January 1920

Test 052: Flour City 40-70

Nebraska Tractor Test Lab
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UNIVERSITY OF NEBRASKA
AGRICULTURAL ENGINEERING DEPARTMENT
UNIVERSITY FARM, LINCOLN

Report of Official Tractor Test No. 52

Dates of test August 13 to August 24, 1920.

Name, model and rating of tractor Flour City 40-70

Serial No. Engine 1992 Serial No. Chassis

Manufacturer Kinnard & Sons Mfg. Co., Minneapolis, Minnesota.

Tractor equipment used Schebler Model A Carb; KW Model HK Mag.

Style and dimensions of wheel lugs Pyramid 4" high.

Brake Horse Power Tests

Horse Power Developed	Crank Shaft Speed R. P. M.	Length of Test Min.	Fuel Consumption: Kind of Fuel	Fuel Consumption: Amount Used per Hour Gallons	Fuel Consumption: Horse Power Hours per Gallon	Water Consumption Gallons per Hour: In Radiator	Water Consumption Gallons per Hour: In Fuel Mixture	Water Consumption Gallons per Hour: Total	Temperature *Cooling Fluid Deg. F.	Temperature of Atmosphere Deg. F.	Humidity %	Barometric Pressure Inches Mercury
RATED LOAD TEST												
70.81	558	120	Kero	9.35	7.57	x	x	9.00	212	91	41	28.8
	Belt Slippage 2.60%											
VARYING LOAD TEST												
70.75	562	10	Kero									
71.03	566	10	"									
2.64	857	10	"									
26.94	838	10	"									
44.14	696	10	"									
55.16	582	10	"									
Aver. 51.84	695	60	Kero	7.82	6.63	x	x	12.00	212	95	38	28.8
MAXIMUM LOAD TEST												
72.52	563	60	Kero	9.62	7.54	x	x	17.00	212	94	37	28.8
	Belt Slippage 3.20%											
HALF LOAD TEST												
35.25	555	60	Kero	4.75	7.41	X	X	1.50	173	95	36	28.8
	Belt Slippage 1.92%											

*Taken in discharge line from engine.

Remarks Kerosene used for fuel in these brake tests weighed 6.74 pounds per gallon.

x Water to radiator and fuel mixture could not be measured seperately.

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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 (9 Hr. 56 Min.)												
42.76	6869	2.33	564.5	8.25	Kero	7.74	5.52	8.19	208	77	63	28.8
MAXIMUM LOAD TEST (115.6 ft.)												
52.84	8404	2.37	590	15.1	Kero	---Not	Recorded	-----	212	82	47	28.8

*Taken in discharge line from engine.

Remarks ** For computing slippage, the circumference of the drive wheels was taken at points of lugs. Kerosene used for fuel in these drawbar tests weighed 6.72# per gallon.

Oil Consumption:

During the complete test consisting of about 38 hours running the following oil was used:

For the engine, 11½ gallons of Mobiloil "B"

For the transmission, ½ gallons of Used oil in gear oiler.

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Repairs and Adjustments. Endurance:

Soldered Fuel tank.
Put in five spark plugs.
Slight leak thru valves.

At the end of this test the tractor was operating well, and with the exception of the spark plugs burning out there were no signs of undue wear nor any indications that the tractor would need early repairs.

It is our opinion that the above repairs are not so serious as to disqualify the tractor.

Brief Specification Flour City 40-70 H.P. Tractor.

Motor: Own make, valve-in-head, vertical, 4 cylinder. Stroke 9", bore 7½" . Rated speed 575 r.p.m.

Chassis: 4 wheel, reversible clutch (shoe). Rated speeds, low 2 and high 2½ miles per hour.

Total weight: 21,000#

General Remarks:

In the advertising literature submitted with the 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 none of these are unreasonable or excessive except the following:

Page 14. Flour City Kerosene Tractor.
"There seems to be no load too great for it to pull".
Page 11. "The gears are made-----and they are unequalled for substantiability and long life."

We, the undersigned, certify that above is a true and correct report of official tractor test No. 52.

Fred R Mohaver
Engineer-in-Charge

Oscar W Jogren

E E Brackett

C W Smith