ABOUT ENERGIZED PROTECTION

You need to know your oil will protect your engine under all driving conditions. No matter how hot, cold, steep, dusty, muddy or extended your operations, you demand protection.

The Energized Protection of Shell Rotella® T5 Synthetic Blend Technology heavy duty diesel engine oils provides protection in three critical areas:

1. **Acid control** — helps protect against corrosion from acids formed as fuel burns and the oil ages
2. **Deposit control** — helps keep engine clean for optimum performance and long life
3. **Wear control** — helps keep moving metal engine surfaces apart for long life

Shell Rotella® T5 Energized Protection oil meets **API CJ-4 specifications** for increased compatibility with the latest exhaust-emissions control systems while **promoting energy savings**. Shell Rotella® T5 protects under the full range of pressures and temperatures found in modern engines to meet the needs of operators of heavy duty on- and off-highway vehicles.

PROTECTIVE POWER

The combination of synthetic blend base oils and advanced additive system delivers excellent protection, even at low temperatures where the enhanced cold-flow properties help protect your engine.

Shell Rotella® T5 is **formulated and designed to energize the oil's performance** and provides **fuel-economy benefits**, **improved low-temperature flow**, and delivers an advanced "Low-SAPS" formulation which helps **control the blocking or poisoning of exhaust after-treatment devices**.

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**SPECIFICATIONS AND APPROVALS**

<table>
<thead>
<tr>
<th>SAE VISCOSITY GRADE</th>
<th>10W-40</th>
<th>10W-30</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>API</strong>: CJ-4, SM, ACEA E9, E7; Caterpillar ECF-3, ECF-2; Cummins CES 20081; Mack EO-O Premium PLUS; DDC 93K218; MAN 3275; MTU Category 2.1; MB Approval 228.31; Volvo VDS-4; JASO DH-2</td>
<td>✔️</td>
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</tr>
</tbody>
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*Compared with conventional Shell Rotella® T Triple Protection® 15W-40 engine oil.
TECHNOLOGY LEADERSHIP

Shell Rotella® T5 Synthetic Blend Technology is an innovative heavy duty engine oil designed to deliver fuel-economy savings, extended-drain capability, enhanced engine cleanliness, and excellent wear protection.

Shell Lubricants is one of the first companies to offer synthetic blend SAE 10W-30 and SAE 10W-40 viscosity-grade products that meet some of the most stringent heavy duty engine oil specifications globally, such as API CJ-4, ACEA E9, and Volvo VDS-4. Shell Lubricants is committed to being the technical leader in heavy duty engine oil-product innovation.

FUEL ECONOMY BENEFITS

Shell Lubricants continues to be a leader in the development of fuel-economy lubricants. In 2009, we conducted a large-scale trial of medium-duty trucks based on city and highway driving patterns. Shell Rotella® T5 demonstrated fuel-economy savings of up to 1.6% in 2009 on-the-road field testing in medium-duty trucks. (For 10W-30 viscosity-grade-only highway cycles, compared to Shell Rotella® T Triple Protection® 15W-40.) These fuel-economy savings can help lower operation-and-maintenance costs.

MAINTENANCE SAVINGS

Optimize Oil-Drain Intervals

Shell Rotella® T5 provides protection against acid buildup that can contribute to corrosive wear, as demonstrated through TAN (Total Acid Number) increase and lead corrosion in several industry-standard engine tests. By controlling TAN increase, Shell Rotella® T5 can help equipment owners optimize oil-drain intervals.

Low-Temperature Performance

At lower temperatures, using Shell Rotella® T5 10W-30 or 10W-40 can help your engine start more easily than using a 15W-40 viscosity-grade product. Shell Rotella® T5 10W-30 or 10W-40 can help protect the durability of the starter and battery during harsh winter climates. (Anti-idling laws in some states force more usage of Auxiliary Power Units and shutting engines off.)
**WEAR PROTECTION**

Shell Rotella® T5 provides excellent wear control, particularly in preventing bore polish in the cylinder liners. Bore polish in the cylinder liners can result in a loss of fine manufactured honing lines, which can lead to excessive liner wear and an increase in oil consumption. Control of bore polish is measured through the stringent Mercedes OM611LA, OM646LA, OM501LA, and Volvo D-12D engine tests. Shell Rotella® T5 does an excellent job controlling bore polish in these engine tests.

Shell Rotella® T5 provides better low-temperature flow than conventional SAE 15W-40 oil.

**CLEANLINESS/DEPOSIT CONTROL**

Shell Rotella® T5 provides exceptional piston cleanliness and sludge control, exceeding the MB 228.51 requirements in the demanding OM 611 LA, OM 501 LA and OM 646 LA engine tests.
In addition to the full range of Shell Rotella® engine oils, Shell Lubricants also offers a complete portfolio of lubricants for every part of your equipment, including Shell SPIRAX® gear and axle oils, Shell DoNAX® transmission fluids, Shell RETINAX® greases, Shell Rotella® ELC Extended Life Antifreeze/Coolant, and Shell HD Antifreeze/Coolant.

Shell Rotella® T5 meets the specifications and is approved by a wide range of engine manufacturers for use in current and legacy engines. It is an excellent choice for operators of vehicle fleets in locations with large ambient-temperature ranges – one oil to protect, whatever the season. In addition, Shell Rotella® T5 provides the potential for improved fuel economy. Suitable for modern low-emission heavy duty engines, especially those with exhaust after-treatment devices, in place of an SAE 15W-40 engine oil.

Shell Rotella® T5 delivers enhanced performance and protection of the latest low-emission engines, especially those fitted with exhaust particulate filters (DPF).

<table>
<thead>
<tr>
<th>PRODUCT MATERIAL &amp; PACKAGE SIZE</th>
<th>3X1 GAL JUGS</th>
<th>55 GAL DRUM</th>
<th>BULK</th>
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<tbody>
<tr>
<td>10W-40 CJ-4</td>
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<tr>
<td>10W-30 CJ-4</td>
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</table>

For more information, contact your local Shell Lubricants Representative or visit www.ROTELLA.com.

The term “Shell Lubricants” collectively refers to the companies of Royal Dutch Shell plc that are engaged in the lubricants business.