

DELIVERING MAXIMUM ENGINE PROTECTION



CENEX® HEAVY DUTY DIESEL ENGINE OILS



PREMIUM HEAVY DUTY DIESEL ENGINE OILS

for Superior Engine Protection

Engineered to exceed the highest industry and diesel engine manufacturers' requirements for new, current and older diesel engines.

The Cenex® API CK-4 product line is the most advanced slate of heavy duty diesel engine oils ever offered. Maxtron® Enviro-EDGE®, Maxtron® DEO, and Superlube TMS® meet the most demanding industry requirements of API CK-4, as well as the newest original equipment manufacturer requirements.

These premium heavy duty diesel engine oils are suitable for use in high-speed, four-stroke diesel engines designed

to meet the most current model year on-highway and Tier 4 off-road exhaust emission standards. In addition, these oils deliver superior backward-compatibility for previous model year diesel engines.



API CK-4 oils provide enhanced protection against oil oxidation and viscosity loss, due to shear and oil aeration. The technology of these premium lubricants shields against:

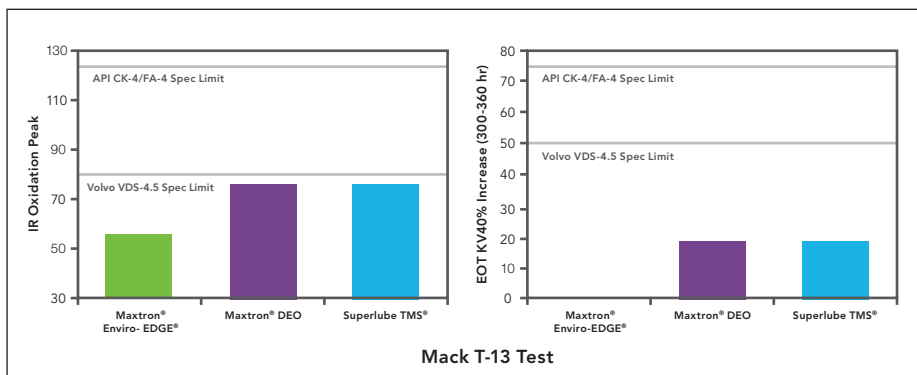
- Catalyst poisoning
- Particulate filter blocking
- Engine wear
- Piston deposits
- Degradation of low- and high-temperature properties
- Soot-related viscosity increase



Cenex® Heavy Duty Diesel Engine Oils Offer:

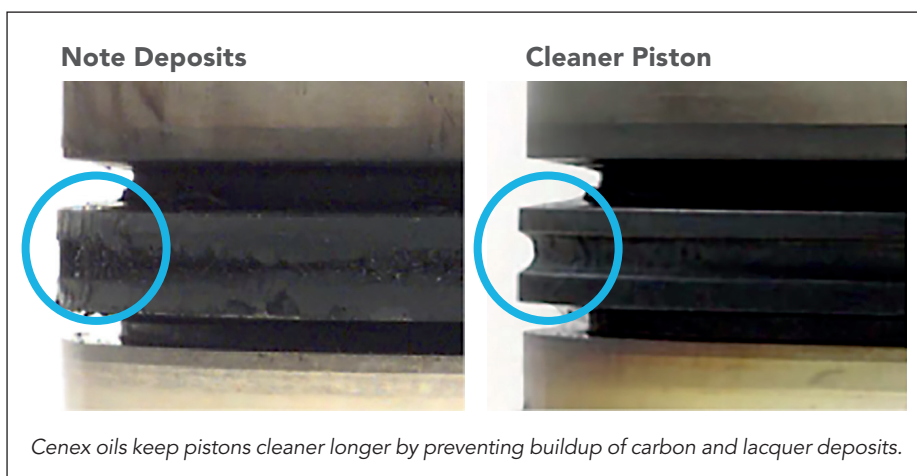
Outstanding Thermal Management Protection

Conventional oils oxidize at high temperatures causing sludge and varnish buildup. Oxidation resistance is critical for extended drain intervals. Cenex® oils exceed the most grueling oxidation test required by Mack for API CK-4 – **delivering virtually no viscosity change in the Mack T-13 test.**



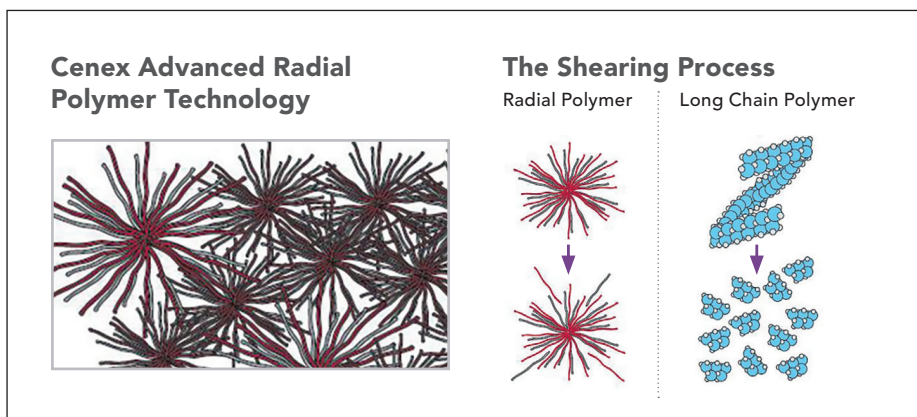
Outstanding Engine Protection

The full slate of Cenex advanced formulas are engineered with Wear Saver Technology® that provides an additional level of protection for engine parts under the most extreme conditions. These oils disperse both conventional and EGR soot into finer particles, which prove to be far less abrasive on engine parts than larger soot clumps. **Through extensive field tests, all formulations display up to 50% more residual capacity to extend beyond the manufacturer's recommended oil drain intervals.**



Superior Viscosity Retention and Shear Resistance

Cenex oils feature advanced radial polymer technology which helps maintain viscosity throughout the life of the oil. This impressive performance is the result of the strikingly different shape of the advanced radial polymers. Rather than breaking apart, these advanced polymers are designed to retain their shape, thereby minimizing viscosity breakdown and extending the life of the oil.



Exceptional Fortification Against Corrosive Wear

The prevention of corrosive bearing wear caused by acid formation in the engine is one of the most important parameters for extended drain protection. Cenex heavy duty diesel engine oils offer high, long-lasting Total Base Number (TBN) to save your equipment investment.

The Proven Performance of Cenex®

The Ultimate Advantage

Our portfolio of heavy duty diesel engine oils meet the requirements of the API CK-4 service category and the more demanding needs of the most current OEM requirements. We are proud to offer our most technologically advanced product line

ever produced to help protect your equipment investments. No matter what challenge you face, from long hours of operation under heavy loads, to dusty, dirty conditions, Cenex® has the best heavy duty diesel engine oil to meet your needs.

Industry Requirements	Viscosity grade	Durability	Engine protection	Extended drain	All weather performance	Viscosity Control
Maxtron® Enviro-EDGE®	5W-40	●●●●	●●●●	●●●●	●●●●	●●●●
Maxtron® DEO	15W-40	●●●	●●●	●●●	●●	●●●
	10W-30	●●●	●●●	●●●	●●●	●●●
Superlube TMS®	15W-40	●●	●●	●●	●●	●●
	10W-30	●●	●●	●●	●●	●●



Maxtron® Enviro-EDGE® Typical Properties

SAE Viscosity Grade	5W-40	
API Service	CK-4, CJ-4, CI-4 Plus, /SN	
API Gravity/Density lbs/gal	34.1/7.12	
Viscosity @ 40° C, cSt	94.3	
Viscosity @ 100° C, cSt	15.2	
Viscosity Index	170	
Pour Point, °F (-°C)	-49 (-45)	
MRV-TP1, cP	32,800 @ -35° C	
CCS Viscosity, cP	5,930 @ -30° C	
Total Base Number (TBN)	11	
HTHS Viscosity, mPa-s ASTM D4683	4	
Sulfated Ash, % wt.	1.0	



Maxtron® DEO Typical Properties

SAE Viscosity Grade	15W-40	10W-30
API Service	CK-4, CJ-4, CI-4 Plus, CI-4, /SN	
API Gravity/Density lbs/gal	34.1/7.12	32.4/7.18
Viscosity @ 40° C, cSt	112.6	81.9
Viscosity @ 100° C, cSt	15.2	12.2
Viscosity Index	141	145
Pour Point, °F (-°C)	-33 (-36)	-44 (-42)
MRV-TP1, cP	18,600 @ -25° C	20,100 @ -30° C
CCS Viscosity, cP	5,210 @ -20° C	6,070 @ -25° C
Total Base Number (TBN)	10	10
HTHS Viscosity, mPa-s ASTM D4683	4.1	3.5
Sulfated Ash, % wt.	1.0	1.0



Superlube TMS® Typical Properties

SAE Viscosity Grade	15W-40	10W-30
API Service	CK-4, CJ-4, CI-4 Plus, CI-4, /SN	
API Gravity/Density lbs/gal	29.9/7.3	31.2/9.2
Viscosity @ 40° C, cSt	122.1	87.9
Viscosity @ 100° C, cSt	16	12.2
Viscosity Index	139	143
Pour Point, °F (-°C)	-33 (-36)	-44 (-42)
MRV-TP1, cP	23,100 @ -25° C	21,800 @ -30° C
CCS Viscosity, cP	6,070 @ -20° C	6,290 @ -25° C
Total Base Number (TBN)	10	10
HTHS Viscosity, mPa-s ASTM D4683	4.2	3.5
Sulfated Ash, % wt.	1.0	1.0



Industry Specifications

Cenex® heavy duty diesel engine oils are designed to meet or exceed the following API Service Categories: CK-4, CJ-4, CI-4 Plus, CI-4, CH-4, CG-4, and CF/SN.

Typical Applications

Maxtron® Enviro-EDGE® is designed to exceed the newest API and OEM service categories and is recommended for applications calling for: **Mack** EOS-4.5, EO-O Premium Plus, EO-N, **Volvo** VDS-4.5, VDS-4, VDS-3, **Cummins** CES 20086, CES 20081, **Caterpillar** ECF-3, EC-/2, **Detroit Diesel** DFS 93K222, DFS 93K218, **Daimler MB** 228.31, **Renault** RLD-4, RLD-3, **MAN** M-3575, **MTU** Category 2.1, **ACEA** E9-2012, E7

Maxtron® DEO meets or exceeds the newest API and OEM service categories and is recommended for applications calling for: **Mack** EOS-4.5, EO-O Premium Plus, EO-N, **Volvo** VDS-4.5, VDS-4, VDS-3, **Cummins** CES20086, CES20081, (and all prior CES Specifications) **Caterpillar** ECF-3, ECF-2, **Detroit Diesel** DFS 93K222, 93K218, **Ford** WSS M2C171-F1, **Allison** TES 439, **Daimler MB** 228.31, **Renault** RLD-4, RLD-3, **MAN** M-3575, **ACEA** E9-2012, E7-08/E9-08, **MTU** Category 2.1

Superlube TMS® meets the newest API and OEM service categories and is recommended for applications calling for: **Mack** EOS-4.5, EO-O Premium Plus, EO-N, **Volvo** VDS-4.5, VDS-4, VDS-3, **Cummins** CES20086, CES20081, (and all prior CES Specifications) **Caterpillar** ECF-3, ECF-2, **Detroit Diesel** DFS 93K222, 93K218, **Ford** WSS M2C171-F1, **Allison** TES 439, **Daimler MB** 228.31, **Renault** RLD-4, RLD-3, **MAN** M-3575, **ACEA** E9-2012, E7-08/E9-08, **MTU** Category 2.1



THE CENEX® DIESEL OIL ADVANTAGE



Maxtron® Enviro-EDGE®

An advanced full synthetic diesel engine oil with Wear Saver Technology®, engineered for excellent fuel economy and wide temperature range performance.

The advanced formulation in **Maxtron® Enviro-EDGE®** provides the ultimate level of protection for the most current model year low-emission engines, as well as additional protection for older engines.

Maxtron Enviro-EDGE full synthetic diesel engine oil provides fuel economy with no compromise on engine durability performance. **The most advanced diesel engine oil ever offered by Cenex®, this full synthetic formula safeguards hard working engines and advanced emissions systems.** Maxtron Enviro-EDGE exceeds critical industry tests by as much as 30%, and improves fuel efficiency from 1-2% under normal conditions and up to 3% under cold starts.

Maxtron Enviro-EDGE features 11 TBN with reserve acid fighting capability. It prevents corrosive wear long after the oil has been in use, enabling reliable extended drain performance. Actual fleet tests demonstrated that after 50,000 miles, this superior lubricant still had 50% acid fighting reserve ensuring added engine protection.

Maxtron® DEO

Synthetic blend diesel engine oils engineered with Wear Saver Technology®. These oils incorporate high-quality synthetic base stocks to provide superior protection.

The superior protection of **Maxtron® DEO** works for both modern diesel engines with exhaust emission control systems and older heavy duty diesel engines operating on ultra-low sulfur diesel fuel.

Maxtron DEO synthetic blend diesel engine oil incorporates premium synthetic base stocks to provide an enhanced level of protection for both modern diesel engines as well as older engines. **Maxtron DEO can handle intense heat as well as provide excellent protection in colder operating conditions.** The perfect choice for both on and off road applications where an extra level of protection is required due to operating temperatures.

Superlube TMS®

Features an enhanced formulation which provides field-tested engine durability, offers premium protection against soot, prevents sludge deposits and significantly slows oil thickening.

Superlube TMS® is a robust conventional diesel engine oil that protects the advanced emissions systems of Caterpillar, Cummins, Detroit Diesel and Mack diesel engines calling for API CK-4 or earlier categories.

Superlube TMS heavy duty diesel engine oil offers proven protection featuring over 100+ million miles of real-world experience. Superlube TMS delivers excellent protection for new diesel engines with exhaust emission control systems (EGR, DPF, and NOx catalysts) and older diesel engines operating on ultra-low sulfur diesel fuel. **A perfect choice for services involving long hours, heavy loads and dusty, dirty conditions.**

*Whether comparing its ability to control soot, protect against wear or perform in all temperatures – freezing cold or summer heat – **Cenex® Heavy Duty Diesel Engine Oils** simply outpace the competition!*



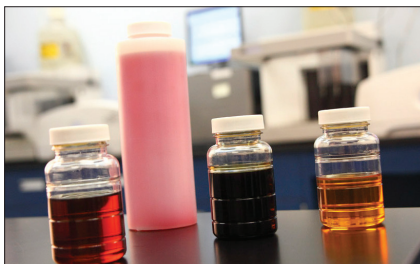
Peace of mind with LUBESCAN® OIL ANALYSIS

LubeScan® used oil analysis is a comprehensive program designed to identify and troubleshoot potential engine problems before costly repairs are needed.

LubeScan® employs sophisticated instrumentation to measure small amounts of contaminants in used oil. Using LubeScan on a regular basis provides an indication of vehicle health, establishes a historic trend and creates a condition baseline for equipment.

Increase efficiency, reduce downtime, manage your fleet and protect valuable equipment

by making LubeScan a key component of your preventative maintenance service program.



LubeScan Oil Analysis:

- Aids in diagnosing the condition of oil lubricated equipment
- Helps indicate excess contamination
- Assists in determining optimum drain intervals
- Increases potential resale value of tested equipment

*Visit **Cenex.com/locator** to find your nearest Cenex dealer and to purchase your LubeScan oil analysis kit.*

