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January 1947

Test 389: Massey-Harris Model 44-RT

Tractor Museum

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
 AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 389

Dates of test; October 29 to November 12, 1947
 Name and model of tractor; Massey Harris 44 RT
 Manufacturer; THE MASSEY-HARRIS COMPANY, Racine, Wisconsin
 Manufacturer's rating; None

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		Cooling med. °F	Air °F	

TEST B - 100% MAXIMUM LOAD - TWO HOURS

45.64	1351	3.969	11.50	0.515	0.00	180	61	29.055
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TEST C - OPERATING MAXIMUM LOAD - ONE HOUR

44.07	1351	3.704	11.90	0.498	0.00	177	58	29.050
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*TEST D - ONE HOUR

40.00	1350	3.397	11.78	0.503	0.00	176	59	29.050
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TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

39.91	1349	3.370	11.84	0.501	- - -	176	60	- - - -
1.43	1469	1.342	1.07	5.559	- - -	171	60	- - - -
20.97	1409	2.238	9.37	0.632	- - -	173	60	- - - -
42.56	1307	3.566	11.94	0.496	- - -	178	59	- - - -
10.77	1447	1.778	6.06	0.978	- - -	172	59	- - - -
30.78	1384	2.867	10.74	0.552	- - -	173	59	- - - -
24.40	1394	2.527	9.66	0.614	0.00	174	59	29.050

*Formerly called RATED LOAD; see REMARKS 4, page 5.

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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		Cooling med. of	Air of	

Rear wheels, tires, and added weight used in Tests F, G, and H; Steel Disc wheels; 12-38, 6 ply tires and 1245 lb. added weight per wheel.

TEST F - 100% MAXIMUM LOAD - 3rd GEAR

39.90	3197	4.68	1349	6.32	-----Not Recorded-----			177	47	28.500
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TEST G - OPERATING MAXIMUM LOAD

25.73	4612	2.09	1350	16.19	-----Not Recorded-----			175	50	28.500
37.72	4101	3.45	1350	8.35	"	"	"	177	52	28.500
38.07	3028	4.71	1351	5.74	"	"	"	178	58	28.500
37.98	2279	6.25	1356	4.31	"	"	"	178	60	28.550
32.91	908	13.59	1350	2.19	"	"	"	177	56	28.425

*TEST H - TEN HOURS - 3rd GEAR

31.24	2472	4.74	1350	5.23	3.065	10.19	0.581	0.00	175	44	28.756
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TEST J - OPERATING MAXIMUM LOAD - 3rd GEAR

Same wheels and tires as used in Tests F, G, and H. All added weight removed from tractor (liquid, cast iron, or any other added forms).

28.89	2452	4.42	1351	11.72	-----Not Recorded-----			171	33	29.000
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*Formerly called RATED LOAD; see REMARKS 4, page 5.

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FUEL, OIL, and TIME

Fuel Gasoline Octane 74* Weight per gallon 5.923 pounds

Oil: S.A.E. No. 10-10W To motor 2.210 gal. Drained from motor 1.633 gal.

Total time motor was operated 56 hours.

TIRES, WHEELS, and WEIGHT

	Tests F, G, & H	Test J
Rear Wheel; Type and Weight (each)	Steel Disc 175 lb.	Steel Disc 175 lb.
Liquid Ballast	514 lb.	None
Added Cast Iron	701 lb.	None
Rear Tires; No., Size & Ply	2 12-38 6 ply	2 12-38 6 ply
Type of Tread	Champion Ground Grip	Champion Ground Grip
Make	Firestone	Firestone
Air Pressure	14 lb.	12 lb.
Front Wheel; Type and Weight (each)	Steel Disc 17.5 lb.	Steel Disc 17.5 lb.
Liquid Ballast	None	None
Added Cast Iron	81 lb.	None
Front Tires; No., Size & Ply	2 5.50-16 4 ply	2 5.50-16 4 ply
Type of Tread	Guide Grip	Guide Grip
Make	Firestone	Firestone
Air Pressure	28 lb.	28 lb.
Height of Drawbar	20 inches	20-3/4 inches
Static Weight; Rear End	5142 lb.	2653 lb.
Front End	1598 lb.	1436 lb.
Total Weight as Tested with Operator	6925 lb.	4274 lb.

*Octane rating taken from Oil Company's Typical Inspection Data

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CHASSIS

Type Tricycle Serial No. 44-GR1018 Drive Enclosed Gear

Tread width; Rear 52" to 88" Front 6"

Advertised speeds, miles per hour: First 2.48 Second 3.75 Third 4.98

Fourth 6.47 Fifth 13.80 Reverse 2.89

Belt pulley: Diam. 13 $\frac{1}{2}$ " Face 6 $\frac{1}{4}$ " RPM 863 Belt speed 3050 fpm

Clutch: Make Borg & Beck Type Dry Disc Operated by Foot pedal

Seat Monroe

Brakes: Make Own Type Internal Expanding

Location Differential shaft

Gear reduction (brake drum to rear wheel) 4.125 to 1

Operated by Two foot pedals

Locked by Latches

Equalization None

ENGINE

Make Own Serial No. MHA 260G2250 Type 4 Cylinder - Vertical

Head I Mounting Lengthwise Lubrication Pressure

Bore and stroke 3-7/8" x 5-1/2" Rated RPM 1350

Port diameter valves: Inlet 1.42" Exhaust 1.30"

Battery Exide XT-151 Starter - Autolite

Distributor Auto-Lite Model Generator Auto-Lite Coil Auto-Lite

Carburetor: Make Zenith Model 62AJ10 Size 1 $\frac{1}{4}$ "

Governor: Make Own Type Variable Speed - Centrifugal

Air Cleaner: Make Donaldson Type Oil washed wire screen

Oil Filter: Make Purolator Type Replaceable paper element

Cooling medium temperature control: Thermostat

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REPAIRS AND ADJUSTMENTS

None

REMARKS

1. All results shown on pages 1 and 2 of this report were determined from observed data and are 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 96.3% of maximum belt horsepower.
- | | DRAWBAR | BELT |
|---|---------|-------|
| 2. Observed maximum horsepower (tests F & B) | 39.90 | 45.64 |
| 3. Sea level (calculated) maximum horsepower
(based on 60° F. and 29.92" Hg.) | 41.36 | 47.04 |
| 4. Seventy-five per cent of calculated maximum
drawbar horsepower and eighty-five per cent
of calculated maximum belt horsepower
(formerly ASAE and SAE ratings) | 31.02 | 39.98 |

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 389.

L. F. Larsen
 Engineer-in-Charge

C. W. Smith

F. D. Yung

L. W. Hurlbut

BOARD OF TRACTOR TEST ENGINEERS