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January 1972

Test 1094: International Farmall 766 Gasoline

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1094 – INTERNATIONAL FARMALL 766 GASOLINE

POWER TAKE-OFF PERFORMANCE

Hp	Crank- shaft 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—1159 rpm)								
79.73	2400	7.065	0.545	11.29	193	57	75	29.080
Standard Power Take-off Speed (1000 rpm)—One Hour								
73.96	2071	6.276	0.522	11.78	192	57	75	29.060
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
69.88	2471	6.733	0.592	10.38	186	56	75	.....
0.00	2562	2.971	.....	.....	172	56	75	.....
55.63	2520	4.850	0.837	7.35	178	57	75	.....
80.58	2400	7.069	0.539	11.40	191	56	75	.....
17.84	2545	3.976	1.371	4.49	175	56	75	.....
52.75	2494	5.772	0.673	9.14	182	57	76	.....
Av 42.78	2498	5.228	0.752	8.18	181	56	75	29.040

DRAWBAR PERFORMANCE

Hp	Draw-bar pull lbs	Speed miles per hr	Crank-shaft 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 WITH BALLAST

Maximum Available Power—Two Hours—8th Gear (1 Hi TA)											
71.32	5609	4.77	2396	7.06	7.297	0.629	9.77	181	44	54	29.160
75% of Pull at Maximum Power—Ten Hours—8th Gear (1 Hi TA)											
57.07	4236	5.05	2486	5.01	6.578	0.708	8.68	161	53	58	28.824
50% of Pull at Maximum Power Two Hours—8th Gear (1 Hi TA)											
38.81	2801	5.20	2514	3.54	5.418	0.863	7.12	176	46	49	28.900
50% of Pull at Reduced Engine Speed—Two Hours—12th Gear (2 Hi DD)											
39.56	2851	5.20	1478	3.54	4.228	0.657	9.36	178	46	48	28.950

MAXIMUM POWER WITH BALLAST

52.41	8841	2.22	2491	14.64	4th Gear (2 Lo DD)	181	44	54	29.170
69.55	6286	4.15	2397	8.24	7th Gear (4 Lo TA)	178	44	55	29.160
71.44	5618	4.77	2400	7.23	8th Gear (1 Hi TA)	178	44	53	29.160
69.93	4813	5.45	2397	5.93	9th Gear (4 Lo DD)	179	42	52	29.150
71.04	4261	6.25	2401	5.09	10th Gear (1 Hi DD)	181	42	52	29.150
70.26	3121	8.44	2402	3.57	12th Gear (2 Hi DD)	181	42	51	29.150

VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST 8th Gear (1 Hi TA)

Pounds Pull	5618	5912	6071	6085	6060	5961
Horsepower	71.44	67.15	60.88	53.91	45.68	37.57
Crankshaft Speed rpm	2400	2155	1904	1687	1433	1196
Miles Per Hour	4.77	4.26	3.76	3.32	2.83	2.36
Slip of Drivers %	7.23	7.70	7.84	7.97	7.84	7.70

TRACTOR SOUND LEVEL (with Deluxe Cab) dB(A)

Maximum Available Power 2 Hours	85.0
75% of Pull at Max. Power 10 Hours	86.0
50% of Pull at Max. Power 2 Hours	84.5
50% of Pull at Reduced Engine Speed 2 Hours	85.5
Bystander 16th gear (4 High Direct)	84.5

TIRES, BALLAST and WEIGHT		With Ballast	Without Ballast
Rear tires	—No., size, ply & psi	Two 18.4-34; 8; 16	Two 18.4-34; 8; 16
Ballast	—Liquid	710 lb each	None
	Cast Iron	None	None
Front tires	—No., size, ply & psi	Two 9.5L-15; 6; 24	Two 9.5L-15; 6; 24
Ballast	—Liquid	None	None
	Cast Iron	30 lb each	None
Height of drawbar		18 inches	18 inches
Static weight with operator—rear		9330 lb	7910 lb
	front	2550 lb	2490 lb
	total	11880 lb	10400 lb

We, the undersigned, certify that this is a true and correct report of official Tractor Test 1094.

L. F. LARSEN, Engineer-in-Charge

G. W. STEINBRUEGGE, Chairman; 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

Department of Agricultural Engineering

Date of Test: April 20 to May 10, 1972

Manufacturer: International Harvester Company, Chicago, Illinois

FUEL, OIL and TIME Fuel lead free gasoline Octane No. Motor 83 Research 91 (rating taken from oil company's typical inspection data) Specific gravity converted to 60°/60° 0.7387 Weight per gallon 6.149 lb Oil SAE 30 API Service classification I.H. No. 1 Oil for Gasoline and LPG Engines or (SD and CC or MS) To motor 1.925 gal Drained from motor 1.865 gal Transmission and final drive lubricant I.H. Hy-Tran Fluid Total time engine was operated 44 hours.

ENGINE Make International Gasoline Type 6 cylinder vertical Serial No. 291CT2U009023* Crankshaft Mounted lengthwise Rated rpm 2400 Bore and stroke 3.75" x 4.39" Compression ratio 7.5 to 1 Displacement 290.8 cu. in. Carburetor size 1 3/8" Ignition system battery Cranking system 12 volt electric Lubrication pressure Air cleaner Two stage dry type with replaceable pleated paper primary and safety elements with automatic dust unloader Oil filter full flow treated paper spin-on cartridge Oil Cooler radiator for transmission and hydraulic oil Fuel filter strainer in sediment bowl Muffler was used Cooling medium temperature control thermostat.

CHASSIS Type tricycle Serial No. 2510156-U007224* Tread width rear 56" to 100" front 8" to 16" Wheel base 102.7" 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 25.4" Vertical distance above roadway 40.5" Horizontal distance from center of rear wheel tread 0" to the right/left Hydraulic control system direct engine drive Transmission selective gear fixed ratio with partial range operator controlled power shifting Advertised speeds mph first 1 1/2 second 1 7/8 third 2 fourth 2 1/2 fifth 3 1/4 sixth 4 1/4 seventh 4 1/2 eighth 5 ninth 5 3/4 tenth 6 1/2 eleventh 6 3/4 twelfth 8 1/2 thirteenth 11 1/2 fourteenth 14 3/4 fifteenth 15 1/2 sixteenth 19 3/4 reverse 2 1/2, 3 1/8, 3 1/4, 4 1/4, 5 3/4, 7 1/4, 7 1/2, 9 3/4 Clutch single plate dry disc operated by foot pedal Brakes Dry double disc hydraulically power actuated by two foot pedals that can be locked together with automatic equalizing Steering hydrostatic Turning radius (on concrete surface with brake applied) right 116" left 116" (on concrete surface without brake) right 123.5" left 123.5" Turning space diameter (on concrete surface with brake applied) right 254" left 254" (on concrete surface without brake) right 269.4" left 269.4" Belt pulley 1101 rpm at 2400 engine rpm diam 11" face 7 1/2" Belt speed 3170 fpm Power take-off 1014 or 539 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, second, and third gears were not run as it was necessary to limit the pull in fourth gear to avoid excessive wheel slippage. Fifth, sixth, eleventh, thirteenth, fourteenth, fifteenth and sixteenth gears were not run as test procedure requires only six travel speeds.