
239S15W40 SUPER LUBE SUPREME MULTI-SEASON TO-4M

Super Lube Supreme Multi-Season TO-4M is a high performance, para-synthetic, multi-grade fluid that is specially formulated to provide superior protection and performance in transmissions, torque convertors, final drives, hydraulics and wet brake systems. Super Lube Supreme Multi-Season TO-4M works well in Caterpillar and other OEM front end loaders, haul trucks, dozers and other heavy duty off-road equipment used in the railroad, construction and mining industries.

Super Lube Supreme Multi-Season TO-4M is specially formulated and engineered to meet and exceed the rigorous requirements of Caterpillar's TO-4M specification as well as the following original equipment manufacturer requirements:

- Allison C-4
- Komatsu Micro-Clutch
- Vickers 35VQ25

Super Lube Supreme Multi-Season TO-4M is blended with high quality petroleum and synthetic base oils, highly shear stable viscosity index improver, and premium performance additive system to provide the following performance benefits:

PERFORMANCE

- Very good low temperature pumpability and All Season Performance range (-13° to 122°F)
- Compatibility with all elastomers and transmission friction materials, resulting in longer component life and reduced seal leakage
- Less downtime and longer trouble-free equipment life and operation
- Longer equipment life and reduced risk of premature component failure.
- Excellent stay-in-grade performance and shear stability in order to provide long term anti-wear protection and sustained applied pressure
- Improved volumetric and hydro-mechanical efficiency for less internal pump leakage at high operating temperatures
- Faster and smoother response hydraulic systems at low temperatures

DEPOSIT AND WEAR PROTECTION

- Excellent oxidative and thermal stability in order to prevent and eliminate the formation of sludge and varnish that can damage seals and elastomeric clutch materials.
- Excellent wear protection for gears, bearings and friction materials.
- Superior protection against copper corrosion and rusting of ferrous metal parts.
- Excellent wear protection to provide superior anti-wear protection to high pressure hydraulic systems.

CLUTCH PROTECTION

- Balanced and controlled static and dynamic friction performance to provide optimized clutch friction retention and slippage control.
- Elimination of problems with excessive brake noise and weakening of friction binders.
- Elimination of clutch slippage even under heavy loads on an incline.
- Efficient transmission clutch operation and optimum torque transfer.
- Increased transmission clutch life and machine breakout force.
- Prevention of clutch chatter

Super Lube Supreme Multi-Season TO-4M also contains Micron Moly®, a liquid soluble type of moly, that plates itself to the metal surfaces of the various components, thus forming a solid lubricant film that is able to withstand pressures up to 500,000 lbs. per square inch. This translates into better wear protection for the metallic components of the power-shift transmission and for the hydraulic system, thus extending operating life and providing an extra margin of safety for service.

Super Lube Supreme Multi-Season TO-4M meets and exceeds the following specifications: Caterpillar TO-4M; Allison C-4; Komatsu KES 07.802; Komatsu KES 07.868.1, Komatsu-Dresser; Tremec TTC; Terex Construction Equipment; Vickers M2950S and Vickers 35VQ25.

Super Lube Supreme Multi-Season TO-4M is not recommended for farm tractor equipment that employs a common reservoir for transmission and hydraulic systems or those Allison Transmission applications that specify the use of a fluid that meet TES 295, TES 389, TES 439 or TES 668 specifications.

NOT FOR USE AS AN ENGINE OIL.

TYPICAL PROPERTIES

Specific Gravity @ 60°F (15.5°C)	0.86
Viscosity @ 40°C ASTM D-445	94.6
Viscosity @ 100°C ASTM D-445	15.2
Viscosity Index ASTM D-2270	179
Brookfield Viscosity, cP @ -30°C ASTM D-2893	19,900
Low Temperature Pumpability Viscosity, cP @ -30°C ASTM D-4684	20,200
High Temperature High Shear Viscosity, cP ASTM D-4683	4.0
Flash Point °F (°C) ASTM D-92	430° (221.1°)
Pour Point °F (°C) ASTM D-97	-42° (-43.6°)
Four Ball EP Test ASTM D-2783 Weld Point, kg	250
Four Ball Wear ASTM D-4172 Scar Diameter, mm	0.35
Foam Test (ASTM D-892) Sequence I Sequence II Sequence III	0/0 0/0 0/0
FZG Gear Test, 100 RPM, 121°C, 20 hrs. Load Stage 10 (ASTM D-4998) mg of weight loss	50
Vickers 35 VQ25 Pump Wear Test Mgs of weight loss on vanes Mgs of weight loss on rings	12 30
Rust Test (IH BT-9)	Pass
Homogeneity (CAT Procedure)	No precipitation
Friction Property VC70 Friction	Pass
Allison C-4 THOT Tan Increase Carbonyl Viton Seal Compatibility Sludge	1 0.6 Pass No sludge
Copper Strip Corrosion Test (ASTM D-130)	1a
Sulfated Ash Content % wt. (ASTM D-874)	1.6