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January 1938

Test 299: Fordson All-Around (Gasoline)

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 299

Dates of test: May 9 to 20, 1938.

Name and model of tractor: FORDSON ALL-AROUND (Gasoline).

Manufacturer: Ford Motor Company, Limited, Essex, Dagenham, England.

Manufacturer's rating: NOT RATED.

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

H. P.	Crank shaft speed R.P.M.	Fuel Consumption			Water used gal. per hr.	Temp. Deg. F.		Barometer Inches of Mercury
		Gal. per hr.	H. P. hr. per gal.	Lb. per H. P. hr.		Cool- ing med.	Air	

TEST B - 100% MAXIMUM LOAD - TWO HOURS

28.44	1100	3.501	8.12	0.752	0.021	199	71	28.765
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TEST C - OPERATING MAXIMUM LOAD - ONE HOUR

27.69	1100	2.966	9.34	0.654	0.086	200	65	28.780
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*TEST D - ONE HOUR

25.46	1100	2.761	9.22	0.663	0.077	189	66	28.805
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TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

25.40	1098	2.764	9.19	0.665	--	187	66	--
0.72	1255	1.321	0.55	11.208	--	151	68	--
13.96	1201	2.136	6.54	0.935	--	162	69	--
26.31	1017	3.172	8.29	0.737	--	189	68	--
7.21	1238	1.689	4.27	1.431	--	164	68	--
20.24	1166	2.445	8.28	0.738	--	174	68	--
15.64	1162	2.255	6.94	0.881	0.008	171	68	28.815

*Formerly called RATED LOAD; see REMARKS 4, page 4.

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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

H. P.	Draw bar pull pounds	Speed miles per hr.	Crank Shaft speed R.P.M.	Slip on drive wheels %	Fuel Consumption			Water used gal. per hr.	Temp. Deg. F.		Barometer Inches of Mercury
					Gal. per hr.	H. P. hr. gal.	Lb. per H.P. hr.		Cool- ing med.	Air	

STEEL WHEELS

TEST F - 100% MAXIMUM LOAD - Second GEAR

19.25	2307	3.13	1100	2.74	-----	Not Recorded	-----	187	59	28.650
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TEST G - OPERATING MAXIMUM LOAD

16.75	3062	2.05	1102	3.62	-----	Not Recorded	-----	185	59	28.620
17.35	2073	3.14	1098	2.32	-----	"	"	183	59	28.815
13.59	917	5.56	1097	1.63	-----	"	"	202	77	28.485

*TEST H - TEN HOURS - Second GEAR

15.05	1803	3.13	1100	2.69	2.636	5.71	1.070	0.011	179	65	28.625
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FUEL ECONOMY TEST - FOUR HOURS - Third GEAR

11.76	796	5.54	1100	2.19	2.563	4.59	1.332	0.029	182	72	28.695
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RUBBER TIRES

TEST G - OPERATING MAXIMUM LOAD

13.80	3058	1.69	1099	17.80	-----	Not Recorded	-----	184	72	28.630
19.99	2811	2.67	1101	14.56	-----	"	"	210	77	28.630
21.09	1532	5.16	1102	6.19	-----	"	"	192	80	28.625

FUEL ECONOMY TESTS - FOUR HOURS EACH - Second and Third GEARS

17.93	2391	2.81	1099	9.76	2.526	7.10	0.861	0.064	176	60	28.815
18.24	1315	5.20	1100	5.21	2.640	6.91	0.884	0.000	190	79	28.615

*Formerly called RATED LOAD; see REMARKS 4, page 4.

4 pages-page 3

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FUEL, OIL, AND TIME

Fuel Gasoline Octane 57 Weight per gallon 6.11 pounds
Oil: S.A.E. No. 40 To motor 5.731 gal. Drained from motor 3.338 gal.
Total time motor was operated 68 hours

BRIEF SPECIFICATIONS

Advertised speeds, miles per hour (steel wheels): First 1.92
Second 2.91 Third 5.13 Reverse 1.61

Belt pulley: Diameter 9 1/2" Face 6 1/2" R.P.M. 1100

Clutch: Make Own Type Multiple-plate (in oil) Operated by foot pedal

Seat Pressed steel

Total weight as tested (with operator) (Steel 3965 pounds
(Rubber 4970 pounds)

MOTOR: Make Own Serial No. 810062 Type 4 cylinder, vertical

Head L Mounting Crankshaft lengthwise Lubrication Circulating splash

Bore and stroke 4 1/8" x 5" Rated R.P.M. 1100

Port diameter valves: Inlet 1.620" Exhaust 1.620"

Magneto: Make Robert Bosch Model FU4B RS29 - T

Carburetor: Make Zenith Model 1N5T Size 1 1/4"

Governor: Make Handy Type Variable-speed, centrifugal

Air cleaner: Make Handy Type Pre-cleaner and oil-washed, wire-screen
filter

CHASSIS: Type Tricycle Serial No. 810062 Drive Enclosed gear

Tread width: Rear 56" - 88" Front: Top 11 3/4" Bottom 6 1/2"

Steel: Drive wheels: Type Skeleton No. 2 Diameter 50" Face 2"

Lugs: Type Overhanging spade No. per wheel 24 Size 4 3/4" high x 3 1/2" wide

Front wheels: Type Cast No. 2 Diameter 24" Face 4"

Rubber: Rear tires: No. 2 Size 9.00" x 36", 6 ply Air pressure 16 pounds

Front tires: No. 2 Size 5.50" x 16", 4 ply Air pressure 32 pounds

Added weight per rear wheel 552 pounds

4 pages - page 4

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REPAIRS AND ADJUSTMENTS

No repairs or adjustments.

REMARKS

1. All results shown on page 1 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 97.4% of maximum belt horsepower.
2. Observed maximum horsepower (tests F & B) Drawbar 19.25 Belt 28.44
3. Sea level (calculated) maximum horsepower Drawbar 20.08 Belt 29.89
 (based on 60° F. and 29.92" Hg)
4. Seventy-five per cent of calculated maximum drawbar horsepower and eighty-five per cent of calculated maximum belt horsepower (formerly A.S.A.E. and S.A.E. ratings). Drawbar 15.06 Belt 25.41

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 299.

Carlton L. Zink
Engineer-in-charge

E. E. Brackett

Ivan D. Wood

L. W. Hurlbut
Board of Tractor Test Engineers