

Heavy-Duty Engine Oil

DESCRIPTION

Rig Tough Heavy-Duty Engine Oil is specially formulated for engines operating under severe conditions and in a wide-range of operating climates and ambient temperatures. It meets the latest requirements of U.S. Tier 4 and European EURO VI emission standards for long-lasting protection of diesel engines equipped with diesel particulate filters (DPF).

Rig Tough Heavy-Duty Engine Oil is compounded with additive and friction reducing chemistry that delivers superior wear protection, optimum fuel economy, and long-lasting soot and oxidation control to support maximum service intervals.

PERFORMANCE BENEFITS

- Superior anti-wear properties protect critical engine components
- Special friction optimized chemistry delivers optimal fuel economy
- Ultimate low-temperature performance for reliable oil flow and cold-start protection
- Enhanced detergency properties protect pistons and rings from carbon deposits
- Advanced dispersants keep soot in suspension and reduces oil thickening in extended intervals
- Excellent TBN retention neutralizes acidic engine conditions in extended service intervals
- Long-term protection of DPF and exhaust gas recirculation (EGR) NOx reduction systems
- Proven technology with over 40 million miles of field testing across major engine platforms

PRODUCT APPLICATION

Rig Tough Heavy-Duty Engine Oil is recommended for the following heavy-duty engine oil specifications:

Meets or Exceeds API Service Categories CK-4, CJ-4, CI-4 Plus, CI-4, CH-4, CG-4, CF-4 & Gasoline engines SN, SM & SL Meets or Exceeds ACEA E7/E9-2016 performance standards

Meets or Exceeds Engine Manufacturer Performance Requirements: Caterpillar CAT ECF-3, Cummins CES 20086, Detroit Diesel DDC93K222, Mack EOS 4.5, Mercedes Benz (Daimler) 228.31, Duetz DQC III-18 LA, Volvo VDS-4.5, MAN M3775, MTU 2.1, Renault RLD-3,

Typical Physical Properties			
Property	Method	10W-30	15W-40
SAE Grade		10W-30	15W-40
Viscosity, cSt @40°C	D-445	79.9	87.8
Viscosity, cSt @100°C	D-445	11.8	14.8
Viscosity Index	D-2270	141	175
Specific Gravity @60°F	D-1250	0.865	0.857
Flash Point, COC, °C(°F)	D-92	235 (455)	225 (437)
Pour Point, °C(°F)	D-97	-42 (-44)	-40 (-40)
Total Base Number (TBN)	D-2896	10.0	10.0
Sulfated Ash, wt %	D-874	<1.0	<1.0
Minor variations in physical test results may occur through normal manufacturing			

Always consult original equipment manufacturer's lubricant recommendation for proper fluid application.

Full Synthetic LS Gear Oil

DESCRIPTION

Rig Tough Full Synthetic Limited Slip (LS) Gear Oil is a premium, full synthetic gear oil specially designed to meet the critical needs of automotive and heavy-duty manual transmissions and differentials. Rig Tough Full Synthetic LS Gear Oil provides ultimate equipment protection under the most severe service conditions. It is recommended for manual transmissions and hypoid gear sets operating under equipment manufacturer extended warranties and in 500,000 mile extended drain service.

Rig Tough Full Synthetic LS Gear Oil out-performs conventional gear lubricants to promote longer gear life while reducing downtime and long-term maintenance costs.

PERFORMANCE BENEFITS

- Special anti-wear additives protect critical gear components and prevent scuffing and welding
- Shear-stable viscosity modifiers deliver a wide-range of operating temperatures and applications
- Specially formulated for limited slip (LS) and positive traction rear axles
- Long-lasting inhibitors protect against gear corrosion, rust formation and lubricant foaming
- Outstanding resistance to fluid oxidation maintains optimum gear cleanliness
- Excellent low-temperature shifting performance

PRODUCT APPLICATION

Rig Tough Full Synthetic LS Gear Oil is recommended for manual transmissions, mobile hypoid and industrial gear sets where the following are indicated:

API GL-5 & MT-1

ARVIN MERITOR O-76N

EATON ROADRANGER E500

DANA SHAES 234, 429A & 256 Rev. C (500,000 miles)

INTERNATIONAL TMS-6816

MACK GO-J & GO-J PLUS

Mercedes Benz 235.8

SAE J2360 (US Military MIL-PRF-2105E), SCANIA STO 1:0, MAN 342N & ZF-TE-ML 07A/08

Typical Physical Properties		
Property	Method	
SAE Grade		75W-90 LS
API Service		GL-5/MT-1
Viscosity, cSt @40°C	D-445	117.0
Viscosity, cSt @100°C	D-445	15.5
Viscosity Index	D-2270	150
API Gravity, @60°F	D-1298	28.2
Flash Point, COC, °C(°F)	D-92	230 (446)
Pour Point, °C(°F)	D-97	-40 (-40)

Minor variations in physical test results may occur through normal manufacturing

Always consult original equipment manufacturer's lubricant recommendation for proper fluid application.

Full Synthetic Automatic Transmission Fluid

DESCRIPTION

Rig Tough Full Synthetic Automatic Transmission Fluid (TES-668*) is a premium, heavy-duty automatic transmission fluid formulated with synthetic base stocks and advanced additive technology to deliver superior wear protection with balanced frictional properties. It is specially designed to be suitable for use in high viscosity heavy-duty automatic transmissions in trucks and buses where Allison TES fluids are recommended. It is also recommended for use in demanding automotive applications, including Ford Mercon® V and Chrysler ATF+4 fluids.

Rig Tough Full Synthetic Automatic Transmission Fluid is engineered to support extended service intervals of 100,000 miles under normal service (50,000 mile interval for severe duty service) and maximize the service life of critical transmission components while delivering trouble-free operation.

PERFORMANCE BENEFITS

- Robust anti-wear properties protect critical transmission components
- Balanced frictional properties promote smooth shifting and prevent transmission vibration
- Superior thermal stability and oxidation resistance
- Exceptional protection from rust and corrosion of transmission components
- Long-term protection against sludge and deposit formation during extended service intervals
- Outstanding low-temperature performance

PRODUCT APPLICATION

Rig Tough Full Synthetic Automatic Transmission Fluid is recommended for automatic transmissions in heavy-duty trucks, buses and off-road equipment where the following fluids are indicated:

Allison TES-295®, TES-389, TES-668, & C-4

Ford Mercon® V & Chrysler ATF+4

Voith and ZF transmissions (extended drain)

Automatic transmissions previously serviceable by GM DEXRON®-III (H) and Ford MERCON® brands

Not recommended for GM DEXRON® VI and Ford MERCON® SP, LV or Ford Type F applications

*TES-295®, TES-389, TES-668 is a registered trademark of Allison Transmission Holdings Inc.

Typical Physical Properties		
Property	Method	
Viscosity, cSt @40°C	D-445	34.3
Viscosity, cSt @100°C	D-445	7.6
Viscosity Index	D-2270	195
Specific Gravity, @60°F	D-1298	0.849
Flash Point, COC, °C(°F)	D-92	235 (455)
Pour Point, C (F)	D-97	-54 (-65)
Color	Visual	Red
Brookfield Viscosity, cP @-40°C	D-2983	8,700 Max
Copper Strip Test	D-130	1b
Corrosion Test	D-665	Pass
Variations in physical test results may occur through normal manufacturing		

Always consult original equipment manufacturer's lubricant recommendation for proper fluid application.

Full Synthetic Manual Transmission Fluid

DESCRIPTION

Rig Tough Full Synthetic Manual Transmission Fluid is a premium lubricant specially formulated for manual transmissions found in heavy-duty equipment and trucks. It is designed and recommended for extended drain service (Eaton Roadranger® and Dana Transmission 500,000 mile line-haul service) and severe operating conditions. Formulated with high viscosity index (VI) synthetic base stocks and an advanced additive system, it delivers superior wear protection, outstanding oxidation stability, tremendous cold temperature performance, rust and corrosion protection, and balanced frictional properties.

PERFORMANCE BENEFITS

- Superior wear protection for critical transmission components
- Excellent frictional properties and low-temp performance for smooth shifting
- Optimum performance under heavy-load and severe service
- Maximum protection against transmission varnish and sludge formation
- Outstanding thermal stability and oxidation resistance to support extended service intervals
- High film strength at high operating temperatures
- Maximizes the operational life of manual transmissions

PRODUCT APPLICATION

Rig Tough Full Synthetic Manual Transmission Fluid is recommended for the following heavy-duty manual transmission fluid specifications:

API Service Category MT-1

Eaton (Eaton Fuller) PS-164 Rev. 7 & PS-386 Severe Service

Eaton Roadranger® Extended Drain

International-Navistar TMS 6816

Emgard MTF 7000

Mack TO-A Plus

ArvinMeritor O-81 (Pub TP-90014)

ZF Freedomline

Dana Spicer Transmission Extended Drain

US Military MIL-L-2104D & MIL-L-46152B

Volvo I Shift

Typical Physical Properties

Property	Method	
SAE Grade		50
API Service		MT-1
Viscosity, cSt @40°C	D-445	135.0
Viscosity, cSt @100°C	D-445	17.3
Viscosity Index	D-2270	154
API Gravity, @60°F	D-1298	32.6
Flash Point, COC, °C(°F)	D-92	220 (428)
Pour Point, °C(°F)	D-97	-49 (-45)

Minor variations in physical test results may occur through normal manufacturing

Always consult original equipment manufacturer's lubricant recommendation for proper fluid application.

All Season Hydraulic AW Oil

DESCRIPTION

Rig Tough All Season Hydraulic AW Oils are high performing hydraulic fluids formulated with highly refined base stocks and an advanced additive system to deliver optimum equipment protection. Rig Tough All Season Hydraulic AW Oils are formulated with anti-wear, anti-oxidation, anti-foam, and anti-rust additive technology to maximize protection and operation life of equipment.

Rig Tough All Season Hydraulic AW Oil's high viscosity index delivers peak fluid performance over a wide-range of operating temperatures and conditions and is designed for non-critical hydraulic systems and other general purpose lubrication applications.

PERFORMANCE BENEFITS

- Protects older hydraulic equipment
- Robust anti wear additives protect critical system components
- Trusted performance over a wide range of operating temperatures and conditions
- Ultimate resistance to rust and oxidation

PRODUCT APPLICATION

Rig Tough All Season Hydraulic AW Oil is recommended for use in a variety of farm, off highway construction, logging and industrial equipment. This product is suitable for use in aging equipment requiring frequent top off.

Rig Tough All Season Hydraulic AW Oil is recommended for use in ambient temperatures between 0 deg F and 122 deg F (-16 deg C to 50 deg C).

Typical Physical Properties				
Property	Method	32	46	68
ISO Grade		32	46	68
Viscosity, cSt @40°C	D-445	32	46	68
Viscosity, cSt @100°C	D-445	6.0	7.5	9.5
Viscosity Index	D-2270	120	120	120
Specific Gravity, @60°F	D-1250	0.8641	0.8667	0.8691
Flash Point, COC, °C(°F)	D-92	176 (350)	176 (350)	176 (350)
Pour Point, (°F)	D-97	-25	-25	-25
Color	D-1500	4.5	4.5	4.5

Variations in physical test results may occur through normal manufacturing

Always consult original equipment manufacturer's lubricant recommendation for proper fluid application.