

VOLVO D16 ENGINE FAMILY



Volvo's ultra-reliable D16 delivers the power and torque needed to move large payloads with ease, even on steep grades. Five power ratings are available from 500 to 600 hp. The first, a heavy-spec XE16 package rated for combination weights up to 143,000 pounds, was designed specifically for the North American heavy-long combination vehicle (LCV) market. The second XE16 package combines exceptional fuel efficiency with outstanding performance for five-axle tractor-semitrailer combinations up to 80,000 pounds. Sold in VNL day-cabs and sleepers, and in the new VNX, it's the perfect choice for line haul and heavy haul operations.



The D16 is fully EPA compliant. All regulated pollutants have been reduced 99% from untreated levels. Volvo meets these demands with outstanding reliability and economy, in part because we use Selective Catalytic Reduction for the highest efficiency. SCR allows us to pursue a passive regeneration concept that uses NOx in place of diesel fuel to regenerate the soot, further reducing your cost of operation.

SPECIFICATIONS

Ratings:		Power: 500 to 600 HP Torque: 1650 - 2050 lb-ft
Base Engine Configuration		4 cycle / Inline Six
Emissions		SCR Selective Catalytic Reduction
Aspiration		Sliding Nozzle Variable Geometry Turbocharger
Cam / Valve Configuration		SOHC / 4 Valves per Cylinder
Cylinder Head		One Piece Rigid Deck Cylinder Head
Injection System		Dual Solenoid Electronic Unit Injection
Fuel Injection Pressure, psi (bar)		35,000 (2,400)
Electronic Management System		Volvo VECTRO
Rating Upstateability		Software Only, Throughout Range
Displacement, cu. in. (L)		984 (16.1)
Compression Ratio		16.0:1
Bore & Stroke, in. (mm)		5.67 x 6.5 (144 x 165)
Cylinder Spacing, in. (mm)		7.32 (186)
Full Dress Dry Weight, lb. (kg)		3134 (1422)
Fuel and Lubrication:		
Fuel Specification		Ultra Low Sulfur Diesel, 15 ppm
Fuel Filters		Primary plus Secondary
Total Lube Oil Capacity, qts. (L)		44 (42)
Oil Filtration		Two Full Flow, One Bypass
Oil Drain Interval, Normal Service, miles (km)		35,000 (56,000)
Oil Specification		Volvo VDS-4, SAE 10W-30
FLOCS Oil Drain Kit		Optional
Engine Equipment:		
Air Compressor, CFM		Two Cylinder, 31.8
Retarder		I-VEB Volvo Engine Brake
Engine Brake Rating at 2200 rpm		600 hp @ 2200 rpm
Engine Brake Rating at 1500 rpm		420 hp @ 1500 rpm
Engine Brake Weight, lbs. (kg)		25 (12)
PTO Port for Live Rear PTO Pump or Shaft		Standard
Preheater, Electrical		Optional

FEATURES AND ADVANCED TECHNOLOGIES

BENEFITS

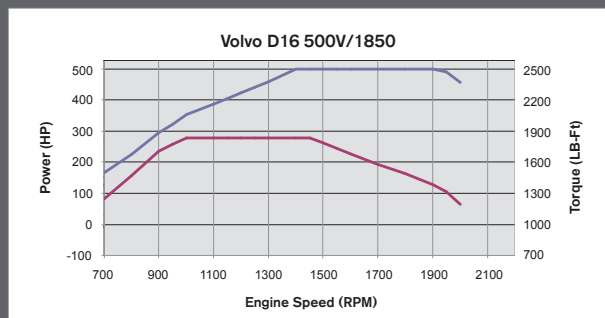
Warmhold Function	Warm up engine quickly and maintain engine temperature at very low idle speeds
Fuel System	Keeps fuel temperature regulated, allowing Volvo engines to operate more efficiently for better fuel economy and lower operating costs
Rear Mounted Engine PTO	Takes power directly from the engine, to utilize the PTO while the vehicle is being driven or stationary
Performance Bonus Guide	Patented sweet-spot measure to encourage soft driving for better fuel economy
Dual port poppet-style hydraulic EGR valve	Reliable stick-free performance. Close position to turbocharger assures precision EGR control for better fuel economy
Volvo air intake pre-heater	Assures starting in frigid climates



Specifications

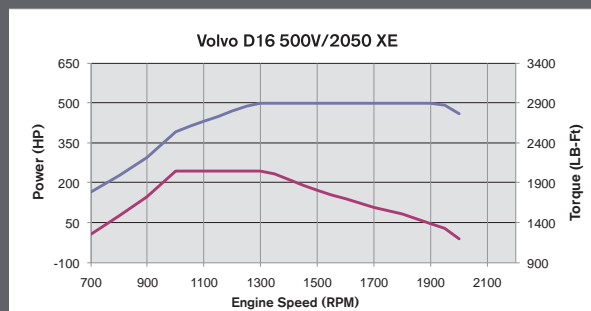


Volvo D16 500V/1850



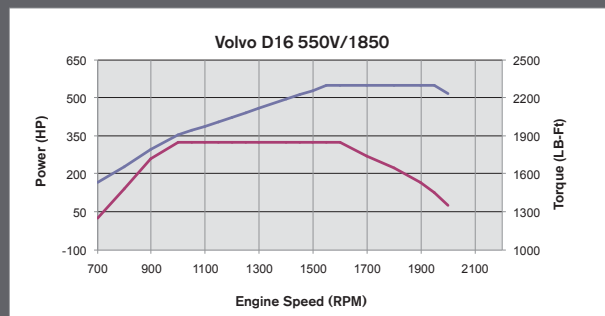
Advertised Power, HP	500
Peak Power, HP	525
Peak Torque, lb-ft@rpm	1850@1050
Governed rpm	2100
Recommended cruise speed range, rpm	1200-1500
Start engagement torque, lb-ft@rpm	850@800

Volvo D16 500V/2050 XE



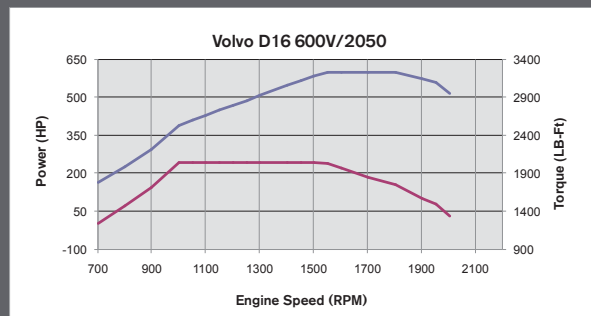
Advertised Power, HP	500
Peak Power, HP	525
Peak Torque, lb-ft@rpm	2050@1050
Governed rpm	2100
Recommended cruise speed range, rpm	1200-1500
Start engagement torque, lb-ft@rpm	850@800

Volvo D16 550V/1850



Advertised Power, HP	550
Peak Power, HP	575
Peak Torque, lb-ft@rpm	1850@1050
Governed rpm	2100
Recommended cruise speed range, rpm	1200-1500
Start engagement torque, lb-ft@rpm	850@800

Volvo D16 600V/2050



Advertised Power, HP	600
Peak Power, HP	605
Peak Torque, lb-ft@rpm	2050@1050
Governed rpm	2100
Recommended cruise speed range, rpm	1200-1500
Start engagement torque, lb-ft@rpm	850@800

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Eco-Torque Specifications



Volvo's new Eco-Torque feature provides a new twist on encouraging fuel-economy driving. By switching to a lower torque curve in the top two gears, but allowing the higher torque curve during lug-back, Eco-Torque encourages low-rpm driving and provides a lower power level in non-demanding situations. But when conditions demand high torque at low rpm, the engine torque will switch up to the higher curve, in many cases allowing the hill to be topped in the highest gear.

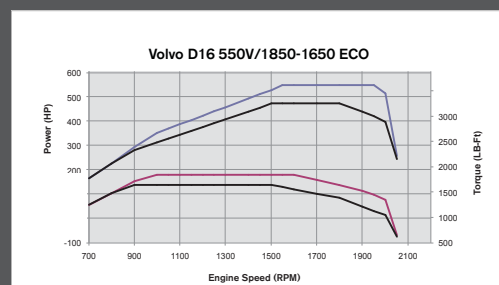
Dual-Torque ratings have a similar dual personality, but serve a special purpose. They take advantage of several vendor transmissions that will allow a higher torque in the top two gears. This means that they must operate in their lower torque in the low gears.

	MAXIMUM FUEL ECONOMY	MAXIMUM PERFORMANCE	MAXIMUM DRIVEABILITY	USE OF LOWER RATED TRANSMISSIONS	MAXIMUM UPGRATEABILITY
BASE RATINGS	X	✓	✓	X	✓
ECO-TORQUE RATINGS	✓	X	✓	X	✓
DUAL-TORQUE RATINGS	✓	X	X	✓	X

ECO-TORQUE SPECIFICATIONS

Torque in all gears but top two, lb-ft	1850
Default torque in top two gears, lb-ft	1650
On demand torque in top two gears, lb-ft	1850

Volvo D16 550V/1850-1650 Eco



Advertised Power, HP	550
Peak Power, HP	575
Peak Torque, lb-ft@rpm	1850@1050
Governed rpm	2100
Recommended cruise speed range, rpm	1200-1500
Start engagement torque, lb-ft@rpm	850@800
Torque in all gears but top two, lb-ft	1850
Default torque in top two gears, lb-ft	1650
On demand torque in top two gears, lb-ft	1850