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2001

Tractor Test 1795: White 8810

Nebraska Tractor Test Lab

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NEBRASKA OECD TRACTOR TEST 1795 - SUMMARY 355

WHITE 8810 DIESEL

18 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
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MAXIMUM POWER AND FUEL CONSUMPTION

Rated Engine Speed (PTO speed 1054rpm)					
227.95 (169.98)	2200	14.44 (54.66)	0.445 (0.271)	15.79 (3.11)	
Standard Power Take-off Speed (1006rpm)					
233.39 (174.04)	2100	14.17 (53.65)	0.427 (0.260)	16.47 (3.24)	
Maximum Power (2 Hours)					
233.39 (174.04)	2100	14.17 (53.65)	0.427 (0.2605)	16.47 (3.24)	

VARYING POWER AND FUEL CONSUMPTION

227.95 (169.98)	2200	14.44 (54.66)	0.445 (0.271)	15.79 (3.11)	Air temperature
199.17 (148.52)	2263	13.06 (49.45)	0.461 (0.280)	15.25 (3.00)	75°F (24°C)
152.95 (114.05)	2312	10.72 (40.56)	0.492 (0.299)	14.27 (2.81)	Relative humidity
103.72 (77.34)	2357	8.28 (31.35)	0.561 (0.341)	12.52 (2.47)	54%
53.14 (39.63)	2403	5.81 (21.98)	0.768 (0.467)	9.15 (1.80)	Barometer
1.67 (1.25)	2444	3.54 (13.41)	14.891 (9.058)	0.47 (0.09)	29.16" Hg (98.75 kPa)

Maximum Torque - 677 lb.-ft. (918 Nm) at 1498 rpm

Maximum Torque Rise - 24.2%

Torque rise at 1800 engine rpm - 16%

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 11th Gear									
200.61 (149.59)	11605 (51.62)	6.48 (10.43)	2200	3.12	0.507 (0.308)	13.87 (2.73)	186 (85)	64 (18)	29.07 (98.44)
75% of Pull at Maximum Power 11th Gear									
157.43 (117.40)	8700 (38.70)	6.79 (10.92)	2287	2.39	0.542 (0.329)	12.97 (2.56)	185 (85)	75 (24)	29.00 (98.21)
50% of Pull at Maximum Power 11th Gear									
108.34 (80.79)	5799 (25.79)	7.01 (11.28)	2340	1.65	0.615 (0.374)	11.43 (2.25)	184 (84)	75 (24)	28.98 (98.14)
75% of Pull at Reduced Engine Speed 13th Gear									
157.52 (117.46)	8710 (38.74)	6.78 (10.92)	1773	2.30	0.448 (0.272)	15.69 (3.09)	183 (84)	75 (24)	28.98 (98.14)
50% of Pull at Reduced Engine Speed 13th Gear									
108.41 (80.84)	5759 (25.62)	7.06 (11.36)	1831	1.55	0.492 (0.299)	14.29 (2.82)	182 (83)	75 (24)	28.96 (98.07)

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

Dates of Test: May 2- 18, 2001

Manufacturer: AGCO Corporation, 4205 River Green Parkway, Duluth, Georgia, 30096 USA.

FUEL, OIL and TIME: Fuel No. 2 Diesel Specific gravity converted to 60°/60° F (15°/15°C) 0.8439 Fuel weight 7.027 lbs/gal (0.842 kg/l) Oil SAE 15W40 API service classification CE/CF-4 Transmission and hydraulic lubricant AGCO Power Fluid 821 XL fluid Front axle lubricant AGCO Gear Lube 715 Total time engine was operated 33.0 hours

ENGINE: Make Cummins Diesel **Type** six cylinder vertical with turbocharger and intercooler **Serial No.** 45684298 **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.488" x 5.315" (114.0 mm x 135.0 mm) **Compression ratio** 17.3 to 1 **Displacement** 505 cu in (8268 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 transmission and hydraulic oil **Fuel filter** two paper elements and water separator **Muffler** vertical **Cooling medium temperature control** one thermostat and variable speed fan

ENGINE OPERATING PARAMETERS: Fuel rate: 93.9 - 103.7 lb/h (42.6 -47.0 kg/h) **High idle:** 2400 - 2460 rpm **Turbo boost:** nominal 19.6 - 26.5 psi (135 - 183 kPa) as measured 25.3 psi (174 kPa)

CHASSIS: Type front wheel assist **Serial No.** *CH104002* **Tread width** rear 64.1" (1628 mm) to 128.9" (3274 mm) front 60.0" (1524 mm) to 88.0" (2235 mm) **Wheelbase** 121.0" (3073 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 1.39 (2.24) second 1.80 (2.89) third 2.32 (3.74) fourth 2.65 (4.26) fifth 3.00 (4.82) sixth 3.41 (5.49) seventh 3.87 (6.23) eighth 4.41 (7.10) ninth 4.99 (8.03) tenth 5.69 (9.15) eleventh 6.46 (10.39) twelfth 7.36 (11.84) thirteenth 8.32 (13.39) fourteenth 9.48 (15.25) fifteenth 10.76 (17.32) sixteenth 13.86 (22.31) seventeenth 18.56 (29.87) eighteenth 23.10 (37.18) reverse 1.39 (2.24), 2.32 (3.74), 2.65 (4.26), 3.87 (6.23), 4.41 (7.10), 6.46 (10.39) **Clutch** multiple wet disc electro-hydraulically operated by foot pedal **Brakes** multiple wet disc hydraulically operated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 1000 rpm at 2091 engine rpm **Unladen tractor mass** 19745 lb (8956 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)	Consumption Hp.hr/gal (kW.h/l)	Temp.°F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
7th Gear									
172.73 (128.80)	18284 (81.33)	3.54 (5.70)	2251	13.90	0.566 (0.345)	12.41 (2.44)	185 (85)	63 (17)	28.88 (97.80)
8th Gear									
188.59 (140.63)	17118 (76.14)	4.13 (6.65)	2201	9.70	0.540 (0.329)	13.01 (2.56)	185 (85)	74 (23)	29.04 (98.34)
9th Gear									
198.67 (148.15)	16034 (71.32)	4.65 (7.48)	2100	5.85	0.501 (0.305)	14.02 (2.76)	185 (85)	73 (23)	29.05 (98.37)
10th Gear									
202.57 (151.05)	14102 (62.73)	5.39 (8.67)	2099	4.37	0.491 (0.299)	14.30 (2.82)	185 (85)	71 (22)	29.05 (98.37)
11th Gear									
203.23 (151.55)	12349 (54.93)	6.17 (9.93)	2099	3.30	0.489 (0.297)	14.37 (2.83)	186 (86)	63 (17)	29.07 (98.44)
12th Gear									
204.26 (152.32)	10861 (48.31)	7.05 (11.35)	2097	2.94	0.489 (0.297)	14.38 (2.83)	185 (85)	66 (19)	29.07 (98.44)
13th Gear									
204.21 (152.28)	9542 (42.44)	8.03 (12.92)	2102	2.57	0.490 (0.298)	14.35 (2.83)	186 (85)	67 (19)	29.07 (98.44)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

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 injection pump was maintained at 148°F (64°C). The pull in 4th gear (ballasted tractor) was limited to avoid excessive tractor bouncing. 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 and correct report of official Tractor Test No. **1795**, Nebraska Summary 355, June 11, 2001.

Brent T. Sampson
Test Engineer

L. L. Bashford
M. F. Kocher
G. J. Hoffman
Board of Tractor Test Engineers

TIRES, BALLAST AND WEIGHT

Rear tires - No., size, ply & psi (kPa)

Ballast - Duals (total)

- Cast Iron (total)

Front tires - No., size, ply & psi (kPa)

Ballast - Liquid (total)

- Cast Iron (total)

Height of Drawbar

Static Weight with operator - Rear

- Front

- Total

With Ballast

Four 20.8R42; **; 16 (110)

2350 lb (1066 kg)

4155 lb (1885 kg)

Two 16.9R30; **; 24 (165)

None

2135 lb (968 kg)

18.0 in (455 mm)

18525 lb (8403 kg)

10035 lb (4552 kg)

28560 lb (12955 kg)

Without Ballast

Two 20.8R42; **; 20 (135)

None

None

Two 16.9R30; **; 24 (165)

None

None

17.0 in (430 mm)

12500 lb (5670 kg)

7420 lb (3366 kg)

19920 lb (9036 kg)

DRAWBAR PERFORMANCE
BALLASTED - 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)	Temp. °F (°C) cool- ing med	Barom. inch Hg (kPa)		
4th Gear									
180.72 (134.76)	26338 (117.16)	2.57 (4.14)	2252	8.37	0.540 (0.328)	13.02 (2.56)	185 (85)	60 (16)	29.02 (98.27)
5th Gear									
193.16 (144.04)	25825 (114.88)	2.80 (4.51)	2167	8.20	0.526 (0.320)	13.36 (2.63)	185 (85)	61 (16)	29.02 (98.27)
6th Gear									
201.36 (150.15)	23522 (104.63)	3.21 (5.17)	2106	5.35	0.495 (0.301)	14.20 (2.80)	184 (84)	62 (17)	29.02 (98.27)
7th Gear									
204.23 (152.30)	20833 (92.67)	3.68 (5.92)	2100	3.95	0.487 (0.296)	14.44 (2.84)	185 (85)	64 (18)	29.02 (98.27)
8th Gear									
205.13 (152.97)	18232 (81.10)	4.22 (6.79)	2099	3.32	0.485 (0.295)	14.48 (2.85)	185 (85)	67 (19)	29.04 (98.34)
9th Gear									
202.90 (151.30)	15802 (70.29)	4.82 (7.75)	2109	2.96	0.490 (0.298)	14.34 (2.83)	185 (86)	79 (26)	29.09 (98.48)
10th Gear									
204.27 (152.32)	13964 (62.11)	5.49 (8.83)	2101	2.60	0.489 (0.298)	14.36 (2.83)	185 (85)	68 (20)	29.04 (98.34)
11th Gear									
203.19 (151.52)	12229 (54.40)	6.23 (10.03)	2094	2.23	0.487 (0.296)	14.42 (2.84)	185 (85)	69 (21)	29.05 (98.37)
12th Gear									
202.28 (150.84)	10660 (47.42)	7.12 (11.45)	2094	1.86	0.492 (0.299)	14.28 (2.81)	186 (85)	70 (21)	29.06 (98.41)
13th Gear									
200.99 (149.88)	9313 (41.43)	8.09 (13.02)	2101	1.67	0.493 (0.300)	14.25 (2.81)	186 (86)	71 (22)	29.06 (98.41)

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Engaged dB(A)	Disengaged dB(A)
At no load in 8th gear	75.9	75.9
Bystander	--	--

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: III

Quick Attach: None

Maximum Force Exerted

Through Whole Range: 19710 lbs (87.7 kN)

High flow option

i) Opening pressure of relief valve:

NA

Sustained pressure of the open relief valve:

2865 psi (197 bar) 2850 psi (196 bar)

ii) Pump delivery rate at minimum pressure and rated engine speed:

29.9 GPM (113.2 l/min) 39.3 GPM (148.8 l/min)

iii) Pump delivery rate at maximum

hydraulic power:

26.1 GPM (98.8 l/min) 35.9 GPM (135.9 l/min)

Delivery pressure:

2590 psi (179 bar) 2490 psi (172 bar)

Power:

39.4 HP (29.4 kW) 52.2 Hp (38.9 kW)

THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi. (bar)

3020 (208)

Location:

lift cylinder

Hydraulic oil temperature: °F (°C)

149 (65)

Location:

hydraulic sump

Category:

III

Quick attach:

none

SAE Static Test System pressure 2720 psi (188 Bar)

Hitch point distance to ground level in. (mm) 11.7 (297) 16.0 (406) 24.0 (610) 32.0 (813) 40.0 (1016)

Lift force on frame lb 22635 23229 22302 22860 21726

" " " " " (kN) (100.7) (103.3) (99.2) (101.7) (96.6)

SAE TEST

inch

mm

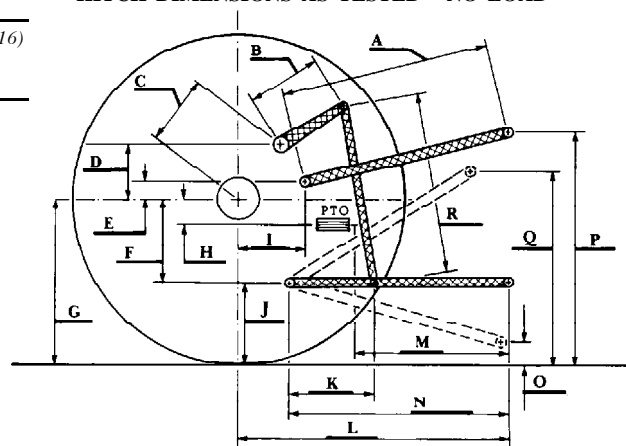
	inch	mm	inch	mm
A	28.8	732	29.8	756
B	15.0	380	15.0	380
C	19.4	492	19.4	492
D	17.6	447	17.6	447
E	11.0	280	11.0	280
F	13.0	330	13.0	330
G	36.3	920	34.3	870
H	3.9	100	3.9	100
I	17.6	447	17.6	447
J	23.3	590	21.3	540
K	21.3	540	23.2	590
L	48.2	1225	48.2	1225
M	23.1	588	23.1	588
N	38.4	975	38.4	975
O	11.6	295	9.3	235
P	45.3	1150	48.2	1225
Q	41.5	1054	36.9	937
R	34.0	864	36.0	914

OECD TEST

inch

mm

HITCH DIMENSIONS AS TESTED - NO LOAD



White 8810 Diesel

Agricultural Research Division
Institute of Agriculture and Natural Resources
University of Nebraska Lincoln
Darrell Nelson, Dean and Director