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January 1948

Test 403: Massey-Harris Model 22 RT

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
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Copy of Report of Official Tractor Test No. 403

Dates of test: October 15 to October 21, 1948
 Name and model of tractor: MASSEY-HARRIS 22 R T
 Manufacturer: THE MASSEY-HARRIS COMPANY, Racine, Wisconsin
 Manufacturer's rating: None

HORSEPOWER SUMMARY

	DRAWBAR	BELT
1. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	23.91	31.59
2. Observed maximum horsepower (tests F & B)	22.87	31.05
3. Seventy-five percent of calculated maximum drawbar horsepower and eighty-five percent of calculated maximum belt horsepower (formerly ASAE and SAE ratings.)	17.93	26.85

REMARKS

Tractor was tested without hydraulic lift pump which is listed among items as special equipment.

No repairs or adjustments.

FUEL, OIL and TIME

<u>Fuel</u> Gasoline	<u>Octane</u> 74*	<u>Weight per gallon</u>	6.110
<u>Oil</u> SAE 10	<u>To motor</u> 1.129	<u>Drained from motor</u>	0.947
<u>Total time motor was operated</u> 46 1/2 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. 403.

L. F. Larsen
 Engineer in Charge

C. W. Smith

L. W. Hurlbut

F. D. Yung

Board of Tractor Test Engineers

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All results shown on pages 2 and 3 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, H, J, and K were made with an operating setting of the carburetor (selected by the manufacturer) of 95.7% 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 of	Air of	

TEST B - 100% MAXIMUM LOAD -- TWO HOURS

31.05	1799	2.817	11.02	0.554	0.00	176	51	29.157
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TEST C - OPERATING MAXIMUM LOAD - ONE HOUR

29.94	1802	2.570	11.65	0.524	0.00	174	46	29.250
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*TEST D - ONE HOUR

26.92	1802	2.375	11.33	0.539	0.00	172	44	29.260
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TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

27.01	1805	2.381	11.34	0.539	- -	169	44	-- ---
1.63	2001	1.021	1.60	3.828	- -	143	41	-- ---
14.59	1941	1.699	8.59	0.711	- -	169	42	-- ---
28.54	1694	2.445	11.67	0.523	- -	174	41	-- ---
7.36	1957	1.296	5.68	1.076	- -	162	48	-- ---
21.30	1897	2.092	10.18	0.600	----	170	47	-- ---
16.74	1882	1.822	9.19	0.665	0.00	164	44	29.270

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

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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		Barometer Inches of Mercury
					gal per hr	hp-hr per gal	lb per hp-hr		Cool- ing med °F	Air °F	

Rear wheels, tires and added weight used in Tests F, G, and H; Pressed Steel wheels; 10-28, 4 ply tires and 797 lb added weight per wheel.

TEST F - 100% MAXIMUM LOAD - 3rd GEAR

22.87	1962	4.37	1507	5.94	-----Not Recorded-----			185	72	28.950
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TEST G - OPERATING MAXIMUM LOAD

15.35	2803	2.05	1495	16.00	-----Not Recorded-----			177	72	28.941
21.27	2471	3.23	1503	8.42	-----Not Recorded-----			179	74	28.950
21.53	1839	4.39	1504	5.33	-----Not Recorded-----			180	73	28.950
19.39	565	12.87	1506	1.53	-----Not Recorded-----			177	69	28.941

*TEST H - TEN HOURS - 3rd GEAR

17.95	1530	4.40	1500	4.90	1.812	9.91	0.617	0.00	177	59	29.079
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TEST J - OPERATING MAXIMUM LOAD - 3rd GEAR

16.69	1555	4.02	1497	13.95	-----Not Recorded-----			178	77	28.905
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TEST K - OPERATING MAXIMUM LOAD - 3rd GEAR

Lightest weight wheels and smallest tires suggested by manufacturer. All added weight removed from tractor (liquid, cast iron, or any other added forms.)

17.23	1558	4.15	1507	15.92	-----Not Recorded-----			181	77	28.900
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* Formerly called RATED LOAD, see POWER SUMMARY 3, page 1.

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TIRES, WHEELS, and WEIGHT

	Tests F, G & H	Test J	Test K
Rear Wheel: Type (each)	Pressed Steel	Pressed Steel	Pressed Steel
Liquid Ballast	322 lb	None	None
Added Cast Iron	475 lb	None	None
Rear Tires: No. Size & Ply	2 10-28 4 ply	2 10-28 4 ply	2 9-32 4 ply
Type of Tread	Champion Ground Grip	Champion Ground Grip	Champion Ground Grip
Make	Firestone	Firestone	Firestone
Air Pressure	14 lb	12 lb	12 lb
Front Wheel: Type (each)	Pressed Steel	Pressed Steel	Pressed Steel
Liquid Ballast	None	None	None
Added Cast Iron	None	None	None
Front Tires: No. Size & Ply	2 4.00-15 4 ply	2 4.00-15 4 ply	2 4.00-15 4 ply
Type of Tread	Guide Grip	Guide Grip	Guide Grip
Make	Firestone	Firestone	Firestone
Air Pressure	28 lb	28 lb	28 lb
Height of Drawbar	14 inches	13 1/2 inches	16 inches
Static Weight: Rear End	3430 lb	1836 lb	1869 lb
Front End	884 lb	884 lb	884 lb
Total Weight as tested (with Operator)	4489 lb	2895 lb	2928 lb

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SPECIFICATIONS

Type Tricycle Serial No. 22GR1019 Drive Enclosed Gear
Tread width: Rear 40 in. to 88 in. Front 7 $\frac{1}{2}$ and 14 $\frac{1}{4}$ in.
Advertised speeds, mph : First 2.45 Second 3.51 Third 4.62 Fourth 13.02
Reverse 2.45
Belt pulley: Diam. 9 $\frac{1}{2}$ in. Face 6 $\frac{1}{4}$ in. RPM 1800 Belt Speed 3044 fpm
Clutch: Make Borg & Beck Type: Dry Disc Operated by Foot pedal
Seat: Pressed Steel
Brakes: Make Auto Specialties Location Rear Axle Gear reduction (brake drum to rear wheel) 1 to 1 Operated by Foot pedal Locked by Latches
Equalization None
Engine: Make Continental Red Seal Serial No. MFC14OG14754 Type 4 cylinder vertical
Head L Mounting Lengthwise Lubrication Pressure Bore and stroke 3 $\frac{3}{16}$ in x 4 $\frac{3}{8}$ in. Rated rpm 1800 on Belt
1500 on Drawbar
Port diameter valves: Inlet 1 $\frac{23}{64}$ in Exhaust 1 $\frac{1}{16}$ in.
Starter: Make Auto-Lite Distributor & Coil: Make Auto-Lite
Battery Exido Generator: Make Auto-Lite Carburetor: Make Marvel-Schebler
Model TSX34 Size 7/8" Governor: Make Novi Type Variable speed
centrifugal Air Cleaner: Make Donaldson Type Oil washed wire screen
Oil Filter: Make Purolator Type Replaceable treated paper element
Cooling medium temperature control: Thermostat