Main Index
Group TOC

AUTO-CRUISE CONTROL SYSTEM

GENERAL

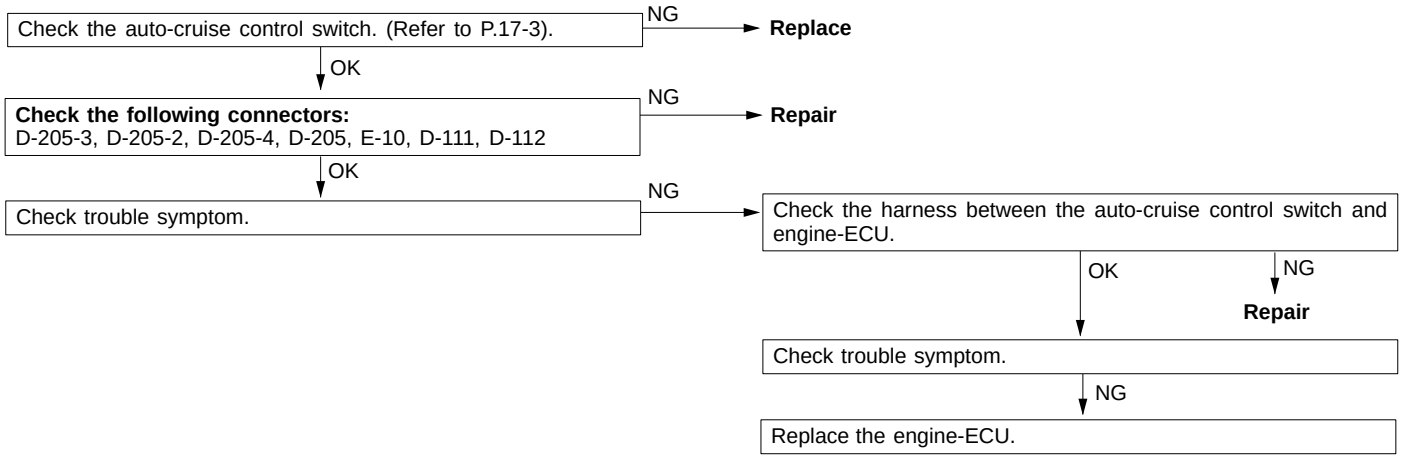
OUTLINE OF CHANGES

The following service procedures have been established due to the changes of the auto-cruise control switch. <4M41>

TROUBLESHOOTING <4M41>

INSPECTION PROCEDURE FOR DIAGNOSIS CODES

Code No. 15 Auto-cruise control switch system	Probable cause
This diagnosis code is output if the RESUME and SET switches of the auto-cruise control switch remain on.	• Malfunction of the auto-cruise control switch • Malfunction of the connector • Malfunction of the harness • Malfunction of the engine-ECU

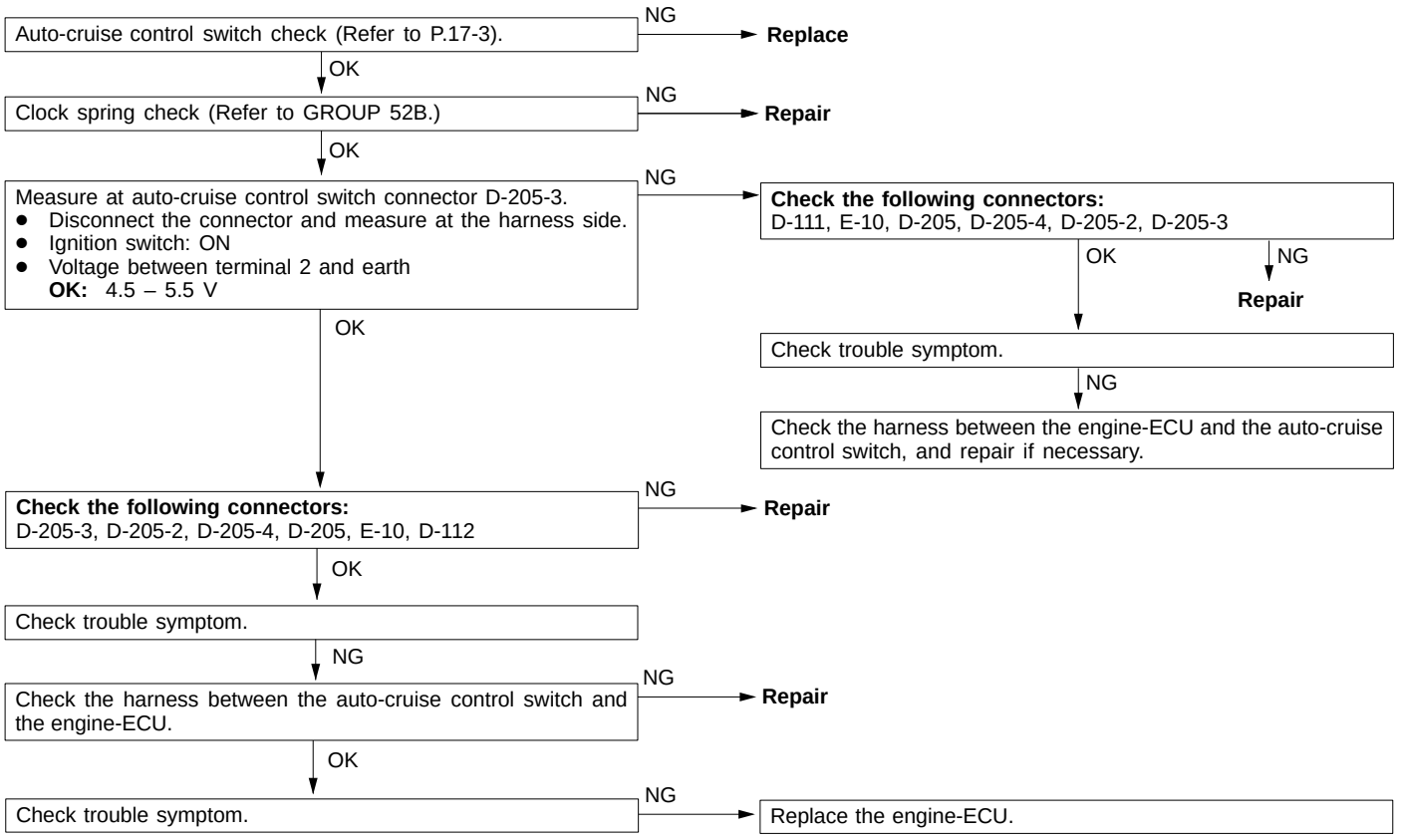


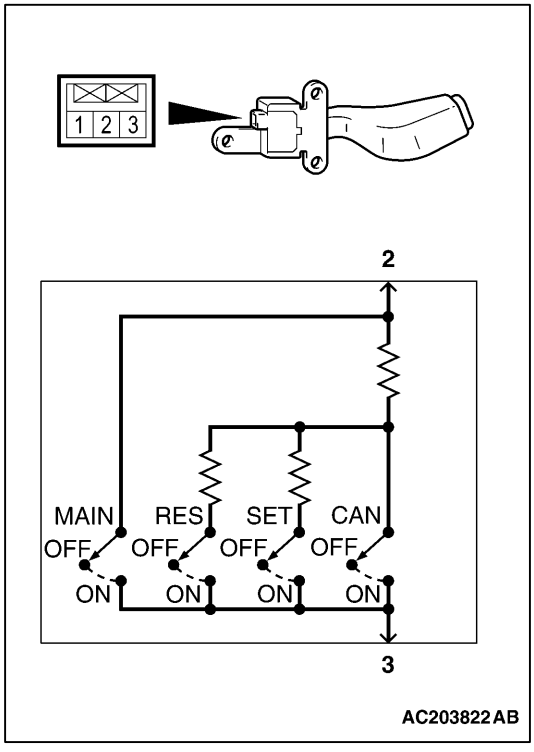
Main Index
Group TOC

INSPECTION PROCEDURE FOR TROUBLE SYMPTOMS

Inspection Procedure 9

Auto-cruise control switch input system check





ON-VEHICLE SERVICE <4M41>

AUTO-CRUISE CONTROL COMPONENT CHECK

AUTO-CRUISE CONTROL SWITCH CHECK

Measure the resistance between the terminals when each of the SET, RESUME, CANCEL and MAIN switches is pressed. If the values measured at this time correspond to those in the table below, then there is no problem.

Switch position	Resistance between terminals	
MAIN switch: OFF	No continuity	
MAIN switch: ON	Terminals 2 and 3	Approx. 0 Ω
CANCEL switch: ON	Terminals 2 and 3	Approx. 100 Ω
RESUME switch: ON	Terminals 2 and 3	Approx. 887 Ω
SET switch: ON	Terminals 2 and 3	Approx. 300 Ω

Main Index
Group TOC

EMISSION CONTROL SYSTEM <6G7-GDI>

GENERAL

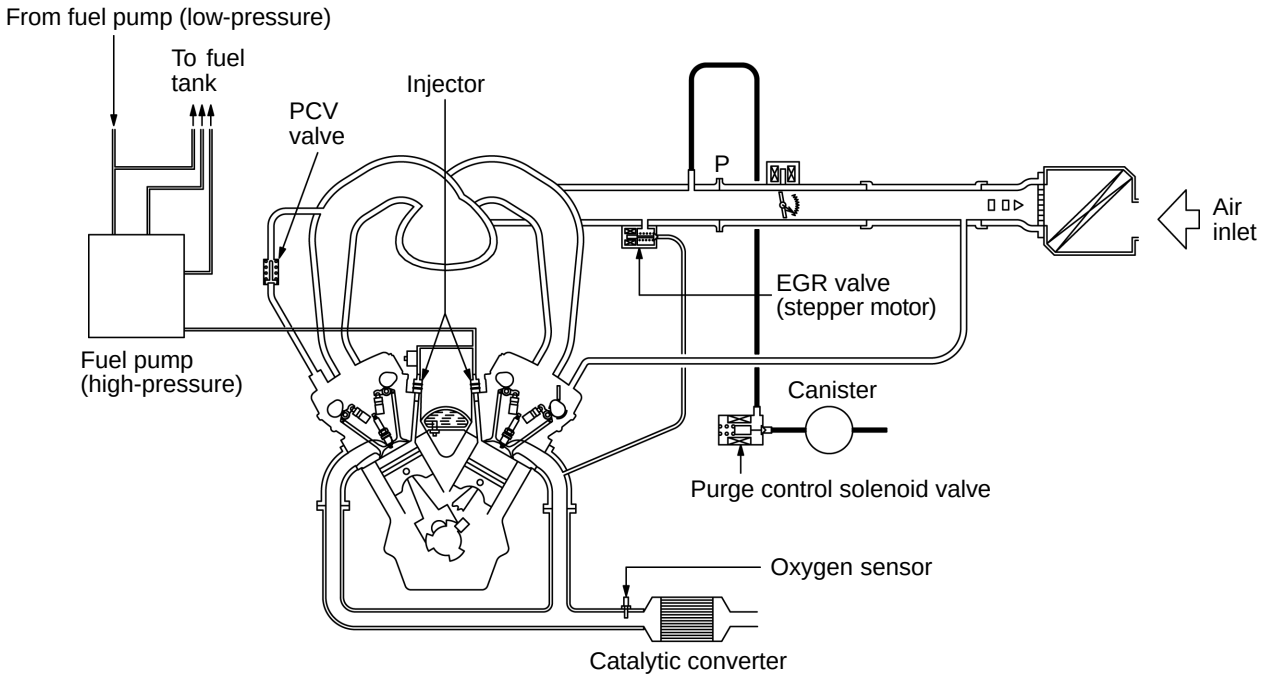
OUTLINE OF CHANGES

The following service procedures have been established to correspond to the addition of vehicles for Singapore. The other service procedures are the same as before.

VACUUM HOSE

VACUUM HOSE PIPING DIAGRAM

<Vehicles for Singapore>



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Main Index
Group TOC

EMISSION CONTROL SYSTEM <6G7-MPI>

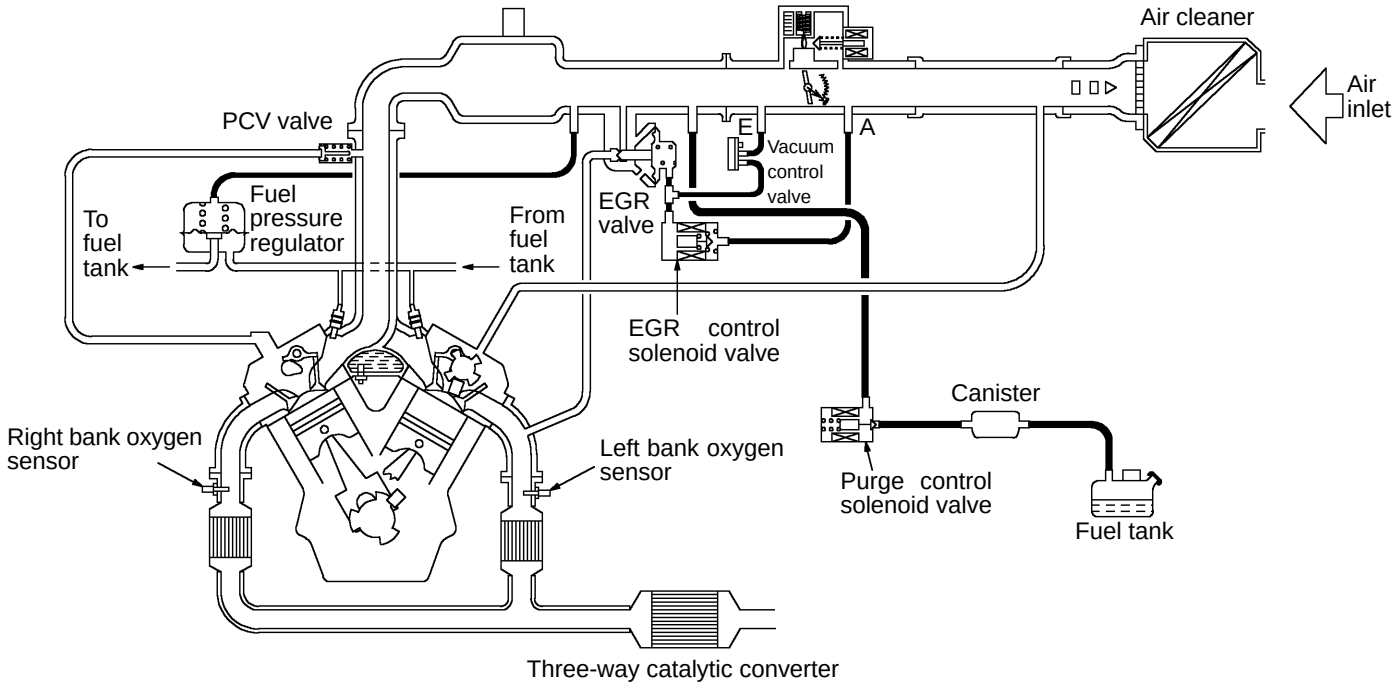
GENERAL

OUTLINE OF CHANGES

The following service procedures have been established to correspond to the addition of vehicles with 6G7-MPI engine for Hong Kong. The other service procedures are the same as for the 6G7-MPI engine for Taiwan.

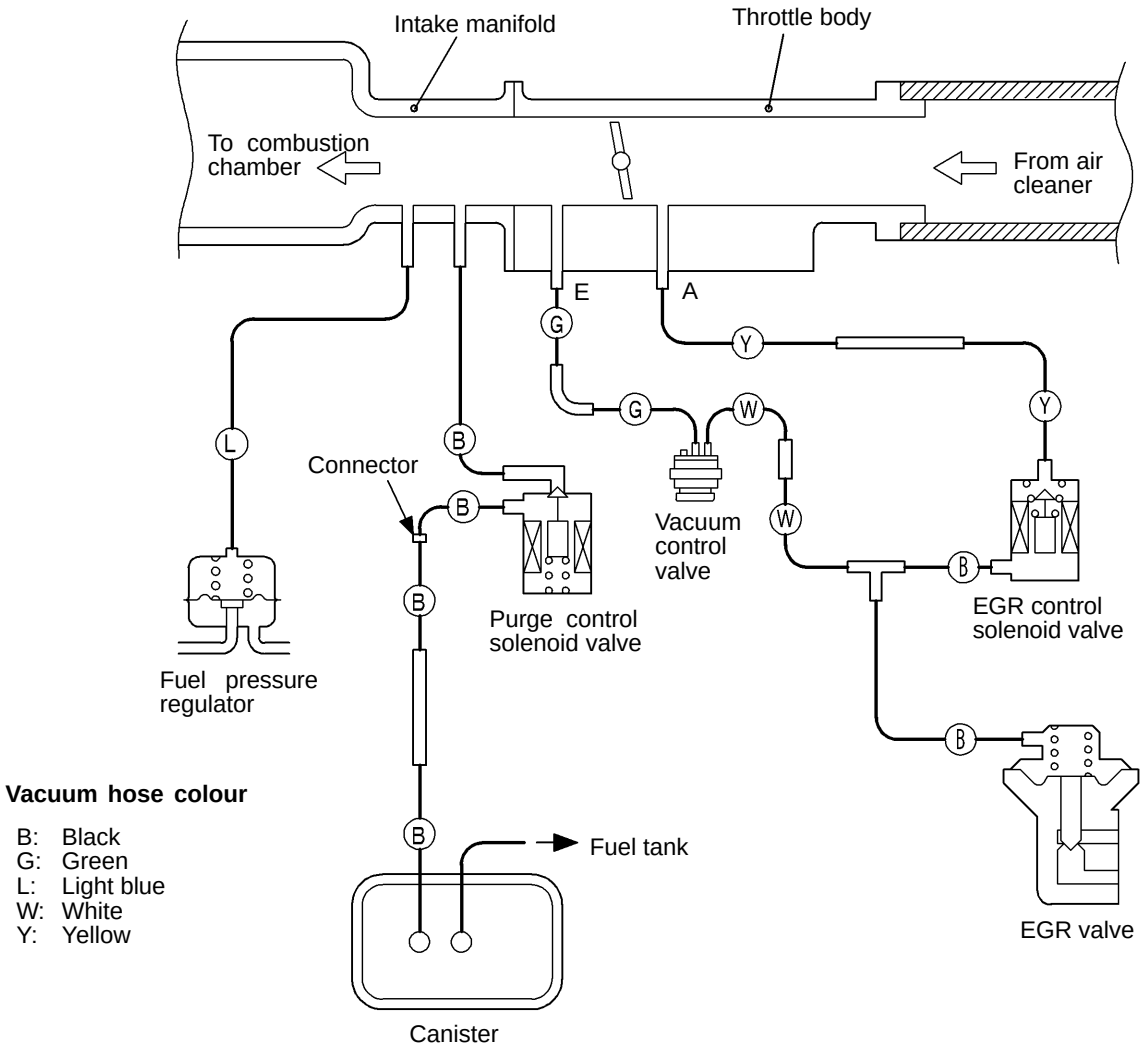
VACUUM HOSE

VACUUM HOSE PIPING DIAGRAM



Main Index
Group TOC

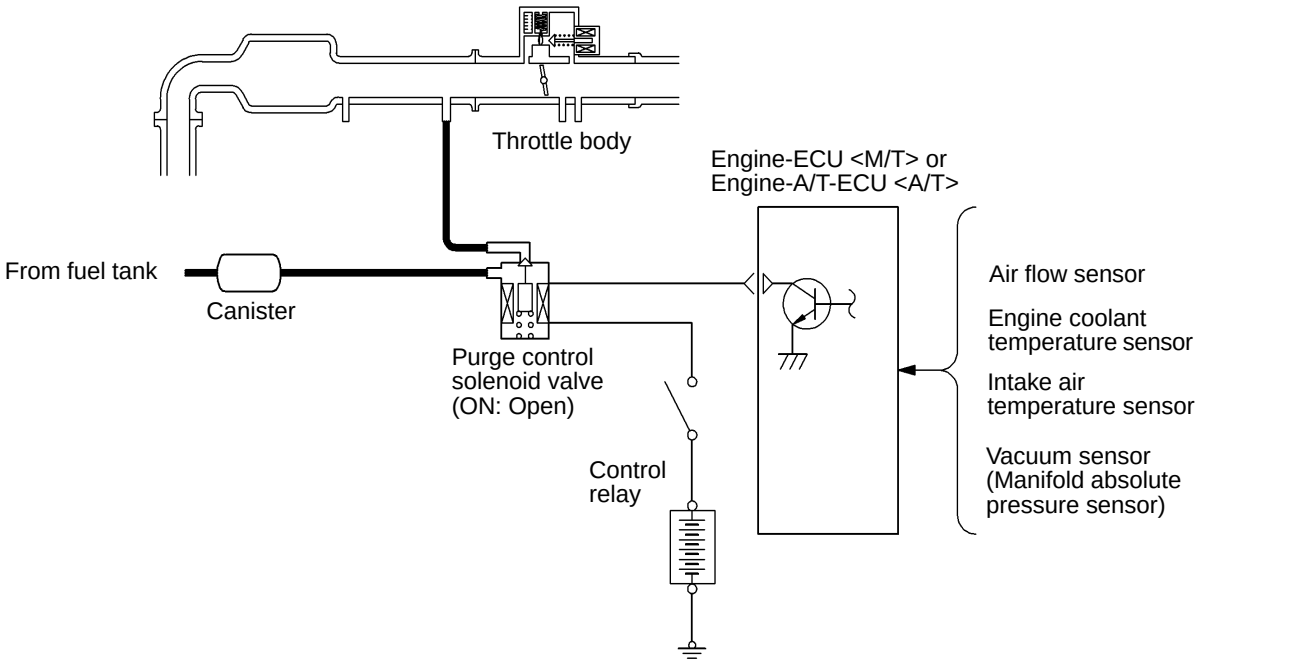
VACUUM CIRCUIT DIAGRAM



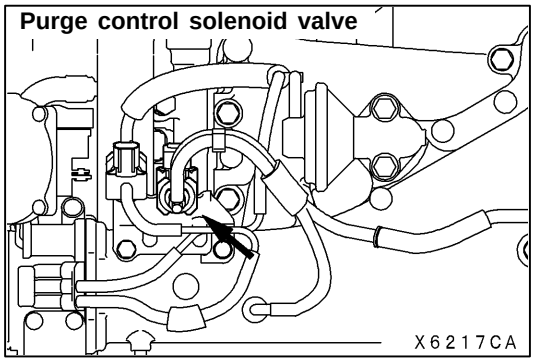
Main Index
Group TOC

EVAPORATIVE EMISSION CONTROL SYSTEM

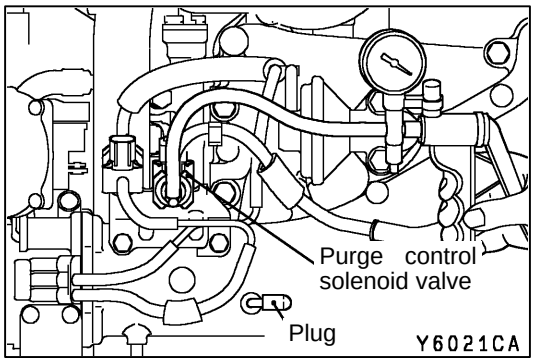
SYSTEM DIAGRAM



COMPONENT LOCATION



Main Index
Group TOC



PURGE CONTROL SYSTEM CHECK

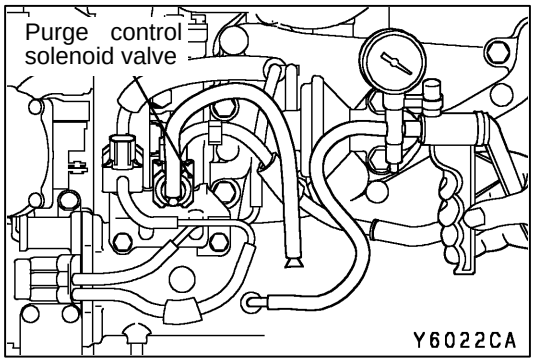
1. Disconnect the vacuum hose (black) from the intake manifold and connect it to a hand vacuum pump.
2. Plug the nipple from which the vacuum hose was removed.
3. When the engine is cold or hot, apply a vacuum of 53 kPa, and check the condition of the vacuum.

When engine is cold
(Engine coolant temperature: 40°C or less)

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

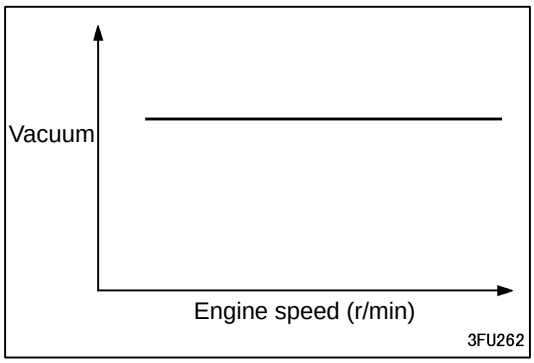
When engine is hot
(Engine coolant temperature: 80°C or higher)

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 from the intake manifold purge vacuum nipple and connect a hand vacuum pump to the nipple.
2. Plug the vacuum hose.

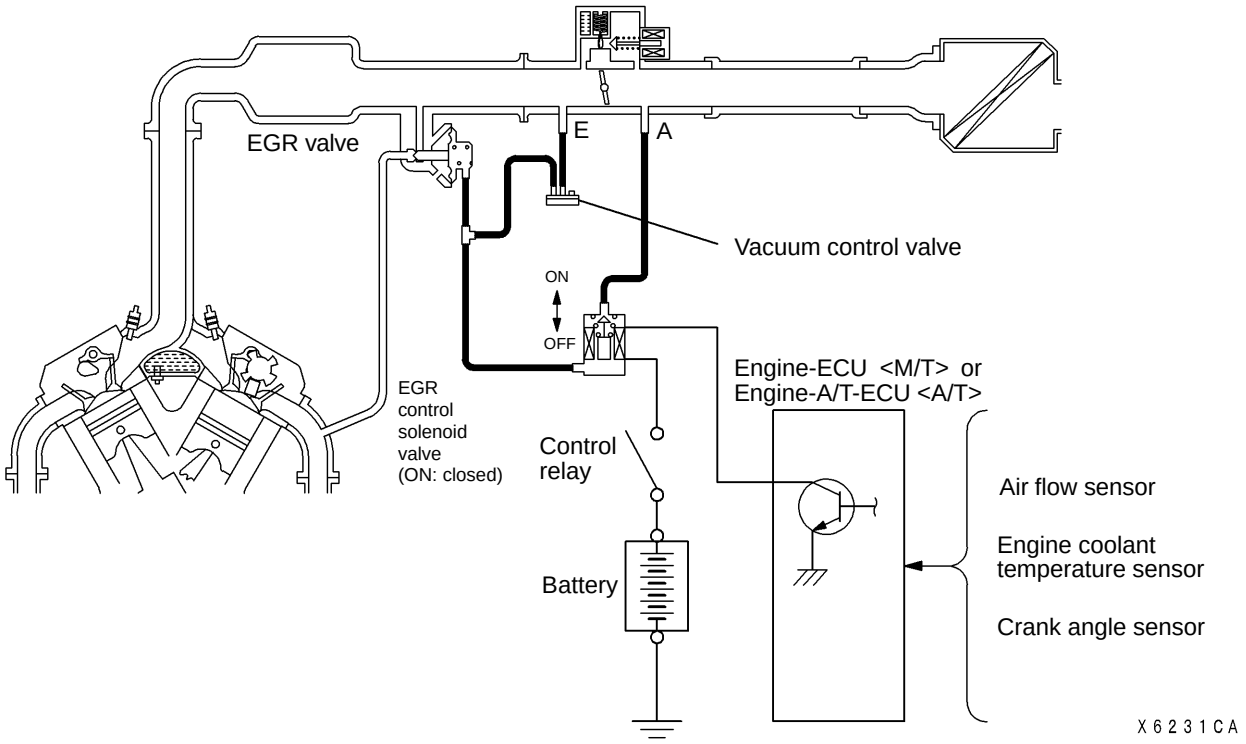


3. Start the engine.
4. Check that a fairly constant negative pressure is generated regardless of the engine speed.
5. If no negative pressure is generated, the port is probably blocked and should be cleaned.

Main Index
Group TOC

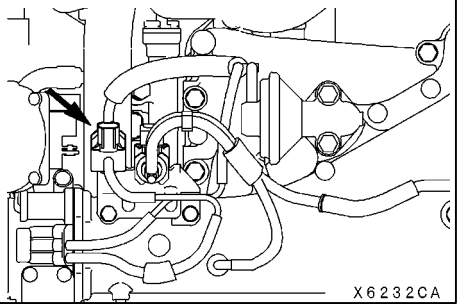
EXHAUST GAS RECIRCULATION (EGR) SYSTEM

SYSTEM DIAGRAM

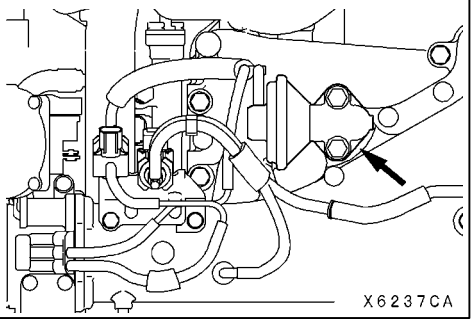


COMPONENT LOCATION

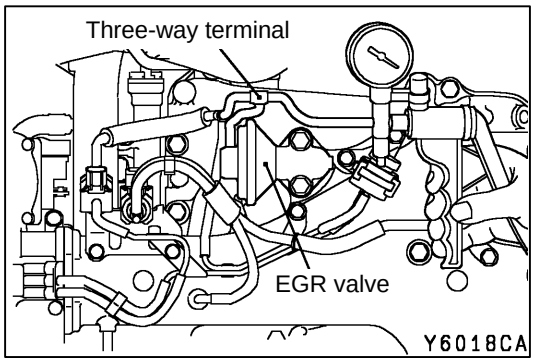
EGR control solenoid valve



EGR valve



Main Index
Group TOC



EXHAUST GAS RECIRCULATION (EGR) CONTROL SYSTEM CHECK

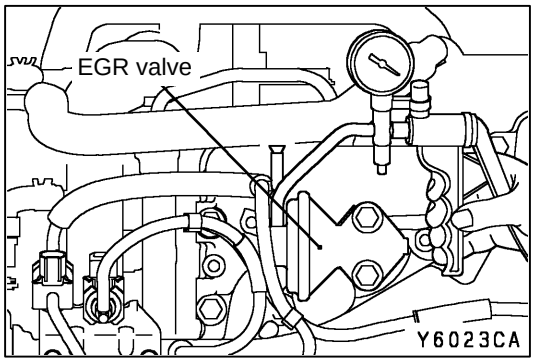
1. Disconnect the vacuum hose (black) from the EGR valve, and then connect a hand vacuum pump via the three-way terminal.
2. When the engine is hot or cold, check the condition of vacuum by racing the engine.

When engine is cold
(Engine coolant temperature: 20°C or less)

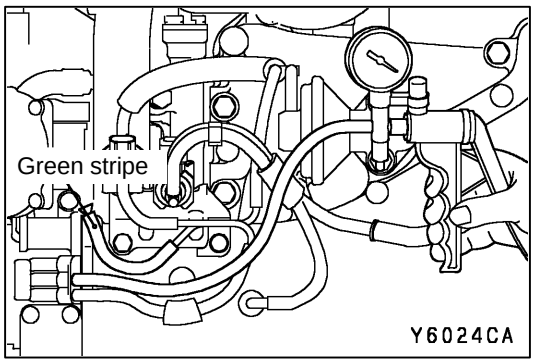
Throttle valve	Normal vacuum condition
Open quickly	No vacuum will generate (the same as barometric pressure.)

When engine is hot
(Engine coolant temperature: 80°C or higher)

Throttle valve	Normal vacuum condition
Open quickly	It will momentarily rise over 13 kPa

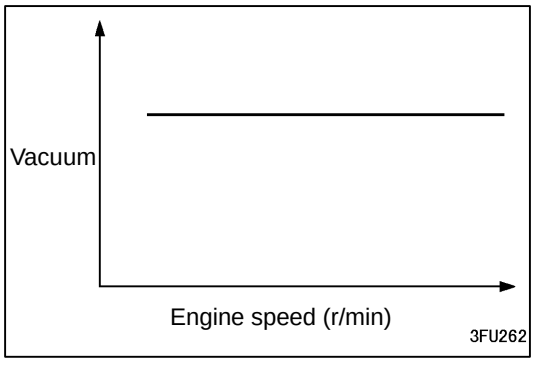


3. Disconnect the three-way terminal.
4. Connect the hand vacuum pump to the EGR valve nipple (black).
5. Check whether the engine stalls or the idling is unstable when a vacuum of 29 kPa or higher is applied during idling.



EGR PORT VACUUM CHECK

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



3. Start the engine.
4. Check that a fairly constant negative pressure is generated regardless of the engine speed.
5. If no negative pressure is generated, the port is probably blocked and should be cleaned.

Main Index
Group TOC

EMISSION CONTROL SYSTEM <4M41>

GENERAL

OUTLINE OF CHANGE

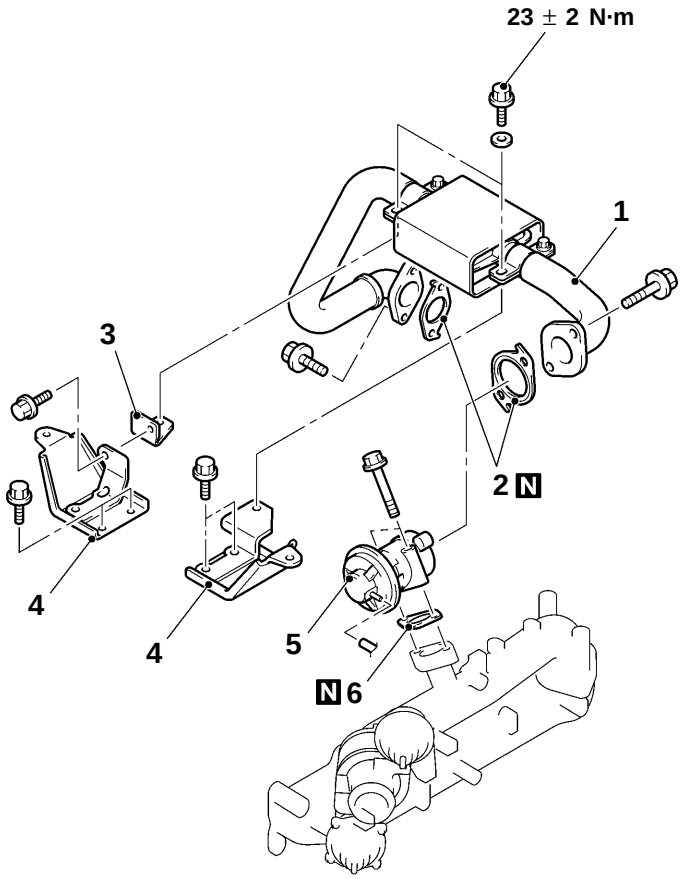
Due to the changes on the EGR pipe, the service procedure of the EGR valve has been established.

EGR VALVE

REMOVAL AND INSTALLATION

Pre-removal and Post-installation Operation
- Engine Coolant Draining and Supplying
- Engine Cover Removal and Installation

<M/T>



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Removal steps

1. EGR pipe
2. EGR pipe gaskets
3. EGR pipe stay
4. Engine cover brackets
5. EGR valve
6. EGR valve gasket

Main Index
Group TOC

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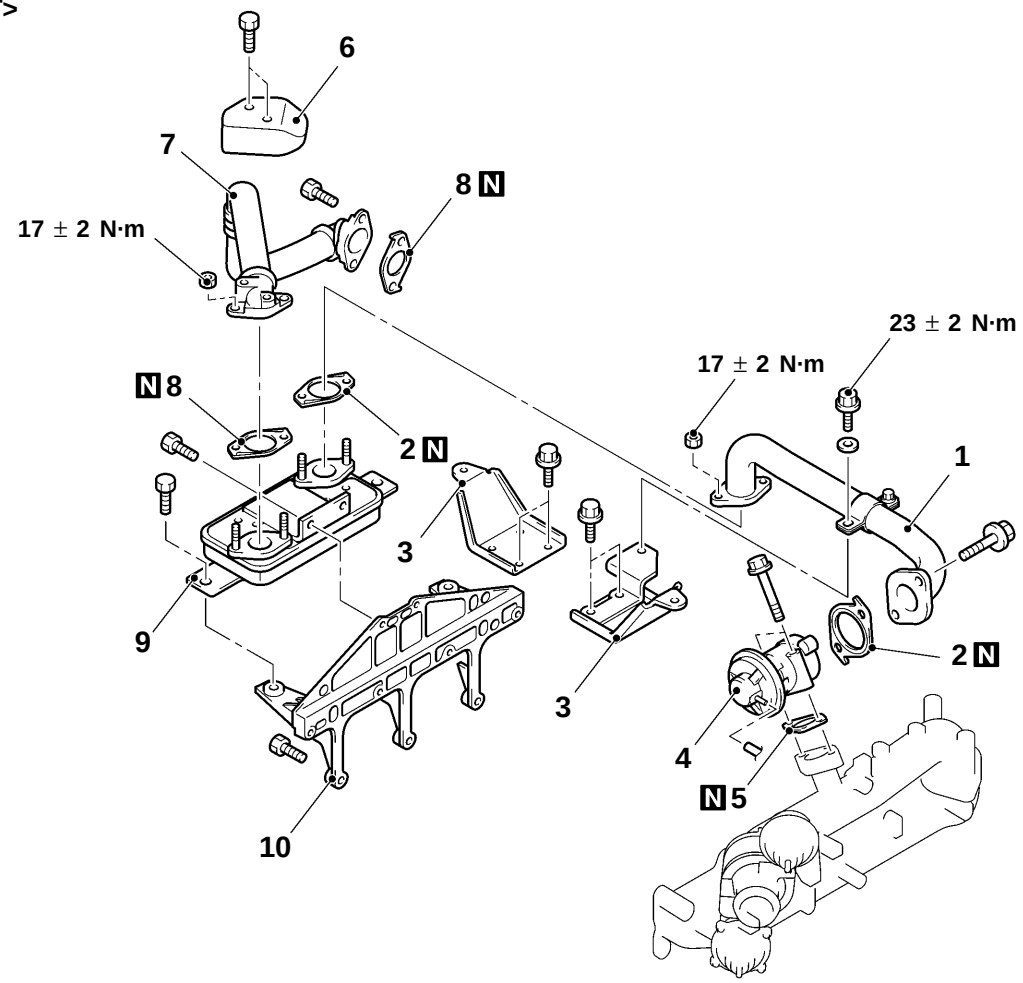

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Removal steps

1. EGR pipe B
2. EGR pipe gaskets
3. Engine cover brackets
4. EGR valve
5. EGR valve gasket
- Air cleaner assembly
6. EGR pipe insulator
7. EGR pipe A
8. EGR pipe gaskets
9. EGR box
10. EGR box bracket