

# PennGrade® Heavy Duty



## Product Description

**PennGrade® Heavy Duty** is a new generation of diesel engine protection. Advances in diesel engine technology have escalated significantly from what existed a decade ago. Today's engines are substantially more powerful and efficient than once imagined. Changes made to achieve this have created more severe operating conditions that place new levels and types of stress on the engine oil. In response to this, the lubricant industry has adopted new performance standards, designated as API CK-4. Engine oils meeting this new standard must deliver increased levels of engine protection and oil durability that meet the needs of new engine designs while simultaneously providing a higher degree of protection for older model engines. Equipment manufacturers are adopting elevated standards at the same time to meet the specific needs of their engine designs.

## Product Features and Benefits

D-A Lubricant Company updated **PennGrade® Heavy Duty** to respond to the new challenges of diesel engine protection. Formulated to robustly meet industry standards, **PennGrade® Heavy Duty** offers users a high degree of confidence that they are doing the right thing to keep their equipment working reliably. Compared to previous generations of products, **PennGrade® Heavy Duty** will deliver:

- Substantial engine durability improvements for long, reliable equipment life
- Enhanced resistance to oil breakdown to maintain flow properties and maximize drain interval potential
- Confidence of performance in both new and older vehicle models (backwards compatible)

Always consult your owner's manual for proper oil viscosity and quality selection guidance.



## Typical Applications

PennGrade® Heavy Duty Diesel Engine Oil performs in a wide range of heavy-duty applications and in challenging operating environments found on- and off-road. The following industry and specific equipment manufacturer standards are suitable for use.

## Approvals and Specifications

### PennGrade® Heavy Duty 15W-40

*Meets the Performance Requirements of:*

API CK-4 (Backwards Compatible)

CAT ECF-3

Cummins CES 20086

DDC DFS 93K222

Deutz DQC III-10 LA

Ford WSS-M2C171-F1

Mack EOS-4.5

MTU Type 2.1

Renault RLD-4

Volvo VDS-4.5

## Typical Properties

SAE Viscosity Grade	J300	15W-40
Viscosity @ 100°C, cSt	ASTM D445	15.0
@ 40°C, cSt	ASTM D445	114.3
Viscosity Index	ASTM D2270	135
HTHS Viscosity, cP @150 °C (min)	ASTM D4683	4.1
Pour Point, °F (°C)	ASTM D97	-33 (-36)
Flash Point, °F (°C)	ASTM D92	439 (226)
Sulfated Ash, Weight %	ASTM D874	1.0
Total Base Number	ASTM D2896	9.3
CCS @ -20°C, cP	ASTM D5293	6180

### D-A Part Number:

Bag-in-a-box – 6 Gal

52105

