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January 1920

Test 046: Frick Model C 15-28

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

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UNIVERSITY OF NEBRASKA
AGRICULTURAL ENGINEERING DEPARTMENT
UNIVERSITY FARM, LINCOLN

Report of Official Tractor Test No. 46

Dates of test August 2 to August 6, 1920.

Name, model and rating of tractor Frick Model "C" 15-28

Serial No. Engine 184-58 Serial No. Chassis 1277

Manufacturer Frick Co., Waynesboro, Pa.

Tractor equipment used Dixie Model 46 Mag. Bennett Model J. Carb.

Style and dimensions of wheel lugs Spades 2½" x 3" high.

Brake Horse Power Tests

Horse Power Developed	Crank Shaft Speed R. P. M.	Length of Test Min.	Fuel Consumption			Water Consumption Gallons per Hour			Temperature *Cooling Fluid Deg. F.	Temperature of Atmosphere Deg. F.	Humidity %	Barometric Pressure Inches Mercury
			Kind of Fuel	Amount Used per Hour Gallons	Horse Power Hours per Gallon	In Radiator	In Fuel Mixture	Total				
RATED LOAD TEST												
28.26	906	120	Kero	4.55	6.21	0.75	0.00	0.75	211.5	91.5	61	28.8
			Belt Slippage 1.36%									
VARYING LOAD TEST												
27.85	895.5	10	Kero									
28.34	898	10	"									
2.39	1199	10	"									
7.53	947.5	10	"									
14.61	934.5	10	"									
21.72	924	10	"									
18.03	960	60	Kero	3.23	5.57	0.00	0.00	0.00	201.5	92	61	28.8
MAXIMUM LOAD TEST												
29.72	917	60	Kero	5.21	5.71	1.00	0.00	1.00	212	98	53	28.8
30.00	912.5	50	Gas	3.91	7.66	5.25	0.00	5.25	212	95	58	28.8
HALF LOAD TEST												
14.61	935	60	Kero	2.04	7.15	0.25	0.00	0.25	201	96	60	28.8
			Belt Slippage 1.14%									

*Taken in discharge line from engine.

Remarks Kerosene used for fuel in this test weighed 6.74 lbs per gallon.

Gasoline used in second maximum brake test weighed 6.15 lbs per gallon.

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Drawbar Horse Power Tests

Horse Power Developed	Draw Bar Pull Pounds	Speed Miles per Hour	Crank Shaft Speed R. P. M.	** Slippage of Drive Wheels %	Fuel Consumption			Water Used per Hour Gallons	*Temperature of Cooling Fluid Deg. F.	Temperature of Atmosphere Deg. F.	Average Humidity %	Barometric Pressure Inches Mercury
					Ind of Fuel Used	Amount Used per Hour Gallons	Horse Power Hours per Gallon					
RATED LOAD TEST. TEN HOURS												
15.24	2372	2.41	910	7.6	Kero	3.415	4.46	0.34	203	88	55	28.9
MAXIMUM LOAD TEST (1st 151.7 ft; 161.4 ft.)												
19.48	3264	2.24	890	12.2	Kero	-----Not Recorded-----			210	93	42	28.85
15.28	1625	3.53	800	6.6	"	"	"		210	93	42	28.85

*Taken in discharge line from engine.

Remarks **For computing slippage circumference of drive wheels was taken at points of lugs.
During the rated load test and first maximum test the tractor was operated in low gear; during the second maximum test the tractor was operated in high gear.

Oil Consumption:

During the complete test consisting of about 32 hours running the following oil was used:

For the engine, 4 $\frac{3}{4}$ gallons of Mobiloil "BB"

For the transmission, none added gallons of

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Repairs and Adjustments. Endurance:

During this test the fan belt was tightened twice.

One spark plug was replaced.

Valves were ground.

Differential spider gear was broken and replaced

At the end of the test the tractor and motor were operating well and no undue wear was noticable.

It is our opinion that the above repairs and adjustments do not indicate any serious defect and should not disqualify the tractor.

Brief Specification Frick Model "C" 15-28 H.P. tractor.

Motor: 4-cylinder, vertical, valve-in-head, Beaver, Bore $4\frac{3}{4}$ ", stroke 6"; rated speed 900 r.p.m.

Chassis: Four wheel, shoe clutch. Rated speeds: low, 2.3 mi. per hour, high, 3.8 mi. per hour.

Total Weight 6100 lbs.

General Remarks:

In the advertising literature submitted with specifications and application for test of this tractor, we find some statements and claims which cannot be directly compared with the results of this test. It is our opinion that these are not excessive or unreasonable except the following:

"Right belt power for farm machinery".

"No unnecessary side draft--a saving of fuel and power."

"Fuel operating cost as low as the lowest".

We do not approve of the above statements because proof is lacking.

We, the undersigned, certify that above is a true and correct report of official tractor test No. 46.

Fred R. Mohave
Engineer-in-Charge

Oscar W. Sjogren
E. E. Brackett
C. W. Smith
Board of Tractor Test Engineers.