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2012

## Nebraska Summary: S859 New Holland T6 160

Nebraska Tractor Test Lab

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# SUMMARY OF OECD TEST 2694—NEBRASKA SUMMARY 859

## NEW HOLLAND T6.160 DIESEL

### 17 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)	

#### MAXIMUM POWER AND FUEL CONSUMPTION

Rated Engine Speed—(PTO speed—1109 rpm)						
121.6 (90.7)	2100	6.78 (25.66)	0.388 (0.236)	17.94 (3.54)	0.25 (0.95)	

Standard Power Take-off Speed (1000 rpm)						
127.7 (95.2)	1893	6.80 (25.75)	0.372 (0.226)	18.78 (3.70)	0.27 (1.01)	

Maximum Power (1 hour)						
129.3 (96.4)	1800	6.81 (25.77)	0.367 (0.223)	18.98 (3.74)	0.27 (1.01)	

#### VARYING POWER AND FUEL CONSUMPTION

121.6 (90.7)	2100	6.78 (25.66)	0.388 (0.236)	17.94 (3.54)	0.35 (0.95)	Air temperature
105.7 (78.8)	2141	6.11 (23.13)	0.403 (0.245)	17.31 (3.41)	0.29 (0.84)	73°F (23°C)
80.2 (59.8)	2167	4.95 (18.73)	0.430 (0.261)	16.21 (3.19)	0.24 (0.66)	Relative humidity
54.0 (40.3)	2188	3.85 (14.56)	0.496 (0.302)	14.05 (2.77)	0.16 (0.39)	45%
27.2 (20.3)	2209	2.63 (9.94)	0.673 (0.409)	10.36 (2.04)	0.09 (0.14)	Barometer
---	2226	1.79 (6.79)	---	---	---	29.6" Hg (100.1 kPa)

Maximum torque - 405 lb.-ft. (549 Nm) at 1500 rpm

Maximum torque rise - 33.0%

Torque rise at 1700 engine rpm - 28%

Power increase at 1800 engine rpm - 6%

#### 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)
Maximum Power—8th Gear									
96.7 (72.1)	7060 (31.4)	5.14 (8.27)	2100	5.2	0.488 (0.297)	14.26 (2.81)	185 (85)	68 (20)	28.7 (97.2)
75% of Pull at Maximum Power—8th Gear									
75.5 (56.3)	5305 (23.6)	5.34 (8.60)	2156	4.0	0.522 (0.318)	13.34 (2.63)	187 (86)	68 (20)	28.7 (97.2)
50% of Pull at Maximum Power—8th Gear									
51.4 (38.3)	3530 (15.7)	5.46 (8.78)	2180	2.9	0.605 (0.368)	11.52 (2.27)	187 (86)	68 (20)	28.7 (97.2)
75% of Pull at Reduced Engine Speed—10th Gear									
75.2 (56.1)	5335 (23.7)	5.29 (8.51)	1743	4.0	0.475 (0.289)	14.67 (2.89)	183 (84)	68 (20)	28.7 (97.2)
50% of Pull at Reduced Engine Speed—10th Gear									
51.6 (38.5)	3550 (15.8)	5.45 (8.77)	1774	2.9	0.538 (0.327)	12.94 (2.55)	183 (84)	68 (20)	28.7 (97.2)

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

**Dates of tests:** December, 2011 to April, 2012.

**Manufacturer:** CNH Europe Holding S.A. 24, Boulevard Royal L-2449 Luxembourg

**FUEL and OIL:** Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.837 Fuel weight 6.97 lbs/gal (0.835 kg/l) Diesel Exhaust Fluid (DEF) 32% aqueous urea solution DEF weight 9.08 lbs/gal (1.091 kg/l) Oil SAE 10W30 API service classification CH-4 Transmission and hydraulic lubricant Akcela Nexplore fluid Front axle lubricant Akcela Nexplore fluid

**ENGINE:** Make CNH Diesel Type four cylinder vertical with turbocharger, air to air intercooler and SCR (selective catalyst reduction) exhaust treatment Serial No. 873108 Crankshaft lengthwise Rated engine speed 2100 Bore and stroke 4.094" x 5.197" (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. ZBBD01001 Tread width rear 56.3" (1430 mm) to 84.0" (2134 mm) front 61.4" (1560 mm) to 88.8" (2256 mm) Wheelbase 96.0" (2439 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 1.35 (2.18) second 1.66 (2.67) third 2.02 (3.25) fourth 2.48 (3.99) fifth 3.18 (5.11) sixth 3.90 (6.27) seventh 4.74 (7.63) eighth 5.29 (8.51) ninth 5.82 (9.36) tenth 6.48 (10.43) eleventh 7.90 (12.71) twelfth 9.69 (15.59) thirteenth 12.41 (19.98) fourteenth 15.23 (24.51) fifteenth 18.55 (29.85) sixteenth 23.83 (38.35) seventeenth 28.63 (46.08) reverse 1.34 (2.15), 1.64 (2.64), 1.99 (3.21), 2.45 (3.94), 3.14 (5.05), 3.85 (6.20), 4.69 (7.54), 5.23 (8.41), 5.75 (9.25), 6.41 (10.31), 7.80 (12.56), 9.55 (15.40), 12.27 (19.75), 15.06 (24.23), 18.33 (29.50), 22.48 (36.18)

**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 lb/hp.hr (kg/kW.h)	Consumption Hp.hr/gal (kW.h/l)	Temp. <sup>o</sup> F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
84.4 (62.9)	10995 (48.9)	2.88 (4.63)	2138	15.0	5th Gear 0.526 (0.320)	13.25 (2.61)	187 (86)	63 (17)	28.8 (97.6)
98.4 (73.4)	10685 (47.5)	3.45 (5.56)	2004	10.1	6th Gear 0.464 (0.282)	15.02 (2.96)	187 (86)	63 (17)	28.8 (97.6)
99.9 (74.5)	9710 (43.2)	3.86 (6.21)	1800	7.8	7th Gear 0.467 (0.284)	14.92 (2.94)	185 (85)	63 (17)	28.8 (97.6)
102.6 (76.5)	8855 (39.4)	4.34 (6.99)	1799	6.8	8th Gear 0.457 (0.278)	15.23 (3.00)	187 (86)	63 (17)	28.8 (97.6)
102.1 (76.1)	7935 (35.3)	4.82 (7.76)	1800	5.9	9th Gear 0.458 (0.279)	15.21 (3.00)	185 (85)	64 (18)	28.8 (97.6)
103.5 (77.2)	7195 (32.0)	5.39 (8.68)	1796	5.2	10th Gear 0.455 (0.276)	15.33 (3.02)	185 (85)	64 (18)	28.8 (97.6)
101.5 (75.7)	5735 (25.5)	6.64 (10.69)	1800	4.2	11th Gear 0.465 (0.283)	14.97 (2.95)	184 (84)	64 (18)	28.8 (97.6)
99.8 (74.4)	4565 (20.3)	8.20 (13.20)	1800	3.6	12th Gear 0.465 (0.283)	14.97 (2.95)	184 (84)	66 (19)	28.8 (97.6)

**Clutch** wet disc 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 1593 engine rpm or 1000 rpm at 1894 engine rpm **Unladen tractor mass** 12410 lb (5630 kg)

**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 three point lift claim of 13468 lbs (6109 kg). 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. **2694**, Nebraska Summary 859, January 13, 2013.

Roger M. Hoy  
 Director

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

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Disengaged dB(A)	Engaged dB(A)
At no load in 7th gear	69.1	69.4
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 600/65R38; \*\*,12 (80)  
 Two 480/65R28; \*\*,12 (80)  
 18.3 in (465 mm)  
 7530 lb (3415 kg)  
 5050 lb (2290 kg)  
 12580 lb (5705 kg)

This vehicle is equipped with an electronically controlled engine Power management system that monitors and boosts engine power output in certain circumstances. This is achieved by electronically changing the characteristics of the engine power-speed curve. The engine Power management function ("boosted" power level) becomes active in the higher transmission gears for road transport applications. The system is also activated when power transfer through the PTO exceeds a preset level (and forward speed exceeds 0.5 km/h), for mobile PTO driven implement applications. An override system is provided to enable PTO operations at the "boosted" power level while the vehicle is stationary for test purposes. The results of this PTO output test are presented below.

### POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Diesel Consumption Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	D.E.F. Consumption Hp.hr/gal (kW.h/l)	Gal/hr (l/h)	Mean Atmospheric Conditions
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>						
<b>Rated Engine Speed—(PTO speed—1162 rpm)</b>						
131.2 (97.8)	2200	7.51 (28.41)	0.399 (0.242)	17.48 (3.44)	0.25 (0.95)	
<b>Standard Power Take-off Speed (1000 rpm)</b>						
145.2 (108.3)	1893	7.78 (29.46)	0.373 (0.227)	18.66 (3.68)	0.28 (1.06)	
<b>Maximum Power (1 hour)</b>						
145.2 (108.3)	1893	7.78 (29.46)	0.373 (0.227)	18.66 (3.68)	0.28 (1.06)	
<b>VARYING POWER AND FUEL CONSUMPTION</b>						
131.2 (97.8)	2200	7.51 (28.41)	0.399 (0.242)	17.48 (3.44)	0.25 (0.95)	Air temperature
112.8 (84.1)	2226	6.75 (25.53)	0.417 (0.253)	16.72 (3.29)	0.22 (0.82)	73°F (23°C)
86.0 (64.1)	2262	5.53 (20.91)	0.448 (0.272)	15.56 (3.06)	0.17 (0.63)	Relative humidity
58.2 (43.4)	2294	4.38 (16.57)	0.524 (0.318)	13.31 (2.62)	0.10 (0.37)	48%
29.5 (22.0)	2325	3.04 (11.50)	0.718 (0.436)	9.71 (1.91)	0.06 (0.23)	Barometer
---	2349	2.06 (7.78)	---	---	---	29.5" Hg (99.8 kPa)
Maximum torque - 452 lb.-ft. (613 Nm) at 1500 rpm Maximum torque rise - 44.4% Torque rise at 1800 engine rpm - 35% Power increase at 1893 engine rpm - 10%						

## HYDRAULIC PERFORMANCE

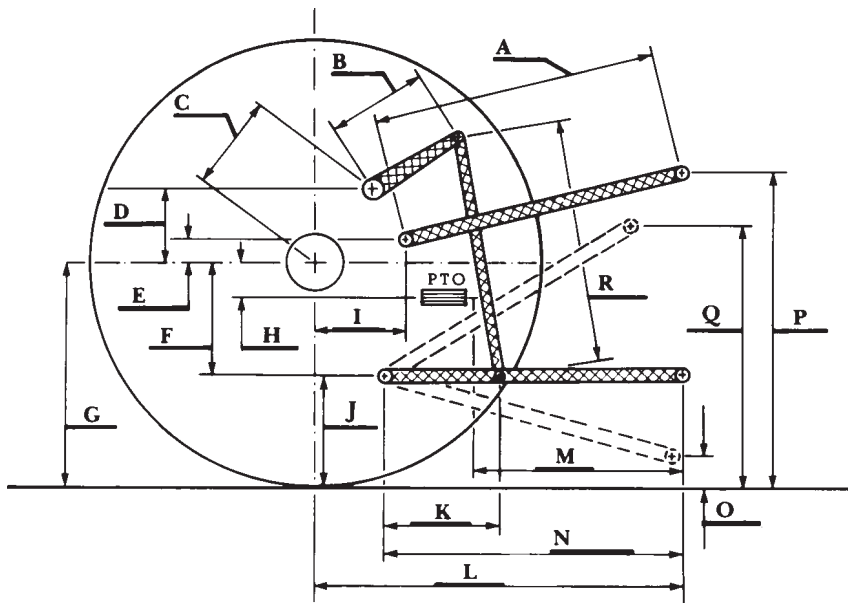
CATEGORY: II

Quick Attach: None

OECD Static test

Maximum force exerted through whole range: 6720 lbs (29.9 kN) (80 mm lift cylinders)  
7980 lbs (35.5 kN) (90 mm lift cylinders)

- i) Sustained pressure of the open relief valve: 2975 psi (207 bar)
- ii) Pump delivery rate at minimum pressure: 28.1 GPM (106.5 l/min)
- iii) Pump delivery rate at maximum
  - hydraulic power: 24.9 GPM (94.2 l/min)
  - Delivery pressure: 2690 psi (185 bar)
  - Power: 39.1 HP (29.2 kW)



**HITCH DIMENSIONS AS TESTED—NO LOAD**

	inch	mm
A	29.9	760
B	12.2	310
C	15.6	395
D	14.6	370
E	7.9	200
F	9.3	235
G	32.5	825
H	1.0	25
I	16.9	430
J	23.2	590
K	19.9	505
L	46.4	1178
M	23.9	608
N	39.8	1010
O	7.9	200
P	47.2	1200
Q	34.3	870
R	32.5	825