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January 1939

## Test 324: Cletrac Model HG

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. 324

Dates of test: August 12 to 30, 1939.  
Name and model of tractor: CLETRAC HG  
Manufacturer: Cleveland Tractor Company, Cleveland, Ohio.  
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	

TESTS B AND C - 100% MAXIMUM LOAD - TWO HOURS

19.36	1700	2.187	8.85	0.690	0.005	199	86	28.835
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\*TEST D - ONE HOUR

17.59	1700	1.969	8.93	0.684	0.049	188	79	28.835
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TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

17.60	1700	1.979	8.89	0.687	--	188	78	--
1.24	1717	0.830	1.49	4.089	--	175	77	--
9.15	1760	1.444	6.34	0.964	--	179	76	--
19.30	1711	2.185	8.83	0.692	--	190	77	--
4.35	1725	1.075	4.05	1.510	--	174	76	--
13.61	1731	1.718	7.92	0.771	--	180	75	--
10.88	1724	1.538	7.07	0.864	0.034	181	76	28.835

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. per gal.	Lb. per H.P. hr.		Cool- ing med.	Air	

TESTS F AND G - 100% MAXIMUM LOAD

13.44	2800	1.80	1398	7.65	----- Not Recorded -----				203	85	28.850
14.01	1748	3.00	1400	2.74	----- " " -----				203	80	28.900
11.63	883	4.94	1403	2.91	----- " " -----				203	90	28.860

\*TEST H - TEN HOURS - Second - GEAR

11.14	1415	2.95	1400	4.42	1.530	7.28	0.839	0.072	201	80	29.025
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\*Formerly called RATED LOAD; see REMARKS 4, page 3.

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FUEL, OIL, AND TIME

Fuel \_\_\_\_\_ Gasoline \_\_\_\_\_ Octane 71 \_\_\_\_\_ Weight per gallon 6.11 \_\_\_\_\_ pounds

Oil: S.A.E. No. 30 \_\_\_\_\_ To motor 1.544 gal. \_\_\_\_\_ Drained from motor 1.364 gal. \_\_\_\_\_

Total time motor was operated 64 \_\_\_\_\_ hours

BRIEF SPECIFICATIONS

Advertised speeds, miles per hour: First 2 \_\_\_\_\_ Second 3 \_\_\_\_\_  
Third 5 \_\_\_\_\_ Reverse 2 1/4 \_\_\_\_\_

Belt pulley: Diam. 9 1/2" \_\_\_\_\_ Face 5 1/2" \_\_\_\_\_ R.P.M. 1280 \_\_\_\_\_ Belt Speed 3183 f.p.m. \_\_\_\_\_

Clutch: Make Long \_\_\_\_\_ Type Single plate \_\_\_\_\_ Operated by foot pedal \_\_\_\_\_

Seat Pressed steel with sponge rubber pad \_\_\_\_\_

Total weight as tested (with operator) 3510 \_\_\_\_\_ pounds

MOTOR

Make Hercules \_\_\_\_\_ Serial No. 668182 \_\_\_\_\_ Type 4 cylinder, vertical \_\_\_\_\_

Head L \_\_\_\_\_ Mounting Crankshaft lengthwise \_\_\_\_\_ Lubrication Pressure \_\_\_\_\_

Bore and stroke 3" x 4" \_\_\_\_\_ Rated R.P.M. (Drawbar 1400 \_\_\_\_\_  
(Belt 1700 \_\_\_\_\_)

Port diameter valves: Inlet 1 1/4" \_\_\_\_\_ Exhaust 1 1/8" \_\_\_\_\_

Magneto: Make Wico \_\_\_\_\_ Model C1113B \_\_\_\_\_

Carburetor: Make Tillotson \_\_\_\_\_ Model YC2A \_\_\_\_\_ Size 7/8" \_\_\_\_\_

Governor: Make Hercules-Handy \_\_\_\_\_ Type Variable speed centrifugal \_\_\_\_\_

Air Cleaner: Make Vortex \_\_\_\_\_ Type Oil-washed wire filter \_\_\_\_\_

Oil Filter: Make Michiana Oil Purifier \_\_\_\_\_ Type Removable waste pack unit \_\_\_\_\_

Cooling medium temperature control: None \_\_\_\_\_

CHASSIS

Type Tracklayer \_\_\_\_\_ Serial No. 1GA276 \_\_\_\_\_ Drive Enclosed gear \_\_\_\_\_

Tread width 68" \_\_\_\_\_ Measured length of track 14.8250' \_\_\_\_\_

Cleats: Type Integral with shoes \_\_\_\_\_ No. per track 30 \_\_\_\_\_

Size 1" high x 10" long \_\_\_\_\_

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Copy of Report of Official Tractor Test No. 324

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 the same setting.

	DRAWBAR	BELT
2. Observed maximum horsepower (tests F & B)	14.01	19.36
3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	14.78	20.58
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)	11.09	17.49

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 324.

Carlton L. Zink  
Engineer-in-charge

E. E. Brackett

C. W. Smith

L. W. Hurlbut  
Board of Tractor Test Engineers