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Test 1685: White 6175 Diesel 18-Speed

Nebraska Tractor Test Lab

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NEBRASKA OECD TRACTOR TEST 1685—SUMMARY 169

WHITE 6175 DIESEL 18 SPEED

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

Dates of Test: October 16-27, 1994

Manufacturer: AGCO Corporation, Duluth,
Georgia 30136

POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Gal/hr (l/h)	lb/hp.hr (kg/kWh)	Hp.hr/gal (kW.h/l)	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed—(PTO speed—1056 rpm)					
175.47 (130.85)	2201	10.47 (39.61)	0.416 (0.253)	16.77 (3.30)	
Standard Power Take-off Speed (1000 rpm)					
186.75 (139.26)	2085	10.75 (40.70)	0.401 (0.244)	17.37 (3.42)	
Maximum Power (2 hours)					
192.94 (143.87)	1900	10.78 (40.82)	0.389 (0.237)	17.89 (3.52)	

VARYING POWER AND FUEL CONSUMPTION

Power HP (kW)	Crank shaft speed rpm	Gal/hr (l/h)	lb/hp.hr (kg/kWh)	Hp.hr/gal (kW.h/l)	Conditions
175.47 (130.85)	2201	10.47 (39.61)	0.416 (0.253)	16.77 (3.30)	Air temperature
151.55 (113.01)	2235	9.30 (35.21)	0.428 (0.260)	16.29 (3.21)	76°F (24°C)
115.00 (85.76)	2269	7.66 (29.01)	0.464 (0.282)	15.00 (2.96)	Relative humidity
77.75 (57.98)	2301	6.07 (22.98)	0.544 (0.331)	12.81 (2.52)	49%
39.29 (29.30)	2328	4.48 (16.95)	0.794 (0.483)	8.77 (1.73)	Barometer
1.62 (1.21)	2363	3.10 (11.74)	13.341 (8.115)	0.52 (0.10)	28.73" Hg (97.30 kPa)

Maximum Torque 557 lb.-ft. (756 Nm) at 1603 rpm

Maximum Torque Rise 33.2%

Torque rise at 1802 rpm 31%

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/kWh)	Hp.hr/gal (kW.h/l)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—8th Gear									
154.72 (115.38)	11961 (53.20)	4.85 (7.81)	2198	3.75	0.477 (0.290)	14.61 (2.88)	186 (86)	52 (11)	29.17 (98.78)
75% of Pull at Maximum Power—8th Gear									
120.15 (89.59)	8960 (39.86)	5.03 (8.09)	2251	2.66	0.510 (0.311)	13.65 (2.69)	183 (84)	55 (13)	28.18 (98.81)
50% of Pull at Maximum Power—8th Gear									
82.07 (61.20)	5972 (26.56)	5.15 (8.29)	2286	1.74	0.587 (0.357)	11.87 (2.34)	184 (84)	55 (13)	29.18 (98.81)
75% of Pull at Reduced Engine Speed—10th Gear									
120.13 (89.58)	8954 (39.83)	5.03 (8.10)	1657	2.48	0.449 (0.273)	15.52 (3.06)	185 (85)	55 (13)	29.18 (98.81)
50% of Pull at Reduced Engine Speed—10th Gear									
81.86 (61.12)	5984 (26.62)	5.14 (8.27)	1677	1.65	0.483 (0.294)	14.42 (2.84)	181 (82)	55 (13)	29.18 (98.81)

FUEL OIL and TIME: Fuel No. 2 Diesel **Cetane No. 50.6 Specific gravity converted to 60°/60° F (15°/15°C)** 0.8367 **Fuel weight** 6.967 lbs/gal (0.835 kg/l) **Oil SAE 15W-40 API service classification** CDII/SG **To motor** 4.582 gal (17.346 l) **Drained from motor** 4.385 gal (16.598 l) **Transmission and hydraulic lubricant** AGCO Power Fluid 821XL **Front axle lubricant** AGCO Gear Lube 715 SAE 80W-90 **Total time engine was operated** 20.5 hours.

ENGINE: Make Consolidated Diesel Corporation Diesel **Type** six cylinder vertical with turbocharger **Serial No.** 45010186 **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** (as specified) 4.488" × 5.315" (114.0 mm × 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** two full flow cartridges **Oil cooler** engine coolant heat exchanger for crankcase oil, radiator for hydraulic and final drive oil, radiator for transmission oil **Fuel filter** two paper elements **Muffler** underhood **Exhaust** vertical **Cooling medium temperature control** two thermostats.

ENGINE OPERATING PARAMETERS: Fuel rate: 66.1-77.2 lb/h (30.0-35.0 kg/h) **High idle:** 2325-2425 rpm **Turbo boost** nominal 15.2 psi (105 kPa) as measured 15.3 psi (106 kPa)

CHASSIS: Type front wheel assist **Serial No.** 661048PL **Tread width** rear 65.0" (1651 mm) to 124.0" (3150 mm) front 62.6" (1590 mm) to 88.6" (2250 mm) **Wheel base** 115.0" (2921 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 1.67 (2.69) second 1.97 (3.18) third 2.31 (3.71) fourth 2.64 (4.26) fifth 3.12 (5.03) sixth 3.66 (5.88) seventh 4.30 (6.93) eighth 5.09 (8.19) ninth 5.95 (9.58) tenth 6.91 (11.13) eleventh 8.17 (13.14) twelfth 9.56 (15.38) thirteenth 10.95 (17.62) fourteenth 12.94 (20.83) fifteenth 15.14 (24.37) sixteenth 17.82 (28.68) seventeenth 21.07 (33.91) eighteenth 24.66 (39.68) reverse 2.03 (3.26), 2.39 (3.85), 2.80 (4.50), 3.21 (5.16), 3.79 (6.10), 4.43 (7.14), 5.22 (8.40), 6.17 (9.93), 7.22 (11.62) **Clutch** multiple wet disc electro hydraulically actuated by foot pedal **Brakes** wet multiple disc hydraulically actuated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 1000 rpm at 2083 engine rpm **Unladen tractor mass** 18556 lb (8417 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/kWh)	Fuel Consumption Hp.hr/gal (kW.h/l)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
5th Gear									
132.04 (98.46)	18301 (81.40)	2.71 (4.35)	2229	13.82	0.533 (0.324)	13.06 (2.57)	190 (88)	48 (9)	29.22 (98.95)
6th Gear									
148.26 (110.56)	17179 (76.42)	3.24 (5.21)	2169	9.38	0.501 (0.305)	13.90 (2.74)	185 (85)	51 (11)	29.18 (98.82)
7th Gear									
161.35 (120.32)	17016 (75.69)	3.56 (5.72)	2009	8.82	0.468 (0.285)	14.89 (2.93)	186 (86)	52 (11)	29.17 (98.78)
8th Gear									
164.96 (123.01)	15028 (66.85)	4.12 (6.62)	1904	5.67	0.453 (0.276)	15.37 (3.03)	186 (85)	52 (11)	29.17 (98.78)
9th Gear									
166.47 (124.14)	12774 (56.82)	4.89 (7.87)	1900	4.01	0.445 (0.271)	15.66 (3.09)	186 (86)	53 (12)	29.17 (98.78)
10th Gear									
168.18 (125.41)	11015 (48.99)	5.73 (9.22)	1901	3.30	0.440 (0.268)	15.82 (3.12)	186 (86)	53 (12)	29.17 (98.78)
11th Gear									
170.21 (126.93)	9366 (41.66)	6.82 (10.97)	1902	2.66	0.440 (0.267)	15.84 (3.12)	186 (86)	54 (12)	29.17 (98.78)
12th Gear									
167.35 (124.79)	7833 (34.84)	8.01 (12.89)	1901	2.20	0.445 (0.271)	15.66 (3.08)	187 (86)	55 (13)	29.17 (98.78)

**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/kWh)	Fuel Consumption Hp.hr/gal (kW.h/l)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
4th Gear									
145.95 (108.83)	23273 (103.52)	2.35 (3.78)	2188	10.04	0.511 (0.311)	13.63 (2.68)	184 (84)	51 (11)	28.94 (98.00)
5th Gear									
157.45 (117.41)	21655 (96.33)	2.73 (4.39)	2086	7.39	0.481 (0.293)	14.49 (2.85)	185 (85)	53 (12)	28.94 (98.00)
6th Gear									
160.49 (119.68)	20316 (90.37)	2.96 (4.77)	1922	6.64	0.462 (0.281)	15.08 (2.97)	188 (86)	59 (15)	28.94 (98.00)
7th Gear									
167.08 (124.59)	17869 (79.48)	3.51 (5.64)	1900	5.01	0.449 (0.273)	15.52 (3.06)	187 (86)	64 (18)	28.95 (98.04)
8th Gear									
166.15 (123.90)	14860 (66.10)	4.19 (6.75)	1899	3.87	0.450 (0.274)	15.47 (3.05)	188 (86)	66 (19)	28.96 (98.07)
9th Gear									
166.01 (123.79)	12583 (55.97)	4.95 (7.96)	1900	3.15	0.450 (0.274)	15.48 (3.05)	189 (87)	71 (22)	28.95 (98.04)
10th Gear									
166.60 (124.24)	10820 (48.13)	5.77 (9.29)	1900	2.69	0.448 (0.273)	15.54 (3.06)	188 (86)	72 (22)	28.94 (98.00)
11th Gear									
167.26 (124.72)	9163 (40.76)	6.85 (11.02)	1897	2.05	0.445 (0.271)	15.65 (3.08)	189 (87)	73 (23)	28.93 (97.97)
12th Gear									
165.28 (123.25)	7714 (34.31)	8.03 (12.93)	1895	1.95	0.452 (0.275)	15.42 (3.04)	189 (84)	74 (23)	28.93 (97.97)

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 return was maintained at 181° F (83°C). This tractor did not meet manufacturers claim of 22 GPM (82 l/m) hydraulic flow or 3 point lift capacity of 8500 lbs (3856 kg) (optionally—9900 lbs (4490 kg)). The pull in 3rd gear (ballasted, front drive engaged) was limited to avoid excessive tractor bouncing. The performance results on this summary were taken from OECD tests conducted under the Code II Restricted Standard Test Code procedure.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1685**, Summary 169, December 15, 1994.

LOUIS I. LEVITICUS
Engineer-in-Charge

R.D. GRISSO
M.F. KOCHER
K. VON BARGEN
Board of Tractor Test Engineers

**DRAWBAR PERFORMANCE
(BALLASTED—FRONT DRIVE DISENGAGED)
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/kWh)	Hp.hr/gal (kW.h/l)	Temp.°F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—8th Gear									
152.18 (113.48)	11757 (52.30)	4.85 (7.81)	2200	4.28	0.487 (0.296)	14.31 (2.82)	188 (87)	69 (21)	28.95 (98.04)
75% of Pull at Maximum Power—8th Gear									
117.63 (87.72)	8774 (39.03)	5.03 (8.09)	2248	2.93	0.519 (0.316)	13.42 (2.64)	186 (85)	75 (24)	28.93 (97.97)
50% of Pull at Maximum Power—8th Gear									
80.57 (60.08)	5853 (26.03)	5.16 (8.31)	2285	2.11	0.595 (0.362)	11.70 (2.30)	185 (85)	75 (24)	28.93 (97.97)
75% of Pull at Reduced Engine Speed—10th Gear									
117.41 (87.55)	8771 (39.02)	5.02 (8.08)	1652	2.93	0.465 (0.283)	14.98 (2.95)	187 (86)	75 (24)	28.93 (97.97)
50% of Pull at Reduced Engine Speed—10th Gear									
80.42 (59.97)	5847 (26.01)	5.16 (8.30)	1680	1.92	0.494 (0.301)	14.09 (2.78)	184 (84)	75 (24)	28.93 (97.97)

MAXIMUM POWER IN SELECTED GEARS

5th Gear									
128.32 (95.69)	17393 (77.37)	2.77 (4.45)	2227	12.23	0.537 (0.327)	12.97 (2.55)	184 (84)	56 (13)	28.94 (98.00)
6th Gear									
146.22 (109.04)	16619 (73.92)	3.30 (5.31)	2189	8.92	0.508 (0.309)	13.73 (2.70)	186 (85)	61 (16)	28.95 (98.04)
7th Gear									
158.36 (118.09)	15816 (70.35)	3.76 (6.04)	2079	7.37	0.480 (0.292)	14.53 (2.86)	187 (86)	65 (18)	28.95 (98.04)
8th Gear									
161.60 (120.51)	14736 (65.55)	4.11 (6.62)	1903	6.20	0.464 (0.282)	15.03 (2.96)	189 (87)	67 (19)	28.96 (98.07)
9th Gear									
163.51 (121.93)	12527 (55.72)	4.89 (7.88)	1903	4.40	0.458 (0.279)	15.20 (2.99)	189 (87)	71 (22)	28.94 (98.00)
10th Gear									
164.83 (122.92)	10790 (47.99)	5.73 (9.22)	1902	3.66	0.453 (0.276)	15.37 (3.03)	187 (86)	73 (23)	28.93 (97.97)
11th Gear									
166.04 (123.82)	9154 (40.72)	6.80 (10.95)	1897	3.11	0.450 (0.274)	15.49 (3.05)	188 (86)	73 (23)	28.93 (97.97)
12th Gear									
163.86 (122.19)	7649 (34.02)	8.03 (12.93)	1903	2.57	0.456 (0.277)	15.29 (3.01)	189 (87)	75 (24)	28.93 (97.97)

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Disengaged dB(A)	Engaged dB(A)
At 75% load in 8th gear	75.0	75.5
Bystander	—	—

TIRES, BALLAST AND WEIGHT

	With Ballast	Without Ballast
Rear Tires —No., size, ply & psi (kPa)	Four 18.4R46; ***, 18 (125)	Two 18.4R46; ***, 20 (140)
Ballast —Duals (total)	1832 lb (831 kg)	None
—Cast Iron (total)	None	None
Front Tires —No., size, ply & psi (kPa)	Two 16.9R30; **, 24 (165)	Two 16.9R30; **, 24 (165)
Ballast —Liquid (total)	184 lb (83 kg)	None
—Cast Iron (total)	1434 lb (650 kg)	None
Height of Drawbar	17.0 in (430 mm)	15.5 in (395 mm)
Static Weight with Operator —Rear	13658 lb (6195 kg)	12026 lb (5455 kg)
—Front	8514 lb (3862 kg)	6696 lb (3037 kg)
—Total	22172 lb (10057 kg)	18722 lb (8492 kg)

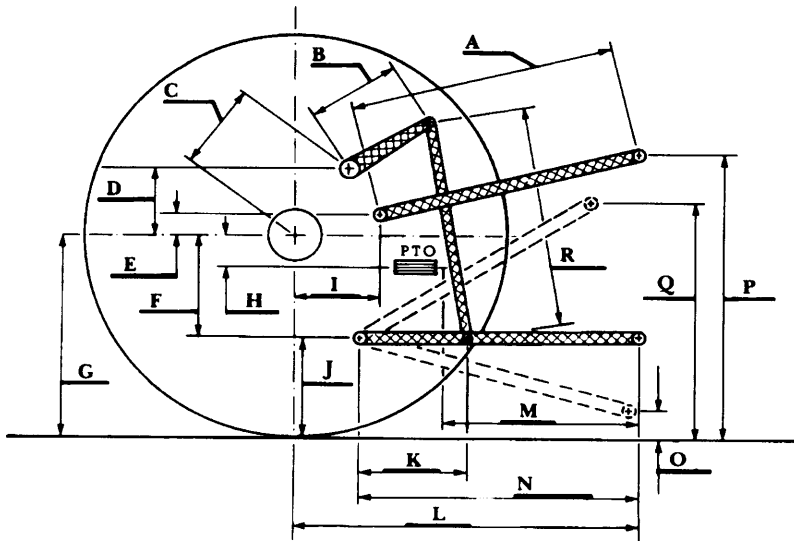
THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: III

Quick Attach: None

Maximum Force Exerted Through Whole Range:	6620 lbs	(29.4 kN)
	8172 lbs	(36.4 kN) with lift assist cylinder
i) Opening pressure of relief valve:	NA	
Sustained pressure with pump stalled:	2540 psi	(175 bar)
ii) Pump delivery rate at minimum pressure and rated engine speed:	21.1 GPM	(79.9 l/min)
iii) Pump delivery rate at maximum hydraulic power:	20.1 GPM	(76.1 l/min)
Delivery pressure:	2280 psi	(157 bar)
Power:	26.7 HP	(19.9 kW)

HITCH DIMENSIONS AS TESTED—NO LOAD



	inch	mm
A	25.3	641
B	16.0	406
C	19.8	502
D	18.2	461
E	9.1	230
F	10.2	259
G	35.0	889
H	1.9	48
I	20.1	508
J	24.8	630
K	21.4	543
L	45.3	1150
M	22.4	568
N	34.8	884
O	9.0	229
P	51.8	1316
Q	38.3	972
R	38.7	983



WHITE 6175 DIESEL

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