

January 1950

Test 444: Ford 8NAN

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Department of Agricultural Engineering
 Dates of test: June 22 to June 29, 1950.
 Manufacturer: FORD MOTOR CO.,
 DETROIT, MICHIGAN
 Manufacturer's rating: Not rated.

The Experiment Station
 University of Nebraska College of Agriculture
 W. V. Lambert, Director, Lincoln, Nebraska

NEBRASKA TRACTOR TEST NO. 444
 FORD 8NAN

BELT HORSEPOWER TESTS

Hp	Crank shaft speed rpm	Fuel Consumption			Water used gal per hour	Temp Deg F		Barometer in Hg
		Gal per hour	Hp-hr per gal	Lb per hp-hour		Cooling med	Air	
TEST B—100% MAXIMUM LOAD—TWO HOURS								
21.87	2000	2.359	9.27	0.712	0.00	193	80	29.050
TEST C—OPERATING MAXIMUM LOAD—ONE HOUR								
21.51	2000	2.240	9.60	0.687	0.00	192	80	29.055
TEST D—RATED LOAD—ONE HOUR								
19.52	1999	2.078	9.39	0.702	0.00	184	79	29.050
TEST E—VARYING LOAD—TWO HOURS (20 minute runs; last line average)								
19.52	2000	2.078	9.39	0.702	...	185	79
2.10	2198	1.109	1.89	3.486	...	156	78
10.18	2077	1.541	6.61	0.999	...	166	78
20.56	1894	2.146	9.58	0.689	...	194	78
5.26	2147	1.287	4.09	1.614	...	157	78
15.06	2055	1.773	8.49	0.777	...	172	77
12.11	2062	1.656	7.31	0.902	0.00	172	78	29.050

DRAWBAR HORSEPOWER TESTS

Hp	Draw bar pull lb	Speed miles per hr	Crank shaft speed rpm	Slip of drive wheels %	Fuel Consumption			Water used gal per hour	Temp Deg F		Barometer in Hg
					Gal per hour	Hp-hr per gal	Lb per hp-hr		Cooling med	Air	
TEST F—100% MAXIMUM LOAD—2nd GEAR											
18.79	1895	3.72	1751	6.42	Not Recorded			190	82	29.025	
TEST G—OPERATING MAXIMUM LOAD											
17.10	2355	2.72	1749	11.83	Not Recorded			192	84	29.010	
18.34	1842	3.73	1750	5.97	" "			190	78	29.030	
18.03	1285	5.26	1748	3.65	" "			187	76	29.030	
16.19	539	11.26	1751	1.32	" "			180	80	29.030	
TEST H—RATED LOAD—TEN HOURS—2nd GEAR											
14.90	1477	3.78	1751	4.80	1.693	8.80	0.750	0.00	173	75	28.942
TEST J—OPERATING MAXIMUM LOAD—2nd GEAR											
17.42	1838	3.55	1756	12.38	Not Recorded			190	71	29.000	

FUEL, OIL and TIME Tractor Fuel octane No. ASTM 35 (rating taken from oil company's typical inspection data); weight per gallon 6.599 lb Oil SAE 20; to motor 1.242 gal; drained from motor 1.202 gal Total time motor was operated 42 hours.

CHASSIS Type standard Serial No 8N273571 Tread width rear 48" to 76" front 48" to 76" Wheel Base 70" Hydraulic control system operates only when clutch is engaged Advertised speeds mph first 3.23 second 4.16 third 5.72 fourth 11.92 reverse 5.31 Belt pulley diam 9" face 6 1/2" rpm 1358 Belt speed 3199 fpm Clutch dry disk operated by foot pedal Seat pressed steel Brakes internal expanding operated by two pedals located on right hand side of tractor Equalization none Power take-off standard type.

ENGINE Make Ford Type 4 cylinder vertical Serial No 8N273571 Crankshaft mounted lengthwise Head L Lubrication pressure Bore and Stroke 3 3/16" x 3 3/4" Rated rpm belt 2000 drawbar 1750 Compression ratio 4.75 to 1 Displacement 119.7 cu in Port Diameter Valves inlet 1.38" exhaust 1.13" Governor variable speed flyball Carburetor Size 7/8" Ignition System 6 volt battery Air Cleaner oil washed wire screen Muffler used Oil Filter partial flow removable cartridge Cooling medium temperature control thermostat.

REPAIRS AND ADJUSTMENTS No repairs or adjustments.

REMARKS All test results were determined from observed data and without allowances, additions or deductions. Tests B and F were made with carburetor set for 100% maximum belt horsepower and data from these tests were used in determining the horsepower to be developed in tests D and H, respectively. Tests C, D, E, G, H and J were made with an operating setting of the carburetor (selected by the manufacturer) of 98.3% of maximum belt horsepower.

TIRES, WHEELS and WEIGHT

	Tests F, G & H	Test J	Test K
Rear wheels			
Type	Pressed steel	Pressed steel	
Liquid ballast	127 lb each	None	
Added cast iron	300 lb each	None	
Rear tires			
No. and size	Two 10-28	Two 10-28	
Ply	4	4	
Air pressure	12 lb	12 lb	
Front wheels			
Type	Pressed steel	Pressed steel	
Liquid ballast	None	None	
Added cast iron	None	None	
Front tires			
No. and size	Two 4.00-19	Two 4.00-19	
Ply	4	4	
Air pressure	26 lb	26 lb	
Height of drawbar	23 inches	24 inches	
Static weight			
Rear end	2436 lb	1582 lb	
Front end	928 lb	950 lb	
Total weight as tested with operator	3549 lb	2717 lb	

No smaller tires suggested by manufacturer.

HORSEPOWER SUMMARY

	Draw-bar	Belt
1. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg)	19.77	22.95
2. Observed maximum horsepower (tests F and B)	18.79	21.87
3. Seventy-five per cent of calculated maximum drawbar horsepower and eighty-five per cent of calculated maximum belt horsepower (formerly ASAE and SAE ratings)	14.83	19.51

We, the undersigned, certify that this is a true and correct report of official tractor test No. 444.

L. F. Larsen
 Engineer in Charge

C. W. Smith
 F. D. Yung
 L. W. Hurlbut
 Board of Tractor
 Test Engineers