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Test 1046: International Farmall 826 Hydrostatic Diesel (Also International 826 Hydrostatic Diesel)

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1046—INTERNATIONAL FARMALL 826

HYDROSTATIC DIESEL

(ALSO INTERNATIONAL 826 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)								
84.66	2400	6.255	0.513	13.53	195	65	75	28.850
Standard Power Take-off Speed (1000 rpm)—One Hour								
79.00	2073	5.584	0.490	14.15	198	65	75	28.875
VARYING POWER AND FUEL CONSUMPTION—TWO HOURS								
74.70	2488	5.656	0.525	13.21	188	65	75	.....
0.00	2639	2.434	.....	.....	179	66	75	.....
38.30	2564	3.939	0.714	9.72	184	66	75	.....
84.86	2400	6.244	0.510	13.59	196	66	76	.....
19.42	2599	3.170	1.132	6.13	180	67	76	.....
57.07	2534	4.808	0.585	11.87	188	67	77	.....
Av 45.73	2537	4.375	0.664	10.45	186	66	76	28.910

DRAWBAR PERFORMANCE

Hp	Draw- bar pull lbs	Speed miles per hr	Crank- shaft speed rpm	Slip of drivers %	Fuel Consumption 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
VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST											
Maximum Available Power—Two Hours—Speed Setting—5.5 MPH—Hi Range											
61.39	4213	5.46	2403	4.55	6.065	0.685	10.12	190	77	87	28.660
75% of Pull at Maximum Power—Ten Hours—Speed Setting—5.5 MPH—Hi Range											
52.63	3271	6.03	2537	3.55	5.458	0.720	9.64	176	69	80	28.877
50% of Pull at Maximum Power—Two Hours—Speed Setting—5.5 MPH—Hi Range											
37.15	2239	6.22	2545	2.34	4.389	0.820	8.46	178	80	88	28.680

MAXIMUM POWER WITH BALLAST

59.60	8780	2.55	2401	10.65	The infinitely	Lo Range	198	72	81	28.685
63.37	5914	4.02	2400	6.55	variable	Lo Range	199	71	79	28.685
63.17	5214	4.54	2401	5.70	drive control	Lo Range	195	71	78	28.685
63.17	4689	5.05	2401	5.06	was set	Lo Range	192	69	77	28.740
63.51	4332	5.50	2401	4.77	to give the	Hi Range	185	67	73	28.750
63.54	3611	6.60	2401	4.11	travel speeds	Hi Range	190	68	74	28.750
64.01	3122	7.69	2403	3.51	shown by the	Hi Range	190	68	75	28.750
60.82	2035	11.21	2405	2.38	manufacturer	Hi Range	189	68	74	28.750

MAXIMUM PULL WITHOUT BALLAST

57.78	8056	2.69	2399	14.90	Speed— 2.69 MPH	Lo Range	190	74	90	28.860
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VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST Speed 5.5 MPH—Hi Range

Pounds Pull	4332	4565	4857	5171
Horsepower	63.51	59.68	55.21	40.84
Crankshaft Speed rpm	2401	2156	1911	1674
Miles Per Hour	5.50	4.90	4.26	2.96
Slip of Drivers %	4.77	4.84	4.98	5.27

TIRES, BALLAST and WEIGHT		With Ballast	Without Ballast
Rear tires	—No, size, ply & psi	Two 16.9-38; 8; 24	Two 16.9-38; 8; 16
Ballast	—Liquid	1145 lb each	None
	Cast iron	560 lb each	None
Front tires	—No, size, ply & psi	Two 9.5L-15; 6; 28	Two 9.5L-15; 6; 28
Ballast	—Liquid	None	None
	Cast iron	23 lb each	None
Height of drawbar		24 inches	25½ inches
Static weight with operator—Rear		11100 lb	7690 lb
Front		2740 lb	2695 lb
Total		13840 lb	10385 lb

Department of Agricultural Engineering

Dates of Test: June 6 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-DS To motor 3.019 gal Drained from motor 2.116 gal Transmission and final-drive lubricant SAE 1H Hy-Tran fluid Total time engine was operated 49½ hours.

ENGINE Make International Diesel Type 6 cylinder vertical Serial No 358DT2DO12628 Crankshaft mounted lengthwise Rated rpm 2400 Bore and stroke 3.875" x 5.06" Compression ratio 16 to 1 Displacement 358 cu in Cranking system 12 volt electric Lubrication pressure Air cleaner two stage dry type using replaceable pleated paper element and automatic dust un-loader Oil filter full flow screw-on replaceable treated paper cartridge 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 tricycle Serial No 2510120-U010071 Tread width rear 60" to 94" front 8" and 16" Wheel base 101.2" 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 26.7" Vertical distance above roadway 39.3" Horizontal distance from center of rear wheel tread 0" to the right/left Hydraulic control system direct engine drive Transmission infinitely variable hydrostatic using variable displacement pump and motor. A range transmission provides Hi and Lo Ranges Advertised speeds mph forward 0-18¼ Hi range, forward 0-9½ Lo range, reverse 0-9½ Hi range reverse 0-4¼ 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 117" left 117" (on concrete surface without brake) right 123" left 123" Turning space diameter (on concrete surface with brake applied) right 243" left 243" (on concrete surface without brake) right 256" left 256" Belt pulley 1158 rpm at 2400 engine rpm diam 11" face 7½" Belt speed 3170 fpm Power take-off 539 or 1014 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 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 travel speed was reduced to a point indicating that the transmission safety valve had opened. This condition occurred at an engine speed of approximately 1400-1500 R.P.M., at which time the run was terminated as recommended by the company representative.

We, the undersigned, certify that this is a true and correct report of official Tractor Test 1046.

L. F. LARSEN

Engineer-in-Charge

G. W. STEINBRUEGGE

W. E. SPLINTER

D. E. LANE

Board of Tractor Test Engineers

The University of Nebraska Agricultural Experiment Station

E. F. Frolik, Dean; H. W. Ottoson, Director; Lincoln, Nebraska