

# SUMMARY OF OECD TEST 2701–NEBRASKA SUMMARY 852

## CASE IH MAXXUM 120 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—1091 rpm)</b>						
123.2 (91.9)	2100	7.04 (26.65)	0.398 (0.242)	17.51 (3.45)	0.29 (1.11)	
<b>Standard Power Take-off Speed (1000 rpm)</b>						
127.5 (95.1)	1924	7.05 (26.69)	0.385 (0.234)	18.09 (3.56)	0.30 (1.14)	
<b>Maximum Power (1 hour)</b>						
129.8 (96.8)	1800	7.03 (26.60)	0.376 (0.229)	18.47 (3.64)	0.30 (1.12)	

#### VARYING POWER AND FUEL CONSUMPTION

123.2 (91.9)	2100	7.04 (26.65)	0.398 (0.242)	17.51 (3.45)	0.29 (1.11)	Air temperature
106.5 (79.4)	2134	6.34 (23.98)	0.414 (0.252)	16.80 (3.31)	0.28 (1.06)	76°F (24°C)
80.7 (60.2)	2157	5.15 (19.50)	0.444 (0.270)	15.68 (3.09)	0.23 (0.88)	Relative humidity
54.4 (40.6)	2176	4.00 (15.14)	0.511 (0.311)	13.60 (2.68)	0.15 (0.57)	54%
27.4 (20.4)	2197	2.76 (10.46)	0.704 (0.428)	9.92 (1.96)	0.04 (0.17)	Barometer
---	2213	1.79 (6.80)	---	---	---	28.9" Hg (97.7 kPa)

Maximum torque - 409 lb.-ft. (555 Nm) at 1500 rpm  
 Maximum torque rise - 32.8%  
 Torque rise at 1700 engine rpm - 29%  
 Power increase at 1800 engine rpm - 5%

#### 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—7th Gear</b>									
94.5 (70.5)	7800 (34.7)	4.54 (7.31)	2100	5.9	0.518 (0.315)	13.45 (2.65)	189 (87)	84 (29)	29.0 (98.2)
<b>75% of Pull at Maximum Power—7th Gear</b>									
74.0 (55.2)	5845 (26.0)	4.75 (7.64)	2162	4.4	0.579 (0.352)	12.03 (2.37)	189 (87)	84 (29)	29.0 (98.2)
<b>50% of Pull at Maximum Power—7th Gear</b>									
50.7 (37.8)	3910 (17.4)	4.86 (7.82)	2186	3.1	0.644 (0.392)	10.81 (2.13)	189 (87)	84 (29)	29.0 (98.2)
<b>75% of Pull at Reduced Engine Speed—8th Gear</b>									
74.2 (55.3)	5845 (26.0)	4.76 (7.66)	1947	4.4	0.526 (0.320)	13.25 (2.61)	185 (85)	86 (30)	29.0 (98.2)
<b>50% of Pull at Reduced Engine Speed—8th Gear</b>									
50.8 (37.9)	3890 (17.3)	4.90 (7.89)	1978	3.1	0.641 (0.390)	10.86 (2.14)	185 (85)	86 (30)	29.0 (98.2)

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

**Dates of tests:** June, 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.** 874813 **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.** ZBBE01001 **Tread width** rear 56.3" (1430 mm) to 84.0" (2134 mm) front 61.4" (1560 mm) to 88.8" (2256 mm) **Wheelbase** 94.0" (2387 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) 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)
62.9 (46.9)	10430 (46.4)	2.26 (3.64)	2171	15.0	4th Gear 0.582 (0.354)	11.98 (2.36)	181 (83)	77 (25)	29.0 (98.3)
81.3 (60.6)	10385 (46.2)	2.93 (4.72)	2154	12.6	5th Gear 0.522 (0.317)	13.35 (2.63)	183 (84)	77 (25)	29.0 (98.3)
96.7 (72.1)	9890 (44.0)	3.67 (5.90)	2134	9.6	6th Gear 0.490 (0.298)	14.21 (2.80)	183 (84)	79 (26)	29.0 (98.3)
99.6 (74.3)	9530 (42.4)	3.92 (6.31)	1860	8.4	7th Gear 0.493 (0.300)	14.11 (2.78)	188 (87)	79 (26)	29.0 (98.3)
102.1 (76.1)	8925 (39.7)	4.29 (6.90)	1800	7.2	8th Gear 0.480 (0.292)	14.52 (2.86)	188 (87)	82 (28)	29.0 (98.2)
102.9 (76.7)	8070 (35.9)	4.78 (7.69)	1801	5.9	9th Gear 0.478 (0.291)	14.57 (2.87)	187 (86)	82 (28)	29.0 (98.3)
104.2 (77.7)	7260 (32.3)	5.38 (8.66)	1800	4.8	10th Gear 0.467 (0.284)	14.92 (2.94)	178 (81)	73 (23)	29.0 (98.3)
100.6 (75.0)	5710 (25.4)	6.61 (10.63)	1800	3.9	11th Gear 0.487 (0.296)	14.31 (2.82)	176 (80)	73 (23)	29.0 (98.3)
100.2 (74.7)	4610 (20.5)	8.15 (13.12)	1799	3.3	12th Gear 0.490 (0.298)	14.21 (2.80)	178 (81)	73 (23)	29.0 (98.3)

**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 1970 engine rpm or 1000 rpm at 1924 engine rpm **Unladen tractor mass** 11750 lb (5330 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 6900 lbs (3130 kg), with 80 mm lift cylinders. 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. **2701**, Nebraska Summary 852, January 17, 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	70.1	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)  
 17.9 in (455 mm)  
 7310 lb (3315 kg)  
 4605 lb (2090 kg)  
 11915 lb (5405 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—1091 rpm)</b>						
137.3 (102.4)	2100	7.65 (28.96)	0.388 (0.236)	17.95 (3.54)	0.33 (1.26)	
<b>Standard Power Take-off Speed (1000 rpm)</b>						
142.7 (106.4)	1924	7.83 (29.66)	0.382 (0.233)	18.22 (3.59)	0.34 (1.29)	
<b>Maximum Power (1 hour)</b>						
144.8 (108.0)	1800	7.79 (29.50)	0.375 (0.228)	18.58 (3.66)	0.33 (1.25)	

### VARYING POWER AND FUEL CONSUMPTION

137.3 (102.4)	2100	7.65 (28.96)	0.388 (0.236)	17.95 (3.54)	0.33 (1.26)	Air temperature
118.3 (88.2)	2126	6.79 (25.70)	0.400 (0.244)	17.41 (3.43)	0.30 (1.12)	73°F (23°C)
89.6 (66.8)	2149	5.47 (20.71)	0.425 (0.259)	16.37 (3.23)	0.25 (0.96)	Relative humidity
60.5 (45.1)	2174	4.21 (15.94)	0.484 (0.295)	14.37 (2.83)	0.16 (0.61)	55%
30.6 (22.8)	2195	2.87 (10.85)	0.654 (0.398)	10.66 (2.10)	0.06 (0.21)	Barometer
---	2213	1.79 (6.77)	---	---	---	28.8" Hg (97.4 kPa)

Maximum torque - 454 lb.-ft. (615 Nm) at 1500 rpm  
 Maximum torque rise - 32.0%  
 Torque rise at 1700 engine rpm - 28%  
 Power increase at 1800 engine rpm - 5%

## HYDRAULIC PERFORMANCE

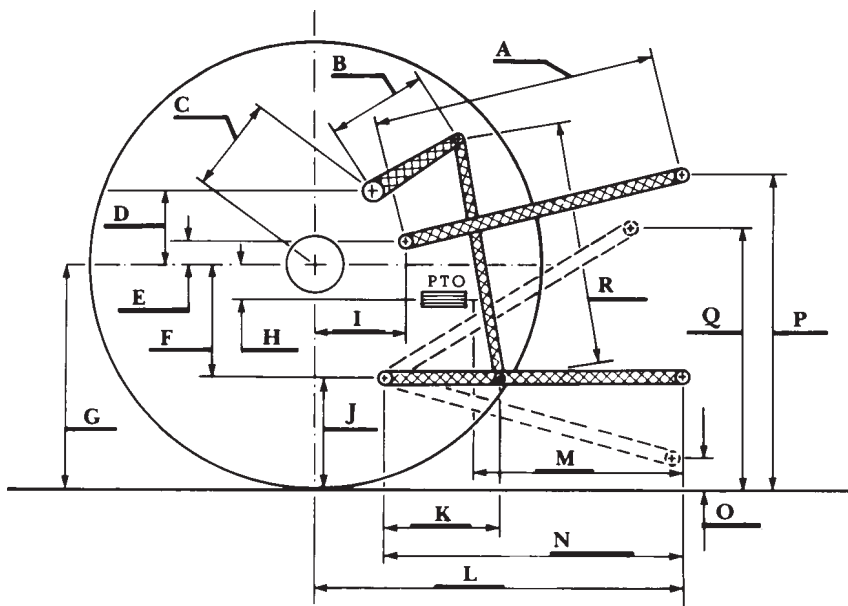
CATEGORY: II

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 (205 bar)
- ii) Pump delivery rate at minimum pressure: 26.7 GPM (100.9 l/min)
- iii) Pump delivery rate at maximum
  - hydraulic power: 25.3 GPM (95.8 l/min)
  - Delivery pressure: 2685 psi (185 bar)
  - Power: 39.6 HP (29.5 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