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January 1949

Test 409: Massey-Harris Model 30-RT

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

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Copy of Report of Official Tractor Test No. 409

Dates of test: May 12, 1949 to May 25, 1949
Name and model of tractor: MASSEY-HARRIS 30 RT
Manufacturer: THE MASSEY-HARRIS CO., RACINE, WISCONSIN
Manufacturer's rating: Not rated

HORSEPOWER SUMMARY

	DRAWBAR	BELT
1. Sea level (calculated maximum horsepower based on 60° F. and 29.92 " Hg.)	27.23	35.28
2. Observed maximum horsepower (tests F & B)	26.24	34.18
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)	20.42	29.99

REMARKS

No repairs or adjustments.

FUEL, OIL and TIME

Fuel Gasoline Octane 74 * Weight per gallon 6.101
Oil SAE 20 To motor 1.208 gal. Drained from motor 0.947 gal.
Total time motor was operated 47 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. 409.

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, and J were made with an operating setting of the carburetor (selected by the manufacturer) of 96.7% 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 °F.	Air °F.	

TEST B - 100% MAXIMUM LOAD - TWO HOURS

34.18	1800	3.262	10.48	0.582	0.00	165	57	28.900
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TEST C - OPERATING MAXIMUM LOAD - ONE HOUR

33.03	1799	2.978	11.09	0.550	0.00	163	58	28.928
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*TEST D - ONE HOUR

30.09	1803	2.775	10.84	0.563	0.00	157	59	28.938
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TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

30.22	1806	2.793	10.82	0.564	- - -	158	60	- - - -
1.39	1957	1.101	1.26	4.835	- - -	140	59	- - - -
15.87	1895	1.898	8.36	0.730	- - -	146	60	- - - -
30.97	1654	2.734	11.33	0.539	- - -	166	61	- - - -
8.08	1928	1.480	5.46	1.118	- - -	142	62	- - - -
23.39	1869	2.355	9.93	0.614	- - -	151	62	- - - -
16.32	1851	2.060	8.89	0.686	0.00	150	60	28.950

* 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 mod °F.	Air °F.	

TEST F - 100% MAXIMUM LOAD - 3rd GEAR

26.24	2333	4.21	1505	6.00	-----Not Recorded-----				173	67	29.030
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TEST G - OPERATING MAXIMUM LOAD

19.04	3273	2.18	1500	14.95	-----Not Recorded-----				151	59	28.965
24.79	2814	3.30	1504	8.06	-----Not Recorded-----				171	65	29.000
24.98	2214	4.23	1504	5.63	-----Not Recorded-----				168	65	29.000
24.51	1529	6.01	1498	3.99	-----Not Recorded-----				170	65	29.000
20.10	612	12.32	1505	2.15	-----Not Recorded-----				160	63	28.965

*TEST H - TEN HOURS - 3rd GEAR

20.64	1817	4.26	1498	4.60	2.124	9.72	0.628	0.00	150	58	28.940
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TEST J - OPERATING MAXIMUM LOAD - 3rd GEAR

21.70	2108	3.86	1504	14.38	-----Not Recorded-----				169	77	28.965
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* Formerly called RATED LOAD; see POWER SUMMARY 3, page 1.

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TIRES, WHEELS, and WEIGHT

	Test F, G, & H	Test J
Rear Wheel: Type	Pressed Steel	Pressed Steel
(each) Liquid Ballast	199 lb.	None
Added Cast Iron	600 lb.	None
Rear Tires: No. Size & Ply	2 10-38 4 ply	2 10-38 4 ply
Type of Tread	Champion Ground Grip	Champion Ground Grip
Make	Firestone	Firestone
Air Pressure	14 lb.	12 lb.
Front Wheel: Type	Pressed Steel	Pressed Steel
(each) Liquid Ballast	None	None
Added Cast Iron	None	None
Front Tires: No. Size & Ply	2 5.00-15 4 ply	2 5.00-15 4 ply
Type of Tread	Guide Grip	Guide Grip
Make	Firestone	Firestone
Air Pressure	28 lb.	28 lb.
Height of Drawbar	16 1/2 inches	17 1/2 inches
Static Weight: Rear End	3980 lb.	2380 lb.
Front End	1120 lb.	1122 lb.
Total Weight as Tested (with Operator)	5265 lb.	3667 lb.

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SPECIFICATIONS

Type Tricycle Serial No. 30-GR5172 Drive Enclosed Gear

Tread width: Rear 52 in. to 88 in. Front 7 1/2 in. to 14 in. Wheel Base 84.5 in.

Advertised speeds, miles per hour: First 2.58 Second 3.61 Third 4.51
Fourth 6.31 Fifth 12.63 Reverse 2.93

Belt pulley: Diam. 13 1/2 in. Face 6 1/4 in. RPM 838 Belt speed 2960 fpm

Clutch: Make Borg and Beck Type Dry Disc Operated by Foot Pedal

Seat Monroe

Hvdraulic Control: None

Brakes: Make Own Type Expanding band
Location Differential Shaft
Gear reduction (brake drum to rear wheel) 5.077 - 1
Operated by Two foot pedals
Locked by One latch
Equalization None Mechanical adjustment of each brake

Engine: Make Continental Red Seal Serial No. MFB-162G98861 Type 4 cylinder vertical

Head L Mounting Lengthwise Lubrication Pressure

Bore & Stroke 3 7/16 in. x 4 3/8 in. Rated rpm Bolt 1800
Drawbar 1500

Port diameter valves: Inlet 1 23/64 in. Exhaust 1 1/16 in.
Compression Ratio 6.23:1

Starter: Make Auto-Lite

Distributor & Coil: Make Auto-Lite Battery Exide 6-volt

Carburetor: Make Marvel-Schebler Model TSX 308 Size 7/8 in.

Governor: Make Novi Type Centrifugal Variable Speed

Air Cleaner: Make Donaldson Type Oil washed wire screen

Oil Filter: Make Purolator Type Replaceable element

Cooling medium temperature control: Thermostat