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Test 1396: White-Iseki 2-62 Diesel 20-Speed

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

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NEBRASKA TRACTOR TEST 1396 — WHITE-ISEKI 2-62 DIESEL ALSO WHITE FARM EQUIPMENT-ISEKI 2-62 DIESEL 20 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—656 rpm)									
61.46 (45.83)	2200	3.814 (14.438)	0.435 (0.265)	16.11 (3.174)	187 (86.3)	63 (17.3)	75 (23.9)	28.823 (97.332)	
* Standard Power take-off Speed (540 rpm)—One Hour									
54.25 (40.45)	1813	3.326 (12.590)	0.430 (0.261)	16.31 (3.213)	195 (90.5)	63 (17.2)	75 (24.1)	28.835 (97.371)	
VARYING POWER AND FUEL CONSUMPTION—Two Hours									
53.42 (39.84)	2249	3.253 (12.314)	0.427 (0.260)	16.42 (3.235)	181 (82.8)	63 (17.2)	76 (24.4)	..... .....
0.00 (0.00)	2424	1.040 (3.937)	..... .....	..... .....	177 (80.6)	63 (17.2)	76 (24.2)	..... .....
27.70 (20.66)	2335	2.051 (7.764)	0.519 (0.316)	13.51 (2.661)	179 (81.7)	63 (17.2)	76 (24.2)	..... .....
62.04 (46.26)	2200	3.844 (14.551)	0.434 (0.264)	16.14 (3.179)	185 (85.0)	63 (17.2)	76 (24.2)	..... .....
14.11 (10.52)	2378	1.511 (5.720)	0.751 (0.457)	9.34 (1.839)	177 (80.6)	63 (17.2)	76 (24.4)	..... .....
40.95 (30.54)	2300	2.616 (9.903)	0.448 (0.272)	15.66 (3.084)	181 (82.8)	64 (17.5)	77 (25.0)	..... .....
Av Av	33.04 (24.64)	2314	2.386 (9.032)	0.506 (0.308)	13.85 (2.728)	180 (82.2)	63 (17.3)	76 (24.4)	28.827 (97.343)

DRAWBAR PERFORMANCE (Front Wheel Drive Disengaged)

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 18th (3HH) Gear											
51.53 (38.43)	3186 (14.17)	6.06 (9.76)	2200	6.05	3.746 (14.179)	0.509 (0.310)	13.76 (2.710)	185 (84.7)	65 (18.3)	75 (23.9)	28.815 (97.304)
75% of Pull at Maximum Power—Ten Hours 18th (3HH) Gear											
40.71 (30.36)	2402 (10.68)	6.36 (10.23)	2261	4.24	3.018 (11.424)	0.520 (0.316)	13.49 (2.657)	184 (84.2)	71 (21.7)	85 (29.2)	28.494 (96.220)
50% of Pull at Maximum Power—Two Hours 18th (3HH) Gear											
28.22 (21.04)	1600 (7.12)	6.61 (10.64)	2318	2.85	2.337 (8.845)	0.580 (0.353)	12.08 (2.379)	183 (83.6)	77 (24.7)	86 (30.0)	28.455 (96.088)
50% of Pull at Reduced Engine Speed—Two Hours 19th (4HH) Gear											
28.24 (21.06)	1604 (7.13)	6.60 (10.63)	1492	2.79	2.016 (7.630)	0.500 (0.304)	14.01 (2.760)	184 (84.4)	78 (25.6)	91 (32.5)	28.455 (96.088)
MAXIMUM POWER IN SELECTED GEARS											
43.96 (32.78)	4695 (20.89)	3.51 (5.65)	2247	14.96	16th (1HH) Gear			183 (83.9)	64 (17.8)	71 (21.7)	28.810 (97.287)
49.26 (36.73)	4570 (20.33)	4.04 (6.51)	2199	12.79	17th (2HH) Gear			186 (85.6)	74 (23.3)	82 (27.8)	28.450 (96.070)
51.63 (38.50)	3201 (14.24)	6.05 (9.73)	2198	6.30	18th (3HH) Gear			186 (85.3)	70 (21.1)	77 (25.0)	28.480 (96.173)
50.21 (37.44)	1949 (8.67)	9.66 (15.54)	2199	3.59	19th (4HH) Gear			187 (86.1)	74 (23.3)	83 (28.3)	28.450 (96.071)
LUGGING ABILITY IN 18th (3HH) GEAR											
Crankshaft Speed rpm				2198	1981	1760	1542	1318	1098		
Pull—lbs (kN)				3201 (14.24)	3362 (14.96)	3448 (15.34)	3462 (15.40)	3498 (15.56)	3417 (15.20)		
Increase in Pull %				0	5	8	8	9	7		
Power—Hp (kW)				51.63 (38.50)	48.64 (36.27)	44.18 (32.95)	38.89 (29.00)	33.54 (25.01)	27.36 (20.40)		
Speed—Mph (km/h)				6.05 (9.73)	5.42 (8.73)	4.80 (7.73)	4.21 (6.78)	3.60 (5.79)	3.00 (4.83)		
Slip %				6.30	6.74	6.99	6.99	6.99	6.74		

Department of Agricultural Engineering

Dates of Test: June 2-11, 1981

Manufacturer: ISEKI AND CO., LTD., Tokyo, Japan

FUEL, OIL AND TIME: Fuel No. 2 Diesel Cetane No. 46.3 (rating taken from oil company's inspection data) **Specific gravity converted to 60°/60° (15°/15°)** 0.8417 **Fuel weight** 7.008 lbs/gal (0.840 kg/l) **Oil** White Farm Equipment Turbo Diesel Oil SAE 30 **API service classification** SD-SE/CC-CD **To motor** 2.162 gal (8.184 l) **Drained from motor** 2.055 gal (7.779 l) **Transmission and final drive lubricant** White Farm Equipment Co. Universal tractor hydraulic transmission fluid **Total time engine was operated** 37.5 hours

ENGINE: Make ISUZU Diesel Model 4BB1 **Type** four cylinder vertical **Serial No.** 505944 **Crankshaft** lengthwise **Rated rpm** 2200 **Bore and stroke** 4.016" × 4.33" (102 mm × 110 mm) **Compression ratio** 17.5 to 1 **Displacement** 219 cu in (3595 ml) **Starting system** 12 volt **Lubrication pressure** **Air cleaner** two paper elements **Oil filter** one paper element **Fuel filter** two paper elements and sediment bowl with screen **Muffler** vertical **Cooling medium temperature control** one thermostat.

CHASSIS: **Type** front wheel assist **Serial No.** 00486K **Tread width** rear 55.5" (1410 mm) to 79.1" (2010 mm) front 59" (1500 mm) **Wheel base** 84.4" (2145 mm) **Center of gravity** (without operator or ballast, with minimum tread, with fuel tank filled and tractor serviced for operation) Horizontal distance forward from center-line of rear wheels 36.9" (938 mm) Vertical distance above roadway 33.7" (855 mm) Horizontal distance from center of rear wheel tread 0" (0 mm) to the right/left **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Advertised speeds mph (km/h)** first 0.2 (0.3) second 0.2 (0.3) third 0.3 (0.4) fourth 0.4 (0.7) fifth 0.7 (1.1) sixth 0.7 (1.2) seventh 0.8 (1.4) eighth 0.9 (1.5) ninth 1.1 (1.8) tenth 1.2 (1.9) eleventh 1.5 (2.4) twelfth 1.8 (2.9) thirteenth 2.3 (3.7) fourteenth 2.9 (4.7) fifteenth 3.6 (5.8) sixteenth 3.9 (6.3) seventeenth 4.4 (7.1) eighteenth 6.2 (10.0) nineteenth 9.6 (15.4) twentieth 15.3 (24.6) reverse 0.3 (0.5), 1.3 (2.1), 1.6 (2.6), 6.7 (10.8) **Clutch** single dry disc operated by foot pedal **Brakes** multiple wet disc operated by two foot pedals which can be locked together and hand lever **Steering** power assist **Turning radius** (on concrete surface with brake applied) right 126" (3.20 m) left 126" (3.20 m) (on concrete surface without brake) right 146" (3.70 m) left 146" (3.70 m) **Turning space diameter** (on concrete surface with brake applied) right 260" (6.60 m) left 260" (6.60 m) (on concrete surface without brake) right 307" (7.80 m) left 307" (7.80 m) **Power take-off** 540 rpm at 1813 engine rpm.

REPAIRS and ADJUSTMENTS: No repairs or adjustments.

TRACTOR SOUND LEVEL WITHOUT CAB	dB(A)	Front Wheel Drive Disengaged dB(A)
Maximum Available Power—Two Hours	93.5	93.5
75% of Pull at Maximum Power—Ten Hours		93.0
50% of Pull at Maximum Power—Two Hours		91.5
50% of Pull at Reduced Engine Speed—Two Hours		90.0
Bystander in 20th (5HH) gear		83.0

DRAWBAR PERFORMANCE (Front Wheel Drive Engaged)

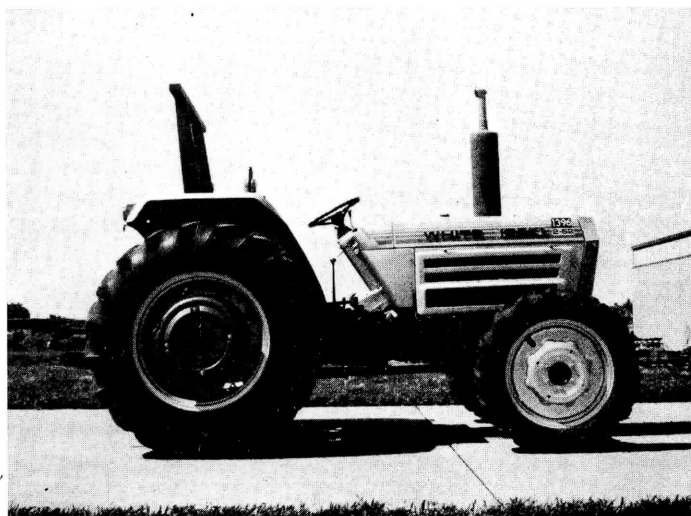
Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption			Temp. °F (°C)			
					gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cool- ing med	Air wet bulb	Air dry bulb	Barom. inch Hg (kPa)
Maximum Available Power—Two Hours 18th (3HH) Gear											
50.92 (37.97)	3090 (13.75)	6.18 (9.94)	2200	4.16	3.657 (13.841)	0.503 (0.306)	13.92 (2.743)	187 (85.8)	61 (15.8)	82 (27.5)	28.840 (97.388)

MAXIMUM POWER IN SELECTED GEARS

43.35 (32.33)	6201 (27.58)	2.62 (4.22)	2252	14.98	14th (5LH) Gear			182 (83.3)	62 (16.7)	67 (19.4)	28.800 (97.253)
51.96 (38.75)	3159 (14.05)	6.17 (9.93)	2199	4.36	18th (3HH) Gear			187 (86.1)	72 (22.2)	80 (26.7)	28.460 (96.105)

TIRES, BALLAST AND WEIGHT

	With Ballast	Without Ballast
Rear Tires		
—No., size, ply & psi (kPa)	Two 16.9-30; 6; 16 (110)	Two 16.9-30; 6; 16 (110)
—Liquid (each)	None	None
—Cast Iron (each)	275 lb (125 kg)	None
Front Tires		
—No., size, ply & psi (kPa)	Two 9.5-24; 8; 22 (150)	Two 9.5-24; 8; 22 (150)
—Liquid (each)	None	None
—Cast Iron (each)	42 lb (19 kg)	None
Height of drawbar	20 in (510 mm)	20 in (510 mm)
Static Weight with Operator—Rear	4190 lb (1901 kg)	3640 lb (1651 kg)
Front	2685 lb (1218 kg)	2600 lb (1179 kg)
Total	6875 lb (3119 kg)	6240 lb (2830 kg)



White-Iseki 2-62 Diesel

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 157°F (69.6°C). Four 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 No. 1396.

LOUIS I. LEVITICUS
Engineer-in-Charge

K. VON BARGEN
W. E. SPLINTER
L. L. BASHFORD

Board of Tractor Test Engineers