

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F.  
Larsen

---

2007

## Nebraska Summary: S667 New Holland T6030 Delta

Nebraska Tractor Test Laboratory

*University of Nebraska-Lincoln*, [tractortestlab@unl.edu](mailto: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: S667 New Holland T6030 Delta" (2007).  
*Nebraska Tractor Tests*. 3145.

<https://digitalcommons.unl.edu/tractormuseumlit/3145>

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 2428—NEBRASKA SUMMARY 667 NEW HOLLAND T6030 DELTA 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—1037 rpm)</b>					
111.3 (83.0)	2197	6.77 (25.61)	0.426 (0.259)	16.45 (3.24)	
<b>Standard Power Take-off Speed (1000 rpm)</b>					
111.2 (82.9)	2119	6.64 (25.15)	0.418 (0.255)	16.75 (3.30)	
<b>Maximum Power - (1 hour)</b>					
111.4 (83.1)	2098	6.63 (25.11)	0.417 (0.254)	16.80 (3.31)	
<b>VARYING POWER AND FUEL CONSUMPTION</b>					
111.3 (83.0)	2197	6.77 (25.61)	0.426 (0.259)	16.45 (3.24)	Air temperature
100.8 (75.2)	2348	6.53 (24.73)	0.454 (0.276)	15.43 (3.04)	66°F (19°C)
76.2 (56.8)	2361	5.43 (20.56)	0.500 (0.304)	14.02 (2.76)	Relative humidity
51.2 (38.2)	2380	4.15 (15.71)	0.568 (0.345)	12.34 (2.43)	56%
25.9 (19.3)	2407	2.95 (11.18)	0.801 (0.487)	8.76 (1.72)	Barometer
--	2430	1.95 (7.40)	--	--	28.8" Hg (97.4 kPa)
Maximum Torque - 420.1 lb.-ft. (569.6 Nm) at 898 rpm Maximum Torque Rise - 58.0% Torque rise at 1800 engine rpm - 18%					

## 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—9th (8B) Gear</b>									
93.3 (69.6)	5790 (25.76)	6.04 (9.73)	2200	3.0	0.508 (0.309)	13.81 (2.72)	185 (85)	61 (16)	29.1 (98.7)
<b>75% of Pull at Maximum Power—9th (8B) Gear</b>									
75.8 (56.5)	4365 (19.42)	6.51 (10.47)	2350	2.3	0.588 (0.358)	11.92 (2.35)	185 (85)	61 (16)	29.1 (98.7)
<b>50% of Pull at Maximum Power—9th (8B) Gear</b>									
51.8 (38.6)	2945 (13.09)	6.60 (10.62)	2368	1.7	0.665 (0.405)	10.54 (2.08)	185 (85)	63 (17)	29.1 (98.7)
<b>75% of Pull at Reduced Engine Speed—10th (10C) Gear</b>									
75.6 (56.4)	4390 (19.54)	6.46 (10.40)	2095	2.4	0.533 (0.324)	13.15 (2.59)	185 (85)	64 (18)	29.1 (98.7)
<b>50% of Pull at Reduced Engine Speed—10th (10C) Gear</b>									
51.8 (38.6)	2950 (13.13)	6.58 (10.58)	2115	1.6	0.592 (0.360)	11.83 (2.33)	181 (83)	64 (18)	29.1 (98.7)

**Location of tests:** Istituto per le Macchine Agricole e Movimento Terra 73, Strada delle Cacce 10135 Torino Italy

**Dates of tests:** October 2007 to January 2008.

**Manufacturer:** CNH Europe Holding S.A. 13, Rue Aldringen L-1118 Luxembourg

**FUEL and OIL:** Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.842 Fuel weight 7.01 lbs/gal (0.840 kg/l) Oil SAE 15W40 API service classification CH-4 Transmission and hydraulic lubricant Akcela Nexplora fluid Front axle lubricant Akcela Nexplora fluid

**ENGINE:** Make CNH Diesel Type six cylinder vertical with turbocharger and air to air intercooler Serial No. 431733 Crankshaft lengthwise Rated engine speed 2200 Bore and stroke 4.094" x 5.197" (104.0 mm x 132.0 mm) Compression ratio 17.5 to 1 Displacement 410 cu in (6728 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. Z7BD02884 Tread width rear 56.3" (1430 mm) to 83.9" (2130 mm) front 52.2" (1325 mm) to 90.0" (2285 mm) Wheelbase 104.4" (2652 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio with partial (8) range operator controlled powershift Nominal travel speeds mph (km/h) first 1.41 (2.27) second 1.73 (2.78) third 2.11 (3.39) fourth 2.58 (4.15) fifth 3.31 (5.32) sixth 4.06 (6.53) seventh 4.94 (7.95) eighth 5.51 (8.86) ninth 6.06 (9.75) tenth 6.75 (10.87) eleventh 8.23 (13.24) twelfth 10.09 (16.24) thirteenth 12.94 (20.82) fourteenth 15.87 (25.54) fifteenth 19.32 (31.09) sixteenth 23.70 (38.14) reverse 1.39 (2.24), 1.71 (2.75), 2.08 (3.35), 2.55 (4.10), 3.27 (5.26), 4.01 (6.45), 4.88 (7.86), 5.44 (8.76), 5.99 (9.64), 6.67 (10.74), 8.13 (13.08), 9.97 (16.05), 12.78 (20.57), 15.68 (25.24), 19.20 (30.73), 23.43 (37.70) Clutch wet disc electro-hydraulically actuated by foot pedal Brakes wet disc hydraulically actuated by two foot pedals that can be locked together Steering hydrostatic Power take-off 540 rpm at 1970 engine rpm or 1000 rpm at 2120 engine rpm Unladen tractor mass 10900 lb (4945 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. <sup>o</sup> F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
3rd(3A) Gear									
54.3 (40.5)	10235 (45.53)	1.99 (3.20)	2342	13.8	0.830 (0.505)	8.44 (1.66)	187 (86)	63 (17)	29.2 (98.8)
4th(4A) Gear									
65.6 (48.9)	10090 (44.88)	2.44 (3.92)	2336	13.6	0.701 (0.426)	10.00 (1.97)	185 (85)	57 (14)	29.1 (98.7)
5th(5B) Gear									
83.4 (62.2)	10015 (44.55)	3.12 (5.03)	2329	13.2	0.552 (0.336)	12.69 (2.50)	185 (85)	61 (16)	29.1 (98.7)
6th(6B) Gear									
96.4 (71.9)	9860 (43.86)	3.67 (5.90)	2073	6.8	0.479 (0.292)	14.62 (2.88)	181 (83)	59 (15)	29.1 (98.7)
7th(7B) Gear									
94.1 (70.2)	7600 (33.81)	4.64 (7.47)	2094	4.1	0.493 (0.300)	14.21 (2.80)	185 (85)	63 (17)	29.1 (98.7)
8th(9C) Gear									
97.0 (72.3)	6915 (30.75)	5.26 (8.47)	2120	3.6	0.479 (0.292)	14.62 (2.88)	183 (84)	61 (16)	29.1 (98.7)
9th(8B) Gear									
94.8 (70.7)	6190 (27.53)	5.74 (9.25)	2093	3.1	0.490 (0.298)	14.31 (2.82)	185 (85)	59 (15)	29.1 (98.7)
10th(10C) Gear									
96.0 (71.6)	5565 (24.75)	6.47 (10.41)	2106	2.8	0.485 (0.295)	14.47 (2.85)	185 (85)	59 (15)	29.1 (98.7)
11th(11C) Gear									
92.0 (68.6)	4365 (19.42)	7.90 (12.72)	2099	2.1	0.505 (0.307)	13.87 (2.73)	181 (83)	61 (16)	29.1 (98.7)
12th(12C) Gear									
90.3 (67.3)	3465 (15.42)	9.77 (15.72)	2102	1.5	0.515 (0.313)	13.60 (2.68)	185 (85)	59 (15)	29.1 (98.7)

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

**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 claim of 8813 lbs (3997 kg) three point lift capacity. The manufacturer's three point lift capacity claim of 7509 lbs (3406 kg) was not verified. The performance figures on this summary were taken from a test conducted under the OECD Code II test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **2428**, Nebraska Summary 667, December 10, 2009.

Roger M. Hoy  
Director

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

TRACTOR SOUND LEVEL WITHOUT CAB	Front Wheel Drive	
	Disengaged dB(A)	Engaged dB(A)
At no load in 7th (7B) gear	85.5	85.6
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 600/65R38; \*\*, 12 (80)  
 Two 480/65R28; \*\*, 12 (80)  
 22.0 in (560 mm)  
 6745 lb (3060 kg)  
 4320 lb (1960 kg)  
 11065 lb (5020 kg)

## HYDRAULIC PERFORMANCE

CATEGORY: II

Quick Attach: None

OECD Static test

lift assist cylinders

Maximum force exerted through whole range: 6450 lbs (28.7 kN) (2 x 50 mm)

i) Opening pressure of relief valve: NA

Sustained pressure of the open relief valve: 2610 psi (180 bar)

ii) Pump delivery rate at minimum pressure: 17.1 GPM (64.8 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 15.2 GPM (57.4 l/min)

Delivery pressure: 2320 psi (160 bar)

Power: 20.5 HP (15.3 kW)

## THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi. (bar)	2610 (180)
Location:	lift cylinder
Hydraulic oil temperature: °F (°C)	150 (66)
Location:	hydraulic sump
Category:	II
Quick attach:	None

	OECD test		SAE test	
	inch	mm	inch	mm
A	27.6	702	28.1	715
B	10.0	255	10.0	255
C	15.6	395	15.6	395
D	14.6	370	14.6	370
E	7.9	200	9.8	250
F	9.3	235	9.3	235
G	32.3	820	32.3	820
H	1.0	25	1.0	25
I	16.9	430	15.6	395
J	23.0	585	23.0	585
K	19.9	505	23.0	585
L	44.0	1118	44.0	1118
M	22.2	563	22.2	563
N	37.4	950	37.4	950
O	7.9	200	7.9	200
P	47.0	1195	42.0	1068
Q	33.5	850	31.3	795
R	30.2	768	32.3	820

**SAE Static Test**—System pressure 2350 psi (162 Bar)  
lift assist cylinders - 2 x 50 mm

Hitch point distance to ground level in. (mm)	7.9 (200)	14.2 (360)	23.0 (585)	27.4 (695)	34.4 (875)
Lift force on frame lb	10950	9620	9060	9330	7800
" " " " " " (kN)	(48.7)	(42.8)	(40.3)	(41.5)	(34.7)

