1-1-1983

Test 1467: White Farm Equipment-Iseki 2-65 Diesel 16-Speed

Nebraska Tractor Test Lab
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NEBRASKA TRACTOR TEST 1467
WHITE FARM EQUIPMENT-ISEKI 2-65 DIESEL
16 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—656 rpm)								
62.50 *(46.61)*	2200	4.038 *(15.285)*	0.453 *(0.275)*	15.48 *(3.049)*	189 *(87.1)*	52 *(11.4)*	75 *(24.1)*	28.953 *(97.771)*
Standard Power Take-off Speed (540 rpm)—One Hour								
55.40 *(41.31)*	1812	3.421 *(12.950)*	0.433 *(0.263)*	16.19 *(3.190)*	195 *(90.4)*	52 *(10.9)*	75 *(23.8)*	28.930 *(97.692)*
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
55.22 *(41.18)*	2288	3.562 *(13.484)*	0.452 *(0.275)*	15.50 *(3.054)*	184 *(84.2)*	52 *(11.4)*	75 *(23.9)*	....
0.00 *(0.00)*	2426	1.224 *(4.633)*	....	....	179 *(81.7)*	52 *(11.4)*	74 *(23.1)*	....
28.35 *(21.14)*	2349	2.291 *(8.672)*	0.566 *(0.344)*	12.38 *(2.438)*	181 *(82.8)*	53 *(11.7)*	76 *(24.7)*	....
63.30 *(47.20)*	2204	4.046 *(15.316)*	0.448 *(0.272)*	15.64 *(3.082)*	186 *(85.8)*	53 *(11.7)*	74 *(23.6)*	....
14.37 *(10.72)*	2381	1.751 *(6.628)*	0.854 *(0.519)*	8.21 *(1.617)*	179 *(81.7)*	53 *(11.7)*	76 *(24.4)*	....
41.93 *(31.27)*	2316	2.864 *(10.841)*	0.479 *(0.291)*	14.64 *(2.884)*	182 *(83.3)*	52 *(11.4)*	73 *(22.8)*	....
Av 33.86 *Av (25.25)*	**2328**	**2.623** *(9.929)*	**0.543** *(0.330)*	**12.91** *(2.543)*	**182** *(83.2)*	**53** *(11.6)*	**75** *(23.8)*	**28.900** *(97.591)*

DRAWBAR PERFORMANCE
(Front Wheel Drive Disengaged)

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)* Cool-ing med	Air wet bulb	Air dry bulb	Barom. inch Hg *(kPa)*
Maximum Available Power—Two Hours 13th (HL4) Gear											
55.71 *(41.54)*	3205 *(14.25)*	6.52 *(10.49)*	2200	6.50	3.996 *(15.127)*	0.503 *(0.306)*	13.94 *(2.746)*	186 *(85.6)*	41 *(4.7)*	50 *(9.7)*	28.845 *(97.405)*
75% of Pull at Maximum Power—Ten Hours 13th (HL4) Gear											
44.41 *(33.12)*	2381 *(10.59)*	6.99 *(11.26)*	2316	4.74	3.364 *(12.736)*	0.531 *(0.323)*	13.20 *(2.600)*	183 *(83.8)*	36 *(2.0)*	39 *(4.1)*	28.965 *(97.810)*
50% of Pull at Maximum Power—Two Hours 13th (HL4) Gear											
30.42 *(22.68)*	1588 *(7.06)*	7.18 *(11.56)*	2344	3.38	2.694 *(10.197)*	0.621 *(0.377)*	11.29 *(2.224)*	184 *(84.2)*	39 *(3.9)*	44 *(6.4)*	28.675 *(96.831)*
50% of Pull at Reduced Engine Speed—Two Hours 15th (HH3) Gear											
30.44 *(22.70)*	1588 *(7.06)*	7.19 *(11.57)*	1523	3.21	2.212 *(8.374)*	0.509 *(0.310)*	13.76 *(2.711)*	181 *(82.8)*	38 *(3.3)*	42 *(5.6)*	28.650 *(96.747)*
MAXIMUM POWER IN SELECTED GEARS											
52.23 *(38.95)*	4827 *(21.47)*	4.06 *(6.53)*	2227	14.70	11th (HL3) Gear			185 *(85.0)*	37 *(2.8)*	44 *(6.7)*	28.950 *(97.760)*
55.12 *(41.10)*	4350 *(19.35)*	4.75 *(7.65)*	2201	10.22	12th (HH1) Gear			186 *(85.6)*	39 *(3.9)*	46 *(7.8)*	28.900 *(97.591)*
56.67 *(42.26)*	3265 *(14.52)*	6.51 *(10.48)*	2200	6.57	13th (HL4) Gear			186 *(85.6)*	38 *(3.3)*	45 *(7.2)*	28.910 *(97.625)*
56.54 *(42.16)*	2481 *(11.04)*	8.55 *(13.75)*	2200	4.85	14th (HH2) Gear			186 *(85.6)*	40 *(4.4)*	47 *(8.3)*	28.880 *(97.523)*

LUGGING ABILITY IN 13th (HL4) GEAR

Crankshaft Speed rpm	2200	1980	1752	1539	1309	1103
Pull—lbs *(kN)*	3265 *(14.52)*	3441 *(15.31)*	3602 *(16.02)*	3716 *(16.53)*	3783 *(16.83)*	3740 *(16.64)*
Increase in Pull %	0	5	10	14	16	15
Power—Hp *(kW)*	56.67 *(42.26)*	53.49 *(39.89)*	49.28 *(36.75)*	44.52 *(33.20)*	38.43 *(28.66)*	32.07 *(23.91)*
Speed—Mph *(km/h)*	6.51 *(10.48)*	5.83 *(9.38)*	5.13 *(8.26)*	4.49 *(7.23)*	3.81 *(6.13)*	3.22 *(5.17)*
Slip %	6.57	7.12	7.74	7.98	8.34	8.10

Department of Agricultural Engineering

Dates of Test: March 18 to April 20, 1983

Manufacturer: ISEKI AND COMPANY, LTD., 2-6 Kioicho, Chiyoda-ku, Tokyo, Japan 102

FUEL, OIL AND TIME: Fuel No. 2 Diesel **Cetane No.** 47.0 (rating taken from oil company's inspection data) **Specific gravity converted to 60°/60° *(15°/15°)*** 0.8416 **Fuel weight** 7.007 lbs/gal *(0.840 kg/l)* **Oil** White Farm Equipment Supreme Blend **SAE** 30 **API service classification** CC-CD, SD-SF **To motor** 2.148 gal *(8.132 l)* **Drained from motor** 1.911 gal *(7.233 l)* **Transmission and final drive lubricant** White Farm Equipment Company Universal Fluid **Total time engine was operated** 41.0 hours

ENGINE: Make Isuzu Diesel **Model** 4BDI **Type** four cylinder vertical **Serial No.** 906159 **Crankshaft** lengthwise **Rated rpm** 2200 **Bore and stroke** 4.02" x 4.65" *(102 mm x 118 mm)* **Compression ratio** 17.5 to 1 **Displacement** 235 cu in *(3856 ml)* **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements **Oil filter** one full flow element **Oil cooler** engine coolant heat exchanger for crankcase oil **Fuel filter** two paper elements with sediment bowl and screen **Muffler** vertical **Cooling medium temperature control** one thermostat.

CHASSIS: Type front wheel assist **Serial No.** 00215 m **Tread width** rear 55.5" *(1410 mm)* to 79.1" *(2010 mm)* front 59.3" *(1505 mm)* **Wheel base** 84.6" *(2150 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" *(937 mm)* Vertical distance above roadway 30.0" *(762 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 0.4 *(0.7)* second 0.7 *(1.1)* third 0.8 *(1.4)* fourth 1.0 *(1.5)* fifth 1.3 *(2.0)* sixth 1.6 *(2.6)* seventh 1.9 *(3.1)* eighth 2.2 *(3.6)* ninth 2.9 *(4.6)* tenth 3.8 *(6.0)* eleventh 4.5 *(7.2)* twelfth 5.1 *(8.1)* thirteenth 6.7 *(10.7)* fourteenth 8.6 *(13.8)* fifteenth 10.3 *(16.5)* sixteenth 15.2 *(24.5)* reverse 0.6 *(0.9)*, 1.3 *(2.0)*, 2.9 *(4.7)*, 6.6 *(10.7)* **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 128" *(3.24 m)* left 128" *(3.24 m)* (on concrete surface without brake) right 160" *(4.06 m)* left 160" *(4.06 m)* **Turning space diameter** (on concrete surface with brake applied) right 265" *(6.73 m)* left 265" *(6.73 m)* (on concrete surface without brake) right 330" *(8.38 m)* left 330" *(8.38 m)* **Power take-off** 540 rpm at 1812 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	94.5	94.0
75% of Pull at Maximum Power—Ten Hours		94.0
50% of Pull at Maximum Power—Two Hours		93.5
50% of Pull at Reduced Engine Speed—Two Hours		89.5
Bystander in 16th (HH4) gear		86.0

DRAWBAR PERFORMANCE
(Front Wheel Drive Engaged)

Power Hp *(kW)*	Drawbar pull lbs *(kN)*	Speed mph *(km/h)*	Crank-shaft speed rpm	Slip %	Fuel Consumption gal/hr *(l/h)*	lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*	Temp. °F *(°C)* Cool-ing med	Air wet bulb	Air dry bulb	Barom. inch Hg *(kPa)*
Maximum Available Power—Two Hours 13th (HL4) Gear											
55.88 *(41.67)*	3144 *(13.99)*	6.66 *(10.73)*	2200	4.69	4.050 *(15.329)*	0.508 *(0.309)*	13.80 *(2.718)*	187 *(85.8)*	42 *(5.3)*	50 *(10.0)*	28.795 *(97.236)*
MAXIMUM POWER IN SELECTED GEARS											
44.26 *(33.01)*	6187 *(27.52)*	2.68 *(4.32)*	2292	14.77	9th (LH4) Gear			183 *(83.6)*	35 *(1.7)*	40 *(4.4)*	28.970 *(97.827)*
56.85 *(42.39)*	3203 *(14.25)*	6.66 *(10.71)*	2200	4.79	13th (HL4) Gear			186 *(85.6)*	38 *(3.3)*	45 *(7.2)*	28.950 *(97.760)*

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
Ballast	—Cast Iron (each)	347 lb *(158 kg)*	None
Front Tires	—No., size, ply & psi *(kPa)*	Two 9.5-24; 6; 30 *(205)*	Two 9.5-24; 6; 30 *(205)*
	—Liquid (each)	None	None
Ballast	—Cast Iron (each)	48 lb *(21 kg)*	None
Height of Drawbar		17.5 in *(445 mm)*	17.5 in *(445 mm)*
Static Weight with Operator—Rear		4345 lb *(1971 kg)*	3650 lb *(1656 kg)*
Front		2765 lb *(1254 kg)*	2670 lb *(1211 kg)*
Total		7110 lb *(3225 kg)*	6320 lb *(2867 kg)*

REMARKS: All test results were determined from observed data obtained in accordance with SAE and ASAE test codes or official Nebraska test procedure. For maximum power tests, the fuel temperature at the injection pump was maintained at 170°F *(76.8°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 **1467.**

LOUIS I. LEVITICUS
Engineer-in-Charge

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White Farm Equipment-Iseki 2-65 Diesel

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