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January 1995

Test 1702: Ford 3930 8x8 Diesel 8-Speed (Chassis S/N BE81400 and Higher)

Nebraska Tractor Test Lab

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NEBRASKA OECD TRACTOR TEST 1702—SUMMARY 190
FORD 3930 8 x 8 DIESEL
8 SPEED
(CHASSIS SERIAL NUMBERS BE81400 AND HIGHER)

POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed—(PTO speed—676 rpm)					
46.23 (34.47)	2201	3.16 (11.97)	0.481 (0.292)	14.61 (2.88)	
Standard Power Take-off speed (540 rpm)					
41.81 (31.18)	1759	2.68 (10.13)	0.450 (0.273)	15.62 (3.08)	
VARYING POWER AND FUEL CONSUMPTION					
46.23 (34.47)	2201	3.16 (11.97)	0.481 (0.292)	14.61 (2.88)	Air temperature
40.55 (30.24)	2266	2.82 (10.67)	0.488 (0.297)	14.38 (2.83)	75°F (24°C)
30.56 (22.79)	2292	2.31 (8.73)	0.530 (0.322)	13.25 (2.61)	Relative humidity
20.58 (15.34)	2313	1.79 (6.79)	0.612 (0.372)	11.47 (2.26)	62%
10.38 (7.74)	2333	1.41 (5.34)	0.954 (0.580)	7.36 (1.45)	Barometer
0.27 (0.20)	2347	0.98 (3.72)	25.131 (15.287)	0.28 (0.06)	28.87" Hg (97.77 kPa)

Maximum Torque 134 lb.-ft. (182 Nm) at 1249 rpm
Maximum Torque Rise 21.4%
Torque rise at 1755 engine rpm 13%

DRAWBAR PERFORMANCE
(UNBALLASTED—FRONT DRIVE ENGAGED)
FUEL CONSUMPTION CHARACTERISTICS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp.°F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—5th (H1) Gear									
37.19 (27.73)	3097 (13.77)	4.50 (7.25)	2206	8.49	0.592 (0.360)	11.86 (2.34)	191 (88)	65 (18)	28.96 (98.07)
75% of Pull at Maximum Power—5th (H1) Gear									
29.46 (21.97)	2321 (10.32)	4.76 (7.66)	2266	5.92	0.604 (0.367)	11.63 (2.29)	190 (88)	69 (21)	28.92 (97.93)
50% of Pull at Maximum Power—5th (H1) Gear									
20.22 (15.08)	1542 (6.86)	4.92 (7.91)	2294	4.24	0.699 (0.425)	10.05 (1.98)	188 (86)	70 (21)	28.91 (97.90)
75% of Pull at Reduced Engine Speed—6th (H2) Gear									
29.37 (21.90)	2317 (10.30)	4.75 (7.65)	1529	5.97	0.536 (0.326)	13.10 (2.58)	192 (89)	73 (23)	28.88 (97.80)
50% of Pull at Reduced Engine Speed—6th (H2) Gear									
20.26 (15.11)	1543 (6.86)	4.92 (7.93)	1549	3.87	0.561 (0.341)	12.52 (2.47)	186 (86)	74 (23)	28.87 (97.77)

Location of Test: Tractor Testing Laboratory,
University of Nebraska, Lincoln, Nebraska 68583-
0832

Dates of Test: October 2-27, 1995

Manufacturer: New Holland N.A., 500 Diller Av-
enue, New Holland, PA 17557

FUEL OIL and TIME: Fuel No. 2 Diesel Ce-
tane No. 50.6 Specific gravity converted to
60°/60° F (15°/15°C) 0.8435 Fuel weight 7.023
lbs/gal (0.842 kg/l) Oil SAE 15W-40 API service
classification CG-4,SH To motor 1.487 gal
(5.630 l) Drained from motor 1.386 gal (5.225 l)
Transmission and final drive lubricant Ford
M2C 134-D fluid Front axle lubricant Ford M2C
134-D fluid Total time engine was operated
15.0 hours.

ENGINE: Make Ford New Holland Diesel Type
three cylinder vertical Serial No. *BB537895*
Crankshaft lengthwise Rated rpm 2200 Bore
and stroke (as specified) 4.4" × 4.2" (111.8 mm ×
106.7 mm) Compression ratio 16.3 to 1 Dis-
placement 192 cu in (3147 ml) Starting system
12 volt Lubrication pressure Air cleaner two
paper elements Oil filter one full flow cartridge Oil
cooler radiator for transmission fluid Fuel filter one
paper element and sediment bowl Muffler vertical
Cooling medium temperature control one ther-
mostat

ENGINE OPERATING PARAMETERS: Fuel
rate: 21.6-23.4 lb/h (9.8-10.6 kg/h) High idle:
2325-2375 rpm

CHASSIS: Type front wheel assist Serial No.
BE03879 Tread width rear 59.6" (1515 mm) to
79.8" (2026 mm) front 55.0" (1396 mm) to 73.0" (1855
mm) Wheel base 84.1" (2136 mm) Hydraulic con-
trol system direct engine drive Transmission
selective gear fixed ratio Nominal travel speeds
mph (km/h) first 1.39 (2.23) second 2.05 (3.30)
third 3.13 (5.03) fourth 4.59 (7.38) fifth 4.88 (7.85)
sixth 7.23 (11.63) seventh 11.01 (17.72) eighth 16.17
(26.03), reverse 1.38 (2.22), 2.04 (3.28), 3.11 (5.00),
4.56 (7.34), 4.85 (7.81), 7.19 (11.57), 10.95 (17.63),
16.09 (25.90) Clutch single dry disc operated by foot
pedal Brakes wet multiple disc operated by two foot
pedals which can be locked together Steering hydro-
static Power take-off 540 rpm at 1756 engine rpm
Unladen tractor mass 5446 lb (2470 kg)

REPAIRS AND ADJUSTMENTS: No repairs
or adjustments

NOTE: The performance figures on this report
apply to chassis serial numbers *BE81400* and higher.

**DRAWBAR PERFORMANCE
(UNBALLASTED—FRONT DRIVE ENGAGED)
MAXIMUM POWER IN SELECTED GEARS**

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp.°F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
3rd (L3) Gear									
32.74 (24.41)	4480 (19.93)	2.74 (4.41)	2248	14.71	0.648 (0.394)	10.83 (2.13)	189 (87)	58 (14)	28.96 (98.07)
4th (L4) Gear									
35.13 (26.20)	3111 (13.84)	4.24 (6.82)	2205	8.55	0.592 (0.383)	11.14 (2.20)	192 (89)	61 (16)	28.96 (98.07)
5th (H1) Gear									
37.19 (27.73)	3097 (13.77)	4.50 (7.25)	2206	8.49	0.592 (0.360)	11.86 (2.34)	191 (88)	65 (18)	28.96 (98.07)
6th (H2) Gear									
36.73 (27.39)	1990 (8.85)	6.92 (11.14)	2202	5.09	0.601 (0.366)	11.69 (2.30)	191 (88)	68 (20)	28.96 (98.07)

**DRAWBAR PERFORMANCE
(UNBALLASTED—FRONT DRIVE DISENGAGED)
FUEL CONSUMPTION CHARACTERISTICS**

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp.°F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—6th (H2) Gear									
36.57 (27.27)	2051 (9.12)	6.69 (10.76)	2205	7.80	0.601 (0.366)	11.68 (2.30)	192 (89)	69 (21)	28.95 (98.04)
75% of Pull at Maximum Power—6th (H2) Gear									
28.79 (21.47)	1540 (6.85)	7.01 (11.28)	2262	5.61	0.649 (0.395)	10.82 (2.13)	191 (88)	75 (24)	28.85 (97.70)
50% of Pull at Maximum Power—6th (H2) Gear									
19.74 (14.72)	1024 (4.55)	7.23 (11.64)	2286	3.82	0.751 (0.457)	9.36 (1.84)	189 (87)	75 (24)	28.85 (97.70)
75% of Pull at Reduced Engine Speed—7th (H3) Gear									
28.78 (21.46)	1533 (6.82)	7.04 (11.34)	1482	5.38	0.567 (0.345)	12.38 (2.44)	194 (90)	75 (24)	28.85 (97.70)
50% of Pull at Reduced Engine Speed—7th (H3) Gear									
19.73 (14.71)	1027 (4.57)	7.21 (11.60)	1498	3.94	0.586 (0.357)	11.98 (2.36)	188 (86)	75 (24)	28.85 (97.70)
MAXIMUM POWER IN SELECTED GEARS									
5th (H1) Gear									
34.75 (25.91)	3094 (13.76)	4.21 (6.78)	2232	14.84	0.627 (0.381)	11.20 (2.21)	190 (88)	67 (19)	28.96 (98.07)
6th (H2) Gear									
36.57 (27.27)	2051 (9.12)	6.69 (10.76)	2205	7.80	0.601 (0.366)	11.68 (2.30)	192 (89)	69 (21)	28.95 (98.04)

TRACTOR SOUND LEVEL WITHOUT CAB	Front Wheel Drive	
	Disengaged dB(A)	Engaged dB(A)
At 75% load in 5th (H1) Gear	98.0	98.5
Bystander in 8th (H4) Gear	88.5	—

TIRES, BALLAST AND WEIGHT

Rear Tires—No., size, ply & psi (kPa)

Front Tires—No., size, ply & psi (kPa)

Height of Drawbar

Static Weight with Operator—Rear

—Front

—Total

Tested Without Ballast

Two 14.9-28; 6; 12 (85)

Two 8.3-24; 6; 20 (140)

16.5 in (420 mm)

3388 lb (1537 kg)

2222 lb (1008 kg)

5610 lb (2545 kg)

REMARKS: All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures. For the maximum power tests, the fuel temperature at the injection pump inlet was maintained at 136° F (58°C). The performance figures on this summary were taken from a test conducted under the OECD Code II Restricted Standard Test Code procedure.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1702**, Summary 190, November 29, 1995.

LOUIS I. LEVITICUS

Engineer-in-Charge

L.L. BASHFORD

R.D. GRISSO

M.F. KOCHER

Board of Tractor Test Engineers

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: I

Quick Attach: none

Maximum Force Exerted Through Whole Range:	3056 lbs	(13.6 kN)
i) Opening pressure of relief valve:	NA	
Sustained pressure of the open relief valve:	2590 psi	(178 bar)
ii) Pump delivery rate at minimum pressure:	9.3 GPM	(35.2 l/min)
iii) Pump delivery rate at maximum		
hydraulic power:	8.1 GPM	(30.7 l/min)
Delivery pressure:	2250 psi	(155 bar)
Power:	10.6 HP	(7.9 kW)

THREE POINT HITCH PERFORMANCE (SAE Static Test)

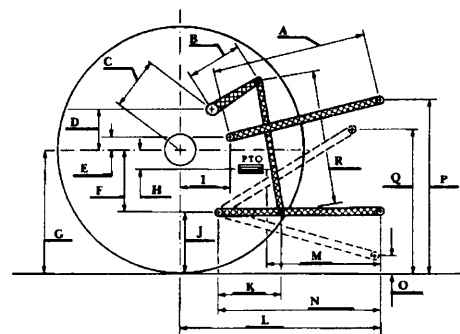
Observed Maximum Pressure psi. (bar)	2600 (179)
Location	remote outlet
Hydraulic oil temperature °F (°C)	169 (76)
Location	rear axle sump
Category	I
Quick attach	none

As per current SAE test procedures

Hitch point distance to ground level in. (mm)	8.3 (211)	13.0 (330)	17.7 (450)	22.4 (569)	27.2 (691)	32.1 (815)
Lift force on frame lb	3056	3353	3524	3542	3434	3245
Lift force on frame (kN)	(13.6)	(14.9)	(15.7)	(15.8)	(15.3)	(14.4)

As per current ASAE test procedures

Hitch point distance to ground level in. (mm)	8.3 (211)	13.0 (330)	17.7 (450)	22.4 (569)	27.2 (691)	32.1 (815)
Lift force on frame lb.	3271	3589	3772	3791	3676	3473
Lift force on frame (kN)	(14.5)	(16.0)	(16.8)	(16.9)	(16.3)	(15.4)



HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	28.3	719
B	10.0	254
C	12.9	327
D	10.1	257
E	7.5	191
F	8.0	203
G	24.0	610
H	4.7	120
I	8.7	222
J	16.0	407
K	18.9	481
L	36.7	931
M	20.9	530
N	34.0	864
O	8.0	203
P	34.1	867
Q	33.1	841
R	29.1	740



FORD 3930 8 X 8 DIESEL

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