KOMATSU OILS AND LUBRICANTS MEET THE CHALLENGES OF MODERN ENGINE DESIGN.

In the recent years, construction and mining equipment engine manufacturers are required to reduce diesel emissions to meet strict Tier 3 stage IIIA emission levels imposed by environmental authorities worldwide. This has been accomplished by changes in engine design that include the use of cooled Exhaust Gas Recirculation (EGR) and sophisticated engine management systems. With the EGR process, exhaust gases are re-circulated back into the combustion chambers to be burned a second time, a process which puts increased demands on the engine oil.

Accordingly, to extend the life of your equipment, Komatsu has developed a whole new range of quality oils and lubricants to handle the increased demands of modern high technology low emission engines.

These new generation oils and lubricants have been developed with unique and unrivalled technology. Using them with Komatsu engines is essential to increase durability and achieve top performance.
Komatsu Genuine Oil 15W-40 DH1

- New formulation
- Meets API CI-4 specification

Komatsu has introduced an improved heavy-duty diesel engine oil that meets the API CI-4 specification. This version of KGO EO 15W-40 is the first oil in Komatsu’s lubricant portfolio to meet this specification in India.

The API CI4 performance standard means the new product is also suitable for a wide range of construction equipment in the Indian market.

Komatsu multiple heavy-duty engine oils are made from quality base stocks blended with a unique additive system and are designed to provide superior performance in all diesel engines operating on high- and low-sulphur fuels. Only Komatsu Genuine Oils are approved to meet Komatsu Engineering Standards.

**ENGINE CLEANLINESS**

Maintaining cleanliness in an engine is crucial for engine operating efficiency and wear control. This level of cleanliness is achieved by using detergents to reduce piston deposits and soot dispersants to reduce sludge deposits in various parts of heavy-duty diesel engines.

The optimised detergent additive system in this Komatsu Genuine Oil 15W40 DH-1 is designed to keep pistons cleaner than previous-generation Komatsu products.

**ACID AND CORROSION CONTROL**

The superior anti-seize and corrosion control in Komatsu KGO contribute to the control of chemical corrosion in engine bearings. Low bearing wear levels observed in worldwide field trials demonstrate strong bearing corrosion control for Komatsu KGO. In the Cummins high-temperature corrosion bench test, Komatsu KGO demonstrated a 65% reduction in lead corrosion compared with a standard API CH-4 oil.

**OXIDATION AND DEPOSIT CONTROL**

In the PDSC laboratory oxidation control test for ACEA heavy-duty diesel engine oil specifications, Komatsu KGO shows significantly longer induction periods, i.e., better oxidation control performance relative to an API CH-4 oil.

**PROTECTION FOR ENGINES EQUIPPED WITH EGR**

Exhaust gas recirculation (EGR) introduces some exhaust gas into the inlet air charge to reduce peak combustion temperatures. These gases contain acids (sulphurous and sulphuric) and soot particles that can have a detrimental effect on oil performance in terms of corrosion and soot-induced wear. EGR can lead to higher oil temperatures, which can affect oil performance.

Komatsu KGO has been designed to lubricate in the performance-demanding environment of engines equipped with EGR to reduce oxides of nitrogen (NOx) and particulate (soot) emissions, i.e., US 2002 and many Euro 2, 3, 4 and 5 (Tier 2 and Tier 3) engines.

**SPECIFICATIONS AND APPROVALS**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>PARTS NO.</th>
<th>VISCOSITY</th>
<th>PACKAGING</th>
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<tr>
<td>15W-40 multi-base oil</td>
<td>E015W40-DH</td>
<td>SAE 15W-40</td>
<td>SL</td>
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</tr>
</tbody>
</table>

Komatsu KGO offers strong piston deposit control in engines with iron and aluminium pistons, which is demonstrated by the low levels of carbon and lacquer deposits in the industry-standard Caterpillar 1P test.