**SPECIFICATIONS**

**Performance:**
- Power: 335-485 hp
- Torque: 1350-1650 lb-ft

**Base Engine Configuration**
- 4 cycle / Inline Six

**2007 Emissions**
- Cooled Exhaust Gas Recirculation

**Aftertreatment**
- Diesel Particulate Filter with Oxidation Catalyst

**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 Injectors

**Electronic Management System**
- Volvo VECTRO

**Rating Upratability**
- Software Only, Throughout Range

**Displacement, cu. in. (L)**
- 780 (12.8L)

**Compression Ratio**
- 16.0:1

**Bore & Stroke, in. (mm)**
- 5.16 x 6.22 (131 x 158)

**Cylinder Spacing, in. (mm)**
- 6.61 (168)

**Full Dress Dry Weight, lb. (kg)**
- 2519 (1143)

**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 Specification: Volvo VDS-4

**Engine Equipment:**
- Air Compressor, CFM: Twin Cylinder, 31.8
- VGT-Brake: Standard
- VGT-Brake Rating: 230 HP @ 2200 rpm
- I-VEB Engine Brake: Optional
- Engine Brake Rating at 2200 rpm: 450 hp @ 2200 rpm
- Engine Brake Rating at 1500 rpm: 310 hp @ 1500 rpm
- Engine Brake Weight, lbs (kg): 25 (12)
- Fuel Filter with Elec. Water Indication & Drain: Standard
- Electronic Oil Level Indicator: Standard
- PTO Port for Live Rear PTO Pump or Shaft: Standard
- Preheater, Electrical: Optional
### Volvo D13 Drivetrain Recommendations

<table>
<thead>
<tr>
<th>FEATURE</th>
<th>BENEFIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Efficiency Cooled Exhaust Gas Recirculation (EGR) to control NOx</td>
<td>Proven over billions of miles for high reliability and long life</td>
</tr>
<tr>
<td>Particulate control via Catalyzed Diesel Particulate Filter (DPF) with integrated oxidation catalyst and ‘Primarily Passive’ regeneration</td>
<td>Reducing active regenerations means greater fuel mileage</td>
</tr>
<tr>
<td>Volvo D11, D13, and D16 share common design platform</td>
<td>More thorough component development assures better design and evaluation</td>
</tr>
<tr>
<td>Ultra-high 35,000 psi fuel injection pressure</td>
<td>Meeting US’07 emissions with maximum fuel economy</td>
</tr>
<tr>
<td>Damper on camshaft Cam driven from flywheel with rear gear train</td>
<td>Reduced injection system generated torsional vibration and high frequency ‘buzz’ for longer component life</td>
</tr>
<tr>
<td>Sliding nozzle variable geometry turbocharger</td>
<td>Fewer parts in hot stream for long service life</td>
</tr>
<tr>
<td>Electronic turbocharger actuator</td>
<td>Faster and more accurate for better fuel consumption</td>
</tr>
<tr>
<td>Oil-cooled EGR valve with precise response</td>
<td>Consistent temperature for high reliability and accurate flow</td>
</tr>
<tr>
<td>Precision Flow Cooled Exhaust Gas Recirculation with Delta-P pressure sensor for accurate EGR measurement</td>
<td>Together with accurate turbocharger and EGR valve, this closed-loop system is tuned to give just the EGR needed, no more, no less, for optimum fuel consumption</td>
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<tr>
<td>Optional I-VEB - strongest in class engine brake at cruise rpm</td>
<td>Exceptional retardation at the rpm you drive</td>
</tr>
<tr>
<td>I-VEB intelligently modulates the engine brake power for “downhill cruise” to maintain a steady vehicle speed</td>
<td>Greater driver satisfaction, improved safety</td>
</tr>
<tr>
<td>‘Performance Bonus Guide’ software helps the driver operate in the most fuel efficient zone</td>
<td>By altering the driver’s behavior through incentives, fuel savings can be significant and driver retention can be increased</td>
</tr>
</tbody>
</table>

For example, with 80k lbs GCW, 1650 lb-ft torque, 295/75R22.5 drive tires and 0.74 transmission top gear ratio, the 3.42 axle ratio would come closest to the 1400 rpm at 65 mph recommendation. For your truck specifications, ask your salesman to help you choose a rear axle ratio which comes closest to that engine speed. A low engine cruise speed also helps to keep DPF regenerations to a minimum. Never specify a truck for a cruise speed above 1600 rpm.