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Test 1100: John Deere 6030 Diesel 8-Speed

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1100 – JOHN DEERE 6030 DIESEL 8 SPEED

POWER TAKE-OFF PERFORMANCE

Hp	Crankshaft speed rpm	Fuel Consumption		Hp-hr per gal	Temperature Degrees F			Barometer inches of Mercury
		Gal per hr	Lb per hp-hr		Cooling medium	Air wet bulb	Air dry bulb	
MAXIMUM POWER AND FUEL CONSUMPTION								
Rated Engine Speed—Two Hours (PTO Speed—1024 rpm)								
175.99	2100	11.123	0.437	15.82	188	65	75	28.850
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
154.52	2166	10.228	0.458	15.11	180	63	74	.....
0.00	2248	3.090	.....	.....	173	64	76	.....
78.87	2211	6.614	0.580	11.92	184	64	75	.....
173.76	2101	11.173	0.445	15.55	187	64	75	.....
39.71	2234	4.811	0.839	8.25	172	65	76	.....
116.97	2189	8.486	0.502	13.78	182	64	75	.....
Av. 93.97	2191	7.400	0.545	12.70	180	64	75	28.870

DRAWBAR PERFORMANCE

Hp	Drawbar pull lbs	Speed miles per hr	Crankshaft speed rpm	Slip of drivers %	Fuel Consumption		Hp-hr per gal	Temp Degrees F			Barometer inches of Mercury
					Gal per hr	Lb per hp-hr		Cooling med	Air wet bulb	Air dry bulb	
VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITHOUT BALLAST											
Maximum Available Power—Two Hours—4th Gear											
148.70	10680	5.22	2101	7.20	10.997	0.511	13.52	200	76	84	28.910
75% of Pull at Maximum Power—Ten Hours—4th Gear											
122.73	8276	5.56	2180	4.72	9.647	0.544	12.72	185	62	76	28.753
50% of Pull at Maximum Power—Two Hours—4th Gear											
83.53	5478	5.72	2206	3.22	7.566	0.627	11.04	180	68	83	28.970
50% of Pull at Reduced Engine Speed—Two Hours—5th Gear											
83.87	5507	5.71	1765	3.22	6.356	0.524	13.19	183	78	86	28.977
MAXIMUM POWER WITHOUT BALLAST											
119.98	15303	2.94	2190	14.93	2nd Gear.....		182	73	78	28.930	
147.88	13625	4.07	2097	10.24	3rd Gear.....		185	71	79	28.930	
153.65	11063	5.21	2097	7.24	4th Gear.....		188	70	77	28.930	
155.42	8770	6.65	2100	5.31	5th Gear.....		193	69	75	28.940	
153.91	6469	8.92	2100	3.79	6th Gear.....		192	73	83	28.940	

VARYING DRAWBAR PULL AND TRAVEL SPEED WITHOUT BALLAST—4th Gear

Pounds Pull	11063	12398	13350	13025	11864	10264
Horsepower	153.65	152.97	143.76	122.73	97.01	71.34
Crankshaft Speed rpm	2097	1891	1676	1460	1249	1045
Miles Per Hour	5.21	4.63	4.04	3.53	3.07	2.61
Slip of Drivers %	7.24	8.73	10.03	9.60	8.43	6.94

TRACTOR SOUND LEVEL WITH CAB dB(A)

Maximum Available Power 2 Hours	87.0
75% of Pull at Max. Power 10 Hours	86.5
50% of Pull at Max. Power 2 Hours	86.5
50% of Pull at Reduced Engine Speed 2 Hours	85.0
Bystander (8th gear)	86.0

TIRES, BALLAST AND WEIGHT Tested Without Ballast

Rear Tires	—No., size, ply & psi	Four 20.8-38; 10; 16
Ballast	—Liquid	None
	—Cast Iron	None
Front Tires	—No., size, ply & psi	Two 14L-16A; 6; 24
Ballast	—Liquid	None
	—Cast Iron	None
Height of drawbar		24 inches
Static weight with operator—rear		12990 lb
	front	5190 lb
	total	18180 lb

Department of Agricultural Engineering

Dates of Test: May 23 to June 2, 1972

Manufacturer: JOHN DEERE WATERLOO TRACTOR WORKS, Waterloo, Iowa

FUEL, OIL AND TIME Fuel No. 2 Diesel Cetane No. 50.1 (rating taken from oil company's typical inspection data) Specific gravity converted to 60°/60° 0.8314 Weight per gallon 6.922 lb Oil SAE 30 API service classification John Deere TORQ-GARD or MS DG DM DS To motor 5.653 gal Drained from motor 5.378 gal Transmission and final drive lubricant John Deere Special 303 oil Total time engine was operated 41½ hours.

ENGINE Make John Deere Diesel Type 6 cylinder vertical with turbo-charger and inter-cooler Serial No. 6531AR-03 281534R Crankshaft Mounted lengthwise Rated rpm 2100 Bore and stroke 4.75" x 5.00" Compression ratio 15.4 to 1 Displacement 531 cu. in. Cranking system 12 volt electrical (two 6 volt batteries) Lubrication pressure Air cleaner two paper elements with aspirator Oil filter full flow with replaceable paper cartridge Oil cooler engine coolant heat exchanger for crankcase oil, radiator for transmission and hydraulic oil Fuel filter sediment bowl with screen and replaceable paper primary and secondary filter elements Muffler was used Cooling medium temperature control 3 thermostats.

CHASSIS Type standard with duals Serial No. B313-RO33209R Tread width rear 63" to 120" front 64.5" to 81.5" Wheel base 104" 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 29.3" Vertical distance above roadway 38.1" Horizontal distance from center-line of rear wheel tread 0.1" to the right Hydraulic control system direct engine drive Transmission selective gear fixed ratio Advertised speeds mph first 2.1, second 3.2, third 4.5, fourth 5.5, fifth 6.9, sixth 9.0, seventh 11.6, eighth 19.2, reverse 4.9 and 7.6 Clutch dry dual disc operated by foot pedal Brakes wet disc hydraulically power actuated by two foot pedals that can be locked together Steering hydrostatic Turning radius on concrete surface with brake applied) right 156" left 156" (on concrete surface without brake) right 179" left 179" Turning space diameter (on concrete surface with brake applied) right 324" left 324" (on concrete surface without brake) right 370" left 370" Power take-off 1024 rpm at 2100 engine rpm.

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. First gear was not run as it was necessary to limit the pull in second gear to avoid excessive wheel slippage. Seventh and eighth gears were not run as test procedure requires only one speed over 8 miles per hour.

We, the undersigned, certify that this is a true and correct report of official Tractor Test 1100.

L. F. LARSEN

Engineer-in-Charge

G. W. STEINBRUEGGE, Chairman

W. E. SPLINTER

D. E. LANE

Board of Tractor Test Engineers