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Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F. Larsen

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January 1933

## Test 215: Allis-Chalmers Special K

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, [tractortestlab@unl.edu](mailto:tractortestlab@unl.edu)

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT  
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 215

Dates of test: September 21 to October 4, 1933.

Name and model of tractor: ALLIS-CHALMERS SPECIAL "K"

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 - 35.51 H.P. Belt - 49.29 H.P.

One carburetor setting (98.3% 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 : :ing : fuel : Total : ing : Air : Mercury	: Temp. : : Deg. F. : :Cool- : :ing : med. :	: Barometer : Inches of : Mercury
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OPERATING MAXIMUM LOAD TEST. ONE HOUR

55.24 : 1050 : 5.891 : 9.38 : 0.644 : 0.000 : 0.000 : 0.000 : 182 : 53 : 28.770

RATED LOAD TEST. ONE HOUR

49.59 : 1049 : 4.940 : 10.04 : 0.602 : 0.000 : 0.000 : 0.000 : 177 : 55 : 28.770

\*VARYING LOAD TEST. TWO HOURS

49.39	: 1045	: 4.912	: 10.05	: 0.601	: 2-	: --	: --	: 177	: 58	: --
0.74	: 1153	: 2.166	: 0.34	: 17.676	: --	: --	: --	: 180	: 55	: --
26.46	: 1119	: 3.522	: 7.51	: 0.804	: --	: --	: --	: 178	: 55	: --
52.31	: 1002	: 5.414	: 9.66	: 0.625	: --	: --	: --	: 182	: 55	: --
13.46	: 1134	: 2.851	: 4.72	: 1.279	: --	: --	: --	: 180	: 54	: --
37.67	: 1081	: 4.227	: 8.91	: 0.678	: --	: --	: --	: 181	: 55	: --
31.00	: 1089	: 3.849	: 8.06	: 0.750	: 0.000	: 0.000	: 0.000	: 179	: 55	: 28.780

\*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 : : per : : pounds : hour	:Crank : :shaft : :speed : :R.P.M. :	: Slip : : on : : drive : : wheels : : % :	Fuel Consumption :Gal. : hr. : per : : per : H.P. : per : : hour : gal. : hour :	:Water : : used : :Gal. : : per : : hour :	: Temp. : : : :Cool- : :ing : med. :	: Barometer : Inches of : Mercury
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RATED LOAD TEST. TEN HOURS. SECOND Gear.

35.70 : 4304 : 3.11 : 1050 : 0.81 : 5.000 : 7.14 : 0.846 : 0.000 : 188 : 65 : 28.970

MAXIMUM LOAD TEST

47.87	: 8865	: 2.03	: 1049	: 3.25	: -----	: Not Recorded	: -----	: 192	: 66	: 29.120
44.23	: 5348	: 3.10	: 1051	: 1.21	: -----	: " "	: -----	: 195	: 75	: 29.155
41.40	: 3436	: 4.52	: 1049	: 0.75	: -----	: " "	: -----	: 197	: 74	: 29.150

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BRIEF SPECIFICATIONS

MOTOR: Make Own Serial No. M 7815 Type 4 Cylinder, Vertical  
Head I Mounting Lengthwise  
Bore and stroke: 5" x 6 1/2" Rated R.P.M. 1050  
Port Dia. Valves: Inlet 2" Exhaust 2"  
Belt pulley: Diam. 12" Face 8 3/4" R.P.M. 1050  
Magneto: Eisemann Model G L 4  
Carburetor: Zenith Model C-6 Size 1 1/2"  
Governor: Own No. None Type Flyball  
Air Cleaner: Vortox Type Oil washed wire filter  
Lubrication: Pressure

CHASSIS: Type Tracklayer Serial No. WK 2848 Drive Enclosed gear  
Clutch: Own Type Single plate operated by hand lever  
Advertised speeds, miles per hour: Low 2.08  
Intermediate 3.10 High 4.50 Reverse 2.39  
Measured length of track 18.559 feet Face 18 inches  
Lugs: Type Cleats integral with shoes No. per track 34 Size 18" x 2"  
Extension rims: None  
Seat Upholstered  
Total weight as tested (with operator) 11,670 pounds.

FUEL AND OIL:

Fuel: Gasoline Weight per gallon 6.04 pounds  
Oil: S.A.E. Viscosity No. 40 The oil was drained  
once - at the end of  
Total oil to motor 4.466 gallons the test.  
Total drained from motor 3.327 gallons  
Total time motor was operated 43 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 thruout 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. 215.

\_\_\_\_\_  
Carlton L. Zink  
Engineer-in-charge

\_\_\_\_\_  
E. E. Brackett

\_\_\_\_\_  
C. W. Smith

\_\_\_\_\_  
E. B. Lewis

\_\_\_\_\_  
Board of Tractor Test Engineers