

Oil Lubricating—Drive-line, Wet Brakes and Hydraulic Fluid—"134-D" Fluid

1. SCOPE

1.1 The material defined by this specification is a multi-functional tractor drive-line lubricant composed of refined petroleum base oil and additives as necessary to meet the requirements of this specification.

1.2 This specification may involve hazardous materials, procedures and apparatus. This specification does not address the health and safety problems associated with its application or use. It is the specification user's responsibility to follow appropriate health or safety practices and determine the application or regulatory limitation before use.

2. APPLICATION

This specification was released originally for a tractor lubricant which satisfies the requirements of transmission, rear axle, hydraulics, and oil-immersed brakes/clutches. The normal operating temperature range is -20° to 93°C (-5° to 200°F).

3. DESIGNATION

The Engineering drawing shall contain the notation for specification of subject material as described in standard 86511126 (FNHA-3-B-100.00). The notation information shall be taken from Table 3 and entered on the engineering drawing.

4. RELATED STANDARDS

86509436 (FNHA-3-C-005.00)—Jenkins Test
86509437 (FNHA-3-C-006.00)—Pump Test
86509438 (FNHA-3-C-007.00)—Stall

86509439 (FNHA-3-C-008.00)—High Energy
86509440 (FNHA-3-C-009.00)—Total Tractor Test, Field Test 2000
86509441 (FNHA-3-C-010.00)—Brake Test
86509442 (FNHA-3-C-011.00)—PTO Clutch Test
86509443 (FNHA-3-C-012.00)—Friction Test
86509444 (FNHA-3-C-013.00)—Shift Quality Test
86511126 (FNHA-3-B-100.00)—Referencing Standards on Drawings
ASTM D92—Test Method for Flash and Fire Point by Cleveland Open Cup
ASTM D97—Test Methods for Flash Point by Penske-Martens Closed Tester
ASTM D130—Method for Detection of Copper Corrosion From Petroleum Products By the Copper Strip Tarnish Test
ASTM D445—Test Method for Kinematic Viscosity of Transparent and Opaque Liquids.(and the Calculation of Dynamic Viscosity)
ASTM D665—Test Method for Rust-Preventing Characteristics of Inhibited Mineral Oil in the Presence of Water
ASTM D892—Test Method for Foaming Characteristic of Lubricating Oils
ASTM D2266—Test Method for Wear Preventive Characteristics of Lubricating Grease (Four Ball Method)
ASTM D2983—Test Method for Low-Temperature Viscosity of automotive Fluid lubricants Measured by Brookfield Viscometer
ASTM D3945—Test Method for Shear Stability of Polymer-Containing Fluids Using a Diesel Injector Nozzle

1.3 This specification replaces the following company standard:

Ford

ESN-M2C134-D

					NAME	STD TRANS/HYD OIL		
								
ALL	C	BJF	116564	18SEP01	THE INFORMATION HEREON IS THE CONFIDENTIAL AND PROPRIETARY PROPERTY OF NEW HOLLAND N. V. AND/OR ITS SUBSIDIARIES. ANY USE, EXCEPT THAT FOR WHICH IT MAY BE LOANED, IS PROHIBITED.	FRAME	1	OF
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Table 1

Description	Requirements	Units	Methods
Viscosity			
At 100° C, min.	9.0	mm 2/s	ASTM D 445
At 40° C, typical	55	mm 2/s	ASTM D 445
At -18° C, max.	4,000	mPa.s	ASTM D 2983
Viscosity Index, typical	145		
Viscosity Stability, Change at 100°C			
After 30 passes in Method A min.	-16	%	ASTM D3945
After 100 hours at 150°C (Heat 200 g of candidate oil in a 400 ml glass beaker in an oven with gravity convection) (NO SLUDGE)	+10	%	
Physical Requirements			
Pour Point, max.	-37°	C	ASTM D 97
Flash Point min.	190°	C	ASTM D 92
Foaming Tendency/Stability			
Sequence 1 max.	20/0	ml	ASTM D 892
Sequence 2 max.	50/0	ml	ASTM D 892
Sequence 3 max.	20/0	ml	ASTM D 892
Copper Corrosion			
3 Hr. at 150°C	2b		ASTM D 130
48 Hrs. at 120°C Weigh sample before and after test. Record weight loss, max.	1.0	mg	
Rust Protection	No Rust		ASTM D 665 Method A
Wear Teat Scar Dia. 60 min, 1500 rpm, 85°C, 40 kg max.	0.40	mm	ASTM D 2266
Seal Compatibility (See Section 5.2)	pass		
Water Sensitivity (See Section 5.1)	pass		
Performance Requirements			
660 Hour Jenkins Cycle Test	pass		86509436
Tandem Pump Durability Test	pass		86509437
16 X 16 Inching/Shifting Quality	pass		86509444
16 X 16 Transmission—400 Cycle Stall Test	pass		86509438
16 X 16 Transmission—450 Cycle High Energy Test	pass		86509439
2000 Hrs. Field Test	pass		86509440
Brake Test	pass		86509441
PTO Clutch Test	pass		86509442
Dynamic Coefficient of Friction	0.095–0.135		86509443
Static Coefficient of Friction	0.085–0.110		86509443



NAME

STD TRANS/HYD OIL

ENGINEERING SPECIFICATION

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