

# Delo<sup>®</sup> 400 MGX SAE 15W-40

Superb Protection in both High - and - Low  
Sulphur Diesel Fuel Environments



**Delo<sup>®</sup>**  
**Let's go further.<sup>®</sup>**



# Let's Go Further with Delo® 400 MGX SAE 15W-40.

When your heavy-duty equipment is working, your business is driving profits. At Caltex, our goal is to give you the confidence to safely push diesel engines further to help minimize operating costs and maximize performance.

As your lubrication partner, we strive to help keep your diesel equipment running reliably whether it burns low- or high-sulphur diesel fuel.

We understand the challenges facing diesel customers today and in the future:

- New engine technology development to meet emissions regulations
- OEM requirements and specifications
- Alternative fuel use (low-sulphur diesel, high-sulphur diesel, biodiesel and natural gas)
- Extending oil-drain intervals
- Emission standards
- Fuel economy

Count on Caltex's industry experience, technology leadership and the Delo® family of premium products to help you stay ahead of these challenges and protect and maximize the life of your vehicles.



## Reliability Is Our Priority.

Caltex lubricants stand for one thing above all else: reliability. Properly lubricating the inside of a heavy-duty diesel engine requires more than just creating a protective film. Caltex's new advanced formula Delo® 400 MGX SAE 15W-40 provides excellent soot dispersancy, wear protection and sludge control to guard against loss of engine life and help reduce fuel and oil consumption. Whether you have new or older engines, and burn either low- or high-sulphur diesel fuel, Delo® 400 MGX SAE 15W-40 has been formulated with ISOSYN® Technology to specifically protect your diesel equipment and vehicles, and reduce the need for multiple diesel engine oils. Delo's industry-leading lubricants have logged billions of miles and countless hours providing superior protection to diesel engine parts so your vehicles and equipment can go further.

# Delo® Protects with ISOSYN® Technology.

Delo® 400 MGX with ISOSYN® Technology, gives you the performance, protection and confidence you need to help your business go further.

Caltex uses ISOSYN® Technology to formulate its top-tier Delo® products. Premium base oils with high-performance additives, combined with our formulation expertise, provide superb protection for diesel engine parts — at an outstanding value.

## ISOSYN Technology



Premium Base Oils



High-Performance Additives



Caltex Formulation Expertise



Delo® with ISOSYN® helps:

- Extend service protection
- Maximize engine durability
- Minimize operating costs

## Improved Customer Reliability

Delo® with ISOSYN® Technology protects critical engine parts to help maximize engine and equipment life.



# Delo® 400 MGX SAE 15W-40 Exceeds Industry Specifications and OEM Approvals.

Delo® 400 MGX SAE 15W-40 is a world-class diesel engine oil formulated to provide superb diesel engine parts protection in **EITHER** low- or high-sulphur diesel fuel.



Delo® 400 MGX SAE 15W-40 has been specifically formulated to provide superb protection and performance in severe operating conditions, regardless of the type of diesel engine (older or newer low emissions) or fuel sulphur level burned in the engine. Its unique formulation and wide range of operating capability help minimize the number of diesel engine oils required by customers.

**Delo® 400 MGX SAE 15W-40 exceeds industry and key engine manufacturers' performance requirements:**

- API CJ-4, CI-4, CH-4 / SM, CI-4 PLUS
- ACEA E9, E7
- Caterpillar ECF-3, ECF-2
- Cummins CES 20081
- DAF / PACCAR MX: For engines requiring API CJ-4 / ACEA E9 performance oils
- Daimler MB-Approval 228.31
- Detroit Diesel DDC Power Guard 93K218
- DEUTZ DQC III-10 LA
- Ford WSS-M2C171-E
- JASO DH-2
- Mack EO-O Premium Plus
- MAN M 3575
- MTU Category 2.1
- Renault VI RLD-3
- Volvo VDS-4

# Delo® 400 MGX Delivers Proven Performance Results.

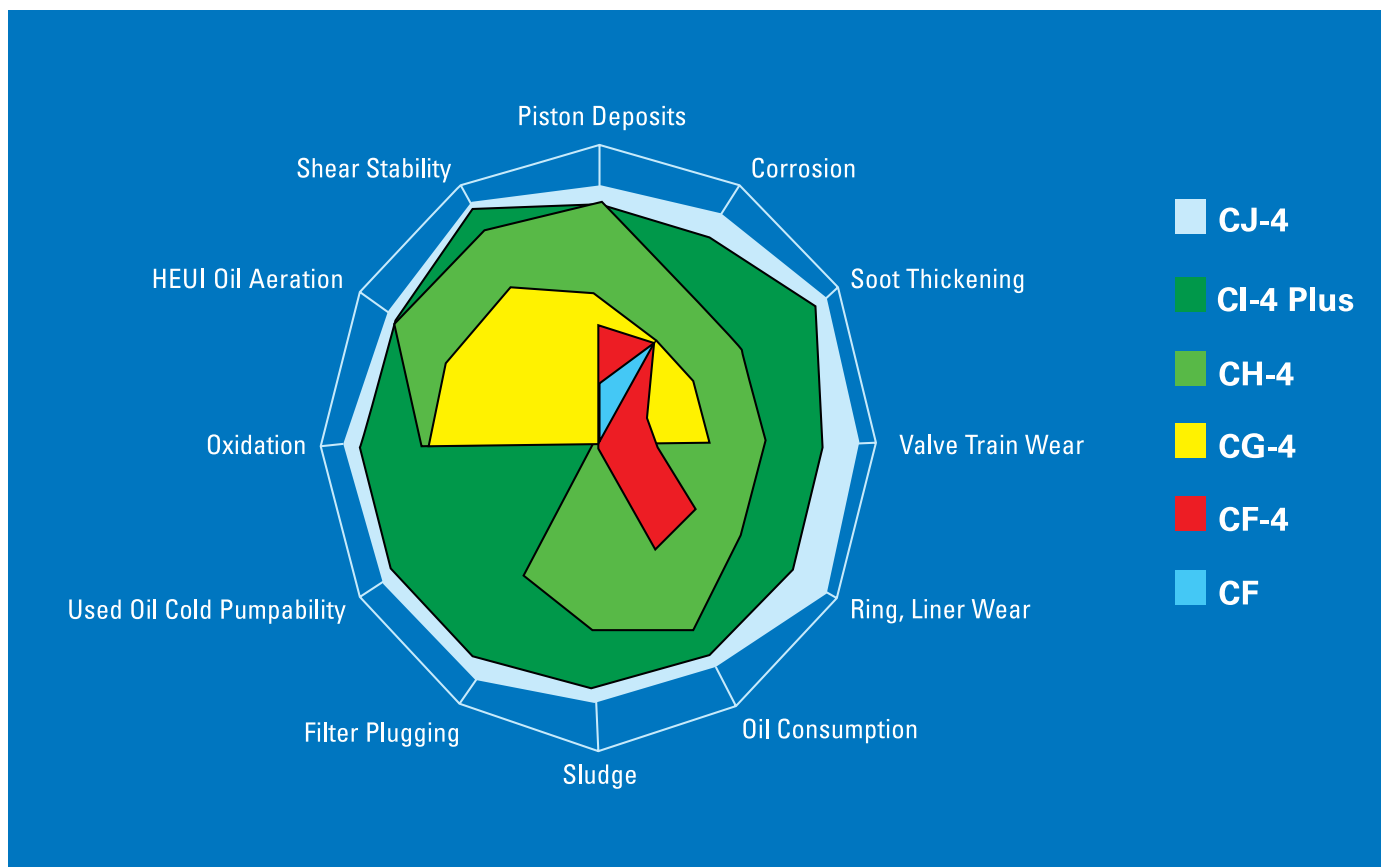
## FORMULATION PERFORMANCE OF API CJ-4 VERSUS CI-4 PLUS



Delo® 400 MGX is suitable for use in engines with after treatment devices such as DPF, SCR. Also suitable for use in older engines.

Delo® 400 MGX SAE 15W-40 has the added advantage of a single fleet oil, helping customers rationalize to a single high quality diesel engine oil.

*The advantages of Delo® 400 MGX SAE 15W-40 API CJ-4*

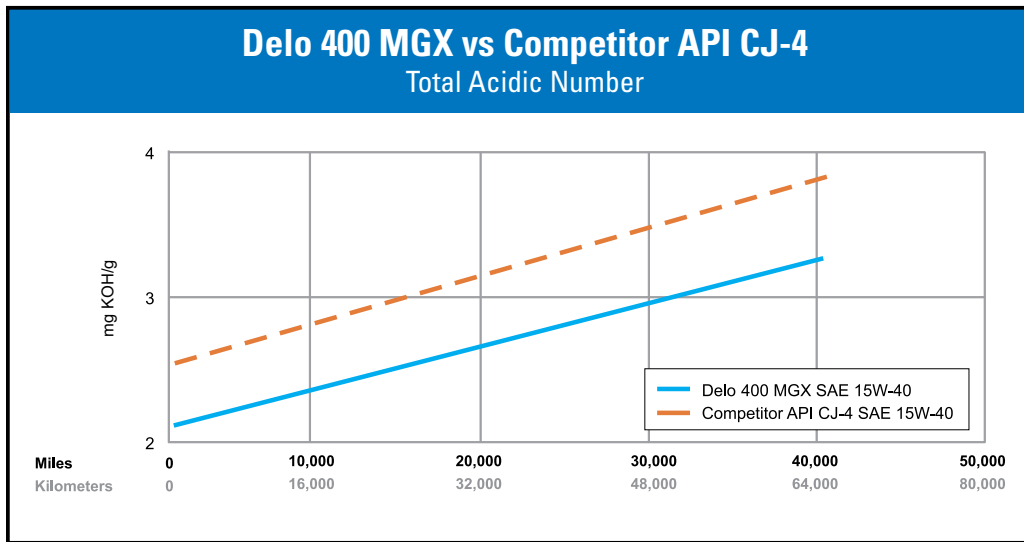


# Delo® 400 MGX SAE 15W-40 in Real World Testing

## EXCELLENT PROTECTION IN EXTENDED-DRAIN APPLICATIONS

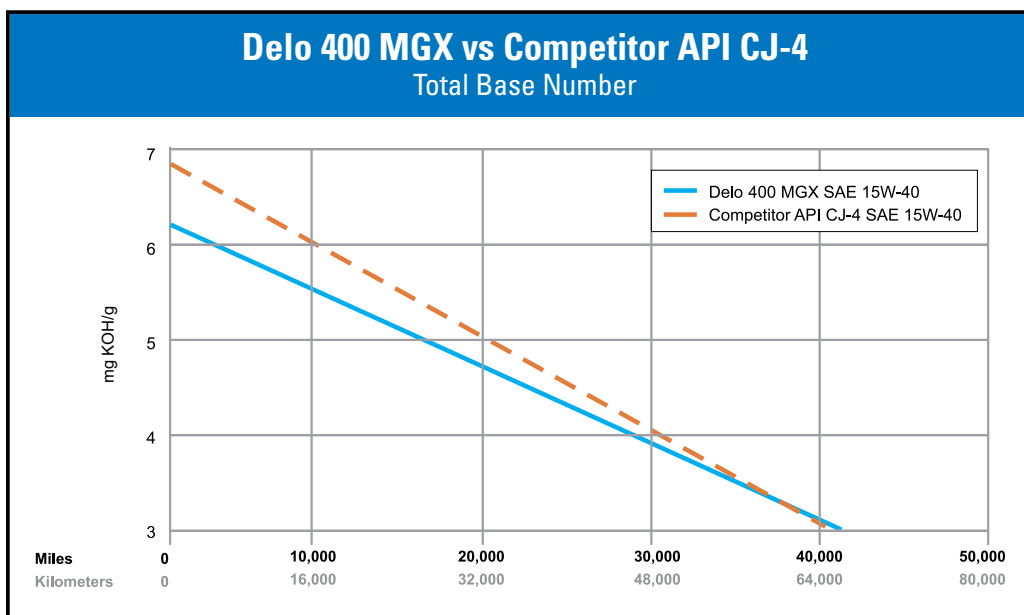
Delo® 400 MGX has been thoroughly tested to show its performance capability in neutralizing harmful acids and retaining its alkalinity in extended-drain operations in both low-or high-sulphur diesel fuel environments.

In head-to-head field testing, we evaluated Delo® 400 MGX SAE 15W-40 against a well-known leading competitor API CJ-4 product. Delo® 400 MGX SAE 15W-40 performed well with comparable TBN retention and showed directionally better acid neutralization performance.



### Used Oil Analysis - Total Acid Number

Delo® 400 MGX shows superb acid neutralization even in extended-drain applications and performed directionally better than a leading competitor API CJ-4 oil.



### Used Oil Analysis - Total Base Number

Delo® 400 MGX shows lower rate of alkalinity loss indicating its capability to neutralize acids and still retain its effectiveness even in extended-drain intervals. Shows better performance than leading competitor API CJ-4 engine oils.

# Delo® 400 MGX Provides Superb Diesel Engine Parts Protection.

## Delo® 400 MGX SAE 15W-40 protects diesel engines even at extended oil-drain intervals.

Fully field tested, Delo® 400 MGX SAE 15W-40 has shown superb performance in extended-drain applications using low-and high-sulphur diesel fuels. In both Cummins and Detroit Diesel engines, Delo® 400 MGX SAE 15W-40 achieved greater than 60,000-kilometer oil-drain intervals in both types of engines, while protecting diesel engine parts. The engines were disassembled and inspected after accumulating over 800,000 total kilometers. The engine parts showed minimal deposits and wear.

### Cummins ISX Engine

Ran at 64,000-kilometer oil-drain intervals, these engine parts show the excellent performance provided by Delo® 400 MGX SAE 15W-40. The parts shown below showcase the performance achieved by Delo® 400 MGX SAE 15W-40 in real world operating conditions.

#### Piston

Minimal crown and ring land deposits indicate excellent dispersant and detergent performance of Delo® 400 MGX SAE 15W-40 — even at 64,000-kilometer extended oil-drain intervals.



#### Main Bearings

Very good condition with minimal overlay removal shown. This indicates the oil has provided excellent corrosion and wear protection.



#### Connecting Rod Bearings

Very good condition and show no exposed copper and minimal overlay removal. Indicates the excellent wear protection provided by Delo® 400 MGX SAE 15W-40.



#### Oil Pan

Oil pan is clean of visible sludge or deposits after extended oil-drain intervals highlighting the effective dispersant performance of Delo® 400 MGX SAE 15W-40.



### Detroit Diesel DD15 Engine

Ran at 80,000-kilometer oil-drain intervals, these parts show the excellent performance provided by Delo® 400 MGX SAE 15W-40. The parts shown below highlight the effective protection offered by Delo® 400 MGX SAE 15W-40.

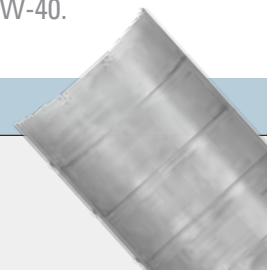
#### Piston

Minimal crown land deposits and in very good condition after 80,000-kilometer oil-drain intervals. Showcases the superb deposit control provided by Delo® 400 MGX SAE 15W-40.



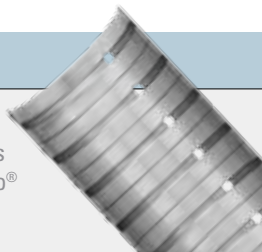
#### Connecting Rod Bearings

Very good condition with minimal overlay removal shown. This indicates the oil has provided excellent corrosion protection.



#### Main Bearings

Very good condition and show no exposed copper and minimal overlay removal. Indicates the excellent wear protection provided by Delo® 400 MGX SAE 15W-40.



#### Oil Pan

At extended oil-drain intervals, Delo® 400 MGX SAE 15W-40 can neutralize harmful acids and disperse soot. Shows no deposit or sludge buildup in the oil pan.



**ISOSYN**  
TECHNOLOGY™



<http://middleeast.chevronlubricants.com>

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