

LUBE

TECHNI-GRAM



FROM:

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January 2003

MEETING API CI-4 SPECIFICATION WITH SWEPCO SUPREME FORMULA ENGINE OILS 306 15W-40 AND 305 MONOGRADES

As everyone recognizes, diesel engine oil specifications and passenger car engine oil specifications continue to take increasingly divergent paths. As Heavy Duty Diesel Engine Oil (HDDEO) performance is improved to meet the needs of the 21st century, the performance bar continues to be raised for the oil protecting those engines. The continuing challenge that faces the industry is the ability to produce diesel engines that operate as close to environmentally neutral as possible.

The Environmental Protection Agency (EPA) is the driving force behind diesel engine oil specifications. EPA regulations, which require reduced emissions, have forced the majority of OEMs to redesign diesel engines for stringent emissions standards. Diesel engine emissions, in the form of NO_x (Oxides of Nitrogen), hydrocarbons and particulates, are being reduced as new combustion strategies are introduced. These engine redesigns place a much heavier burden on the lubricant. This includes protection against the problems created by Exhaust Gas Recirculation (EGR) such as heavy soot-loading, increased acidic by-products and exposure to much higher temperatures.

For sometime now, SWEPCO 306 15W-40 Supreme Formula Engine Oil and SWEPCO 305 30wt. and 40wt. Supreme Formula Engine Oils have dealt with these increasing diesel engine oil demands by meeting and/or exceeding API CI-4 requirements. The API CI-4 specification is the latest in the progression of diesel engine oil specifications designed specifically to deal with these diesel performance issues. This formulation is compatible with current and previous, conventional diesel-engine technologies requiring API CH-4, CG-4, CF-2 and CF engine oils. In addition, these product weights also meet and/or exceed API SL passenger car engine oil specifications.

SWEPCO's 300 Series Supreme Formula Engine Oils are formulated with select base stocks, **SPX Technology™** and advanced detergent, dispersant, anti-wear and anti-corrosion protective additive chemistry and are designed to provide superior performance even in diesel engines equipped with exhaust gas recirculation (EGR). These oils meet the performance requirements of a wide range of U.S. and European diesel and gasoline engine manufacturers including the requirements of:

- API Service CI-4, CH-4, CG-4, CF-4, CF-2 (30w & 40w), CF, SL
- Cummins CES 20078 (SAE 15W-40)
- Global DHD-1 (SAE 15W-40)



... to keep it running

- EO-M Plus (SAE 15W-40)
- Mercedes-Benz 228.3 (SAE 15W-40)
- Volvo VDS-2 (SAE15W-40).
- Diesel engines manufactured by Caterpillar, Detroit Diesel, International (Navistar), John Deere, Komatsu, Kubota, MAN, Mercedes, MTU, and others.

Customers operating heavy duty on or off-highway equipment are assured of the following cost-effective protection and benefits from SWEPCO 306 and 305 Supreme Formula Engine Oils:

- Formulated for mixed fleet applications.
- Soot dispersancy for effective protection against damaging deposits and wear; TBN retention for effective acid neutralization throughout the entire drain interval, even under severe conditions; thermal stability for high-temperature performance critical in hotter-running EGR engines; high viscosity index for reliable operation over a broad range temperatures; and improved pumpability for cold starts and smoother running engines.
- Compatibility with previous engine oil formulations and earlier designs and new EGR-equipped diesel engines.
- Outstanding high temperature protection.
- Excellent cold cranking capabilities.
- Helps minimize piston deposits.
- Excellent bearing corrosion control.
- Greater oil-drain interval and extension capability.
- Improved wear protection for engine durability and extended overhaul intervals.
- Lower overall maintenance costs.
- Warranty protection.
- Reduced total cost of operation.