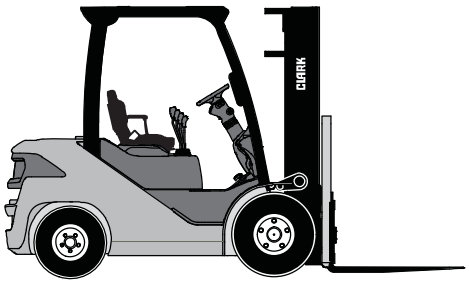
SERVICE MANUAL

S20/25/30/35 D

[ISUZU Engine Truck]

Rated Capacity : 2000 - 3500 kg



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CLARK THE FORKLIFT 100 Years EST. 1917

CLARK
THE FORKLIFT

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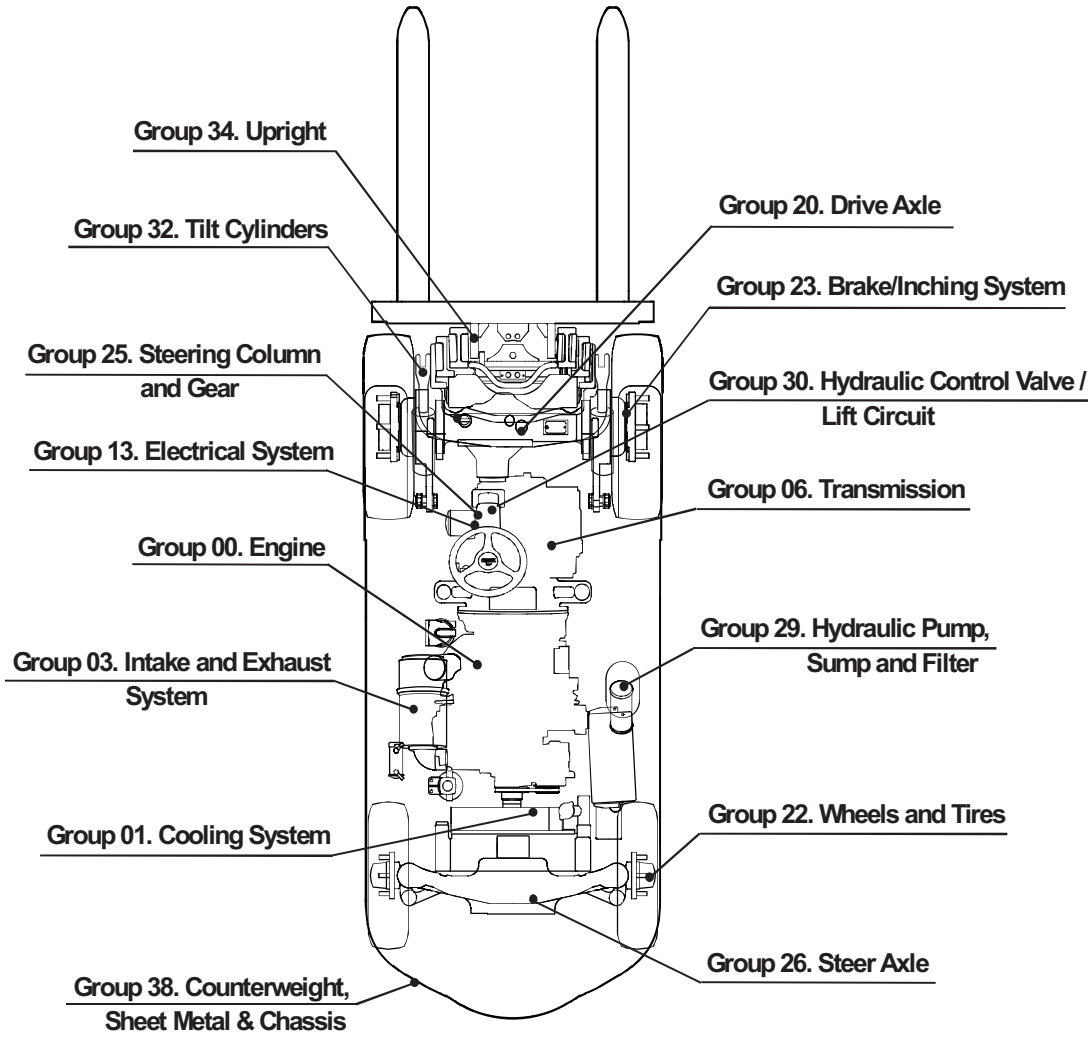
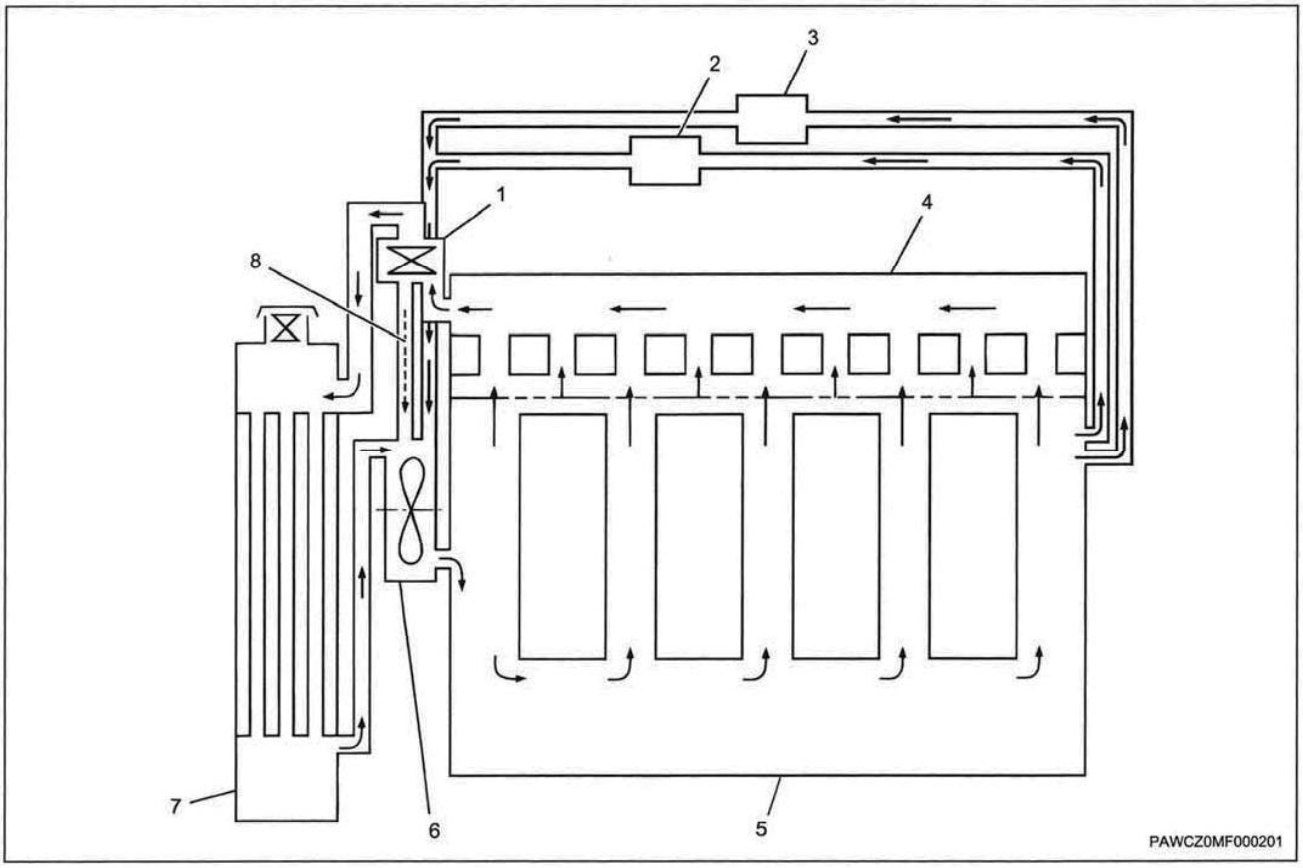


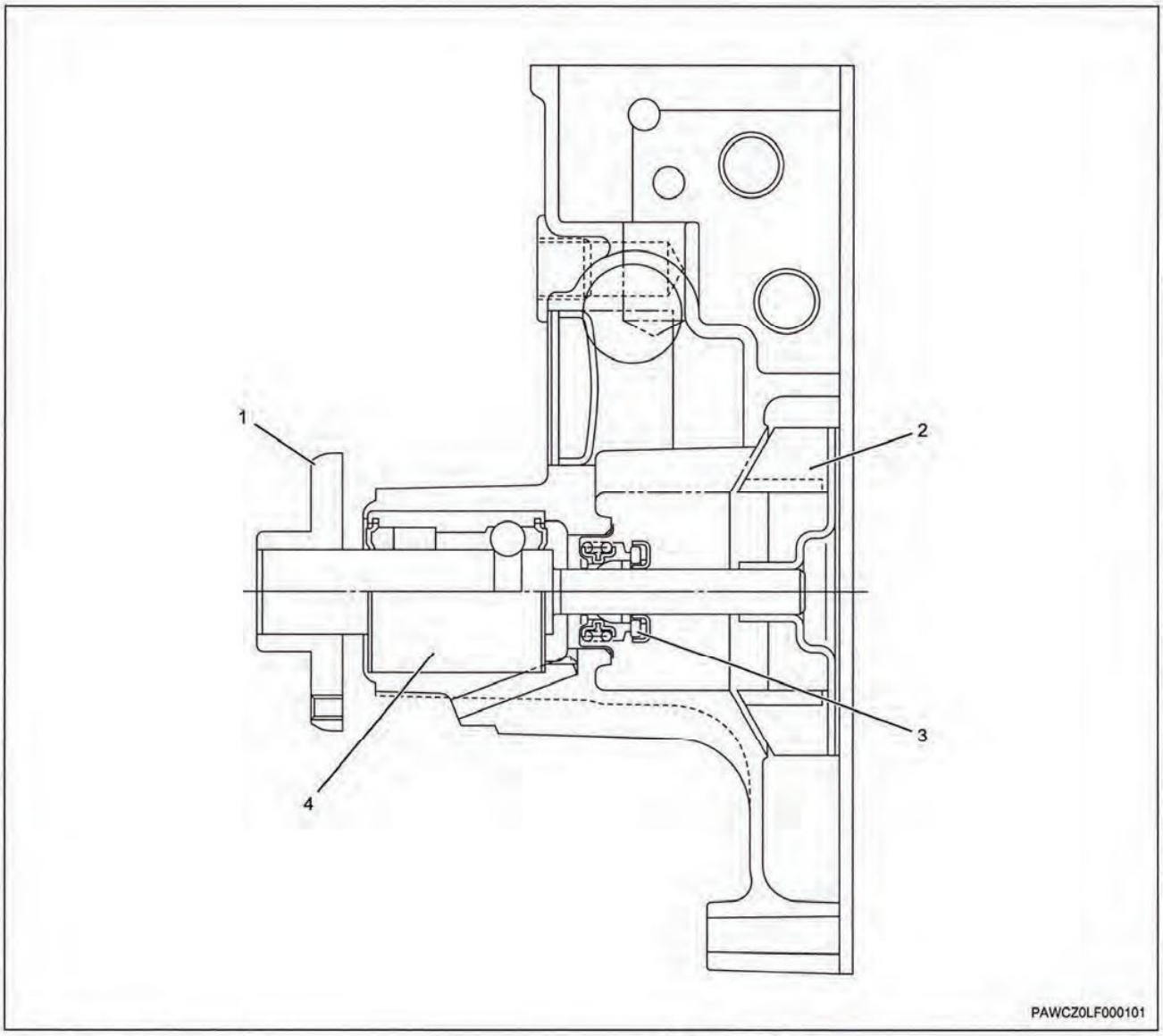


1. Thermostat
2. Oil cooler
3. EGR cooler
4. Cylinder head
5. Cylinder block
6. Water pump
7. Radiator
8. Bypass pathway

Water pump

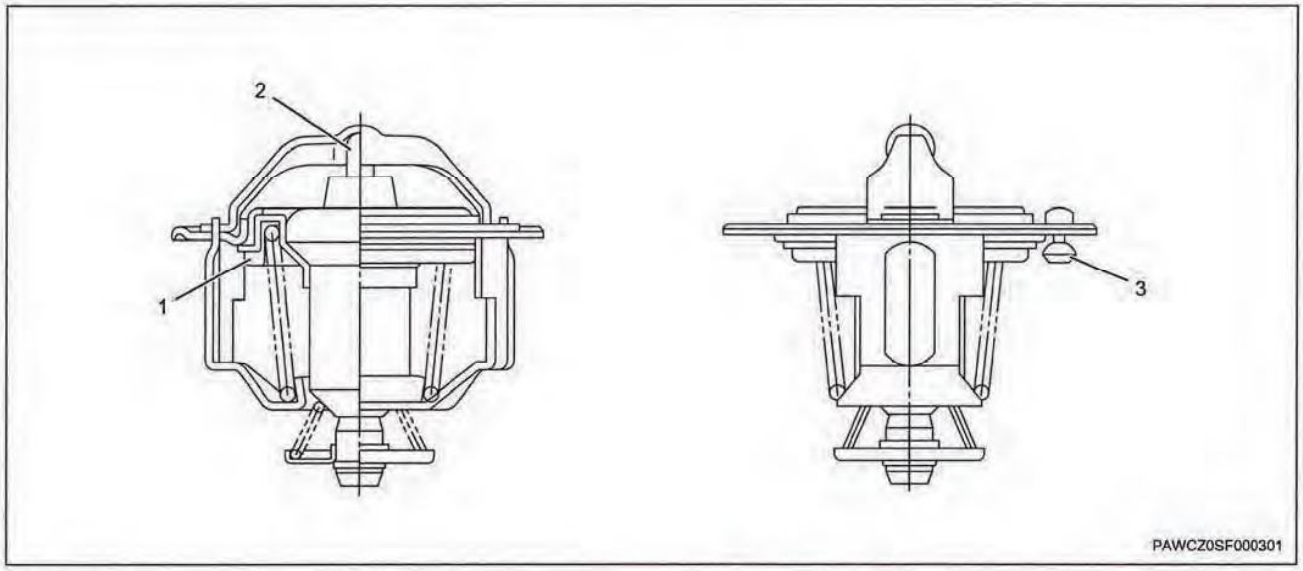
The water pump is a centrifugal impeller type pump and is driven by the engine fan belt.

(see next page)



1. Fan center
2. Impeller
3. Seal unit
4. Bearing unit

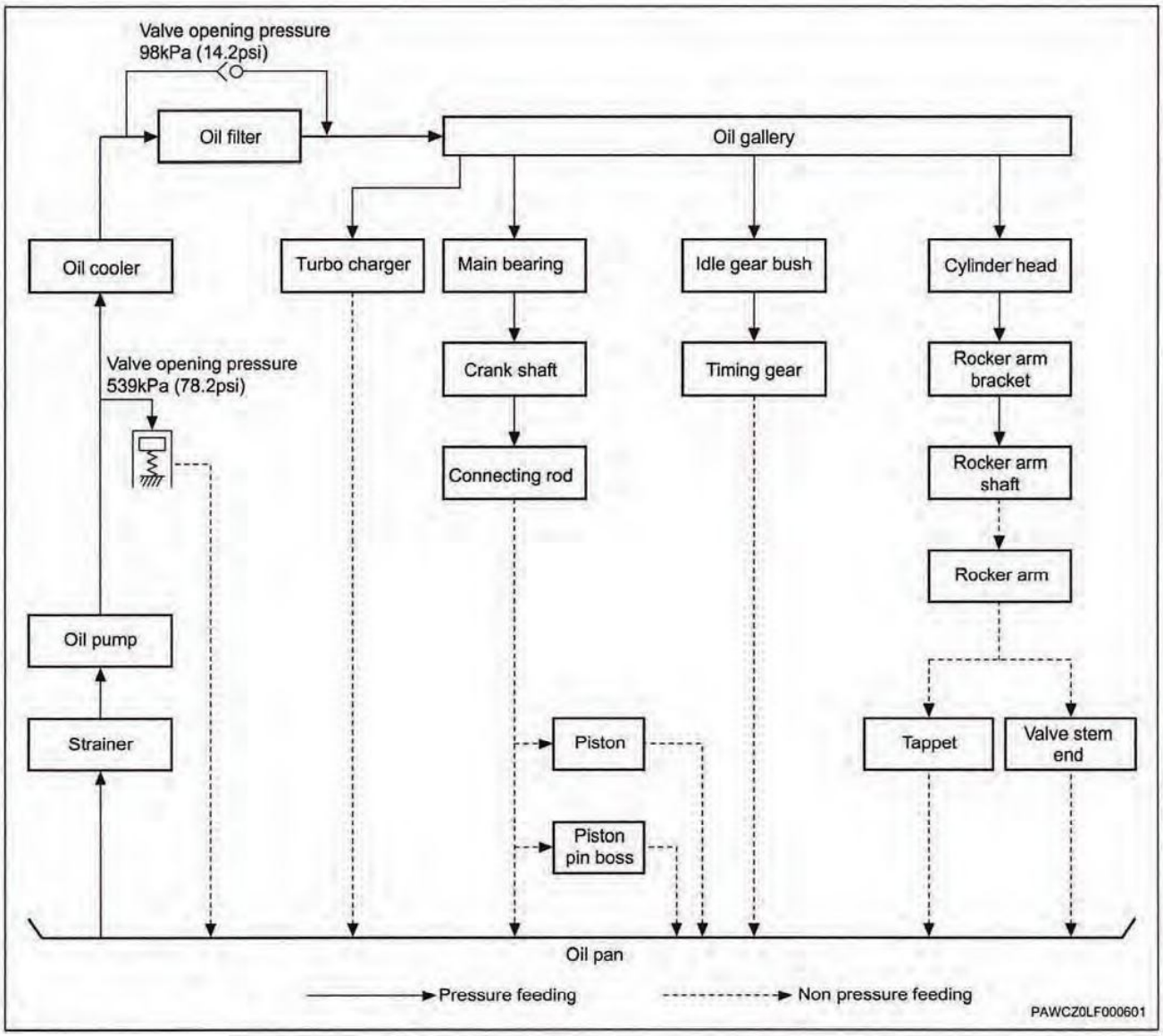
Thermostat
The thermostat is a wax pellet type. The unit is the bottom bypass type with an initial open valve temperature of 82°C {180°F}, and it is assembled inside the thermostat housing unit.
(see next page)



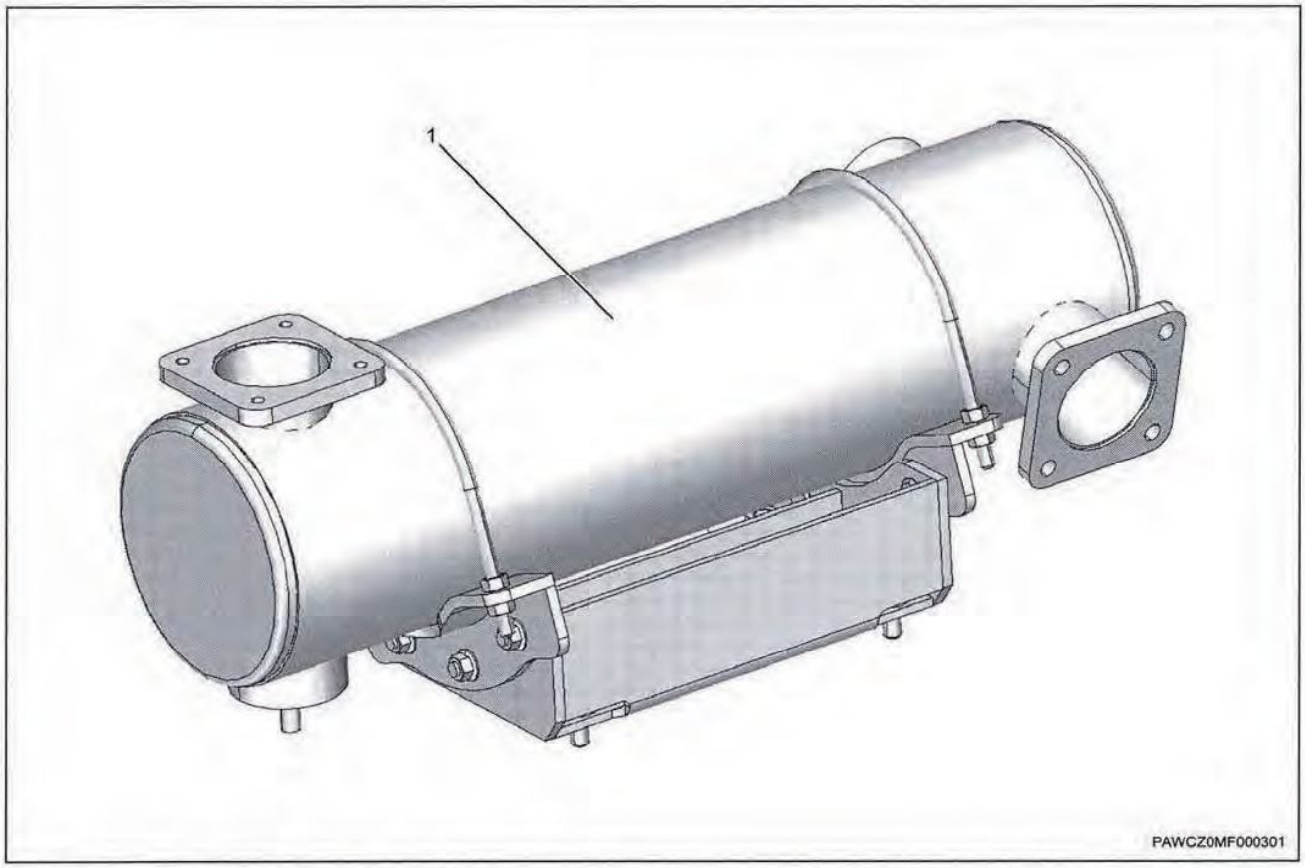
1. Valve
2. Piston
3. Jiggle valve

4. Lubrication type	A full-flow bypass integrated filter element, water cooling oil cooler, and piston coolant oil jet are adopted for the lubrication system.

(see next page)


Valve opening pressure
98kPa (14.2psi)
Oil filter
Oil gallery
Oil cooler
Turbo charger
Main bearing
Idle gear bush
Cylinder head
Valve opening pressure
539kPa (78.2psi)
Crank shaft
Timing gear
Rocker arm bracket
Connecting rod
Rocker arm shaft
Rocker arm
Oil pump
Strainer
Piston
Piston pin boss
Tappet
Valve stem end
Oil pan
Pressure feeding
Non pressure feeding
PAWCZ0LF000601

5. Exhaust system



1. Integrated oxidation catalyst silencer

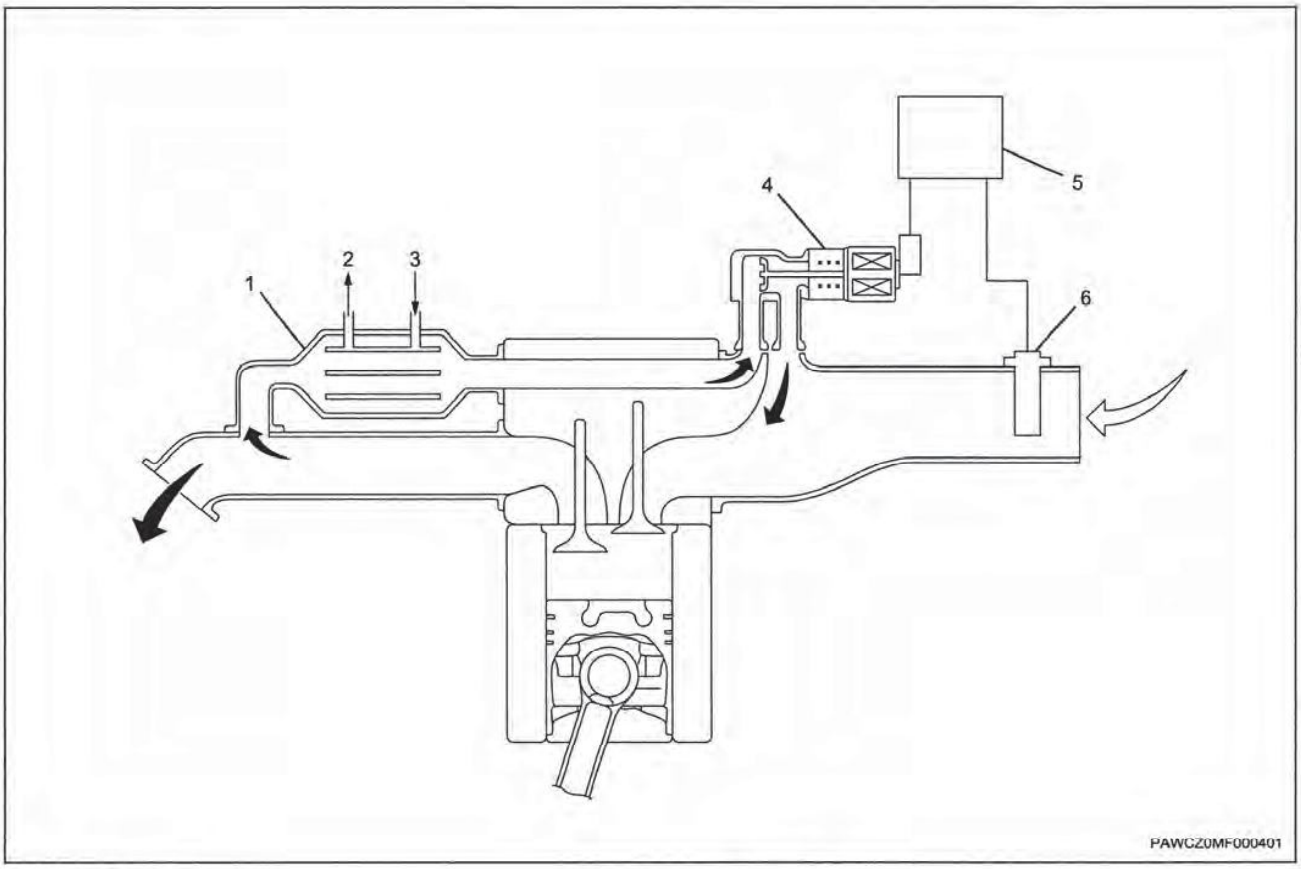
6. Emission control device

EGR

The EGR system recirculates a part of the exhaust gas to the intake chamber and the generation of NOx is suppressed. By controlling the EGR system, high operability and exhaust gas reduction are both achieved. The control current from the ECM activates the solenoid to control the EGR valve lift amount. The EGR position sensor detects the actual valve lift amount and the data is used for precise control of the EGR amount.

The EGR operates when the engine speed, engine coolant temperature, intake temperature, and barometric pressure satisfy certain criteria. Then, the valve opening angle is obtained based on engine speed and the target fuel injection quantity. From this valve opening angle, motor drive duty is determined, based on which the valve is driven.

(see next page)



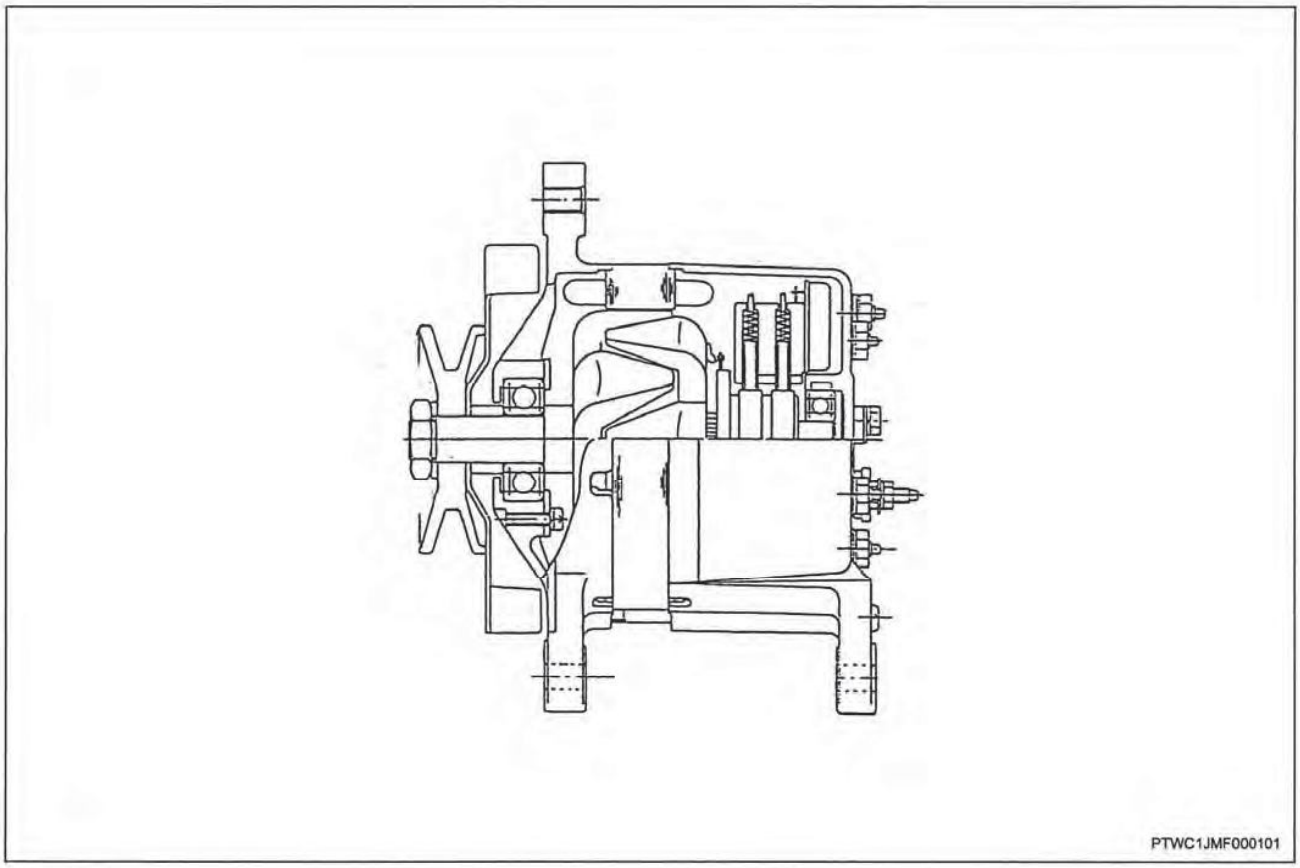
1. EGR cooler
2. Coolant outlet
3. Coolant inlet
4. EGR valve
5. ECM
6. Boost pressure sensor/boost temperature sensor

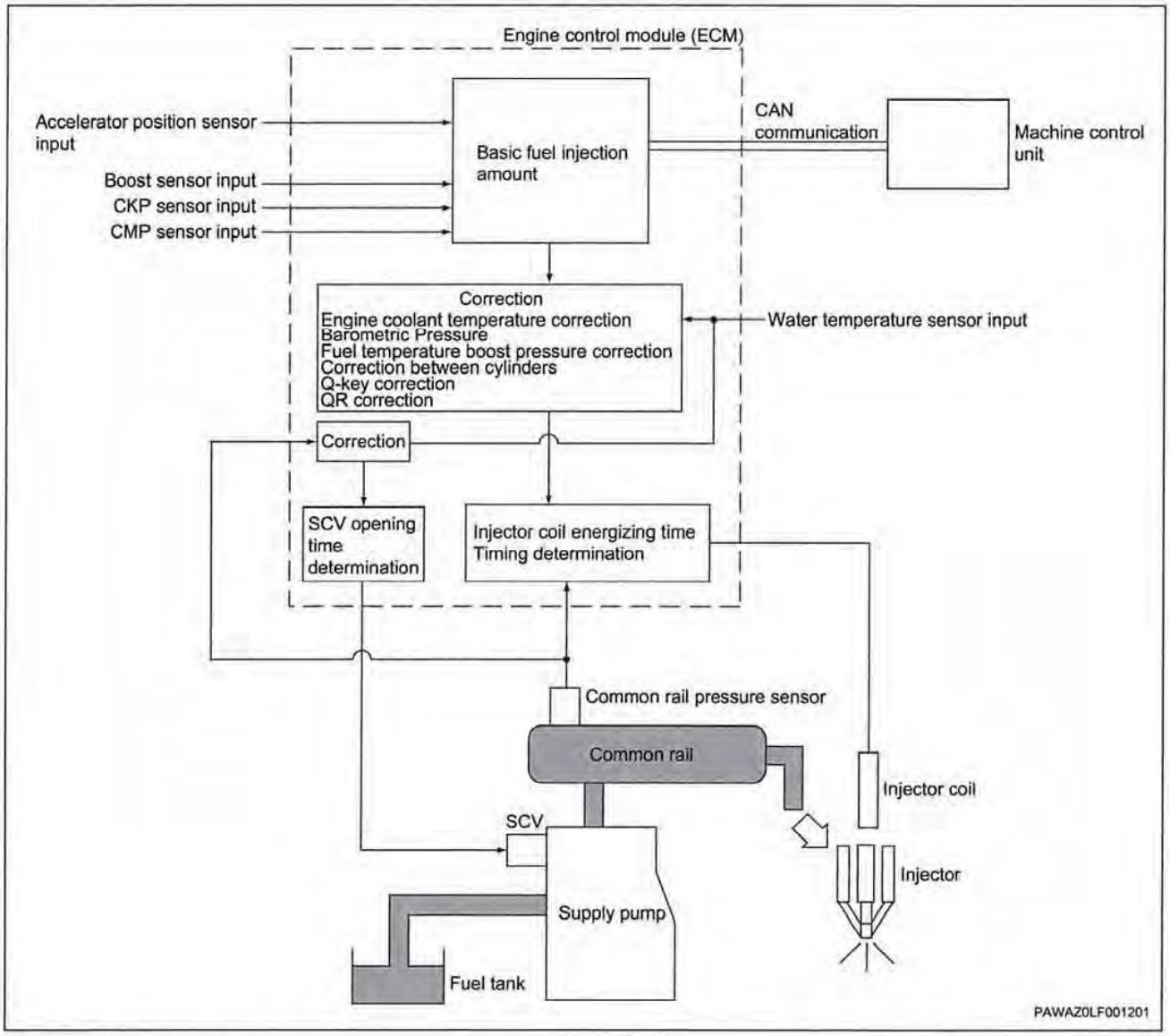
7. Electrical system

Charging system

The main components of the charging system are the battery, the generator, and the battery discharge indicator light circuit. The generator is the self-rectifier type with a regulator built in.

Generator (12 V - 70 A)
The regulator is an integrated solid state type. It is installed together with the brush holder assembly to the rear end cover and is embedded in the generator.
The main components include the roller, the rectifier assembly, the front bracket, the rear bracket, the IC regulator, the bearing, and the pulley. The moving parts are the roller and the pulley.
The IC regulator cannot be disassembled, so it should be handled as an assembly.



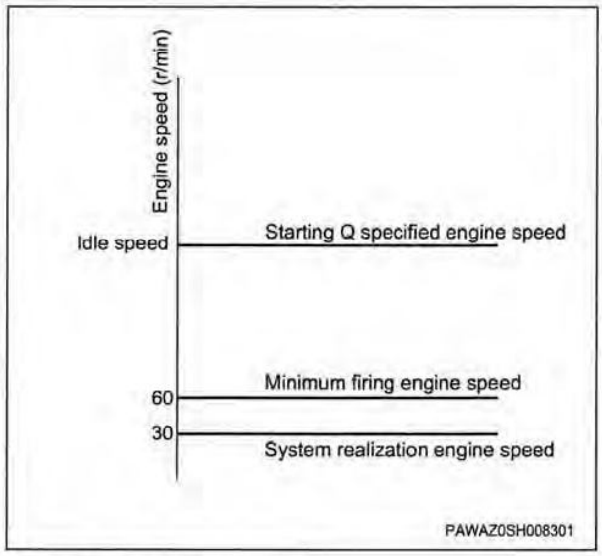


Fuel injection correction

The ECM calculates the basic injection quantity based on the signals from the accelerator position sensor, boost sensor, CKP sensor, CMP sensor, etc. At this time, the open or close timing of the SCV and the energizing time of the injector are controlled based on the conditions such as the common rail (fuel rail) pressure and engine coolant temperature to make optimal corrections to the injection timing and the injection quantity.

About the initial fuel delivery rate

The ECM implements the initial fuel delivery rate when the initial fuel delivery rate is less than the specified engine speed when the engine is started. Also, the ECM cannot implement the initial fuel delivery rate and cannot start the engine because it does not recognize the engine speed when it is less than an engine speed the system can recognize.



About high altitude correction