



# TECHNICAL DATA

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## 115 SIMPLEX TORQUE CONVERTOR FLUID

Simplex Torque Convertor Fluid is a universal extreme pressure torque convertor fluid designed for use in most farm and industrial tractors. Simplex meets and exceeds the service make-up and refill needs of the transmissions, differentials, final drives, hydraulic and power steering systems and wet brake systems of such equipment, especially those employing a common reservoir or sump.

Simplex Torque Convertor Fluid is blended from the finest solvent refined hydro-finished high viscosity index 100% paraffin base stocks available. These solvent refined hydro-finished paraffin base stocks provide Simplex Torque Convertor Fluid with superior oxidation resistance and excellent thermal stability.

Blended into these 100% paraffin base stocks is a carefully balanced performance additive package. This additive package provides Simplex Torque Convertor Fluid with the following performance qualities:

1. Exceptional anti-wear and extreme pressure properties needed to prevent gear and pump wear, especially during heavily loaded conditions.
2. Stable balanced and controlled friction performance in order to provide smooth operation.
3. Increased friction durability with various metallic and non-metallic friction materials. This results in the elimination of problems with excessive noise, weak bindings and embrittlement of elastomeric materials.
4. Reduced brake chatter and noise.
5. Proper frictional characteristics needed to assure the proper and decisive functioning of power take off clutches in a wet brake system.
6. Superior oxidative and thermal stability.
7. Excellent resistance to thermal degradation.
8. Excellent resistance to the formation of sludge and deposit formation
9. Superior protection against rust and corrosion.
10. Very good to excellent low temperature fluidity in order to provide easier cold weather starting and better wear protection during low temperature conditions.
11. Excellent water tolerance characteristics.
12. Enhanced filterability which minimizes filter blocking due to water contamination.
13. Excellent anti-foaming and air release properties, to ensure smooth, efficient operation and proper lubrication of all components.
14. Excellent compatibility with all types of seals and elastomeric materials.
15. Improved and increased operating efficiency and durability.
16. Longer fluid life.
17. Reduced system maintenance.
18. Reduced downtime, especially when weather conditions are favorable.
19. Longer equipment life.
20. Lower overall operating costs.

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Simplex Torque Converter Fluid meets and exceeds the transmission lubricant, hydraulic and hydrostatic fluid fill requirements of virtually all farm and industrial tractors and mobile equipment.

Schaeffer Mfg.'s #115 Simplex can be recommended in the following applications &/or specifications for current & non-current equipment

AGCO-Allis Permatran® 821XL (current)	Ford New Holland ESN-M2C41 A,B & C
AGCO-Allis Power Fluid 821XL (current)	Ford new Holland ESN M2C134D (current)
AGCO Power Fluid 821	Ford New Holland ESN-M2C-159 B & C
Allis Chalmers Part No. 926371	Fiat Hesston AF-87
Allis Chalmers Part No. 924282	IMT
Allis Chalmers Part No. 926372	International Harvester (see Case IH)
Allis Chalmers Part No. 9246634	International-Hough (see Dresser)
Allis Chalmers Part No. 25741	JCB
API GL-4	John Deere J20A & B
Automatic Transmission Fluid Type A	John Deere J20C (current)
CHN (Case-New Holland) MAT 3525 (current)	John Deere J14B & J14C
CHN (Case-New Holland) 420A (current)	John Deere J21A (All-Weather Hydraulic Fluid)
Case IH MS-1204/JIC 185 (FTD)	John Deere 303 Fluid
Case IH MS-1205 (TFD-II)	John Deere Quatrol®
Case IH MS-1206 (Powergard PTF)	Kiotei
Case IH MS-1207 (Hy-Trans® Plus) (current)	Kubota UDT (current)
Case IH MS-1209 (Hy-Tran® Ultra) (current)	Kubota Super UDT (current)
Case IH MS 1210/JIC 145 (current)	Landini Tractor II Hydraulic Fluid
Case IH MS-1230 (Poclain) (current)	Leyland
Case IH JIC 143	Massey Ferguson (ACGO) M-1110
Case IH JIC 144	Massey Ferguson M-1127 A & B
Case IH JIC 145 (TCH Fluid)	Massey Ferguson M-1129A (Permatran)
Case IH JIC 146 (TFD)	Massey Ferguson M-1135 (current)
Case IH JIC 185 (Hi-Vis)	Massey Ferguson M-1141A (Permatran® III)
Case IH B-5	Massey Ferguson M-1143 (current)
Case IH B-6 (Hy-Tran®)	Mitsubishi
Case-IH HTF SEMS 17001 (Steiger) (current)	Minneapolis Moline Part No 10R1336
Clark Lift Truck Transmission TA 12, TA 18 (current)	Minneapolis Moline Part No 10R1337
Clark lift Truck Transmission HR 500, HR 600 (current)	Minneapolis Moline Part No 10P707-A
Denison HF-O, HF-1, HF-2	Minneapolis Moline 10P708A
Deutz Hydraulic Transmission Fluid	Minneapolis Moline Part No 10P3740-41
Deutz-Allis Power Fluid 821 XL (current)	New Holland FNHA-2-C-200 (current)
Deutz-Allis Power Fluid 821	New Holland FHNA-2-C-201.00 (current)
Deutz-Allis 246634	New Holland M2C-134D (current)
Deutz-Allis 25741	New Idea (see White Farm)
Deutz-Allis 272843 (current)	Oliver Type 55
Dresser Transmission Hydraulic Fluid (HMS B806-0002) (current)	Oliver Type 5J
Ford New Holland ESN-M2C41-B	Oliver Q182
Ford New Holland ESN-M2C43	Plessy-Sunstrand
Ford New Holland ESN-M2C48 A & B	Renk Doromat 873
Ford New Holland ESN-M2C53 A & B	Renk Doromat 874 A & B
Ford New Holland ESN -M2C86 B & C	Same Deutz-Fahr
Ford New Holland ESN-M2C92-A	Saur Sunstrand Danfoss Hydrostatic Fluid

<b>Steiger HTFSEMS 17001</b>	<b>White Farm Q-1705</b>
<b>Universal</b>	<b>White Farm Q-1722</b>
<b>Valmet</b>	<b>White Farm Q-1766</b>
<b>Versatile (New Holland) 23M (current)</b>	<b>White Farm Q-1766 B ((UTHF)</b>
<b>Versatile (New Holland) 24M (current)</b>	<b>White Farm Q-1802 (Type 55)</b>
<b>Versatile (New Holland) Gear &amp; Hydraulic Transmission Fluid</b>	<b>White Farm Q-1826 (current)</b>
<b>Vickers (Eaton) I-286-S, 35VQ25, M-2950-S</b>	<b>Yanmar</b>
<b>Volvo VME WB 101 (97303) (current)</b>	<b>Zetor OT-H</b>
<b>White Farm Universal Hydraulic Transmission Fluid</b>	<b>ZF TE-ML-03E (current)</b>
<b>White Farm Part No 30-310-5695</b>	<b>ZF TE-ML-05F</b>
<b>White Farm Part No 30-310-5366</b>	<b>ZF TE-ML-06E</b>
<b>White Farm Part No. 30-310-5709</b>	
<b>White Farm Part No. 30-311-5717</b>	

**Simplex may be used in automatic and heavy duty transmission application where automatic transmission fluid type A fluid is specified.**

**Simplex is not recommended where Allison C-4 requirement is specified for use. Allison Transmissions has revised its C-4 approvals to no longer include tractor hydraulic fluids.**

**Do not use to replace Dexron, Dexron II, Dexron II, Dexron II-E, Dexron III, Dexron® VI, Ford Type F, Ford Type H, Ford Mercon®, Ford Mercon® V, Ford Mercon® SP, Mercon® SP, Chrysler ATF +3 and ATF +4 transmission fluids. If Simplex is used to replace these fluids in passenger cars and 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.**

**TYPICAL PROPERTIES on next page**

Specific Gravity @ 60°F	.8871
Viscosity @ 40°C, Cst (ASTM D-445)	56.00 – 62.00
Viscosity @ 100°C, Cst (ASTM D-445)	9.1 – 9.7
Brookfield Viscosity (ASTM D-2983)	
@ -4°F/-20°C, cP	3,400
@ -31°F/-35°C, cP	63,800
Viscosity Index (ASTM D-2270)	140
Flash Point °F/°C (ASTM D-92)	435°/233.9°
Fire Point °F/°C (ASTM D-92)	475°/246.1°
Pour Point °F/°C (ASTM D-97)	-35°/-37°
Stable Pour Point °F/°C (FTM D-203)	-33°/-36°
Copper Strip Corrosion Test (ASTM D-130)	1a
I.H. BT-10 Oxidation Test:	
Weight Loss, mg:	
Aluminum	.02
Copper	1
Iron	.01
Brass	.05
Precipitation Number	0.002
Glassware Rating	A
John Deere Oxidation Stability Test (JDQ23)	
% Evaporation Loss	0.5
% Viscosity Increase	1.8
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 JDQ33	
Sequence I	0/0
Sequence II	0/0
Sequence III	0/0
Four Ball Wear Test (ASTM D-4172) (40 kg, 1200 RPM, 1hr)	
Scar Diameter, mm	.31
Four Ball E.P. (ASTM D-2783)	
Weld Point, kg	200
LWI, kg	40

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**TYPICAL PROPERTIES (continued)**

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 Total Weight Loss, mg	46
John Deere Water Sensitivity Test (JDQ 19)	
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> Stage
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
Allison C-4 THOT Oxidation Test	
TAN Increase	2.28
Carbonyl Increase	0.54
% Viscosity Increase @ 40°C	6,14%
% Viscosity Increase @ 100°C	22.54%
Parts Rating	No sludge and varnish deposits
Aniline Point °F/°C	220°/104.4°
Total Acid Number (ASTM D-664)	2.5 – 3.0