

## 315LV SIMPLEX SUPREME LOW VIS

Simplex Supreme Low Vis is a low viscosity universal, extreme pressure, para-synthetic torque converter fluid that is designed for use in most farm and industrial tractors applications that specify use of low viscosity fluid. Simplex Supreme Low Vis meets and exceeds the service make-up and refill requirements of transmissions, differentials, final drives, hydraulic, power steering and wet brake systems of this type of equipment, especially those that employ a common reservoir or sump. Simplex Supreme Low Vis is also recommended as a winter grade replacement for 315 Simplex Supreme in agricultural equipment where the Original Equipment Manufacturer specifies or allows the use of a low viscosity fluid during low temperature operation.

Simplex Supreme Low Vis utilizes a blend of petroleum and synthetic base stocks and a carefully balanced performance additive package that provides the following performance qualities and features:

- Excellent low temperature flowability and pumpability to provide easier cold weather starting and better wear protection under low temperature operating conditions.
- Excellent thermal conductivity for reduced operating temperatures
- Low volatility characteristics
- Exceptional anti-wear and extreme pressure properties needed to prevent gear and pump wear, especially during heavily loaded conditions.
- Stable, balanced and controlled friction performance which provides smooth operation.
- Increased friction durability with various metallic and non-metallic friction materials, resulting in the elimination of problems with excessive noise, weak bindings and embrittlement of elastomeric materials.
- Reduced brake chatter and noise to ensure high braking capacity
- Frictional characteristics needed to assure the proper and decisive functioning of power take off clutches in a wet brake system.
- Superior oxidative and thermal stability and excellent resistance to thermal degradation.
- Excellent resistance to the formation of sludge and deposits.
- Superior protection against rust and corrosion
- Excellent water tolerance characteristics that enhance filterability to minimize filter blockage due to water.
- Excellent gear lubricant compared to conventional low viscosity tractor transmission hydraulic fluids
- Excellent stay-in-grade performance and shear stability in order to provide long term anti-wear protection and sustained applied pressure
- Excellent anti-foaming and air release properties, to ensure smooth, efficient operation and proper lubrication of all components.
- Excellent compatibility with all types of seals and elastomeric materials
- Improved and increased operating efficiency and durability.
- Longer fluid life and reduced system maintenance which provides reduced downtime.
- Longer equipment life and lower overall operating costs.

Simplex Supreme Low Vis can be recommended and is suitable for use in the following applications and/or specifications for current & non-current equipment: John Deere J-20D; Massey Ferguson M1110; J.I. Case MS1207; JI Case MS 1209; JI Case MS-1210; New Holland M2C41B; Case New Holland Hy-Tran Ultra; Case New Holland Hy-Tran Ultra SSL; Case New Holland MAT 3505; New Holland Mastertran; New Holland Mastertran SSL; Case New Holland MAT 3541; Vickers 35VQ25A, Dennison HF-0; Denison HF-1; Dennison HF-2; Sauer Danfoss (Sunstrand)

Simplex Supreme Low Vis is **not recommended** where Allison C-4 requirement is specified for use. Allison Transmission has revised its C-4 approvals to no longer include tractor hydraulic fluids. (Refer to 239S Superlube Supreme TD sheet for C-4 equivalent)

**Do not use to replace** Dexron®, Dexron® IID, Dexron® IIE, Dexron® IIIF, Dexron® IIIG, Dexron® IIH, Dexron® VI, Ford Type F, Ford Type H, Ford Mercon®, Ford Mercon® V, Ford Mercon® SP, Mercon® LV, Chrysler ATF +3 and ATF +4, Allison TES 295, Allison TES 389, Allison TES 439 transmission fluids and automotive DCT and CVT type fluids. If Simplex is used to replace these fluids in passenger car, pickup trucks and SUV transmission applications damage may occur.

**Do not use** in powershift transmission applications that specify the use of a Caterpillar TO-4 type fluid. Damage may occur. (Refer to 239S Super Lube Supreme TD sheet for TO-4.)

## TYPICAL PROPERTIES

Specific Gravity @ 60°F	0.860
Viscosity @ 40°C, cSt (ASTM D-445)	35.62
Viscosity @ 100°C, cSt (ASTM D-445)	7.44
Brookfield Viscosity (ASTM D-2983)	
@ -4°F/-20°C, cP	1,110
@ -31°F/-35°C, cP	11,170
Viscosity Index (ASTM D-2270)	182
Flash Point °F/°C (ASTM D-92)	406°/208°
Fire Point °F/°C (ASTM D-92)	454°/234°
Pour Point °F/°C (ASTM D-97)	-61°/-51°
Copper Strip Corrosion Test (ASTM D-130)	1a
I.H. BT-10 Oxidation Test,	
Weight Loss, mg:	
Aluminum	0.2
Copper	1
Iron	.01
Brass	.05
Precipitation Number	0.002
Glassware Rating	A
John Deere Oxidation Stability Test (JDQ23)	
% Evaporation Loss	1
Sludge Formation	None
Additive Separation	None
Humidity Cabinet Rust Test (ASTM D-1748)	
Hours to Rust	+200
Rust Test (ASTM D-665)	
Procedure A (Distilled Water)	Pass
Procedure B (Salt Water)	Pass
Foam Test (ASTM D-892)	
Sequence I	0/0
Sequence II	20/0
Sequence III	0/0
Break Time, seconds	15
Foam Test JDQ-33	
Sequence I	0/0
Sequence II	0/0
Sequence III	0/0
Timken EP Test (ASTM D-2782)	
OK Load Lbs.	30 lbs.
Four Ball Wear Test (ASTM D-4172) (40 kg, 1200 RPM, 1hr)	
Scar Diameter, mm	0.31
Four Ball E.P. (ASTM D-2783)	
Weld Point, kg	200
LWI, kg	40
Vane Pump Wear Test 1,000 psi 176°F/80°C (ASTM D-2882)	
Ring and Vane Weight Loss, mg	2.2

Vickers Vane Pump Test @ 2,000 psi (IP 281)	
Ring and Vane Weight Loss, mg	46
Sediment, % Volume	0
Additive Wt. % Loss	0
Appearance	Clear
John Deere Spiral/Bevel Final Drive	
Gear Wear Test (JDQ 95)	
Spiral Bevel Rating	No Pitting, Rippling or Ridging
Sun Pinion Wear, mm of wear	<0.025
Gear Surface Condition	No Pitting, Rippling or Ridging
Ford 3000 Gear Wear Test	No Pitting
JDQ 94 Powershift Clutch Test	
Total Cycles	2000
Friction Coefficient	
Initial	0.076
Final	0.083
Stall Time, sec.	3.35
Wear, mm	
Disk 1	0.339
Disk 2	0.368
Disk 3	0.313
Disk 4	0.174
Modified FZG (ASTM D-4998)	
Mg weight loss	10 mg
FZG Test (A/8.3/90) (ASTM D-5182)	
Failure Stage	12 <sup>th</sup>
CRC L-20 Axle Test	
Tooth Wear	Very Light
Surface Fatigue	None
Massey Ferguson Final Gear Wear Test	
Inches of wear	.0001
John Deere Brake Performance test (JDQ 96)	Pass
John Deere Brake Chatter Test	Pass
Ford Brake Chatter Test	Pass
Aniline Point °F/°C (ASTM D-611)	210°/98.9°
Total Acid Number (ASTM D-664)	2.5-3.0