

# Final Drive

## Heavy-Duty Off-Highway Final Drive and Axle Oil



### Product description

**Final Drive SAE 60** is a premium heavy-duty gear lubricant specifically designed for use in final drives and axles of modern Caterpillar off-road equipment operating in severe service, where fluids meeting Cat FD-1 are recommended.

### Customer benefits

- **Extends equipment life in severe service**  
Advanced additive system minimizes wear in heavily loaded gears and bearings by forming a strong protective layer on metal surfaces under extreme service conditions.
- **Prolongs oil life**  
Extremely high thermal and oxidation stability protects against oil thickening and deposit formation and can extend oil drain interval as compared with conventional TO-4 type fluids.
- **Minimizes unscheduled maintenance**  
Effective rust and corrosion inhibitors protect final drive components. Good viscosity characteristics at low temperatures ensure rapid oil circulation on start-up, preventing damaging wear.
- **Trouble-free operation**  
Fully compatible with all seal materials and with TO-4 type oils, eliminating risk of operational problems when converting to new lubricant.

### Applications

- Final drives, axles, differentials and front wheels of Caterpillar equipment where FD-1 performance fluid is specified.
- Caterpillar heavy-duty off-highway haul trucks.
- Caterpillar wheeled and track-type tractors.

*Not suitable for use in compartments containing oil-immersed brakes or clutches*

### Approvals, performance and recommendations

#### Performance Standards

- Caterpillar® FD-1

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### Service consideration

In 2001 Caterpillar released a new lubricant performance specification, namely FD-1, for heavy duty final drives and axles in off-road service, and this superseded TO-4, SAE 60, which viscosity grade was then withdrawn from the TO-4 specification.

Fluids meeting FD-1 are now the primary recommendation for Caterpillar final drives in severe duty off-road applications. Fluids meeting Caterpillar FD-1 have been optimized for axle and final drive applications, and so unlike TO-4 fluids, are generally not suitable for use in powershift transmissions or compartments containing oil-immersed brakes or clutches, except where specifically recommended by Caterpillar.

For Caterpillar powershift transmissions, hydraulic systems and wet brake applications requiring TO-4 type fluids, appropriate viscosity grade selections from the Delo TorqForce series are recommended.

### Typical test data

| FINAL DRIVE  |               |
|--|---------------|
| <b>SAE Grade</b>                                   | <b>60</b>     |
| <b>Product Code</b>                                | <b>510093</b> |
| Pour Point, °C                                     | -18           |
| Viscosity, Brookfield, cP @ -10°C                  | 44,500        |
| Viscosity, Kinematic,<br>mm <sup>2</sup> /s @ 40°C | 335           |
| mm <sup>2</sup> /s @ 100°C                         | 25.1          |
| Viscosity Index                                    | 97            |
| Thickener (Calcium), m %                           | 0.03          |

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ENVIRONMENT, HEALTH and SAFETY. Information is available on this product in the Material Safety Data Sheet (MSDS) and Customer Safety Guide. Customers are encouraged to review this information, follow precautions and comply with laws and regulations concerning product use and disposal. To obtain a MSDS for this product, visit the [Product Information Center](#).

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