

January 1934

## Test 221: McCormick Deering Farmall F-20

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT  
 AGRICULTURAL COLLEGE, LINCOLN

Report of Official Tractor Test No. 221

Dates of test: April 3 to 16, 1934.

Name and model of tractor: McCORMICK-DEERING FARMALL "F-20"

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 - 12.68 H.P. Belt - 21.93 H.P.

One carburetor setting (95.5% 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. : : hrs. @ : : gal. : :	H. P. : : H.P. : : H.P. : :	Lbs. @ : : H.P. : : hour : :	: Cool- : : ing : : fuel : :	In : : fuel : : Total : :	: Cool- : : ing : : med. : :	Temp. : : Deg. F. : : Air : :	: Barometer : Inches of : Mercury
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OPERATING MAXIMUM LOAD TEST, ONE HOUR

23.11	: 1200	: 2.221	: 10.41	: 0.652	: 0.000	: 0.000	: 0.000	: 207	: 81	: 28.530
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RATED LOAD TEST, ONE HOUR

22.16	: 1200	: 2.112	: 10.49	: 0.646	: 0.000	: 0.000	: 0.000	: 207	: 81	: 28.540
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\*VARYING LOAD TEST, TWO HOURS

22.29	: 1198	: 2.150	: 10.37	: 0.654	: --	: --	: --	: 208	: 81	: --
1.40	: 1336	: 0.951	: 1.47	: 4.607	: --	: --	: --	: 208	: 82	: --
11.90	: 1308	: 1.496	: 7.95	: 0.852	: --	: --	: --	: 207	: 82	: --
22.97	: 1169	: 2.195	: 10.46	: 0.648	: --	: --	: --	: 207	: 80	: --
6.07	: 1331	: 1.181	: 5.14	: 1.320	: --	: --	: --	: 208	: 82	: --
17.30	: 1246	: 1.757	: 9.85	: 0.688	: --	: --	: --	: 207	: 80	: --
13.66	: 1264	: 1.622	: 8.42	: 0.805	: 0.000	: 0.000	: 0.000	: 207	: 81	: 28.505

\*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 : : gal. : : hour :	Lbs. : : per : : H.P. : : 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.

12.61	: 1524	: 3.10	: 1203	: 2.67	: 1.906	: 6.62	: 1.025	: 0.013	: 206	: 67	: 28.835
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MAXIMUM LOAD TEST

15.38	: 2334	: 2.47	: 1200	: 8.32	: -----	: Not Recorded	: -----	: -----	: 205	: 78	: 28.520
15.39	: 1924	: 3.00	: 1202	: 5.82	: -----	: " "	: -----	: -----	: 205	: 65	: 28.455
14.54	: 1539	: 3.54	: 1199	: 5.00	: -----	: " "	: -----	: -----	: 206	: 82	: 28.455
13.43	: 1213	: 4.15	: 1199	: 4.74	: -----	: " "	: -----	: -----	: 206	: 81	: 28.490

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BRIEF SPECIFICATIONS

MOTOR: Make Own Serial No. FA 832 Type 4 Cylinder, Vertical  
Head I Mounting Lengthwise  
Bore and stroke: 3 3/4" x 5" Rated R.P.M. 1200  
Port Dia. Valves: Inlet 1.4375" Exhaust 1.4375"  
Belt pulley: Diam. 14" Face 6 1/2" R.P.M. 654  
Magneto: Own Model E 4 A  
Carburetor: Zenith Model K 5 Size 1 1/4"  
Governor: Own No. None Type Centrifugal  
Air Cleaner: Own Type Oil washed wire filter  
Lubrication: Circulating Splash

CHASSIS: Type 4 wheels, 2 drivers Serial No. F A 832 Drive Enclosed gear  
Clutch: Own Type Single plate - Dry disc operated by foot  
Advertised speeds, miles per hour: First 2 1/4 Second 2 3/4  
Third 3 1/4 Fourth 3 3/4 Reverse 2 3/4  
Drive wheels: Diameter 40" Face 6"  
Lugs: Type Spade No. per wheel 12 Size 4" high by 3 1/2" face  
Extension rims: Width 6" Lugs per rim 12 Size 4" high by 3 1/2" face  
Seat Pressed Steel  
Total weight as tested (with operator) 4,545 pounds.

FUEL AND OIL:

Fuel: Kerosene Weight per gallon 6.78 pounds

Oil: S.A.E. Viscosity No. 30

Total oil to motor 3.261 gallons

Total drained from motor 3.889 gallons

Total time motor was operated 46 hours

The oil was drained to the middle cock and refilled to the top cock after approximately each 10 hours of operation. All of the oil was drained at the end of the test.

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*Copy 7* Report of Official Tractor Test No. 221

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 extension rims and lug equipment used in the drawbar tests are the same as 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. 221.

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Engineer-in-charge

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Board of Tractor Test Engineers