



# ROYAL PURPLE 15W-40

## 15W-40 HD CI-4 PLUS HIGH PERFORMANCE DIESEL MOTOR OIL

### BEYOND SYNTHETIC™

Royal Purple 15W-40 HD is a tough, long life, high performance oil that delivers unsurpassed protection and performance for any diesel or gasoline engine the specifies the use of a 15W-40. Royal Purple 15W-40 HD oils meet and exceed the lubrication requirements of pre-EPA '07 emissions equipped engines, and may safely be used in any commercial diesel engine, including post-EPA '07 engines for which strict warranty compliance is no longer a concern.

The performance and protection advantages of Royal Purple 15W-40 HD motor oils come from a superior formulation of synthetic base stocks and additives, and Royal Purple's proprietary additive technology, Synerlec Synerlec greatly enhance the properties of the synthetic formulation to provide performance and protection beyond the capabilities of any other engine oil.

### SYNERLEC® ADDITIVE TECHNOLOGY MAKES THE DIFFERENCE!

Synthetic oils enable Royal Purple to make superior lubricants, but it is Royal Purple's advanced Synerlec additive technology that gives its lubricants their amazing performance advantages. Synerlec additive technology truly is beyond synthetic.

Synerlec additive technology forms a tough, slippery, synthetic film on all metal surfaces. This proprietary film significantly improves lubrication: first, by increasing the oil film's thickness, and second, by increasing the oil film's toughness, both of which help to prevent metal-to-metal contact. It displaces moisture from metal surfaces and protects all metals against rust and corrosion.

### OEM RECOMMENDATIONS

Royal Purple 15W-40 HD should be considered where the following OEM specifications are recommended:

- API CI-4 PLUS /SL
- ACEA A3 /B3/E3/E5
- CAT ECF-2
- Cummins CES 20078
- DDC Power Guard 93K214
- Mack EO-N Premium Plus 03
- Volvo VDS-3
- MTU Category 2

### PERFORMANCE ADVANTAGES

- **Enhanced Wear Protection**  
Royal Purple's advanced additive technologies form a tough, tenacious film on all metal surfaces virtually eliminating engine wear.
- **Extended Oil Life and Drain Interval**  
Royal Purple 15W-40 HD is extremely resistant to oxidation and stands up to the heat that causes oils to thicken, form lacquer and varnish deposits, lose its lubricity and shorten the life of both the oil and the engine.
- **Superior Corrosion Protection**  
Royal Purple's advanced additive technology protects during normal and severe operation, and acts as a preservative oil during shut-down.
- **Improved Fuel Economy and Increased Horsepower**  
The reduced friction and enhanced piston ring seal provided by Royal Purple's 15W-40 HD oil produce meaningful improvements in fuel economy and power to the ground.
- **Reduced Exhaust Emissions**  
The enhanced piston ring to cylinder wall seal provided by Royal Purple's 15W-40 HD oil reduces blow-by, improves combustion efficiency and measurably reduces harmful emissions.
- **Increases Horsepower**  
Royal Purple Motor Oil increases horsepower and torque over conventional oils.
- **Improved Engine Cleanliness**  
Royal Purple Motor Oil's natural solvency cleans deposits left by old oils and keeps engines clean.
- **API Warranty Compliant**  
Royal Purple's 15W-40 HD Motor Oil is API licensed. It is compatible with other mineral and synthetic motor oils. Switching is easy. Drain old oil. Change the filter. Add Royal Purple Motor Oil. Follow manufacturer's recommended drain intervals during warranty.
- **Seal Compatibility**  
Royal Purple Motor Oil has the same excellent seal compatibility as mineral engine oils.
- **Environmentally Responsible**  
Royal Purple Motor Oil components are TSCA listed and meet EPA, RCRA and OSHA requirements. Royal Purple Motor Oil extends oil drain intervals, eliminates premature oil changes, decreases the amount of oil purchased and disposed of and conserves energy.



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TYPICAL PROPERTIES*	ASTM METHOD	SAE GRADE / API SERVICE
		15W-40 CI-4 PLUS / SL
Viscosity	D445	
cSt @ 40°C		109.7
cSt @ 100°C		15.13
Viscosity Index	D2270	144
Low Temp. Pumping Viscosity	D4684	
≤60,000cP @ -25°C		15,700
Low Temp. Cranking Viscosity	D5293	
≤7000cP @ -20°C		5183
Flash Point, °F	D92	425
Pour Point, °F	D6892	-49
High Temp. / High Shear	D4683	
cP @ 150°C		4.2
NOACK Volatility Test	D5800	
Evaporative Loss % @ 250°C		10.1
Density, lbs/g	D4052	7.32
Total Base Number, mgKOH/g	D2896	10.5
Sulfated Ash, % Max.	D874	1.4

\*Properties are typical and may vary

Royal Purple 15W-40 HD motor oil meets or exceeds car manufacturer's oil specifications and will not void warranty. Follow the manufacturer's recommended drain intervals during warranty.

Royal Purple's 15W-40 HD motor oil is recommended for use in both two-cycle and four-cycle diesel applications including automotive, commercial fleet and stationary industrial diesel engines.

Note: Royal Purple's engine oil solvency cleans wear metals and deposits left by previous oils. These wear metals and deposits can cause abnormally high values on used oil analysis until the engine is clean.