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January 1934

Test 230: McCormick-Deering Tractor "T-40" Diesel

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. 230

Dates of test: October 25 to November 13, 1934.

Name and model of tractor: McCORMICK-DEERING Tractor "T-40 Diesel"

Manufacturer: International Harvester Company, Chicago, 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 - 33.51 H.P. Belt - 43.12 H.P.

One fuel pump setting, specified by the manufacturer to develop 50 B.H.P. at 60°F. and 29.92" Hg. pressure, was used throughout 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. : :R.P.M. :per : :hour : | Water consumption : per hour gallons : Cool- : In : : ing : fuel : Total : : : : :med. : : | Temp. : : Deg. F. : : Cool-:Air : : ing : : : : | Barometer :Inches of :Mercury |
|-------|---------------------|---|--|---|-------------------------------------|
|-------|---------------------|---|--|---|-------------------------------------|

OPERATING MAXIMUM LOAD TEST. ONE HOUR

48.26 : 1096 : 3.190 : 15.13 : 0.500 : 0.000 : 0.000 : 0.000 : 185 : 68 : 28.725

RATED LOAD TEST. ONE HOUR

43.56 : 1100 : 2.870 : 15.18 : 0.498 : 0.000 : 0.000 : 0.000 : 185 : 64 : 28.775

*VARYING LOAD TEST. TWO HOURS

| | | | | | | | | | | |
|-------|------|-------|-------|--------|-------|-------|-------|-----|----|--------|
| 43.44 | 1099 | 2.861 | 15.18 | 0.498 | -- | -- | -- | 186 | 63 | -- |
| 0.61 | 1210 | 1.099 | 0.56 | 13.623 | -- | -- | -- | 186 | 62 | -- |
| 22.41 | 1146 | 1.881 | 11.91 | 0.635 | -- | -- | -- | 187 | 62 | -- |
| 48.12 | 1079 | 3.159 | 15.23 | 0.496 | -- | -- | -- | 185 | 61 | -- |
| 12.14 | 1186 | 1.504 | 8.07 | 0.937 | -- | -- | -- | 185 | 58 | -- |
| 33.22 | 1117 | 2.321 | 14.31 | 0.528 | -- | -- | -- | 186 | 57 | -- |
| 26.66 | 1140 | 2.138 | 12.47 | 0.606 | 0.000 | 0.000 | 0.000 | 186 | 60 | 28.800 |

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

RATED LOAD TEST. TEN HOURS THIRD GEAR

33.79 : 4663 : 2.72 : 1099 : 0.91 : 2.628 : 12.86 : 0.588 : 0.000 : 196 : 55 : 28.785

MAXIMUM LOAD TEST

| | | | | | | | | | | |
|-------|------|------|------|------|------|--------------|------|-----|----|--------|
| 43.05 | 9528 | 1.69 | 1099 | 2.87 | ---- | Not Recorded | ---- | 196 | 57 | 28.951 |
| 43.09 | 7492 | 2.16 | 1101 | 1.86 | ---- | " " | ---- | 197 | 60 | 28.951 |
| 43.25 | 5987 | 2.71 | 1101 | 1.38 | ---- | " " | ---- | 196 | 60 | 28.953 |
| 42.16 | 5016 | 3.15 | 1100 | 0.99 | ---- | " " | ---- | 195 | 56 | 29.040 |
| 39.90 | 3783 | 3.96 | 1100 | 0.91 | ---- | " " | ---- | 194 | 58 | 29.000 |

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BRIEF SPECIFICATIONS

MOTOR: Make Own Serial No. TDC 553 Type 4 Cylinder, Vertical, Diesel
Head I Mounting Lengthwise
Bore and stroke: 4 3/4" x 6 1/2" Rated R.P.M. 1100
Port Diam. Valves: Inlet 2" Exhaust 1 3/8"
Belt pulley: Diam. 16 3/4" Face 9" R.P.M. 591
Fuel System: Own Model P 40 No. 594
Magneto: (For starting only) Own Model E 4 A
Carburetor: (For starting only) Own Model R (modified) Size 1 1/4"
Governor: Own No. None Type Centrifugal
Air Cleaner: Own Type Oil washed wire filter
Lubrication: Pressure

CHASSIS: Type Tracklayer Serial No. TCC 2660 Drive Enclosed gear
Clutch: Own Type Single plate - dry disc operated by foot
Advertised speeds, miles per hour: First 1 3/4 Second 2 1/4
Third 2 3/4 Fourth 3 1/4 Fifth 4 Reverse 2 1/4
Measured length of track 19.027 feet Face 16 inches
Lugs: Type Cleats integral with shoes No. per track 38 Size 16" x 2 1/8"
Extension rims: None
Seat: Upholstered
Total weight as tested (with operator) 12,625 pounds.

FUEL AND OIL:

A #3 furnace oil conforming to the fuel
Fuel: specifications of the tractor manufacturer Weight per gallon 7.56#
Oil: S.A.E. Viscosity No. 30 The oil was drained
Total oil to motor 3.419 gallons once - at the end
Total drained from motor 2.776 gallons of the test
Total time motor was operated 51 hours

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REPAIRS AND ADJUSTMENTS

No repairs or adjustments.

REMARKS

The tests herein reported were conducted with one carbureter 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. 230.

Carlton L. Zink

Engineer-in-charge

E. E. Brackett

C. W. Smith

E. B. Lewis

Board of Tractor Test Engineers