

# PETRO FACTS



## CO-OP<sup>®</sup> D-MO<sup>®</sup>



### HEAVY-DUTY DIESEL MOTOR OIL



#### CO-OP D-MO

is available in:

- 12 x 1 litre cases
- 4 x 5 litre cases
- 2 x 10 litre cases
- 20 litre pails
- 110 litre drums
- 205 litre drums
- Bulk

(Note: Not all grades are available in every container size.)

#### DESCRIPTION

**CO-OP D-MO** has an advanced motor oil formulation which provides superior performance, meeting or exceeding other competitive products and current API service classifications. Specific grades are approved for the most stringent and demanding North American and European service applications. CO-OP D-MO oil drain intervals can be extended past the engine manufacturer's normal recommendation. CO-OP D-MO is one of the finest diesel motor oils produced today.

#### FEATURES & BENEFITS

- **EXTENDED SERVICE**  
CO-OP D-MO is approved for extended service (extended drain) intervals (i.e. John Deere, Mach, Volvo, Cummins, etc.).
- **OXIDATION RESISTANCE**  
CO-OP D-MO's oxidation inhibitors reduce oil thickening and varnish build-up due to oxidation.
- **ENGINE CLEANLINESS**  
CO-OP D-MO's unique mix of additives reduces harmful deposits and neutralizes harmful engine contaminants.
- **VISCOSITY RETENTION**  
CO-OP D-MO's higher shear stability ensures multi-grade stay-in-grade under the most severe use.
- **RUST PROTECTION**  
CO-OP D-MO provides superior rust and corrosion protection under the most severe conditions.
- **EXTENDS ENGINE LIFE**  
Superior CO-OP D-MO maximizes engine life.
- **FUEL ECONOMY**  
CO-OP D-MO's fuel economy performance meets engine manufacturer's requirements.
- **WEAR PROTECTION**  
CO-OP D-MO's superior additives bond to metal surfaces, creating a protective film which averts wear.
- **SOOT CONTROL**  
CO-OP D-MO reduces combustion chamber deposits and controls soot deposits.
- **REDUCED OIL CONSUMPTION**  
CO-OP D-MO's combination of shear stable components ensures reduced oil consumption.
- **EMISSION TECHNOLOGY**  
CO-OP D-MO is designed to meet emission requirements into the next century.
- **REDUCES COSTS**  
CO-OP D-MO reduces maintenance costs.



**THE OIL OF THE FUTURE AT TODAY'S PRICES**





# LUBRICANTS



ALLISON  
EXTENDED DRAIN APP  
MILITARY SPECIFICATIONS  
STABLE POUR  
VISCOSITY @ 40° C  
VISCOSITY @ 100° C  
SULFATED ASH  
ZINC  
TBN (ASTM D2896)

## QUALIFICATIONS

BRAND NAME/ SAE GRADE	APPROVED API CLASSIFICATION																	
	CI-4 PLUS	CI-4	CH-4	CG-4	CF-4	CF-2	CF	SL	C3-C4			°C	cSt	cSt	%	%	mg/g	
<b>CO-OP D-MO</b>																		
<b>10W</b>							X		X			3	-45	35.0	6.0	1.0	0.10	8.0
<b>20W-20</b>							X		X			3	-39	49.0	7.6	1.0	0.10	8.0
<b>30</b>						X	X	X	X			3	-36	86.0	10.8	1.0	0.10	8.0
<b>40</b>						X	X	X	X			3	-27	146.0	15.0	1.0	0.10	8.0
<b>10W-30</b>		X	X	X	X		X	X		A,B,C D,F,G,H	1,2,3	-39	74.0	11.4	1.43	0.14	11.2	
<b>15W-40</b>	X	X	X	X	X		X	X	X	A,B,C D,F,G,H	1,3	-39	122.0	15.3	1.43	0.14	11.2	

### ADDITIONAL QUALIFICATIONS

In the appropriate viscosity grade, CO-OP D-MO engine oils exceed the requirements of:

- American Petroleum Institute (API)**  
CI-4 PLUS, CI-4, CH-4, CG-4, CF-4, CF-2, CF/SJ, SH, SL  
Also Meets Obsolete Specifications  
CE, CD, CD-II, CC, SG, SF

#### Gasoline Engines

- Ford M2C-153E
- GM6094M (608M) (2), (6049M) (2)
- Chrysler MS 6982 and its '89 model year equivalent

#### HD Transmissions

- Allison C-3/C-4
- Caterpillar CD/TO-2/TO-2

(1) SAE 30, 40, and 15W40  
(2) Obsolete

#### Superior Diesel Engine Mfg.

- Cummins • Volvo • Mercedes Benz
- MTV • Mack

### EXTENDED SERVICE (EXTENDED DRAIN)

- A ACEA E3/B3/A3/E5
- B Cummins CES 20071/2/6/8
- C VOLVO - VDS/VDS2

- D Mercedes Benz 228.1 & 3
- E Caterpillar ECF-1
- F MTU Type 1 & 2
- G Mack EO-N Premium Plus (03)
- H Detroit 93K214

**NOTE: Approved for extended drain.**

### MILITARY SPECIFICATIONS

- Mil-L-2104G
- Mil-L-46152E (Obsolete)

### OBSOLETE MILITARY SPECIFICATIONS

- Mil-L-2104 B, C, D, E, F

## APPLICATIONS

### HEAVY-DUTY DIESEL ENGINES

#### High-output Diesels

Allis Chalmers, J.I. Case, Caterpillar, Continental, Cummins, John Deere, Detroit Diesel, Ford, International Harvester/Navistar, Mack, Perkins, White.

#### Mid-range Diesels

Deutz, Hino, Komatsu, Kubota, Mercedes, Renault, Scania, Volvo.

#### Light-duty Diesel Engines

Passenger cars and trucks, domestic and imported.

#### Gasoline Engines

Passenger cars and trucks, domestic and imported that require an "SJ" approved oil.

#### Hydraulics

In the correct viscosity grade, CO-OP D-MO offers excellent anti-wear hydraulic performance.