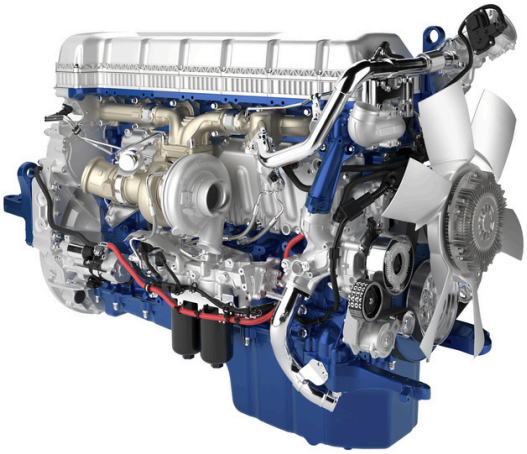
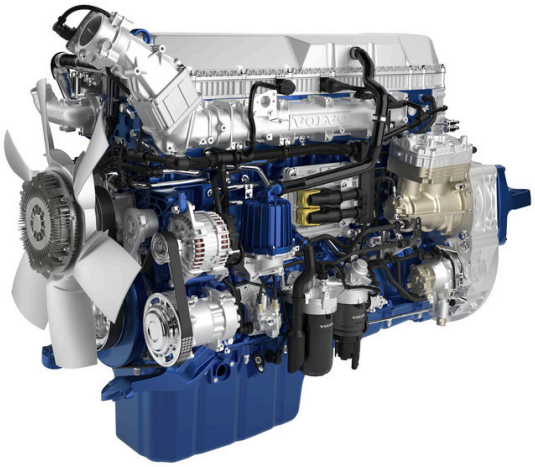
FACT SHEET

ENGINE VERSION

D13S540A, EU6SCR Diesel engine, Euro 6, 12.8 litres, 540 hp/397 kW, 2600 Nm





The D13S540A is a 540 hp, 12.8 litres, in-line, six-cylinder diesel engine equipped with an overhead camshaft, four valves per cylinder and common rail fuel injection. The engine meets the Euro 6 exhaust emissions requirements.

The D13 is based on a robust and dependable design with an overhead camshaft, four valves per cylinder and precisely controlled electronic fuel injection.

The timing mechanism is located at the rear of the engine, which results in less vibration and permits the fitting of a rear-mounted power take-off.

The D13 is a low-emission engine in terms of both exhaust gases and noise. The aftertreatment system, in the silencer, combines a Diesel Oxidation Catalyst (DOC), a Diesel Particulate Filter (DPF), a Selective Catalytic Reduction unit (SCR) and an Ammonia Slip Catalyst (ASC).

The D13 can be equipped with VEB+ (Volvo Engine Brake) and EPG (Exhaust Pressure Governor). These systems provide high braking effect, further improving safety and reducing wear on the wheel brakes.

PRODUCTIVITY

- Maximum torque within a broad rev range.
- Rear-mounted power take-off with high power output (option).

SAFETY

- High engine braking effect with VEB+ and EPG (option).

ENERGY EFFICIENCY

- Fuel-efficient.

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Efficient combustion for excellent driveability

Piston with wave pattern

The D13 is equipped with common rail fuel injection that provides high injection pressure. The combustion chambers with wave pistons and inlet manifold are designed for optimum combustion. The gas-fill ratio is high, which contributes to the high efficiency.

The design creates a fuel-efficient engine with high power and immense torque within a broad rev range. This gives the D13 excellent driveability.

Fulfilling the Euro 6 standard

The components in the aftertreatment system serve two main purposes: to improve gas flow and make sure that the exhaust gases reach the aftertreatment system at optimum temperature, thus ensuring the emission level.

The Diesel Oxidation Catalyst (DOC) produces the nitrogen dioxide (NO_2) necessary for the Diesel Particulate Filter (DPF) to efficiently combust the particulates. In cold conditions, it also provides the heat needed for regeneration.

The Diesel Particulate Filter (DPF) collects particulate matter (PM) until it is automatically burned off during regeneration.

In the mixing zone in the Selective Catalytic Reduction unit (SCR), the exhaust gases are sprayed with AdBlue®. When they reach the catalyst, the nitrogen oxides (NO_x) are efficiently transformed into harmless nitrogen gas and water.

The Ammonia Slip Catalyst (ASC) is the last step before the tail pipe where any remaining ammonia (NH3) is removed.

Low noise emission at idling

The D13 meets the noise emission requirements. The crankshaft and camshaft feature hydraulic vibration dampers that minimise noise and vibrations. Pre-injection of fuel is used to further dampen noise at idling.

Crankcase ventilation

The D13 offers a choice of two types of closed crankcase ventilation. CCV-C is recommended down to -25 degrees Celsius. CCV-OX is only recommended for arctic markets.

Both system promotes an extremely clean and environmentally compatible engine.

Power take-off at the rear

The D13 can be equipped with a power take-off designed for propshaft operation or direct-mounted hydraulic pumps (also clutchable). PTO mounting on the engine's flywheel results in a dependable design and permits high torque levels, up to 1,000 Nm in continuous operation.

Alternative fuels

The engine is also certified for usage of HVO - EN15940 (Hydrotreated Vegetable Oil). It reduces the emissions of greenhouse gases dramatically and is a great option to support the environment.

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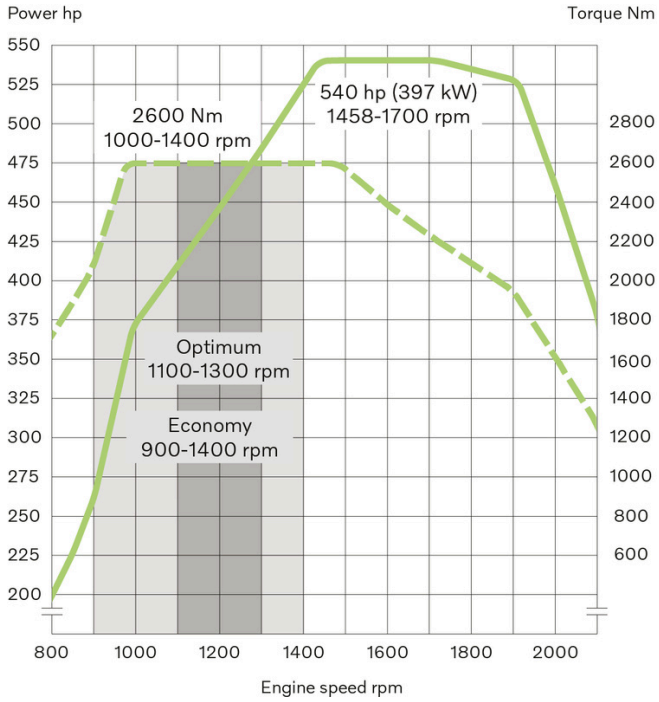
SPECIFICATION

Type designation	D13S540A, EU6SCR
Max power output at 1458–1700 rpm	540 hp(397 kW)
Max revs	2150rpm
Max torque at 1000–1400 rpm	2600Nm
No. of cylinders	6
Bore	131mm
Stroke	158mm
Displacement	12.8dm3
Compression ratio	18.0:1
Exhaust brake effect (EPGC) at 2300 rpm	175kW
Engine braking effect (VEB+) at 2300 rpm	340kW
Economy revs range	900–1400rpm
Optimum rev range	1100–1300rpm
Oil-change volume incl. oil filter	approx.35 l
Oil filters	2full-flow
Cooling system, total volume	approx.24 l
Dry weight (base engine)	approx.1105 kg
Exhaust aftertreatment system, weight	approx.120 kg



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