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January 1933

Test 216: Allis-Chalmers Model M

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
 AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 216

Dates of test: September 23 to October 9, 1933.

Name and model of tractor: ALLIS-CHALMERS "M"

Manufacturer: Allis-Chalmers Mfg. Co., Springfield Works, Springfield, Ill.

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 - 21.81 H.P. Belt - 31.81 H.P.

One carburetor setting (100% of maximum) was used throughout 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 speed R.P.M.	Fuel consumption			Water consumption per hour gallons			Temp. Deg. F.		Barometer Inches of Mercury
		Gals. per hour	H. P. per gal.	Lb. per H. P. hour	Cool- ing	In fuel	Total	Cool- ing med.	Air	
OPERATING MAXIMUM LOAD TEST. ONE HOUR										
35.43	1199	3.575	9.91	0.609	0.000	0.000	0.000	203	76	28.800
RATED LOAD TEST. ONE HOUR										
32.01	1202	3.219	9.94	0.607	0.000	0.000	0.000	183	77	28.790
*VARYING LOAD TEST. TWO HOURS										
31.95	1201	3.214	9.94	0.608	--	--	--	183	78	--
0.64	1344	1.430	0.45	13.500	--	--	--	180	78	--
17.64	1319	2.394	7.37	0.820	--	--	--	184	77	--
34.16	1155	3.502	9.75	0.619	--	--	--	208	79	--
9.21	1365	1.922	4.79	1.261	--	--	--	179	78	--
25.81	1291	2.732	9.45	0.639	--	--	--	176	81	--
20.68	1279	2.532	8.17	0.740	0.000	0.000	0.000	185	78	28.800

*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 pull pounds	Speed miles per hour	Crank Shaft speed R.P.M.	Slip on drive wheels %	Fuel Consumption			Water used Gal. per hour	Temp. Deg. F.		Barometer Inches of Mercury
					Gal. per hour	H.P. per gal.	Lbs. per H.P. hr.		Cool- ing med.	Air	
RATED LOAD TEST - TEN HOURS - Second - GEAR											
22.98	2714	3.18	1202	2.06	3.065	7.50	0.805	0.145	198	60	28.770
MAXIMUM LOAD TEST											
29.65	5166	2.15	1205	5.00	-----	Not Recorded	-----	-----	195	68	28.840
27.28	3248	3.15	1197	2.48	-----	" "	-----	-----	203	79	28.775
25.18	2295	4.11	1199	1.73	-----	" "	-----	-----	207	79	28.820
23.03	1484	5.82	1198	1.22	-----	" "	-----	-----	195	70	28.840

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BRIEF SPECIFICATIONS

MOTOR: Make Own Serial No. U M 393 Type 4 Cylinder, Vertical
Head I Mounting Lengthwise
Bore and stroke: 4 3/8" x 5" Rated R.P.M. 1200
Port Dia. Valves: Inlet 1 3/4" Exhaust 1 1/2"
Belt pulley: Diam. 12" Face 8 3/4" R.P.M. 960
Magneto: Eisemann Model GL-4
Carburetor: Zenith Model K-5 Size 1 1/4"
Governor: Own No. None Type Flyball
Air Cleaner: Vortex Type Oil washed wire filter
Lubrication: Pressure

CHASSIS: Type Tracklayer Serial No. M 255 Drive Enclosed gear
Clutch: Rockford Type Single plate Operated by hand lever
Advertised speeds, miles per hour: First 2.23 Second 3.20
Third 4.15 Fourth 5.82 Reverse 2.55
Measured length of track 15.659 feet Face 12 inches
Lugs: Type Cleats integral with shoes No. per track 31
Size 12" x 1 5/8"
Extension rims: None
Seat Upholstered
Total weight as tested (with operator) 6620 pounds.

FUEL AND OIL:

Fuel: Gasoline Weight per gallon 6.04 pounds

Oil: S.A.E. Viscosity No. 40

Total oil to motor 2.525 gallons

Total drained from motor 1.931 gallons

The oil was drained once - at the end of the test.

Total time motor was operated 46 1/2 hours

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REPAIRS AND ADJUSTMENTS

No repairs or adjustments.

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 track and 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. 216.

Carlton L. Zink
Engineer-in-charge

E. E. Brackott

C. W. Smith

E. B. Lewis
Board of Tractor Test Engineers