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January 1939

Test 335: John Deere A

Tractor Test Museum
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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
 AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 335

Dates of test: November 13 to 16, 1939.

Name and model of tractor: JOHN DEERE A

Manufacturer: John Deere Tractor Company, Waterloo, Iowa.

Manufacturer's rating: NOT RATED.

BELT HORSEPOWER TESTS

| H.P. | Crank shaft speed R.P.M. | Gal. per hr. | Fuel Consumption | | Water used gal. per hr. | Temp. Deg. F | | Barometer inches of Mercury |
|---|--------------------------|--------------|--------------------|-------------------|-------------------------|--------------|-----|-----------------------------|
| | | | H. P. hr. per gal. | Lb. per H. P. hr. | | Cooling med. | Air | |
| TEST B - 100% MAXIMUM LOAD - TWO HOURS | | | | | | | | |
| 29.59 | 975 | 2.809 | 10.53 | 0.655 | 0.019 | 209 | 79 | 29.100 |
| TEST C - OPERATING MAXIMUM LOAD - ONE HOUR | | | | | | | | |
| 28.93 | 975 | 2.561 | 11.30 | 0.611 | 0.049 | 207 | 70 | 29.100 |
| *TEST D - ONE HOUR | | | | | | | | |
| 26.36 | 975 | 2.397 | 11.00 | 0.627 | 0.079 | 207 | 69 | 29.085 |
| TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average) | | | | | | | | |
| 26.36 | 975 | 2.400 | 10.98 | 0.625 | - - - - | 207 | 70 | - - - - |
| 2.08 | 1046 | 0.996 | 2.09 | 3.303 | - - - - | 207 | 70 | - - - - |
| 13.95 | 1016 | 1.622 | 8.60 | 0.802 | - - - - | 202 | 71 | - - - - |
| 27.94 | 936 | 2.504 | 11.16 | 0.618 | - - - - | 207 | 71 | - - - - |
| 7.08 | 1033 | 1.270 | 5.57 | 1.237 | - - - - | 203 | 69 | - - - - |
| 20.44 | 998 | 1.957 | 10.44 | 0.660 | - - - - | 200 | 72 | - - - - |
| 16.31 | 1000 | 1.791 | 9.11 | 0.758 | 0.026 | 204 | 70 | 29.090 |

DRAWBAR HORSEPOWER TESTS

| H. P. | Draw bar pull pounds | Speed miles per hr. | Crank shaft speed R.P.M. | Slip on drive wheels % | Fuel Consumption | | | Water used gal. per hr. | Temp. Deg. F. | | Barometer inches of Mercury |
|---|----------------------|---------------------|--------------------------|------------------------|------------------------|---------------|------------------|-------------------------|---------------|--------|-----------------------------|
| | | | | | Gal. per hr. | H.P. per gal. | Lb. per H.P. hr. | | Cooling med. | Air | |
| TEST F - 100% MAXIMUM LOAD - THIRD - GEAR | | | | | | | | | | | |
| 26.20 | 2339 | 4.20 | 975 | 4.96 | -----Not Recorded----- | | | 209 | 58 | 29.150 | |
| TEST G - OPERATING MAXIMUM LOAD | | | | | | | | | | | |
| 24.64 | 4110 | 2.25 | 976 | 13.03 | -----Not Recorded----- | | | 207 | 70 | 29.155 | |
| 25.53 | 3053 | 3.14 | 974 | 7.41 | -----Not Recorded----- | | | 206 | 68 | 29.150 | |
| 25.47 | 2269 | 4.21 | 976 | 4.82 | -----Not Recorded----- | | | 208 | 55 | 29.140 | |
| 25.13 | 1682 | 5.60 | 974 | 3.33 | -----Not Recorded----- | | | 204 | 48 | 29.160 | |
| *TEST H - TEN HOURS - THIRD - GEAR | | | | | | | | | | | |
| 20.48 | 1815 | 4.23 | 975 | 4.21 | 2.140 | 9.57 | 0.721 | 0.041 | 204 | 59 | 29.165 |

*formerly called RATED LOAD; see REMARKS 4, page 3.

Copy of Report of Official Tractor Test No. 335

FUEL, OIL, AND TIME

Fuel Distillate Octane 37 Weight per gallon 6.90 pounds
 Oil: S.A.E. No. 30 To motor 3.305 gal. Drained from motor 1.844 gal.

Total time motor was operated 50 hours

BRIEF SPECIFICATIONS

Advertised speeds, miles per hour: First 2 1/3 Second 3
 Third 4 Fourth 5 1/4 Reverse 3 3/4

Belt Pulley: Diam. 12 3/4" Face 7 3/8" R.P.M. 975 Belt Speed 3270 f.p.m.

Clutch: Make Own Type Dry disc Operated by hand

Seat Pressed steel

Total weight as tested (with operator) 6410 pounds

MOTOR

Make Own Serial No. 488005 Type 2 cylinder, horizontal

Head I Mounting Crankshaft crosswise Lubrication Pressure

Bore and stroke 5 1/2" x 6 3/4" Rated R.P.M. 975

Port diameter valves: Inlet 1 15/16" Exhaust 1 49/64"

Magneto: Make Wico Model C-1042

Carburetor: Make Schebler Model DLTX-24 Size 1 1/2"

Governor: Make Own Type Variable speed, centrifugal

Air Cleaner: Make United Type Oil-washed, crimped wire

Oil Filter: Make Purolator Type Partial flow, with replaceable im-
 pregnated paper element

Cooling medium temperature control: Pines radiator shutters

CHASSIS

Type Tricycle Serial No. 488005 Drive Enclosed gear

Tread width: Rear 56" - 84" Front: Top 14" Bottom 7 3/4"

Rear tires: No. 2 Size 11 x 38" - 6 ply Air Pressure 16 pounds

Front tires: No. 2 Size 5.50" x 16" - 4 ply Air Pressure 28 pounds

Added weight: (Cast Iron 418 pounds
 Per rear wheel(Calcium Chloride solution 385 pounds

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REPAIRS AND ADJUSTMENTS

No repairs or adjustments

REMARKS

1. 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 belt horsepower and data from these tests were used in determining the horsepower to be developed in tests D and H, respectively. Tests C, D, E, G, and H were made with an operating setting of the carburetor (selected by the manufacturer) of 96.9% of maximum belt horsepower.

| | DRAWBAR | BELT |
|---|---------|-------|
| 2. Observed maximum horsepower (tests F and B) | 26.20 | 29.59 |
| 3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.) | 26.83 | 30.98 |
| 4. Seventy-five per cent of calculated maximum drawbar horsepower and eighty-five per cent of calculated maximum belt horsepower (formerly A.S.A.E. and S.A.E. ratings) | 20.12 | 26.33 |

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 335.

 Carlton L. Zink
 Engineer-in-charge

 E. E. Brackett

 C. W. Smith

 L. W. Hurlbut
 BOARD OF TRACTOR TEST ENGINEERS