

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F.  
Larsen

---

2008

## Nebraska Summary: S766 New Holland TD5050

Nebraska Tractor Test Laboratory

University of Nebraska-Lincoln, tractortestlab@unl.edu

Follow this and additional works at: <https://digitalcommons.unl.edu/tractormuseumlit>



Part of the [Energy Systems Commons](#), [History of Science, Technology, and Medicine Commons](#), [Other Mechanical Engineering Commons](#), [Physical Sciences and Mathematics Commons](#), [Science and Mathematics Education Commons](#), and the [United States History Commons](#)

---

Laboratory, Nebraska Tractor Test, "Nebraska Summary: S766 New Holland TD5050" (2008). *Nebraska Tractor Tests*. 3279.

<https://digitalcommons.unl.edu/tractormuseumlit/3279>

This Article is brought to you for free and open access by the Tractor Test and Power Museum, The Lester F. Larsen at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Nebraska Tractor Tests by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

# SUMMARY OF OECD TEST 2510 — NEBRASKA SUMMARY 766

## NEW HOLLAND TD5050 DIESEL

### 12 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—1050 rpm)</b>					
80.7 (60.2)	2500	5.27 (19.94)	0.453 (0.276)	15.32 (3.02)	
<b>Standard Power Take-off Speed (1000 rpm)</b>					
80.6 (60.1)	2381	5.16 (19.52)	0.444 (0.270)	15.63 (3.08)	
<b>VARYING POWER AND FUEL CONSUMPTION</b>					
80.7 (60.2)	2500	5.27 (19.94)	0.453 (0.276)	15.32 (3.02)	Air temperature
72.3 (53.9)	2633	5.07 (19.18)	0.487 (0.296)	14.26 (2.81)	66°F (19°C)
54.5 (40.6)	2646	4.31 (16.30)	0.549 (0.334)	12.64 (2.49)	Relative humidity
36.4 (27.2)	2655	3.53 (13.37)	0.673 (0.409)	10.31 (2.03)	33%
18.5 (13.8)	2697	2.59 (9.80)	0.970 (0.590)	7.15 (1.41)	Barometer
--	2726	1.72 (6.50)	--	--	27.4" Hg (92.7 kPa)
Maximum Torque - 279.4 lb.-ft. (378.8 Nm) at 1050 rpm					
Maximum Torque Rise - 64.7%					
Torque rise at 2000 engine rpm - 22%					

#### 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 lb/hp.hr (kg/kW.h)	Consumption Hp.hr/gal (kW.h/l)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
<b>Maximum Power—8th (III-1) Gear</b>									
74.4 (55.5)	4730 (21.04)	5.90 (9.49)	2502	5.9	0.478 (0.291)	14.57 (2.87)	153 (67)	77 (25)	27.0 (91.5)
<b>75% of Pull at Maximum Power—8th (III-1) Gear</b>									
60.9 (45.4)	3550 (15.80)	6.43 (10.35)	2658	3.1	0.542 (0.330)	12.84 (2.53)	154 (68)	77 (25)	27.0 (91.5)
<b>50% of Pull at Maximum Power—8th (III-1) Gear</b>									
41.4 (30.9)	2365 (10.53)	6.57 (10.57)	2664	1.5	0.666 (0.405)	10.46 (2.06)	153 (67)	79 (26)	27.0 (91.5)
<b>75% of Pull at Reduced Engine Speed—11th (III-3) Gear</b>									
60.9 (45.4)	3550 (15.78)	6.43 (10.35)	1264	3.0	0.440 (0.268)	15.84 (3.12)	153 (67)	79 (26)	27.0 (91.5)
<b>50% of Pull at Reduced Engine Speed—11th (III-3) Gear</b>									
41.3 (30.8)	2360 (10.49)	6.57 (10.58)	1272	1.5	0.499 (0.303)	13.97 (2.75)	154 (68)	79 (26)	27.0 (91.4)

**Location of tests:** DAEMTC (The Directorate of Agricultural Equipment and Testing Centre) Ankara, Turkey

**Dates of tests:** December 2008

**Manufacturer:** Turk Traktor ve Ziraat Mak. A.S. Ankara, Turkey

**FUEL and OIL:** Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F (15°/15°C)** 0.834 **Fuel weight** 6.94 lbs/gal (0.832 kg/l) **Oil SAE 15W40 API service classification** CH-4 **Transmission and hydraulic lubricant** Akcela **Nexplor fluid Frontaxle lubricant** Akcela **Nexplor fluid**

**ENGINE: Make** Iveco Diesel **Type** four cylinder vertical with turbocharger and air to air intercooler **Serial No.** 619378 **Crankshaft** lengthwise **Rated engine speed** 2500 **Bore and stroke** 4.094" x 5.196" (104.0 mm x 132.0 mm) **Compression ratio** 17.5 to 1 **Displacement** 274 cu in (4485 ml) **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements and aspirator **Oil filter** one full flow cartridge **Oil cooler** engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil **Fuel filter** one paper element **Muffler** underhood **Exhaust** vertical **Cooling medium temperature control** thermostat and variable speed fan.

**CHASSIS: Type** front wheel assist **Serial No.** Z8JP52429 **Tread width** rear 59.8" (1520 mm) to 87.8" (2230 mm) front 55.5" (1410 mm) to 82.3" (2090 mm) **Wheelbase** 91.8" (2332 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Nominal travel speeds mph (km/h)** first 1.13 (1.82) second 1.64 (2.64) third 2.37 (3.81) fourth 2.63 (4.24) fifth 3.39 (5.45) sixth 3.83 (6.17) seventh 5.52 (8.89) eighth 6.21 (9.99) ninth 7.91 (12.73) tenth 9.02 (14.52) eleventh 13.01 (20.93) twelfth 18.63 (29.98) reverse 1.13 (1.82), 1.65 (2.65), 2.37 (3.82), 2.64 (4.25), 3.40 (5.47), 3.84 (6.18), 5.54 (8.92), 6.23 (10.02), 7.94 (12.77), 9.05 (14.56), 13.04 (20.99), 18.69 (30.07) **Clutch** dual dry disc mechanically operated by foot pedal **Brakes** wet disc mechanically operated by two foot pedals that can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 2200 engine rpm or 1000 rpm at 2381 engine rpm **Unladen tractor mass** 8055 lb (3654 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)	Consumption Hp.hr/gal (kW.h/l)	Temp.°F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
6th(II-2) Gear									
65.8 (49.1)	7415 (32.99)	3.33 (5.36)	2536	15.0	0.528 (0.321)	13.20 (2.60)	149 (65)	79 (26)	27.0 (91.5)
7th(II-3) Gear									
72.0 (53.7)	5195 (23.11)	5.20 (8.37)	2502	6.7	0.487 (0.297)	14.29 (2.82)	151 (66)	79 (26)	27.0 (91.5)
8th(III-1) Gear									
74.4 (55.5)	4730 (21.04)	5.90 (9.49)	2502	5.9	0.478 (0.291)	14.57 (2.87)	153 (67)	81 (27)	27.0 (91.5)
9th(II-4) Gear									
73.2 (54.6)	3595 (15.98)	7.64 (12.29)	2495	4.1	0.483 (0.294)	14.41 (2.84)	153 (67)	81 (27)	27.0 (91.5)
10th(III-2) Gear									
72.0 (53.7)	3045 (13.54)	8.87 (14.27)	2502	2.6	0.489 (0.298)	14.24 (2.81)	154 (68)	81 (27)	27.0 (91.5)

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

**NOTE:** The data on this summary was obtained from OECD report 2510 conducted on the Case IH Farmall 95 Diesel.

**REMARKS:** All test results were determined from observed data obtained in accordance with official OECD test procedures. This tractor did not meet the manufacturer's three point lift claim of 5025 lbs. The performance figures on this summary were taken from a test conducted under the OECD Code 2 test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **2510**, Nebraska Summary 766, July 19, 2011.

Roger M. Hoy  
 Director

M.F. Kocher  
 D.R. Keshwani  
 P.J. Jasa  
 Board of Tractor Test Engineers

<b>TRACTOR SOUND LEVEL WITH CAB</b>	<b>Front Wheel Drive</b>	
	<b>Engaged dB(A)</b>	<b>Disengaged dB(A)</b>
At no load in 7th (3 II) gear	82.5	82.5
Bystander	--	--

<b>TRACTOR SOUND LEVEL WITHOUT CAB</b>	<b>Front Wheel Drive</b>	
	<b>Engaged dB(A)</b>	<b>Disengaged dB(A)</b>
At no load in 7th (3 II) gear	85.1	85.4
Bystander	--	--

**TIRES 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 18.4R34; \*\*,16 (110)  
 Two 13.6R24; \*\*,16 (110)  
 18.7 in (475 mm)  
 4885 lb (2217 kg)  
 3335 lb (1512 kg)  
 8220 lb (3729 kg)

## HYDRAULIC PERFORMANCE

CATEGORY: II

Quick Attach: None

OECD Static test

Maximum force exerted through whole range: 3800 lbs (16.9 kN)

i) Sustained pressure of the open relief valve: 2755 psi (190 bar)

ii) Pump delivery rate at minimum pressure: 17.1 GPM (64.9 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 14.7 GPM (55.6 l/min)

Delivery pressure: 1815 psi (125 bar)

Power: 15.6 HP (11.6 kW)

**HITCH DIMENSIONS AS TESTED—NO LOAD**

	inch	mm
A	32.9	835
B	10.0	255
C	11.6	295
D	11.6	295
E	9.3	235
F	8.5	215
G	30.5	775
H	0.8	20
I	6.9	175
J	22.0	560
K	18.1	460
L	40.4	1025
M	28.1	715
N	38.2	970
O	7.9	200
P	46.1	1170
Q	38.8	985
R	26.0	660

