



# ON-HIGHWAY HEAVY DUTY ENGINE MANUFACTURER'S RECOMMENDED OIL DRAIN INTERVALS GUIDE



**ISOSYN**  
ADVANCED  
TECHNOLOGY™

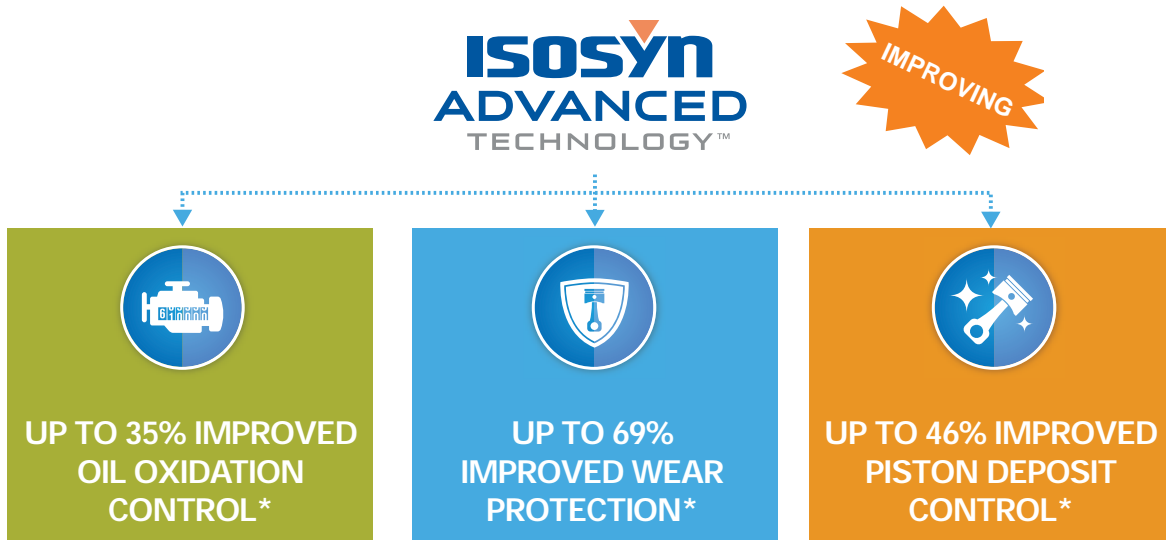
**Delo®**  
Let's go further.®

## Delo® Heavy-Duty Engine Oil with ISOSYN® Advanced Technology

Delo with innovative ISOSYN ADVANCED TECHNOLOGY is here. Delivering industry leading durability, reliability and efficiency. It works in synergy with the changing conditions in your engine to maximize protection, optimize performance and extend oil life.

### ISOSYN ADVANCED TECHNOLOGY

**What is it?** The combination of Chevron's outstanding formulation expertise, unique high performance additive chemistry and premium base oils helps extend the durability of critical diesel engine parts.



*\*As compared to previous generation Chevron HDMO formulations*

**Improved durability, reliability and efficiency:** Delo 400 products formulated with ISOSYN ADVANCED TECHNOLOGY can provide improved engine longevity, extended oil drain performance, and excellent diesel component parts protection, helping to extend vehicle life and minimize the total cost of ownership when compared with the previous generation Chevron HDMO formulations.

In addition, Delo 400 low viscosity oils formulated with ISOSYN ADVANCED TECHNOLOGY will help optimize fuel efficiency performance and total cost savings.

## Engine Oil Performance Requirements

Major U.S. On-Highway Engine Manufacturers recommend the following:

- For all 2017 greenhouse gas (GHG '17) compliant diesel engines designed to meet lower CO<sub>2</sub> emissions and improved fuel economy, truck OEMs recommend the use of API CK-4, and some also recommend use of API FA-4 or equivalent OEM specification.
- All on-highway heavy duty truck OEMs factory fill with either API CK-4 SAE 10W-30 or API FA-4 SAE 10W-30. Check with OEM for specific information for their diesel engines and vehicles.

### Detroit Diesel:

- Beginning December 2016, new GHG'17 diesel engines are factory filled with (Detroit Fluid Specification) DFS 93K223 (API FA-4) diesel engine oil.
- Use of DFS 93K222(API CK-4)/DFS 93K223(API FA-4) engine oils may provide opportunity for further extending oil drain intervals.
- Customers may also utilize DFS 93K223 (API FA-4) engine oil in their older model year Detroit Diesel Engines (see chart):

Engine Model DD 16 <sup>®</sup> /DD 15 <sup>®</sup> /DD 13 <sup>®</sup>	DFS 93K222 (API CK-4)	DFS 93K223 (API FA-4)
GHG '17	Yes	Yes
GHG '14	Yes	Yes
EPA 10	Yes	Yes
EPA 07	Yes	No

*Note: Yes or No indicates if the oil type can be used in the engine model year*

### Cummins<sup>®</sup>:

- Cummins recommends the use of either CES 20086(API CK-4)/CES 20087(API FA-4) approved oils in their new GHG '17 X15 diesel engines.
- Cummins CES 20086 (API CK-4) approved oils are authorized for use in pre-GHG '17 model diesel engines.













### Volvo/Mack:

- Volvo/Mack GHG '17 diesel engines are factory filled with VDS 4.5/EOS 4.5 (API CK-4) SAE 10W-30 approved diesel engine oils.
- Volvo/Mack does not allow the use of any API FA-4 diesel engine oils in any of their newer or older model diesel engines.

Heavy duty engine manufacturer's recommended oil drain intervals indicated in this guide apply only when using the latest OEM recommended diesel engine oils or their specifications including API CK-4 or API FA-4 in engines where these products are authorized by the engine manufacturers. OEM recommended oil drain intervals are reduced when using diesel engine oils of earlier performance standards. Always follow OEM recommendations and utilize used oil analysis testing when extending oil drain intervals.

*OEM recommendations contained in this brochure are the most recent we have from OEM literature or web information at the time of publication (April 2018). These may change at any time. Check with each respective OEM for any information updates.*

## Detroit Diesel

	Engine Type	Severe*	Short-Haul*	Long-Haul*	Highly Efficient Long Haul*
	GHG '17 DD16 <sup>***</sup>	56,000 km (35,000 miles)	64,000 km (40,000 miles)	88,500 km (55,000 miles)	88,500 km (55,000 miles)
	GHG '17 DD15 <sup>***</sup>	56,000 km (35,000 miles)	72,000 km (45,000 miles)	96,500 km (60,000 miles)	121,000 km (75,000 miles)
	GHG '17 DD13 <sup>***</sup>	56,000 km (35,000 miles)	64,000 km (40,000 miles)	88,500 km (55,000 miles)	105,000 km (65,000 miles)
	GHG '14 DD16 <sup>**</sup>	56,000 km (35,000 miles)	64,000 km (40,000 miles)	88,500 km (55,000 miles)	88,500 km (55,000 miles)
	GHG '14 DD15 <sup>**</sup>	56,000 km (35,000 miles)	72,000 km (45,000 miles)	96,500 km (60,000 miles)	121,000 km (75,000 miles)
	GHG '14 DD13 <sup>**</sup>	56,000 km (35,000 miles)	64,000 km (40,000 miles)	88,500 km (55,000 miles)	105,000 km (65,000 miles)
	EPA 10 DD16 <sup>**</sup>	56,000 km (35,000 miles)	64,000 km (40,000 miles)	88,500 km (55,000 miles)	88,500 km (55,000 miles)
	EPA 10 DD15 <sup>**</sup>	56,000 km (35,000 miles)	72,000 km (45,000 miles)	96,500 km (60,000 miles)	121,000 km (75,000 miles)
	EPA 10 DD13 <sup>**</sup>	56,000 km (35,000 miles)	64,000 km (40,000 miles)	88,500 km (55,000 miles)	105,000 km (65,000 miles)
	EPA 07 Series 60 <sup>**</sup>	24,000 km (15,000 miles)	32,000 km (20,000 miles)	48,000 km (30,000 miles)	48,000 km (30,000 miles)
	EPA 07 MBE 4000 <sup>**</sup>	16,000 km (10,000 miles)	24,000 km (15,000 miles)	48,000 km (30,000 miles)	48,000 km (30,000 miles)
	EPA 07 MBE 900 <sup>**</sup>	9,700 km (6,000 miles)	24,000 km (15,000 miles)	32,000 km (20,000 miles)	32,000 km (20,000 miles)

\*Severe is defined for vehicles that average 2.1 kPL (5 mpg) or less; Short Haul is for an average between 2.2 and 2.5 kPL (5.1 and 5.9 mpg); Long Haul is for an average between 2.5 kPL (6 mpg) and 2.9 kPL (6.9 mpg); Highly Efficient Long Haul is for an average greater than 3 kPL (7.0 mpg). Fuel Economy represents overall fuel economy (including idle time).

\*\*Use engine oils approved against DFS 93K222 or DFS 93K223 like Delo 400 XSP SAE 5W-30, Delo 400 XSP SAE 5W-40, Delo 400 XLE 15W-40, Delo 400 XLE SAE 10W-30, and Delo 400 SDE SAE 15W-40. When using an SAE 10W-30 with EPA 07 Detroit Diesel engines, please install the MCM software 13.4.2.0 or higher update to run the lower viscosity engine oils. This is to ensure the engine oil light doesn't come on for low idle and instigates an engine shutdown.

# Detroit Diesel

Filter Change Recommendations when using DFS 93K222 and DFS 93K223 approved fluids






		Service Application			
Engine Series	Filter Type	Severe <2.1 KPL (<5.0 MPG)*	Short Haul 2.2 -2.5 KPL (5.1-5.9 MPG)*	Long Haul 2.5-2.9 KPL (6.0-6.9 MPG)*	Highly Efficient Long Haul >3 KPL (>7.0 MPG)*
DD13	Oil Filter	56,000 km (35,000 miles)	64,000 km (40,000 miles)	88,500 km (55,000 miles)	105,000 km (65,000 miles)
	Fuel Filter - Engine Mounted Only**	56,000 km (35,000 miles)	64,000 km (40,000 miles)	88,500 km (55,000 miles)	105,000 km (65,000 miles)
	Fuel Filter - Engine and Frame Mounted***	Engine: 113,000 km (70,000 miles) Frame: 56,000 km (35,000 miles)	Engine: 129,000 km (80,000 miles) Frame: 64,000 km (40,000 miles)	Engine: 161,000 km (100,000 miles) Frame: 88,500 km (55,000 miles)	Engine: 161,000 km (100,000 miles) Frame: 105,000 km (65,000 miles)
DD15	Oil Filter	56,000 km (35,000 miles)	72,000 km (45,000 miles)	96,500 km (60,000 miles)	121,000 km (75,000 miles)
	Fuel Filter - Engine Mounted Only**	56,000 km (35,000 miles)	72,000 km (45,000 miles)	96,500 km (60,000 miles)	121,000 km (75,000 miles)
	Fuel Filter - Engine and Frame Mounted***	Engine: 113,000 km (70,000 miles) Frame: 56,000 km (35,000 miles)	Engine: 145,000 km (90,000 miles) Frame: 72,000 km (45,000 miles)	Engine: 161,000 km (100,000 miles) Frame: 96,500 km (60,000 miles)	Engine: 161,000 km (100,000 miles) Frame: 96,500 km (60,000 miles)
DD16	Oil Filter	56,000 km (35,000 miles)	64,000 km (40,000 miles)	88,500 km (55,000 miles)	88,500 km (55,000 miles)
	Fuel Filter - Engine Mounted Only**	56,000 km (35,000 miles)	64,000 km (40,000 miles)	88,500 km (55,000 miles)	88,500 km (55,000 miles)
	Fuel Filter - Engine and Frame Mounted***	Engine: 113,000 km (70,000 miles) Frame: 56,000 km (35,000 miles)	Engine: 129,000 km (80,000 miles) Frame: 64,000 km (40,000 miles)	Engine: 161,000 km (100,000 miles) Frame: 88,500 km (55,000 miles)	Engine: 161,000 km (100,000 miles) Frame: 88,500 km (55,000 miles)

\*Fuel Economy represents overall fuel economy (including idle time).

\*\* Engine fuel filters should be changed at recommended service intervals, or when the "Fuel Filter Service Lamp" activates on the dashboard. For maximum life of fuel system components, it is not recommended to exceed 161,000 km (100K miles) on engine fuel filters under any condition.

\*\*\* Currently the Detroit Frame Mounted Fuel Filter and the Davco 485 & 487 are the only compatible frame mounted fuel filters approved for use with GHG '17 DD13/DD15/DD16 engines.

# Navistar®











Engine Type	Severe*	Moderate*	Light*
 GHG '17 N13	29,000 km (18,000 miles)	48,000 km (30,000 miles)	64,000 km (40,000 miles)
 GHG '17 N10	Check with Navistar	Check with Navistar	40,000 km (25,000 miles)
 GHG '17 N9	Check with Navistar	Check with Navistar	40,000 km (25,000 miles)
 EPA 10 MAXXFORCE® 13/11**	29,000 km (18,000 miles)	48,000 km (30,000 miles)	64,000 km (40,000 miles)
 EPA 10 MAXXFORCE 9/7	Check with Navistar	Check with Navistar	24,000 km (15,000 miles)

\*Light > 2.8 kpl (6.5 mpg); Moderate = 2.8 to 2.1 kpl (6.5 to 5.0 mpg); Severe < 2.1 kpl (5.0 mpg).

\*\*For Navistar EPA 10 MAXXFORCE 13 & 11 engines, they require the use of a centrifuge type filter.

MAXXFORCE® is a registered trademark of Navistar.



## Cummins® Diesel Engines

Engine Type	Severe*	Normal*	Light*
 GHG '17 X 15**	40,000 km (25,000 miles) - CES 20086/87	56,000 km (35,000 miles) - CES 20086/87	80,000 km (50,000 miles) - CES 20086/87 129,000 km (80,000 miles) - CES 20086/87
 EPA 13 ISX 15**	32,000 km (20,000 miles) - CES 20086/81	48,000 km (30,000 miles) - CES 20086/81	64,000 km (40,000 miles) - CES 20086/81
 EPA 10 ISX 15**	24,000 km (15,000 miles) - CES 20086/81	40,000 km (25,000 miles) - CES 20086/81	56,000 km (35,000 miles) - CES 20086/81
 EPA 13/EPA 10 ISX 12**	24,000 km (15,000 miles) - CES 20086/81	40,000 km (25,000 miles) - CES 20086/81	56,000 km (35,000 miles) - CES 20086/81
 EPA 13/EPA 10 ISL 9**	Check with Cummins	32,000 km (20,000 miles)	Check with Cummins
 EPA 10 ISC 8.3**	Check with Cummins	32,000 km (20,000 miles)	Check with Cummins
 EPA 13/EPA 10 ISB 6.7**	Check with Cummins	32,000 km (20,000 miles)	Check with Cummins
 EPA 07 ISX**	24,000 km (15,000 miles) - CES 20086/81	40,000 km (25,000 miles) - CES 20086/81	56,000 km (35,000 miles) - CES 20086/81
 EPA 07 ISM**	24,000 km (15,000 miles) - CES 20086/81	40,000 km (25,000 miles) - CES 20086/81	56,000 km (35,000 miles) - CES 20086/81
 EPA 07 ISC**	Check with Cummins	24,000 km (15,000 miles)	Check with Cummins

\*Light Duty > 2.8 kPL (6.5 mpg) or < 31,750 kg (70,000 lbs) gross weight; Normal Duty = 2.3 to 2.8 kPL (5.5 to 6.5 mpg) or 36,000 kg (80,000 lbs) gross weight; Severe Duty < 2.3 kPL (5.5 mpg) or > 36,000 kg (80,000 lbs) gross weight.

\*\*CES 20086 refers to an API CK-4 approved oil like Delo 400 XSP SAE 5W-30, Delo 400 XSP SAE 5W-40, Delo 400 XLE SAE 15W-40, Delo 400 XLE SAE 10W-30 and Delo 400 SDE SAE 15W-40; CES 20087 refers to an API FA-4 oil like Delo 400 ZFA SAE 10W-30.

## Cummins Westport CNG/LNG Engines

Engine Type	Service	Kilometres (Miles)	Hours	Months
 Cummins ISX 12G*	Truck Application: Recommended Engine Oil Drain Interval	29,000 (18,000)	400	6
	Truck Spark Plug Change	108,600 (67,500)	Check with Cummins	Check with Cummins
 Cummins ISL G**	Truck Application: Recommended Engine Oil Drain Interval	24,000 (15,000)	500	6
	Truck Spark Plug Change	72,000 (45,000)	Check with Cummins	Check with Cummins
	Bus Application: Recommended Engine Oil Drain Interval	12,000 (7,500)	500	6
	Bus Spark Plug Change	36,200 (22,500)	Check with Cummins	Check with Cummins

\*CES 20085 approved engine oils are required with this CNG engine - Delo 400 NG SAE 15W-40 is recommended against this specification

\*\*CES 20085 or CES 20074 approved engine oils are required with this CNG engine type - Delo 400 NG SAE 15W-40 is recommended for this engine type

## Volvo Trucks NA



Engine Type	Very Severe*	Severe*	Heavy*	Medium*
GHG '17 D16H**	24,000 km (15,000 miles)	56,000 km (35,000 miles)	72,000 km (45,000 miles)	88,500 km (55,000 miles)
GHG '17 D13H**	24,000 km (15,000 miles)	56,000 km (35,000 miles)	72,000 km (45,000 miles)	88,500 km (55,000 miles)
GHG '17 D11H**	24,000 km (15,000 miles)	56,000 km (35,000 miles)	72,000 km (45,000 miles)	88,500 km (55,000 miles)
EPA 13 D16H**	24,000 km (15,000 miles)	56,000 km (35,000 miles)	72,000 km (45,000 miles)	80,000 km (50,000 miles)
EPA 10 D16H**	24,000 km (15,000 miles)	56,000 km (35,000 miles)	72,000 km (45,000 miles)	80,000 km (50,000 miles)
EPA 13 D13H**	16,000 km (10,000 miles)	40,000 km (25,000 miles)	56,000 km (35,000 miles)	72,000 km (45,000 miles)
EPA 10 D13H**	16,000 km (10,000 miles)	40,000 km (25,000 miles)	56,000 km (35,000 miles)	72,000 km (45,000 miles)
EPA 13 D11H**	16,000 km (10,000 miles)	40,000 km (25,000 miles)	56,000 km (35,000 miles)	72,000 km (45,000 miles)
EPA 10 D11H**	16,000 km (10,000 miles)	40,000 km (25,000 miles)	56,000 km (35,000 miles)	72,000 km (45,000 miles)
EPA 07 D16F**	Check with Volvo	40,000 km (25,000 miles)	56,000 km (35,000 miles)	80,000 km (50,000 miles)
EPA 07 D13F**	Check with Volvo	24,000 km (15,000 miles)	40,000 km (25,000 miles)	72,000 km (45,000 miles)
EPA 07 D11F**	Check with Volvo	24,000 km (15,000 miles)	40,000 km (25,000 miles)	72,000 km (45,000 miles)

## Mack Trucks Inc.



Engine Type	Very Severe*	Severe*	Heavy*	Medium*
GHG '17 MP10**	24,000 km (15,000 miles)	56,000 km (35,000 miles)	72,000 km (45,000 miles)	88,500 km (55,000 miles)
GHG '17 MP8**	24,000 km (15,000 miles)	56,000 km (35,000 miles)	72,000 km (45,000 miles)	88,500 km (55,000 miles)
GHG '17 MP7**	24,000 km (15,000 miles)	56,000 km (35,000 miles)	72,000 km (45,000 miles)	88,500 km (55,000 miles)
EPA 13 MP10**	24,000 km (15,000 miles)	56,000 km (35,000 miles)	72,000 km (45,000 miles)	72,000 km (45,000 miles)
EPA 10 MP10**	24,000 km (15,000 miles)	56,000 km (35,000 miles)	72,000 km (45,000 miles)	72,000 km (45,000 miles)
EPA 13 MP8**	16,000 km (10,000 miles)	40,000 km (25,000 miles)	56,000 km (35,000 miles)	72,000 km (45,000 miles)
EPA 10 MP8**	16,000 km (10,000 miles)	40,000 km (25,000 miles)	56,000 km (35,000 miles)	72,000 km (45,000 miles)
EPA 10 MP7**	16,000 km (10,000 miles)	40,000 km (25,000 miles)	56,000 km (35,000 miles)	72,000 km (45,000 miles)
EPA 07 MP10**	Check with Mack	56,000 km (35,000 miles)	72,000 km (45,000 miles)	80,000 km (50,000 miles)
EPA 07 MP8**	Check with Mack	40,000 km (25,000 miles)	56,000 km (35,000 miles)	72,000 km (45,000 miles)
EPA 07 MP7**	Check with Mack	40,000 km (25,000 miles)	56,000 km (35,000 miles)	72,000 km (45,000 miles)








\* Very Severe service is for fuel consumption of 1.6 kPL (3.7 mpg) or less; Severe service is for fuel consumption of 1.6 to 2.1 kPL (3.7 to 5 mpg); Heavy service is for fuel consumption of more than 2.1 to 2.5 kPL (5 to 6.0 mpg) and Medium service for fuel consumption greater than 2.5 kPL (6.0 mpg).

\*\*Oil quality of Volvo VDS-4.5 and Mack EOS 4.5 are required like Delo 400 XSP SAE 5W-30, Delo 400 XSP SAE 5W-40, Delo 400 XLE SAE 15W-40, Delo 400 XLE SAE 10W-30 and Delo 400 SDE SAE 15W-40. Drain intervals for MP10 are based on 55 quart sumps. For sumps that are 44 quarts, follow the drain guidelines for the D13H or D13F engine models.

If idle time greater than 30%, use the next lower drain interval.

Chevron Delo 400 XSP SAE 5W-30, Delo 400 XSP SAE 5W-40, Delo 400 XLE SAE 15W-40, Delo 400 XLE SAE 10W-30 and Delo 400 SDE SAE 15W-40 are approved for both Volvo VDS-4.5 and Mack EO-S 4.5.

## PACCAR®

Engine Type	Severe*	Linehaul
 GHG '17 MX 13**	40,000 km (25,000 miles)	121,000 km (75,000 miles) (if idle time > 20%) 64,000 km (40,000 miles) (if idle time > 20%)
 GHG '17 MX 11**	40,000 km (25,000 miles)	121,000 km (75,000 miles) (if idle time > 20%) 64,000 km (40,000 miles) (if idle time > 20%)
 EPA 13 MX 13**	40,000 km (25,000 miles)	96,500 km (60,000 miles) (if idle time < 20%) 64,000 km (40,000 miles) (if idle time > 20%)
 EPA 13 MX 11**	40,000 km (25,000 miles)	96,500 km (60,000 miles) (if idle time < 20%) 64,000 km (40,000 miles) (if idle time > 20%)
 EPA 10 MX***	40,000 km (25,000 miles)	96,500 km (60,000 miles) (if idle time < 20%) 64,000 km (40,000 miles) (if idle time > 20%)
 PX-9****	Check with PACCAR	24,000 km (15,000 miles)
 PX-7****	Check with PACCAR	24,000 km (15,000 miles)







\*Severe Duty - Vocational vehicle applications include: Agriculture, Concrete Mixers, Construction, Crane, Dumps, Emergency/Fire, Heavy Equipment, Loggers, Oil Field, Refuse, Pick up & Delivery, Snowplows, and Wrecker.

\*\*Use API CK-4 products like Delo 400 XSP SAE 5W-30, Delo 400 XSP SAE 5W-40, Delo 400 XLE 15W-40, Delo 400 XLE SAE 10W-30, and Delo 400 SDE SAE 15W-40 - no ECU software change is required.

\*\*\*Use SAE 15W-40 products like Delo 400 XLE SAE 15W-40 or Delo 400 SDE SAE 15W-40. For use of SAE 10W-30 products like Delo 400 XLE SAE 10W-30, please ensure the engine has the latest RC6 ECU/ECM calibration update from PACCAR or your PACCAR OE Dealer.

\*\*\*\*Use SAE 15W-40 products only in these engine types like Delo 400 XLE SAE 15W-40 or Delo 400 SDE SAE 15W-40.

## Caterpillar – On-Highway

Engine Type	Severe	Normal	Light
 EPA 07 C15 ACERT**	32,000 km (20,000 miles)	48,000 km (30,000 miles)	64,000 km (40,000 miles)
 EPA 07 C13 ACERT**	32,000 km (20,000 miles)	48,000 km (30,000 miles)	64,000 km (40,000 miles)
 EPA 07 C11 ACERT***	32,000 km (20,000 miles)	48,000 km (30,000 miles)	64,000 km (40,000 miles)
 EPA 04 C15 ACERT*	32,000 km (20,000 miles)	48,000 km (30,000 miles)	64,000 km (40,000 miles)
 EPA 04 C13 ACERT**	32,000 km (20,000 miles)	48,000 km (30,000 miles)	64,000 km (40,000 miles)
 EPA 04 C11 ACERT***	32,000 km (20,000 miles)	48,000 km (30,000 miles)	64,000 km (40,000 miles)

\*C15 Standard (Deep) Sumps Light Duty is > 2.8 kPL (6.5 mpg), Normal Duty is 2.3 to 2.8 kPL (5.5 to 6.5 mpg) and Severe is < 2.3 kPL (5.5 mpg).

\*\*C13 Standard (Deep) Sumps Light Duty is > 3 kPL (7 mpg), Normal Duty is 2.5 to 3 kPL (6 to 7 mpg) and Severe is < 2.5 kPL (6 mpg).

\*\*\*C11 Standard (Deep) Sumps Light Duty is > 3 kPL (7 mpg), Normal Duty is 2.5 to 3 kPL (6 to 7 mpg) and Severe is < 2.5 kPL (6 mpg).

Must Use ECF-3 engine oil quality for all US EPA 07 compliant engines like Delo 400 XSP SAE 5W-30, Delo 400 XSP SAE 5W-40, Delo 400 XLE 15W-40, Delo 400 XLE SAE 10W-30, and Delo 400 SDE SAE 15W-40. Use ECF-3 or ECF-2 for all EPA 04 compliant engine models.

ACERT® is a registered trademark of Caterpillar.

















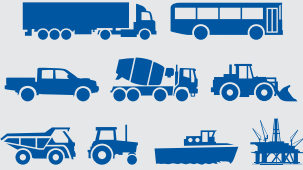
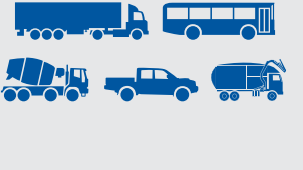



## NA Diesel Pickup Truck OEM Specifications

Details	GM/Chevy	Ford	Dodge
Engine & Oil Capacity	Duramax V8 LMM 6.6L (9.5 litres/10 quarts)	Powerstroke V8 7.3L (13-14.2 litres/14-15 quarts); 6.7L (12.3 litres/13 quarts); 6.4L (14.2 litres/15 quarts); 6.0L (14.2 litres/15 quarts)	Cummins ISB 5.9L (11.4 litres/12 quarts) 6.7L (11.4 litres/12 quartss) Dodge® EcoDiesel V6-3.0L (6.6 litres/7 quarts)
Vehicle	GMC® Sierra 2500 GMC Sierra 3500 Chevrolet® Silverado 2500 Chevrolet Silverado 3500	Ford® F250 Super Duty® Ford F350 Super Duty Ford F450 Super Duty Ford F550 Super Duty	Dodge Ram® 1500 (Ecodiesel) Dodge Ram 2500 (Cummins ISB) Dodge Ram 3500 (Cummins ISB)
Oil Spec	API CK-4	API CJ-4 / WSS-M2C171-E API CK-4 / WSS-M2C171-F1	Cummins ISB: CES 20086 EcoDiesel: ACEA C3/MS11106
Factory Fill Viscosity Grades	SAE 15W-40	SAE 10W-30	Cummins ISB: SAE 5W-40 EcoDiesel: SAE 5W-30
Service Fill Viscosity Grades	SAE 5W-40 SAE 10W-30 SAE 15W-40	SAE 5W-40 SAE 10W-30 SAE 15W-40	Cummins ISB: SAE 5W-40 SAE 15W-40 EcoDiesel: SAE 5W-30
Drain Interval	Oil Life Monitor on Truck	Oil Life Monitor on Truck	Cummins ISB: 24K km/15K miles EcoDiesel: 16K km/10K miles

# CHEVRON DELO® HEAVY-DUTY ENGINE OIL PRODUCT LINE

## Benefits / Application / Performance

HIGH PERFORMANCE SYNTHETICS			
PRODUCT	Delo 400 XSP	Delo 400 XSP	Delo 400 SP
IMAGE			
VISCOSITY GRADE / API LEVEL	SAE 5W-40 / API CK-4/SN	SAE 5W-30 / API CK-4/SN	SAE 0W-30
PRODUCT BENEFITS	   	     	  
VEHICLE / EQUIPMENT APPLICATION			
PERFORMANCE CAPABILITIES	<ul style="list-style-type: none"> <li>✓ Cold weather startup</li> <li>✓ High temperature protection</li> <li>✓ Excellent wear protection</li> <li>✓ Delo Warranty Plus Protection</li> </ul>	<ul style="list-style-type: none"> <li>✓ Up to 40% improved low temperature cranking viscosity*</li> <li>✓ Up to 2% improved fuel efficiency**</li> <li>✓ Delo Warranty Plus Protection</li> </ul>	<ul style="list-style-type: none"> <li>✓ Up to 50% improved low temperature cranking viscosity*</li> <li>✓ Fuel efficiency benefits</li> <li>✓ Engine durability protection</li> <li>✓ Delo Warranty Plus Protection</li> </ul>
PERFORMANCE DETAILS		<p>* Based on SAE J300 low temperature cranking viscosity versus SAE 15W-40</p> <p>** Based on Volvo D12D engine test stand compared to API CJ-4 SAE 15W-40</p>	<p>* Based on SAE J300 low temperature cranking viscosity versus SAE 15W-40</p>

## EXCEPTIONAL SYNBLEND PROTECTION

## CONVENTIONAL DURABILITY

### Delo 400 ZFA

### Delo 400 XLE

### Delo 400 XLE

### Delo 400 SDE

### Delo 400 NG



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ADVANCED  
TECHNOLOGY



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ADVANCED  
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TECHNOLOGY



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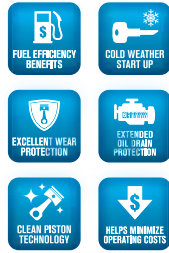
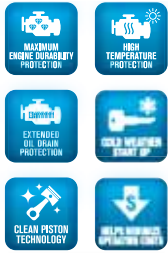
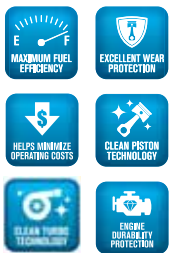
SAE 10W-30 / API FA-4/SN

SAE 15W-40 / API CK-4/SN

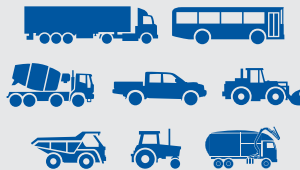
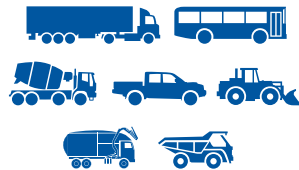
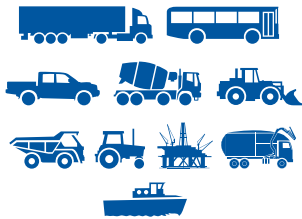
SAE 10W-30 / API CK-4/SN

SAE 15W-40 / API CK-4/SN

SAE 15W-40 /  
NATURAL GAS CNG/LNG



- ISOSYN Technology
- Heavy Duty CNG/LNG Performance
- Extended drain capable for newer CNG engines
- Cummins CES 20085 approved for CNG/LNG performance



- ✓ Up to 20% improved fuel efficiency versus API CJ-4 SAE 10W30\*
- ✓ Up to 32% better wear protection versus API CJ-4\*\*
- ✓ Helps minimize operating costs
- ✓ Delo Warranty Plus Protection

- ✓ Up to 35% longer oil life\*
- ✓ Up to 69% better wear protection\*\*
- ✓ Up to 33% reduction in piston deposits\*\*\*
- ✓ Delo Warranty Plus Protection

- ✓ Up to 25% improved low temperature cranking viscosity\*
- ✓ Up to 1% improved fuel efficiency\*\*
- ✓ Delo Warranty Plus Protection

- ✓ Up to 50% better wear protection versus API CJ-4\*
- ✓ Delo Warranty Plus Protection

- ✓ Excellent nitration and oil oxidation control
- ✓ Extended drain capable in CNG/LNG HD engines
- ✓ Provides excellent engine cleanliness
- ✓ Delo Warranty Plus Protection

\* Based on Volvo D12D engine testing, an SAE 10W-30 API CK-4 product delivered 1%, and SAE 10W-30 API FA-4 product delivered 1.2% reduced fuel consumption, relative to an SAE 15W-40 API CJ-4 product.

\* Based on API CK-4 oxidation test limits

\*\* Based on API CJ-4 wear test limit

\*\*\* Based on performance relative to Daimler MB 228.31 requirements

\* Based on SAE J300 low temperature cranking viscosity versus SAE 15W-4

\*\* Based on Volvo D12D engine test comparison to SAE 15W-40

\*Based on API CJ-4 wear test limit

\*\* Based on API CJ-4 wear test limits

**Delo**<sup>®</sup>  
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