

# CK-4 Heavy Duty Engine Oil



## PRODUCT DESCRIPTION

**High Performance Lubricants Heavy Duty CK-4** engine oil is one of 3 multi-synthetic engine oils we offer. These oils are not something you will find on the shelf of a discount retailer. If you are person looking for a product that will outperform traditional mineral and synthetic oils our products will be a perfect fit for you. We build our products to perform at higher standards rather than just clearing the minimum requirements set by OEM specifications. Choices are important when selecting raw materials for finished products. Good choices in formulation allow these oils to excel in extended drains in tough operating conditions. Premium additives coupled with base oils that have low volatility mean these oils can minimize consumption, reduce wear, provide lower coefficient of friction, have much greater oxidation stability, and will run very clean in service.

**High Performance Lubricants Heavy Duty CK-4** engine oil for cold climates is one of 3 multi-synthetic engine oils we offer. Compared to our other groups in this series of formulations the cold climate products take advantage of high performing PAO base stocks that deliver excellent pour points and cold temperature performance. It also uses an advanced VI improver that has a superior shear stability index. It is designed for equipment, environment or service that is particularly harsh.

## FEATURES

- Excellent wear protection and superior high temperature stability
- Compatible with conventional and synthetic oils
- Good low temperature performance
- Maintains elastomer pliability
- Improved fuel economy
- Prevents sludge and varnish
- Extended drain intervals over rivals
- Exceptional corrosion protection



# CK-4 Heavy Duty Engine Oil



## Typical Properties

	Method	Cold Climate		5W-30	5W-40	10W-30	10W-40	15W-40	20W-50
		0W-30	5W-40						
<b>Viscosity</b>									
<b>cSt@40°C</b>	ASTM D445	59.89	85.69	65.62	86.86	72.27	100.3	111.8	177.5
<b>cSt@100°C</b>	ASTM D445	10.61	14.62	10.93	14.15	10.82	14.54	14.62	19.51
<b>Viscosity Index</b>	ASTM D2270	169	179	158	169	138	150	134	126
<b>Cold Crank Simulator (cP)</b>	ASTM D5293	5,314@-35C	3,551@-30C	6,376@-30C	6,003@-30C	6,339@-25C	6,701@-25C	6,594@-20C	9,047@-15C
<b>Base Number (BN), mg KOH/g</b>	ASTM D2896	>13.5	>13.5	>13.5	>13.5	>13.5	>13.5	>13.5	>13.5
<b>Flash Point (°C/°F)</b>	ASTM D92	217/423	217/423	210/410	208/406	221/430	223/433	222/432	224/435
<b>Foaming Tendency - Sequence II</b>	ASTM D892	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0
<b>Specific Gravity</b>	ASTM D1298	0.860	0.865	0.873	0.871	0.880	0.879	0.885	0.892
<b>Rust Prevention</b>	ASTM D665	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
<b>Copper Corrosion Prevention 3hr/24hr</b>	ASTM D130	1a/1a	1a/1a	1a/1a	1a/1a	1a/1a	1a/1a	1a/1a	1a/1a
<b>Pour Point (°C/°F)</b>	ASTM D97	-62/-80	-56/-69	-43/-45	-41/-42	-37/-35	-40/-40	-37/-35	-46/-51
<b>High Temp High Shear Visc, cP</b>	ASTM D5481	3.059	3.927	3.34	3.903	3.274	4.186	4.168	5.319
<b>MRV Viscosity, cP</b>	ASTM D4684	19,838@-40C	15,014@-35C	19,161@-35C	23,787@-35C	16,392@-30C	19,906@-30C	18,147@-25C	24,012@-15C

NOTE: Properties above are not a specification, they are typical and may vary.

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## Suitable replacement for:

API CK-4, CJ-4, CI-4 PLUS, CI-4, CH-4<sup>(4)</sup>  
 API SN, SM, SL, SJ<sup>(4)</sup>  
 API FA-4<sup>(1)</sup>  
 ALLISON TES 439<sup>(2)</sup>  
 ACEA 2016 E7/E9<sup>(4)</sup>  
 CAT ECF-3, ECF-2<sup>(4)</sup>  
 DAIMLER 228.31<sup>(4)</sup>

DDC DFS 93K222, DFS 93K218<sup>(4)</sup>  
 FORD WSS-M2C171-F1<sup>(3)</sup>  
 JASO DH-2<sup>(3)</sup>  
 MACK EOS-4.5, EO-O Premium Plus, EO-N<sup>(4)</sup>  
 MAN M3775<sup>(4)</sup>  
 MTU Category 2.1<sup>(4)</sup>  
 RENAULT RLD-4, RLD-3<sup>(4)</sup>

VOLVO VDS-4.5, VDS-4, VDS-3<sup>(4)</sup>

(1) 10W-30  
 (2) 15W-40  
 (3) 10W-30, 15W-40  
 (4) 10W-30, 10W-40, 15W-40