

Puma HD Plus 15W-40 CI-4+

Heavy Duty Diesel Engine Oil

Puma Diesel Engine Oils are high quality multi-grade long drain lubricating oils, primarily manufactured from highly refined mineral base oils. HD Plus 15W-40 is specially developed for use in all types of for high output normally-aspirated and turbocharged diesel engines with EGR (Exhaust Gas Recirculation) operating under very severe duty or which are subject to deposit formation or excessive wear due to design characteristics. These oils are formulated from selected base stocks with high Viscosity Index and Low Pour Point. They are treated with a large percentage of additives to impart superior detergency together with high dispersant, anti-oxidant, anti-corrosion, anti-wear and anti-foam properties. It can also be used in engines requiring quality levels API CG-4, CH-4, CF, and CF-4.

- ✓ Anti-wear Protection
- ✓ Oxidation Resistance
- ✓ Anti-foam Performance

Designed to Perform

Anti-wear Protection – Longer Equipment Life

Proven anti-wear additive packages provide greater resistance to sliding wear thus ensuring efficiency and long life of all moving parts which greatly reduce the need for engine servicing and overhauls.

Multi-grade Performance

Suitable for all year use in most climatic conditions. An enhanced viscosity index improver allows for the engine oil to give excellent protection during cold start-ups and extremely hot conditions.

Oxidation Resistance - Longer Oil Life

It has extremely good oil life and lubricant stability even when subjected to unusually high thermal stresses; this property minimises sludge and deposit formation, thus preventing blocking of ports, valves and controls, while guaranteeing that the oil remains properly fluid. Maintenance costs are therefore reduced and the useful service life of the oil is extended.

High Detergency – Increased Engine Cleanliness

It has excellent detergency properties, making it particularly suitable for use in supercharged engines. It also has high dispersant properties. The lubricant is thus very resistant to the formation of lacquer and varnish, as well as sludge and other engine deposits. It helps prevent ring sticking and keeps pistons clean, while maintaining soot deposits in suspension ready to be filtered.

Anti-foam – Increased Performance

Easy release of entrained air which will prevent difficulties with pumps and controls which can cause irregularities in performance and other problems arising from the compressibility of air bubbles.

Low Pour Point - Easy Start Up

This allows for easy start-up of diesel engines even at low temperatures.

Anti-corrosion & Anti-rust Properties

It has particularly good anti-corrosion properties which effectively protect the engine from corrosion from combustion moisture and acids. These additives inhibit the oxidation of internal surfaces of the engine and therefore preventing breakdown of the oil.

Demulsibility – Engine Life Extension

Prevents the formation of water in oil emulsion which enters the system through leakage or condensation. The fluids therefore maintain their lubricating power and anti-corrosion performance even under these circumstances.

Applications

Puma HD Plus has been designed for those diesel engines working under severe operating conditions requiring an API CI-4+ engine oil. For naturally aspirated, turbo charged and EGR engines in trailer trucks, dump trucks, urban and highway passenger buses and diesel engines in industrial and construction equipment.

Recommended for modern and older gasoline engines cars requiring an API CI-4+/SL oil. Ideal for mixed fleets, where using a single lubricant can save the cost of extra inventories and handling.

For correct application always consult your Original Equipment Manufacturer (OEM) and follow recommendations.

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Meets/ Exceeds the requirements of the following specifications:

- API CI-4+/SL
- Detroit Diesel DFS-93K214
- Cummins CES-20078
- MB-228.3
- Volvo VDS-3
- Mack EO-N
- Renault VI RLD-2
- ACEA E7, A3, B4
- API CH-4, CF-4, CG-4, CF/SJ
- MTU 1.0, Deutz DQC-III-05
- MB-229.1
- Cummins CES-20077, CES-20076
- Caterpillar ECF-1a, ECF-2, Global DHD-1
- Man M3275-1

Typical Physical Characteristics

Property	Temp	Units	Test Methods	15W-40
Viscosity Grade	-	SAE	J300	15W-40
Kinematic Viscosity	@ 40°C	cSt	ASTM D445	123.6
Kinematic Viscosity	@ 100°C	cSt	ASTM D445	14.8
Viscosity CCS (15W)	@ -10°C	mPa.s (cP)	ASTM D5293	5000
Viscosity Index	-	-	ASTM D4292	122
Flash Point (COC)	-	°C	ASTM D92	226
Pour Point	-	°C	ASTM D97	-36
Density	@ 20°C	g/ml	ASTM 1250	0.873
TBN	-	mg KOH/gm	D 2896	11.3
Sulphated Ash	-	% weight	D874	1.3

These characteristics are typical of current product methods whilst future production will conform to Puma Lubricants specifications, variations in these physical characteristics may occur.

Health & Safety Environment

- This product is unlikely to present any significant health and safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained.
- Avoid contact with eyes and skin, use proper impervious gloves with used oil. After skin contact, wash immediately with soap and water. Guidance on health and safety is available on the appropriate Safety Data Sheet (SDS) which can be obtained from sds.pumaenergy.com.au

Protect the Environment

- Take used oil to an authorised collection point. Do not discharge used or new oil into drains, soil or water.

Additional Information

- Technical advice may be obtained from your Puma Energy Representative.