

# NEBRASKA OECD TRACTOR TEST 2015 - SUMMARY 797

## NEW HOLLAND T9.560 DIESEL

### 16 SPEED

#### POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Diesel Consumption		D.E.F. Consumption		Mean Atmospheric Conditions
		Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Gal/hr (l/h)	
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>						
<b>Rated Engine Speed—(PTO speed—1051 rpm)</b>						
449.16 (334.94)	2100	25.10 (95.01)	0.394 (0.240)	17.90 (3.53)	1.83 (6.92)	
<b>Standard Power Take-off Speed(1001 rpm)</b>						
480.66 (358.43)	1999	26.33 (99.66)	0.386 (0.235)	18.26 (3.60)	1.82 (6.89)	
<b>Maximum Power (1 hour)</b>						
499.16 (372.23)	1900	27.26 (103.18)	0.385 (0.234)	18.31 (3.61)	1.82 (6.90)	
<b>VARYING POWER AND FUEL CONSUMPTION</b>						
449.16 (334.94)	2100	25.10 (95.01)	0.394 (0.240)	17.90 (3.53)	1.83 (6.90)	Air temperature
392.51 (292.70)	2158	22.53 (85.29)	0.404 (0.246)	17.42 (3.43)	1.65 (6.24)	73°F (23°C)
295.08 (220.04)	2165	17.96 (67.99)	0.429 (0.261)	16.43 (3.24)	0.97 (3.66)	Relative humidity
197.63 (147.37)	2173	13.47 (50.98)	0.480 (0.292)	14.67 (2.89)	0.63 (2.40)	14%
99.20 (73.98)	2180	8.97 (33.96)	0.637 (0.388)	11.06 (2.18)	0.38 (1.43)	Barometer
--	2190	4.51 (17.07)	--	--	0.16 (0.62)	28.70" Hg (97.19 kPa)

Maximum torque - 1586 lb.-ft. (2150 Nm) at 1401 rpm  
 Maximum torque rise - 41.4%  
 Torque rise at 1701 engine rpm - 33%  
 Power increase at 1900 engine rpm - 11.1%

#### DRAWBAR PERFORMANCE 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	Barom. inch Hg (kPa)
<b>Maximum Power—5th Gear</b>							
392.34 (292.56)	26335 (117.14)	5.59 (9.00)	2101	5.7	0.452 (0.275)	15.58 (3.07)	210 (99)
<b>75% of Pull at Maximum Power—5th Gear</b>							
309.25 (230.61)	19735 (87.79)	5.88 (9.45)	2162	3.8	0.476 (0.289)	14.81 (2.92)	193 (89)
<b>50% of Pull at Maximum Power—5th Gear</b>							
209.92 (156.53)	13196 (58.70)	5.97 (9.60)	2170	2.5	0.531 (0.323)	13.27 (2.61)	184 (84)
<b>75% of Pull at Reduced Engine Speed—9th Gear</b>							
310.35 (231.42)	19719 (87.71)	5.91 (9.50)	1492	3.6	0.418 (0.254)	16.86 (3.32)	183 (84)
<b>50% of Pull at Reduced Engine Speed—9th Gear</b>							
210.74 (157.15)	13116 (58.34)	6.03 (9.70)	1506	2.4	0.448 (0.272)	15.73 (3.10)	180 (82)

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

**Dates of tests:** November 30, 2011 to January 5, 2012

**Manufacturer:** CNH America LLC, 700 State St. Racine, Wi. 53404 USA

**CONSUMABLE Fluids, OIL and TIME: Fuel** No. 2 Diesel **Specific gravity converted to 60°/60°F (15°/15°C)** 0.8463 **Fuel weight** 7.047 lbs/gal (0.845 kg/l) **Diesel Exhaust Fluid (DEF)** 30% aqueous urea solution **DEF weight** 9.071 lbs/gal (1.087 kg/l) **Oil SAE 15W40 API service classification** CI-4 **Transmission lubricant** New Holland Mastertran transmission fluid **Hydraulic and axle lubricant** New Holland Multi G134 hydraulic fluid **Total time engine was operated:** 15.0 hours

**ENGINE: Make** F.P.T. Diesel **Type** six cylinder vertical with turbocharger, air to air intercooler and D.E.F. (diesel exhaust fluid) exhaust treatment **Serial No.** \*A002-175036\* **Crankshaft** lengthwise **Rated engine speed** 2100 **Bore and stroke** 5.315" x 5.906" (135.0 mm x 150.0 mm) **Compression ratio** 16.5 to 1 **Displacement** 786 cu in (12880 ml) **Starting system** 24 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, separate radiators for hydraulic and transmission oil **Fuel filter** two paper elements **Muffler** vertical **Cooling medium temperature control** thermostat and variable speed fan

**ENGINE OPERATING PARAMETERS: Fuel rate:** 167.3 - 179.0 lb/h (75.9 - 81.2 kg/h) **High idle:** 2150 - 2200 rpm **Turbo boost:** nominal 23.2 - 26.1 psi (160 - 180 kPa) as measured 24.6 psi (169 kPa)

**CHASSIS: Type** four wheel drive with duals **Serial No.** \*ZBF216106\* **Tread width** rear 60.0" (1524 mm) to 130.0" (3302 mm) front 60.0" (1524 mm) to 130.0" (3302 mm) **Wheelbase** 148.0" (3759 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with full range operator controlled powershift **Nominal travel speeds mph (km/h)** first 2.85 (4.59) second 3.43 (5.52) third 4.15 (6.68) fourth 5.00 (8.05) fifth 5.74 (9.24) sixth 6.30 (10.14) seventh 6.91 (11.12) eighth 7.59 (12.21) ninth 8.34 (13.42) tenth 9.17 (14.75) eleventh 10.05 (16.17) twelfth 11.04 (17.77) thirteenth 12.68 (20.41) fourteenth 15.27 (24.57) fifteenth 18.44 (29.68) sixteenth 22.22 (35.76) reverse 4.32 (6.95), 8.85 (14.24) **Clutch** multiple wet disc electrohydraulically operated by foot pedal **Brakes** wet disc hydraulically operated by foot pedal **Steering** hydrostatic and articulated **Power take-off** 1000 rpm at 1999 engine rpm **Unladen tractor mass** 39800 lb (18053 kg)

**DRAWBAR PERFORMANCE AT 2100 ENGINE RPM  
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)	
352.24 (262.66)	35703 (158.81)	3.70 (5.95)	2126	14.7	3rd Gear 0.499 (0.303)		14.13 (2.78)	190 (88)	51 (11)	28.83 (97.63)
390.08 (290.88)	30591 (136.07)	4.78 (7.69)	2101	7.4	4th Gear 0.454 (0.276)		15.52 (3.06)	197 (92)	56 (13)	28.80 (97.53)
392.34 (292.56)	26335 (117.14)	5.59 (9.00)	2101	5.7	5th Gear 0.452 (0.275)		15.58 (3.07)	210 (99)	60 (15)	28.78 (97.46)
396.96 (296.01)	24063 (107.04)	6.19 (9.95)	2101	4.8	6th Gear 0.443 (0.270)		15.90 (3.13)	206 (97)	64 (18)	28.75 (97.36)
394.73 (294.35)	21643 (96.27)	6.84 (11.01)	2100	4.2	7th Gear 0.448 (0.273)		15.72 (3.10)	207 (97)	65 (18)	28.74 (97.33)
396.32 (295.53)	19699 (87.62)	7.54 (12.13)	2101	3.8	8th Gear 0.446 (0.272)		15.79 (3.11)	203 (95)	66 (19)	28.71 (97.22)
394.55 (294.22)	17762 (79.01)	8.33 (13.41)	2101	3.4	9th Gear 0.450 (0.273)		15.67 (3.09)	210 (99)	68 (20)	28.69 (97.16)

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

**Note:** The advertised engine power levels for this tractor are not in standard SAE (U.S.) horsepower units. The advertised rated engine power of 507 DIN hp is equivalent to 500.07 SAE hp. The advertised maximum engine power of 557 CV hp is equivalent to 549.38 SAE hp.

**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 primary fuel filter was maintained at 110°F (43°C). 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 and correct report of official Tractor Test No. **2015**, Nebraska Summary 797, December 14, 2012.

Roger M. Hoy  
Director

M.R. Riley  
P.J. Jasa  
J.D. Luck  
Board of Tractor Test Engineers

**TRACTOR SOUND LEVEL WITH CAB**

	dB(A)
At no load in 4th gear	75.5
Bystander in 16th gear	88.2

**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**

Four 480/95R50;\*\*\*;10(70)  
Four 480/95R50;\*\*\*;12(85)  
21.5 in (545 mm)  
17370 lb (7879 kg)  
22605 lb(10253 kg)  
39975 lb(18132 kg)

**DRAWBAR PERFORMANCE AT 1900 RPM**  
**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)	Temp. °F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)	
3rd Gear									
355.13 (264.82)	35990 (160.09)	3.70 (5.95)	2120	14.4	0.494 (0.300)	14.28 (2.81)	188 (86)	50 (10)	28.83 (97.63)
4th Gear									
404.28 (301.47)	34135 (151.84)	4.44 (7.15)	2004	9.7	0.459 (0.279)	15.34 (3.02)	208 (98)	58 (14)	28.79 (97.49)
5th Gear									
427.60 (318.86)	32592 (144.97)	4.92 (7.92)	1900	8.2	0.449 (0.273)	15.68 (3.09)	199 (93)	61 (16)	28.77 (97.43)
6th Gear									
435.87 (325.02)	29740 (132.29)	5.50 (8.85)	1900	6.5	0.438 (0.266)	16.10 (3.17)	201 (94)	65 (18)	28.74 (97.33)
7th Gear									
437.09 (325.93)	26908 (119.69)	6.09 (9.80)	1900	5.6	0.439 (0.267)	16.04 (3.16)	200 (93)	65 (18)	28.72 (97.26)
8th Gear									
440.73 (328.65)	24459 (108.80)	6.76 (10.88)	1900	4.9	0.437 (0.266)	16.12 (3.18)	197 (91)	67 (20)	28.70 (97.19)
9th Gear									
438.04 (326.65)	22007 (97.89)	7.47 (12.01)	1900	4.3	0.440 (0.267)	16.03 (3.16)	199 (93)	69 (20)	28.69 (97.16)
10th Gear									
439.74 (327.91)	19977 (88.86)	8.26 (13.29)	1901	3.8	0.442 (0.269)	15.94 (3.14)	194 (90)	69 (20)	28.68 (97.12)

## HYDRAULIC PERFORMANCE

CATEGORY: IVN

Quick Attach: yes

OECD Static test

Maximum force exerted through whole range: 21903 lbs (97.4 kN)

### Three outlet sets combined

	Standard pump	High flow pump
i) Sustained pressure of the open relief valve:	2877 psi (198 bar)	3019 psi (208 bar)
ii) Pump delivery rate at minimum pressure and rated engine speed:	43.8 GPM (165.8 l/min)	61.5 GPM (232.9 l/min)
iii) Pump delivery rate at maximum hydraulic power:	43.3 GPM (163.7 l/min)	59.3 GPM (224.4 l/min)
Delivery pressure:	2526 psi (174 bar)	2597 psi (179 bar)
Power:	63.7 HP (47.5 kW)	89.8 Hp (67.0 kW)

### Single outlet set

ii) Pump delivery rate at minimum pressure and rated engine speed:	42.8 GPM (162.2 l/min)	47.9 GPM (181.4 l/min)
iii) Pump delivery rate at maximum hydraulic power:	42.7 GPM (161.6 l/min)	45.0 GPM (170.5 l/min)
Delivery pressure:	2024 psi (139 bar)	2217 psi (153 bar)
Power:	50.4 HP (37.6 kW)	58.3 Hp (43.4 kW)

## MegaFlow system

### Two outlet sets combined

	Standard pump	MegaFlow pump
i) Sustained pressure at compensator cutoff:	2877 psi (198 bar)	2855 psi (197 bar)
ii) Pump delivery rate at minimum pressure and rated engine speed:	43.8 GPM (165.8 l/min)	57.3 GPM (217.0 l/min)
Combined flow:	101.1 GPM (382.8 l/min)	
iii) Pump delivery rate at maximum hydraulic power:	43.3 GPM (163.7 l/min)	56.4 GPM (213.6 l/min)
Delivery pressure:	2526 psi (174 bar)	2479 psi (171 bar)
Power:	63.7 HP (47.5 kW)	81.6 Hp (60.9 kW)

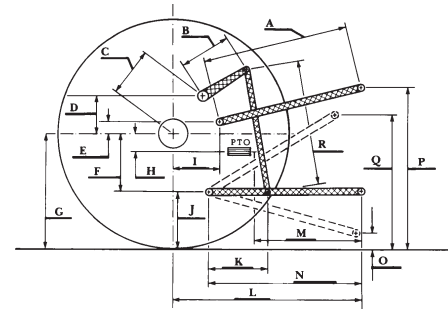
### Two outlet sets combined

	High flow pump	MegaFlow pump
i) Sustained pressure at compensator cutoff:	2993 psi (206 bar)	2855 psi (197 bar)
ii) Pump delivery rate at minimum pressure and rated engine speed:	61.0 GPM (230.9 l/min)	57.3 GPM (217.0 l/min)
Combined flow:	118.3 GPM (447.9 l/min)	
iii) Pump delivery rate at maximum hydraulic power:	56.7 GPM (214.7 l/min)	56.4 GPM (213.6 l/min)
Delivery pressure:	2517 psi (174 bar)	2479 psi (171 bar)
Power:	83.3 HP (62.1 kW)	81.6 Hp (60.9 kW)

## HITCH DIMENSIONS AS TESTED - NO LOAD

	inch	mm
A	39.0	990
B	30.7	780
C	27.9	709
D	26.5	673
E	13.5	342
F	16.3	415
G	38.2	970
H	2.6	66
I	21.2	538
J	21.9	555
K	30.5	775
L	58.5	1487
*L'	65.8	1671
M	53.6	1361
N	43.0	1093
O	9.1	230
P	52.6	1335
Q	46.5	1181
R	39.4	1000

\*L' to Quick Attach ends



NEW HOLLAND T9.560 Diesel

Institute of Agriculture and Natural Resources  
University of Nebraska-Lincoln