



كانو للآليات
KANOO MACHINERY

A division of Kanoo Industrial & Energy

ULTIMATE PERFORMANCE FOR VALVOLINE & CUMMINS ENGINES



The ONLY ONE.

EXCLUSIVELY
ENDORSED AND
RECOMMENDED BY
CUMMINS INC.



KEEPING THE WORLD MOVING SINCE 1866™

VALVOLINE™ & CUMMINS

Valvoline and Cummins signed a marketing and technical alliance in 1995 to leverage the two brands' strength to market heavy duty lubricants in North America. This relationship has grown rapidly over the years, emerging to become a strong, global alliance between two of the best known companies in their respective fields. Today, Valvoline and Cummins have developed strong ties through regional marketing alliances, and also established joint ventures in emerging markets of India, Argentina and China.

A STRONG ALLIANCE

- > Valvoline is the oldest lubricant brand and a global player with more than 150 years exclusive expertise in lubrication technology.
- > Cummins Inc. is the world's largest producer of commercial diesel engines above 50 horsepower.
- > Cummins and Valvoline are sharing unique technology and product development at every level.
- > The alliance started in 1995 and resulted in a global alliance cooperating on engine, lubricant and filtration technology.
- > The Premium Blue™ product range is exclusively developed for optimal performance and long engine life of Cummins engines.
- > The combined products and services are aimed to reduce total cost of ownership and maximize profitability.

A GLOBAL ALLIANCE



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THERE'S ONLY ONE ENGINE OIL GOOD ENOUGH TO EARN THE TRUST OF CUMMINS: VALVOLINE'S PREMIUM BLUE

Valvoline Premium Blue is exclusively recommended and endorsed by Cummins and specially designed to provide advanced lubricant performance in diesel and gas engines of all ages, including the latest low emission engines. All products are extensively tested in Cummins engines. It's the only oil allowed as first fill on Cummins assembly lines.

ADVANCED TECHNOLOGY, ULTIMATE PERFORMANCE

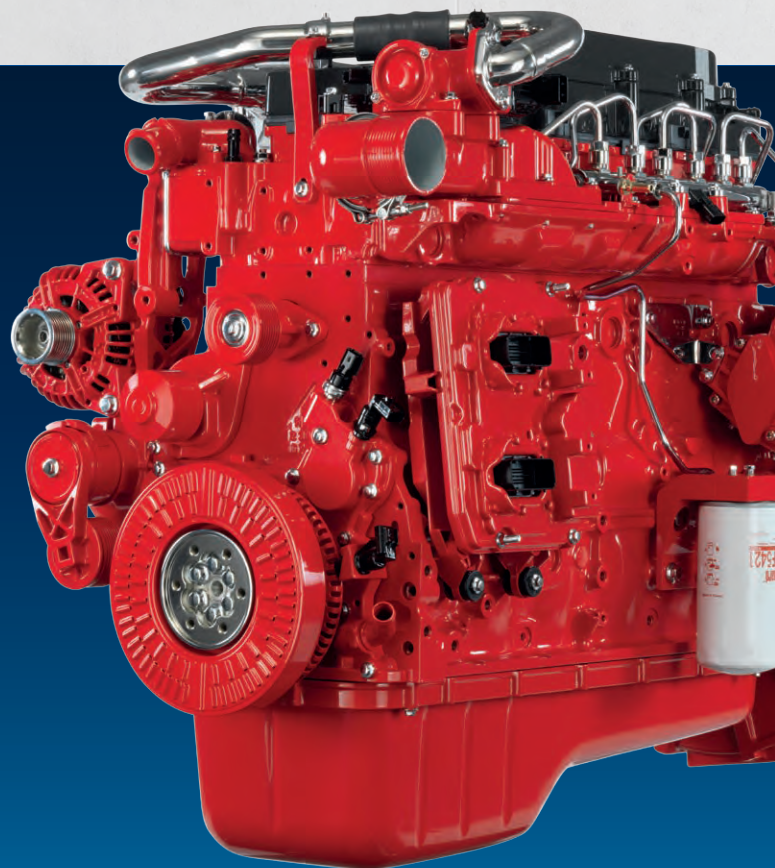
The advanced technology of the Premium Blue portfolio, jointly developed by Cummins and Valvoline, contains a proprietary combination of additives designed specifically to meet the needs and performance levels of today's advanced engines. By combining the innovation and proven performance of premium Valvoline lubricants with Cummins' unparalleled expertise in diesel engines, we have taken engine design and lubricant technology to new performance levels. Our partnership continues to create high-performance products such as Premium Blue engine oils, which are designed for extended engine life and increased protection in all heavy duty applications.

PROVEN WORLDWIDE FIELD PERFORMANCE

Unfortunately you are being confronted with a wide range of diesel fuel qualities. With the advanced technology of Premium Blue you don't have to worry anymore. The Premium Blue engine oils have been designed to work with a wide range of fuel sulphur levels.

The technology of Premium Blue has been extensively field tested in a wide variety of engine types, operating conditions and fuel quality around the globe. Premium Blue delivers robust performance despite the broad challenges presented by today's diesel fuels.

In fact, there are more than 1.000 million kilometers and corresponding hours of proven field-tested performance available on this technology, in over 100 countries.



ULTIMATE PERFORMANCE FOR CUMMINS ENGINES

PREMIUM BLUE DIESEL ENGINE OILS

The technology behind Premium Blue engine oils was developed in partnership with Cummins. By combining the innovation and proven performance of premium Valvoline lubricants with Cummins' unparalleled expertise in diesel engines, we have taken engine design and lubricant technology to new performance levels.



PREMIUM BLUE™ 7800 15W-40

- **Unique formula to provide enhanced performance**
- Special base additives can neutralize harmful acids over a longer period (TBN retention)
- Contribution to reduced engine wear and reduced break-down risk
- Contribution to lower maintenance costs
- **Recommend for use in EGR and SCR**

Approved by:

Cummins CES 20078; Deutz QOC-III-10; MAN M 3275-1; MTU Type 2; Volvo VDS-3 417-0002-16-1307; Mack EO-N; Renault VI RLD-2

Performance levels:

ACEA E7; API: CI-4; Caterpillar ECF-2; Cummins CES 20076, CES 20077; Detroit Diesel DFS 93K215, DFS 93K214; Global DHD-1; MB-228.3



PREMIUM BLUE™ 7600 15W40

- Suitable for heavy-duty diesel engines of trucks and buses. Also suitable for older types of engines.
- **Suitable for Euro I, II and III engines - without Exhaust Gas Recirculation (EGR), Diesel Particulate Filter (DPF) after-treatment systems.**
- Formulated for optimum performance with medium long-drain intervals.

Approved by:

Cummins CES 20076

Performance levels:

ACEA E7, API: CH-4, API: SJ; Caterpillar ECF-2, MAN M 3275-1, MB-228.3, MB-228.1, MTU Type 2, Volvo VDS-2

Being **THE ONLY ONE™** endorsed and recommend choice for Cummins, Valvoline aligned with Cummins and unified its worldwide lineup of the Premium Blue™ brand portfolio. This global branding upgrade creates clarity, with each formulation now having a consistent Premium Blue branding structure worldwide that is more clear and easier for Cummins users. The Premium Blue engine oil names incorporate a number that directly correlates to the CES (Cummins Engineering Standards). This is designed to help customers quickly and easily be able to find the Valvoline Premium Blue oil recommended for their equipment.

PREMIUM BLUE GAS ENGINE OILS

As being THE ONLY ONE™ endorsed and recommended by Cummins, Valvoline has the advantage of its unique global partnership with Cummins Power Generation and Cummins Westport. This enables Valvoline to be at the forefront on new gas engine technologies and jointly engineer and test the ultimate fluid for dedicated gas engine applications. Resulting in a strong and unique set of gas engine oils providing operators ultimate lubricant performance for maximized operational efficiency and engine reliability.

For operators with predominantly Cummins-powered generator sets



PREMIUM BLUE™ GEO LA-40

- **Low-ash engine oil for use in stationary high output, highly turbocharged, spark-ignited natural gas engines**
- Formulated with premium quality paraffinic base stocks
- Delicate balanced formulation to meet low ash requirements and simultaneously offering excellent detergent properties to help keep the engine cleaner, longer
- **Specially developed with, approved and endorsed by Cummins, tested in Cummins QSV81/91 series**



PREMIUM BLUE™ GEO MA-40

- **Mid-ash engine oil for use in stationary engines running on natural gas, that may contain corrosive components**
- **Specially developed for, and tested in Cummins QSK60G series**
- Contains a special additive system for longer engine protection and the potential to reduce maintenance costs.
- Special additives help prevent oil thickening, deposit formation and filter plugging
- Formulated with premium quality base oils, providing high resistance against oxidation and nitration



PERFORMANCE GUARANTEE

**PERFORMANCE IS
THE ONLY PROOF
OF PRODUCT
QUALITY. WITH
THE VALVOLINE
PERFORMANCE
GUARANTEE,
VALVOLINE
ASSURES THAT ITS
PRODUCTS WILL
PERFORM.**



1

Valvoline warrants that products will meet the applicable specifications provided by Valvoline for each of our products. The wide range of Valvoline products features individual formulations that meet and, in some cases, exceed the latest industry and vehicle OEM specifications.

2

Valvoline only uses the highest quality base oils and the most technologically advanced additive systems to provide our customers with lubricants of unsurpassed quality.

3

Valvoline products are proven to provide added performance, longer life and better protection for your vehicle.

4

Furthermore, Valvoline tests each batch of oil during the blending process. On-site quality assurance coordinators make certain that product specifications are maintained without exception.



**KEEPING THE WORLD
MOVING SINCE 1866™**

www.valvolineglobal.com/en-ksa/

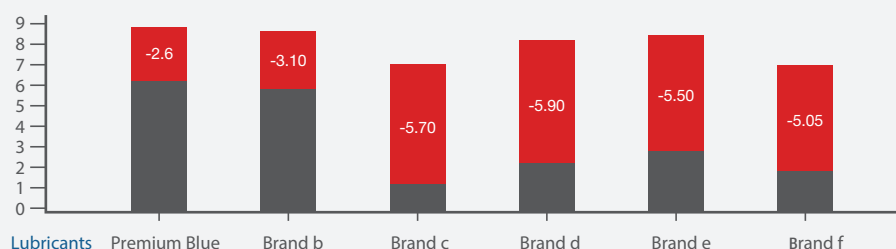
SUPERIOR TECHNICAL PERFORMANCE

EXCEPTIONAL ACID NEUTRALIZATION

Combustion process and thermal oxidative breakdown generates significant amounts of acids inside the engine. Our unique detergent technology provides large Total Base Number (TBN) reserve needed to neutralize the acids that are created during the combustion process and also keeps the engine parts clean. Effective acid neutralization is essential to prevent corrosive wear of cylinders, rings, and bearings. It is also the key enabler for extending oil drain intervals.

The red bars in the figure below depict the amount of TBN lost during the ROBO test. ROBO is an industry recognized procedure that simulates harsh engine conditions. Premium Blue stands out as having less TBN depletion than the competition. Additional real-world field tests repeatedly demonstrating Premium Blue's superior TBN retention.

TBN SACRIFICED DURING ROBO TEST



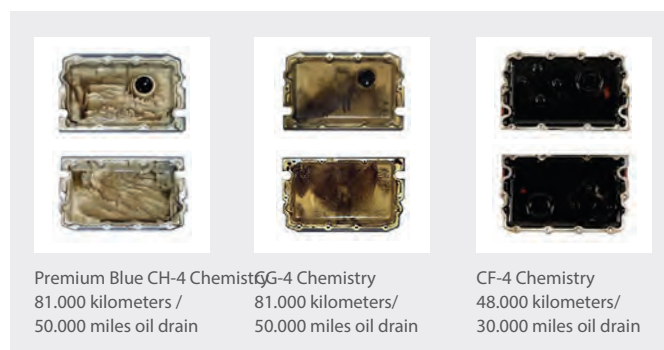
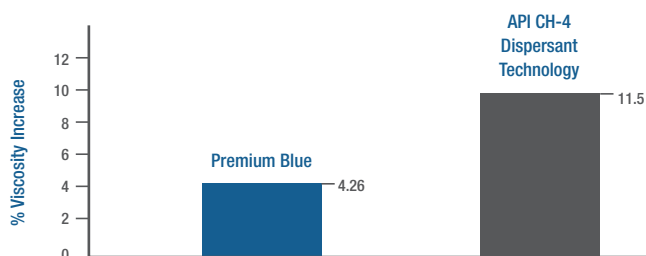
OUTSTANDING SOOT CONTROL

Soot is a by-product of the diesel compression engine. Untreated, these soot particles can agglomerate with each other to produce larger particles which can lead to soot related engine wear and bore polishing. As the soot particles combine, they have a resulting effect of increasing viscosity, the thickness of the oil, leading to increased flow resistance, preventing the lubricant from reaching critical engine parts, resulting in excessive wear of engine parts and finally potential engine failure.

The advanced technology in Premium Blue is a patented blend of additives that reduces soot related viscosity increase, which prevents soot-related wear and resulting in cleaner sumps, allowing for longer oil drains, extended engine life, and reduced maintenance costs. The results of the Mack T8 engine test (as shown in the graph below) demonstrate the limited soot related viscosity increase with Premium Blue dispersant technology versus a standard API CH-4 technology.

SOOT RELATED VISCOSITY INCREASE

Mack T8 Engine Test



ULTIMATE WEAR PROTECTION

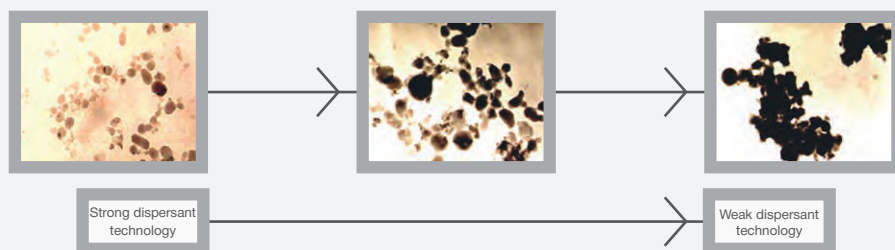
Engine wear can occur in different ways. Premium Blue has been engineered to provide outstanding protection against abrasive wear from soot, boundary wear from metal-metal contact, and corrosive wear from acids. The advanced dispersant technology of Premium Blue contains unique anti-wear

additives preventing even the toughest soot particles from agglomerating. Premium Blue is preventing these hard pumped agglomerates to pierce through the oil film causing abrasive wear. As a result Premium Blue maximizes engine life, reduces maintenance costs and improves productivity.

The effects of dispersant additives can be seen under microscopic analysis of drain oils. The following examples show the importance of a strong dispersant technology.

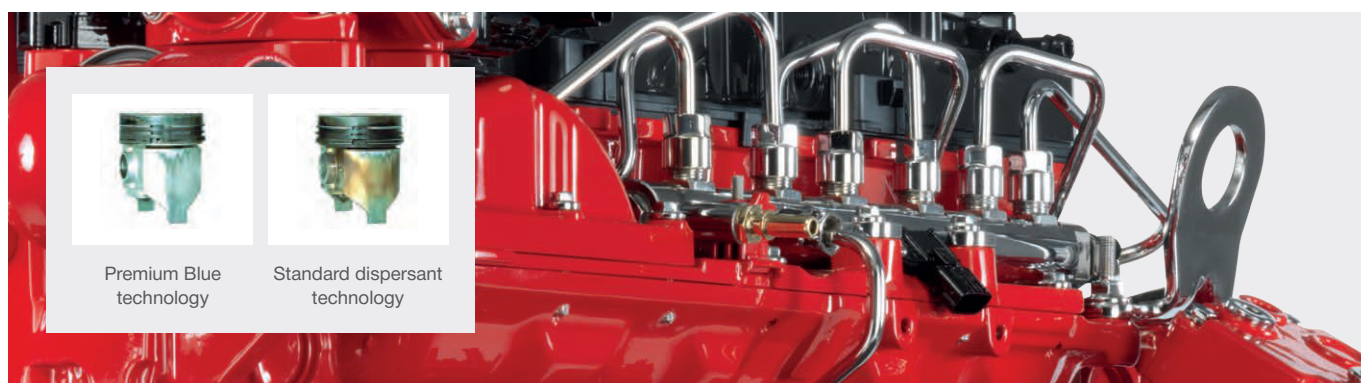
Three engine oils of differing levels of dispersant technology were tested and their drain oils analyzed.

THE EFFECT OF DIRT PARTICLE GROWTH WITH DIFFERENT DISPERSANT TECHNOLOGY LEVELS



ENHANCED DEPOSIT CONTROL

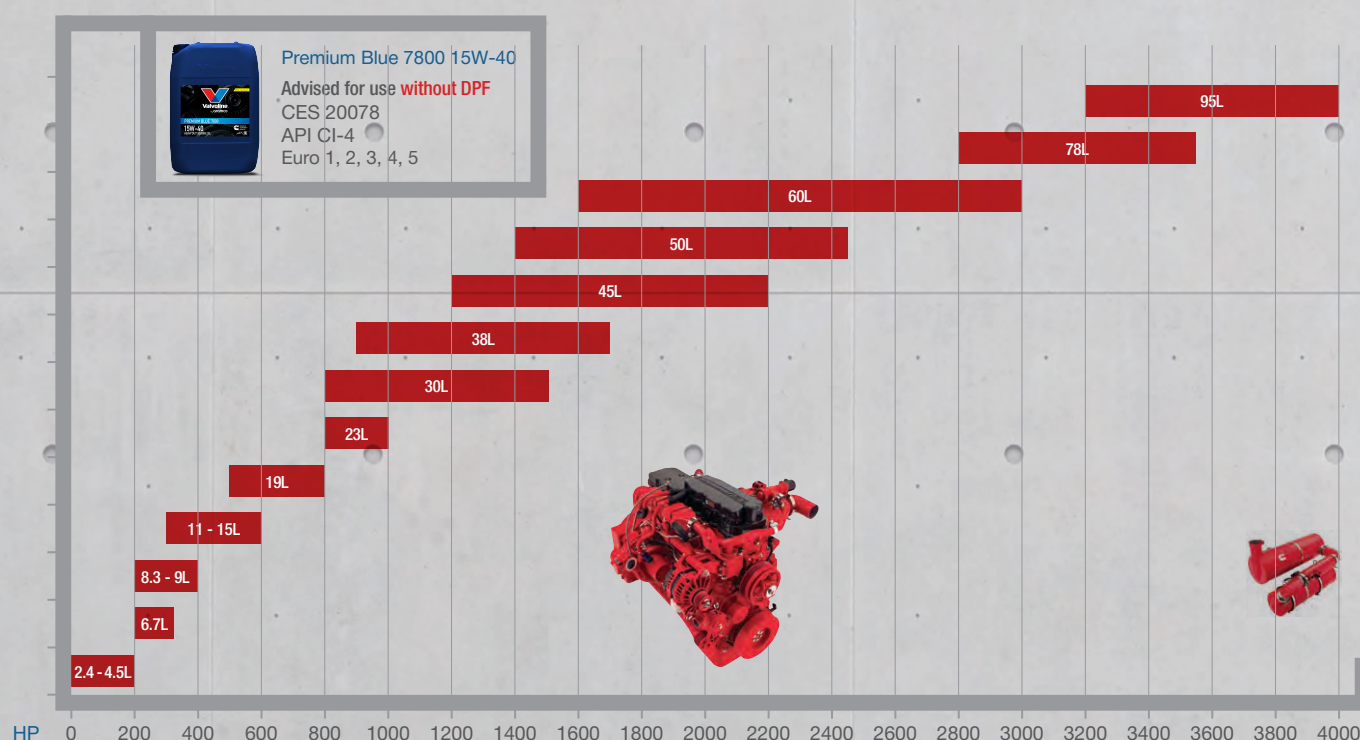
Today's modern combustion engines are running extremely hot. Higher engine temperatures typically lead to accelerated deposit formation in the engine parts, particularly in the pistons. Excessive piston deposits can result in loss of power and high oil consumption. The powerful technology of Premium Blue will keep piston parts clean under the toughest conditions. The images below show the added value of Premium Blue technology.



THE RIGHT PRODUCT, THE RIGHT OIL

Cummins is the world's largest independent engine manufacturer, with a wide range of diesel and gas engines extending from 45 kW (60 hp) to 2983 kW (4000 hp). All are built with the strength and reliability that has made Cummins a leader for many decades. The graph below reflects Cummins entire engine range from smallest (2.4 litres) to largest (95 litres). These engines are used across all market sectors, ranging from small pleasure boats to heavy duty mining equipment. To secure its strength and reliability, Cummins recommends using the only one right oil. Valvoline Premium Blue is exclusively recommended and endorsed by Cummins and specially designed to provide advanced lubricant performance.

Always check your Cummins/OEM manual or check on Cummins QuickServe online.



"Premium Blue has demonstrated to be a high performing, reliable engine oil. It has really sustained the efficiency of the engine. We change the oil every 500hrs according to the Cummins maintenance guidelines. The used oil that comes out remains of superior quality."

Mr. Viktor Kharinov,
Chief Engineer, Stanford Buzzard
Stanford Marine



KAMSS

KAMSS Inc. is West Siberia's largest operator in mining machinery service and a representative of world industrial leaders, such as Cummins. Cooperating with the largest international corporations Kamss offers its customers modern style of service. Taking into consideration the peculiarities of the Russian market, industrial operators become more and more eager for optimization of equipment operating costs overall.

One of the solutions Kamss is offering is the unique oil analysis laboratory and the introduction of a new program of service cycles extension. Monitoring data and usage of Valvoline Premium Blue oil enabled Kamss to double the time between originally scheduled engine maintenance and to optimize engine rebuild timing. Over 300 Belaz trucks are already working on extended maintenance cycles. The introduction of a monitoring program has already saved hundreds of tonnes of motor oil, and this is not just money but also a decrease in harmful waste.



VALVOLINE POST™ OIL ANALYSIS PROGRAM

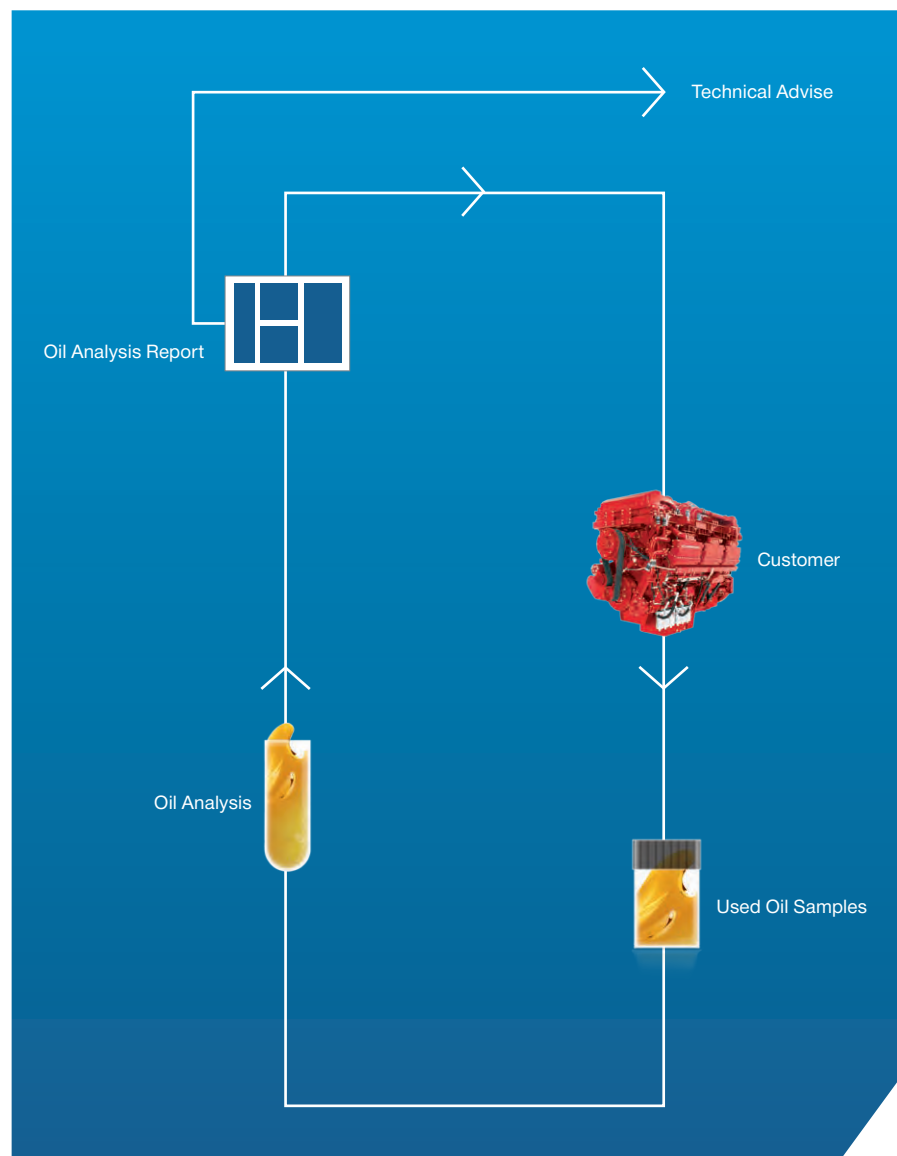
You might think your engine is in perfect health, but the condition of the oil will change over time as the additives in the engine oil are naturally depleted as the oil protects the engine. The POST Oil Analysis Program uses the lubricants in your engine to determine the condition of it.

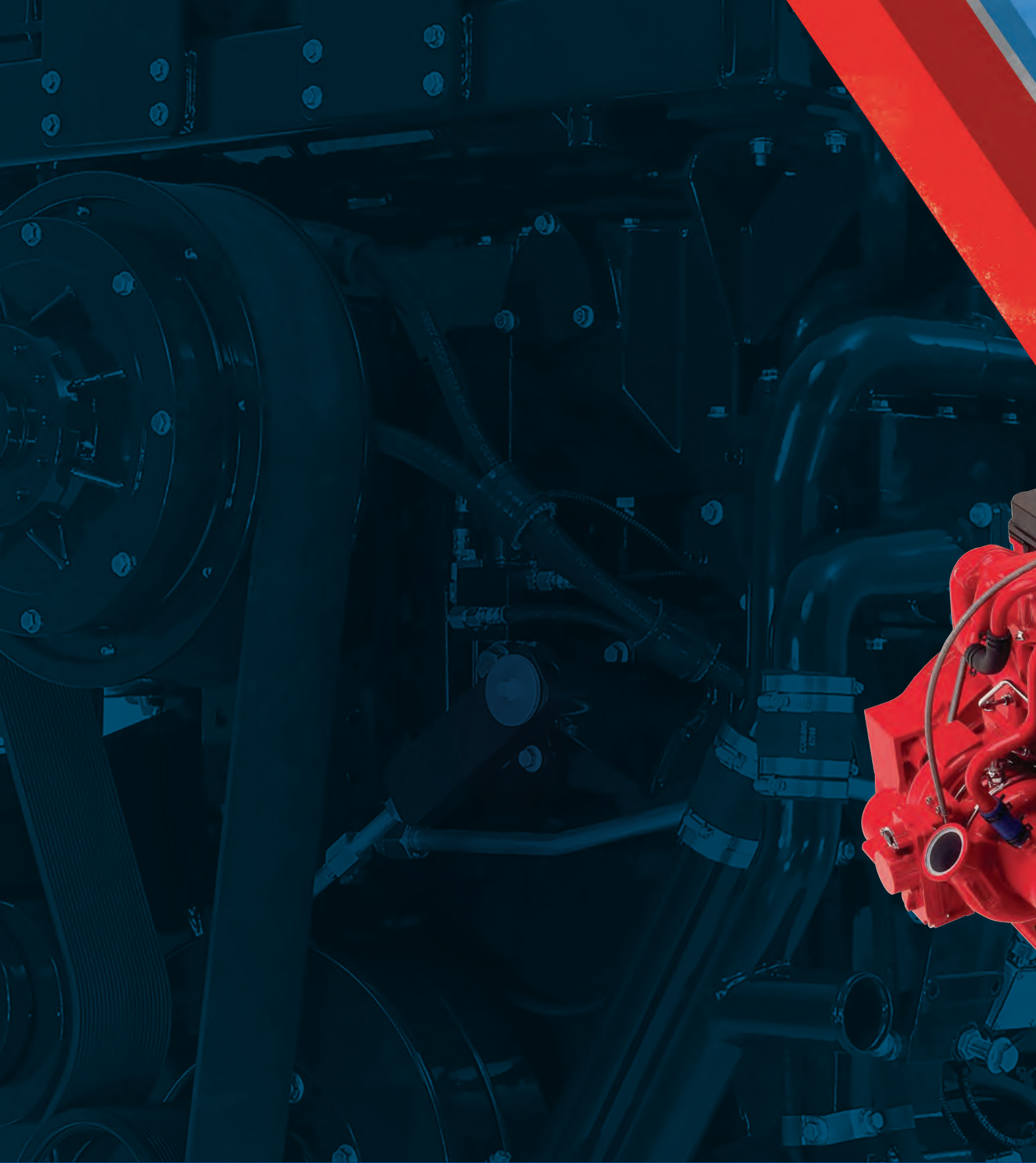
This information can help you:

- > Optimize maintenance levels
- > Extend oil drain periods
- > Lower machine repair costs

Find out what's happening inside your engine and stay one step ahead with the Valvoline POST Oil Analysis Program:

- > Provide a regular health check for your engine
- > Identify potential problems, such as coolant leaks or poor air filtration, before they lead to costly downtime or reduced performance
- > A simple procedure is to send samples to an independent laboratory and receive detailed results, expert analysis and recommended actions.







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