

## Heavy Duty Engine Oil



### Product Description

**PennGrade Heavy Duty Engine Oil** has been designed specifically to support the stringent performance requirements of API Service Category CJ-4 used in 2007 and newer model diesel engines running primarily on ultra low sulfur fuel and equipped with aftertreatment devices.

**PennGrade Heavy Duty Engine Oil** is a technologically-advanced heavy-duty diesel engine oil, designed to provide extra protection against deposits and wear for engines operating in heavy duty service. **PennGrade Heavy Duty Engine Oil** is API licenced for Service Category CJ-4/SN.

**PennGrade Heavy Duty Engine Oil** supports the performance requirements for ACEA E9-12; Cat ECF-3; Cummins 20081; DDC 93K218; Mack EO-O Premium Plus '07 and Volvo VDS-4.

### Features and Benefits

Carefully selected base oils designed for diesel engine service provide:

- reduced oil consumption
- improved control of engine wear through rapid oil flow on cold starts
- proper metal-to-metal separation during high temperature / high load operation.

Contains optimum dosage of active diesel detergents to keep internal engine parts clean and operating efficiently.

Supports the performance requirements of mixed heavy-duty diesel fleets in addition to the oil specifications for 2007 and later model diesel engines running on ultra low sulfur diesel fuel.

The use of shear stable polymer results in resistance to in-service viscosity loss, providing excellent viscosity protection and reduced oil consumption under tough service conditions.

Reduces maintenance expense.

**PennGrade Heavy Duty Engine Oil** composition has been designed to provide extended life for exhaust aftertreatment devices.

D-A Lubricant Company, Inc.  
801 Edwards Drive  
Lebanon, IN 46052 USA  
www.dalube.com dalube@dalube.com  
1-800-OIL-LUBE (1-800-645-5823)



## Heavy Duty Engine Oil



### Typical Applications

API Licensed Service Category CJ-4/SN

Supports the performance requirements of:

ACEA E9-12

Cat ECF-3, ECF-2, ECF-1-a

Cummins 20081

DDC 93K218

Deutz DQC 111-10-LA

Mack EO-0 Premium Plus '07

MAN M3575

MB228.31

MTU Type 2.1

Renault RLD-3

Volvo VDS-4

ZF TE-ML 03K, 07C (15W-40 only)

### Typical Properties

PennGrade Heavy Duty Engine Oil Typical Properties		
SAE Viscosity Grade	J-300	15W-40
Viscosity at 100 °C, cSt	ASTM D445	15
Viscosity at 40 °C, cSt	ASTM D445	108
Viscosity Index	ASTM D2270	139
CCS Viscosity, cP	ASTM D5293	6000
HTHS Viscosity, mPa S	ASTM D4683	4.2
Total Base Number	ASTM D2896	8
Sulfated Ash, Wt. %	ASTM D877	0.97
MRV, cP	ASTM D4684	18,400 @ -25°C
Flash Point, °F (°C)	ASTM D92	446 (230)
Pour Point, °F (°C)	ASTM D97	-22 (30)

Bag in a Box Part Number	6 US Gallons	52105
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