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## Test 1704: Ford 5030 16x8 Diesel 16-Speed

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, [tractortestlab@unl.edu](mailto:tractortestlab@unl.edu)

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# NEBRASKA OECD TRACTOR TEST 1704—SUMMARY 192

## FORD 5030 16 x 8 DIESEL

### 16 SPEED

#### 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
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>					
<b>Rated Engine Speed—(PTO speed—676 rpm)</b>					
63.56 (47.40)	2200	4.22 (15.96)	0.466 (0.283)	15.08 (2.97)	
<b>Standard Power Take-off speed (540 rpm)</b>					
56.17 (41.88)	1757	3.58 (13.54)	0.447 (0.272)	15.70 (3.09)	

#### VARYING POWER AND FUEL CONSUMPTION

63.56 (47.40)	2200	4.22 (15.96)	0.466 (0.283)	15.08 (2.97)	Air temperature
57.18 (42.64)	2326	3.97 (15.04)	0.488 (0.297)	14.39 (2.84)	75°F (24°C)
42.87 (31.97)	2332	3.25 (12.29)	0.532 (0.324)	13.20 (2.60)	Relative humidity
28.67 (21.38)	2332	2.52 (9.54)	0.617 (0.376)	11.38 (2.24)	62%
14.18 (10.57)	2329	1.92 (7.28)	0.952 (0.579)	7.38 (1.45)	Barometer
0.27 (0.20)	2326	1.37 (5.17)	35.258 (21.447)	0.20 (0.04)	28.82" Hg (97.60 kPa)

Maximum Torque 176 lb.-ft. (239 Nm) at 1298 rpm  
Maximum Torque Rise 16.2%  
Torque rise at 1754 engine rpm 10%

#### 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)
<b>Maximum Power—11th (6L) Gear</b>									
53.84 (40.15)	3294 (14.65)	6.13 (9.86)	2202	5.29	0.547 (0.333)	12.83 (2.53)	195 (91)	73 (23)	29.01 (98.24)
<b>75% of Pull at Maximum Power—11th (6L) Gear</b>									
43.11 (32.15)	2459 (10.94)	6.57 (10.58)	2321	3.56	0.590 (0.359)	11.90 (2.34)	190 (88)	80 (27)	29.04 (98.34)
<b>50% of Pull at Maximum Power—11th (6L) Gear</b>									
29.20 (21.77)	1640 (7.29)	6.68 (10.75)	2326	2.33	0.680 (0.414)	10.33 (2.03)	187 (86)	80 (27)	29.04 (98.34)
<b>75% of Pull at Reduced Engine Speed—12th (6H) Gear</b>									
43.11 (32.15)	2458 (10.93)	6.58 (10.59)	1879	3.56	0.529 (0.321)	13.29 (2.62)	191 (88)	80 (27)	29.04 (98.34)
<b>50% of Pull at Reduced Engine Speed—12th (6H) Gear</b>									
29.20 (21.77)	1639 (7.29)	6.68 (10.75)	1884	2.26	0.591 (0.359)	11.89 (2.34)	186 (86)	80 (27)	29.04 (98.34)

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

**Dates of Test:** October 4-25, 1995

**Manufacturer:** New Holland N.A., 500 Diller Avenue,  
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 1.871 gal  
(7.083 l) Drained from motor 1.482 gal (5.611 l)  
**Transmission and final drive lubricant** Ford  
M2C 134-D fluid **Front axle lubricant** Ford M2C  
134-D fluid **Total time engine was operated**  
30.0 hours.

**ENGINE:** Make Ford New Holland Diesel Type  
four cylinder vertical Serial No. \*L538081\* **Crank-  
shaft** lengthwise **Rated rpm** 2200 **Bore and  
stroke** (as specified) 4.4" x 4.2" (111.8 mm x 106.7  
mm) **Compression ratio** 16.3 to 1 **Displacement**  
255 cu in (4186 ml) **Starting system** 12 volt **Lubri-  
cation** pressure **Air cleaner** two paper elements  
**Oil filter** one full flow cartridge **Oil cooler** engine  
coolant heat exchanger for crankcase oil, radiator for  
transmission fluid, radiator for hydraulic and rear  
axle fluid **Fuel filter** one paper element and sedi-  
ment bowl **Muffler** vertical **Cooling medium tem-  
perature control** one thermostat

**ENGINE OPERATING PARAMETERS:** Fuel  
rate: 27.8-30.0 lb/h (12.6-13.6 kg/h) **High idle:**  
2325-2375 rpm

**CHASSIS:** Type front wheel assist Serial No.  
\*BE04308\* **Tread width** rear 59.6" (1515 mm) to  
79.8" (2026 mm) front 55.0" (1396 mm) to 73.0" (1855  
mm) **Wheel base** 89.2" (2136 mm) **Hydraulic control  
system** direct engine drive **Transmission**  
selective gear fixed ratio with partial (2) range opera-  
tor controlled powershift **Nominal travel speeds  
mph (km/h)** first 1.21 (1.94) second 1.50 (2.41)  
third 1.79 (2.88) fourth 2.21 (3.56) fifth 2.73 (4.40)  
sixth 3.38 (5.43) seventh 4.02 (6.46) eighth 4.27  
(6.89) ninth 4.96 (7.97) tenth 5.27 (8.48) eleventh  
6.32 (10.17) twelfth 7.81 (12.56) thirteenth 9.63  
(15.50) fourteenth 11.89 (19.14) fifteenth 14.15 (22.77)  
sixteenth 17.46 (28.11) reverse 1.49 (2.40), 2.20 (3.54),  
3.36 (5.40), 4.92 (7.93), 5.24 (8.43), 7.76 (12.50),  
11.83 (19.04), 17.38 (27.65) **Clutch** single dry disc  
operated by foot pedal **Brakes** wet multiple disc  
operated by two foot pedals which can be locked  
together **Steering** hydrostatic **Power take-off** 540  
rpm at 1756 engine rpm **Unladen tractor mass**  
5988 lb (2716 kg)

**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)
6th (3H) Gear									
49.35 (36.80)	6098 (27.13)	3.03 (4.88)	2266	14.60	0.602 (0.366)	11.67 (2.30)	187 (86)	65 (18)	29.00 (98.21)
7th (4L) Gear									
50.93 (37.98)	5174 (23.01)	3.69 (5.94)	2202	10.13	0.575 (0.350)	12.22 (2.41)	190 (88)	67 (19)	29.01 (98.24)
8th (5L) Gear									
52.76 (39.34)	5019 (22.32)	3.94 (6.34)	2200	9.60	0.554 (0.337)	12.67 (2.50)	190 (88)	70 (21)	29.01 (98.24)
9th (4H) Gear									
51.11 (38.12)	4063 (18.07)	4.72 (7.59)	2203	6.96	0.573 (0.349)	12.25 (2.41)	194 (90)	71 (22)	29.01 (98.24)
10th (5H) Gear									
52.92 (39.46)	3934 (17.50)	5.04 (8.12)	2207	6.58	0.553 (0.336)	12.71 (2.50)	196 (91)	72 (22)	29.01 (98.24)
11th (6L) Gear									
53.84 (40.15)	3298 (14.65)	6.13 (9.86)	2202	5.29	0.548 (0.333)	12.83 (2.53)	195 (91)	73 (23)	29.01 (98.24)
12th (6H) Gear									
52.52 (39.17)	2561 (11.39)	7.69 (12.38)	2205	3.83	0.564 (0.343)	12.46 (2.45)	193 (89)	74 (23)	29.01 (98.24)
13th (7L) Gear									
51.43 (38.35)	2013 (8.95)	9.58 (15.42)	2205	2.88	0.576 (0.351)	12.18 (2.40)	192 (89)	75 (24)	29.01 (98.24)

**DRAWBAR PERFORMANCE  
(BALLASTED—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)
5th (3L) Gear									
51.13 (38.13)	7762 (34.53)	2.47 (3.98)	2299	14.88	0.587 (0.357)	11.97 (2.36)	186 (86)	45 (7)	29.10 (98.54)
6th (3H) Gear									
53.26 (39.72)	6472 (28.79)	3.09 (4.97)	2203	10.06	0.551 (0.335)	12.74 (2.51)	187 (86)	47 (8)	29.10 (98.54)
7th (4L) Gear									
53.96 (40.24)	5360 (23.84)	3.78 (6.08)	2201	7.59	0.547 (0.333)	12.85 (2.53)	187 (86)	50 (10)	29.11 (98.58)
8th (5L) Gear									
55.72 (41.55)	5180 (23.04)	4.03 (6.49)	2203	7.21	0.527 (0.320)	13.33 (2.63)	187 (86)	51 (11)	29.11 (98.58)
9th (4H) Gear									
53.45 (39.86)	4205 (18.70)	4.77 (7.67)	2201	5.37	0.549 (0.334)	12.79 (2.52)	189 (87)	53 (12)	29.11 (98.58)
10th (5H) Gear									
55.34 (41.26)	4082 (18.16)	5.08 (8.18)	2200	5.18	0.532 (0.324)	13.20 (2.60)	190 (88)	55 (13)	29.11 (98.58)
11th (6L) Gear									
55.41 (41.32)	3356 (14.93)	6.19 (9.96)	2207	4.06	0.533 (0.324)	13.18 (2.60)	189 (87)	55 (13)	29.11 (98.58)
12th (6H) Gear									
53.79 (40.11)	2615 (11.63)	7.71 (12.41)	2202	2.91	0.552 (0.336)	12.72 (2.51)	189 (87)	57 (14)	29.09 (98.51)
13th (7L) Gear									
52.24 (38.95)	2044 (9.09)	9.58 (15.42)	2201	2.22	0.567 (0.345)	12.39 (2.44)	189 (87)	57 (14)	29.09 (98.51)

**REPAIRS AND ADJUSTMENTS:** No repairs or adjustments

**NOTE:** The performance figures on this summary apply also to those models 5030 equipped with the 8x8 shuttle transmission.

**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 149° F (65°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. **1704**, Summary 192, November 29, 1995.

LOUIS I. LEVITICUS  
Engineer-in-Charge

L.L. BASHFORD  
R.D. GRISSE  
M.F. KOCHER  
Board of Tractor Test Engineers

**DRAWBAR PERFORMANCE**  
**(BALLASTED—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)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—11th (6L) Gear								
55.95 (41.72)	3467 (15.42)	6.05 (9.74)	2201	5.62	0.528 (0.321)	13.31 (2.62)	189 (87)	56 (13) (98.54)
75% of Pull at Maximum Power—11th (6L) Gear								
44.82 (33.42)	2601 (11.57)	6.46 (10.40)	2311	3.99	0.567 (0.345)	12.38 (2.44)	187 (86)	58 (14) (98.48)
50% of Pull at Maximum Power—11th (6L) Gear								
30.49 (22.73)	1730 (7.70)	6.61 (10.64)	2330	2.57	0.665 (0.404)	10.56 (2.08)	185 (85)	58 (14) (98.48)
75% of Pull at Reduced Engine Speed—12th (6H) Gear								
44.79 (33.40)	2604 (11.58)	6.45 (10.38)	1868	3.99	0.518 (0.315)	13.56 (2.67)	187 (86)	58 (14) (98.48)
50% of Pull at Reduced Engine Speed—12th (6H) Gear								
30.50 (22.74)	1731 (7.70)	6.61 (10.63)	1886	2.64	0.588 (0.358)	11.95 (2.35)	185 (85)	58 (14) (98.48)
MAXIMUM POWER IN SELECTED GEARS								
6th (3H) Gear								
51.35 (38.29)	6355 (28.27)	3.03 (4.88)	2290	14.79	0.580 (0.353)	12.12 (2.39)	186 (85)	46 (8) (98.54)
7th (4L) Gear								
53.22 (39.69)	5488 (24.41)	3.64 (5.85)	2203	10.73	0.553 (0.336)	12.70 (2.50)	187 (86)	50 (10) (98.58)
8th (5L) Gear								
55.10 (41.09)	5310 (23.62)	3.89 (6.26)	2203	10.10	0.534 (0.325)	13.15 (2.59)	187 (86)	50 (10) (98.58)
9th (4H) Gear								
53.37 (39.80)	4308 (19.16)	4.65 (7.48)	2203	7.39	0.552 (0.336)	12.71 (2.50)	189 (87)	52 (11) (98.58)
10th (5H) Gear								
55.29 (41.23)	4186 (18.62)	4.95 (7.97)	2202	7.21	0.532 (0.324)	13.20 (2.60)	189 (87)	55 (13) (98.58)
11th (6L) Gear								
55.95 (41.72)	3467 (15.42)	6.05 (9.74)	2201	5.62	0.528 (0.321)	13.31 (2.62)	189 (87)	56 (13) (98.58)
12th (6H) Gear								
54.62 (40.73)	2701 (12.01)	7.58 (12.20)	2201	4.26	0.542 (0.330)	12.96 (2.55)	189 (87)	57 (14) (98.54)
13th (7L) Gear								
53.20 (39.67)	2115 (9.41)	9.43 (15.18)	2197	3.25	0.557 (0.339)	12.61 (2.48)	189 (87)	57 (14) (98.51)

<b>TRACTOR SOUND LEVEL WITHOUT CAB</b>	<b>Front Wheel Drive</b>	
	<b>Disengaged dB(A)</b>	<b>Engaged dB(A)</b>
At 75% load in 10th (5H) Gear	95.5	96.0
Bystander in 16th (8H) Gear	89.5	—

**TIRES, BALLAST AND WEIGHT**

		<b>With Ballast</b>	<b>Without Ballast</b>
<b>Rear Tires</b>	—No., size, ply & psi (kPa)	Two 16.9-30; 6; 16 (110)	Two 16.9-30; 6; 12 (85)
<b>Ballast</b>	—Liquid (total)	1376 lb (624 kg)	None
	—Cast Iron (total)	720 lb (326 kg)	None
<b>Front Tires</b>	—No., size, ply & psi (kPa)	Two 11.2-24; 8; 12 (85)	Two 11.2-24; 8; 12 (85)
<b>Ballast</b>	—Liquid (total)	None	None
	—Cast Iron (total)	None	None
<b>Height of Drawbar</b>		18.5 in (470 mm)	13.5 in (345 mm)
<b>Static Weight with Operator</b>	—Rear	5782 lb (2623 kg)	3686 lb (1672 kg)
	—Front	2468 lb (1119 kg)	2468 lb (1119 kg)
	—Total	8250 lb (3742 kg)	6154 lb (2791 kg)

### 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 with relief valve open:	2500 psi	(172 bar)
ii) Pump delivery rate at minimum pressure and rated engine speed:	9.2 GPM	(34.8 l/min)
iii) Pump delivery rate at maximum		
hydraulic power:	7.4 GPM	(28.0 l/min)
Delivery pressure:	2250 psi	(155 bar)
Power:	9.7 HP	(7.2 kW)

### THREE POINT HITCH PERFORMANCE (SAE Static Test)

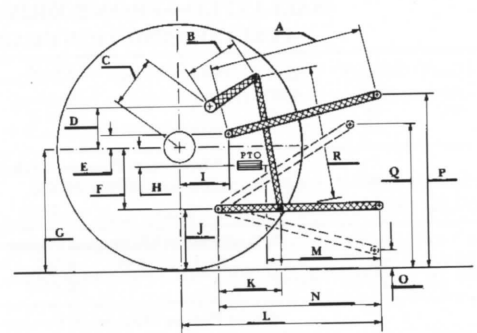
Observed Maximum Pressure psi. (bar)	2600 (179)
Location	remote outlet
Hydraulic oil temperature °F (°C)	169 (76)
Location	rear axle sump
Category	I
Quick attach	none

#### 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 5030 16 X 8 DIESEL**