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January 1920

Test 059: Holt T-11 25-40

Nebraska Tractor Test Lab

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UNIVERSITY OF NEBRASKA
AGRICULTURAL ENGINEERING DEPARTMENT
UNIVERSITY FARM, LINCOLN

Report of Official Tractor Test No. 59

Dates of test August 30 to September 17, 1920.

Name, model and rating of tractor Holt T-11 25-40

Serial No. Engine 50195 Serial No. Chassis 40195

Manufacturer Holt Mfg. Co., Peoria, Illinois.

Tractor equipment used Eiseman Model G4 Mag.; Schebler Model A Spec. Carb.

Style and dimensions of wheel lugs Crawler track, no lugs.

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												
30.24	1070	120	Gasol.	3.81	7.94	0.25	0.00	0.25	191	90	78	28.5
			Belt slippage 1.06%.									
VARYING LOAD TEST												
30.27	1072	10	Gasol.									
30.98	1068	10	"									
1.58	1186	10	"									
8.32	1151	10	"									
15.82	1122	10	"									
23.53	1106	10	"									
Aver. 18.87	1118	60	"	3.08	6.13	0.00	0.00	0.00	183	90	78	28.5
MAXIMUM LOAD TEST												
35.52	1066	60	Gasol.	4.38	8.11	0.32	0.00	0.32	201	87	76	28.5
			Belt slippage 1.25%.									
HALF LOAD TEST												
15.51	1100	60	Gasol.	2.92	5.31	0.24	0.00	0.24	169	83	76	28.5
			Belt slippage 0.60%.									

*Taken in discharge line from engine.

Remarks Gasoline used for fuel in this test weighed 6.24# pr. 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												
26.54	3336	2.98	1050	1.9	Gasol.	4.15	6.39	0.75	188	79	37	28.7
MAXIMUM LOAD TEST (1st 96.2' 2nd 67.5')												
33.34	3546	3.53	1103	2.00	Gasol.	Not recorded	--	--	170	86	26	28.8
20.13	5558	1.36	1103	14.00	"	"	"	"	170	87	26	28.8

*Taken in discharge line from engine.

Remarks For computing slippage, outside measurement of the track was used. On low gear maximum, 3 grousers were used on each track. Tractor was operated in intermediate gear in the rated and first maximum test; in the second maximum test it was operated in low gear.

Oil Consumption:

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

For the engine, 7 $\frac{3}{4}$ gallons of Mobiloil "BB"

For the transmission, 1 gallons of 600-W and 1 gallon of used crankcase oil

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Repairs and Adjustments. Endurance:

After about 14 hours of running the motor was taken down and all piston rings replaced and valves ground. In putting the cylinder heads back on it required new cylinder head gaskets and gaskets for water connection. These changes and adjustments were made after the "limbering up" run. but before any of the official *Data* on the tests were taken.

After about 18 hours of running the radiator was cleaned with acid.

Brief Specifications Holt 25-40 H.P. Tractor:

Motor: 4-cylinder, valve-in-head, vertical, bore $4\frac{3}{4}$ ", stroke 6". Rated r.p.m. 1050.

Chassis: Track laying type. Rated speeds: low gear 1.5 mi. per hour, direct gear 3.0 mi. per hour and high 5.7 mi. per hour.

Total weight 9,400 lbs.

General Remarks:

Starting the "limbering up" run the tractor was operated in mud. It pulled about three fourths of its rated load the entire twelve hours.

We, the undersigned, certify that above is a true and correct report of official tractor test No. 59.

Fred A. Mohavee
Engineer-in-Charge

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