EGR vacuum nipple and connect a hand vacuum pump to the nipple.



- (2) Start the engine and check to see that, after raising the engine speed by racing the engine, EGR vacuum raises proportionately with the rise in engine speed.

**NOTE**

If the EGR vacuum does not raise, it is possible that the throttle body EGR port may be clogged and require cleaning.

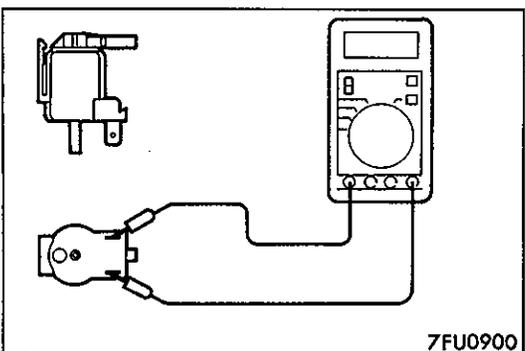


**EGR Control Solenoid Valve Inspection**

**Inspection**

- (1) Connect a hand vacuum pump to the nipple A (shown in the illustration) of the solenoid valve.
- (2) Connect the solenoid valve terminals and the battery terminals with the jumper wires.
- (3) Check airtightness by applying a vacuum with connected and disconnected the jumper wire at the battery (-) terminal.

Jumper wire	Condition of the nipple B	Normal condition
Connect	Open	Vacuum maintained
Disconnect	Open	Vacuum leaks
	Plug	Vacuum maintained



**Coil Resistance Inspection**

- (1) Measure the resistance between the terminals of the solenoid valve.

**Standard value: 36–44 Ω [at 20°C (68°F)]**

---

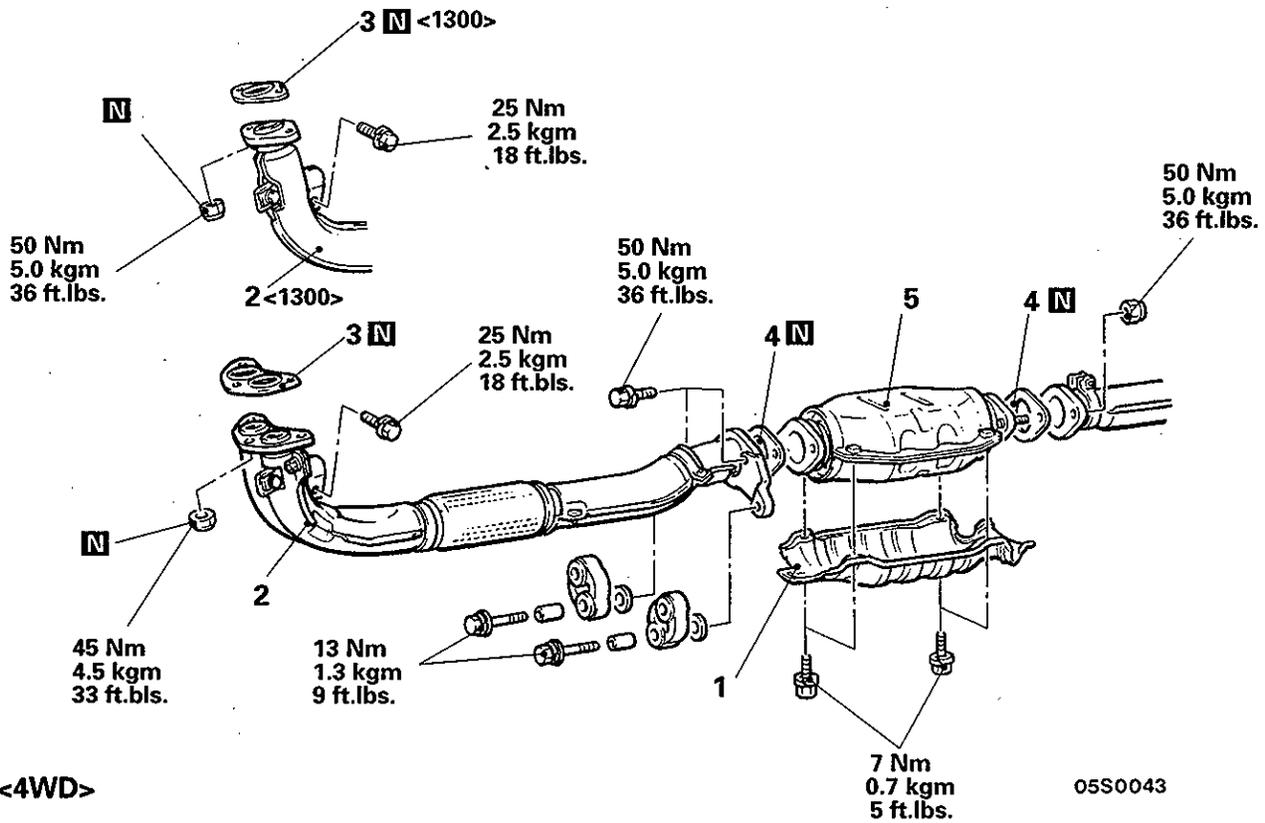
**NOTE**

# CATALYTIC CONVERTER

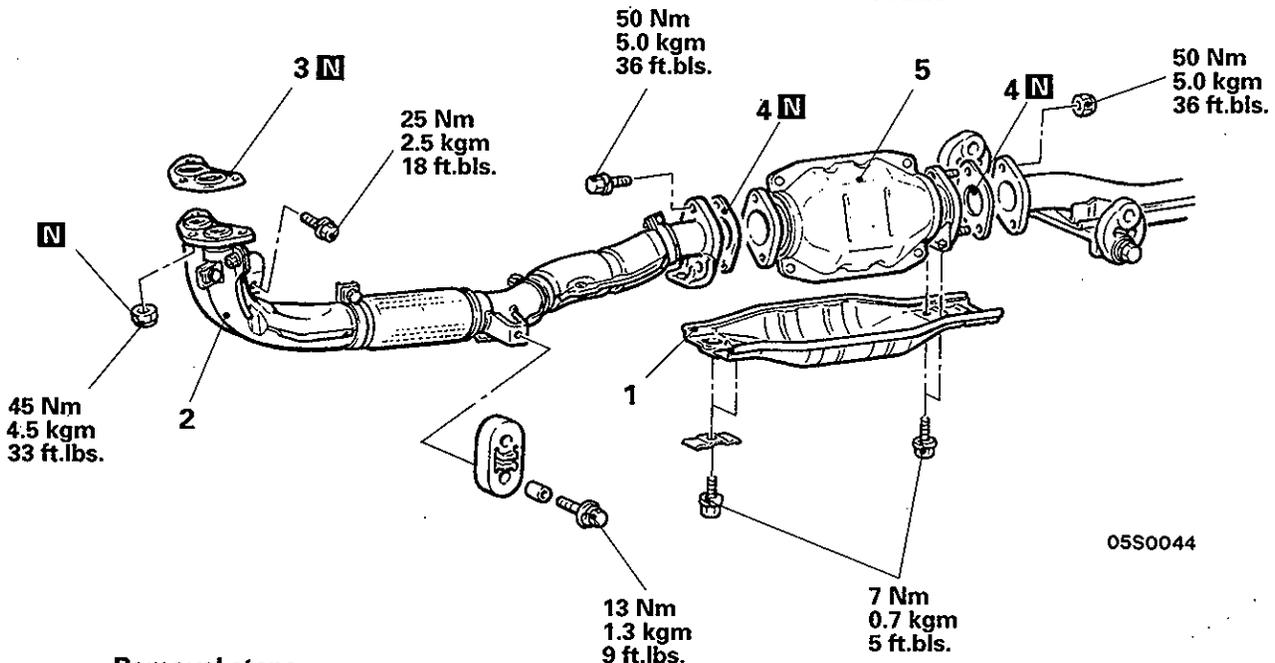
## REMOVAL AND INSTALLATION

E17YA--

<2WD>



<4WD>



### Removal steps

1. Heat protector
2. Front exhaust pipe
3. Gasket
4. Gasket
5. Catalytic converter

**CANISTER**

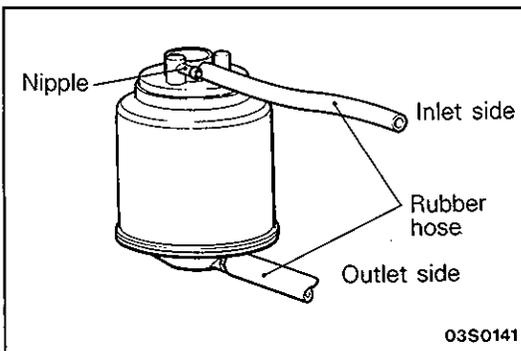
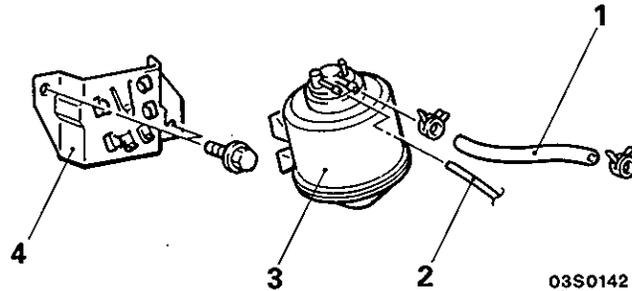
E17HA--

**REMOVAL AND INSTALLATION****Pre-removal and Post-installation Operation**

- Removal and Installation of Air Cleaner (Refer to GROUP 15 – Air Cleaner )

**Removal steps**

1. Vapor hose
2. Purge hose
3. Canister
4. Canister bracket

**INSPECTION****SIMPLE INSPECTION OF CHECK VALVE INSIDE CANISTER**

- (1) Connect clean rubber hoses to the nipples on the inlet side and outlet side.
- (2) Close off the other nipple with your finger and then check the operation of the check valve.

Inspection procedure	Normal condition
Lightly blow from inlet side (fuel tank side).	Air passes through with a slight feeling of resistance.
Lightly blow from outlet side (atmosphere side).	Air passes through.

# EMISSION CONTROL <DIESEL>

## SPECIFICATIONS

### GENERAL SPECIFICATIONS

E17CA--

<Vehicles with EGR valve>

Items	Name	Specification
Exhaust emission control system	Exhaust gas recirculation system EGR valve EGR solenoid valve No. 1 EGR solenoid valve No.2	Single type Duty cycle solenoid valve ON-OFF solenoid valve

### SERVICE SPECIFICATIONS

Item	Standard value	
EGR solenoid valve No.1/No.2 resistance [at 20°C (68°F)]	36 – 44	
Lever position sensor output voltage	Idle position	0.28 – 0.48
	Fully open	3.2 – 5.5
Engine speed sensor resistance	kΩ	1.2 – 1.7
Engine coolant temperature sensor resistance	At 20°C (68°F)	3.3
	At 80°C (176°F)	0.3

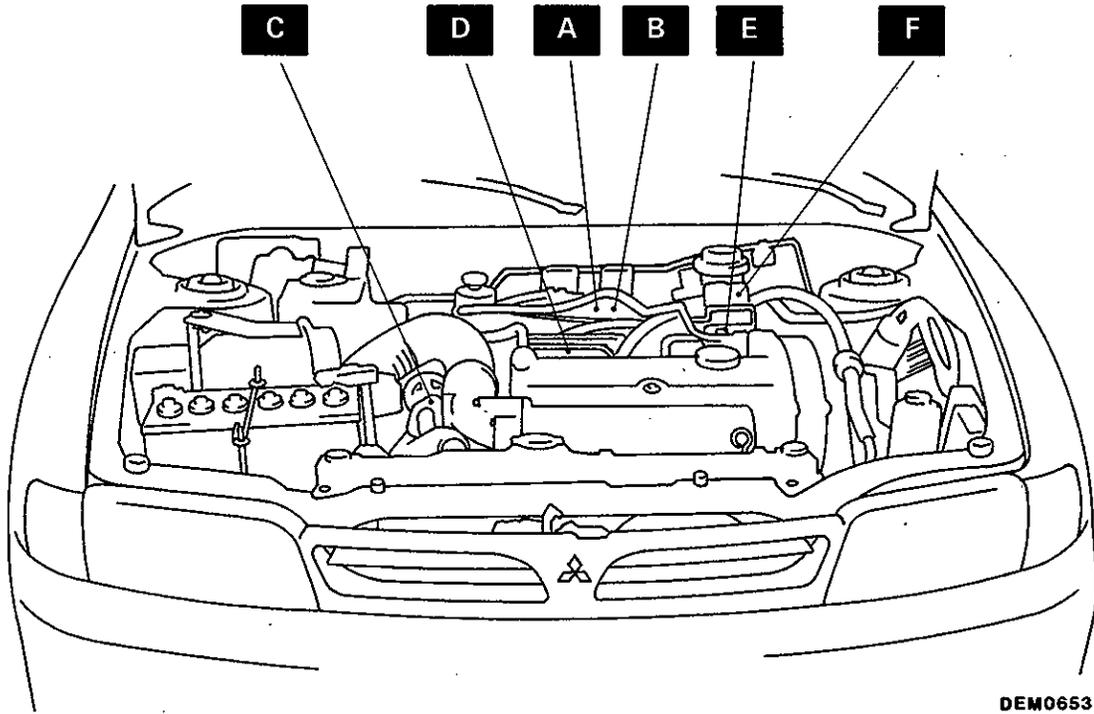
### SPECIAL TOOLS

Tool	Number	Name	Use
	MD998478	Test harness (3P, square)	Inspection of lever position sensor

**SERVICE ADJUSTMENT PROCEDURES**

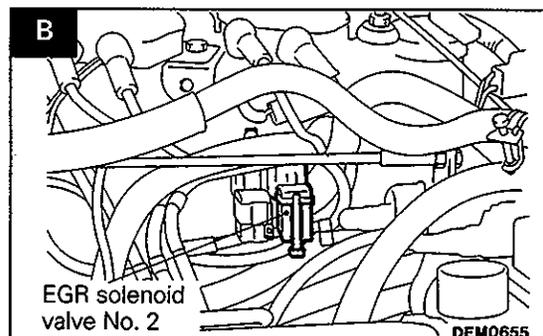
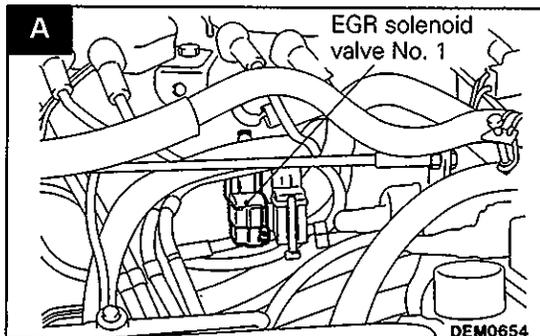
E17FGAA

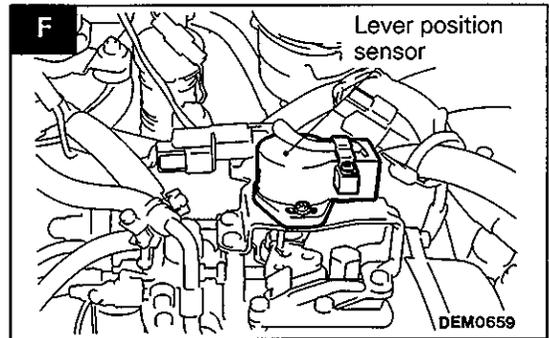
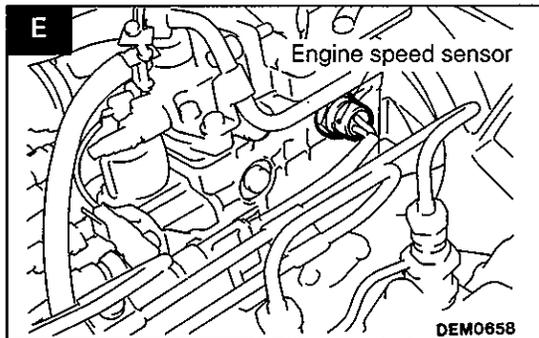
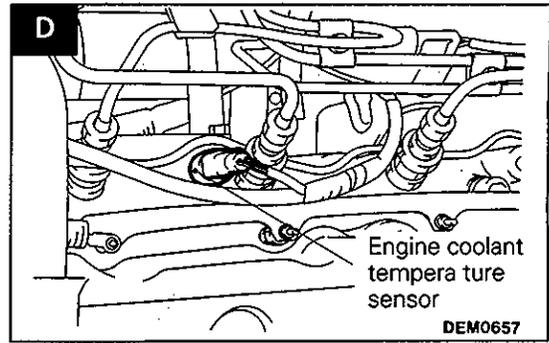
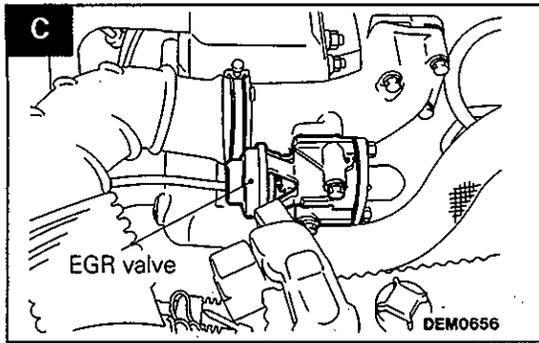
**COMPONENT LAYOUT <Vehicles with EGR>**



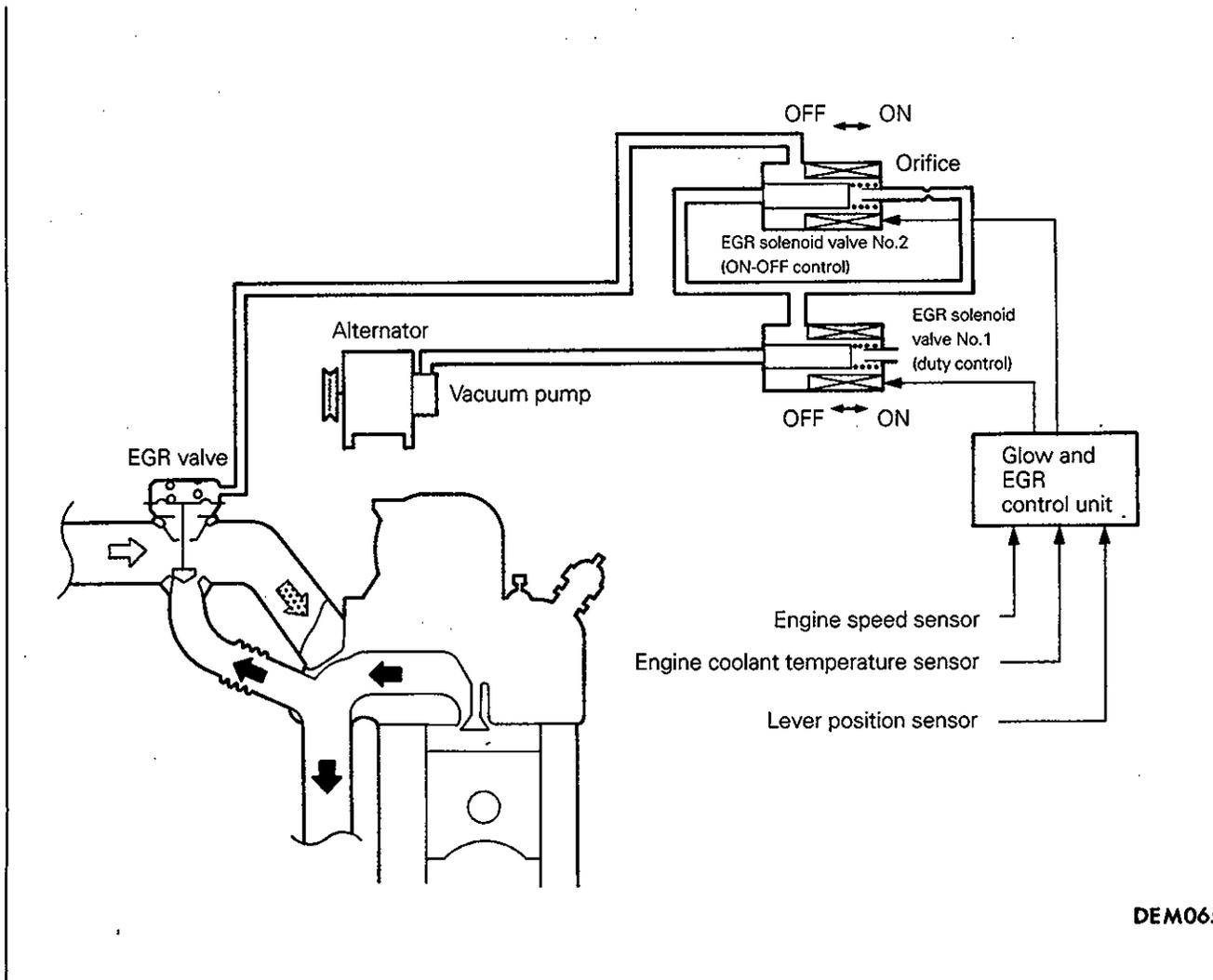
DEM0653

Parts name	Symbol	Parts name	Symbol
EGR solenoid valve No. 1	A	Engine coolant temperature sensor	D
EGR solenoid valve No. 2	B	Engine speed sensor	E
EGR valve	C	Lever position sensor	F

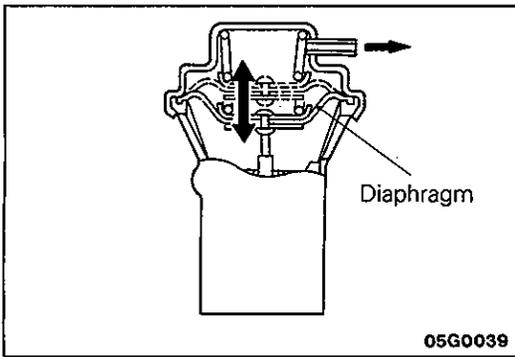




**EXHAUST GAS RECIRCULATION (EGR) SYSTEM <VEHICLES WITH EGR>**



DEM0652

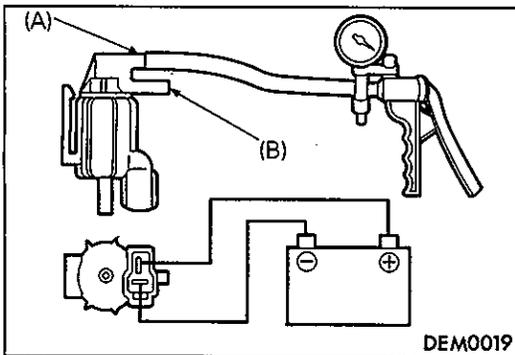


**FUNCTION INSPECTION**

- (1) Start the engine and let it warm up until the engine coolant temperature is 80°C (176°F) or above.
- (2) When the engine is raced by suddenly depressing the accelerator pedal, check to be sure that the diaphragm of the EGR valve lifts.

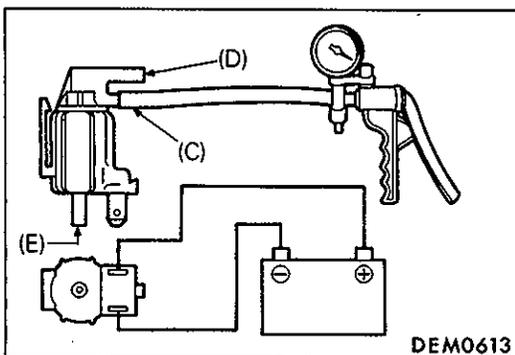
**EGR SOLENOID VALVE NO.1/NO.2 OPERATION INSPECTION**

- (1) Remove the EGR solenoid valve No.1/No.2 connectors and vacuum hoses.
- (2) Attach a vacuum pump to each nipple of the EGR solenoid valve No.1/No.2 and apply negative pressure. Check that the valves are airtight both when voltage is applied to each terminal of the EGR solenoid valves and when it is not applied.



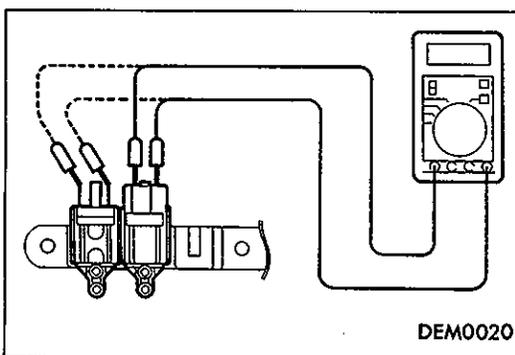
**EGR solenoid valve No.1**

Battery voltage	Normal condition
When current is flowing	Vacuum leaks (Vacuum is maintained when nipple (B) is covered)
When current is not flowing	Vacuum is maintained



**EGR solenoid valve No.2**

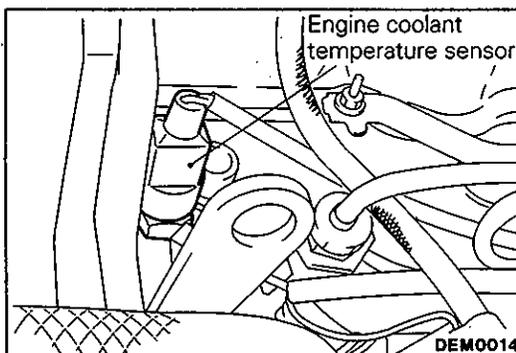
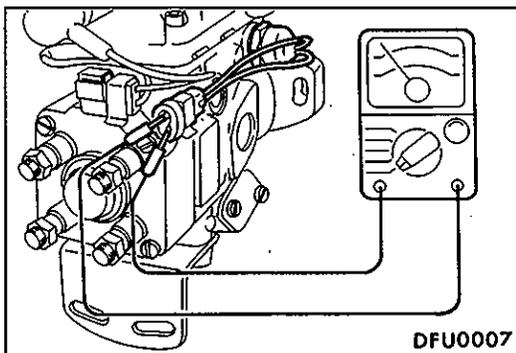
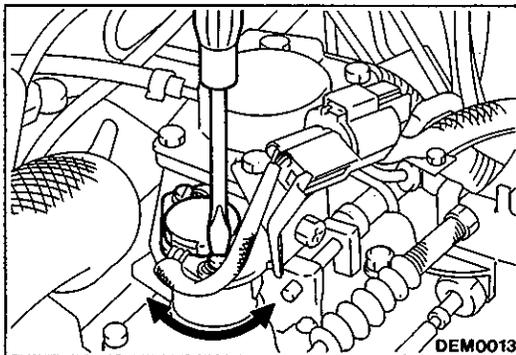
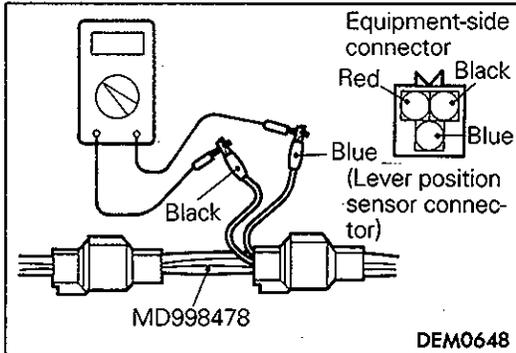
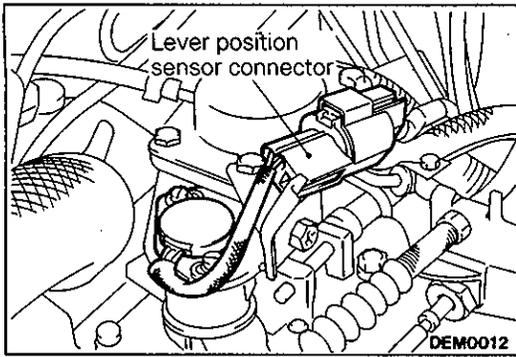
Battery voltage	Normal condition
When current is flowing	Vacuum leaks (Vacuum is maintained when nipple (D) is covered)
When current is not flowing	Vacuum leaks (Vacuum is maintained when nipple (E) is covered)



**EGR SOLENOID VALVE NO.1/NO.2 RESISTANCE INSPECTION**

- (1) Measure the coil resistances of the EGR solenoid valve No.1/No.2 with a circuit tester.

	Solenoid valve No.1/No.2 resistance Ω
Standard value [at 20°C (68°F)]	36 – 44



## LEVER POSITION SENSOR (LPS) ADJUSTMENT [Condition before adjustment]

- Engine coolant temperature 80–95°C (176–203°F)
- (1) Loosen the accelerator cable tension sufficiently.
- (2) Connect the special tool (test harness) to the lever position sensor connector shown in the illustration.

- (3) Connect a digital-type voltmeter between terminal (1) (red clip) and terminal (3) (blue clip) of the LPS.
- (4) Turn the ignition switch to ON. (Do not start the engine.)
- (5) Measure the output voltage of the lever position sensor.

### Standard value

Lever condition	Voltage V
Idle position	0.28 – 0.48
Fully open	3.2 – 5.5

- (6) If the voltage is outside the standard value, adjust by loosening the LPS mounting screw and turning the LPS body. After adjustment, securely tighten the screw.
- (7) Turn the ignition switch to OFF.
- (8) Adjust the accelerator cable play.

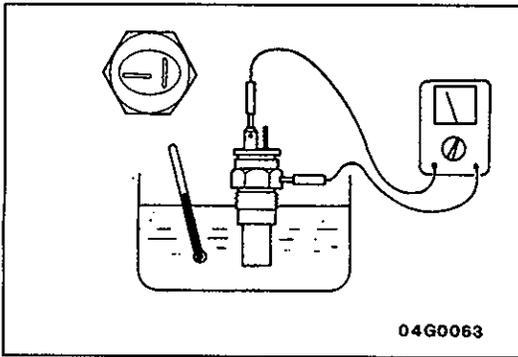
## ENGINE SPEED SENSOR INSPECTION

- (1) Disconnect the engine speed sensor connector.
- (2) Measure the resistance between the engine speed sensor terminals.

**Standard value: 1.2 – 1.7 kΩ**

## ENGINE COOLANT TEMPERATURE SENSOR INSPECTION

- (1) Remove the engine coolant temperature sensor.

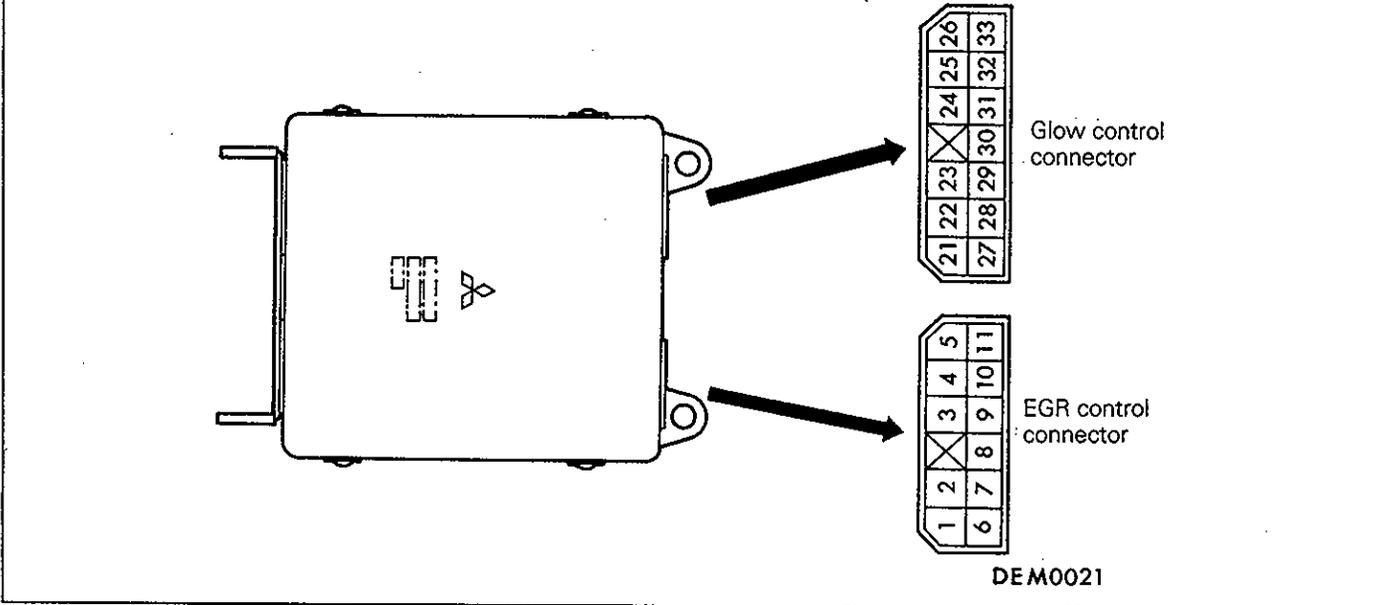


(2) Dip the sensing section of the engine coolant temperature sensor, and measure the resistance.

**Standard value:**

Temperature °C (°F)	Resistance value (k Ω)
0 (0)	8.6
20 (68)	3.3
40 (104)	1.5
80 (176)	0.3

**GLOW & EGR CONTROL UNIT <SUPER QUICK GLOW SYSTEM>**



**TERMINAL VOLTAGE MEASUREMENT**

**NOTE**

1. Inspect with the glow & EGR control unit connectors still connected.
2. Connect the earth to terminal No.30 of the glow & EGR control unit terminal when measuring the voltage.

**Terminal Voltage Table**

Glow and EGR control unit inspection terminal	Inspection item	Inspection condition	Standard value	
2	EGR solenoid valve No.1	Ignition switch: OFF → ON	Battery voltage	
		While engine is idle after having warmed up, suddenly depress the accelerator pedal.	Momentarily increases	
3	Lever position sensor	Ignition switch: OFF → ON	Throttle lever: Idle position	0.28 – 0.48 V
			Throttle lever: Fully open position	3.2 – 5.5 V
5	Sensor applied voltage	Ignition switch: OFF → ON	4.5 – 5.5 V	
8	EGR solenoid valve No.2	Ignition switch: OFF → ON	Battery voltage	
		While engine is idle after having warmed up, suddenly depress the accelerator pedal.	Momentarily decreases	

# 17-24 EMISSION CONTROL <DIESEL> – Service Adjustment Procedures

Glow & EGR control unit harness side connector seen from terminal side

(11P)

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

(13P)

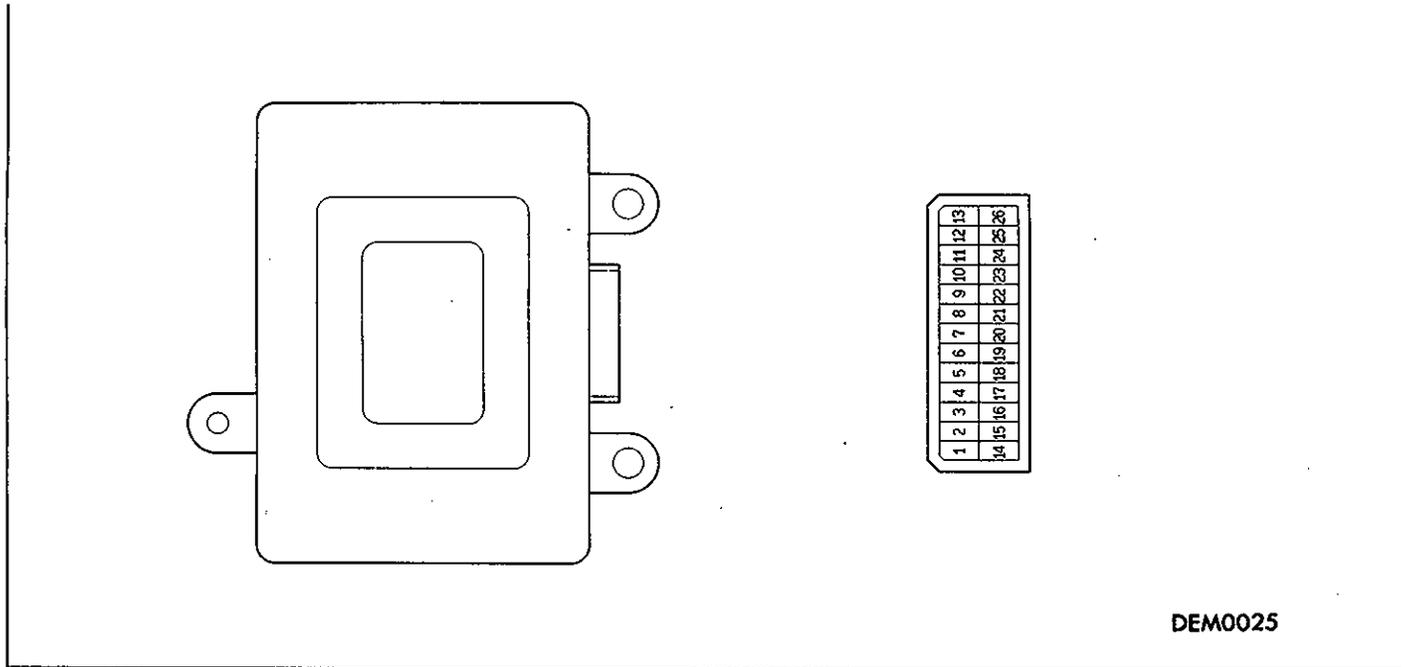
26	25	24	X	23	22	21
33	32	31	30	29	28	27

DEM0651

## HARNES CONTINUITY INSPECTION

- (1) Disconnect the glow & EGR control unit connector.
- (2) Check to be sure that there is continuity (1.2–1.7  $\Omega$ ) between the harness side connector terminals (10)-(30).

**GLOW & EGR CONTROL UNIT <SELF-REGULATING GLOW SYSTEM>**



DEM0025

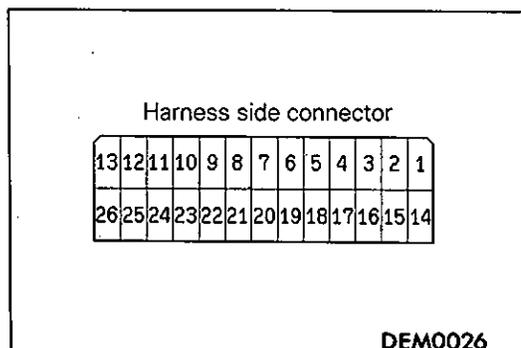
**TERMINAL VOLTAGE MEASUREMENT**

**NOTE**

1. Inspect with the glow & EGR control unit connectors still connected.
2. When measuring the voltage, the earth will be the glow & EGR unit terminal No. 13.

**Terminal Voltage Reference Table**

Glow & EGR control unit inspection terminal	Inspection item	Inspection condition		Standard value
3	EGR solenoid valve No. 1	Ignition switch: OFF → ON		11 – 13 V
		While engine is idling after having warmed up, suddenly race the engine.		Momentarily increases
6	Lever position sensor	Ignition switch: OFF → ON	Throttle lever idle position	0.3 – 1.5 V
			Throttle lever fully open position	3.7 – 4.9 V
7	Sensor power supply	Ignition switch: OFF → ON		4.5 – 5.5 V
16	EGR solenoid valve No. 2	Ignition switch: OFF → ON		11 – 13 V
		While engine is idling after having warmed up, suddenly race the engine.		Momentarily decreases



**HARNESS CONTINUITY INSPECTION**

- (1) Disconnect the glow & EGR control unit connector.
- (2) Check to be sure that there is continuity (1.3–1.9 kΩ) between the harness side connector terminals 11–24.

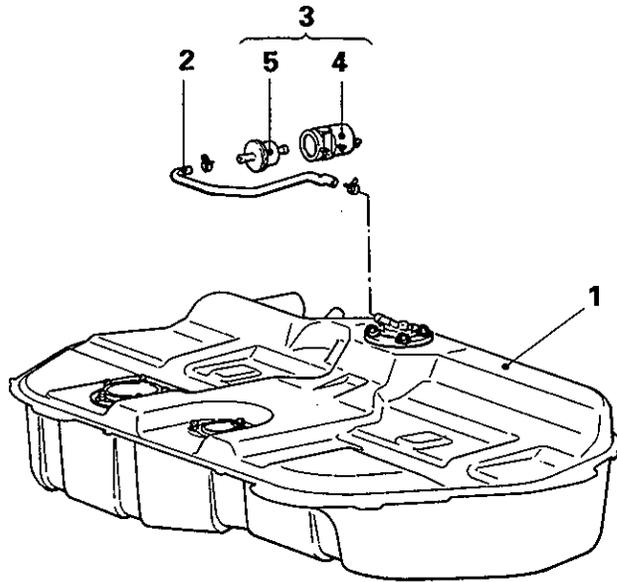
---

NOTE

## TWO-WAY VALVE REMOVAL AND INSTALLATION

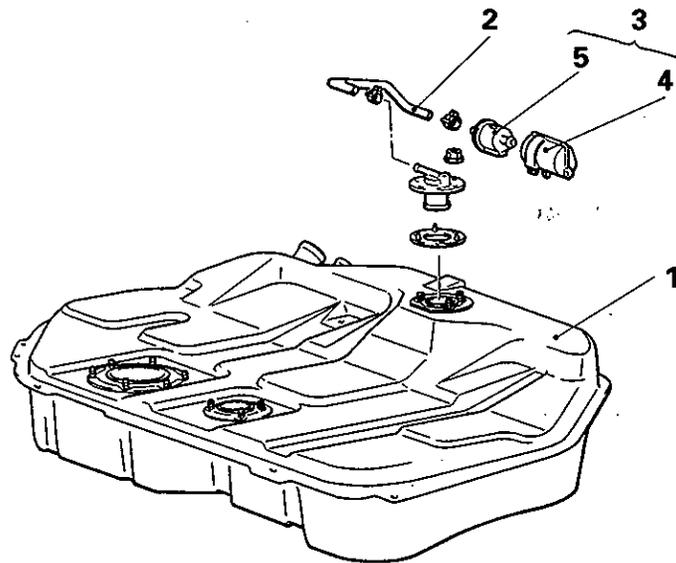
E171A-

&lt;Sedan&gt;



03S0072

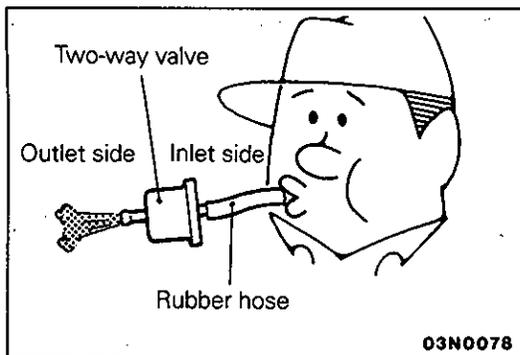
&lt;Wagon&gt;



03S0119

### Removal steps

1. Fuel tank  
(Refer to GROUP 13 – Fuel tank)
2. Vapour hose connection
3. Breather case and two-way valve assembly
4. Breather case
- ◆◆ 5. Two-way valve



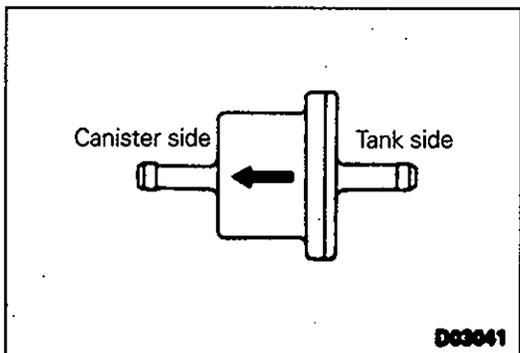
**INSPECTION**

E13GCAO

**SIMPLE CHECKING OF THE TWO-WAY VALVE**

Attach a clean hose and check the operation of the two-way valve.

Inspection procedure	Normal condition
Lightly blow from inlet side (fuel tank side).	Air passes through with a slight feeling of resistance.
Lightly blow from outlet side (canister side).	Air passes through.



**SERVICE POINTS OF INSTALLATION**

E13GDBD

**12. INSTALLATION OF TWO-WAY VALVE**

Install so that the installation direction of the two-way valve is correct.