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Test 1276: White Field Boss 2-155 DSL 18-Speed

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NEBRASKA TRACTOR TEST 1276 — WHITE FIELD BOSS 2-155 DSL ALSO WHITE FARM EQUIPMENT 2-155 DIESEL 18 SPEED

POWER TAKE-OFF PERFORMANCE

Power Hp (kW)	Crank shaft speed rpm	Fuel Consumption			Temperature °F (°C)			Barometer inch Hg (kPa)
		gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cooling medium	Air wet bulb	Air dry bulb	
MAXIMUM POWER AND FUEL CONSUMPTION								
Rated Engine Speed—Two Hours (PTO Speed—1015 rpm)								
157.73 (117.62)	2200	10.434 (39.495)	0.458 (0.278)	15.12 (2.978)	189 (87.4)	56 (13.2)	75 (23.8)	28.997 (97.917)
Standard Power Take-Off Speed (1000 rpm)—One Hour								
162.37 (121.08)	2167	10.555 (39.955)	0.450 (0.274)	15.38 (3.030)	190 (87.9)	56 (13.1)	75 (24.0)	29.015 (97.979)
VARYING POWER AND FUEL CONSUMPTION—Two Hours—								
138.09 (102.97)	2264	9.656 (36.552)	0.484 (0.294)	14.30 (2.817)	186 (85.6)	56 (13.3)	76 (24.2)	.....
0.00 (0.00)	2397	3.308 (12.523)	.....	.....	175 (79.4)	56 (13.1)	75 (23.9)	.....
71.49 (53.31)	2348	6.434 (24.357)	0.623 (0.379)	11.11 (2.189)	178 (81.4)	56 (13.3)	76 (24.2)	.....
158.53 (118.22)	2199	10.436 (39.506)	0.455 (0.277)	15.19 (2.992)	189 (87.2)	56 (13.3)	76 (24.4)	.....
36.29 (27.06)	2376	4.887 (18.498)	0.932 (0.567)	7.43 (1.463)	175 (79.4)	55 (12.8)	74 (23.6)	.....
105.83 (78.92)	2315	8.121 (30.742)	0.531 (0.323)	13.03 (2.567)	184 (84.2)	56 (13.3)	76 (24.7)	.....
Av Av	85.04 (63.41)	2317 (7.140)	0.581 (0.353)	11.91 (2.346)	181 (82.9)	56 (13.2)	76 (24.2)	29.017 (97.985)

DRAWBAR PERFORMANCE

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption			Temp. °F (°C)			Barom. inch Hg (kPa)
					gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cool- ing med	Air wet bulb	Air dry bulb	
Maximum Available Power—Two Hours 10th (3-O) Gear											
131.33 (97.93)	9145 (40.68)	5.39 (8.67)	2200	5.56	10.352 (39.186)	0.545 (0.332)	12.69 (2.499)	188 (86.4)	58 (14.4)	71 (21.7)	28.790 (97.220)
75% of Pull at Maximum Power—Ten Hours 10th (3-O) Gear											
106.18 (79.18)	6969 (31.00)	5.71 (9.19)	2295	3.95	9.210 (34.864)	0.600 (0.365)	11.53 (2.271)	184 (84.2)	57 (13.9)	66 (18.8)	28.800 (97.402)
50% of Pull at Maximum Power—Two Hours 10th (3-O) Gear											
73.30 (54.66)	4645 (20.66)	5.92 (9.52)	2343	2.58	7.353 (27.834)	0.694 (0.422)	9.97 (1.964)	178 (81.1)	58 (14.2)	64 (17.8)	28.850 (97.422)
50% of Pull at Reduced Engine Speed—Two Hours 14th (5-D) Gear											
73.62 (54.90)	4661 (20.73)	5.92 (9.53)	1433	2.50	5.221 (19.764)	0.491 (0.298)	14.10 (2.778)	179 (81.7)	60 (15.3)	69 (20.3)	28.895 (97.574)
MAXIMUM POWER IN SELECTED GEARS											
121.17 (90.36)	14512 (64.55)	3.13 (5.04)	2218	14.95	5th (2-D) Gear			183 (83.9)	55 (12.8)	60 (15.6)	28.850 (97.422)
123.74 (92.27)	13799 (61.38)	3.36 (5.41)	2200	14.70	6th (3-U) Gear			187 (86.1)	63 (17.2)	76 (24.4)	28.730 (97.017)
130.78 (97.52)	12410 (55.20)	3.95 (6.36)	2198	9.64	7th (2-O) Gear			189 (86.9)	63 (17.2)	76 (24.4)	28.740 (97.051)
135.29 (100.89)	11616 (51.67)	4.37 (7.03)	2198	8.04	8th (3-D) Gear			190 (87.5)	62 (16.7)	76 (24.4)	28.750 (97.084)
135.63 (101.14)	10597 (47.14)	4.80 (7.72)	2199	6.83	9th (4-U) Gear			189 (86.9)	61 (16.1)	75 (23.9)	28.760 (97.118)
133.59 (99.62)	9302 (41.38)	5.39 (8.67)	2200	5.52	10th (3-O) Gear			188 (86.4)	59 (15.0)	72 (22.2)	28.780 (97.186)
138.70 (103.43)	8843 (39.33)	5.88 (9.47)	2200	5.28	11th (4-D) Gear			189 (87.2)	63 (17.2)	76 (24.4)	28.740 (97.051)
135.88 (101.33)	7132 (31.72)	7.14 (11.50)	2200	4.01	12th (4-O) Gear			189 (86.9)	63 (17.2)	76 (24.4)	28.740 (97.051)
137.35 (102.43)	6914 (30.76)	7.45 (11.99)	2200	3.77	13th (5-U) Gear			187 (86.1)	63 (17.2)	76 (24.4)	28.730 (97.017)
139.68 (104.16)	5795 (25.78)	9.04 (14.55)	2200	3.12	14th (5-D) Gear			187 (86.1)	63 (17.2)	76 (24.4)	28.730 (97.017)

Department of Agricultural Engineering

Dates of Test: May 12 to May 19, 1978

Manufacturer: WHITE FARM EQUIPMENT
CO., 2625 Butterfield Road, Oak Brook, Illinois
60521

FUEL, OIL AND TIME Fuel No. 2 diesel
Cetane No. 50.4 (rating taken from oil company's
typical inspection data) **Specific gravity converted**
to 60°/60° (15°/15°) 0.8310 **Fuel weight** 6.919 lbs/
gal (0.829 kg/l) **Oil SAE 30 API service classifica-**
tion SB/SE - CA/CD To motor 3.643 gal
(13.789 l) **Drained from motor** 3.225 gal
(12.207 l) **Transmission and final drive lubricant**
Universal tractor hydraulic and transmission fluid
Total time engine was operated 35.0 hours

ENGINE: Make White Diesel Type 6 cylinder
vertical with turbocharger **Serial No.** 4005651
Crankshaft lengthwise **Rated rpm** 2200 **Bore and**
stroke 4.56" x 4.87" (115.8 mm x 123.7 mm) **Com-**
pression ratio 17.0 to 1 **Displacement** 478 cu in
(7834 ml) **Cranking system** 12 volt **Lubrication**
pressure **Air Cleaner** primary and secondary
paper elements with aspirator **Oil Filter** two full
flow paper spin-on cartridges **Oil cooler** engine
coolant heat exchanger for crankcase oil, radiator
for hydraulic and transmission oil **Fuel filter** two
paper elements **Muffler** vertical **Cooling medium**
temperature control thermostat

CHASSIS: Type Standard with duals **Serial**
No. 278741-414 **Tread width** rear 63" (1600 mm)
to 126" (3200 mm) front 60" (1524 mm) to 84" (2134
mm) **Wheel base** 113" (2870 mm) **Center of gravity**
(without operator or ballast, with minimum tread,
with fuel tank filled and tractor serviced for opera-
tion) Horizontal distance forward from center-line
of rear wheels 31.3" (794 mm) Vertical distance
above roadway 41.6" (1057 mm) Horizontal dis-
tance from center of rear wheel tread 0" (0 mm)
to the right/left **Hydraulic control system** direct en-
gine drive **Transmission** selective gear fixed ratio
with partial (3) range operator controlled power
shift **Advertised speeds** mph (km/h) first 2.2 (3.5)
second 2.6 (4.2) third 2.8 (4.5) fourth 3.1 (5.0) fifth
3.4 (5.5) sixth 3.7 (5.9) seventh 4.1 (6.6) eighth 4.4
(7.1) ninth 4.8 (7.7) tenth 5.3 (8.5) eleventh 5.8 (9.3)
twelfth 7.0 (11.3) thirteenth 7.2 (11.6) fourteenth
8.7 (14.0) fifteenth 10.4 (16.7) sixteenth 12.3 (19.8)
seventeenth 14.8 (23.8) eighteenth 17.8 (28.6) re-
verse 2.5 (4.0), 3.0 (4.8), 3.6 (5.8), 4.3 (6.9), 5.2
(8.4), 6.2 (10.0) **Clutch** single dry disc operated by
foot pedal **Brakes** single wet disc hydraulically
power actuated by two foot pedals which can be
locked together **Steering** hydrostatic **Turning**
radius (on concrete surface with brake applied)
right 146" (3.71 m) left 146" (3.71 m) (on concrete
surface without brake) right 165" (4.19 m) left 165"
(4.19 m) **Turning space diameter** (on concrete sur-
face with brake applied) right 298" (7.58 m) left
298" (7.58 m) (on concrete surface without brake)
right 336" (8.55 m) left 336" (8.55 m) **Power take-**
off 1000 rpm at 2167 engine rpm

LUGGING ABILITY IN 10th (3-O) Gear

Crankshaft Speed rpm	2200	1978	1752	1543	1305	1097
Pull—lbs (kN)	9302 (41.38)	11314 (50.33)	12316 (54.78)	12377 (55.05)	11059 (49.19)	9197 (40.91)
Increase in Pull %	0	22	32	33	19	-1
Power—Hp (kW)	133.59 (99.62)	143.22 (106.80)	135.51 (101.05)	119.97 (89.46)	92.32 (68.85)	65.85 (49.11)
Speed—Mph (km/h)	5.39 (8.67)	4.75 (7.64)	4.13 (6.64)	3.63 (5.85)	3.13 (5.04)	2.69 (4.32)
Slip %	5.52	7.44	9.06	9.06	7.44	5.60

TRACTOR SOUND LEVEL WITH CAB dB(A)

Maximum Available Power—Two Hours	80.5
75% of Pull at Maximum Power—Ten Hours	79.5
50% of Pull at Maximum Power—Two Hours	80.0
50% of Pull at Reduced Engine Speed—Two Hours	79.5
Bystander in 18th (6-O) gear	87.5

TIRES, BALLAST AND WEIGHT		Tested Without Ballast
Rear Tires	—No., size, ply & psi (kPa)	Four 20.8-38; 8; 12 (80)
Ballast	—Liquid (each)	None
	—Cast Iron (each)	None
Front Tires	—No., size, ply & psi (kPa)	Two 14L-16; 1; 6; 28 (190)
Ballast	—Liquid (each)	None
	—Cast Iron (each)	None
Height of Drawbar		21.0 in (535 mm)
Static Weight with Operator—Rear		12520 lb (5679 kg)
—Front		4130 lb (1873 kg)
—Total		16650 lb (7552 kg)

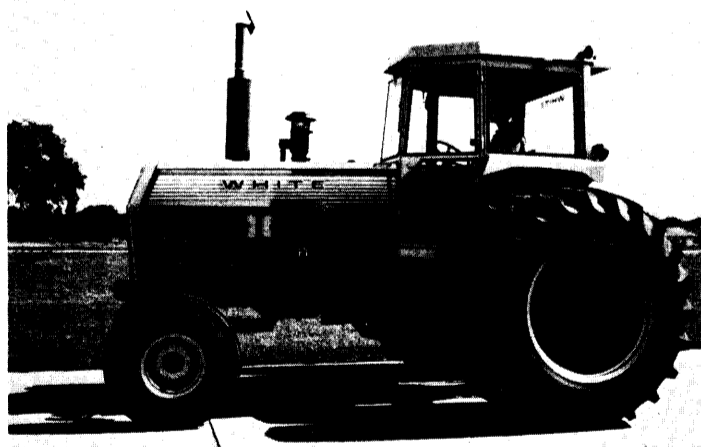
REPAIRS and ADJUSTMENTS: No repairs or adjustments

REMARKS: All test results were determined from observed data obtained in accordance with SAE and ASAE test code or official Nebraska test procedure. Temperature at injection pump was 166°F (74.5°C). Ten gears were chosen between 15% slip and 10 mph (16.1 km/h).

We, the undersigned, certify that this is a true and correct report of official Tractor Test **1276**.

LOUIS I. LEVITICUS
Engineer-in-Charge

G. W. STEINBRUEGGE, Chairman
W. E. SPLINTER
K. VON BARGEN
Board of Tractor Test Engineers



White Field Boss 2-155 DSL