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Nebraska Tractor Tests

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Larsen

January 1927

Test 142: McCormick-Deering 10-20

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. 142.

Dates of test: October 3rd to October 8th, 1927
 Name, model and rating of tractor: McCormick-Deering 10-20
 Serial No. Engine: KC82367 Serial No. Chassis: KC82367
 Manufacturer: International Harvester Company, Chicago, Illinois.
 Tractor equipment used: Own "E4A" Mag., Ensign "R" Carburetor.
 Style and dimensions of wheel lugs: Spade 40 per wheel 4" high x 3-1/2" wide
 5-3/4" base. 6" extension rims.

BRAKE HORSE POWER TESTS

H. P. Dev.	Crank Shaft	Time of Test	Fuel consumption Kind	Gals. per Hr.	Water consumption Gals. per hr.	Temp. Deg. F.	Average Humidity	Height of Barometer
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RATED LOAD TEST

20.46 : 1028 : 60 : Kero. : 2.035 : 10.05 : 0.00 : 0.00 : 0.00 : 206 : 63 : 83 : 28.78

**VARYING LOAD TEST

20.54 : 1033 : 10 : Kero. : : : : : : : : :
 22.06 : 1022 : 10 : " : : : : : : : : :
 0.93 : 1176 : 10 : " : : : : : : : : :
 5.82 : 1162.5 : 10 : " : : : : : : : : :
 11.15 : 1117 : 10 : " : : : : : : : : :
 16.09 : 1076 : 10 : " : : : : : : : : :
 13.23 : 1097 : 60 : " : 1.664 : 7.95 : 0.00 : 0.00 : 0.00 : 205 : 63 : 83 : 28.80

MAXIMUM LOAD TEST

24.81 : 1023 : 120 : Kero. : 2.721 : 9.12 : 0.35 : 0.00 : 0.35 : 208 : 64 : 66 : 28.66

HALF LOAD TEST

10.82 : 1083 : 60 : Kero. : 1.558 : 6.94 : 0.00 : 0.00 : 0.00 : 203 : 66 : 71 : 28.83

*Taken in discharge line from engine.
 **The last line is the average for the hour.
 REMARKS: The kerosene used as fuel in these tests weighed 6.84 pounds per gallon.

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DRAWBAR HORSE POWER TESTS

H. P. Dev.	:Draw :Bar :Pull :Pounds	:Speed :Miles :Per :Hour	:Crank :Shaft :Speed :R.P.M.	: Slip : on : Drive : Wheels : %	: Fuel Consumption : Kind : Amt. : Used : per : hour : Gals.	: Water : Used : per : Hour : Gals.	: Temp. Deg. F. : Cooling : Fluid : *	: Air : Humidity : %	: Average : Humidity : %	: Height of : Barometer : In Inches
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RATED LOAD TEST. TEN HOURS

10.90	:1196	: 3.42	: 1026	: 4.19	:Kero. :1.785	: 6.11	: 0.05	: 204	: 61	: 53	: 29.04
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MAXIMUM LOAD TEST

17.92	:1937	: 3.47	: 1028	: 0.97	:Kero. : -- NOT RECORDED --	: 203.5	: 59.5	: 28	: 28.97
19.60	:2955	: 2.49	: 1031	: 2.25	:Kero. : -- NOT RECORDED --	: 204	: 56	: 28	: 28.97
19.08	:1436.5	: 4.98	: 1025	: 0.00	:Kero. : -- NOT RECORDED --	: 205.5	: 78	: 32	: 28.84

*Taken in discharge line from engine.

REMARKS: The rated load and first maximum tests were made in intermediate gear, the second maximum test was made in low gear, the third maximum test was made in high gear. The distance advanced by the tractor without load on level ground for several complete revolutions of the drive wheels was taken as a basis for calculating the slippage.

OIL CONSUMPTION:

During the complete test consisting of about 35 hours running the following oil was used:

For the engine, 2-1/2 gallons of Mobiloil "BB" 1-3/4 gallons to fill crankcase and 3/4 gallons were added during the test.

For the transmission, None gallons of Mobiloil C.

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REPAIRS AND ADJUSTMENTS

No repairs or adjustments were necessary during this test. At the end of the test the tractor was in good running order and there were no indications of undue wear nor of any weakness which might require early repair.

BRIEF SPECIFICATIONS

MOTOR: Own, 4 cylinder, vertical, valve-in-head, mounted crankshaft lengthwise. Bore, 4-1/4", stroke 5". Rated speeds: Crankshaft, 1025 R.P.M., Pulley, 661 R.P.M. Pulley diameter, 15-1/4". Width 7".

Magneto: Own make "E4A".
Carburetor: Ensign "R".
Air Cleaner: Pomona "Vortex" Model 118 oil spray type.
Governor: Own make fly-ball type.

CHASSIS: Four wheels, two drivers, enclosed gear drive, clutch own make, Multiple dry disc. Advertised speeds: Low, 2 miles per hour; Intermediate, 3 miles per hour; High, 4 miles per hour; Reverse, 2-3/4 miles per hour.

Total weight as tested (with operator) 5028 pounds.

REMARKS

In the advertising literature submitted with the specifications and application for test of this tractor, we find some claims and statements which cannot be directly compared with the results of this test as reported above. It is our opinion that none of these are excessive or unreasonable.

We, the undersigned, certify that above is a true and correct report of official tractor test No. 142.

Lew Wallace
Engineer-in-Charge

Oscar W. Sjogren

E. E. Brackett

C. W. Smith
Board of Tractor Test Engineers