1-1-1980

Test 1373: White Iseki 2-30 Diesel 8-Speed

Nebraska Tractor Test Lab
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NEBRASKA TRACTOR TEST 1373 — WHITE ISEKI 2-30 DIESEL
ALSO WHITE FARM EQUIPMENT-ISEKI 2-30 DIESEL
8 SPEED

POWER TAKE-OFF PERFORMANCE

Power Hp (kW)	Crank shaft speed rpm	Fuel Consumption gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temperature °F (°C) Cooling medium	Air wet bulb	Air dry bulb	Barometer inch Hg (kPa)
MAXIMUM POWER AND FUEL CONSUMPTION								
Rated Engine Speed—Two Hours (PTO Speed—645 rpm)								
28.33 (21.13)	2600	2.366 (8.956)	0.583 (0.355)	11.97 (2.359)	211 (99.3)	57 (14.1)	75 (23.9)	29.050 (98.097)
Standard Power Take-off Speed (540 rpm)—One Hour								
24.50 (18.27)	2176	2.037 (7.711)	0.580 (0.353)	12.03 (2.369)	209 (98.1)	56 (13.5)	75 (23.7)	29.055 (98.114)
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
25.39 (18.93)	2744	1.972 (7.465)	0.542 (0.330)	12.87 (2.536)	197 (91.7)	55 (12.8)	74 (23.3)	....
0.00 (0.00)	2892	0.752 (2.847)	....	....	180 (81.9)	56 (13.1)	75 (23.9)	....
12.92 (9.63)	2792	1.293 (4.895)	0.699 (0.425)	9.99 (1.967)	182 (83.3)	56 (13.3)	74 (23.3)	....
28.35 (21.14)	2600	2.372 (8.979)	0.584 (0.355)	11.95 (2.354)	209 (98.1)	56 (13.3)	76 (24.4)	....
6.58 (4.91)	2839	1.023 (3.872)	1.086 (0.660)	6.43 (1.268)	180 (82.2)	56 (13.3)	75 (23.9)	....
19.26 (14.36)	2774	1.594 (6.034)	0.578 (0.352)	12.08 (2.380)	185 (85.0)	56 (13.3)	76 (24.4)	....
Av 15.42	**2774**	**1.501**	**0.680**	**10.27**	**189**	**56**	**75**	**29.070**
Av (11.50)		***(5.682)***	***(0.413)***	***(2.024)***	***(87.1)***	***(13.2)***	***(23.9)***	***(98.165)***

DRAWBAR PERFORMANCE

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank-shaft speed rpm	Slip %	Fuel Consumption gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp. °F (°C) Cooling med	Air wet bulb	Air dry bulb	Barom. inch Hg (kPa)
Maximum Available Power—Two Hours 6th (H2) Gear											
24.88 (18.56)	1783 (7.93)	5.23 (8.42)	2598	7.45	2.310 (8.742)	0.648 (0.394)	10.77 (2.123)	189 (86.9)	40 (4.4)	50 (9.7)	29.025 (98.013)
75% of Pull at Maximum Power—Ten Hours 6th (H2) Gear											
21.09 (15.73)	1387 (6.17)	5.70 (9.18)	2765	5.25	1.848 (6.994)	0.612 (0.372)	11.42 (2.249)	180 (81.9)	31 (−0.4)	34 (1.3)	29.305 (98.959)
50% of Pull at Maximum Power—Two Hours 6th (H2) Gear											
14.29 (10.65)	918 (4.08)	5.84 (9.40)	2789	3.85	1.486 (5.625)	0.726 (0.442)	9.61 (1.894)	178 (81.1)	37 (2.8)	45 (6.9)	29.105 (98.283)
50% of Pull at Reduced Engine Speed—Two Hours 7th (H3) Gear											
14.51 (10.82)	929 (4.13)	5.86 (9.43)	1809	3.70	1.235 (4.676)	0.594 (0.361)	11.75 (2.315)	177 (80.6)	41 (5.0)	45 (7.2)	29.090 (98.233)
MAXIMUM POWER IN SELECTED GEARS											
16.51 (12.31)	2816 (12.53)	2.20 (3.54)	2751	14.93	4th (L4) Gear			181 (82.5)	41 (5.0)	49 (9.4)	29.070 (98.165)
24.67 (18.40)	2573 (11.45)	3.60 (5.79)	2600	12.22	5th (H1) Gear			190 (87.5)	41 (5.0)	48 (8.9)	29.090 (98.233)
25.75 (19.20)	1847 (8.22)	5.23 (8.42)	2599	7.57	6th (H2) Gear			189 (87.2)	41 (5.0)	49 (9.4)	29.060 (98.131)
25.81 (19.24)	1159 (5.15)	8.35 (13.44)	2601	4.46	7th (H3) Gear			187 (86.1)	40 (4.4)	50 (10.0)	29.040 (98.064)

LUGGING ABILITY IN 6th (H2) GEAR

Crankshaft Speed rpm	2599	2346	2080	1818	1545	1294
Pull—lbs (kN)	1847 (8.22)	1876 (8.34)	1901 (8.46)	1902 (8.46)	1845 (8.21)	1809 (8.05)
Increase in Pull %	0	2	3	3	0	−2
Power—Hp (kW)	25.75 (19.20)	23.58 (17.58)	21.18 (15.79)	18.51 (13.80)	15.29 (11.40)	12.59 (9.39)
Speed—Mph (km/h)	5.23 (8.42)	4.71 (7.59)	4.18 (6.72)	3.65 (5.87)	3.11 (5.00)	2.61 (4.20)
Slip %	7.57	7.71	7.81	7.71	7.53	7.43

Department of Agricultural Engineering

Dates of Test: October 22 — 29, 1980

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

FUEL, OIL AND TIME: Fuel No. 2 Diesel **Cetane** No. 47.9 (rating taken from oil company's inspection data) **Specific gravity converted to 60°/60° *(15°/15°)*** 0.8385 **Fuel weight** 6.982 lbs/gal *(0.837 kg/l)* **Oil** White Farm Equipment Turbo-Diesel Oil **SAE** 30 **API service classification** CB/CD (DS) **To motor** 2.797 gal *(10.589 l)* **Drained from motor** 2.531 gal *(9.580 l)* **Transmission lubricant** SAE 80-90 **Hydraulic lubricant** White Farm Equipment type 55 hydraulic oil **Total time engine was operated** 41.5 hours

ENGINE: Make Isuzu Diesel **Type** three cylinder vertical **Serial No.** 3AD11-498L-532789 **Crankshaft** lengthwise **Rated rpm** 2600 **Bore and stroke** 3.386″ x 3.386″ *(86 mm x 86 mm)* **Compression ratio** 20 to 1 **Displacement** 91.4 cu in *(1498 ml)* **Starting system** 12 volt **Lubrication** pressure **Air cleaner** one paper element **Oil filter** one full flow paper cartridge **Fuel Filter** one metal screen with sediment bowl and one paper cartridge **Muffler** vertical **Cooling medium temperature control** one thermostat.

CHASSIS: Type standard **Serial No.** 100870 J **Tread width** rear 47.2″ *(1200 mm)* to 59.8″ *(1520 mm)* front 43.3″ *(1100 mm)* to 59.1″ *(1500 mm)* **Wheel base** 68.9″ *(1750 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 26.6″ *(676 mm)* Vertical distance above roadway 26.6″ *(675 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 0.8 *(1.3)* second 1.1 *(1.8)* third 1.7 *(2.7)* fourth 2.4 *(3.9)* fifth 4.0 *(6.5)* sixth 5.6 *(9.0)* seventh 8.6 *(13.9)* eighth 12.2 *(19.7)* reverse 1.1 *(1.8)*, 5.6 *(9.0)* **Clutch** dry single disc operated by foot pedal **Brakes** drum and shoe operated by two foot pedals which can be locked together **Steering** mechanical **Turning radius** (on concrete surface with brake applied) right 105″ *(2.67 mm)* left 103″ *(2.62 m)* (on concrete surface without brake) right 116″ *(2.95 m)* left 114″ *(2.90 m)* **Turning space diameter** (on concrete surface with brake applied) right 222″ *(5.64 m)* left 218″ *(5.54 m)* (on concrete surface without brake) right 244″ *(6.20 m)* left 240″ *(6.10)* **Power take-off** 540 rpm at 2176 engine rpm.

REPAIRS and ADJUSTMENTS: No repairs or adjustments

TRACTOR SOUND LEVEL WITHOUT CAB	dB(A)
Maximum Available Power—Two Hours	96.5
75% of Pull at Maximum Power—Ten Hours	94.5
50% of Pull at Maximum Power—Two Hours	93.5
50% of Pull at Reduced Engine Speed—Two Hours	89.0
Bystander in 8th (H4) gear	83.0

TIRES, BALLAST AND WEIGHT		With Ballast	Without Ballast
Rear Tires	—No., size, ply & psi *(kPa)*	Two 12.4-24; 4; 14 *(95)*	Two 12.4-24; 4; 14 *(95)*
Ballast	—Liquid (each)	None	None
	—Cast Iron (each)	340 lb *(154 kg)*	None
Front Tires	—No., size, ply & psi *(kPa)*	Two 5.00-15; 4; 44 *(305)*	Two 5.00-15; 4; 44 *(305)*
Ballast	—Liquid (each)	None	None
	—Cast Iron (each)	84 lb *(38 kg)*	None
Height of Drawbar		12.5 in *(315 mm)*	12.5 in *(315 mm)*
Static Weight with Operator—Rear		2595 lb *(1177 kg)*	1915 lb *(869 kg)*
	Front	1258 lb *(571 kg)*	1090 lb *(494 kg)*
	Total	3853 lb *(1748 kg)*	3005 lb *(1363 kg)*

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 146°F *(63.4° 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 **1373.**

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Engineer-in-Charge

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