

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F. Larsen

January 1931

Test 194: McCormick Deering Industrial Model 20

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

Follow this and additional works at: <https://digitalcommons.unl.edu/tractormuseumlit>



Part of the [Energy Systems Commons](#), [History of Science, Technology, and Medicine Commons](#), [Other Mechanical Engineering Commons](#), [Physical Sciences and Mathematics Commons](#), [Science and Mathematics Education Commons](#), and the [United States History Commons](#)

Nebraska Tractor Test Lab, "Test 194: McCormick Deering Industrial Model 20" (1931). *Nebraska Tractor Tests*. 802.

<https://digitalcommons.unl.edu/tractormuseumlit/802>

This Article is brought to you for free and open access by the Tractor Test and Power Museum, The Lester F. Larsen at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Nebraska Tractor Tests by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 194

Dates of test: July 20 to 27, 1931.

Name and model of tractor: McCORMICK DEERING INDUSTRIAL "20"

Manufacturer: International Harvester Company of America, 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 - 17.27 H.P. Belt - 27.51 H.P.

One carburetor setting (99.1% 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. : : hour :gal. :hour :	: Water consumption : : per hour gallons : :Cool- : In : :ing : fuel :Total :ing :Air:Mercury : : : : :med. : : :	Temp. : : Deg. F. :Barometer :Inches of
-------	----------------------	--	---	---

OPERATING MAXIMUM LOAD TEST. ONE HOUR

29.87 : 1150 : 3.293 : 9.07 : 0.674 : 1.374 : 0.00 : 1.374 : 213 : 99 : 28.705

RATED LOAD TEST. ONE HOUR

27.03 : 1150 : 2.920 : 9.26 : 0.660 : 0.832 : 0.00 : 0.832 : 212 : 105 : 28.670

*VARYING LOAD TEST. TWO HOURS

26.89 : 1145 : 2.907 : 9.25 : 0.660 : -- : -- : -- : 212 : 100 : --
 0.75 : 1260 : 1.655 : 0.45 : 13.480 : -- : -- : -- : 209 : 93 : --
 14.35 : 1204 : 2.524 : 5.69 : 1.075 : -- : -- : -- : 210 : 98 : --
 29.23 : 1133 : 3.295 : 8.87 : 0.689 : -- : -- : -- : 213 : 104 : --
 7.35 : 1234 : 2.126 : 3.46 : 1.767 : -- : -- : -- : 210 : 94 : --
 20.42 : 1166 : 2.681 : 7.62 : 0.802 : -- : -- : -- : 211 : 101 : --
 16.99 : 1194 : 2.531 : 6.71 : 0.910 : 1.066 : 0.00 : 1.066 : 211 : 98 : 28.720

*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 : 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. : : :
-------	--

RATED LOAD TEST. TEN HOURS. INTERMEDIATE Gear.

17.77 : 1679 : 3.97 : 1150 : 6.02 : 2.917 : 6.09 : 1.003 : 0.747 : 212 : 94 : 28.570

MAXIMUM LOAD TEST

19.14 : 1232 : 5.83 : 1155 : 4.25 : ----- : Not Recorded----- : 210 : 89 : 28.800
 20.80 : 1966 : 3.97 : 1152 : 6.89 : ----- : " : " : ----- : 211 : 80 : 28.800
 23.01 : 3144 : 2.74 : 1149 : 11.39 : ----- : " : " : ----- : 212 : 83 : 28.800

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 194

BRIEF SPECIFICATIONS

MOTOR: Make Own Serial No. IN16675 Type 4 Cylinder, Vertical
Head I Mounting Lengthwise
Bore and stroke: 4 1/4 x 5 in. Rated R.P.M. 1150
Port Dia. Valves: Inlet 1.687" Exhaust 1.687"
Belt pulley: Diam. 15 1/4 in. Face 7 in. R.P.M. 742
Magneto Own Model E 4 A
Carburetor: Zenith Model C 5 F E Size 1 1/4"
Governor: Own No. None Type Centrifugal
Air Cleaner: Own Type Oil and fibre
Lubrication: Splash with circulating pump

CHASSIS: Type 4 Wheel Serial No. IN16675 Drive Enclosed gear
Clutch: Own Type Single plate operated by foot pedal
Advertised speeds, miles per hour: Low 2 1/2
Intermediate 3 1/2 High 5 Reverse 3
Drive wheels: Diameter 42" Face 12"
Lugs: Type Spade No. per wheel 32 Size 5" high x 3 1/2" face
Extension rims: Width 6" No. of lugs per rim 16 Size 5" x 3 1/2"
Seat Pressed Steel
Total weight as tested (with operator) 5415 pounds.

FUEL AND OIL:

Fuel: Gasoline Weight per gallon 6.11 pounds
Oil: S. A. E. Viscosity No. 50
Total oil to motor 2.640 gallons
Total drained from motor 1.608 gallons
Total time motor was operated 50 hours

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

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 194

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 drawbar tests were run with drive wheels equipped with spade lugs and extension rims as listed 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. 194.

Carlton L. Zink

Engineer-in-charge

E. E. Brackett

C. W. Smith

E. B. Lewis

Board of Tractor Test Engineers