

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F. Larsen

---

2008

## Tractor Test 1918: New Holland TT 50A

Nebraska Tractor Test Lab

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](#)

---

Nebraska Tractor Test Lab, "Tractor Test 1918: New Holland TT 50A" (2008). *Nebraska Tractor Tests*. 2283.

<https://digitalcommons.unl.edu/tractormuseumlit/2283>

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.

# NEBRASKA TRACTOR TEST 1918

## NEW HOLLAND TT 50A DIESEL

### 8 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
---------------------	--------------------------------	-----------------	-----------------------	-----------------------	--------------------------------

#### MAXIMUM POWER AND FUEL CONSUMPTION

Rated Engine Speed—(PTO speed—592 rpm)					
44.07 (32.86)	2799	3.21 (12.14)	0.510 (0.310)	13.74 (2.71)	
Standard Power Take-off Speed(540 rpm)					
42.32 (31.56)	2556	2.92 (11.06)	0.484 (0.294)	14.48 (2.85)	

#### VARYING POWER AND FUEL CONSUMPTION

44.07 (32.86)	2799	3.21 (12.14)	0.510 (0.310)	13.74 (2.71)	Air temperature
38.95 (29.05)	2900	2.87 (10.86)	0.516 (0.314)	13.58 (2.68)	76°F (24°C)
29.57 (22.05)	2934	2.30 (8.70)	0.544 (0.331)	12.87 (2.54)	Relative humidity
20.02 (14.93)	2958	1.84 (6.97)	0.644 (0.392)	10.88 (2.14)	19%
9.79 (7.30)	2977	1.28 (4.86)	0.919 (0.559)	7.62 (1.50)	Barometer
0.93 (0.70)	2994	0.90 (3.40)	6.745 (4.103)	1.04 (0.20)	28.88"Hg (97.80kPa)

Maximum torque 103 lb.-ft. (139 Nm) at 1702 rpm  
 Maximum torque rise -24.1%  
 Torque rise at 2203 rpm - 14%

#### TRACTOR SOUND LEVEL WITHOUT CAB

At no load in 3rd (L3) gear	dB(A)
Bystander	92.6
	--

#### 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 13.6-28; 6:12 (85)  
 Two 7.50-16; 6:32 (220)  
 14.5 in (370 mm)  
 2470 lb (1120 kg)  
 1490 lb (676 kg)  
 3960 lb (1796 kg)

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

**Dates of tests:** March 11-18, 2008

**Manufacturer:** New Holland Tractors (I) Pvt Ltd Udyog Kendra, Plot No. 3 Greater Noida - 201303 U.P. India

**FUEL, OIL and TIME:** Fuel No. 2 Diesel Specific gravity converted to 60°/60° F (15°/15°C) 0.8417 Fuel weight 7.008 lbs/gal (0.840 kg/l) Oil SAE 10W30 API service classification CF-4 Transmission and hydraulic lubricant New Holland M2C134D fluid Total time engine was operated 14.5 hours

**ENGINE:** Make ISM Diesel Type four cylinder vertical Serial No. 57811 Crankshaft lengthwise Rated engine speed 2800 Bore and stroke 3.307" x 3.937" (84.0 mm x 100.0 mm) Compression ratio 22.5 to 1 Displacement 135 cu in (2216 ml) Starting system 12 volt Lubrication pressure Air cleaner one paper element and one felt element Oil filter one full flow cartridge Fuel filter one paper element Muffler underhood Exhaust horizontal Cooling medium temperature control one thermostat

**ENGINE OPERATING PARAMETERS:** Fuel rate: 21.8 - 24.0 lb/h (9.9 - 10.9 kg/h) High idle: 2950 - 3050 rpm

**CHASSIS:** Type standard Serial No. 771873 Tread width rear 52.6" (1336 mm) to 68.6" (1742 mm) front 52.2" (1326 mm) to 68.7" (1744 mm) Wheelbase 77.8" (1975 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio Nominal travel speeds mph (km/h) first 1.86 (2.99) second 2.72 (4.38) third 3.99 (6.42) fourth 5.74 (9.24) fifth 6.81 (10.96) sixth 9.97 (16.05) seventh 14.63 (23.54) eighth 21.06 (33.89) reverse 2.30 (3.70), 8.43 (13.57) Clutch dual dry disc operated by foot pedal Brakes single wet disc operated by two foot pedals which can be locked together Steering hydrostatic Power take-off 540 rpm at 2554 engine rpm Unladen tractor mass 3785 lb (1715 kg)

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

CATEGORY: II

Quick Attach: None

Maximum force exerted through whole range: 1940 lbs (8.6 kN) (at 24" point)

2592 lbs (11.5 kN) (at ball ends)

i) Sustained pressure of the open relief valve: 2406 psi (166 bar)

ii) Pump delivery rate at minimum pressure and rated engine speed: 10.1 GPM (38.3 l/min)

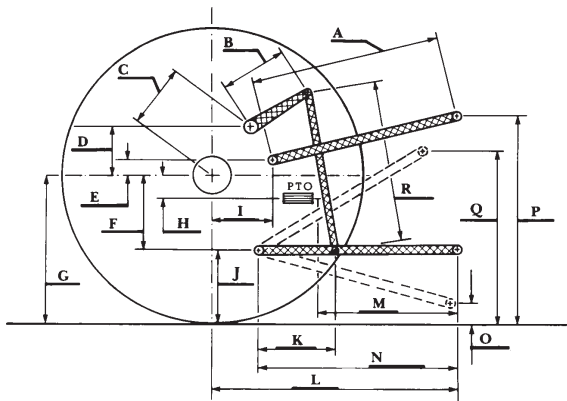
iii) Pump delivery rate at maximum hydraulic power: 9.7 GPM (36.8 l/min)

Delivery pressure: 2113 psi (146 bar)

Power: 12.0 HP (8.9 kW)

#### HITCH DIMENSIONS AS TESTED - NO LOAD

	inch	mm
A	26.4	670
B	9.4	240
C	10.7	271
D	10.7	270
E	13.6	345
F	6.1	155
G	24.0	610
H	0.0	0.0
I	5.9	150
J	17.9	455
K	17.9	455
L	31.7	805
M	23.8	605
N	32.5	825
O	8.0	203
P	41.9	1065
Q	27.1	689
R	20.9	530



**New Holland TT 50A Diesel**

Institute of Agriculture and Natural Resources  
University of Nebraska-Lincoln

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

**REMARKS:** All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures. This tractor did not meet the manufacturer's 3 point lift claims of 2293 lb (1040 kg) at 24" point nor 2866 lb (1300 kg) at ball ends. For the maximum power tests, the fuel temperature at the fuel filter was maintained at 114°F (45°C).

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1918**, May 21, 2008.

Roger M. Hoy  
Director

M.F. Kocher  
V.I. Adamchuk  
J.A. Smith  
Board of Tractor Test Engineers