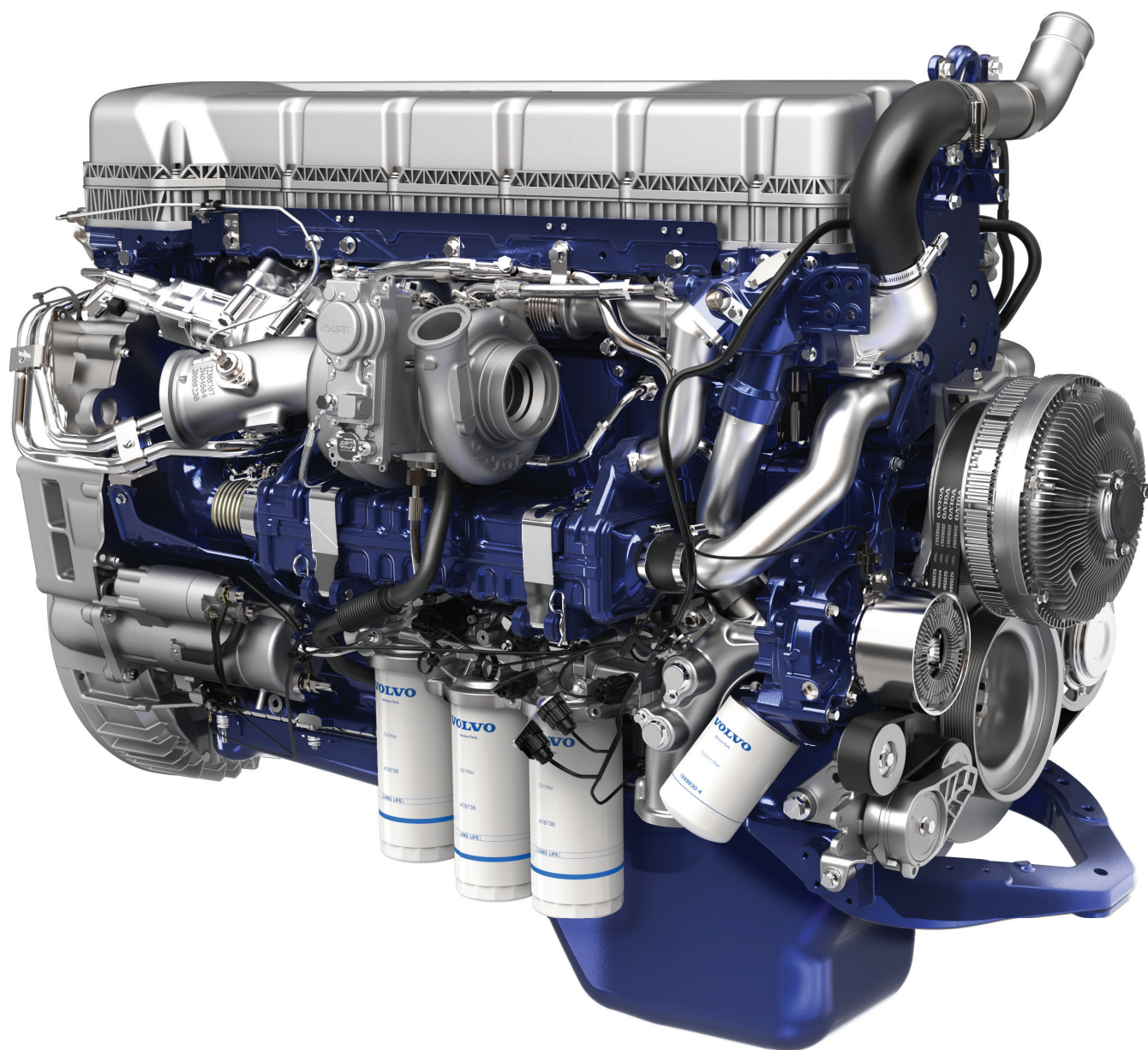




Volvo Trucks. Driving Progress

# VOLVO D11 ENGINE FAMILY



# All the power your job needs.

## SPECIFICATIONS

### Ratings:

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	Common Rail
Maximum Fuel Injection Pressure, psi (bar)	35,000 (2,400)
Rating Uprateability	Software Only, Throughout Range
Displacement, cu. in. (L)	661 (10.8)
Compression Ratio	17:1
Bore & Stroke, in. (mm)	4.84 x 5.98 (123 x 152)
Cylinder Spacing, in. (mm)	6.06 (154)
Full Dress Dry Weight, lb. (kg)	2259 (1025)

### Fuel and Lubrication:

Fuel Specification	Ultra Low Sulfur Diesel, 15 ppm
Fuel Filters	Primary plus Secondary
Total Lube Oil Capacity, qts. (L)	38 (36)
Oil Filtration	Two Full Flow, One Bypass
Oil Drain Interval, Normal Service, miles (km)	55,000 (88,514)*
Oil Specification	Volvo VDS-4.5, SAE 10W-30
FLOCS Oil Drain Kit	Optional

### Engine Equipment:

Air Compressor, CFM	Two Cylinder, 31.8
Retarder	Volvo Engine Brake (VEB)
Engine Brake Rating at 2200 rpm	420 hp @ 2200 rpm
Engine Brake Rating at 1500 rpm	266 hp @ 1500 rpm
Engine Brake Weight, lbs. (kg)	25 (12)
PTO Port for Live Rear PTO Pump or Shaft	Standard on VHD
Preheater, Electrical	Optional

Just like the entire Volvo engine family, the D11 is designed to produce the power needed for your specific application, the fuel economy crucial to your bottom line, and the reliability your customers demand. Volvo achieves these goals by starting with a foundation of proven, mature engine architecture, and then leveraging innovative hardware and technology to optimize performance, productivity and efficiency. Thoughtful features are expertly integrated to deliver the solution for your needs.

### High-efficiency aftertreatment system

Volvo's "one-box" exhaust aftertreatment system offers smaller system packaging and reduces weight by 17 pounds from previous systems. The one-box configuration provides better thermal encasing of exhaust energy, and improves muffler efficiency. The use of Cu-Z catalyst coatings improves both low-temperature NOx conversion, and long-term system robustness.

### D11 drivetrain recommendations

It is critical to specify the truck properly to achieve maximum fuel economy and performance.

Ask your salesman to help you choose a rear axle ratio appropriate for your expected cruising speed and gross combination weight.

Volvo 2017 engines have been designed to achieve maximum fuel economy by cruising at low engine rpm. In D11 regional haul specifications, the target is 1370 rpm at 65 mph.

For example, with 70K lbs GCW, 1550 lbs-ft torque, 295/75R22.5 drive tires and 1.0 top gear ratio, the 2.47:1 axle ratio would come closest to the 1370 rpm at 65 mph recommendation.

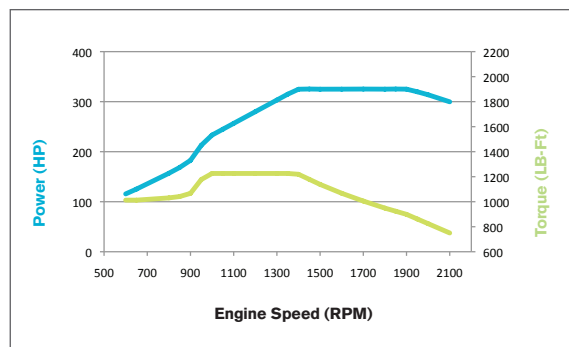
With a direct drive transmission, you should use a 2.47 to 1 ratio for 1370 rpm at 65 mph with 512 rev/mile tires.

Never specify a Volvo D11 engine for a cruise speed above 1600 rpm.



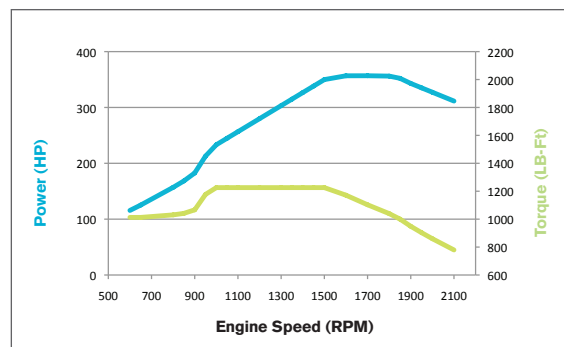
# Specifications

## Volvo D11 325/1250



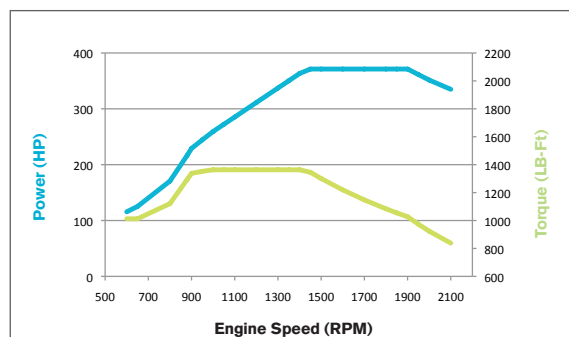
Advertised Power, HP	325
Peak Torque, lb-ft@rpm	1250@1000
Governed rpm	2100
Recommended cruise speed range, rpm	1250-1500
Start engagement torque, lb-ft@rpm	816@800

## Volvo D11 355/1250



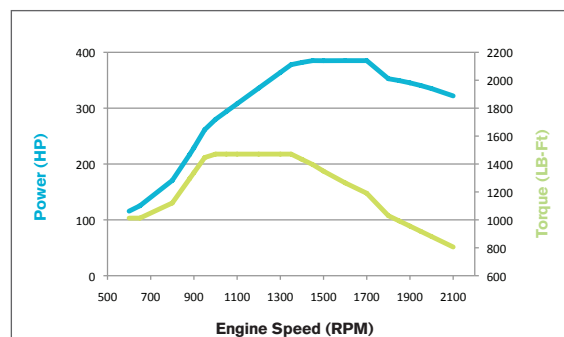
Advertised Power, HP	355
Peak Torque, lb-ft@rpm	1250@1000
Governed rpm	2100
Recommended cruise speed range, rpm	1250-1500
Start engagement torque, lb-ft@rpm	816@800

## Volvo D11 365/1350



Advertised Power, HP	365
Peak Torque, lb-ft@rpm	1350@900
Governed rpm	2100
Recommended cruise speed range, rpm	1250-1500
Start engagement torque, lb-ft@rpm	816@800

## Volvo D11 385/1450

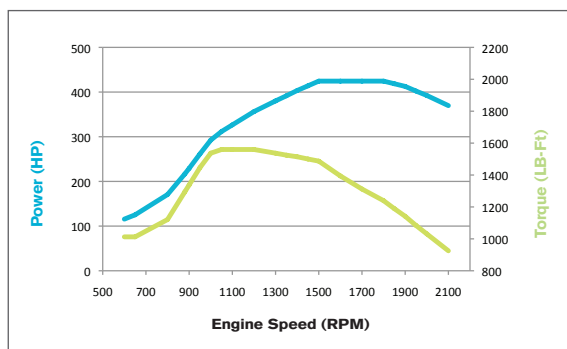


Advertised Power, HP	385
Peak Torque, lb-ft@rpm	1450@950
Governed rpm	2100
Recommended cruise speed range, rpm	1250-1500
Start engagement torque, lb-ft@rpm	816@800



# Specifications

## Volvo D11 425/1550



Advertised Power, HP	425
Peak Torque, lb-ft@rpm	1550@1000
Governed rpm	2100
Recommended cruise speed range, rpm	1250-1500
Start engagement torque, lb-ft@rpm	816@800

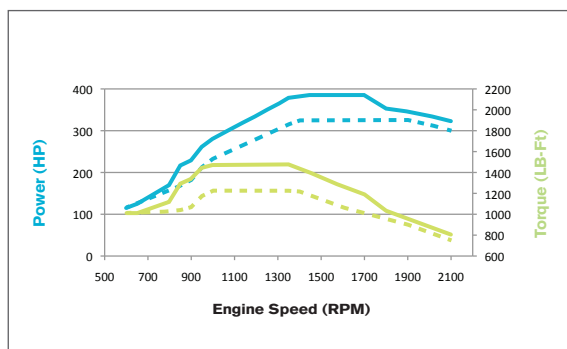
FEATURE	BENEFIT
Variable Geometry Turbocharger (VGT)	Supercharges the intelligent Volvo Engine Brake (VEB) system for high retarding horsepower at low rpm, where engine braking is needed most.
Common-rail fuel injection	Precise control allows quicker, more accurate injection for improved fuel economy; clean installation improves reliability and reduces engine noise.
Ultra-high 35,000 psi fuel injection pressure	Finer fuel atomization for cleaner burn, reduced emissions and better fuel economy.
Wave piston design	Wave design optimizes cylinder efficiency, reducing soot production while enhancing fuel efficiency and performance.
Precision-Flow Cooled Exhaust Gas Recirculation	Tuned to give just the EGR flow needed, no more, no less, for optimum fuel consumption.
Oil-Cooled dual-port EGR valve	Consistent temperature; balanced pressure design with reduced opening force for high reliability and stick resistance.
Volvo engine family shares common architecture	Thorough component development assures more refined design.
Rigid deck cylinder head	Six headbolts per cylinder arrangement delivers uniform clamping force for long life.
Camshaft damper	Reduces injection system torsional vibration and high frequency buzz, for longer component life.
Smart fan clutch	Increases fuel efficiency by only running the fan when extra cooling is necessary, varying fan speed based on cooling needs.
Intelligently modulated VEB	Maintains steady vehicle speed during descent for greater driving comfort, improved safety.
Available VEB	Exceptional retarding, optimized for the rpm you drive, increasing service brake life.
Performance Bonus Guide driver coaching software	Increased fuel savings and driver retention by altering driver behavior through incentives.





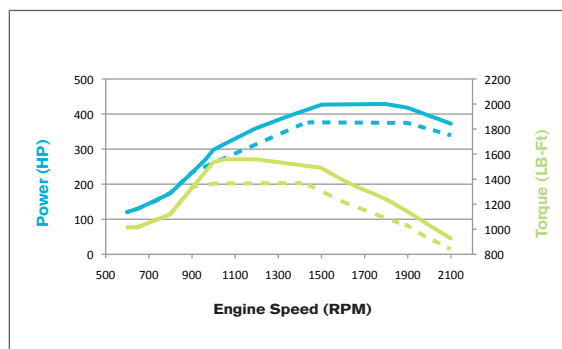
# Eco-Torque Specifications

**Volvo D11 385/1450-1250 Eco-Torque Performance**



Advertised Power, HP	385
Peak Torque, lb-ft@rpm	1450@950
Governed rpm	2100
Recommended cruise speed range, rpm	1250-1500
Start engagement torque, lb-ft@rpm	816@800

**Volvo D11 425/1550-1350 Eco-Torque Performance**



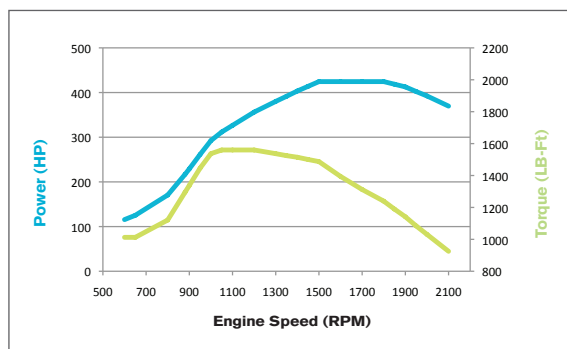
Advertised Power, HP	425
Peak Torque, lb-ft@rpm	1550@1050
Governed rpm	2100
Recommended cruise speed range, rpm	1250-1500
Start engagement torque, lb-ft@rpm	816@800

TORQUE MANAGEMENT			
Package	Gear	Torque Curve	Torque Switching Gears
Eco-Torque Performance	1-10	High	Top 2
	11-12	High or Low	



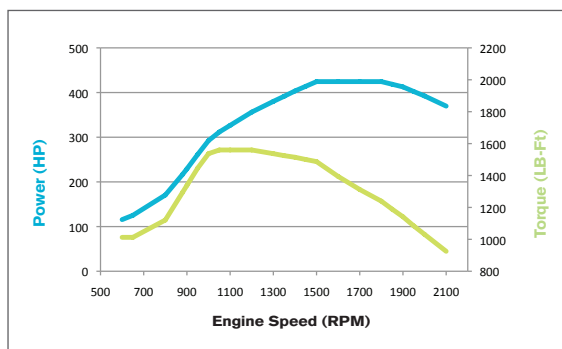
# XE Specifications

## Volvo D11 XE-High Torque 425/1550



Advertised Power, HP	425
Peak Power, HP	425
Peak Torque, lb-ft@rpm	1450@950
Governed rpm	2100
Recommended cruise speed range, rpm	1150-1300
Start engagement torque, lb-ft@rpm	816@800

## Volvo D11 XE-Adaptive Gearing 425/1550



Advertised Power, HP	425
Peak Power, HP	425
Peak Torque, lb-ft@rpm	1550@1000
Governed rpm	2100
Recommended cruise speed range, rpm (light)	1100-1250
Recommended cruise speed range, rpm (loaded)	1250-1550
Start engagement torque, lb-ft@rpm	816@800

## TORQUE MANAGEMENT

Package	Gear	Torque Curve	Torque Switching Gears
XE - Adaptive Gearing Lightly Loaded	1-11	High	12th gear always in low curve
XE - Adaptive Gearing Heavily Loaded	1-11	High	12th gear always locked out

### Adaptive Gearing

The Adaptive Gearing system is both a direct and overdrive driveline depending on rear axle load, which the system senses in real-time. When loaded, the transmission locks out the 12th gear and provides the performance and fuel efficiency benefits of direct drive. During unloaded or lightly loaded trips, the driveline operates in overdrive, providing enhanced fuel efficiency.

### Downspeeding: The key to saving fuel

"Downspeeding" is Volvo's term for lowering engine rpm at a given vehicle speed to save fuel. The Volvo XE11 lightweight powertrain package is designed to cruise comfortably in the engine's sweet spot reducing engine friction and increasing fuel efficiency.

### D11 drivetrain recommendations

It is critical to specify the truck properly to achieve maximum fuel economy and performance.

Ask your salesman to help you choose a rear axle ratio appropriate for your expected cruising speed and gross combination weight.

Basic specs for the Volvo XE11 package:

- On-highway application
- Maximum GCW
  - Diversified loads, empty backhauls; up to 80k lbs
  - 70k lbs max constant GCW
- Volvo D11 engine
  - 425 hp/1550 lb-ft
- Volvo I-Shift transmission
  - Automated 12-speed
  - 0.78:1 overdrive ratio
- 6x4, 6x2 or 4x2
- 2.64-2.80:1 axle ratio
- 22.5 low-profile tires at approx. ~515 rev/mile



**Volvo Trucks**

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Some vehicles shown with optional equipment.

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