



CITGO CITGARD® 700 ENGINE OILS

Date 07/15

DESCRIPTION: CITGO CITGARD 700 Engine Oils are synthetic blends using superior technology to protect all low-emissions engines equipped with exhaust after-treatment systems and other new design features. These products exceed the API CJ-4 heavy duty requirements as well as existing API CI-4 PLUS and earlier categories.

PERFORMANCE BENEFITS:

- Synthetic blends formulated specifically for engines using Ultra Low Sulfur Diesel (ULSD)
- Provides advanced soot control utilizing SootArrest™, soot dispersant chemistry
- Offers advantages for post-2007 and pre-2007 heavy duty commercial trucks and other diesel-fueled applications, including off-road equipment
- State-of-the-art wear control technology for reduced wear
- Exceptional oxidation and thermal protection for operating at extreme temperatures
- Extends diesel particulate filter (DPF) life
- Meets manufacturers' latest warranty requirements
- Protects against engine oil oxidation and fuel dilution, especially in fleets operating greater than 5% biodiesel fuel
- SAE 10W-30 improves fuel economy and cold cranking lubrication

RECOMMENDED FOR:

Equipment requiring API CJ-4, CI-4 PLUS, CI-4, CH-4, SM	Caterpillar ECF-3 Volvo VDS-4
Cummins CES 20081	
Mack EO-O Premium Plus 07	
Detroit Diesel 93K218	

APPLICATIONS: Recommended for use in heavy-duty service in commercial trucks, agricultural equipment, construction equipment, stationary engines, and other diesel-fueled engine applications. Permits year-round use by offering improved low temperature startability with full lubrication at high operating temperatures.

TYPICAL PROPERTIES:

CITGO CITGARD® 700 ENGINE OILS

SAE Grade	10W-30	15W-40
Material Code	622713001	622720001
Gravity, ASTM D 287, °API	31.0	29.7
Density, lbs/gal	7.25	7.31
Flash Point, ASTM D 92, COC, °F (°C)	431 (222)	450 (232)
Viscosity, ASTM D 445, cSt at 40°C	81.2	118
cSt at 100°C	11.9	15.4
Viscosity Index, ASTM D 2270	140	136
HTHS Rate Viscosity at 150°C, ASTM D 4683, cP	3.64	4.1
CCS Viscosity, ASTM D 5293, cP	6,610 @ -25°C	5,680 @ -20°C
MRV Pumpability, ASTM D 4684, cP	21,940 @ -30°C	22,580 @ -25°C
MRV Yield Stress, ASTM D 4684	<35 @ -30°C	<35 @ -25°C
Pour Point, ASTM D 97, °F (°C)	-49 (-45)	-36 (-38)
Color, ASTM D 1500	L3.5	L3.5
Sulfated Ash, ASTM D 874, m%	1.0	1.0
Total Base Number, ASTM D 2896, mg KOH/g	10	10

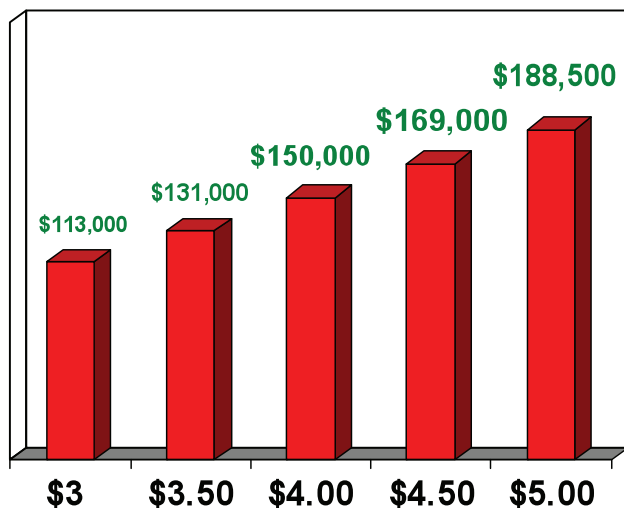
(Continued)

CITGO CITGARD® 700 ENGINE OILS



Date 07/15 - (Continued)

CITGARD 700 10W-30 Annual Fuel Cost Savings



Calculation Reference Information

- 100 power unit fleet
- Trucks average 125,000 annual miles
- Compared to present 6.5 average mpg using 15W-40 Oil
- Improved fuel economy of 1.5% using CITGARD 700 10W-30

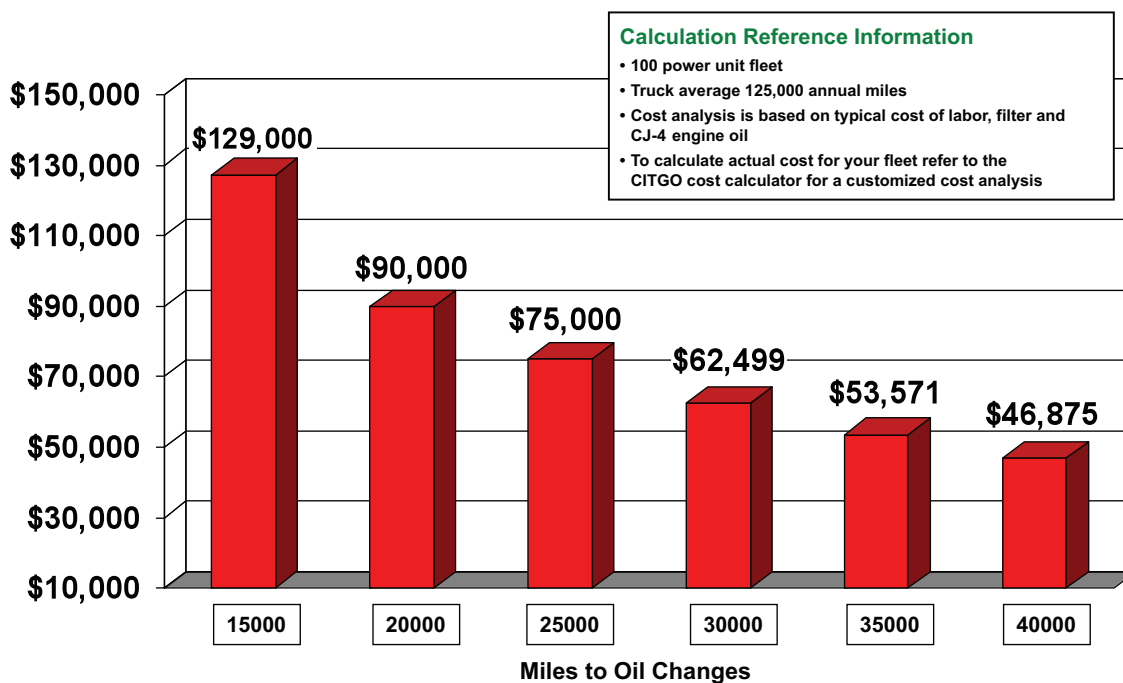
CITGARD 10W-30

Annual Savings
VS
Diesel Cost / Per Gallon

Fuel Pricing for Example Only

← Use your fuel pricing to calculate actual fleet cost savings

CITGARD 700 Extended Drain Cost Savings



Calculation Reference Information

- 100 power unit fleet
- Truck average 125,000 annual miles
- Cost analysis is based on typical cost of labor, filter and CJ-4 engine oil
- To calculate actual cost for your fleet refer to the CITGO cost calculator for a customized cost analysis

CITGO and CITGARD are registered trademarks of CITGO Petroleum Corporation. All other registered trademarks or trademarks are the property of their respective owners.