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January 1933

Test 219: Massey-Harris "3-4 Plow"

Nebraska Tractor Test Lab

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 219

Dates of test: October 24 to November 10, 1933.

Name and model of tractor: MASSEY-HARRIS "3 - 4 PLOW"

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

Manufacturer's rating: NOT RATED.

Highest rating permissible under the recommendations of the A.S.A.E. and

S.A.E. Tractor Rating Codes: Drawbar - 26.44 H.P. Belt - 41.01 H.P.

One carburetor setting (96.1% of maximum) was used thruout this test.

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

H. P.	: Crank : : shaft :	Fuel Consumption : Gals. :H. P. :Lbs. @:	Water consumption : per hour gallons :	Temp. : Deg. F. :	: Barometer
: speed :	: R.P.M. :	: per : hrs. @:H.P. :	: Cool- : In : : fuel :Total :	: Cool- : : ing :Air :	: Inches of : Mercury
:	: hour :	: gal. :hour :	:	: med. :	:

OPERATING MAXIMUM LOAD TEST. ONE HOUR

44.24 : 1201 : 4.647 : 9.52 : 0.731 : 0.000 : 1.364 : 1.364 : 194 : 76 : 29.070

RATED LOAD TEST. ONE HOUR

41.07 : 1198 : 4.365 : 9.41 : 0.740 : 0.000 : 1.224 : 1.224 : 187 : 76 : 29.065

*VARYING LOAD TEST. TWO HOURS

41.41	: 1205	: 4.379	: 9.46	: 0.736	: --	: --	: --	: 185	: 76	: --
0.55	: 1344	: 1.366	: 0.40	: 17.291	: --	: --	: --	: 177	: 73	: --
22.87	: 1294	: 2.853	: 8.02	: 0.868	: --	: --	: --	: 184	: 76	: --
43.49	: 1184	: 4.504	: 9.66	: 0.721	: --	: --	: --	: 188	: 77	: --
11.52	: 1330	: 2.026	: 5.69	: 1.224	: --	: --	: --	: 184	: 75	: --
31.97	: 1250	: 3.444	: 9.28	: 0.750	: --	: --	: --	: 194	: 80	: --
26.18	: 1269	: 3.096	: 8.46	: 0.823	: 0.000	: 0.509	: 0.509	: 185	: 76	: 29.035

*20 minute runs. Last line is average for two hours.

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 :	Speed : miles :	Crank : shaft :	Slip : on :	Fuel Consumption : H.P. : Lbs. :	Water: : used :	Temp. : :	: Barometer
: pull :	: per	: speed :	: drive:	: Gal. : hr. :	: per : : H.P. :	: Gal. : : per :	: Cool- : : ing :	: Inches of : Mercury
: pounds:	: hour	: R.P.M.:	: wheels:	: per : : % :	: hour : : gal. :	: hour : : hour :	: med. :	:

**RATED LOAD TEST. TEN HOURS. SECOND GEAR.

24.92 : 2714 : 3.44 : 1200 : 9.83 : 3.680 : 6.77 : 1.028 : 0.000 : 183 : 54 : 28.860

MAXIMUM LOAD TEST

26.45	: 4501	: 2.20	: 1197	: 25.10	: ----	: Not Recorded	: ----	: 185	: 58	: 28.730
33.12	: 3534	: 3.51	: 1195	: 7.60	: ----	: " "	: ----	: 173	: 53	: 28.860
31.46	: 2616	: 4.51	: 1204	: 6.17	: ----	: " "	: ----	: 180	: 60	: 28.785

**See remarks, page 3.

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BRIEF SPECIFICATIONS

MOTOR: Make Own Serial No. 68530 Type 4 Cylinder, Vertical
Head I Mounting Lengthwise
Bore and stroke: 4 3/8" x 5 3/4" Rated R.P.M. 1200
Port Dia. Valves: Inlet 1 5/8" Exhaust 1 7/8"
Belt pulley: Diam. 19" Face 7 1/8" R.P.M. 525
Magneto: American Bosch Model U 4 ED 4
Carburetor: Kingston Model L - 3-L Size 1 1/2"
Governor: Kingston No. J8728 Type Centrifugal Flyball
Air Cleaner: Own Type Oil circulated over wool
Lubrication: Pressure

CHASSIS: Type 4 wheels, 2 drivers Serial No. 69001 Drive Enclosed gear
Clutch: Twin Disc Type Single plate - dry operated by hand lever
Advertised speeds, miles per hour: Low 2 1/2
Intermediate 3 1/4 High 4 Reverse 2 1/2
Drive wheels: Diameter 48" Face 12"
Lugs: Type Spade No. per wheel 28 Size 5" high by 3 3/8" face
Extension rims: None
Seat: Pressed steel
Total weight as tested (with operator) 5385 pounds.

FUEL AND OIL:

Fuel: Distillate Weight per gallon 6.96 pounds

Oil: S. A. E. Viscosity No. 30

Total oil to motor	<u>4.839 gallons</u>	The oil was drained once - at the end of the test.
Total drained from motor	<u>1.345 gallons</u>	

Total time motor was operated 43 hours

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REPAIRS AND ADJUSTMENTS

During the preliminary belt tests, the spark plug in #1 cylinder was replaced with a new one.

REMARKS

The tests herein reported were conducted with one carburetor setting which remained unchanged throughout the tests. This condition should be recognized when comparing this test with any Nebraska test conducted prior to 1928.

The testing operator unintentionally applied less load than required for the highest permissible rated drawbar horsepower.

The lug equipment used in the drawbar tests is the same as that described on page 2 of this report.

In the advertising literature submitted with the specifications and application for test of this tractor we find no claims and statements which, in our opinion, are unreasonable or excessive.

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 219.

Carlton L. Zink
Engineer-in-charge

E. E. Brackett

C. W. Smith

E. B. Lewis

Board of Tractor Test Engineers