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Larsen

January 1934

Test 227: Caterpillar Model R3

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
 AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 227

Dates of test: September 26 to October 15, 1934.

Name and model of tractor: "CATERPILLAR" "R 3"

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 - 27.47 H.P. Bolt - 37.33 H.P.

One carburetor setting (98.8% 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 : :speed : :R.P.M. : :	Fuel Consumption : Gals. : H.P. : : per : hrs. @ : : hour : gal. : hour :	Water consumption : per hour gallons : Cool- : In : : ing : fuel : Total : : : : : : : : : : : : : : : : : : :	Temp. : : Deg. F. : : Cool- : : ing : Air : : mod. : : : : :	:Barometer : Inches of : Mercury : :
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OPERATING MAXIMUM LOAD TEST. ONE HOUR

41.99	: 1101	: 4.933	: 8.51	: 0.721	: 0.000	: 0.000	: 0.000	: 190	: 78	: 29.110
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RATED LOAD TEST. ONE HOUR

37.51	: 1101	: 4.147	: 9.05	: 0.679	: 0.000	: 0.000	: 0.000	: 188	: 78	: 29.100
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*VARYING LOAD TEST. TWO HOURS

37.61	: 1101	: 4.173	: 9.01	: 0.681	: --	: --	: --	: 187	: 77	: --
0.61	: 1201	: 2.033	: 0.30	: 20.459	: --	: --	: --	: 175	: 76	: --
19.53	: 1150	: 3.029	: 6.45	: 0.952	: --	: --	: --	: 180	: 76	: --
40.29	: 1059	: 4.676	: 8.62	: 0.713	: --	: --	: --	: 192	: 78	: --
10.16	: 1182	: 2.492	: 4.08	: 1.506	: --	: --	: --	: 178	: 75	: --
28.85	: 1136	: 3.557	: 8.11	: 0.757	: --	: --	: --	: 181	: 76	: --
22.84	: 1138	: 3.327	: 6.87	: 0.894	: 0.000	: 0.000	: 0.000	: 182	: 76	: 29.090

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

27.80	: 4180	: 2.49	: 1101	: 3.79	: 4.034	: 6.89	: 0.891	: 0.000	: 182	: 75	: 28.525
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MAXIMUM LOAD TEST

33.88	: 7622	: 1.67	: 1102	: 7.41	: -----: Not Recorded		: -----	: 187	: 79	: 29.000
34.44	: 5131	: 2.52	: 1105	: 3.21	: -----: " "		: -----	: 190	: 84	: 28.780
33.32	: 3512	: 3.56	: 1103	: 2.44	: -----: " "		: -----	: 186	: 77	: 28.765

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BRIEF SPECIFICATIONS

MOTOR: Make Own Serial No. 5 E 2527 Type 4 Cylinder, Vertical
Head I Mounting Lengthwise
Bore and stroke: 4 1/2" x 5 1/2" Rated R.P.M. 1100
Port Diam. Valves: Inlet 1 5/8" Exhaust 1 7/16"
Belt pulley: Diam. 11 7/8" Face 6 1/2" R.P.M. 836
Magneto: Eisemann Model CT4
Carburetor: Ensign Model Ke 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 2527 Drive Enclosed gear
Clutch: Own Type Single plate - dry operated by Hand lever
Advertised speeds, miles per hour: Low 1.3
Intermediate 2.6 High 3.6 Reverse 2.0
Measured length of track 16.448 feet Face 16 inches
Lugs: Type Cleats integral with shoes No. per track 29 Size 16" x 2"
Extension rims: None
Seat: Upholstered
Total weight as tested (with operator) 10,291 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 2.746 gallons
Total drained from motor 2.734 gallons
Total time motor was operated 46 hours

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REPAIRS AND ADJUSTMENTS

No repairs or adjustments.

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. 227.

Carlton L. Zink

Engineer-in-charge

E. E. Brackett

C. W. Smith

E. B. Lewis

Board of Tractor Test Engineers