January 1936

Test 264: Farmall F-20

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT  
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 264

Dates of test: July 20 to 29, 1936.

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


Manufacturer's rating: NOT RATED.

<table>
<thead>
<tr>
<th>BRAKE HORSE POWER TESTS</th>
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<tbody>
<tr>
<td>H. P. : Crank Shaft</td>
</tr>
<tr>
<td>: H. P. : Lbs. per : Cool-: In :</td>
</tr>
<tr>
<td>: hour : gal. : hour : : med. :</td>
</tr>
</tbody>
</table>

**TEST B 100% MAXIMUM LOAD. TWO HOURS**

27.97 : 1200 : 3.114 : 8.98 : 0.768 : 0.037 : 0.000 : 0.037 : 209 : 94 : 28.840

**TEST C OPERATING MAXIMUM LOAD. ONE HOUR**

26.78 : 1200 : 2.726 : 7.20 : 0.703 : 0.037 : 0.000 : 0.037 : 207 : 85 : 28.865

**TEST D RATED LOAD. ONE HOUR**

25.72 : 1199 : 2.661 : 9.67 : 0.666 : 0.000 : 0.037 : 208 : 88 : 28.710

**TEST E *VARYING LOAD. TWO HOURS**


0.88 : 1374 : 0.888 : 0.88 : 8.071 : -- : -- : -- : 204 : 88 : --


15.55 : 1293 : 2.036 : 7.78 : 0.885 : 0.024 : 0.000 : 0.024 : 207 : 90 : 28.760

*20 minute runs. Last line is average for two hours.

**DRAUGHT HORSE POWER TESTS**


**TEST F 100% MAXIMUM LOAD. Third GEAR.**


**TEST G OPERATING MAXIMUM LOAD**


**TEST H RATED LOAD. TEN HOURS. Third GEAR.**

BRIEF SPECIFICATIONS

MOTOR:
Make Own Serial No. FA-59794 Type 4 cylinder, vertical
Head I Mounting Crankshaft lengthwise
Bore and stroke: 3 3/4" x 5" Rated R.P.M. 1200
Port Diam. Valves: Inlet 1.562 Exhaust 1.562
Belt pulley: Diam. 15 1/4" Face 6 1/2" R.P.M. 654
Magneto Own Model F4
Carburetor Zenith Model K-5 Size 1 1/4"
Governor Own No. -- Type Centrifugal
Air Cleaner Own Type Oil-washed, wire-filter
Lubrication Circulating splash

CHASSIS:
Type 4 wheels, 2 drivers Serial No. FA-59794 Drive Enclosed gear
Clutch Own Type Single-plate, dry Operated by Foot pedal
Advertised speeds, miles per hour: First 2.25 Second 2.75
Third 3.25 Fourth 3.75 Reverse 2.75
Drive wheels: Diam. 42" Face 12"
Lugs: Type Spade No. per wheel 12 Size 3 1/2" face x 5" high
Seat Pressed steel
Total weight as tested (with operator) 4400 pounds.

FUEL AND OIL:
Fuel Distillate Weight per gallon 6.90 pounds.
Oil S.A.E. Viscosity No. 40
Total oil to motor 3.204 gallons
Total drained from motor 4.901 gallons
Total time motor was operated 50 hours

The oil was drained to the middle crankcase petcock after each 10 hours of operation and 2 quarts of new oil was added. The oil was completely drained at the end of the test.
REPAIRS AND ADJUSTMENTS

During the limber-up test it was found that the hook on one end of the clutch pedal return spring was broken. The end of the spring was bent to form a new hook.

REMARKS

All results shown on page 1 of this report were determined from observed data and without allowances, additions or deductions. Tests B and F were made with carburetor set for 100% maximum horsepower. These figures were used in determining the ratings recommended by the A.S.A.E. and S.A.E. tractor rating codes. Tests C, D, E, G and H were made with an operating setting of the carburetor (selected by the manufacturer) of 95.7% of maximum horsepower.

Observed maximum horsepower (tests B & F) Drawbar 20.47 Belt 27.97

Sea level (calculated) maximum horsepower
(Based on 60° F. and 29.92" Hg.)

Drawbar 22.03 Belt 38.15

Highest permissible horsepower ratings
(As recommended by A.S.A.E. and S.A.E. codes)

Drawbar 16.52 Belt 25.63

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 264.

Carlton L. Zink
Engineer-in-charge

E. E. Brackett

C. W. Smith

L. W. Hurlbut
Board of Tractor Test Engineers