January 1963

Test 857: Farmall 806 (Diesel)

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NEBRASKA TRACTOR TEST 857 - FARMALL 806 DIESEL

The University of Nebraska Agricultural Experiment Station
E. F. Frolik, Dean; H. H. Kramer, Director, Lincoln, Nebraska

DEPARTMENT OF AGRICULTURAL ENGINEERING

Dates of Test: October 22 to October 30, 1963
Manufacturer: INTERNATIONAL HARVESTER COMPANY, CHICAGO, ILLINOIS

Manufacturer’s Power Rating: Not rated

FUEL, OIL AND TIME Fuel No 2 Diesel
Cetane No 57.2 (rating taken from oil company’s typical inspection data) Specific gravity converted to 60°/60° 0.8294 Weight per gallon 6.906 lb Oil SAE 30 API service classification MS, DS To motor 2.392 gal Drained from motor 1.902 gal Transmission and final-drive lubricant 1/2 Hy- Tran fluid Total time engine was operated 57 hours.

ENGINE Make International Diesel Type 6 cylinder vertical Serial No DS612034 Crankshaft n.m. 7.22 in 12.60 in 24.10 in 9600 rpm 3800 rpm 18.35 revolutions per minute

VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST

Maximum Available Power—Two Hours—10th Gear (2nd Hi-TA)

<table>
<thead>
<tr>
<th>Hp Drawbar</th>
<th>lbs</th>
<th>Speed drawn</th>
<th>mph</th>
<th>Fuel Consumption</th>
<th>Gal</th>
<th>Lb</th>
<th>Hp-hr</th>
<th>Temp Degrees F</th>
<th>Barometer</th>
</tr>
</thead>
<tbody>
<tr>
<td>84.77</td>
<td>5708</td>
<td>5.57</td>
<td>2995</td>
<td>7.60</td>
<td>6.997</td>
<td>0.521</td>
<td>13.25</td>
<td>185</td>
<td>55</td>
</tr>
</tbody>
</table>
| 75% of Pull at Maximum Power—Ten Hours—10th Gear (2nd Hi-TA)
| 67.26      | 4345| 5.80        | 2488| 5.68            | 5.124| 0.526| 13.13| 167            | 46        |
| 50% of Pull at Maximum Power—Ten Hours—10th Gear (2nd Hi-TA)
| 44.82      | 2746| 6.12        | 2529| 3.76            | 4.092| 0.621| 11.12| 144            | 41        |

MAXIMUM POWER WITH BALLAST

63.80 9182 2.61 2454 14.96 5th Gear (3rd Lo-Ta) 176 67 74 27.875
81.91 7272 5.52 2407 12.60 7th Gear (4th Lo-Ta) 182 50 57 29.290
82.09 7836 3.93 2402 10.68 8th Gear (4th Hi-Ta) 190 51 57 29.275
84.33 7804 4.05 2400 10.68 9th Gear (1st Hi-Ta) 199 50 57 29.275
84.23 5848 5.40 2396 7.87 9th Gear (4th Lo-Ta) 188 51 57 29.275
86.30 5824 5.56 2395 7.81 10th Gear (2nd Hi-Ta) 192 51 57 29.275
86.36 5235 6.19 2397 6.79 10th Gear (2nd Hi-Ta) 181 51 57 29.275
86.09 5844 5.40 2402 5.03 11th Gear (2nd Lo-Ta) 184 51 57 29.275
86.66 5240 10.03 2401 4.38 12th Gear (3rd Hi-Ta) 186 48 54 29.270
84.19 2331 13.54 2405 3.13 13th Gear (4th Hi-Ta) 181 48 54 29.270
82.46 2068 14.55 2405 2.61 15th Gear (3rd Hi-DD) 175 48 54 29.290

MAXIMUM POWER WITHOUT BALLAST

82.24 5653 5.46 2398 10.20 10th Gear (2nd Hi-Ta) 185 58 64 28.750

VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST

10th Gear (2nd Hi-Ta)

<table>
<thead>
<tr>
<th>Pounds pull</th>
<th>5824</th>
<th>6227</th>
<th>6397</th>
<th>6698</th>
<th>7026</th>
<th>7111</th>
<th>6900</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horsepower</td>
<td>86.30</td>
<td>83.43</td>
<td>74.96</td>
<td>68.38</td>
<td>60.98</td>
<td>51.46</td>
<td>40.25</td>
</tr>
<tr>
<td>Crankshaft speed rpm</td>
<td>2395</td>
<td>2315</td>
<td>1909</td>
<td>1669</td>
<td>1431</td>
<td>1192</td>
<td>949</td>
</tr>
<tr>
<td>Miles per hour</td>
<td>5.56</td>
<td>4.98</td>
<td>4.39</td>
<td>3.83</td>
<td>3.26</td>
<td>2.71</td>
<td>2.16</td>
</tr>
<tr>
<td>Slip of drivers %</td>
<td>7.81</td>
<td>8.08</td>
<td>8.48</td>
<td>8.87</td>
<td>9.40</td>
<td>9.53</td>
<td>9.40</td>
</tr>
</tbody>
</table>

TIRES, BALLAST AND WEIGHT

With Ballast | Without Ballast
---|---
Rear tires | Two 18.4-34; 8; 16 Two 18.4-34; 8; 16
Ballast | 1288 lb each None
Front tires | Two 7.50L-15; 8; 36 Two 7.50L-15; 8; 36
Ballast | None None
Height of drawbar | Cast iron Cast iron
Static weight | 201/2 inches 22 inches
Ballast | None None
Front | 8910 lb 6335 lb
Height of drawbar | 2810 lb 2780 lb
Total weight with operator | 11895 lb 9290 lb

REPAIRS AND ADJUSTMENTS

The three point hitch horizontal stabilizer failed during the maximum power drawbar runs. This was replaced and test continued.

REMARKS

All test results were determined from observed data obtained in accordance with the SAE and ASAE test code.
First, second, third, and fourth gears were not run as it was necessary to limit the pull in fifth gear to avoid excessive wheel slippage. Sixteenth gear was not run as it exceeded 15 mph.
We, the undersigned, certify that this is a true and correct report of official Tractor Test 857.

L. F. LARSEN
Engineer-in-Charge

L. W. HURLBUT, Chairman
G. W. STEINBRUEGGE
J. J. SULEK
Board of Tractor Test Engineers