

Tractor Test and Power Museum, The Lester F. Larsen

UNL Larsen Tractor Museum Archives

University of Nebraska - Lincoln

Year 1962

Test 818: Farmall 404 (Gasoline)

Tractor Museum

University of Nebraska-Lincoln, TractorMuseumArchives@unl.edu

NEBRASKA TRACTOR TEST 818 - FARMALL 404 GASOLINE

The University of Nebraska Agricultural Experiment Station

E. F. Frolik, Dean; H. H. Kramer, Director, Lincoln, Nebraska

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								
36.70	2000	2.974	0.496	12.34	202	61	75	28.870
VARYING POWER AND FUEL CONSUMPTION—TWO HOURS								
33.27	2133	2.888	0.531	11.52	195	62	75	.....
0.00	2337	1.137	.....	.....	174	61	76	.....
17.31	2218	2.069	0.731	8.37	181	59	75	.....
37.03	2001	2.971	0.491	12.46	201	60	77	.....
8.88	2277	1.603	1.105	5.54	177	60	76	.....
25.43	2174	2.476	0.596	10.27	185	60	77	.....
Av 20.32	2190	2.191	0.660	9.27	186	60	76	28.865

DRAWBAR PERFORMANCE

Hp	Draw-bar pull lbs	Speed miles per hr	Crank-shaft speed rpm	Slip of drivers %	Fuel Consumption			Temp Degrees F			Barometer inches of Mercury
					Gal per hr	Lb per hp-hr	Hp-hr per gal	Cooling med	Air wet bulb	Air dry bulb	
VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST											
Maximum Available Power—Two Hours—3rd Gear Low Range											
32.97	2356	5.25	2002	5.31	3.044	0.565	10.83	189	58	64	28.945
75% of Pull at Maximum Power—Ten Hours—3rd Gear Low Range											
27.50	1795	5.74	2114	2.99	2.723	0.606	10.10	183	65	72	28.777
50% of Pull at Maximum Power—Two Hours—3rd Gear Low Range											
19.01	1189	5.99	2191	1.29	2.244	0.722	8.47	180	73	84	28.715
MAXIMUM POWER WITH BALLAST											
26.87	4999	2.02	2134	14.96	1st Gear Low Range			180	56	61	29.020
30.51	4047	2.83	1999	11.25	1st Gear High Range			183	56	62	29.020
32.54	3150	3.87	2001	7.95	2nd Gear Low Range			180	56	62	29.020
33.47	2390	5.25	2001	5.19	3rd Gear Low Range			186	58	64	28.940
32.41	2122	5.73	2002	5.07	2nd Gear High Range			180	58	65	28.995
31.82	1558	7.66	2001	3.65	3rd Gear High Range			180	58	65	28.995
29.92	775	14.48	2013	1.42	4th Gear Low Range			177	58	65	28.980
MAXIMUM POWER WITHOUT BALLAST											
31.92	2338	5.12	2004	9.72	3rd Gear Low Range			186	67	71	28.820
VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST											
3rd Gear Low Range											
Pounds pull		2390	2393	2342	2454	2430	2459	2196			
Horsepower		33.47	29.94	26.13	23.70	20.29	16.91	12.17			
Miles per hour		5.25	4.69	4.18	3.62	3.13	2.58	2.08			
Slip of drivers, %		5.19	5.85	5.97	6.21	6.09	6.21	5.61			

TIRES, BALLAST and WEIGHT

		With Ballast	Without Ballast
Rear tires	—No, size, ply & psi	Two 11.2-36; 6; 22	Two 11.2-36; 6; 12
	Ballast	465 lb each	None
	—Cast iron	580 lb each	None
Front tires	—No, size, ply & psi	Two 5.50-16; 4; 32	Two 5.50-16; 4; 30
	Ballast	None	None
	—Cast iron	220 lb each	None
Height of drawbar		21½ inches	22½ inches
Static weight	—Rear	4860 lb	2770 lb
	—Front	1610 lb	1170 lb
Total weight with operator		6645 lb	4115 lb

Department of Agricultural Engineering

Dates of Test: May 21 to June 4, 1962

Manufacturer: INTERNATIONAL HARVESTER COMPANY, CHICAGO, ILLINOIS
Manufacturer's Power Rating: Not Rated

FUEL, OIL and TIME Fuel regular gasoline Octane No Motor 84.6 Research 92.2 (rating taken from oil company's typical inspection data) Specific gravity converted to 60°/60° 0.7351 Weight per gallon 6.119 lb Oil SAE 10W-30 API service classification MS To motor 1.717 gal. Drained from motor 0.983 gal. Transmission and final-drive lubricant I.H. Hy-Tran Fluid Total time engine was operated 46½ hours.

ENGINE Make International gasoline Type 4 cylinder vertical Serial No 103164 Crankshaft mounted lengthwise Rated rpm 2000 Bore and stroke 3 1/4" x 4 1/16" Compression ratio 7.7 to 1 Displacement 134.8 cu. in. Carburetor size 7/8" Ignition system battery Cranking system 12 volt electric Lubrication pressure Air cleaner oil washed wire mesh Oil filter replaceable treated paper element Oil cooler radiator for hydraulic and transmission oil Muffler was used Cooling medium temperature control thermostat.

CHASSIS Type tricycle Serial No 1169 Tread width rear 48" to 80" front 50" to 74" Wheel base 87.6" 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 22.7" Vertical distance above roadway 32.9" Horizontal distance from center of rear wheel tread 0.0" to the right/left Hydraulic control system direct engine drive Transmission selective gear fixed ratio Advertised speeds mph (low range) 1st 2.23 2nd 4.22 3rd 5.55 4th 14.67 reverse 3.5 (high range) 1st 3.19 2nd 6.04 3rd 7.96 4th 21.03 reverse 5.01 Clutch 9 inch single plate dry disc operated by foot pedal Brakes disc brakes operated by two foot pedals which can be locked together Steering power assisted Turning radius (on concrete surface with brake applied) right 128" left 128" (on concrete surface without brake) right 142½" left 142½" Turning space diameter (on concrete surface with brake applied) right 262½" left 262½" (on concrete surface without brake) right 291" left 291" Belt pulley 948 rpm at 2000 engine rpm diam 77" face 5¾" Belt speed 2730 fpm Power take-off 542 rpm at 2000 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.

Fourth Gear High Range was not run as it exceeded 15 mph.

We, the undersigned, certify that this is a true and correct report of official Tractor Test 818.

L. F. LARSEN
Engineer-in-Charge

L. W. HURLBUT
G. W. STEINBRUEGGE
J. J. SULEK
Board of Tractor Test Engineers