January 1920

Test 008: Rumely Oil Pull Model "E" 30-60

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

Report of Official Tractor Test No. 8

Dates of test April 23 to May 11, 1920

Name, model and rating of tractor Oil Pull Model "E" 30-60

Serial No. Engine 11521 Serial No. Chassis

Manufacturer Advance-Rumely Co., La Porte, Ind.

Tractor equipment used Bosch Low Tension Magneto; Own Carburetor

Style and dimensions of wheel lugs Malleable 2" 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													
	60.20	375	120	Kero	7.73	7.79	none	8.40	8.40	166	68	54	28.7
		Belt slippage 2.13%											
VARYING LOAD TEST													
	60.20	376	10	Kero									
	60.43	373.5	10	"									
	1.75	420.5	10	"									
	16.80	416.5	10	"									
	32.80	406.5	10	"									
	47.61	394	10	"									
Average	37.82	398	60	"	5.91	6.40	none	3.74	3.74	174	72	64	28.5
MAXIMUM LOAD TEST													
	75.60	378	60	Kero	10.73	7.05	none	10.48	10.48	158	70	54	28.7
		Belt slippage 2.20%											
HALF LOAD TEST													
	32.69	406	60	Kero	4.679	6.99	none	2.93	2.93	174	74	50	28.5
		Belt Slippage 1.87%											

*Taken in discharge line from engine.

Remarks The kerosene used in this test weighed 6.80 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 (10 Hrs. 7-1/2 Min)												
** 27.91	5509	1.90	380	5.22	Kero	6.521	4.28	6.48	130	74	60	28.3
MAXIMUM LOAD TEST (98.6 ft. run)												
49.91	10025	1.87	400	10.28	Kero	-----Not Recorded-----			142	83	62	28.4

*Taken in discharge line from engine.

Remarks ** The load being less than he rated load of the tractor was due to the operator of the dynamometer car not applying quite enough load. The tractor would have carried a 30 H.P. load for 10 Hours without difficulty.

***For computing slippage the circumference of the drive wheels was taken at the points of the lugs.

Oil Consumption:

During the complete test consisting of about 35 hours running the following oil was used:

For the engine, 9 gallons of Mobiloil BB, 9½ gallons of Mobiloil B and 6 gal. of Veedol-extra heavy.

For the transmission, ____ gallons of ____

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Miscellaneous Tests. None.

Repairs and Adjustments. Endurance.

April 27. Ground valves. Plugged front hole in needle valve sleeve, factory representative stating that this hole is not regularly put in.

May 10. Pin which holds steering worm gear on steering column came loose and bent. Put in new pin.

Kerosene suction pipe broke inside of tank, probably due to vibration. Cut new threads and put the same pipe back in place,

Tightened clutch.

May 12. At the end of the test the oil tube leading to the right master gear was found to be broken off, probably due to vibration.

With the exceptions noted above, the tractor was apparently in good condition at the end of the test and there was no indication of undue wear in any part nor of any weakness which might require early repairs.

It is our opinion that the mechanical defects indicated by the repairs and adjustments during this test are of only minor importance.

Brief Specifications Oil Pull Model "E" 30-60 H.P. Tractor.

Engine: Twin cylinder cranks parallel, horizontal, valve-in-head. Bore 10" Stroke 12". Rated speed. 375 r.p.m.

Chassis: Four wheel, rated speed 1.91 mi. per Hr.

Total weight 26000 lbs.

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 results of the test as reported above. It is our opinion that none of these statements or claims are unreasonable or excessive except the following statements quoted from their general catalog:

Page 6. "And the proper weight, plus proper distribution of weight gives 100 per cent traction even under adverse conditions."

Page 8. "--- the two cylinder, low speed engines are much better suited to tractor use than any other types now in use-- that the former show an advantage of approximately 20% greater drawbar efficiency."

Page 9. "Its record of .7 lbs kerosene per brake horse power has not been equalled in public demonstrations by any other kerosene burning tractor, before or since."

"Take any official tests or demonstrations held since 1912-- figure the average on any and all tests and you will find that the Oil Pull not only hold the record for the best average and uniformity, on maximum power developed and low fuel consumption--- but that no tractor has yet demonstrated by consecutive tests its ability to rank second to the Oil Pull".

Page 13. "--our own and public tests have proved it to be without exception, the most efficient and economical system of oil combustion."

Page 14. "-- All air going into the engine must first pass thru a patented air cleaner which removes all dirt and grit."

We, the undersigned, certify the above is a true and correct report of Official Tractor Test No. 8.

Claude K. Shedd
Engineer-in-Charge.

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

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