

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F.
Larsen

January 1920

Test 069: Port Huron 12-25

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

Follow this and additional works at: <https://digitalcommons.unl.edu/tractormuseumlit>



Part of the [Energy Systems Commons](#), [History of Science, Technology, and Medicine Commons](#), [Other Mechanical Engineering Commons](#), [Physical Sciences and Mathematics Commons](#), [Science and Mathematics Education Commons](#), and the [United States History Commons](#)

Nebraska Tractor Test Lab, "Test 069: Port Huron 12-25" (1920). *Nebraska Tractor Tests*. 688.
<https://digitalcommons.unl.edu/tractormuseumlit/688>

This Article is brought to you for free and open access by the Tractor Test and Power Museum, The Lester F. Larsen at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Nebraska Tractor Tests by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

UNIVERSITY OF NEBRASKA
AGRICULTURAL ENGINEERING DEPARTMENT
UNIVERSITY FARM, LINCOLN

Report of Official Tractor Test No. 69

Dates of test October 20 to October 27, 1920
 Name, model and rating of tractor Port Huron 12-25
 Serial No. Engine 1258 Serial No. Chassis 316
 Manufacturer Port Huron Engine & Thresher Co., Port Huron, Michigan.
 Tractor equipment used Eisemann Model GS4-11 Magneto; Kingston Model L Carb.
 Style and dimensions of wheel lugs Steel Angles, 2-1/2" x 3" x 3/8" x 20"

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												
25.14	893	120	Kero	4.63	5.43	0.2145	0.250	0.395	182	61	69	28.6
Belt Slippage 1.50%												
VARYING LOAD TEST												
25.10	997	10	Kero									
25.20	905.5	10	"									
1.131	1069.5	10	"									
7.35	1032	10	"									
14.11	991	10	"	Average Belt Slippage 1.23%								
19.72	939	10	"									
Aver. 16.22	973	60	Kero	3.38	4.80	0.38	0.33	0.71	164	62	69	28.6
MAXIMUM LOAD TEST												
28.46	895	60	Kero	4.26	6.69	0.18	0.80	0.98	194	61	52	28.8
Belt Slippage 1.63%												
HALF LOAD TEST												
13.56	959	60	Kero	1.99	6.81	0.00	0.00	0.00	160	62	69	28.6

*Taken in discharge line from engine.

Remarks Kerosene used for fuel in these tests weighed 6.80 lbs per gallon

Report of Official Tractor Test No. 69

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												
14.36	2320	2.32	1197	10.55	Kero	3.84	3.74	0.125	162	44	55	28.96
MAXIMUM LOAD TEST (1st 67.0 ft; 2nd 136.4 ft.)												
20.42	4144	1.85	1054	16.1	Kero	---Not Recorded---			200	53	52	28.8
20.01	3427	2.19	1088	14.6	"	"	"		200	52	52	28.8

*Taken in discharge line from engine.

Remarks ** For computing slippage, the circumference of the drive wheels was taken at points of lugs.
The rated test and the second maximum test were made with speed lever in the third notch
The second maximum test was made with speed lever in the first notch.

Oil Consumption:

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

For the engine, 9-1/4 gallons of Mobiloil B

For the transmission, gallons of none added except 1.64# grease.

Report of Official Tractor Test No. 69

Repairs and Adjustments. Endurance:

During the limbering up run the governor was replaced with new one, old one was binding.

During the preliminary runs to rated brake test the motor blew out 4 spark plugs. These plugs were replaced by spark plugs of different make.

The carburetor was cleaned just after the rated and variable load test were made and before the maximum and half load data was taken.

At the end of the test the tractor was apparently in good condition, and there were no indications that any part might require early repair.

It is our opinion that the above repairs do not indicate any important mechanical defect.

Brief Specifications Port Huron 12-25 H.P. Tractor.

Motor: Chief, 4-cylinder, valve-in-head, vertical, Bore 4-3/4" Stroke 6". Rated speed 900 r.p.m. Rated H.P. Belt 25, Drawbar 12.

Chassis: 4 wheel, friction drive, Rated speeds 1-7/8 to 4 miles per hour.

Total weight 6750#

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 as reported above. It is our opinion that none of these are excessive or unreasonable.

We, the undersigned, certify that above is a true and correct report of official tractor test No. 69

Fred R. Mohavee
Engineer-in-Charge

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