

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F. Larsen

January 1948

Test 401: Masey-Harris Pony

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 401: Masey-Harris Pony" (1948). *Nebraska Tractor Tests*. 977.
<https://digitalcommons.unl.edu/tractormuseumlit/977>

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
 AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 401

Dates of test: September 14 to September 22, 1948
 Name and model of tractor: MASSEY-HARRIS PONY
 Manufacturer: MASSEY-HARRIS COMPANY, LTD., Toronto, Ontario, Canada
 Manufacturer's rating: No rating

HORSEPOWER SUMMARY

	DRAWBAR	BELT
1. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	11.08	12.16
2. Observed maximum horsepower (tests F & B)	10.43	11.62
3. Seventy-five per cent of calculated maximum drawbar horsepower and eighty-five per cent of calculated maximum belt horsepower (formerly ASAE and SAE ratings)	8.31	10.34

REMARKS

No repairs or adjustments.

FUEL, OIL, and TIME

Fuel Gasoline Octane 74* Weight per gallon 6.208 pounds
Oil SAE 20-20W To Motor 1.061 gal. Drained from motor 0.976 gal.
Total time motor was operated 46.5 hours

* Octane rating taken from oil company's typical inspection data.

We, the undersigned, certify that this is a true and correct report of official tractor test no. 401.

L. F. Larsen
 Engineer in Charge

C. W. Smith

F. D. Yung

L. W. Hurlbut
 BOARD OF TRACTOR TEST ENGINEERS

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 401

All results shown on pages 2 and 3 were determined from observed data and without allowances, additions or deductions. Tests B and F were made with carburetor set for 100% maximum belt horsepower and data from these tests were used in determining the horsepower to be developed in tests D and H, respectively. Tests C, D, E, G, H, and J were made with an operating setting of the carburetor (selected by the manufacturer) of 2.3% of maximum belt horsepower.

B E L T H O R S E P O W E R T E S T S

Horse- power	Crank shaft speed rpm	Fuel Consumption			Water used gal per hr	Temperature		Barometer Inches of Mercury
		gal per hr	hp-hr per gal	lb per hp-hr		Cool- ing med °F	Air °F	

TEST B - 100% MAXIMUM LOAD - TWO HOURS

11.62	1801	1.164	9.98	0.622	0.00	201	74	28.972
-------	------	-------	------	-------	------	-----	----	--------

TEST C - OPERATING MAXIMUM LOAD - ONE HOUR

10.71	1798	1.037	10.33	0.601	0.00	199	76	28.995
-------	------	-------	-------	-------	------	-----	----	--------

*TEST D - ONE HOUR

10.38	1799	1.031	10.07	0.617	0.00	201	83	29.035
-------	------	-------	-------	-------	------	-----	----	--------

TEST E - VARYING LOAD - TWO HOURS (20 minute runs; lastline average)

10.36	1796	1.029	10.07	0.617	- - -	201	83	- - - -
1.57	1986	0.604	2.60	2.389	- - -	195	85	- - - -
5.51	1895	0.749	7.36	0.844	- - -	198	86	- - - -
10.49	1774	1.024	10.24	0.606	- - -	205	86	- - - -
2.78	1910	0.633	4.39	1.414	- - -	199	86	- - - -
8.22	1904	0.995	8.26	0.752	- - -	199	86	- - - -
6.49	1877	0.839	7.74	0.803	0.00	199	85	29.050

* Formerly called RATED LOAD, see HORSEPOWER SUMMARY 3, page 1

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
 AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 401

D R A W B A R H O R S E P O W E R T E S T S

Horse- power	Draw bar pull lb	Speed mph	Crank shaft speed rpm	Slip on drive wheels %	Fuel Consumption			Water used gal per hr	Temperature Cool- ing mod of °F	Air °F	Barometer Inches of Mercury
					gal per hr	hp-hr per gal	lb per hp-hr				

Rear wheels, tires and added weight used in Tests F, G, and H: Pressed steel wheels; 8-24, 4 ply tires and 316 lb added weight per wheel.

TEST F - 100% MAXIMUM LOAD - 2nd GEAR

10.43	1124	3.48	1804	6.30	-----Not Recorded-----			202	88	28.905
-------	------	------	------	------	------------------------	--	--	-----	----	--------

TEST G - OPERATING MAXIMUM LOAD

9.80	1132	2.57	1802	8.88	-----Not Recorded-----			202	92	28.895
9.86	1057	3.50	1807	5.99	-----" "-----			200	88	28.905
9.23	494	7.00	1797	2.69	-----" "-----			199	89	28.905

*TEST H - TEN HOURS - 2nd GEAR

8.36	891	3.52	1799	4.96	0.927	9.62	10.689	0.00	193	79	28.831
------	-----	------	------	------	-------	------	--------	------	-----	----	--------

TEST J - OPERATING MAXIMUM LOAD - 2nd GEAR

9.26	1002	3.46	1804	7.46	-----Not Recorded-----			191	67	28.820
------	------	------	------	------	------------------------	--	--	-----	----	--------

~~Formerly~~ called RATED LOAD; see HORSEPOWER SUMMARY 3, page 1.

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
Agricultural College, Lincoln

Copy of Report of Official Tractor Test No. 401

TIRES, WHEELS, AND WEIGHT

		Tests F, G, & H.	Test J
Rear Wheel; Type (each)		Pressed Steel	Pressed Steel
	Liquid Ballast	116 lb	None
	Added Cast Iron	200 lb	None
Rear Tires: No. Size & Ply		2 8-24 4 ply	2 8-24 4 ply
	Type of Tread	Champion Ground Grip	Champion Ground Grip
	Make	Firestone	Firestone
	Air Pressure	12 lb	12 lb
Front Wheel; Type (each)		Pressed Steel	Pressed Steel
	Liquid Ballast	None	None
	Added Cast Iron	None	None
Front Tires: No. Size & Ply		2 4.00-15 4 ply	2 4.00-15 4 ply
	Type of Tread	Triple rib	Triple rib
	Make	Goodyear	Goodyear
	Air Pressure	28 lb	28 lb
Height of Drawbar		20 1/2 inches	21 1/2 inches
Static Weight: Rear End		1708 lb	1076 Lb
	Front End	644 lb	644 lb
Total Weight as Tested (With Operator)		2547 lb	1890 lb

SPECIFICATIONS

Type Standard Serial No. PGS-3461 Drive Enclosed gear
Tread width: Rear 41 in to 72 in Front 45 in
Advertised speeds, miles per hour: First 2.74 Second 3.59 Third 7.00
 Reverse 3.22
Belt pulley: Diam. 6 in Face 5 1/4 in RPM 1990 Belt speed 3130 fpm
Clutch: Make Rockford Type Single disc Operated by Foot pedal
Seat Pressed steel
Brakes: Make Massey-Harris Type Contracting band
 Location Bull pinion and differential shaft
 Gear reduction (brake drum to rear wheel) 7.08
 Operated by Foot pedal
 Locked by Latch
 Equalization None
Engine: Make Continental Serial No. N624863 Type 4 cylinder vertical
 Head L Mounting Lengthwise Lubrication Pressure
 Bore and stroke 2 3/8 in x 3 1/2 in Rated rpm 1800
 Port diameter valves: Inlet 3/4 in Exhaust 3/4 in
 Generator: Make Auto-Lite
 Distributor & Coil: Make Auto-Lite Battery Exide
Starter: Make Auto-Lite
 Carburetor: Make Marvel-Schebler Model TSV-24 Size 5/8 in
 Governor: Make Continental Type Weight Actuated
 Air Cleaner: Make Donaldson Type Oil washed wire mesh
 Oil Filter: Make Purolator Type Replaceable element
Cooling medium temperature control: Thermosiphon