

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F. Larsen

---

January 1939

## Test 326: Cletrac Model FD

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, [tractortestlab@unl.edu](mailto: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 326: Cletrac Model FD" (1939). *Nebraska Tractor Tests*. 921.  
<https://digitalcommons.unl.edu/tractormuseumlit/921>

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.

3 pages-page 1

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT  
 AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 326

Dates of test: August 17 to 30, 1939.  
 Name and model of tractor: CLETRAC FD  
 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

107.25	1300	7.660	14.00	0.499	0.042	208	91	29.090
--------	------	-------	-------	-------	-------	-----	----	--------

\*TEST D - ONE HOUR

96.73	1300	6.567	14.73	0.475	0.078	188	88	29.085
-------	------	-------	-------	-------	-------	-----	----	--------

TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

96.64	1297	6.567	14.72	0.475	--	187	88	--
2.25	1393	2.176	1.03	6.760	--	136	85	--
50.13	1348	4.232	11.85	0.590	--	149	85	--
107.34	1276	7.382	14.54	0.481	--	189	84	--
25.75	1375	3.082	8.35	0.837	--	144	82	--
72.47	1311	5.142	14.09	0.496	--	157	81	--
59.10	1333	4.763	12.41	0.563	0.031	160	84	29.085

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

91.16	21831	1.57	1295	2.93	-----	Not Recorded	-----	188	84	28.870
90.38	12459	2.72	1298	0.99	-----	"	"	190	81	28.900
83.97	8584	3.67	1303	0.66	-----	"	"	199	93	29.025
72.05	5468	4.94	1297	0.04	-----	"	"	198	88	29.000

\*TEST H - TEN HOURS - Second - GEAR

72.03	9917	2.72	1299	0.93	6.186	11.64	0.600	0.056	187	90	28.870
-------	------	------	------	------	-------	-------	-------	-------	-----	----	--------

\*Formerly called RATED LOAD; see REMARKS 4, page 3.

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT  
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 326

## FUEL, OIL, AND TIME

Fuel Commercial diesel fuel Weight per gallon 6.99 pounds

Oil: S.A.E. No. 30 To motor 5.904 gal. Drained from motor 5.271 gal.

Total time motor was operated 46 hours

## BRIEF SPECIFICATIONS

Advertised speeds, miles per hour: First 1.61 Second 2.75

Third 3.66 Fourth 5 Reverse 1.58 - 2.82

Belt pulley: Diam. 24 1/2" Face 15" R.P.M. 535 Belt Speed 3432 f.p.m.

Clutch: Make Long Type Double plate Operated by Foot pedal

Seat Upholstered

Total weight as tested (with operator) 30,030 pounds

## MOTOR

Make Hercules Serial No. P360835 Type 6 cylinder, vertical, diesel

Head I Mounting Crankshaft lengthwise Lubrication Pressure

Bore and stroke 5" x 6" Rated R.P.M. 1300

Port diameter valves: Inlet 2 3/8" Exhaust 1 5/8"

Fuel Injection System: Bosch Model APE6B8ON300S562 47117

Governor: Make Bosch Type Variable speed, centrifugal

Air Cleaner: Make Vortex Type Oil-washed, wire filter and A.C. pre-cleaner

Oil Filter: Make Purolator Type Double unit, metal element

Cooling medium temperature control: None

## CHASSIS

Type Tracklayer Serial No. 8Y270 Drive Enclosed gear

Tread width: 69" Measured length of track 23.9833'

Cleats: Type Integral with shoes No. per track 34

Size 2 5/8" high x 20" long

3 pages-page 3

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT  
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 326

REPAIRS AND ADJUSTMENTS

During the test the following fuel injection lines were broken and were replaced with new ones:

On the limber-up test, No. 3 line  
On the second gear Maximum Drawbar test, No. 4 line  
On the first gear Maximum Drawbar test, No. 3 line  
On the Rated Load Drawbar test, No. 1 line.

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 fuel pumps as set and sealed by the manufacturer 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.

	<u>DRAWBAR</u>	<u>BELT</u>
2. Observed maximum horsepower (tests F & B)	90.38	107.25
3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	95.44	113.58
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)	71.58	96.54

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 326.

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

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

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

\_\_\_\_\_  
L. W. Hurlbut  
Board of Tractor Test Engineers