

SUMMARY OF OECD TEST 2645-NEBRASKA SUMMARY 803

CASE IH PUMA 230 DIESEL

CONTINUOUSLY VARIABLE TRANSMISSION

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—1151 rpm)					
195.9 (146.1)	2200	11.06 (41.89)	0.393 (0.239)	17.72 (3.49)	
Standard Power Take-off Speed (1000 rpm)					
214.6 (160.0)	1912	11.48 (43.47)	0.373 (0.227)	18.68 (3.68)	
Maximum Power - (1 hour)					
218.5 (162.9)	1800	11.59 (43.87)	0.370 (0.225)	18.85 (3.71)	

VARYING POWER AND FUEL CONSUMPTION

195.9 (146.1)	2200	11.06 (41.89)	0.393 (0.239)	17.72 (3.49)	Air temperature
170.8 (127.4)	2255	10.04 (38.02)	0.409 (0.249)	17.01 (3.35)	66°F (19°C)
129.5 (96.6)	2280	8.27 (31.31)	0.444 (0.270)	15.66 (3.09)	Relative humidity
88.0 (65.6)	2323	6.11 (23.11)	0.483 (0.294)	14.41 (2.84)	45%
44.3 (33.0)	2340	4.28 (16.19)	0.673 (0.410)	10.35 (2.04)	Barometer
--	2355	2.90 (10.99)	--	--	29.2" Hg (99.0 kPa)

Maximum Torque - 727.5 lb.-ft. (986.4 Nm) at 1500 rpm

Maximum Torque Rise - 55.5%

Torque rise at 1800 engine rpm - 36%

Power increase at 1800 engine rpm - 11.5%

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)
Maximum Power—5.9 mph (9.5 km/h)									
165.2 (123.2)	11710 (32.09)	5.29 (8.52)	2100	4.7	0.475 (0.289)	14.67 (2.89)	174 (79)	70 (21)	29.5 (100.0)
75% of Pull at Maximum Power—4.7 mph (7.5 km/h)									
106.5 (79.4)	8800 (39.15)	4.54 (7.30)	2240	3.7	0.526 (0.320)	13.25 (2.61)	178 (81)	68 (20)	29.5 (100.0)
50% of Pull at Maximum Power—4.7 mph (7.5 km/h)									
72.7 (54.2)	5845 (26.00)	4.67 (7.51)	2265	2.1	0.613 (0.373)	11.37 (2.24)	178 (81)	68 (20)	29.5 (100.0)
75% of Pull at Reduced Engine Speed—5.0 mph (8 km/h)									
103.4 (77.1)	8785 (39.07)	4.41 (7.10)	1950	3.5	0.464 (0.282)	15.02 (2.96)	176 (80)	66 (19)	29.5 (100.0)
50% of Pull at Reduced Engine Speed—5.0 mph (8 km/h)									
71.6 (53.4)	5800 (25.80)	4.63 (7.45)	2050	2.2	0.565 (0.344)	12.33 (2.43)	176 (80)	66 (19)	29.5 (100.0)

Location of tests: HBLFA Francisco Josephinum
BLT Biomass - Logistics -Technology
Rottenhauser, StraBe 1 AT 3250 Wieselburg,
Austria

Dates of tests: January to May 2011.

Manufacturer: CNH UK Limited Basildon, Essex
SS14 3AD United Kingdom

FUEL and OIL: Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F (15°/15°C)** 0.836
Fuel weight 6.977 lbs/gal (0.835 kg/l) **Oil SAE**
10W30 API service classification CG-4
Transmission and hydraulic lubricant Akcela
Nexplore fluid **Front axle lubricant** Akcela
Nexplore fluid

ENGINE: Make F.P.T. Diesel **Type** six cylinder
vertical with turbocharger and air to air intercooler
and D.E.F (diesel exhaust fluid) exhaust treatment
Serial No. 518516 **Crankshaft** lengthwise **Rated**
engine speed 2200 **Bore and stroke** 4.094" x
5.197" (104.0 mm x 132.0 mm) **Compression ratio**
17.0 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 vertical **Cooling medium temperature**
control thermostat and variable speed fan

CHASSIS: **Type** front wheel assist **Serial No.**
ZABS09168 **Tread width** rear 60.2" (1530 mm) to
87.8" (2230 mm) front 61.4" (1560 mm) to 89.0"
(2260 mm) **Wheelbase** 113.5" (2884 mm) **Hydraulic**
control system direct engine drive **Transmission**
Continuously variable transmission with compound
planetary gears. Four mechanical ranges are
electrohydraulically controlled. **Nominal travel**
speeds mph (km/h) forward - first - 0 - 7.5 mph (0
- 12 km/h), second - 0-11 mph (0-18 km/h), third 0-
23 mph (0-37 km/h), fourth- 0-31 mph (0-49.9 km/
h) reverse - 0 - 9 mph (0-15 km/h), 0-20 mph (0-32
km/h) **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 1931 engine
rpm or 1000 rpm at 1912 engine rpm **Unladen**
tractor mass 19800 lb (8980 kg)

DRAWBAR PERFORMANCE

(Unballasted - Front Drive Engaged)

MAXIMUM POWER AT SELECTED SPEED SETTINGS

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. ^o F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
3.1 mph (5.0 km/h)									
133.2 (99.3)	18250 (81.19)	2.74 (4.40)	2200	14.8	0.557 (0.339)	12.52 (2.47)	178 (81)	75 (24)	29.5 (100.0)
3.7 mph (6.0 km/h)									
147.4 (109.9)	18055 (80.31)	3.06 (4.92)	2100	14.6	0.528 (0.321)	13.20 (2.60)	176 (80)	72 (22)	29.5 (100.0)
4.3 mph (7.0 km/h)									
153.8 (114.7)	17800 (79.16)	3.24 (5.22)	1920	13.6	0.520 (0.317)	13.39 (2.64)	176 (80)	68 (20)	29.5 (100.0)
4.7 mph (7.5 km/h)									
159.0 (118.6)	17400 (77.40)	3.43 (5.51)	1860	12.2	0.506 (0.308)	13.76 (2.71)	178 (81)	68 (20)	29.5 (100.0)
5.0 mph (8.0 km/h)									
167.4 (124.8)	17395 (77.39)	3.61 (5.80)	1800	10.5	0.485 (0.295)	14.37 (2.83)	176 (80)	66 (19)	29.5 (100.0)
5.6 mph (9.0 km/h)									
172.3 (128.5)	15465 (68.79)	4.18 (6.72)	1800	7.3	0.469 (0.285)	14.87 (2.93)	176 (80)	73 (23)	29.5 (100.0)
5.9 mph (9.5 km/h)									
173.7 (129.5)	14600 (64.94)	4.46 (7.18)	1800	6.4	0.467 (0.284)	14.92 (2.94)	174 (79)	70 (21)	29.5 (99.8)
6.2 mph (10.0 km/h)									
176.2 (131.4)	13930 (61.96)	4.74 (7.64)	1800	5.5	0.460 (0.280)	15.16 (2.99)	172 (78)	68 (20)	29.5 (99.8)
6.8 mph (11.0 km/h)									
175.9 (131.2)	12530 (55.73)	5.27 (8.48)	1800	5.0	0.460 (0.280)	15.16 (2.99)	174 (79)	66 (19)	29.5 (99.8)
7.5 mph (12.0 km/h)									
175.4 (130.8)	11400 (50.70)	5.77 (9.29)	1800	4.3	0.460 (0.280)	15.13 (2.98)	172 (78)	66 (19)	29.5 (99.8)
8.1 mph (13.0 km/h)									
180.5 (134.6)	10700 (47.39)	6.33 (10.18)	1800	4.0	0.447 (0.272)	15.58 (3.07)	172 (78)	68 (20)	29.5 (99.8)
8.7 mph (14.0 km/h)									
183.2 (136.6)	10145 (45.12)	6.77 (10.90)	1800	3.8	0.442 (0.269)	15.78 (3.11)	172 (78)	68 (20)	29.5 (99.8)
9.3 mph (15.0 km/h)									
184.7 (137.7)	9515 (42.32)	7.28 (11.71)	1800	3.5	0.438 (0.266)	15.91 (3.13)	174 (79)	66 (19)	29.5 (99.8)
9.9 mph (16.0 km/h)									
185.7 (138.5)	8955 (39.83)	7.78 (12.52)	1800	2.7	0.433 (0.264)	16.08 (3.17)	172 (78)	66 (19)	29.5 (99.8)
10.6 mph (17.0 km/h)									
188.0 (140.2)	8355 (37.16)	8.44 (13.58)	1800	2.5	0.427 (0.260)	16.29 (3.21)	172 (78)	64 (18)	29.5 (99.8)

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Disengaged dB(A)	Engaged dB(A)
At no load at 4.7 mph (7.5 km/h)	71.0	71.0
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 710/70R38; **, 15 (100)
 Two 600/65R28; **, 16 (110)
 19.7 in (500 mm)
 11530 lb (5230 kg)
 8430 lb (3825 kg)
 19960 lb (9055 kg)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments

Note: The test results on this Summary were obtained from tests carried out on the New Holland T7.270 Diesel.

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 sound level claim of 70 dB(A). 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 summary of data from OECD Report No. **2645**, Nebraska Summary 803, January 26, 2012.

Roger M. Hoy
 Director

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 D.R. Keshwani
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 Board of Tractor Test Engineers

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 and hydraulic pump 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	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—1151 rpm)					
223.0 (166.3)	2200	12.36 (46.78)	0.386 (0.235)	18.04 (3.55)	
Standard Power Take-off Speed (1000 rpm)					
234.1 (174.5)	1912	12.52 (47.41)	0.373 (0.227)	18.71 (3.69)	
Maximum Power - (1 hour)					
237.4 (177.0)	1800	12.32 (46.64)	0.362 (0.220)	19.26 (3.80)	
VARYING POWER AND FUEL CONSUMPTION					
223.0 (166.3)	2200	12.36 (46.78)	0.386 (0.235)	18.04 (3.55)	Air temperature
193.0 (143.9)	2240	11.00 (41.63)	0.396 (0.241)	17.55 (3.46)	68°F (20°C)
146.7 (109.4)	2272	8.99 (34.01)	0.426 (0.259)	16.32 (3.21)	Relative humidity
99.1 (73.9)	2300	6.95 (26.30)	0.488 (0.297)	14.26 (2.81)	47%
50.3 (37.5)	2333	4.82 (18.23)	0.667 (0.406)	10.44 (2.06)	Barometer
--	2355	2.87 (10.86)	--	--	29.1" Hg (98.7 kPa)
Maximum Torque - 766.3 lb.-ft. (1038.8 Nm) at 1500 rpm Maximum Torque Rise - 43.9% Torque rise at 1800 engine rpm - 30% Power increase at 1800 engine rpm - 6.5%					

HYDRAULIC PERFORMANCE

CATEGORY: III

Quick Attach: None

OECD Static test

Maximum force exerted through whole range: 15000 lbs (66.7 kN) Lift cylinders 2x110 mm

i) Sustained pressure of the open relief valve: 2900 psi (200 bar)
two outlet sets combined

ii) Pump delivery rate at minimum pressure: 42.8 GPM (161.9 l/min)

iii) Pump delivery rate at maximum hydraulic power: 40.0 GPM (151.3 l/min)

Delivery pressure: 2465 psi (170 bar)

Power: 57.5 HP (42.9 kW)

single outlet set

ii) Pump delivery rate at minimum pressure: 36.5 GPM (138.3 l/min)

iii) Pump delivery rate at maximum hydraulic power: 32.5 GPM (123.1 l/min)

Delivery pressure: 2175 psi (150 bar)

Power: 41.3 HP (30.8 kW)

HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	32.3	820
B	17.9	454
C	15.1	383
D	14.6	372
E	10.8	275
F	10.6	270
G	36.4	925
H	2.4	60
I	17.7	450
J	25.8	655
K	26.9	682
L	48.2	1224
M	23.1	587
N	38.3	974
O	9.8	250
P	52.8	1340
Q	39.2	995
R	40.0	1015

