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January 1940

Test 359: Massey-Harris Model 101R Junior

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

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Copy of Report of Official Tractor Test No. 359

Dates of test: October 7 to 12, 1940.

Name and model of tractor: MASSEY-HARRIS "101" R JUNIOR

Manufacturer: The Massey-Harris Company, Racine, Wisconsin.

Manufacturer's rating: NOT RATED.

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

H. P.	Crank shaft speed R.P.M.	Fuel Consumption			Water used gal. per hr.	Temp. Deg. F.		Barometer Inches of Mercury
		Gal. per hr.	H. P. hr. per gal.	Lb. per H. P. hr.		Cool- ing med.	Air	

TEST B - 100% MAXIMUM LOAD - TWO HOURS

30.56	1800	2.606	11.73	0.521	0.000	171	77	28.830
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TEST C - OPERATING MAXIMUM LOAD - ONE HOUR

30.15	1799	2.566	11.75	0.520	0.000	163	72	28.885
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*TEST D - ONE HOUR

27.57	1802	2.378	11.59	0.527	0.000	160	73	28.895
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TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

27.49	1802	2.372	11.59	0.527	--	160	73	--
1.48	1894	0.938	1.58	3.872	--	140	72	--
13.95	1828	1.596	8.74	0.699	--	144	72	--
29.44	1761	2.524	11.66	0.524	--	161	72	--
7.08	1852	1.213	5.84	1.047	--	142	71	--
20.62	1802	1.974	10.45	0.585	--	149	72	--
16.68	1823	1.769	9.43	0.648	0.000	149	72	28.860

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

H. P.	Draw bar pull pounds	Speed miles per hr.	Crank shaft speed R.P.M.	Slip on drive wheels %	Fuel Consumption			Water used gal. per hr.	Temp. Deg. F.		Barometer Inches of Mercury
					Gal. per hr.	H.P. hr. per gal.	Lb. per H.P. hr.		Cool- ing med.	Air	

TEST F - 100% MAXIMUM LOAD - Third - GEAR

24.65	2118	4.36	1499	6.14	----- Not Recorded -----			183	77	28.905
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TEST G - OPERATING MAXIMUM LOAD

18.30	3278	2.09	1506	16.18	----- Not Recorded -----			162	73	28.900
23.54	2840	3.11	1500	10.59	----- " " -----			182	76	28.900
24.53	2105	4.37	1499	6.00	----- " " -----			179	75	28.920

*TEST H - TEN HOURS - Third - GEAR

19.44	1648	4.42	1500	4.94	1.903	10.22	0.598	0.000	164	70	29.010
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*Formerly called RATED LOAD; see REMARKS 4, page 3.

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FUEL, OIL, AND TIME

Fuel Gasoline Octane 73 Weight per gallon 6.11 pounds
Oil: S.A.E. No. 10 To motor 1.103 gal. Drained from motor 1.101 gal.
Total time motor was operated 40 hours

BRIEF SPECIFICATIONS

Advertised speeds miles per hour: First 2.6 Second 3.6
Third 4.9 Fourth (1800 r.p.m.) 17.4 Reverse 2.3
Belt pulley: Diam. 13-1/2" Face 6-1/4" R.P.M. 837 Belt Speed 2958 f.p.m.
Clutch: Make Borg and Beck Type Single plate Operated by foot
Seat Pressed steel

Total weight as tested (with operator) 4825 pounds

MOTOR

Make Continental Serial No. MFA-140G-5526 Type 4 cylinder, vertical
Head L Mounting Crankshaft lengthwise Lubrication Pressure
Bore and stroke 3-3/16" x 4-3/8" Rated R.P.M. (Drawbar 1500
(Belt 1800
Port diameter valves: Inlet 1-3/8" Exhaust 1-5/64"
Ignition: Type Battery Make Auto-Lite Distributor Model I.G.W.-4139-A
Generator: Make Auto-Lite Model GBM - 4617
Starter: Make Auto-Lite Model MZ-4072
Carburetor: Make Schebler Model TSX-28 Size 7/8"
Governor: Make Pierce Type Variable speed, centrifugal
Air Cleaner: Make Donaldson Type Oil-washed, wire screen filter
Oil Filter: Make Purolator Type Renewable element
Cooling medium temperature control: Harrison thermostat

CHASSIS

Type tricycle Serial No. J376998 Drive Enclosed gear
Tread width: Rear 52" - 68" Front: Top 12" Bottom 8"
Rear tires: No. 2 Size 10 x 36 - 4 ply Air pressure 16 pounds
Front tires: No. 2 Size 4.75 x 15 - 4 ply Air pressure 28 pounds
Added weight: Per rear wheel (Cast Iron 420 pounds
(Calcium Chloride Solution 283 pounds

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REPAIRS AND ADJUSTMENTS

No repairs or adjustments.

REMARKS

1. All results shown on page 1 of this report 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, and H were made with an operating setting of the carburetor (selected by the manufacturer) of 98.0% of maximum belt horsepower.

	<u>DRAWBAR</u>	<u>BELT</u>
2. Observed maximum horsepower (tests F & B)	24.65	30.56
3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	25.93	32.24
4. Seventy-five per cent of calculated maximum drawbar horsepower and eighty-five per cent of calculated maximum belt horsepower (formerly A.S.A.E. and S.A.E. ratings)	19.45	27.40

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 359.

Carlton L. Zink
Engineer-in-charge

E. E. Brackett

C. W. Smith

L. W. Hurlbut
Board of Tractor Test Engineers