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Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F.  
Larsen

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January 1932

## Test 204: Caterpillar Model 50

Tractor Museum

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT  
 AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 204

Dates of test: May 18 to June 11, 1932.  
 Name and model of tractor: CATERPILLAR "50"  
 Manufacturer: Caterpillar Tractor Company, Peoria, Illinois.  
 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 - 38.96 H.P. Belt - 51.64 H.P.  
 One carburetor setting (98.0% 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	: Water consumption	: Temp. :	: Barometer
		Gals. :H. P. :Lbs. @	per hour gallons	Deg. F.	
		:speed : :R.P.M.:	:Cool- : :In :	:Cool- : :ing :	:Inches cf :Mercury
		: per : hour	: hrs. @: :H.P. : : gal. :hour	: ing : fuel :Total : med. :	

OPERATING MAXIMUM LOAD TEST. ONE HOUR

56.14:	850	: 6.709	: 8.37	: 0.728	: 0.00	: 0.00	: 0.00	: 198	: 87	: 28.615
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RATED LOAD TEST. ONE HOUR

51.75:	850	: 5.990	: 8.64	: 0.705	: 0.00	: 0.00	: 0.00	: 196	: 89	: 28.580
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\*VARYING LOAD TEST. TWO HOURS

51.52:	849	: 5.961	: 8.64	: 0.705	: --	: --	: --	: 197	: 89	: --
0.50:	902	: 2.468	: 0.20	: 30.060	: --	: --	: --	: 183	: 90	: --
26.54:	871	: 3.941	: 6.73	: 0.904	: --	: --	: --	: 190	: 89	: --
53.98:	822	: 6.458	: 8.36	: 0.729	: --	: --	: --	: 203	: 88	: --
13.88:	896	: 3.133	: 4.43	: 1.375	: --	: --	: --	: 190	: 88	: --
39.38:	866	: 4.921	: 8.00	: 0.761	: --	: --	: --	: 192	: 88	: --
31.64:	868	: 4.480	: 7.06	: 0.862	: 0.00	: 0.00	: 0.00	: 192	: 88	: 28.545

\*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 : :hour :	:Crank : :shaft : :speed : :R.P.M.:	:Slip : :on : :drive : :wheels : :%	: Fuel Consumption	:Water:	: Temp. :	: Barometer:
					:H. P. :Lbs. : :Gal. :hr. : :per :per : :hour :gal. :hour	:used : :Gal. : :per :hour	:Cool- : :ing : : med. :	:Air : :Inches cf :Mercury

RATED LOAD TEST. TEN HOURS. SECOND GEAR.

39.23	: 6070	: 2.42	: 850	: 1.34	: 5.718	: 6.86	: 0.887	: 0.00	: 179	: 80	: 28.750
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MAXIMUM LOAD TEST

49.30	: 12061	: 1.53	: 850	: 2.86	: -----: Not Recorded:		: -----	: 186	: 84	: 28.650
48.15	: 7457	: 2.42	: 849	: 1.26	: -----: " "		: -----	: 184	: 85	: 28.645
44.80	: 4996	: 3.36	: 849	: 1.09	: -----: " "		: -----	: 185	: 85	: 28.670
41.28	: 3337	: 4.64	: 849	: 0.83	: -----: " "		: -----	: 180	: 87	: 28.670

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BRIEF SPECIFICATIONS

MOTOR: Make Own Serial No. 5 A 98 Type 4 Cylinder, Vertical  
Head I Mounting Lengthwise  
Bore and stroke: 5 1/2" x 6 1/2" Rated R.P.M. 850  
Port Dia. Valves: Inlet 1 7/8" Exhaust 2"  
Belt pulley: Diam. 13 3/8" Face 10" R.P.M. 753  
Magneto: Eisemann Model G V 4  
Carburetor: Ensign Model K o Size 1 1/2"  
Governor: Own No. None Type Flyball  
Air Cleaner: Own under Vortex patents Type Centrifugal, oil and matted wire  
Lubrication: Pressure

CHASSIS: Type Tracklayer Serial No. 5 A 98 Drive Enclosed gear  
Clutch: Own Type Single plate - dry operated by hand lever  
Advertised speeds, miles per hour: First 1.6 Second 2.4  
Third 3.4 Fourth 4.7 Reverse 1.9  
Measured length of track: 22.009 feet Face 15 inches  
Lugs: Type Cleats integral with shoe No. per track 35 Size 15" x 2"  
Extension rims: None  
Seat: Upholstered  
Total weight as tested (with operator) 18,245 pounds.

FUEL AND OIL:

Fuel: Gasoline Weight per gallon 6.00 pounds  
Oil: S. A. E. Viscosity No. 50 The oil was drained once -  
at the end of the test.  
Total oil to motor 6.474 gallons  
Total drained from motor 5.839 gallons  
Total time motor was operated 67 hours

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REPAIRS AND ADJUSTMENTS

During the maximum drawbar tests a valve push rod tube yoke was found to be loose. This was tightened.

REMARKS

The tests herein reported were conducted with one carburetor setting which remained unchanged throughout 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. 204.

Carlton L. Zink  
Engineer-in-charge

E. E. Brackott

C. W. Smith

E. B. Lewis  
Board of Tractor Test Engineers