

EMISSION CONTROL SYSTEM

EC00B-04

PURPOSE

The emission control systems are installed to reduce the amount of CO, HC and NOx exhausted from the engine (3) and (4)), to prevent the atmospheric release of blow-by gas-containing HC (1) and evaporated fuel containing HC being released from the fuel tank (2).

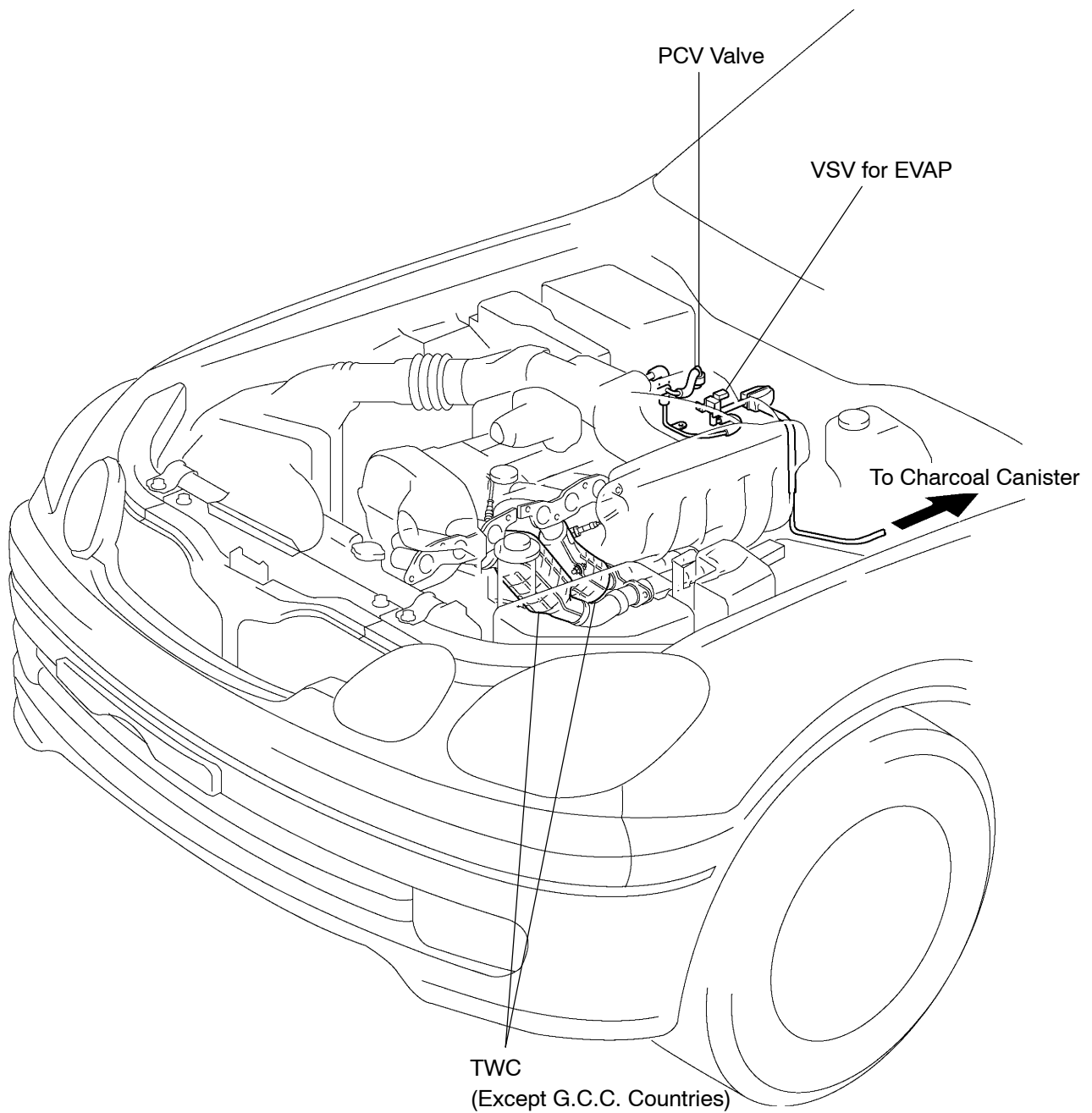
The function of each system is shown in these table.

System	Abbreviation	Function
(1) Positive Crankcase Ventilation	PCV	Reduces blow-by gas (HC)
(2) Evaporative Emission Control	EVAP	Reduces evaporated HC
(3) Three-Way Catalytic Converter	TWC	Reduces CO, HC and NOx
(4) Electronic Fuel Injection *	EFI	Injects a precisely timed, optimum amount of fuel for reduced exhaust emissions

Remark: * For inspection and repair of the EFI system, refer to the FI section this manual.

PARTS LAYOUT AND SCHEMATIC DRAWING LOCATION

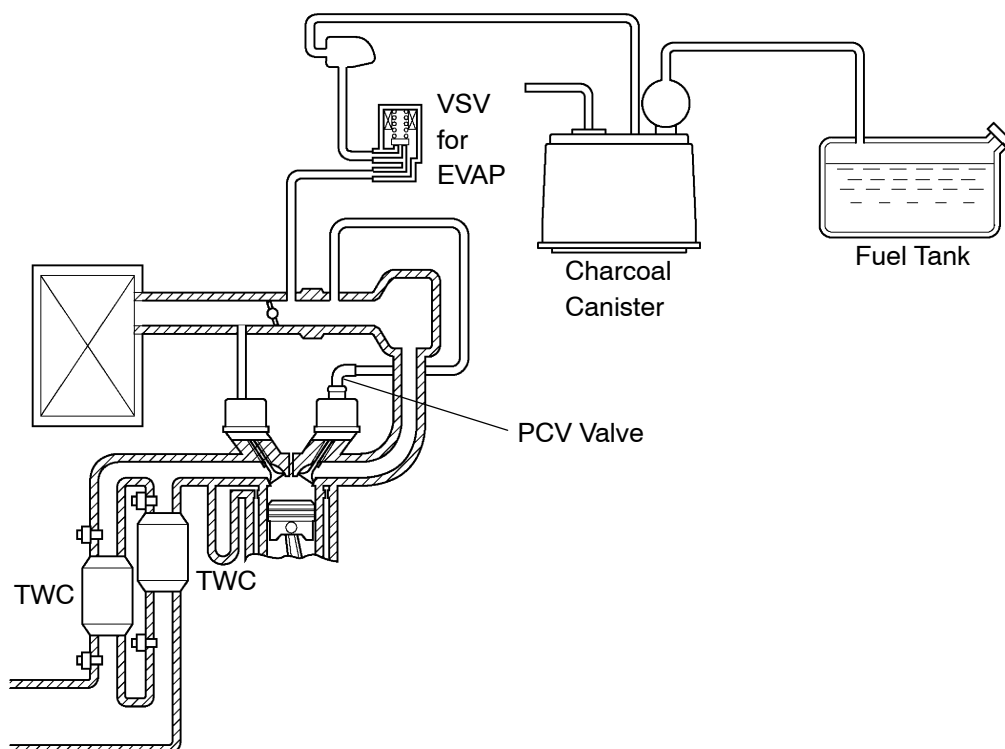
EC04V-02



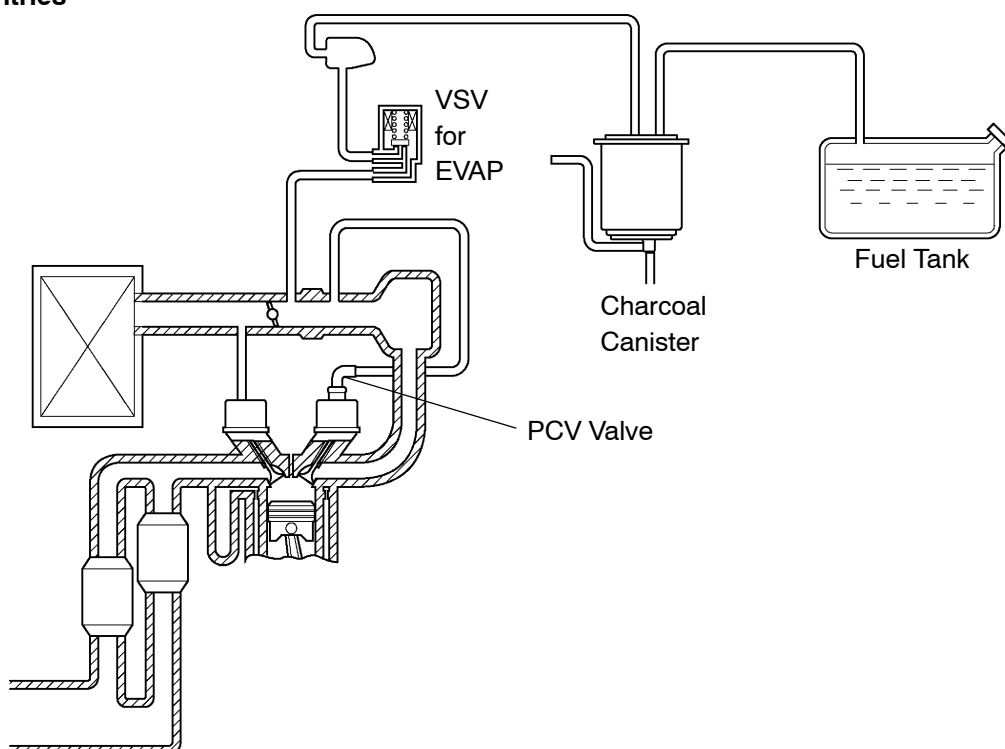
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DRAWING

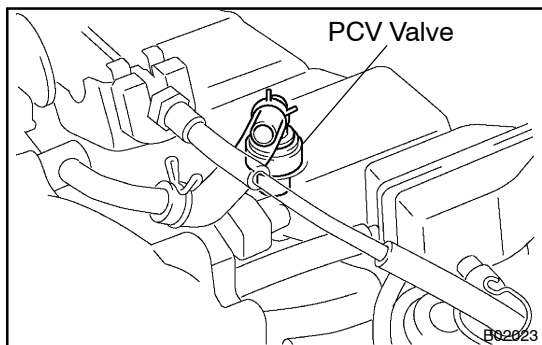
Except G.C.C. Countries



G.C.C. Countries



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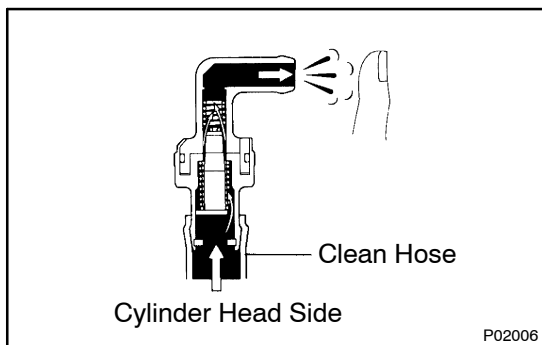


POSITIVE CRANKCASE VENTILATION (PCV) SYSTEM INSPECTION

EC04X-02

1. REMOVE PCV VALVE

- (a) Disconnect the PCV hose from the PCV valve.
- (b) Remove the PCV valve.



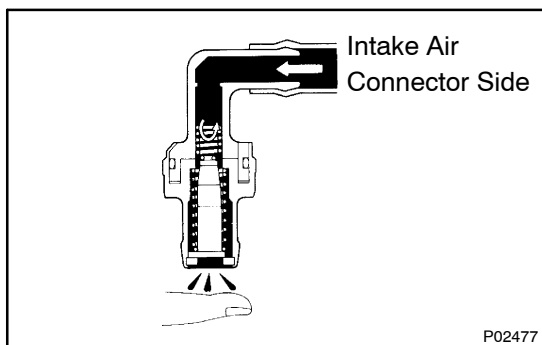
2. INSTALL CLEAN HOSE TO PCV VALVE

3. INSPECT PCV VALVE OPERATION

- (a) Blow air into the cylinder head side, and check that air passes through easily.

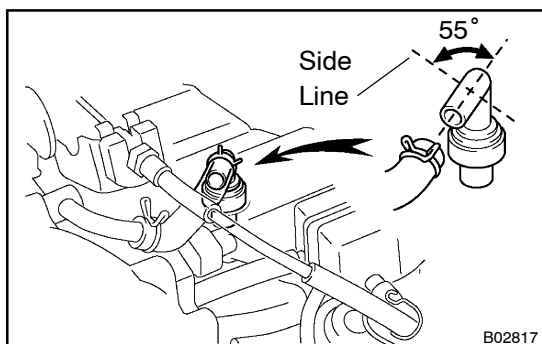
CAUTION:

- Do not suck air through the valve.
- Petroleum substances inside the valve are harmful.



- (b) Blow air into the intake air connector side, and check that air passes through with difficulty.

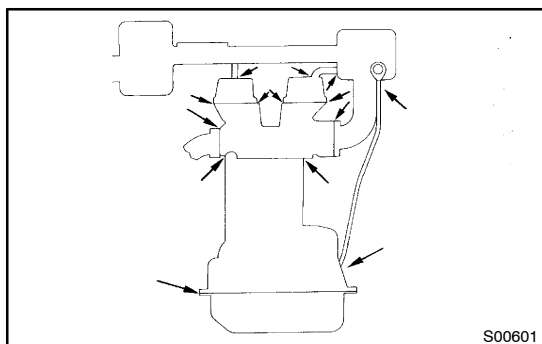
If operation is not as specified, replace the PCV valve.



4. REMOVE CLEAN HOSE FROM PCV VALVE

5. REINSTALL PCV VALVE

The port faces in the direction indicated in the illustration.



6. VISUALLY INSPECT HOSES, CONNECTIONS AND GASKETS

Check for cracks, leaks or damage.

EVAPORATIVE EMISSION (EVAP) CONTROL SYSTEM INSPECTION

EC052-02

1. VISUALLY INSPECT LINES AND CONNECTIONS

Look for connections, sharp bends or damage.

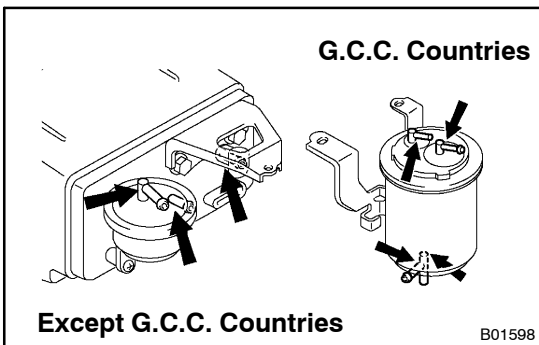
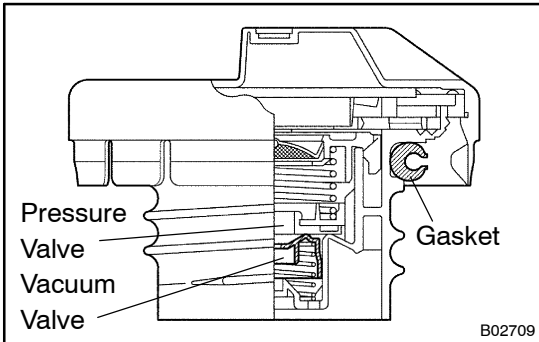
2. VISUALLY INSPECT FUEL TANK

Look for deformation, cracks or fuel leakage.

3. VISUALLY INSPECT FUEL TANK CAP

Check if the cap and/or gasket are deformed or damaged.

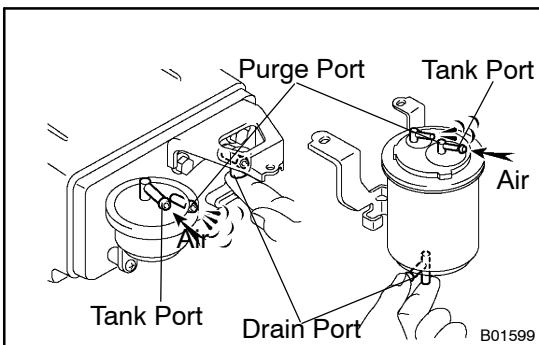
If necessary, repair or replace the cap.



4. REMOVE CHARCOAL CANISTER

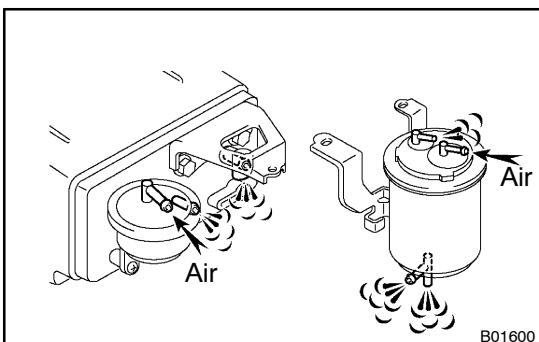
5. INSPECT CHARCOAL CANISTER

- (a) Visually check the charcoal canister for cracks or damage.

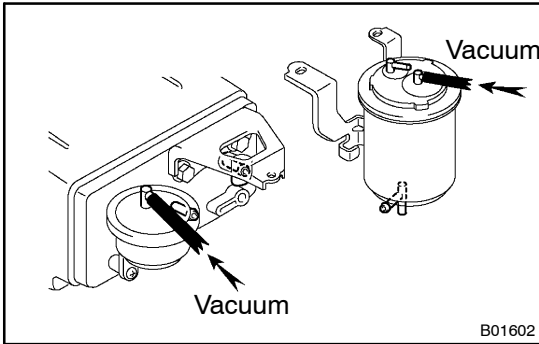


- (b) Inspect the charcoal canister operation.

- (1) While holding the drain port(s) closed, blow air (19.6 kPa, 0.2 kgf/cm², 2.8 psi) into the tank port and check that air flows from the purge port.

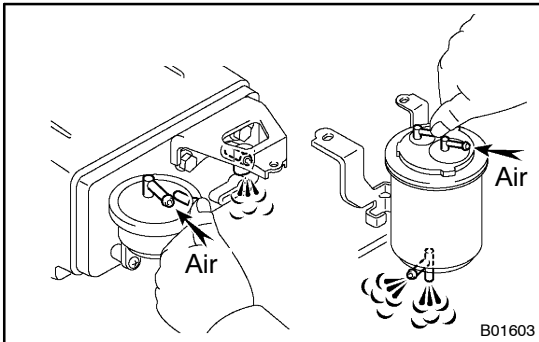


- (2) Blow air (19.6 kPa, 0.2 kgf/cm², 2.8 psi) into tank port and check that air flows without resistance from the other port.



- (3) Apply vacuum (9.8 kPa, 73.5 mmHg, 2.9 in. Hg) to tank port and check that the vacuum gauge indicator with settle at about 2.0 kPa (15.0 mmHg, 0.6 in. Hg).

If operation is not as specified, replace the charcoal canister.



- (c) Clean the filter in the canister.

Clean the filter by blowing 294 kPa (3 kgf/cm², 43 psi) of compressed air into tank port while holding purge port closed.

NOTICE:

- Do not attempt to wash the canister.
- No activated carbon should come out.

6. REINSTALL CHARCOAL CANISTER

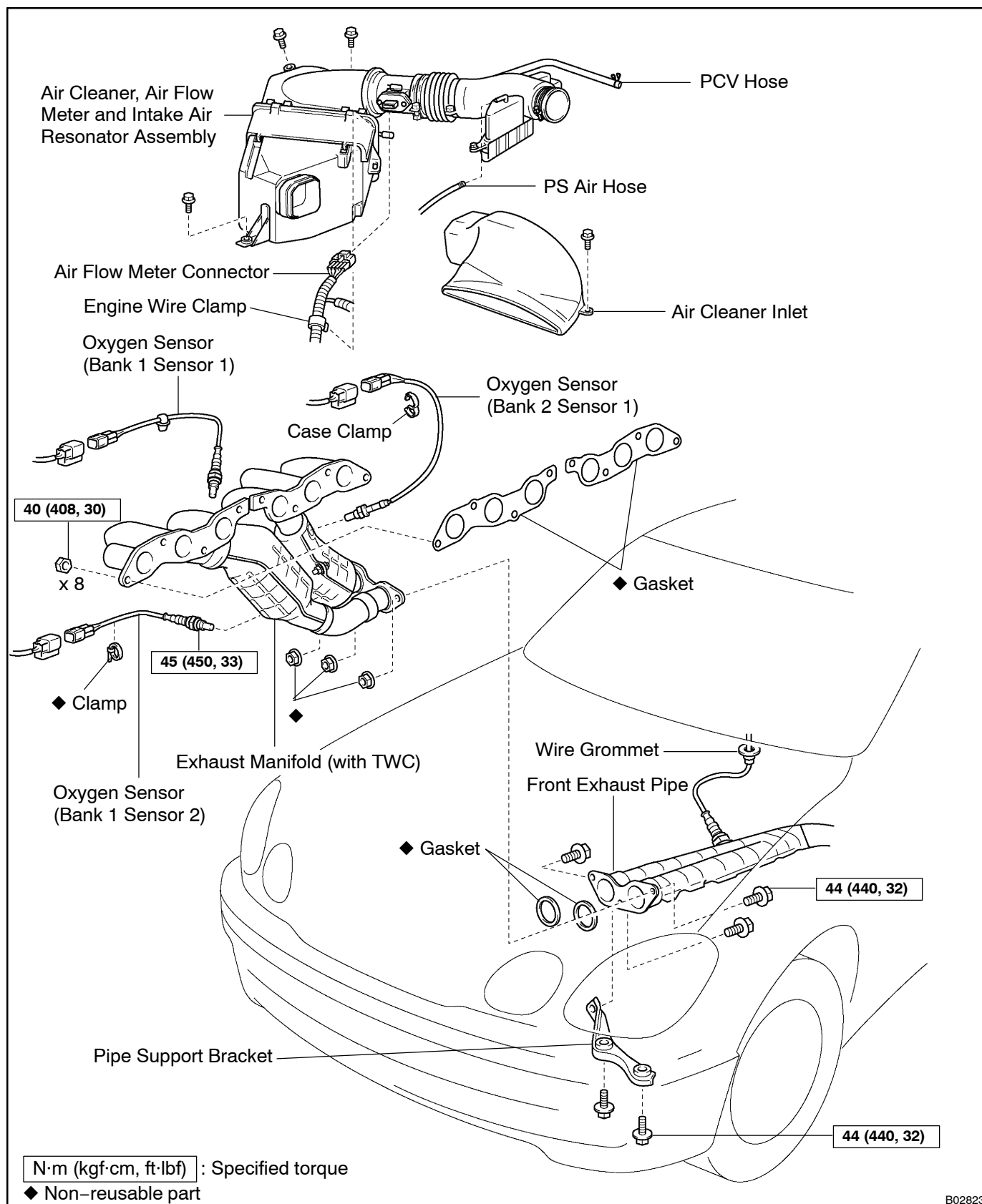
7. REMOVE VSV FOR EVAP

8. INSPECT VSV FOR EVAP (See page FI-51)

9. REINSTALL VSV FOR EVAP

THREE-WAY CATALYTIC CONVERTER (TWC) SYSTEM (Except G.C.C. Countries) COMPONENTS

EC066-01



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INSPECTION

1. **CHECK CONNECTIONS FOR LOOSENESS OR DAMAGE**
2. **CHECK CLAMPS FOR WEAKNESS, CRACKS OR DAMAGE**
3. **CHECK FOR DENTS OR DAMAGE**

If any part of the protector is damaged or dented to the extent that it contacts the three-way catalytic converter, repair or replace it.

4. **CHECK HEAT INSULATOR FOR DAMAGE**
5. **CHECK FOR ADEQUATE CLEARANCE BETWEEN CATALYTIC CONVERTER AND HEAT INSULATOR**

REPLACEMENT

1. REMOVE AIR CLEANER INLET
2. REMOVE AIR CLEANER, AIR FLOW METER AND INTAKE AIR RESONATOR ASSEMBLY
(See page EM-61)
3. DISCONNECT OXYGEN SENSORS FROM EXHAUST MANIFOLD
 - (a) Disconnect the 3 oxygen sensor connectors.
 - (b) Disconnect the 2 oxygen sensors (bank 1 sensor 1, 2) from the exhaust manifold.
4. DISCONNECT FRONT EXHAUST PIPE FROM EXHAUST MANIFOLD (See page EM-33)
5. REMOVE EXHAUST MANIFOLD (WITH TWC)
 - (a) Using a 14 mm deep socket wrench, remove the 8 nuts, the exhaust manifold and 2 gaskets.
 - (b) Remove the oxygen sensor (bank 2 sensor 1) from the exhaust manifold.
6. REINSTALL EXHAUST MANIFOLD (WITH TWC)
 - (a) Install the oxygen sensor (bank 2 sensor 1) to the exhaust manifold.
Torque: 45 N·m (450 kgf·cm, 33 ft·lbf)
 - (b) Install 2 new gaskets to the cylinder head.
 - (c) Using a 14 mm deep socket wrench, install the exhaust manifold with the 8 nuts. Uniformly tighten the nuts in several passes.
Torque: 40 N·m (408 kgf·cm, 30 ft·lbf)
7. RECONNECT FRONT EXHAUST PIPE TO EXHAUST MANIFOLD (See page EM-51)
8. RECONNECT OXYGEN SENSORS TO EXHAUST MANIFOLD
 - (a) Install the 2 oxygen sensors (bank 1 sensor 1, 2) to the exhaust manifold.
Torque: 45 N·m (450 kgf·cm, 33 ft·lbf)
 - (b) Connect the 3 oxygen sensor connectors.
9. REINSTALL AIR CLEANER, AIR FLOW METER AND INTAKE AIR RESONATOR ASSEMBLY
(See page EM-66)
10. REINSTALL AIR CLEANER INLET

