

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F. Larsen

January 1931

Test 189: Allis-Chalmers "All Crop"

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

Follow this and additional works at: <https://digitalcommons.unl.edu/tractormuseumlit>



Part of the [Energy Systems Commons](#), [History of Science, Technology, and Medicine Commons](#), [Other Mechanical Engineering Commons](#), [Physical Sciences and Mathematics Commons](#), [Science and Mathematics Education Commons](#), and the [United States History Commons](#)

Nebraska Tractor Test Lab, "Test 189: Allis-Chalmers "All Crop"" (1931). *Nebraska Tractor Tests*. 830.
<https://digitalcommons.unl.edu/tractormuseumlit/830>

This Article is brought to you for free and open access by the Tractor Test and Power Museum, The Lester F. Larsen at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Nebraska Tractor Tests by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 189

Dates of test: April 17 to May 13, 1931.

Name and model of tractor: ALLIS-CHALMERS "ALL CROP"

Manufacturer: Allis-Chalmers Manufacturing Co., Milwaukee, 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 - 18.21 H.P. Belt - 31.34 H.P.

One carburetor setting (100% 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. @ : :R.P.M. per :hrs. @ :H.P. : : : hour :gal. :hour :	Water consumption : : per hour gallons : :Cool- : In : :Cool- : :ing : fuel :Total :ing : Air : : : : : :med. : :	Temp. : : Deg. F. : : : : : : : : : :	:Barometer :Inches of :Mercury : :
-------	----------------------	--	---	---	---

OPERATING MAXIMUM LOAD TEST. ONE HOUR

36.09	: 1198	: 4.093	: 8.82	: 0.635	: 0.00	: 0.00	: 0.00	: 181	: 54	: 29.135
-------	--------	---------	--------	---------	--------	--------	--------	-------	------	----------

RATED LOAD TEST. ONE HOUR

31.11	: 1199	: 3.253	: 9.56	: 0.632	: 0.00	: 0.00	: 0.00	: 185	: 61	: 29.042
-------	--------	---------	--------	---------	--------	--------	--------	-------	------	----------

*VARYING LOAD TEST. TWO HOURS

31.18	: 1199	: 3.214	: 9.70	: 0.623	: --	: --	: --	: 184	: 63	: --
0.73	: 1245	: 1.276	: 0.57	: 10.562	: --	: --	: --	: 183	: 65	: --
16.09	: 1233	: 2.220	: 7.25	: 0.833	: --	: --	: --	: 184	: 66	: --
34.98	: 1176	: 3.978	: 8.79	: 0.687	: --	: --	: --	: 186	: 68	: --
8.25	: 1266	: 1.738	: 4.75	: 1.273	: --	: --	: --	: 184	: 67	: --
23.48	: 1207	: 2.687	: 8.74	: 0.691	: --	: --	: --	: 184	: 66	: --
19.42	: 1219	: 2.526	: 7.69	: 0.786	: 0.00	: 0.00	: 0.00	: 184	: 66	: 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 :Speed :Crank : Slip : Fuel Consumption :water: TEMP. : : Bar :miles :shaft : on : : H.P.: Lbs. :used : : :Barometer : pull :per :speed : drive: Gal.: hr. : per :Gal. :Cool:Air :Inches of :pounds:hour :R.P.M.:wheels: per : per : H.P. :per :ing : :Mercury : : : : % : hour: gal.: hour :hour :med.: :
-------	---

RATED LOAD TEST. TEN HOURS. Intermediate Gear.

17.77	: 1812	: 3.68	: 1193	: 4.83	: 3.334	: 5.33	: 1.133	: 0.045	: 170	: 72	: 28.910
-------	--------	--------	--------	--------	---------	--------	---------	---------	-------	------	----------

MAXIMUM LOAD TEST

18.34	: 1168	: 5.89	: 1202	: 0.34	: -----	: Not Recorded	: -----	: 136	: 81	: 28.860
23.39	: 2350	: 3.73	: 1202	: 4.73	: -----	: "	: -----	: 178	: 47	: 28.475
24.98	: 3763	: 2.49	: 1196	: 10.15	: -----	: "	: -----	: 165	: 49	: 28.475

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 189

BRIEF SPECIFICATIONS

MOTOR: Make Continental Serial No. None Type 4 Cylinder Vertical
Head L Mounting Lengthwise
Bore and stroke: 4 1/4 x 5 in. Rated R.P.M. 1200
Port Dia. Valves: Inlet 1 7/8" Exhaust 1 7/8"
Belt pulley: Diam. 10 in. Face 7 1/2 in. R.P.M. 1095
Magneto: Eisemann Model GL 4
Carburetor: Zenith Model C5 E Size 1 1/4"
Governor: Continental No. None Type Centrifugal
Air Cleaner: Donaldson & Own Type Centrifugal & Filter
Lubrication: Pressure Feed

CHASSIS: Type 4 wheels, 2 drivers Serial No. UC 217 Drive Enclosed gear
Clutch: Rockford Type Dry plate operated by Foot pedal
Advertised speeds, miles per hour: Low 2 1/3
Intermediate 3 1/3 High 5 Reverse 2 2/3
Drive wheels: Diameter 42" Face 2"
Lugs: Type Spade No. per wheel 27 Size 5" high x 3 1/2" face
Extension rims: Width 6" 3 sets were used. Lugs were all on the extension rims.
Seat Pressed steel
Total weight as tested (with operator) 5965 pounds.

FUEL AND OIL:

Fuel: Gasoline Weight per gallon 6.04 pounds
Oil: S. A. E. Viscosity No. 30
Total oil to motor 3.022 gallons
Total drained from motor 2.656 gallons
Total time motor was operated 46 hours

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

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 189

REPAIRS AND ADJUSTMENTS

After 25 hours operation it was necessary to tighten the fan belt, (the belt tests had been completed).

REMARKS

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

The drawbar tests were run with drive wheels equipped with extension rims and lugs as listed on Page 2 of this report.

The application for this test states that Zenith and Kingston carburetors are supplied on stock tractors. A Zenith carburetor was used in this test. Advertising folder AU 110 lists only the Kingston carburetor as furnished on stock machines.

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 189.

Carlton L. Zink
Engineer-in-charge

E. E. Brackett

C. W. Smith

E. B. Lewis
Board of Tractor Test Engineers