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January 1935

## Test 235: Cletrac Model 40 (Diesel)

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. 235

Dates of test: June 13 to 24, 1935.

Name and model of tractor: CLETRAC "40" DIESEL

Manufacturer: The Cleveland Tractor Co., Cleveland, Ohio.

Manufacturer's rating: NOT RATED.

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. per :	Water Consumption : per hour gallons :	Temp. : Deg. F. :	:Barometer
:speed :	: R.P.M. :	: per : hrs. per : H. P. :	: Cool- : In : : ing : fuel : Total :	: Cool- : : ing : Air :	:Inches of :Mercury
:	: hour : Gal. : hour :	:	:	:med. : :	:

TESTS B AND C 100% MAXIMUM LOAD. TWO HOURS

63.64	: 1199	: 4.845	: 13.14	: 0.532	: 0.000	: 0.000	: 0.000	: 191	: 79	: 28.635
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TEST D RATED LOAD. ONE HOUR

57.79	: 1198	: 4.093	: 14.12	: 0.495	: 0.000	: 0.000	: 0.000	: 178	: 80	: 28.648
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TEST E \*VARYING LOAD. TWO HOURS

57.63	: 1198	: 4.107	: 14.03	: 0.498	:	:	:	: 179	: 81	:
0.84	: 1466	: 1.425	: 0.59	: 11.857	:	:	:	: 169	: 81	:
30.61	: 1259	: 2.433	: 12.58	: 0.556	:	:	:	: 171	: 81	:
61.76	: 1158	: 4.639	: 13.31	: 0.525	:	:	:	: 190	: 83	:
16.52	: 1353	: 1.876	: 8.81	: 0.795	:	:	:	: 175	: 81	:
44.74	: 1231	: 3.129	: 14.30	: 0.489	:	:	:	: 177	: 82	:
35.35	: 1277	: 2.936	: 12.04	: 0.580	: 0.000	: 0.000	: 0.000	: 177	: 81	: 28.640

\*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

	: Draw :	Speed :	Crank :	Slip :	Fuel Consumption :	Water:	Temp. :	
H. P.	: bar :	miles :	shaft :	on :	H. P.:	Lbs. :	used :	:Barometer
	: pull :	: per :	: speed:	: drive:	Gal. :	hour :	per :	:Gal. :Cool--Air:Inches of
	:pounds:	hour :	R.P.M.	wheels:	per :	per :	H.P. :	per :ing : :Mercury
	:	:	:	% :	hour :	gal. :	hour :	hour :med. : :

TESTS F AND G MAXIMUM LOAD.

** 46.83	: 11134	: 1.58	: 1200	: 12.86	: Not Recorded	:	: 164	: 78	: 28.820
57.94	: 7451	: 2.92	: 1199	: 1.73	: " "	:	: 182	: 80	: 28.865
55.80	: 4939	: 4.24	: 1197	: 1.56	: " "	:	: 180	: 83	: 28.865

\*\*See page 3.

TEST H RATED LOAD. TEN HOURS. Second GEAR

46.14	: 5943	: 2.91	: 1196	: 1.69	: 3.725	: 12.39	: 0.564	: 0.056	: 177	: 85	: 28.540
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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT  
AGRICULTURAL COLLEGE, LINCOLNCopy of Report of Official Tractor Test No. 235BRIEF SPECIFICATIONS

MOTOR: Make Hercules Serial No. L380274 Type 6 cylinder, vertical Diesel  
Head I Mounting Crank-shaft lengthwise  
Bore and stroke: 4 3/8 x 5 1/4 in. Rated R.P.M. 1200  
Port Diam. Valves: Inlet 2" Exhaust 1 3/8"  
Belt pulley: Diam. 13 in. Face 11 in. R.P.M. 884  
Fuel System: American Bosch Model APE6B70 A300S91 No. 13026  
Governor: Hercules No. --- Type Centrifugal  
Air Cleaner: Vortex Type Oil washed wire filter  
Lubrication: Pressure

CHASSIS: Type Tracklayer Serial No. 10438 Drive Enclosed gear  
Clutch: Long Type Two plate dry Operated by foot pedal  
Advertised speeds, miles per hour: Low 1.8 Intermediate 3.0  
High 4.3 Reverse 2.2  
Measured length of track 18.856 foot Face 16"  
Lugs: Type Removable rolled steel No. per track 31  
Size 16" long x 2 5/16" high  
Seat Upholstered  
Total weight as tested (with operator) 12150 pounds.

## FUEL AND OIL:

Fuel: Diesolino Weight per gallon 6.99  
Oil: S.A.E. Viscosity No. 20  
Total oil to motor 4.015 gallons The oil was drained once -  
Total drained from motor 3.592 gallons at the end of the test.  
Total time motor was operated 45 hours

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT  
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No repairs or adjustments.

REMARKS

All results shown on page 1 of this report were determined from observed data and without allowances, additions, or deductions. In tests B and F, the 100% maximum horsepower was determined using the fuel pump adjustment as set and sealed by the manufacturer. These figures were used in determining the ratings recommended by the A.S.A.E. and S.A.E. tractor rating codes. Tests, C, D, E, G and H were made with the same setting.

\*\*In test G, first gear, the governor lever was so adjusted as to bring the no-load idle engine speed down from 1395 to 1364 revolutions per minute. This was done to secure rated engine speed under maximum load, which was limited by slippage.

Observed maximum horsepower (tests B & F) Drawbar 57.94 Belt 63.64

Sea level (calculated) maximum horsepower Drawbar 61.18 Belt 67.71  
(Based on 60° F. and 29.92" Hg.)

Highest permissible horsepower ratings Drawbar 45.89 Belt 57.55  
(As recommended by A.S.A.E. and S.A.E.  
codes)

The 100% maximum belt and drawbar tests were not included in reports issued from 1928 to 1934 inclusive, except in those cases where the 100% maximum setting was used throughout the complete test.

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 235.

Carlton L. Zink  
Engineer-in-charge

E. E. Brackett

C. W. Smith

E. B. Lewis

Board of Tractor Test Engineers