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January 1934

Test 228: Caterpillar Model 22

Nebraska Tractor Test Lab

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 228

Dates of test: October 17 to 30, 1934.

Name and model of tractor: "CATERPILLAR" "TWENTY-TWO"

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 - 19.34 H.P. Belt - 27.17 H.P.

One carburetor setting (99.2% 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. | : | : | : | : |
|------|----------------------|------------------|-----------|-------------------|---------|---------|---------|-----------|-----------|---------|
| | | | | per hour gallons | | Deg. F. | | Barometer | | |
| | :speed : | Gals. : | H.P. : | Lbs.per: | Cool- : | In : | | :Cool-: | Inches of | |
| | :R.P.M.: | per | :hrs.per: | H.P. : | ing : | fuel : | Total : | ing : | Air : | Mercury |
| | : | : hour | : gal. : | : hour : | : | : | : | :med. : | : | : |

OPERATING MAXIMUM LOAD TEST. ONE HOUR

30.71 : 1250 : 3.345 : 9.18 : 0.669 : 0.000 : 0.000 : 0.000 : 180 : 58 : 29.075

RATED LOAD TEST. ONE HOUR

27.27 : 1251 : 2.992 : 9.11 : 0.674 : 0.000 : 0.000 : 0.000 : 179 : 61 : 29.100

*VARYING LOAD TEST. TWO HOURS

| | | | | | | | | | | |
|-------|--------|---------|--------|----------|---------|---------|---------|-------|------|----------|
| 27.28 | : 1252 | : 2.985 | : 9.14 | : 0.672 | : -- | : -- | : -- | : 178 | : 61 | : -- |
| 0.67 | : 1327 | : 1.607 | : 0.42 | : 14.731 | : -- | : -- | : -- | : 172 | : 58 | : -- |
| 14.23 | : 1311 | : 2.365 | : 6.02 | : 1.020 | : -- | : -- | : -- | : 179 | : 60 | : -- |
| 29.95 | : 1194 | : 3.181 | : 9.42 | : 0.652 | : -- | : -- | : -- | : 182 | : 59 | : -- |
| 7.37 | : 1325 | : 1.935 | : 3.81 | : 1.612 | : -- | : -- | : -- | : 172 | : 63 | : -- |
| 21.04 | : 1298 | : 2.707 | : 7.77 | : 0.790 | : -- | : -- | : -- | : 177 | : 64 | : -- |
| 16.76 | : 1284 | : 2.463 | : 6.80 | : 0.902 | : 0.000 | : 0.000 | : 0.000 | : 176 | : 61 | : 29.070 |

*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 : | Crank : :shaft : | Slip : :on : | : | Fuel Consumption | : | Water: | Temp. | : |
|------|-------------------|---------------------|---------------------|-----------------|--------|------------------|----------|---------|-----------|------------|
| | | | | | | 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. : | : |

RATED LOAD TEST. TEN HOURS. SECOND GEAR.

19.55 : 2870 : 2.55 : 1249 : 1.50 : 2.862 : 6.83 : 0.899 : 0.000 : 180 : 54 : 28.890

MAXIMUM LOAD TEST

| | | | | | | | | | | |
|-------|--------|--------|--------|--------|--------|----------------|--------|-------|------|----------|
| 25.26 | : 4900 | : 1.93 | : 1250 | : 3.29 | : ---- | : Not Recorded | : ---- | : 180 | : 49 | : 29.010 |
| 25.21 | : 3705 | : 2.55 | : 1250 | : 1.69 | : ---- | : " " | : ---- | : 178 | : 51 | : 29.200 |
| 23.14 | : 2448 | : 3.55 | : 1252 | : 1.44 | : ---- | : " " | : ---- | : 180 | : 48 | : 29.010 |

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BRIEF SPECIFICATIONS

MOTOR: Make Own Serial No. 2 F 1117 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 CT-4
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. 2 F 1117 Drive Enclosed gear
Clutch: Own Type Single plate - dry operated by Foot pedal
Advertised speeds, miles per hour: Low 2.0
Intermediate 2.6 High 3.6 Reverse 2.1
Measured length of track 15.419 feet Face 10 inches
Lugs: Type Cleats integral with shoes No. per track 30 Size 10" x 1 1/2"
Extension rims: None
Seat: Upholstered
Total weight as tested (with operator) 6,605 pounds.

FUEL AND OIL:

Fuel: Gasoline Weight per gallon 6.14 pounds
Oil: S.A.E. Viscosity No. 30
Total oil to motor 2.436 gallons
Total drained from motor 1.988 gallons
Total time motor was operated 30 hours

The oil was drained
once - at the end of
the test.

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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 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. 228.

Carlton L. Zink

Engineer-in-charge

E. E. Brackett

C. W. Smith

E. B. Lewis

Board of Tractor Test Engineers