



## T5X® Heavy Duty Diesel Engine Oil

Phillips 66® T5X Heavy Duty Diesel Engine Oil is a high-quality diesel engine oil designed for use in a wide variety of applications, including off-highway diesel equipment, farm machinery, marine engines, 2-stroke cycle diesel engines (SAE 40 only) and mixed commercial fleets. It also may be used in some heavy-duty manual transmissions in trucks and buses.

T5X Heavy Duty is formulated to provide excellent wear protection, to minimize the formation of sludge and varnish, to protect against rust and bearing corrosion, and to resist foaming. It has excellent soot dispersancy to protect against abrasive wear and soot-induced oil thickening, and excellent oxidation resistance to help minimize deposit formation. The SAE 40 viscosity grade has low ash content to help minimize ash deposits and keep intake ports clear to maintain good power output in 2-stroke cycle applications.

T5X Heavy Duty SAE 30 & SAE 50 meets or exceed the performance requirements of API Service Categories CF and SL. They are recommended primarily for use in off-highway diesel equipment and mixed commercial fleets with both diesel and gasoline vehicles.

T5X Heavy Duty SAE 40 meets or exceeds the performance requirements of API Service Categories CF-2 and CF, and also may be used in applications where API CD quality oil is specified. It is particularly recommended for use in 2-stroke cycle diesel engines in transit buses and marine fleets running on low-sulfur diesel fuel.

### Applications

- 2-stroke cycle diesel engines in bus fleets and marine fleets (SAE 40)
- Off-highway trucks, heavy equipment and farm equipment
- Light trucks and farm equipment with gasoline engines (SAE 30, SAE 50)
- Heavy-duty manual transmissions in trucks and buses where the OEM specifies engine oil

T5X Heavy Duty meets or exceeds the requirements of:

- API Service CF-2<sup>(1)</sup>, CF<sup>(1)</sup> (SAE 40)
- API Service CF<sup>(1)</sup>, SL (SAE 30, SAE 50)
- Detroit Diesel 2-stroke cycle engines, Oil Type 1 (1.0% max. sulfated ash)  
(SAE 40)

<sup>(1)</sup> Obsolete service category.

## Heavy-Duty Monograde Diesel Engine Oil





## Features/Benefits

- Excellent soot control for protection against abrasive wear and soot-induced oil thickening
- Protects against sludge and varnish formation
- Protects against scuffing and wear
- Protects against rust and bearing corrosion
- Good resistance to foaming and aeration
- Low-ash content to minimize ash deposits and help keep intake ports clean (SAE 40)

## T5X<sup>®</sup> Heavy Duty Diesel Engine Oil

Typical Properties			
SAE Grade	30	40	50
Specific Gravity @ 60°F	0.883	0.886	0.891
Density, lbs/gal @ 60°F	7.35	7.38	7.42
Color, ASTM D1500	4.0	4.0	4.0
Flash Point (COC), °C (°F)	230 (446)	235 (455)	240 (464)
Pour Point, °C (°F)	-33 (-27)	-27 (-17)	-27 (-17)
Viscosity, Kinematic			
cSt @ 40°C	92.0	142	224
cSt @ 100°C	11.3	15.0	20.0
Viscosity Index	110	106	103
High-Temp/High-Shear Viscosity, cP @ 150°C	3.4	4.2	5.7
Sulfated Ash, ASTM D874, wt %	1.39	0.90	1.39
Total Base Number (TBN), ASTM D2896	10.5	6.8	10.5
Zinc, wt %	0.119	0.077	0.119

## Health & Safety Information

For recommendations on safe handling and use of this product, please refer to the Safety Data Sheet via <http://www.phillips66.com/EN/products/Pages/MSDS.aspx>.

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Typical properties are average values only and do not constitute a specification. Minor variations that do not affect product performance are to be expected during normal manufacture, and at different blending locations. Product formulations are subject to change without notification.

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