
ENGINE AND EMISSION CONTROL

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EMISSION CONTROL SYSTEM

GENERAL

OUTLINE OF CHANGES

Service adjustment procedures have been established for items which are different from before in order to correspond to the following changes.

<4G1>

- The purge control solenoid valve control has been changed from ON/OFF control to duty control, and the purge inlet port in the throttle body has been changed from the upstream side of the throttle valve to the downstream side.
In addition, the purge control solenoid valve has been changed to one which has an increased flow capacity.
- The mounting positions for the EGR valve and the EGR control solenoid valve have been changed.

<4G9>

- The purge control solenoid valve has been changed to one which has an increased flow capacity, and the layout of the vacuum pipe has been changed.
- The vacuum hose colour of purge control has been changed.
- The port position of purge control has been changed.

GENERAL INFORMATION

The evaporative emission control system in 4G1 engines has been changed.

Item	Name	Specification
Evaporative emission control system	Canister	Equipped
	Purge control solenoid valve	Duty cycle type solenoid valve (Purpose: HC reduction)

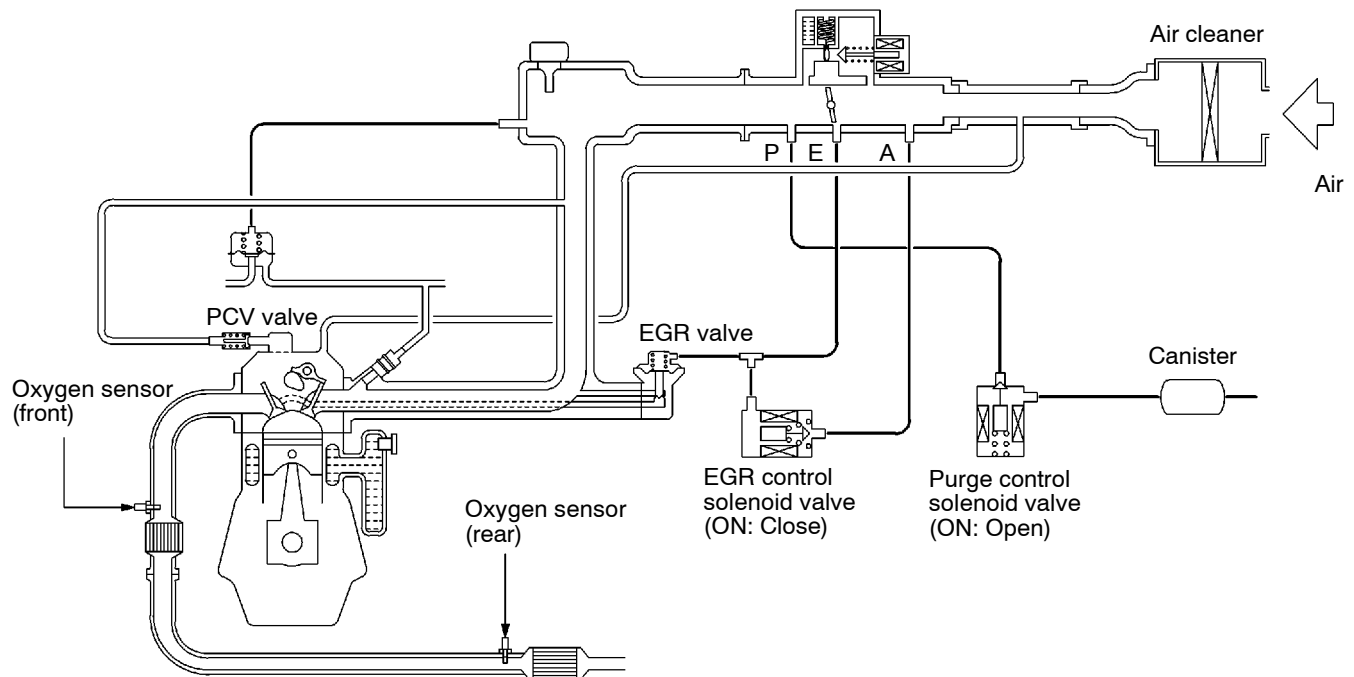
SERVICE SPECIFICATION

Item	Standard value
Purge control solenoid valve coil resistance (at 20°C) Ω	30 - 34

VACUUM HOSE

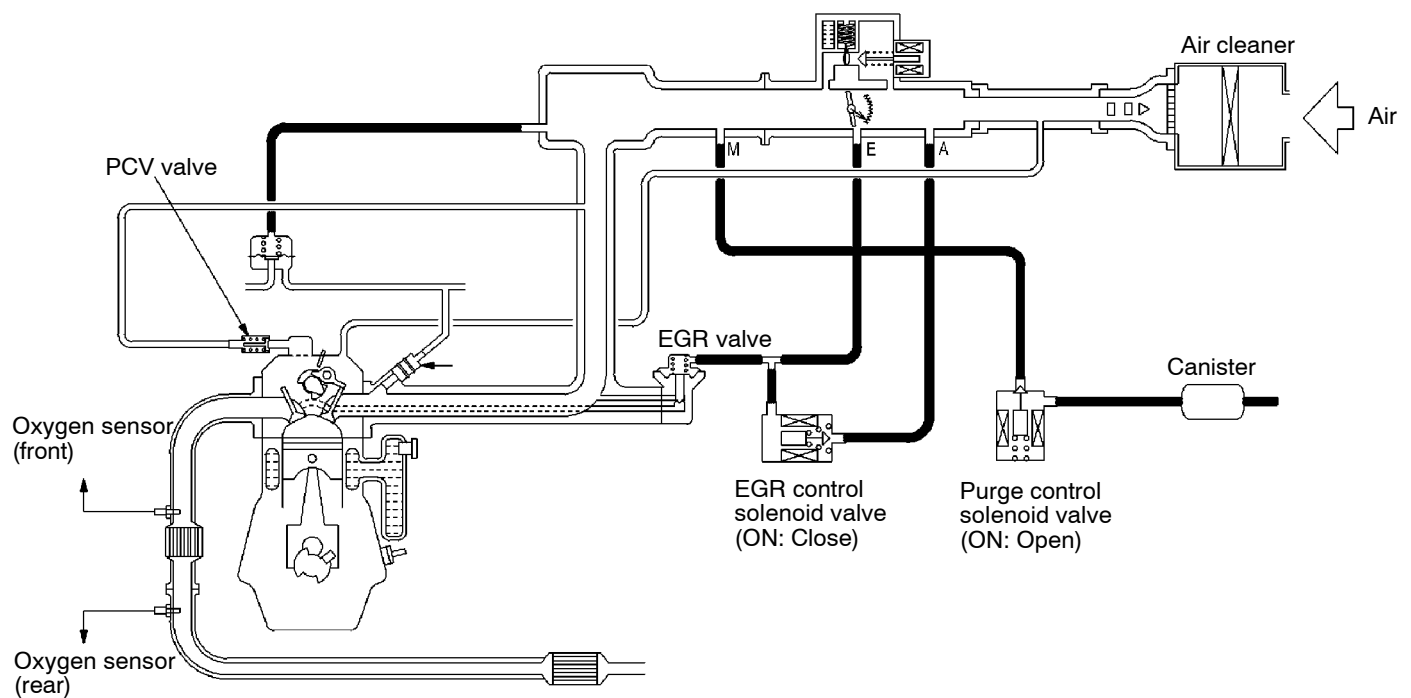
VACUUM HOSE PIPING DIAGRAM

<4G1>



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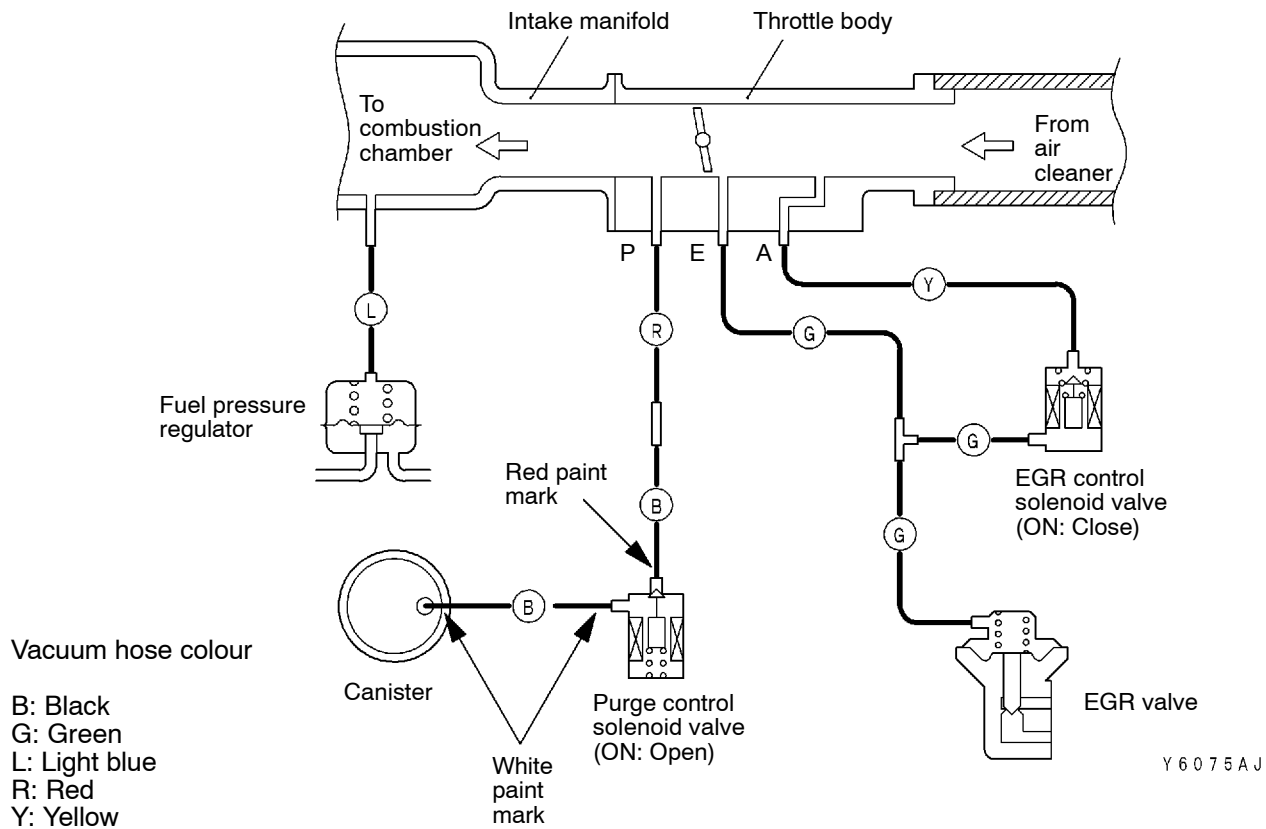
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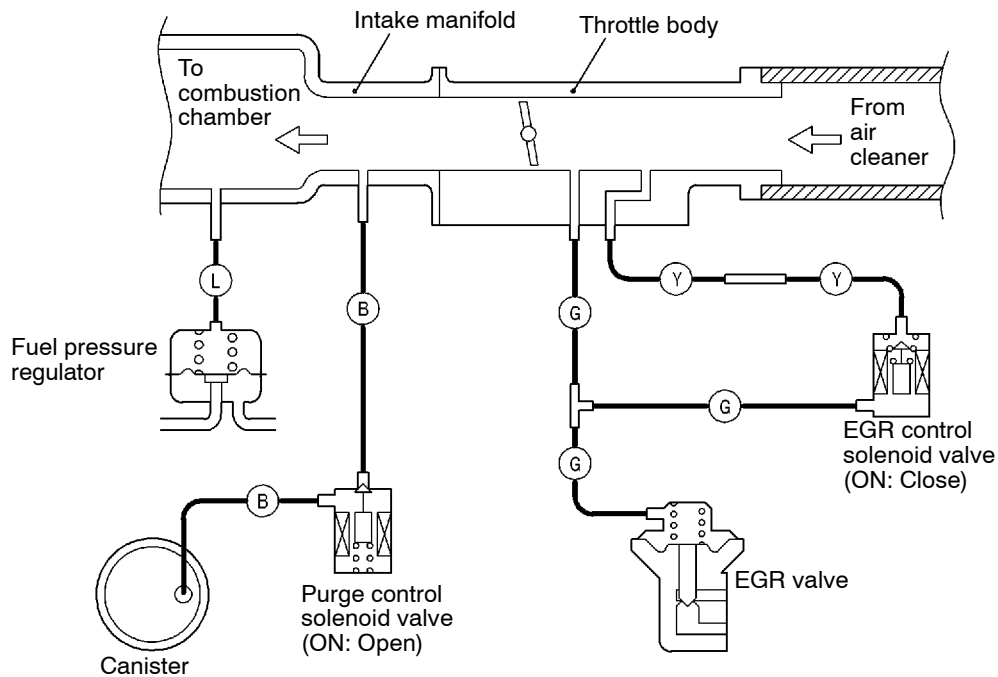
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VACUUM CIRCUIT DIAGRAM

<4G1>



<4G9>



Vacuum hose colour

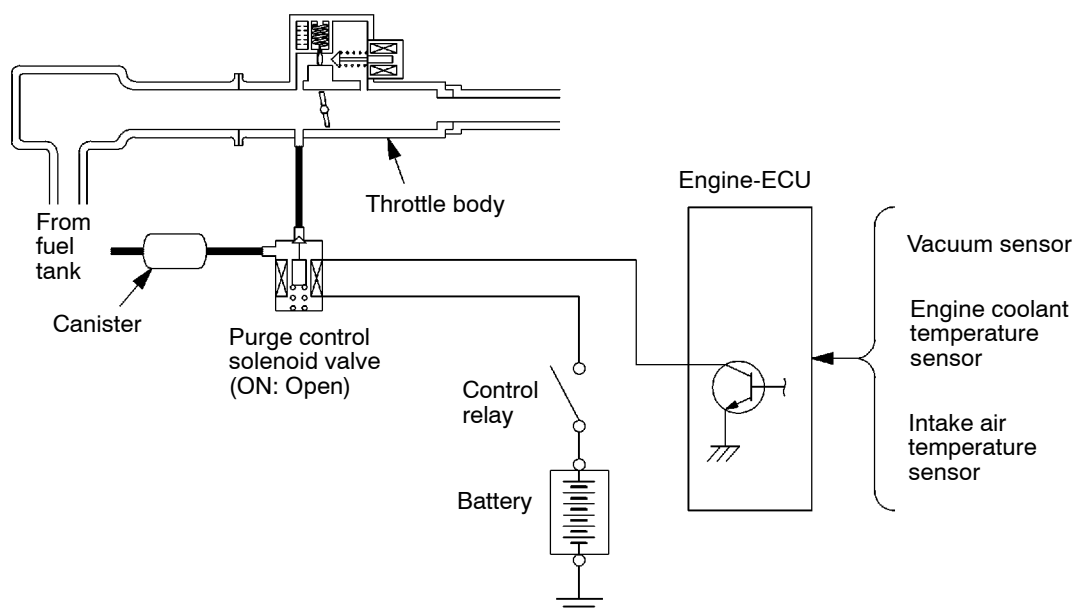
B: Black
G: Green
L: Light blue
Y: Yellow

Y 6 0 2 7 B N

EVAPORATIVE EMISSION CONTROL SYSTEM

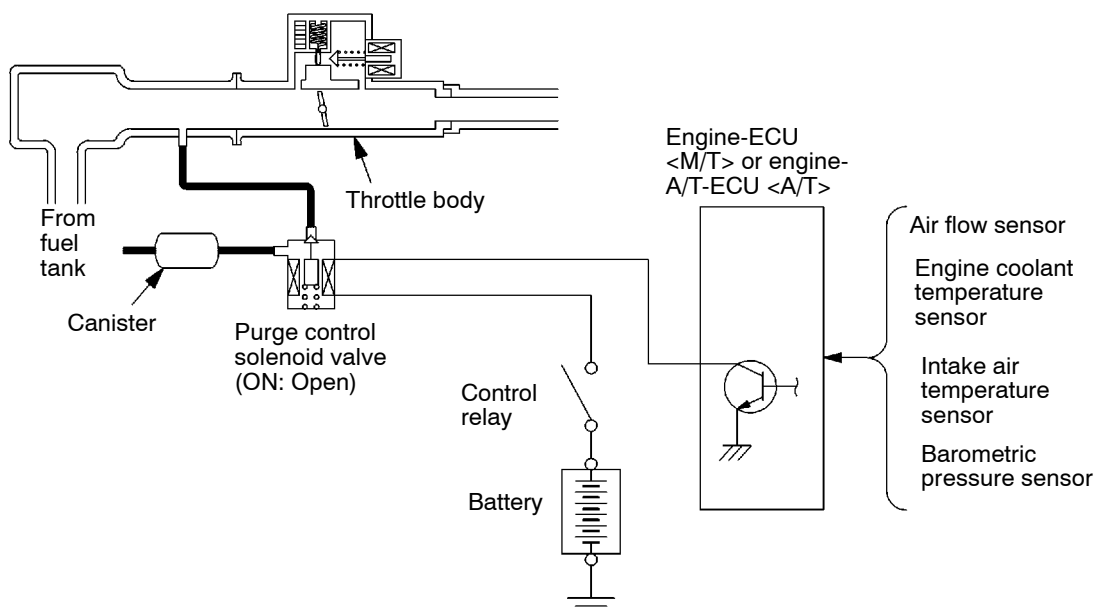
SYSTEM DIAGRAM

<4G1>



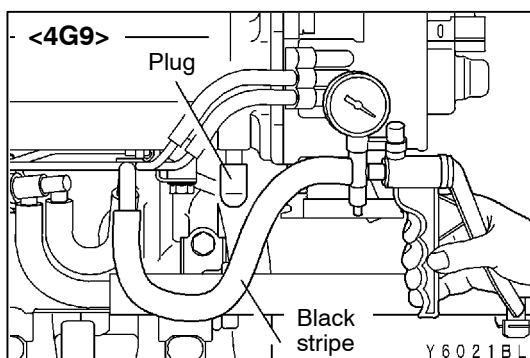
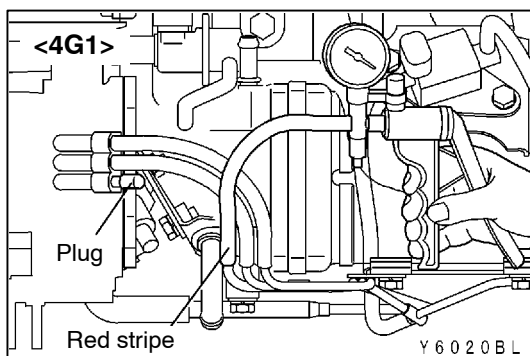
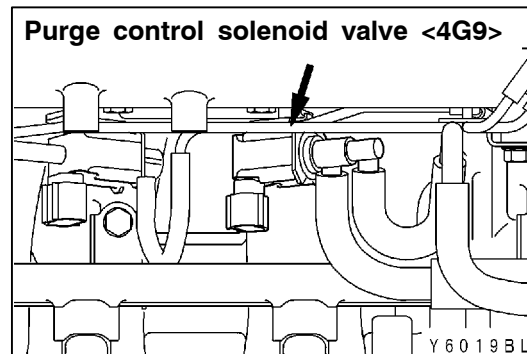
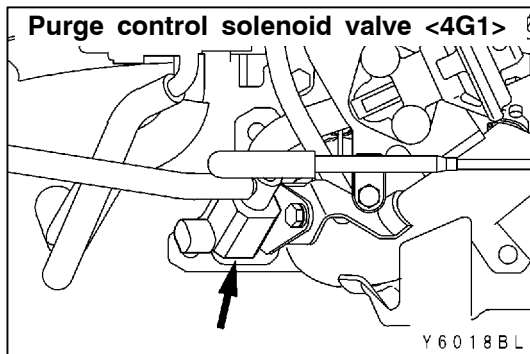
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<4G9>



Y6033BN

COMPONENT LOCATION



PURGE CONTROL SYSTEM CHECK

1. Disconnect the vacuum hose (red stripe <4G1>, black stripe <4G9>) 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 or hot, apply a vacuum of 53 kPa, and check the condition of the engine and the vacuum.

When engine is cold

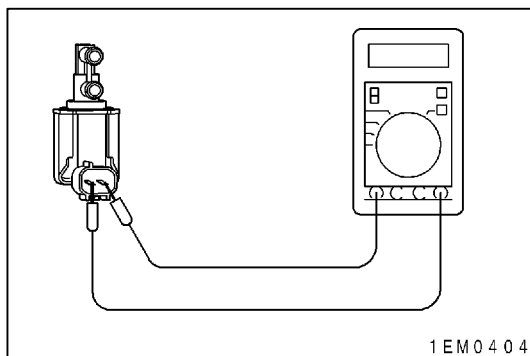
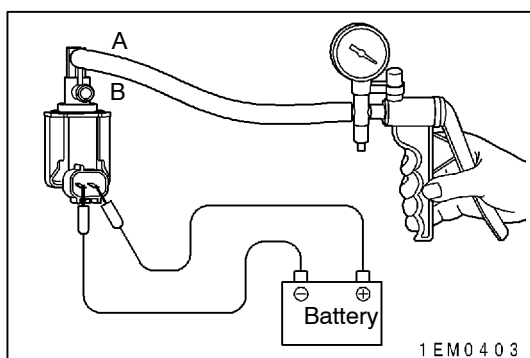
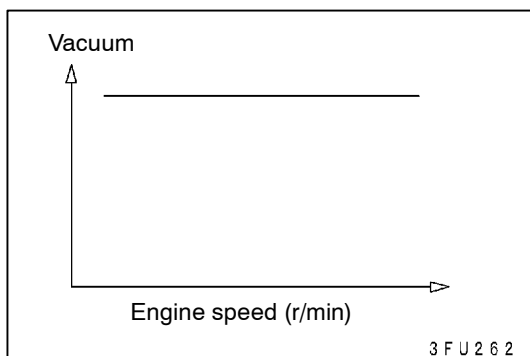
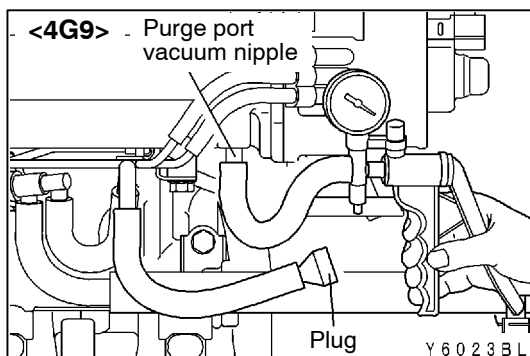
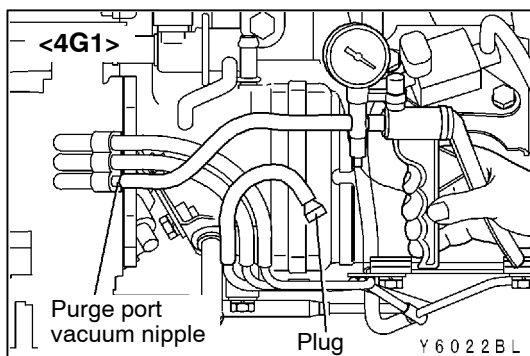
(Engine coolant temperature: 40°C or less)

Engine condition	Normal condition
At idle	Vacuum is maintained.
3,000 r/min	

When engine is hot

(Engine coolant temperature: 80°C or higher)

Engine condition	Normal condition
At idle	Vacuum is maintained.
3,000 r/min (for approximately 3 minutes after the engine is started.)	
	Vacuum will leak.



PURGE PORT VACUUM CHECK

1. Disconnect the vacuum hose (red stripe <4G1>, black stripe <4G9>) from the throttle body purge vacuum nipple and connect a hand vacuum pump to the nipple.

2. Start the engine and check that the vacuum remains fairly constant after racing the engine.

NOTE

If vacuum changes, it is possible that the intake manifold purge port may be clogged and require cleaning.

PURGE CONTROL SOLENOID VALVE CHECK

NOTE

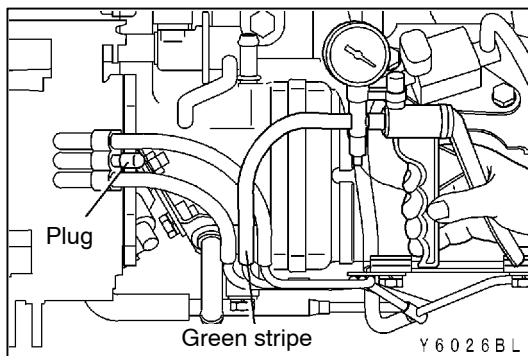
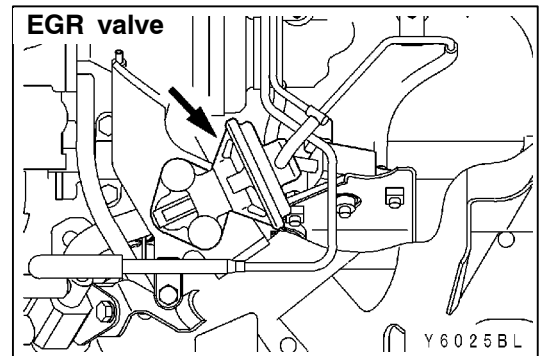
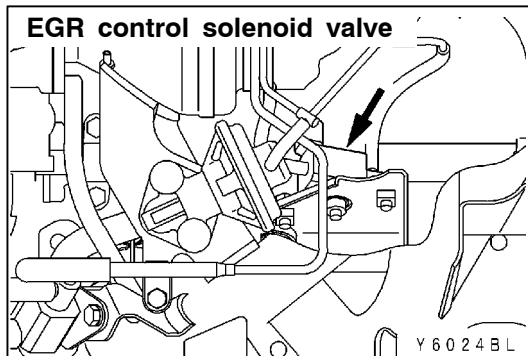
When disconnecting the vacuum hose, always make a mark so that it can be reconnected at original position.

1. Disconnect the vacuum hose from the solenoid valve.
2. Disconnect the harness connector.
3. Connect a hand vacuum pump to nipple (A) of the solenoid valve (refer to the illustration at left).
4. Check airtightness by applying a vacuum with voltage applied directly from the battery to the purge control solenoid valve and without applying voltage.

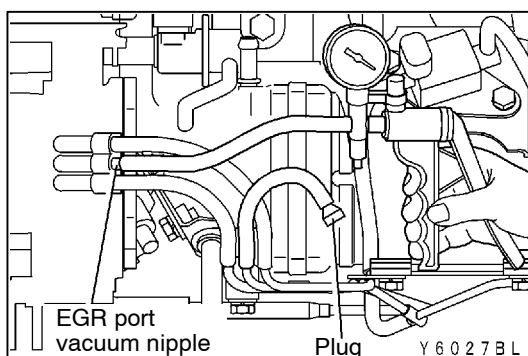
Battery voltage	Normal condition
Applied	Vacuum leaks
Not applied	Vacuum maintained

5. Measure the resistance between the terminals of the solenoid valve.

Standard value: 30 - 34 Ω (at 20°C)

EXHAUST GAS RECIRCULATION (EGR) SYSTEM <4G1>**COMPONENT LOCATION****EXHAUST GAS RECIRCULATION (EGR) CONTROL SYSTEM CHECK**

Inspection procedures have not changed.

**EGR PORT VACUUM CHECK**

Inspection procedures have not changed.