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January 1970

Test 1047: International Farmall 1026 Hydrostatic Diesel (Also International 1026 Hydrostatic Diesel)

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1047—INTERNATIONAL FARMALL 1026

HYDROSTATIC DIESEL

(ALSO INTERNATIONAL 1026 HYDROSTATIC DIESEL)

POWER TAKE-OFF PERFORMANCE

Hp	Crank- shaft speed rpm	Fuel Consumption Gal per hr	Lb per hp-hr	Hp-hr per gal	Temperature Degrees F Cooling medium	Air wet bulb	Air dry bulb	Barometer inches of Mercury
MAXIMUM POWER AND FUEL CONSUMPTION								
Rated Engine Speed—Two Hours (PTO Speed—1159 rpm)								
112.45	2400	7.865	0.485	14.30	190	65	75	28.983
Standard Power Take-off Speed (1000 rpm)—One Hour								
110.71	2071	7.107	0.445	15.58	192	66	75	28.885
VARYING POWER AND FUEL CONSUMPTION—TWO HOURS								
100.34	2523	7.610	0.526	13.19	186	65	75	.....
0.00	2645	3.200	.....	.....	166	65	75	.....
51.61	2595	5.500	0.739	9.38	178	65	75	.....
114.47	2400	7.961	0.482	14.38	189	65	75	.....
26.19	2618	4.398	1.165	5.955	173	65	75	.....
76.61	2563	6.577	0.596	11.65	180	65	75	.....
Av 61.54	2557	5.874	0.662	10.48	179	65	75	28.900

DRAWBAR PERFORMANCE

Hp	Draw- bar pull lbs	Speed miles per hr	Crank- shaft speed rpm	Fuel Consumption Slip of drivers %	Gal per hr	Lb per hp-hr	Hp-hr per gal	Temp Degrees F Cool- ing med	Air wet bulb	Air dry bulb	Barometer inches of Mercury
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VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST

Maximum Available Power—Two Hours—Speed Setting—5.4 MPH Hi Range											
80.24	5605	5.37	2402	5.71	7.824	0.676	10.26	189	73	78	28.655
75% of Pull at Maximum Power—Ten Hours—Speed Setting—5.4 MPH Hi Range											
70.67	4351	6.09	2529	3.91	7.356	0.722	9.61	181	67	77	29.050
50% of Pull at Maximum Power—Two Hours—Speed Setting—5.4 MPH Hi Range											
51.33	2945	6.54	2562	2.72	6.137	0.830	8.36	180	75	91	28.680

MAXIMUM POWER WITH BALLAST

79.42	9583	3.11	2396	10.91	The infinitely	Lo Range	180	71	82	28.740
80.52	7536	4.01	2399	7.89	variable	Lo Range	185	71	81	28.740
80.95	6702	4.53	2403	6.88	drive control	Lo Range	184	71	83	28.740
80.13	5960	5.04	2400	5.86	was set	Lo Range	180	71	82	28.740
83.94	5812	5.42	2400	6.01	to give the	Hi Range	183	67	77	28.740
84.34	4751	6.66	2403	4.73	travel speeds	Hi Range	182	68	78	28.740
83.68	4057	7.74	2403	4.20	shown by the	Hi Range	182	68	78	28.740
79.72	2665	11.22	2401	2.72	manufacturer	Hi Range	182	67	76	28.740

MAXIMUM PULL WITHOUT BALLAST

79.96	8717	3.44	2394	14.97	Speed— 3.4 MPH	Lo Range	180	66	80	28.940
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VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST Speed 5.4 MPH Hi Range

Pounds Pull	5812	5837	6440	6831	7048	7067
Horsepower	83.94	83.66	81.38	75.39	67.30	56.00
Crankshaft Speed rpm	2400	2394	2157	1910	1672	1437
Miles Per Hour	5.42	5.38	4.74	4.14	3.58	2.97
Slip of Drivers %	6.01	5.71	6.30	6.74	7.17	7.32

TIRES, BALLAST and WEIGHT

		With Ballast	Without Ballast
Rear tires	—No, size, ply & psi	Two 18.4-38; 8; 20	Two 18.4-38; 8; 16
Ballast	—Liquid	1495 lb each	None
	—Cast iron	420 lb each	None
Front tires	—No, size, ply & psi	Two 11L-15; 6; 28	Two 11L-15; 6; 28
Ballast	—Liquid	None	None
	—Cast iron	23 lb each	None
Height of drawbar		28 inches	28½ inches
Static weight with operator—Rear		11790 lb	7960 lb
	Front	3185 lb	3140 lb
	Total	14975 lb	11100 lb

Department of Agricultural Engineering

Dates of Test: June 3 to June 27, 1970

Manufacturer: INTERNATIONAL HARVESTER COMPANY, CHICAGO, ILLINOIS

FUEL, OIL and TIME Fuel No 2 Diesel Cetane No 50.8 (rating taken from oil company's typical inspection data) Specific gravity converted to 60°/60° 0.8332 Weight per gallon 6.938 lb Oil SAE 30 API service classification MS DG DM DS To motor 3.181 gal Drained from motor 2.340 gal Transmission and final-drive lubricant IH Hy-Tran fluid Total time engine was operated 59 hours.

ENGINE Make International Diesel Type 6 cylinder vertical with turbo-charger Serial No 407TT2U037197 Crankshaft mounted lengthwise Rated rpm 2400 Bore and stroke 4.321" x 4.625" Compression ratio 16 to 1 Displacement 407 cu in Cranking system 12 volt electric Lubrication pressure Air cleaner two stage dry type using replaceable pleated paper elements and automatic dust unloader Oil filter full flow with two replaceable treated paper elements Oil cooler engine coolant heat exchanger for engine oil and radiator for transmission and hydraulic oil Fuel filter one primary and one final using replaceable screw-on cartridges Muffler was used Cooling medium temperature control thermostat.

CHASSIS Type Standard Serial No 2610130-U007534 Tread width rear 60" to 94" front 54" to 78" (and 60" to 84"—2 different axles) Wheel base 104.8" 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 30.3" Vertical distance above roadway 40.3" Horizontal distance from center of rear wheel tread 0" to the right/left Hydraulic control system direct engine drive Transmission infinitely variable hydrostatic using a variable displacement pump and motor. A range transmission provides Hi and Lo range Advertised speeds mph forward 0-17 Hi range; 0-7½ Lo range reverse 0-7 Hi range; 0-3 Lo range Clutch none—hydrostatic drive can be controlled by foot pedal Brakes dry disc hydraulically power actuated by two foot pedals which can be locked together with automatic equalizing Steering hydrostatic power Turning radius (on concrete surface with brake applied) right 144" left 144" (on concrete surface without brake) right 167" left 167" Turning space diameter (on concrete surface with brake applied) right 298" left 298" (on concrete surface without brake) right 344" left 344" Power take-off 539 or 1014 rpm at 2100 engine rpm.

REPAIRS and ADJUSTMENTS: During preliminary drawbar runs the Range Transmission Main Shaft Front Bearing and the Forward Drive Pressure Line were replaced.

REMARKS: All test results were determined from observed data obtained in accordance with the SAE and ASAE test code. The slower travel speeds were not run as the maximum drawbar pull was limited by the stability formula. The other travel speeds were not run as test procedure requires only eight travel speeds. During the VARYING DRAWBAR PULL VERSUS TRAVEL SPEED run the transmission warning light became illuminated at an engine speed of approximately 1200 RPM and the run was discontinued in accordance with the manufacturer's operating instructions. The Operators Manual reads: "This condition (lighting of Tellie) must be corrected before continued operation. If operating in "Hi" range, shift into "Lo" or pull back on the speed ratio control lever."

We, the undersigned, certify that this is a true and correct report of official Tractor Test 1047.
L. F. LARSEN

Engineer-in-Charge

G. W. STEINBRUEGGE

W. E. SPLINTER

D. E. LANE

Board of Tractor Test Engineers

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