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January 1947

## Test 385: Ford Model 8N

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, [tractortestlab@unl.edu](mailto:tractortestlab@unl.edu)

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT  
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 385

Dates of test: September 8, 1947 to September 19, 1947

Name and model of tractor: Ford 8N

Manufacturer: Ford Motor Company, Detroit, Michigan

Manufacturer's rating: None

B E L T   H O R S E P O W E R   T E S T S

Horse- power	Crank shaft speed  rpm	Fuel Consumption			Water used  gal per hr	Temperature		Barometer  Inches of Mercury
		gal per hr	hp-hr per gal	lb per hp-hr		Cool- ing med. °F	Air  °F	

TESTS B & C - 100% MAXIMUM LOAD - TWO HOURS

21.06	2000	2.703	7.79	0.788	0.00	169	52	29.023
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\*TEST D - ONE HOUR

18.35	1999	2.538	7.23	0.849	0.00	173	68	29.040
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TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

18.46	2006	2.542	7.27	0.845	- - -	176	72	- - - -
1.98	2335	1.285	1.54	3.985	- - -	158	72	- - - -
10.28	2249	1.911	5.38	1.141	- - -	161	71	- - - -
20.13	1813	2.561	7.86	0.781	- - -	178	74	- - - -
5.29	2298	1.544	3.43	1.792	- - -	165	75	- - - -
14.97	2170	2.297	6.52	0.942	- - -	168	74	- - - -
11.85	2145	2.024	5.87	1.048	- - -	168	73	29.040

\*Formerly called RATED LOAD; see REMARKS 4, PAGE 5

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D R A W B A R   H O R S E P O W E R   T E S T S

Horse- power	Draw bar pull  lb	Speed  mph	Crank shaft speed  rpm	Slip on drive wheels %	Fuel Consumption			Water used  gal per hr	Temperature		Barometer  Inches of Mercury
					gal per hr	hp-hr per gal	lb per hp-hr		Cool- ing med. °F	Air °F	

Rear wheels, tires, and added weight used in Tests F, G, and H: Pressed steel wheels 10-28, 4-ply tires and 917 lb added weight per wheel.

TESTS F & G 100% MAXIMUM LOAD - Gears 1, 2, 3, 4

16.15	2550	2.38	1499	11.33	-----Not Recorded-----				179	74	28.850
17.06	1993	3.21	1510	7.49					181	76	28.850
16.43	1359	4.53	1508	4.92					180	80	28.850
14.10	542	9.76	1507	1.94					182	85	28.765

\*TEST H - TEN HOURS - 2nd Gear

13.62	1571	3.25	1500	5.68	2.02	6.74	0.911	0.00	183	86	28.830
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TEST J - OPERATING MAXIMUM LOAD

Same wheels and tires as used in Tests F, G, and H. All added weight removed from tractor (liquid, cast iron, or any other added forms). 2nd gear

13.03	1621	3.01	1502	15.50	-----Not Recorded-----				178	96	28.860
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\*Formerly called RATED LOAD; see REMARKS 4, page 5

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FUEL, OIL, and TIME

Fuel Gasoline Octane 74\* Weight per gallon 6.138 pounds

Oil: SAE No. 30 To motor 1.921 gal. Drained from motor 1.472 gal.

Total time motor was operated 88 hours

TIRES, WHEELS, and WEIGHT

		Tests F, G, & H	Test J
Rear Wheel: Type and Weight (each)		Pressed Steel 88 lb	Pressed Steel 88 lb
Liquid Ballast		247 lb	None
Added Cast Iron		670 lb	None
Rear Tires: No., Size, & Ply		2 10-28 4-ply	2 10-28 4-ply
Type of Tread		Champion Ground Grip	Champion Ground Grip
Make		Firestone	Firestone
Air Pressure		14 lb	14 lb
Front Wheel: Type and Weight (each)		Pressed Steel 22 lb	Pressed Steel 22 lb
Liquid Ballast		25 lb	None
Added Cast Iron		60 lb	None
Front Tires: No., Size & Ply		2 4:00-19 4-ply	2 4:00-19 4-ply
Type of Tread		Tractor	Tractor
Make		Firestone	Firestone
Air Pressure		28 lb	28 lb
Height of Drawbar		22 inches	23.5 inches
Static Weight: Rear End		3440 lb	1606 lb
Front End		1110 lb	940 lb
Total Weight as Tested With Operator		4718 lb	2714 lb

\*Octane Rating taken from Oil Company's Typical Inspection Data.

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CHASSIS

Type Standard      Serial No. 8N-1777      Drive Enclosed Gear

Tread width: Rear 48" - 76"      Front 48" - 76"

Advertised speeds, miles per hour: First 2.75    Second 3.54    Third 4.87

Fourth 10.16      Reverse 4.52

Belt pulley: Diam. 9"    Face 6 $\frac{1}{2}$ "    RPM 1358    Belt speed 3199 fpm

Clutch: Make Long      Type Dry Plate      Operated by Foot Pedal

Seat Pressed Steel

Brakes: Make Ford      Type Internal Expanding

Location On Main Axle

Gear reduction (brake drum to rear wheel) Direct

Operated by Independent Brake Pedals on Right Side of Tractor

Locked by Latches anchored to differential housing

Equalization None

ENGINE

Make Ford      Serial No. 8N-1777      Type 4 cylinder - vertical

Head L      Mounting Lengthwise      Lubrication Pressure

Bore and stroke 3-3/16" x 3-3/4"    Rated RPM    Drawbar - 1500

Belt - 2000

Port diameter valves: Inlet 1.48"    Exhaust 1.125"

Battery and Ignition System Ford

Magneto: None

Carburetor: Make Marvel Schebler    Model TSX 33    Size 7/8"

Governor:    Make Novi      Type Variable Speed - Centrifugal

Air Cleaner: Make Oakes      Type Oil washed wire screen

Oil Filter: Make Fram      Type Removable Cartridge

Cooling medium temperature control: Thermostat

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REPAIRS AND ADJUSTMENTS

The original six-blade fan was replaced with a four-blade fan.

The transmission slipped out of mesh three times while operating in first gear.

Belt pulley shaft bearing was adjusted during the belt run.

Clearance in the bearing on the belt pulley shaft was adjusted during the belt run.

REMARKS

1. All results shown on pages 1 and 2 of this report 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, and H were made with an operating setting of the carburetor (selected by the manufacturer) of 100% of maximum belt horsepower.

2. Observed maximum horsepower (tests F & B)	DRAWBAR 17.06	BELT 21.06
3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	17.96	21.54
4. Seventy-five per cent of calculated maximum drawbar horsepower and eighty-five per cent of calculated maximum belt horsepower (formerly ASAE and SAE ratings)	13.47	18.31

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 385.

L. F. Larsen  
 Engineer-in-Charge

C. W. Smith

F. D. Yung

L. W. Hurlbut  
 BOARD OF TRACTOR TEST ENGINEERS