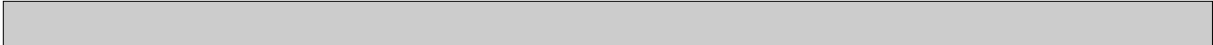


SECTION 2 ENGINE

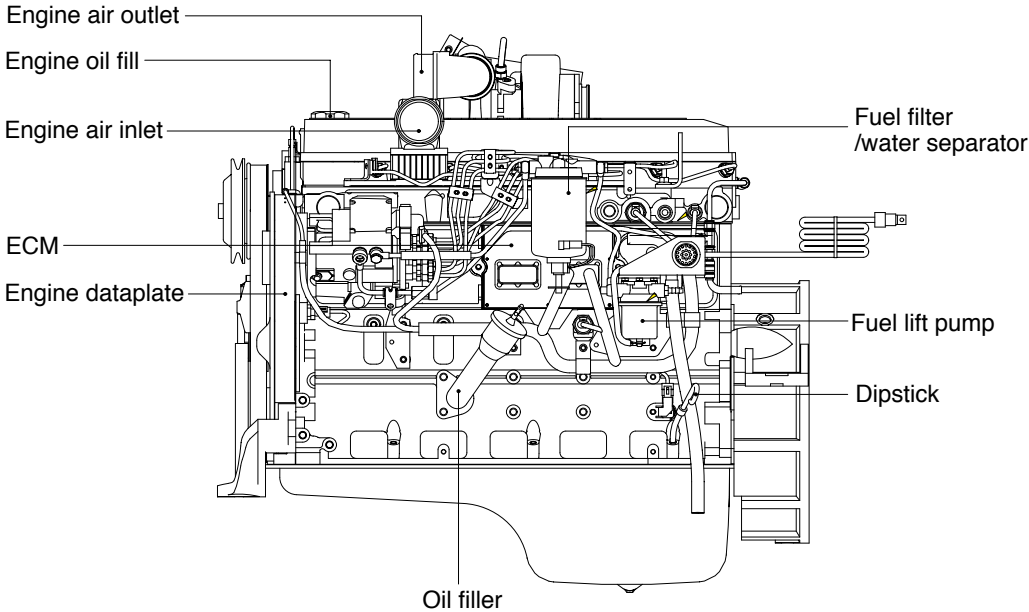
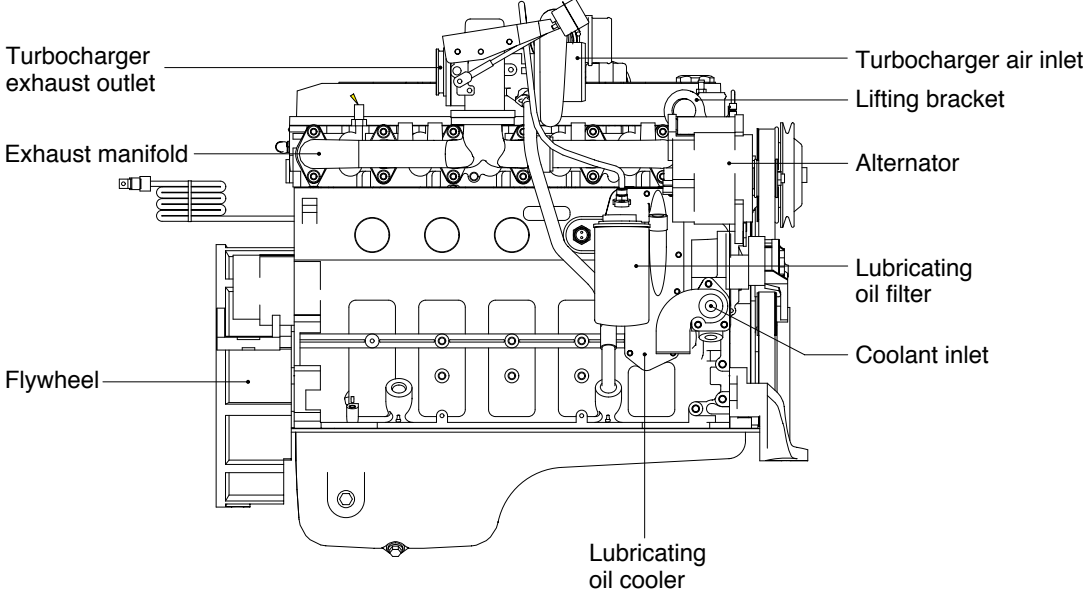


Group 1 Structure and Function 2-1
Group 2 Fan drive circuit for cooling system 2-5

SECTION 2 ENGINE

GROUP 1 STRUCTURE AND FUNCTION

1. STRUCTURE



7607EG01

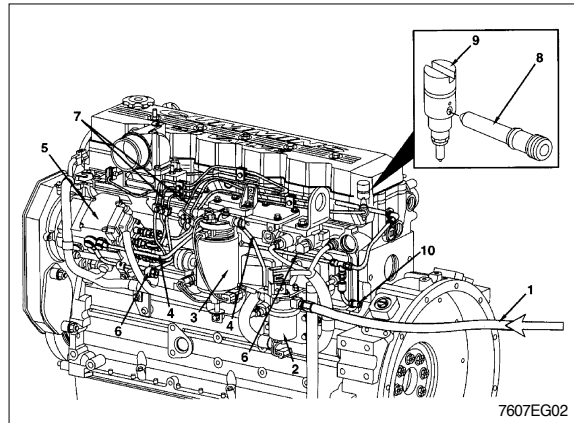
- Direct 4-stroke, 6-cylinders, water-cooling and charge air cooled diesel engine in installed, cylinder block and cylinder head are made of case iron and turbocharger is attached.

2. SYSTEM DIAGRAMS

The following drawings show the flow through the engine systems.

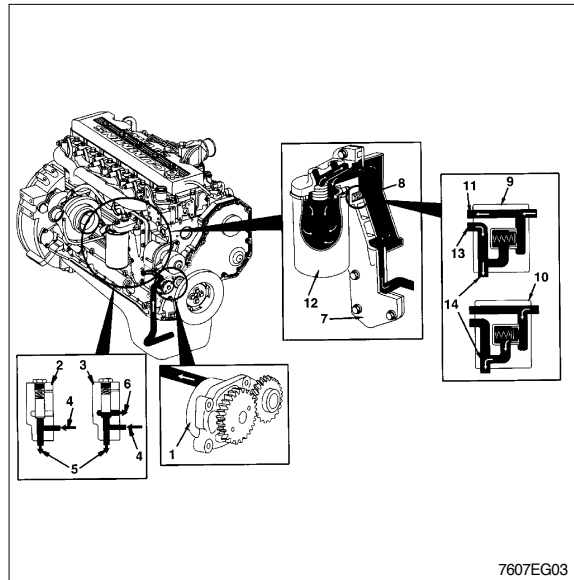
1) Fuel system

- 1 Fuel from supply tank
- 2 Electronic lift pump
- 3 Fuel filter and water separator
- 4 Low pressure supply lines
- 5 Injection pump
- 6 Fuel drain line
- 7 High pressure supply lines
- 8 Fuel connector
- 9 Closed nozzle injectors
- 10 Fuel return to supply tank



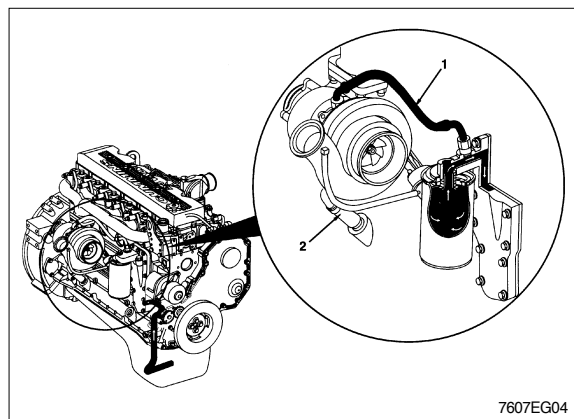
2) Lubricating oil system

- 1 Filter bypass valve
- 2 Lubricating oil cooler
- 3 Full-flow lubricating oil filter
- 4 Filter bypass valve closed
- 5 Filter bypass valve open
- 6 Main lubricating oil rifle
- 7 From lubricating oil filter
- 8 To lubricating oil filter
- 9 Gerotor lubricating oil pump
- 10 Pressure regulating valve closed
- 11 Pressure regulating valve open
- 12 To lubricating oil pump
- 13 From lubricating oil pump
- 14 To lubricating oil cooler



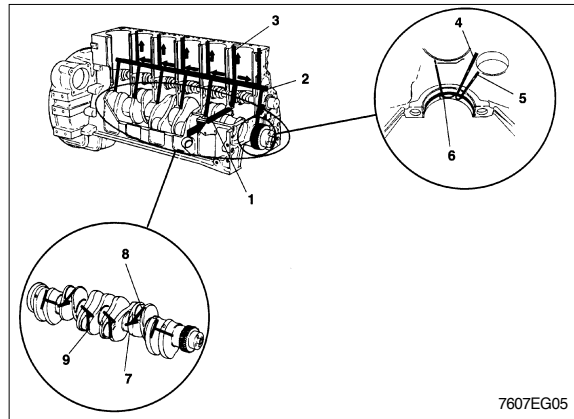
(1) Lubrication for the turbocharger

- 1 Lubricating oil supply
- 2 Lubricating oil drain



(2) Lubrication for the power components

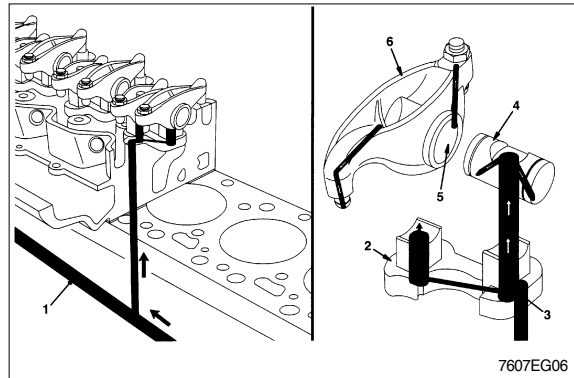
- 1 To valve train
- 2 Main lubricating oil rifle
- 3 From lubricating oil cooler
- 4 To connecting rod bearing
- 5 Conneting rod journal
- 6 Crankshaft main journal
- 7 From main lubricating oil rifle
- 8 To camshaft
- 9 To piston cooling nozzle.



7607EG05

(3) Lubrication for the overhead

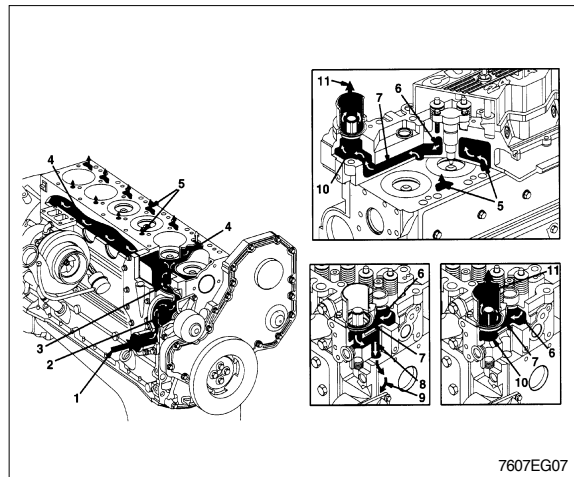
- 1 Main lubricating oil rifle
- 2 Rocker lever support
- 3 Transfer slot
- 4 Rocker lever shaft
- 5 Rocker lever bore
- 6 Rocker lever



7607EG06

3) Cooling system

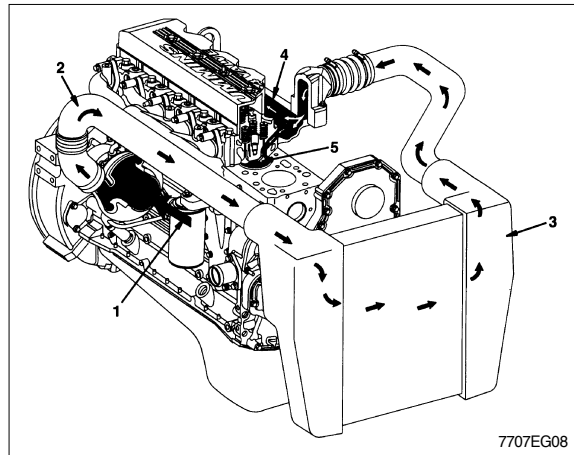
- 1 Coolant inlet
- 2 Pump Impeller
- 3 Coolant flows past lubricating oil cooler
- 4 Coolant flows past cylinders
- 5 Coolant flows from cylinder block to cylinder head
- 6 Coolant flows past injector
- 7 Coolant flows to thermostat housing
- 8 Coolant bypass passage
- 9 Coolant flows to pump inlet
- 10 Bypass closed
- 11 Coolant flows back to radiator



7607EG07

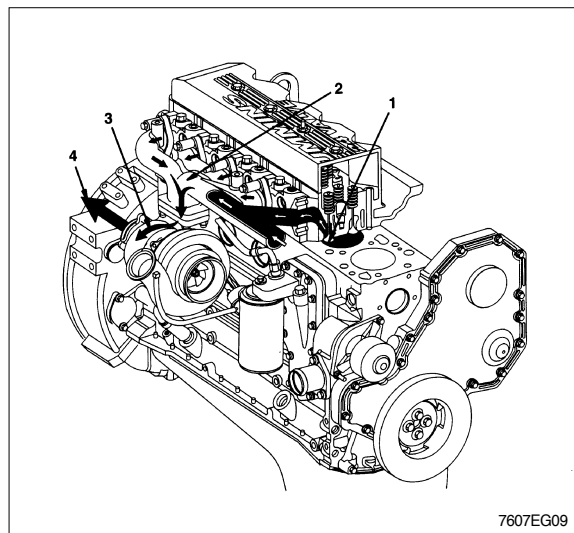
4) Air intake system

- 1 Intake air inlet to turbocharger
- 2 Turbocharger air to charge air cooler
- 3 Charge air cooler
- 4 Intake manifold
(Integral part of cylinder head)
- 5 Intake valve



5) Exhaust system

- 1 Exhaust valve
- 2 Exhaust manifold(pulse type)
- 3 Dual-Entry turbocharger
- 4 Turbocharger exhaust outlet



6) Compressed air system

- 1 Air in
- 2 Air out
- 3 Coolant in
- 4 Coolant out
- 5 Lubricating oil in
- 6 Lubricating oil out is internal to the gear housing

