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January 1940

## Test 364: Allis-Chalmers Model C (Gasoline)

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. 364

Dates of test: October 28 to November 7, 1940.

Name and model of tractor: ALLIS-CHALMERS C (Gasoline)

Manufacturer: Allis-Chalmers Manufacturing Company, Milwaukee, Wisconsin.

Manufacturer's rating: NOT RATED.

B E L T 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 used gal. per hr.	Temp. Deg. F.		Barometer Inches of Mercury
		Gal. per hr.	H. P. hr. per gal.	Lb. per H. P. hr.		Cool- ing med.	Air	

TEST B - 100% MAXIMUM LOAD - TWO HOURS

23.30	1499	2.033	11.46	0.533	0.000	152	55	29.145
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TEST C - OPERATING MAXIMUM LOAD - ONE HOUR

21.83	1499	1.841	11.86	0.515	0.000	152	51	29.175
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\*TEST D - ONE HOUR

20.27	1499	1.722	11.77	0.519	0.000	171	51	29.175
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TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

20.29	1500	1.728	11.74	0.520	--	172	52	--
1.13	1767	0.825	1.37	4.460	--	184	63	--
10.60	1559	1.198	8.85	0.691	--	178	60	--
20.62	1408	1.689	12.21	0.500	--	152	53	--
5.76	1693	1.061	5.43	1.125	--	179	63	--
15.64	1540	1.404	11.14	0.549	--	172	64	--
12.34	1578	1.318	9.36	0.652	0.000	173	59	29.170

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 hr.	Crank shaft speed R.P.M.	Slip on drive wheels %	Fuel Consumption			Water used gal. per hr.	Temp. Deg. F.		Barometer Inches of Mercury
					Gal. per hr.	H.P. hr. per gal.	Lb. per H.P. hr.		Cool- ing med.	Air	

TEST F - 100% MAXIMUM LOAD - Second - GEAR

18.43	2206	3.13	1506	15.95	-----	Not Recorded	-----	146	48	29.080
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TEST G - OPERATING MAXIMUM LOAD

12.10	2352	1.93	1504	17.90	-----	Not Recorded	-----	166	47	29.110
18.04	2108	3.21	1497	13.34	-----	"	"	150	47	29.090
18.31	1008	6.81	1501	5.34	-----	"	"	151	46	29.095

\*TEST H - TEN HOURS - Second - GEAR

14.15	1557	3.41	1500	8.21	1.460	9.69	0.631	0.000	187	47	29.210
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\*Formerly called RATED LOAD; see REMARKS 4, page 3.

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FUEL, OIL, AND TIME

Fuel Gasoline Octane 73 Weight per gallon 6.11 pounds

Oil: S.A.E. No. 10 To motor 1.253 gal. Drained from motor 0.848 gal.

Total time motor was operated 45 hours.

BRIEF SPECIFICATIONS

Advertised speeds miles per hour: First 2-1/2 Second 3-3/4

Third 7-1/2 Reverse 2-3/4

Belt pulley: Diam. 8" Face 5-1/2" R.P.M. 1129 Belt speed 2365 f.p.m.

Clutch: Make Rockford Type Single plate Operated by foot

Seat: Upholstered

Total weight as tested (with operator) 3205 pounds

MOTOR

Make Own Serial No. CE-93G Type 4-cylinder, vertical

Head I Mounting Crankshaft lengthwise Lubrication Pressure

Bore and stroke 3-3/8" x 3-1/2" Rated R.P.M. 1500

Port diameter valves: Inlet 1.20" Exhaust 1.03"

Magneto: Make Fairbanks-Morse Model FM-JLB

Carburetor: Make Zenith Model 61-AJ-7 Size 7/8"

Governor: Make Own Type Variable speed, centrifugal

Air Cleaner: Make Donaldson Type Oil-washed wire screen filter

Oil Filter: Make Own Type Replaceable element

Cooling medium temperature control: Pines radiator shutters

CHASSIS

Type Tricycle Serial No. C-81 Drive Enclosed gear

Tread width: Rear 52" - 80" Front: Top 10-1/2" Bottom 6-1/2"

Rear tires: No. 2 Size 9 - 24 - 4 ply Air pressure 16 pounds

Front tires: No. 2 Size 4.00 x 15 - 4 ply Air pressure 28 pounds

Added weight: Per rear wheel (Cast Iron 260 pounds

(Calcium Chloride Solution 124 pounds

Per front wheel (Cast Iron 77 pounds

(Calcium Chloride Solution 21 pounds

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REPAIRS AND ADJUSTMENTS

No repairs or adjustments.

REMARKS

1. All results shown on page 1 of this report were determined from observed data and 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, and H were made with an operating setting of the carburetor (selected by the manufacturer) of 93.2% of maximum belt horsepower.

	<u>DRAWBAR</u>	<u>BELT</u>
2. Observed maximum horsepower (tests F & B)	18.43	23.30
3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	18.74	23.81
4. Seventy-five per cent of calculated maximum drawbar horsepower and eighty-five per cent of calculated maximum belt horsepower (formerly A.S.A.E. and S.A.E. ratings)	14.06	20.24

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 364.

Carlton L. Zink  
 Engineer-in-charge

E. E. Brackett

C. W. Smith,

L. W. Hurlbut  
 Board of Tractor Test Engineers