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EC

EMISSION CONTROL SYSTEM

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1. OUTLINE OF EMISSION CONTROL SYSTEM

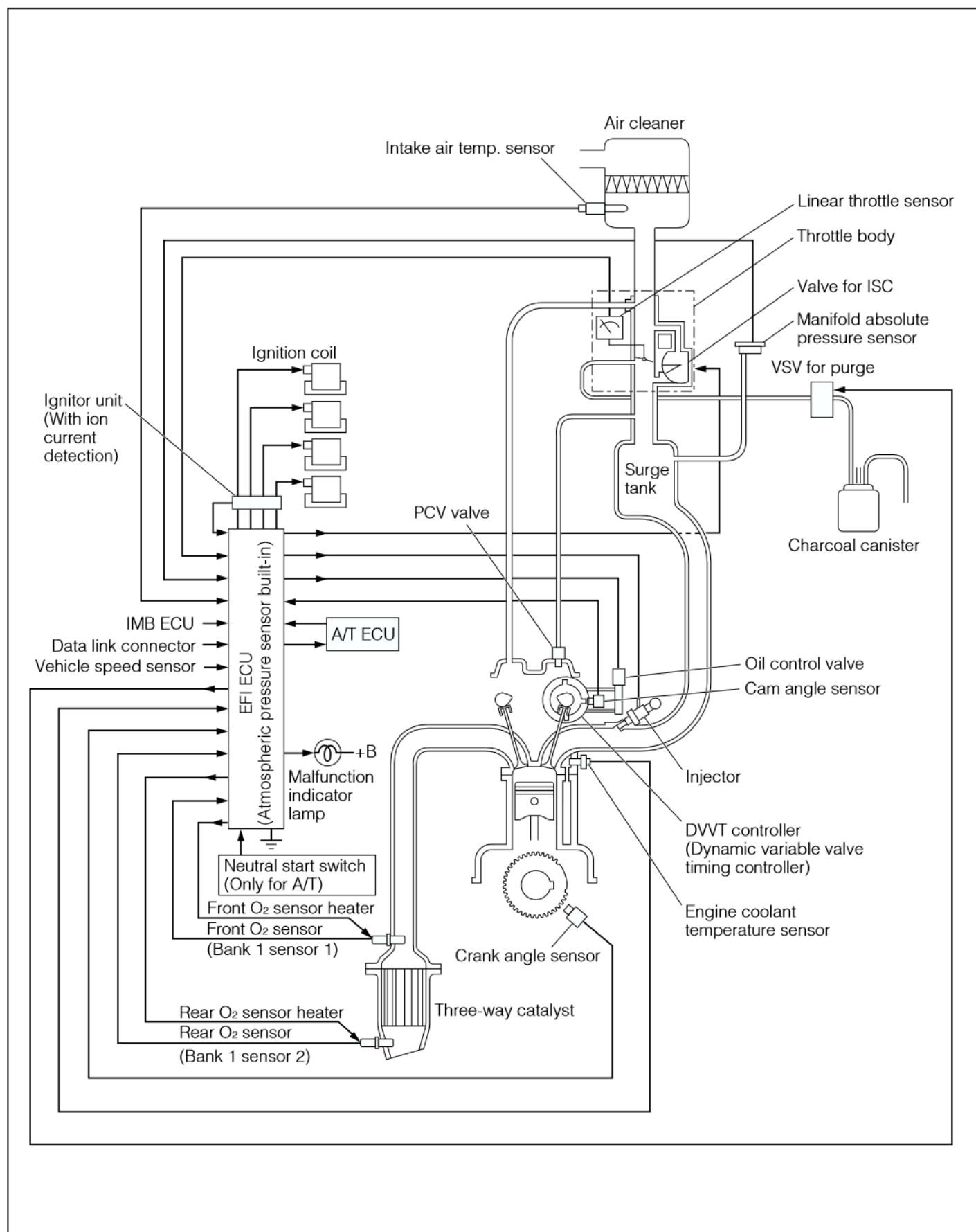
1-1. PURPOSE OF SYSTEM

	Pollutants to be controlled			Purpose and function	For system check procedure, refer to..
	HC	CO	NOx		
Blow-by gas recirculation	○	○	—	A system whereby the blow-by gas generated inside the engine is introduced to the intake manifold, instead of releasing it to the atmosphere, in order that it may be burnt again in the combustion chamber.	EC-6
Three-way catalyst	○	○	○	A device whereby HC and CO contained in the exhaust gas are oxidized and NOx is deoxidized by the monolithic type catalytic converter, thereby reducing those emissions of HC, CO and NOx to be released to the atmosphere.	EM section
Feedback control (EFI)	○	○	○	The feedback control system ensures a proper air-to-fuel ratio required by the engine. Also it ensures an optimum amount of oxygen to be contained in the exhaust gas so as to obtain high purification rate of the three-way catalyst.	EF section
Electronic ignition timing control (ESA)	—	—	○	In this electronic ignition timing control, based on signals sent from various sensors, the emission control computer always keeps the ignition timing at an optimum timing according to the engine conditions.	EF section
Deceleration fuel cut	○	○	—	A device which prevents the fuel supply during deceleration period in order to reduce HC and CO emissions.	EF section
Dynamic variable valve timing control (DVVT)	○	—	○	This controller reduces NOx and HC emission by controlling the opening/closing of the intake valves to a timing best suited to running conditions.	EF section
Fuel evaporative emission control	○	—	—	A system whereby HC emitted from the fuel tank is absorbed to a charcoal canister, thereby preventing HC from being released to the atmosphere.	EC-7

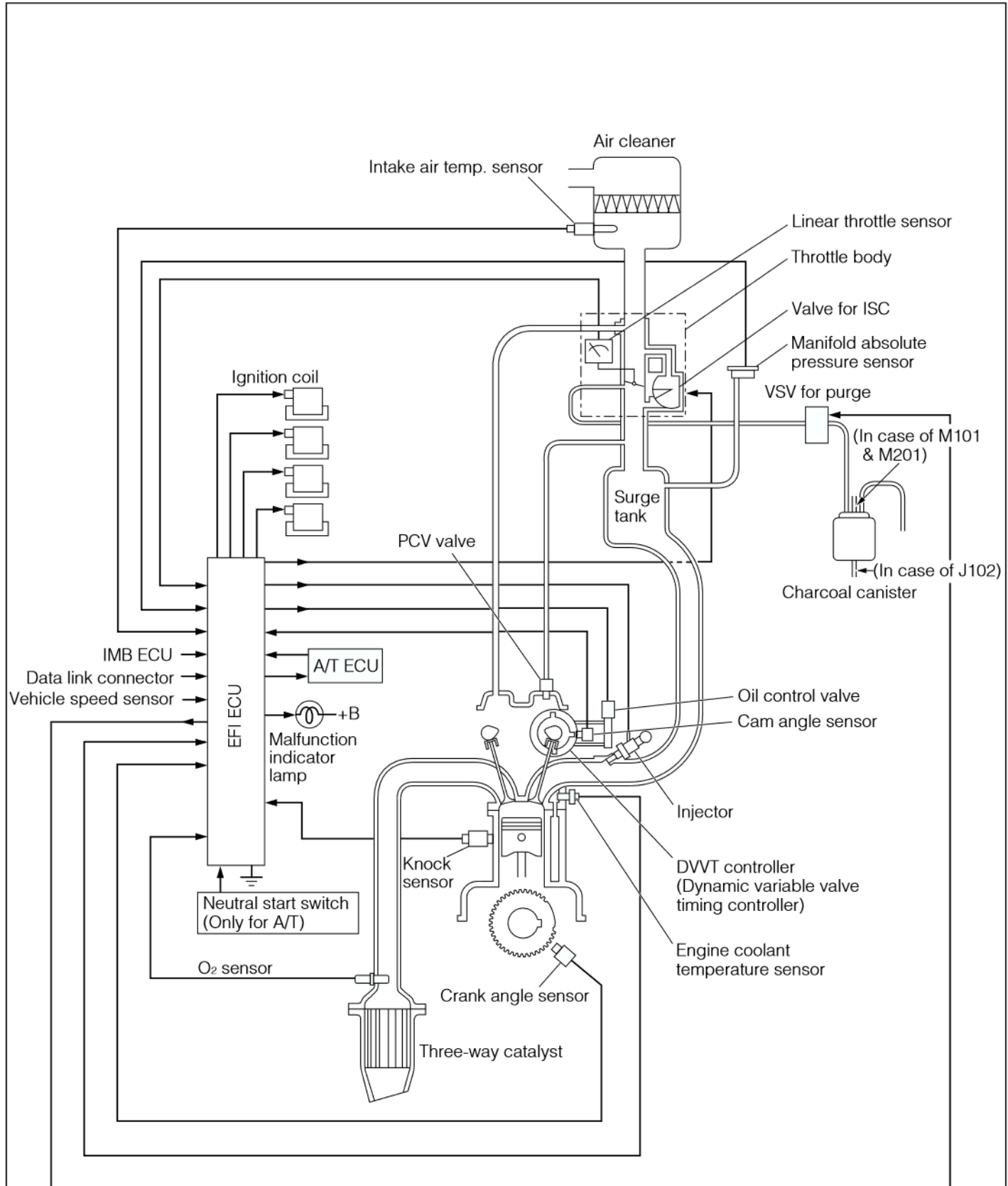
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2. SCHEMATIC DIAGRAM

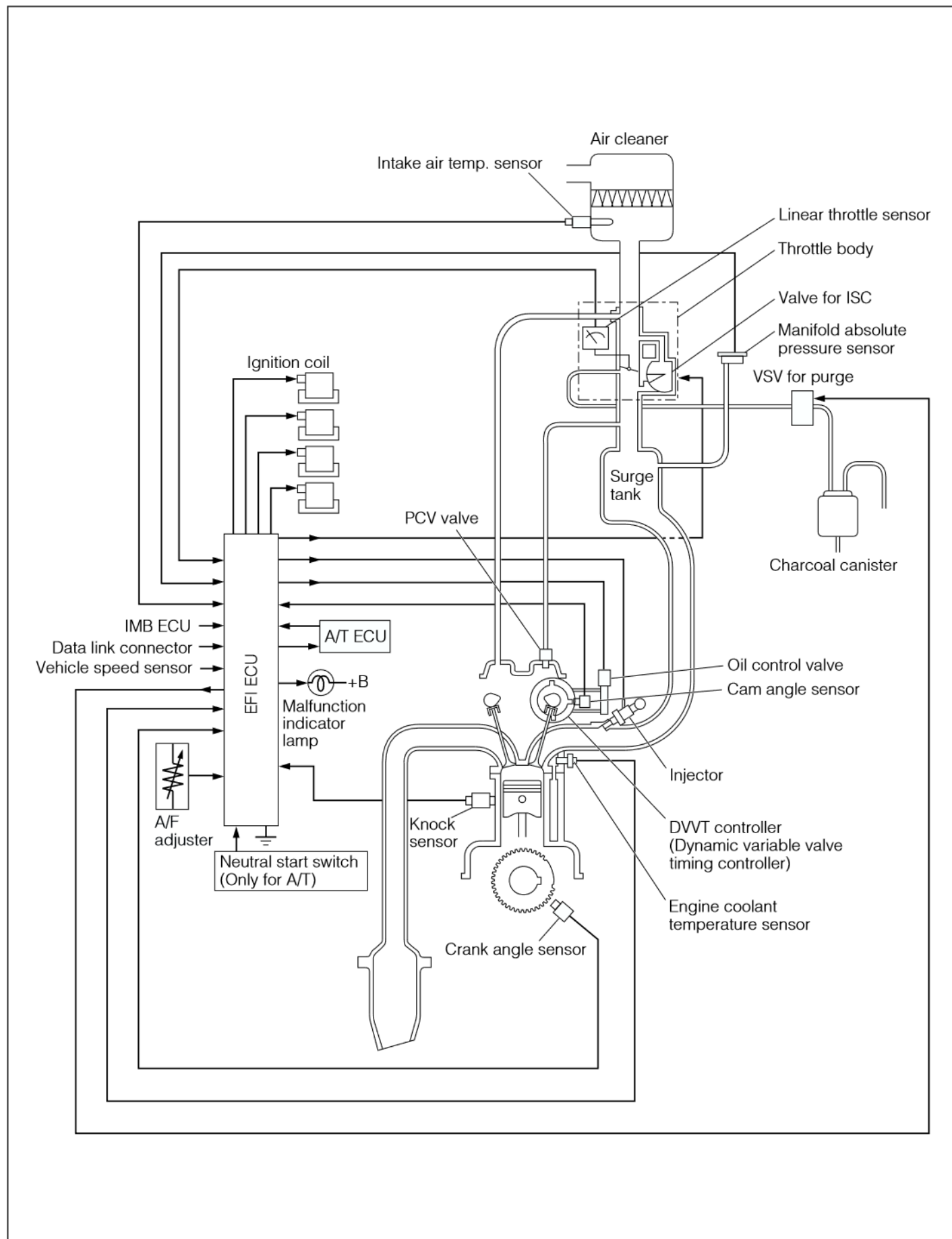
2-1. FOR EU SPECIFICATIONS OF M101, M201 AND J102



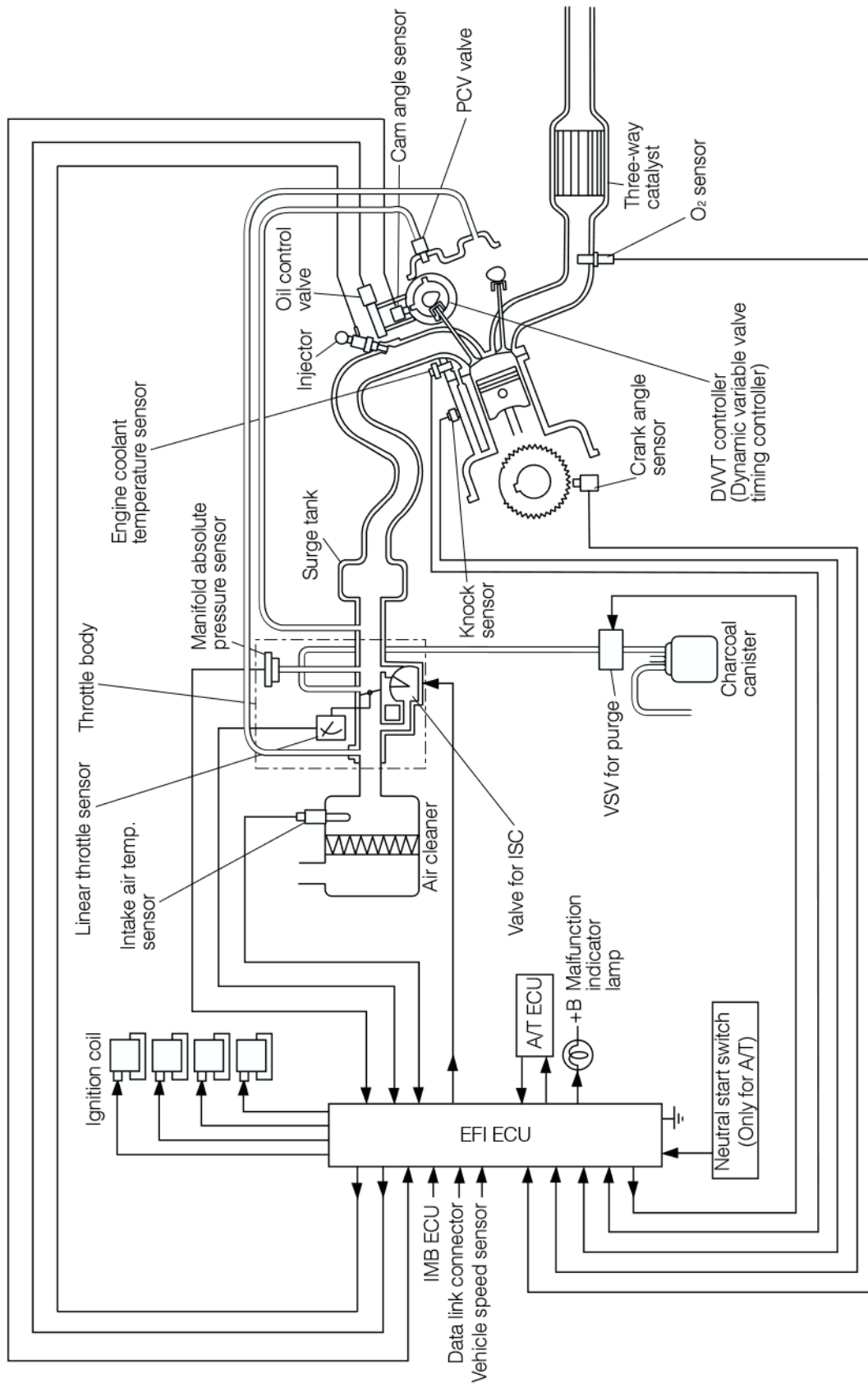
2-2. FOR AUS AND GENERAL SPECIFICATIONS OF M101, M201 AND J102



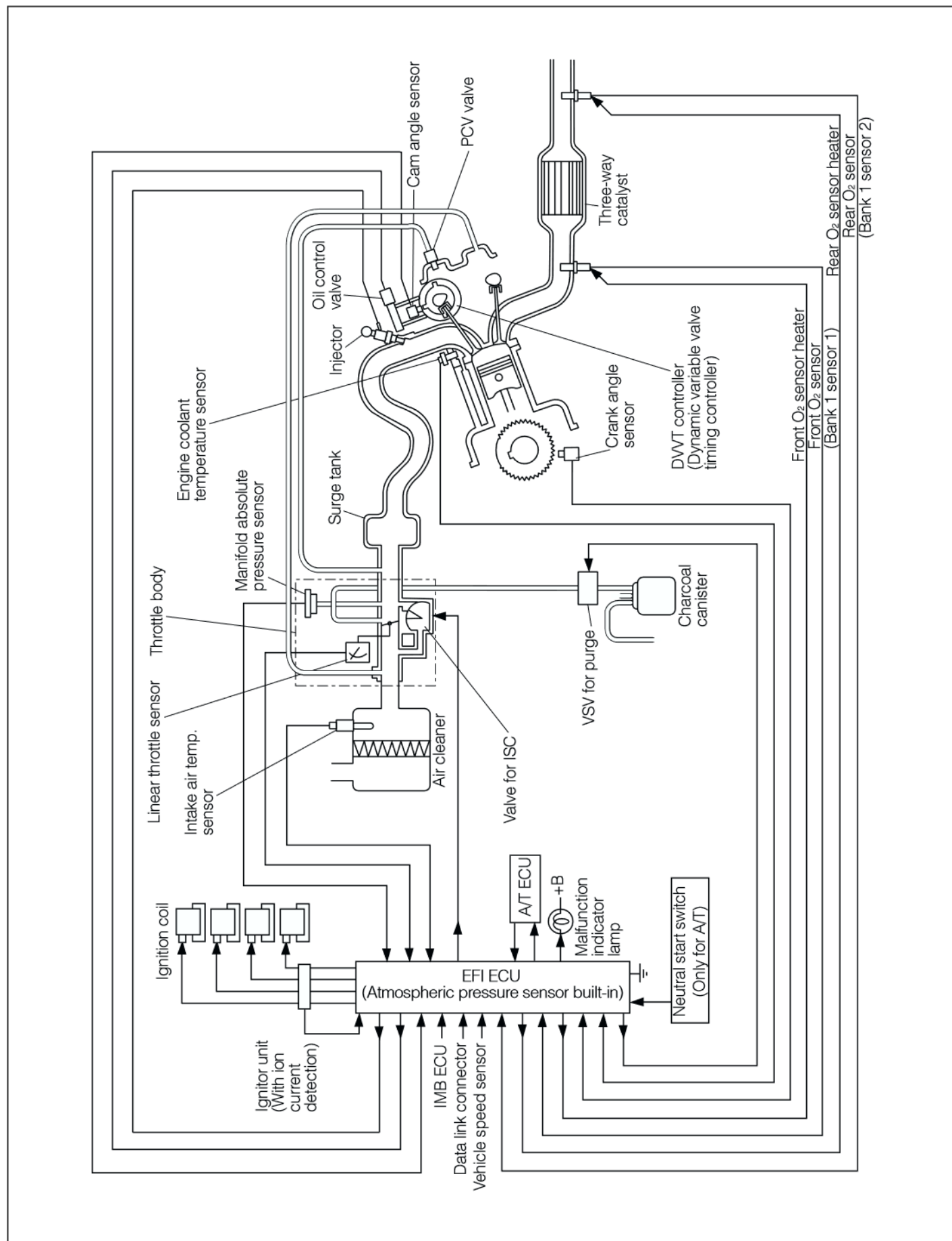
2-3. FOR LEADED SPECIFICATIONS OF J102



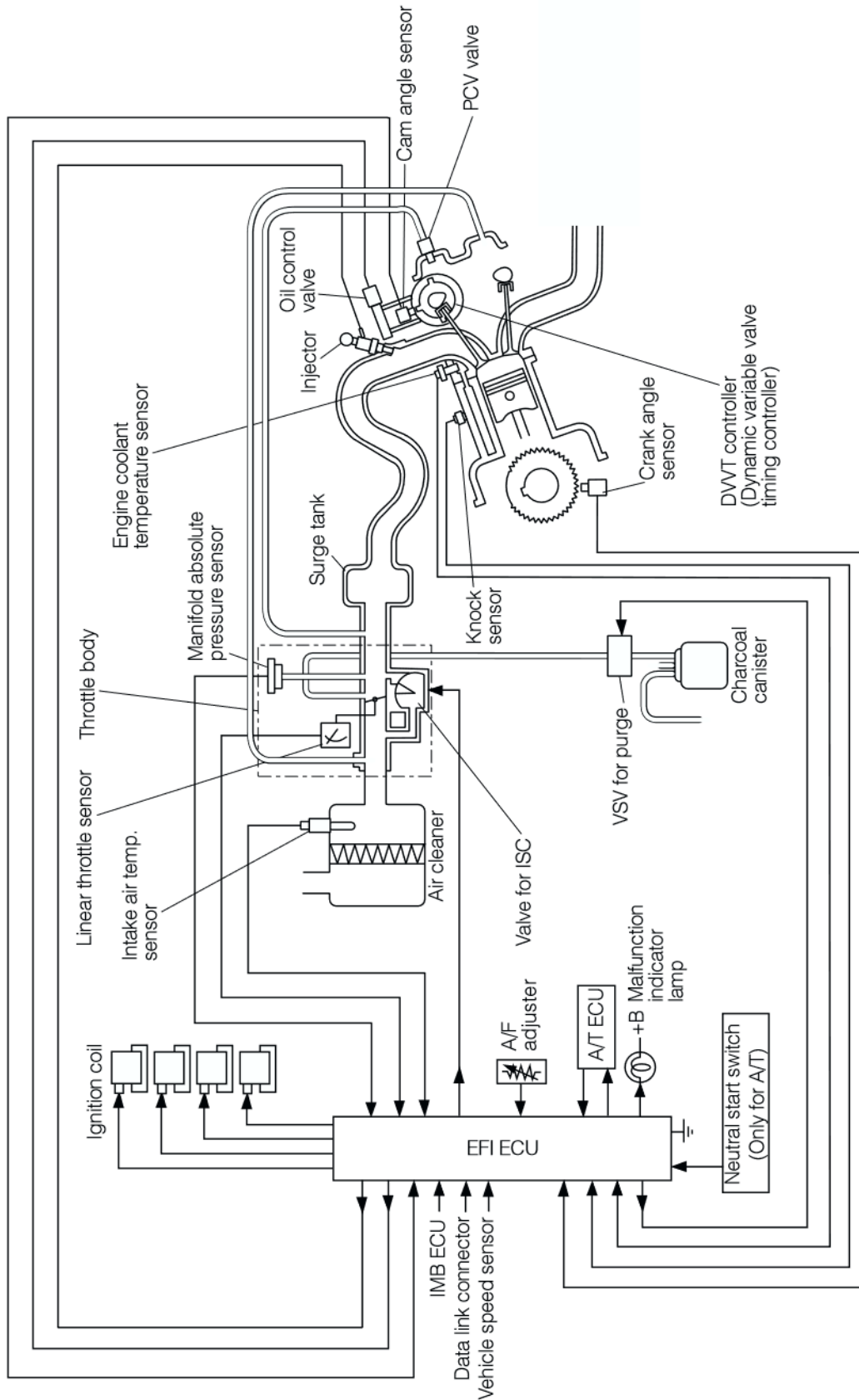
2-4. FOR EU SPECIFICATIONS OF S221



2-5. FOR AUS AND GENERAL SPECIFICATIONS OF S221



2-6. FOR LEADED SPECIFICATIONS OF S221

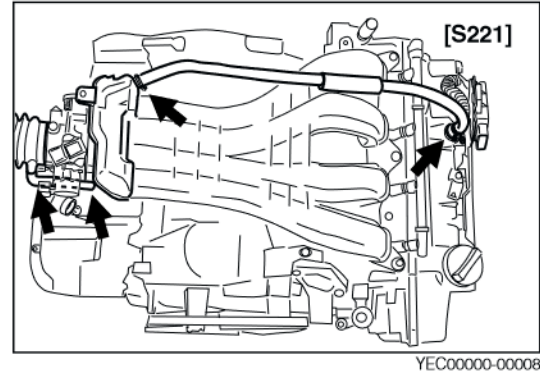
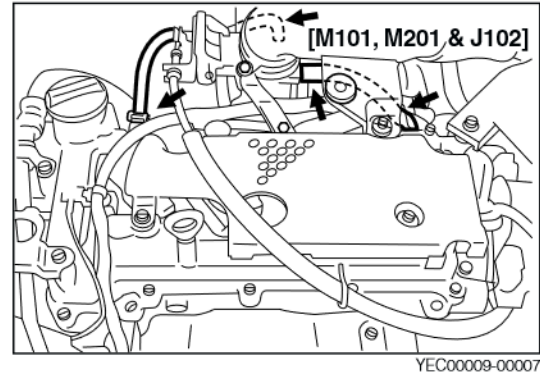


3. INSPECTION OF POSITIVE CRANKCASE VENTILATION SYSTEM

Visual inspection of hoses and connections

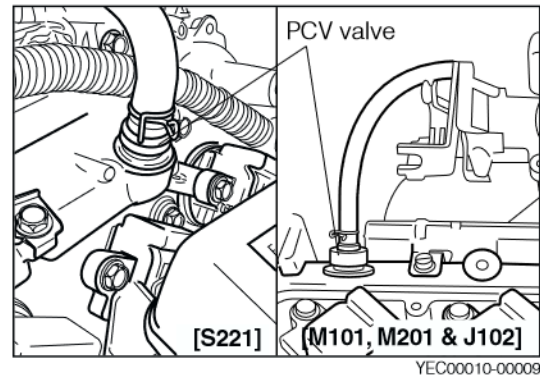
Check the hoses and connections for cracks, leakage or damage.

If any parts exhibit fault, replace or repair them, as required.



Inspection of PCV Valve

1. Disconnect the PCV hose from the PCV valve.
2. Remove the PCV valve.



3. Install clean hose to PCV valve.
4. Inspect PCV valve operation.
 - (1) Blow air into the cylinder head side, and check that air passes through easily.

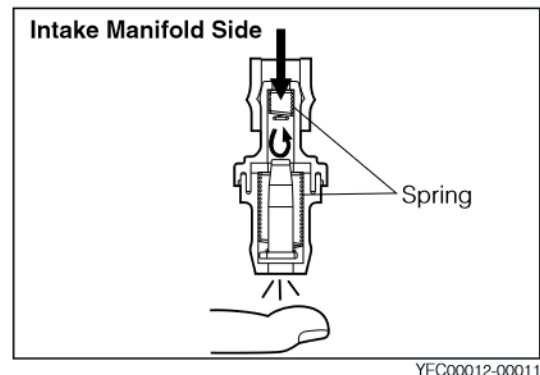
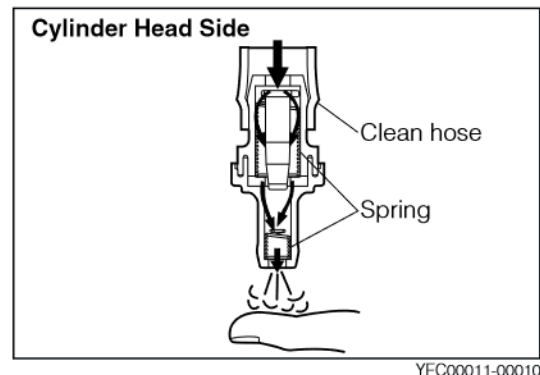
CAUTION:

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

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

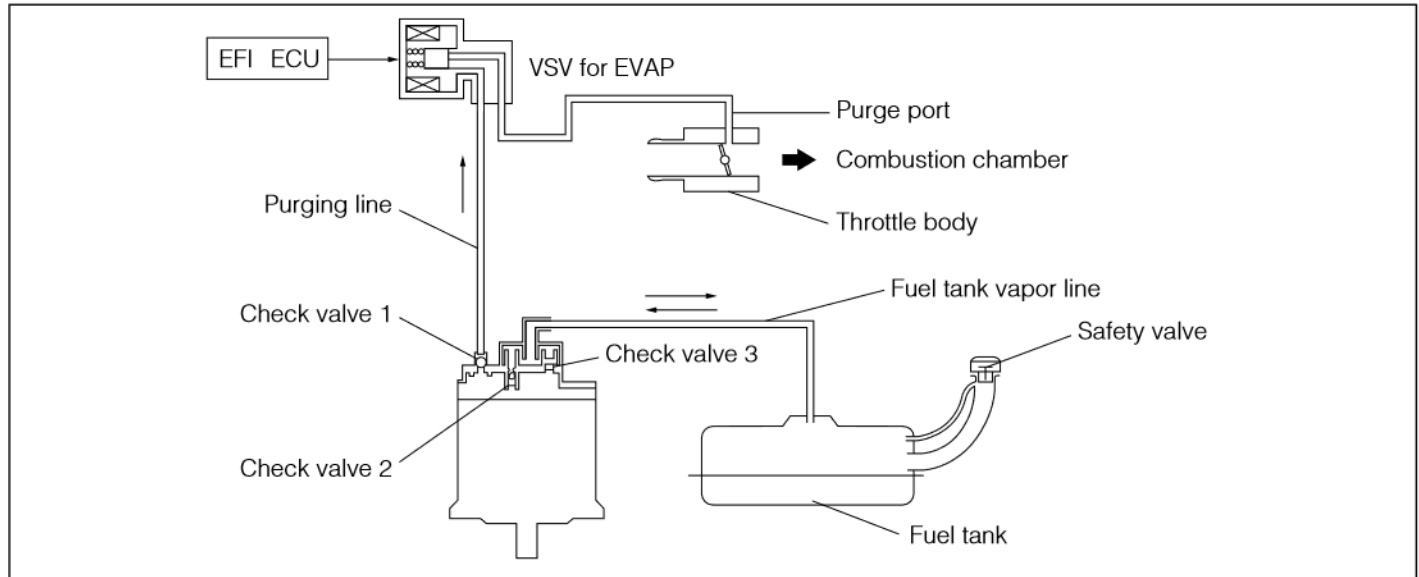
NOTE:

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



4. INSPECTION OF FUEL EVAPORATIVE EMISSION CONTROL SYSTEM

4-1. COMPONENT LAYOUT



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4-2. INSPECTION OF FUEL VAPOR LINES, FUEL TANK & FILLER CAP

1. Visual inspection of fuel vapor lines and connections for loose connections, kinks or damage
If any damage is present, repair or replace the parts, as required.
2. Visual inspection of fuel tank
Check the fuel tank for deformation, cracks or fuel leakage.
If any damage is present, repair or replace the part, as required.
3. Inspection of the fuel filler cap
Check the fuel filler cap and gasket for damage or deformation.
Also check that air continuity with some resistance exists on the fuel filler cap.

Replace the cap, if necessary.

NOTE:

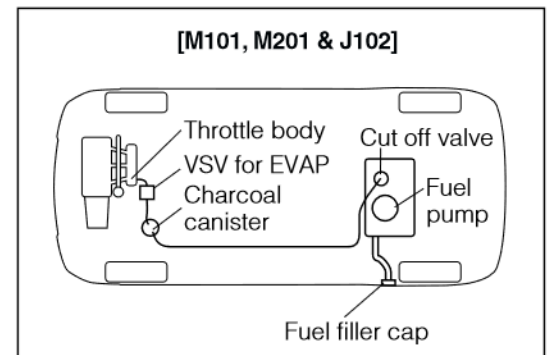
- If the fuel tank is deformed by negative and positive pressure, be sure to replace the fuel filler cap with a new one after replacing the fuel tank.

4. Inspection of charcoal canister
 - (1) Detach the hose band from the charcoal canister.
 - (2) Disconnect the rubber hoses from the charcoal canister.

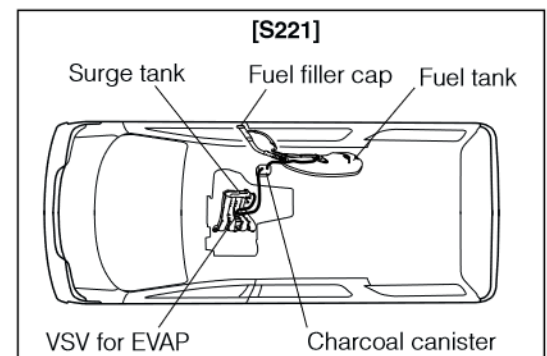
NOTE:

- Prior to the disconnection of the rubber hose, put a tag on each of the rubber hoses so that they may be re-connected correctly to the original position.

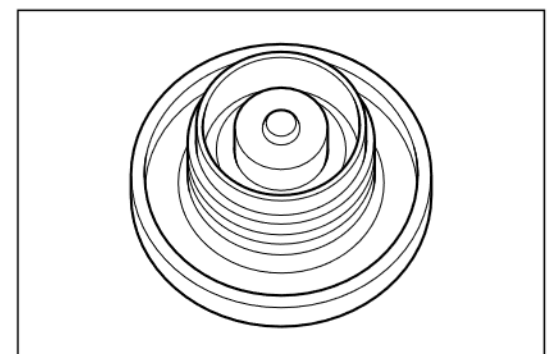
- (3) Remove the charcoal canister from the vehicle by pulling up the charcoal canister case.



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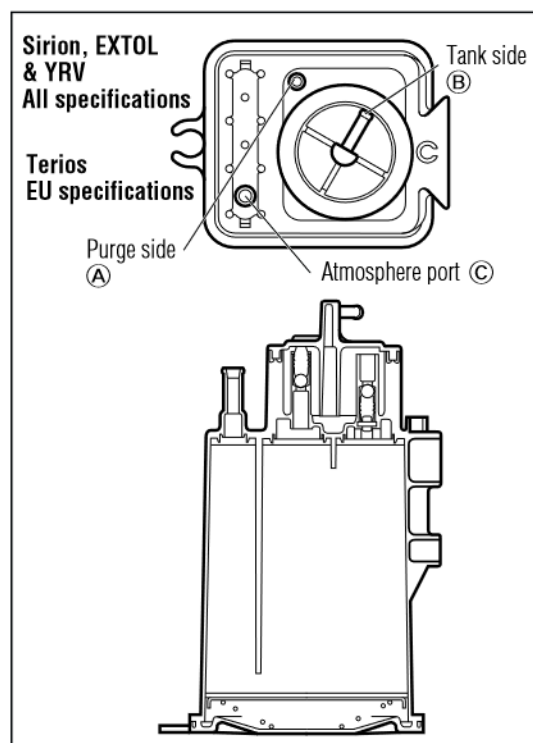


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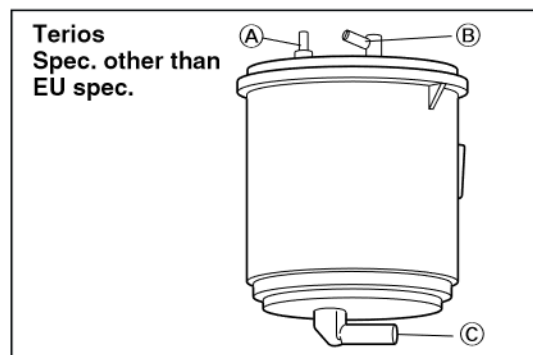


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- (4) Visually inspect the charcoal canister case for cracks or damage.
If any damage is found, replace the charcoal canister with a new one.
- (5) Check of charcoal canister for air leakage
Ensure that no air leakage is present when ensure that no air leakage is present when compressed air of 29.4 kPa is applied to the atmosphere side pipe (C) with the throttle body side (A) and fuel tank side (B) pipes plugged.
If air leakage is present, replace the charcoal canister with a new one.
- (6) Ensure that no air continuity exists when blowing your breath into the purge side (A) pipe of the charcoal canister.
If air continuity exists, replace the charcoal canister with a new one.
- (7) Check of charcoal canister for restriction
- ① Ensure that air continuity exists on the atmosphere side (C) pipe, when blowing your breath into the fuel tank side pipe (B) while the purge side (A) pipe is plugged.
If no air continuity exists, replace the charcoal canister with a new one.
 - ② Ensure that air continuity exists when a negative pressure is applied to the purge side pipe (A) using a MityVac.
If no air continuity exists, replace the charcoal canister with a new one.
- (8) Install the charcoal canister to the vehicle.
- (9) Reconnect the rubber hoses and attach new hose bands.



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4-3. INSPECTION OF VSV FOR EVAP

Refer to Mention EF.

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