

NEXT GENERATION OF HEAVY DUTY ENGINE OILS ARE HERE

CITGARD 700 and CITGARD SynDurance Plus
API CK-4 Engine Oils



New industry regulations have driven changes in diesel engines that have significantly reduced emissions and greenhouse gases, paving the way for technological advancements in engine oils.

100%

GUARANTEE

% OIL
LET US
PROVE
IT



The Next Generation of Engine Oils

CITGARD 700 and CITGARD SynDurance Plus API CK-4 engine oils are engineered with advanced technology to improve durability in newer and older engines. These next generation engine oils improve fuel economy, enhance wear protection and support extended drain intervals.

Features & Benefits

- API CK-4, CJ-4, CI-4 PLUS, CI-4, CH-4/SN (SAE 15W-40 Only)
- Guaranteed fuel efficiency (see Figure 1)
- Advanced wear protection enhances engine durability for long engine life (Figure 4)
- Up to 100% increase in oxidation protection compared to conventional CJ-4 engine oils
- New shear resistant polymer maintains critical oil films under high loads reducing viscosity breakdown
- Improves engine cleanliness and extends diesel particulate filter (DPF) life
- SAE 10W-30 provides up to 3% fuel economy advantage over conventional SAE 15W-40 viscosity grade oils
- Reduced air entrainment in high pressure hydraulic fuel injection systems

Applications

- Developed for newer engines and backward compatible for older engines
- Recommended for commercial trucks, agricultural equipment, construction equipment, stationary engines and other diesel-fueled engine applications
- Permits year-round use by offering improved low temperature start-up lubrication and high operating temperature wear protection (Figure 2)
- OEM recommendations: Cummins CES 20086, Mercedes 228.31, Volvo/Mack/Renault - VDS-4.5/ EOS-4/RLD-4, Detroit Diesel DFS 93K 222, Mercedes 228.31, Paccar, Caterpillar ECF-3

Fleet Fuel Efficiency Results

| Fuel Efficiency Improvement Samples** (Figure 1) | | |
|--|---------------|-------------|
| Fleet Type | # Power Units | Improvement |
| OTR | 28 | 1.60% |
| Flatbed | 49 | 1.80% |
| OTR | 88 | 3.20% |
| Local/Regional | 310 | 3.20% |
| OTR | 425 | 2.80% |
| Local/Regional | 494 | 2.20% |

**Fuel savings shown are examples of fleet reported fuel efficiency results after conversion to CITGARD 700 10W-30. Individual results may vary.



While other engine oils significantly lose fuel economy benefits over time, CITGARD 700 10W-30 sustains improved economy through 50,000 miles.

Next Generation CK-4 Oils vs. CJ-4 (Figure 2)

| Category | CITGARD 700 15W-40 API CJ-4 | CITGARD 700 10W-30 API CK-4 | CITGARD 700 15W-40 API CK-4 | SynDurance Plus 5W-30 API CK-4 | SynDurance Plus 5W-40 API CK-4 |
|------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|--------------------------------------|--------------------------------------|
| Back Serviceable | Yes | Yes | Yes | Yes | Yes |
| Oxidation Stability | ✓ | ✓✓ | ✓✓ | ✓✓✓ | ✓✓✓ |
| Shear Stability | ✓ | ✓✓ | ✓✓ | ✓✓✓ | ✓✓ |
| Aeration Control | ✓ | ✓✓ | ✓✓ | ✓✓✓ | ✓✓✓ |
| Wear Control | ✓ | ✓✓ | ✓✓ | ✓✓✓ | ✓✓✓ |
| Fuel Efficiency | ✓ | ✓✓ | ✓ | ✓✓✓ | ✓✓ |
| Low Temperature Start-up | ✓ | ✓✓ | ✓ | ✓✓✓ | ✓✓✓ |
| Compatible with API CJ-4 oil | Yes | Yes | Yes | Yes | Yes |

✓ = Good ✓✓ = Better ✓✓✓ = Best

Volvo T-13 Oxidation Stability Test vs. API CJ-4

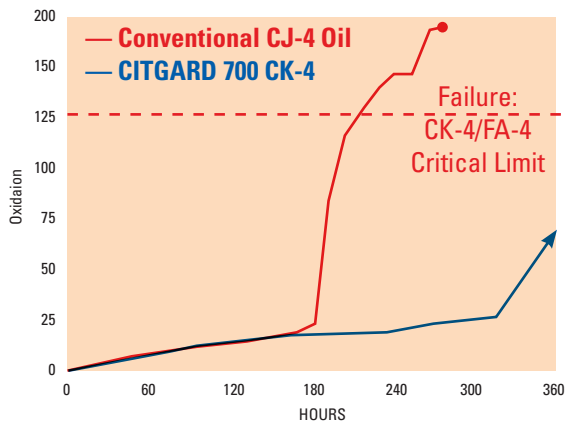


Figure 3: A conventional CJ-4 oil reached critical limits while CITGARD 700 CK-4 improved oxidation resistance by 100%.

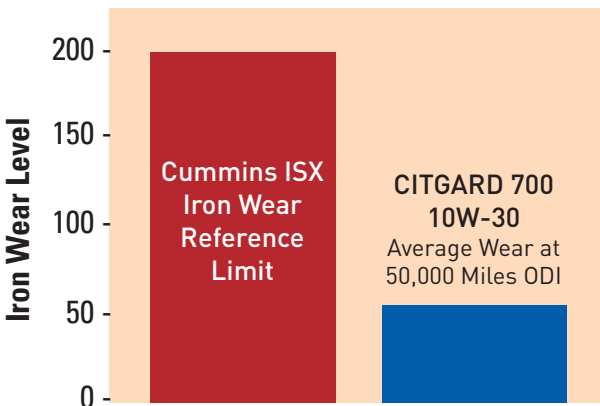


Figure 4: CITGARD 700 SAE 10W-30 field test data showed wear well below the Cummins ISX limit even at 50,000 mile oil changes.



LubeAlert™ Fluid Condition Monitoring Service

CITGO can show you how well our products protect your valuable equipment against wear with LubeAlert™, a state-of-the-art fluid condition monitoring service that precisely tracks wear trends and engine condition. Lubricating oils are the lifeblood of your engine. Oil condition monitoring, as part of a predictive maintenance program, can help provide early awareness to address developing engine issues.



Features

- Analyses performed and evaluated by dedicated lab technicians at our ISO 9001 certified lab
- Fast notification of critical conditions
- Easy web-based access
- Customizable reporting tools to help trend your equipment sample data

LubeAlert simplifies data interpretation with user-friendly features, giving fleet owners quick access and ease of evaluation.

Benefits

- Increases operational efficiency
- Decreases maintenance costs
- Minimizes unexpected downtime
- Optimizes lubricant usable life
- Protects engine warranties
- Supports increased equipment resale value
- Extends engine life

Professional Services

CITGO is ready to help solve your lubrication challenges. Experienced sales professionals and engineers are available to provide application consultation, machinery lubrication program assistance, and LubeAlert Fluid Condition Monitoring training. Product deliveries are made by CITGO business partners who know the importance of safe, reliable service.

Watch our LubeAlert video to learn more at www.lubealert.com or scan here.



LubeAlert is available to CITGO customers at no charge. Give us a chance to put together a savings analysis and show you how we can prove it today: call 1-800-331-4068, Option 2.

- ISO 9001 Certified Laboratory
- Advanced Laboratory Analysis Equipment
- Secure web-based report access



LubeAlert results are easily accessible on any PC or mobile device.

For additional product information or technical support, contact lubeshelp@citgo.com.

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