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Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F.  
Larsen

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January 1934

## Test 225: Caterpillar Model R-2

Tractor Museum

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT  
 AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 225

Dates of test: September 24 to October 16, 1934.  
 Name and model of tractor: "CATERPILLAR" R 2"  
 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 - 21.48 H.P. Belt - 29.11 H.P.  
 One carburetor setting (98.5% 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 :Gals. : H. P. :Lbs. @ :R.P.M. : per : hrs. @:H. P. :	Water consumption : per hour gallons :Cool- : In : :ing : fuel : Total :ing :Air :Mercury	Temp. : : Deg. F. : :Cool- : : :med. : :	:Barometer :Inches of :Mercury
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OPERATING MAXIMUM LOAD TEST. ONE HOUR

32.47 : 1249 : 3.699 : 8.78 : 0.699 : 0.000 : 0.000 : 0.000 : 168 : 75 : 28.890

RATED LOAD TEST. ONE HOUR

29.20 : 1252 : 3.269 : 8.93 : 0.687 : 0.000 : 0.000 : 0.000 : 164 : 75 : 28.840

\*VARYING LOAD TEST. TWO HOURS

29.09	: 1250	: 3.254	: 8.94	: 0.687	: --	: --	: --	: 164	: 75	: --
0.59	: 1314	: 1.505	: 0.39	: 15.661	: --	: --	: --	: 151	: 75	: --
14.82	: 1266	: 2.394	: 6.19	: 0.992	: --	: --	: --	: 164	: 75	: --
31.82	: 1205	: 3.537	: 9.00	: 0.683	: --	: --	: --	: 167	: 76	: --
7.57	: 1288	: 1.876	: 4.04	: 1.522	: --	: --	: --	: 150	: 73	: --
22.21	: 1269	: 2.883	: 7.70	: 0.797	: --	: --	: --	: 158	: 73	: --
17.68	: 1265	: 2.575	: 6.87	: 0.894	: 0.000	: 0.000	: 0.000	: 159	: 74	: 28.825

\*20 minute runs. Last line is average for two hours.

D R A W B A R R H O R S E P O W E R T E S T S

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

21.87 : 3216 : 2.55 : 1249 : 1.81 : 3.109 : 7.03 : 0.873 : 0.000 : 163 : 74 : 28.600

MAXIMUM LOAD TEST

27.15	: 5274	: 1.93	: 1253	: 3.70	: -----	: Not Recorded	: -----	: 168	: 79	: 29.025
26.63	: 3922	: 2.55	: 1249	: 1.92	: -----	: "	: -----	: 171	: 75	: 29.100
25.46	: 2704	: 3.53	: 1251	: 1.86	: -----	: "	: -----	: 171	: 82	: 29.025

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BRIEF SPECIFICATIONS

MOTOR: Make Own Serial No. 5 E 3502 Type 4 Cylinder, Vertical  
Head I Mounting Lengthwise  
Bore and stroke: 4" x 5" Rated R.P.M. 1250  
Port Diam. Valves: Inlet 1 1/2" Exhaust 1 5/16"  
Belt pulley: Diam. 10 1/2" Face 6 1/2" R.P.M. 950  
Magneto: Eisemann Model CT4  
Carburetor: Zenith Model K 5 A Size 1 1/4"  
Governor: Own No. None Type Flyball  
Air Cleaner: Own under Vortex patent Type Combination centrifugal, oil and matted wire  
Lubrication: Pressure

CHASSIS: Type Tracklayer Serial No. 5 E 3502 Drive Enclosed gear  
Clutch: Own Type Single plate - Dry operated by Foot pedal  
Advertised speeds, miles per hour: Low 2  
Intermediate 2.6 High 3.6 Reverse 2.1  
Measured length of track 15.436 feet Face 13 inches  
Lugs: Type Cleats integral with shoes No. per track 30 Size 13" x 1 3/4"  
Extension rims: None  
Seat: Upholstered  
Total weight as tested (with operator) 7,420 pounds.

FUEL AND OIL:

Fuel: Gasoline Weight per gallon 6.14 pounds  
Oil: S. A. E. Viscosity No. 30 The oil was drained once -  
at the end of the test.  
Total oil to motor 2.511 gallons  
Total drained from motor 2.320 gallons  
Total time motor was operated 52 hours

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REPAIRS AND ADJUSTMENTS

Due to excessive friction in the tracks they were replaced by new ones of same specifications before the official drawbar tests were run.

REMARKS

The tests herein reported were conducted with one carburetor setting which remained unchanged thruout 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. 225.

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

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

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

E. B. Lewis  
\_\_\_\_\_  
Board of Tractor Test Engineers