

**"PERFORMANCE UNDER PRESSURE"**

**NEO**  
**SYNTHETIC**  
**OIL**

*First in Synthetic Lubricants*

## **Engine Oil**

**Diester Base 100% Synthetic  
SAE 30W, Heavy Duty Fleet Service  
API Service CE/SG, CD-II; ACEA**

### **Product Data Sheet**

- **A Clean Environment product**
- **Reduces friction**
- **Increases gas mileage**
- **Runs cooler**
- **Superior film strength**
- **Resists high temperature**
- **Eases cold temperature starting**
- **Extends drain interval**
- **Extends engine life**

### **Product Description:**

NEO SAE 30W Diesel Engine Oil is a single viscosity oil for applications where this is specified or desired. It meets and exceeds API Service Classification CE/SG, with CF-4 performance, as well as the performance requirements for MIL-L-46152E and MIL-L-2104E. It is designed to meet and exceed manufacturer's performance requirements for Detroit Diesel, Allison C-4, Mack EO-K/2, Caterpillar TO-2, Cummins NTC-400, D-2, G-2, PD-1, and all gasoline engine specifications for this viscosity grade. Recommended for naturally aspirated, supercharged and turbocharged engines. The NEO 30W base stock is diester 100% synthetic. To that base is added NEO's balanced blend of additives that are necessary to meet and exceed these specifications.

We believe NEO is the first 100% synthetic fleet engine oil that meets and exceeds the SG/CE, and CD-II API service classification tests. The test results are indisputable proof that NEO is probably the finest engine oil in the world today.

NEO 30W is an excellent choice for "mixed fleet" service where this viscosity is required or desired, from passenger car to diesel truck to heavy earth moving equipment. It will perform equally well in gasoline, LPG or diesel fueled engines. It provides lubrication over a wide temperature range, for extended periods, and reduces engine wear and oil consumption. In addition, it has an inherently higher film strength than petroleum oils, thereby providing added protection to the bearing surfaces of the engine.

NEO 30W will prove to be particularly valuable to the fleet operator in reducing down-time and increasing equipment utilization. It will reduce engine wear and increase power output because of its superior lubricity.

Its low temperature pour point (-50°F) allows faster starting and warmup, saving wear on starters and batteries. It is also resistant to thinning at high temperature, thereby providing extra protection for engines operating under heavy loads or at desert heat.

### **Clean Environment**

The engine oil you use can help reduce hydrocarbons in the environment and can reduce your operating costs as well: By getting more miles per gallon through reduced friction in the engine, by reducing the burned oil in the atmosphere, and by reducing the amount of used oil for disposal. NEO has documented proof that their engine oils will accomplish these goals, and you can feel confident that you are doing your best to improve our quality of life. Further, as you use less gas and oil, it is costing you less to operate, and you can expect the NEO lubricants to reduce your maintenance cost by providing the best lubrication you can get.

### **Extended Drain Interval:**

NEO 30W is designed to last 3 to 6 times longer than petroleum base oils in heavy vehicles. In passenger car service, it lasts up to 25,000 miles or one year, whichever comes first. An additive package is formulated specifically for this long service period in the diester synthetic. In addition, the diester base itself acts as a natural detergent and thereby aids the additive package and extends the life of the base stock.

While petroleum oils may meet the requirements when first new, the heat of heavy fleet operation begins to "wear out" the oil immediately. The heat of operation acts on conventional petroleum oil in the crankcase much as it does in the refining distillation process, causing it to break down into lighter and heavier molecules.

The lighter distillates are burned or escape to pollute the air, while the heavier products form sludge, gum and varnish. Not only does the petroleum stock deteriorate over extended periods, but the additives — particularly the detergent — are consumed.

NEO synthetic oil will not break down under engine heat because it is made of thermally stable material. The single molecular structure of the NEO diester provides better and more consistent lubricating properties than petroleum. This reduces friction, which further reduces engine temperature.

## Changing to NEO Engine Oil:

- **New Engine:** Break in the engine with petroleum oil for about 6,000 miles. Drain the oil; replace the filter with a synthetic-rated filter and fill with NEO.
- **New Vehicle Warranty:** NEO 30W meets manufacturer's warranty requirements for the stated API service rating. If the owner prefers, the NEO can be changed at the manufacturer's recommended intervals.
- **Older Engine:** Drain the oil; replace the filter with a synthetic-rated filter and fill with NEO. Expect oil contamination at first while the oil passages in the engine are being cleansed. If the old oil was overly dirty, change the new filter after 2,000 miles, then again at 5,000 miles. Resist temptation to use a cheap filter for this cleansing process; the finer filtering of the synthetic-rated filter is needed for a thorough cleansing.
- **Service Life:** For passenger car service, replace the NEO 30W after 25,000 miles or one year, whichever comes first. For heavier vehicles, replace the NEO 30W

after 3 to 6 times the normal drain interval. Change the oil filter three times in that period, and in dusty climates, both should be changed more often. Changing the air filter regularly is equally important.

- **Oil Analysis:** In recent years, the amount of sulfur in diesel fuels has increased significantly. When burned in the engine, the sulfur is converted to sulfur compounds that are very harmful to the engine. A regular oil analysis program is necessary to assure that the engine oil is not being contaminated if long drain intervals are used.
- **Mixing:** NEO 30W synthetic will mix with petroleum oils; it is not necessary to flush the engine when NEO is first used. However, mixing a large amount of petroleum with NEO will reduce the qualities of the NEO and will shorten the service life. ***This is not recommended.*** Using aftermarket oil additives is not necessary and may produce unpredictable results. ***Use of aftermarket additives voids the NEO warranty.***

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## Specifications: \*

NEO SAE 30W Engine Oil meets and exceeds requirements for API (American Petroleum Institute) service classifications CE/SG, with CF-4 performance, CD-II, European Standard ACEA, and meets military specifications MIL-L-46152E and MIL-L-2104E. NEO 30W is designed to meet and exceed manufacturer's performance requirements for Detroit Diesel, Allison C-4, Mack EO-K/2, Caterpillar TO-2, Cummins NTC-400, D-2, G-2, PD-1, as well as all gasoline engine specifications for this viscosity grade.

**Caution:** Use the viscosity grade recommended by the engine manufacturer for the expected environment.

<u>Specification</u>	<u>Value</u>	<u>Test Method</u>
Viscosity Index	180	ASTM D-2270
Viscosity:		
Kinematic @ 100°C	9.8 cSt	ASTM D-445
Viscosity Increase	6%	Seq. III-C
	(375% allowed)	
Total Base Number (TBN)	8.03	ASTM D-2896
	(exceeds engine requirements by about 3 times)	
Sulfated Ash	1.03	ASTM D-874
Flash Point	470°F	ASTM D-92
Fire Point	520°F	
Pour Point	-50°F	ASTM D-97
Film Strength	About 6 times that of petroleum.	
Density	@ 60°F 7.30 pounds/gallon	

\* Subject to normal manufacturing tolerances

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## Your NEO Dealer: