

Document Title: General description	Function Group: 200	Information Type: Service Information	Date: 1/10/2017
Profile: L220E Volvo			

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General description

The engine is a straight six-cylinder, turbocharged, four-stroke and direct-injected diesel engine with an air-cooled intercooler. It has an overhead camshaft, four valves per cylinder and unit injectors.

The engine designation is D12DLBE3.

The engine is of low-emission version.

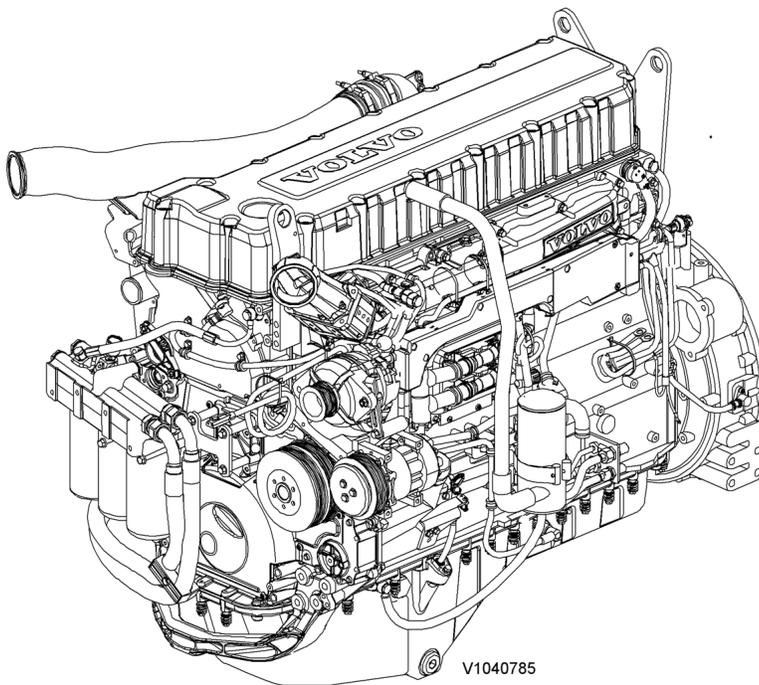


Figure 1

The cooling fan with vane motor is located in front of the radiator and is driven hydrostatically with a variable piston pump, Pump 3, (P3).

The speed of the fan is controlled by the vehicle ECU (V-ECU), which receives information about temperature in the following systems:

- Coolant temperature, radiator
- Coolant temperature, engine
- Transmission oil temperature
- Hydraulic oil temperature
- Temperature in front and rear axle (only when machine is equipped with axle oil cooler).
- Induction air temperature
- Charge-air temperature

Hydrostatically controlled cooling fan speed gives the engine high power as well as low sound level, since the cooling fan does

not work at max. rpm as often.

The cooling system is based on a concept where cooling for engine, transmission, hydraulics and axle oil cooling (optional equipment) are integrated. These systems' cooling depends on the cooling fan speed.

Engine identification

Identification plate 1

Engine designation, serial number, part number and assembly plant are stamped in one field on the engine block's left rear edge

Identification plate 2

A decal with the software's ID-number, the engine's serial number and assembly plant is located on the valve cover to ensure installation of correct ECU on the engine in production. On the back of the ECU, there is a decal indicating its hardware number.

Assembly plants:

A = Skövde, Sweden

E = Curitiba, Brazil

F = Flen, Sweden

L = Lyon, France

Identification plate 3

The certification decal is located on the valve cover as well as on the machine frame.

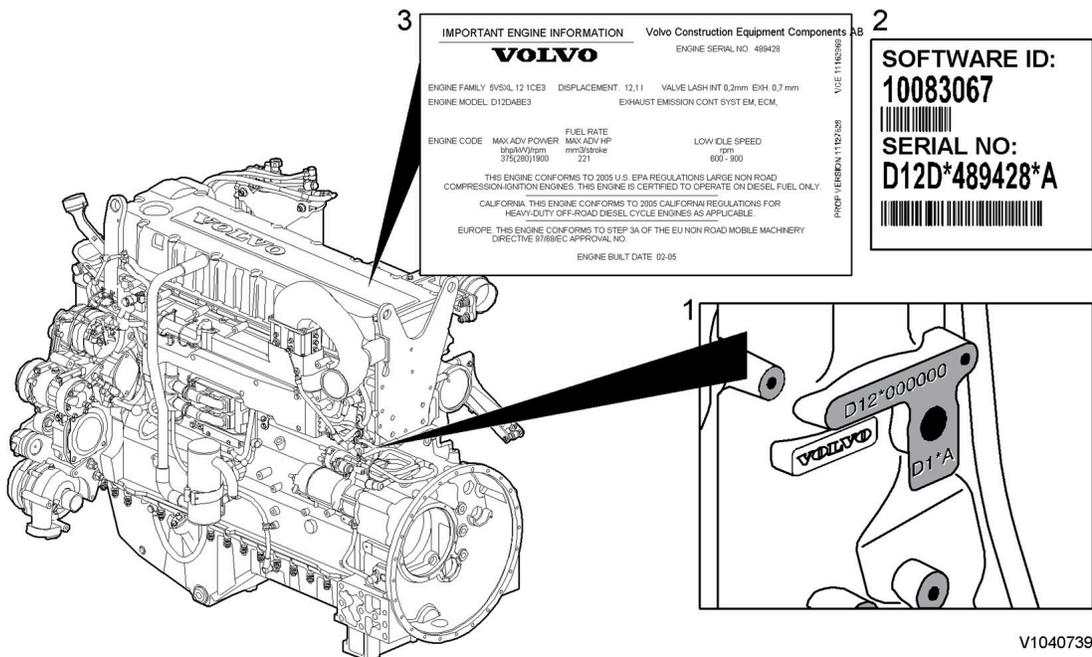


Figure 2
Engine identification, D12D