1-1-1949

Test 415: Caterpillar Model D-8

Tractor Museum

University of Nebraska-Lincoln, TractorMuseumArchives@unl.edu

Follow this and additional works at: http://digitalcommons.unl.edu/tractormuseumlit

Part of the Applied Mechanics Commons

http://digitalcommons.unl.edu/tractormuseumlit/985

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.
Department of Agricultural Engineering
University of Nebraska College of Agriculture
W. V. Lambers, Director. Lincoln, Nebraska

DRAWSBAR HORSE POWER TESTS

<table>
<thead>
<tr>
<th>H.P.</th>
<th>Drawbar pull Lbs.</th>
<th>Speed miles per hr.</th>
<th>Crankshaft speed R.P.M.</th>
<th>Slip of drive wheels %</th>
<th>Fuel Consumption Gal. per hr.</th>
<th>Horsepower per Gal.</th>
<th>Water used per hr.</th>
<th>Temp. Deg. F.</th>
<th>Cooling medium</th>
<th>Barometer Inches of Mercury</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEST F</td>
<td>and</td>
<td>G-100%</td>
<td>MAXIMUM LOAD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>121.60</td>
<td>2650</td>
<td>1.60</td>
<td>1099</td>
<td>1.45</td>
<td>Not Recorded</td>
<td>175.70</td>
<td>70.60</td>
<td>18.10</td>
<td>77.00</td>
<td></td>
</tr>
<tr>
<td>123.89</td>
<td>2650</td>
<td>1.60</td>
<td>1092</td>
<td>1.30</td>
<td>&quot; &quot;</td>
<td>173.74</td>
<td>70.60</td>
<td>18.10</td>
<td>77.00</td>
<td></td>
</tr>
<tr>
<td>119.58</td>
<td>1608</td>
<td>2.10</td>
<td>1000</td>
<td>0.89</td>
<td>&quot; &quot;</td>
<td>185.82</td>
<td>74.00</td>
<td>18.10</td>
<td>77.00</td>
<td></td>
</tr>
<tr>
<td>116.24</td>
<td>1658</td>
<td>3.70</td>
<td>1003</td>
<td>0.61</td>
<td>&quot; &quot;</td>
<td>182.90</td>
<td>74.00</td>
<td>18.10</td>
<td>77.00</td>
<td></td>
</tr>
<tr>
<td>106.39</td>
<td>808</td>
<td>4.51</td>
<td>1001</td>
<td>0.64</td>
<td>&quot; &quot;</td>
<td>186.64</td>
<td>74.00</td>
<td>18.10</td>
<td>77.00</td>
<td></td>
</tr>
</tbody>
</table>

*TEST H—TEN HOURS— 2nd GEAR*
99.16  16519  2.24  1001  0.98  7.216  12.50  0.995  0.00  181.87  78.729

* Formerly called RATED LOAD, see horsepower summary.

NEBRASKA TRACTOR TEST NO. 415
CATERPILLAR D-6

FUEL, OIL AND TANKS Fuel: Diesel fuel, cetane 87 ( cetane rating taken from oil company’s typical inspection data); weight per gallon 6.935 lbs. Oil: SAE 30; to motor 8.726 gals; drained from motor 7.936 gals. Total time motor was operated 31 hours.

SPECIFICATIONS Type tracklayer; Serial No. 2977256; Drive enclosed gear; Tread Width 70”; Measured Length 25.92 ft. Cleat: Type integral with shoes; No. per track 39; Size 2 1/8” x 24”. Advertised speeds, mph: First 1.7; Second 2.9; Third 2.9; Fourth 3.7; Fifth 4.3; Reverse: First 2.2; Second 3.0; Third 3.7. Belt Pulley: Dism 14 7/16"; Face 15”; SW 844; Belt Speed 3196 fpm. Clutch: Make own; Type dry metallic friction disc; Operated by hand lever. Seat upholstered. Brakes: Make own; Type contrasting; Location on steering clutch drums; Gear Reduction (brake drum to sprocket) 5.536:1; Operated by foot pedals; Locked by latches on tractor frame. Steering hand levers controlling multiple disc clutches.

ENGINE Make own; Serial No. 2977256; Type 6 cylinder vertical. Head: Mounting crankshaft lengthwise; Lubrication Pressure: Bore and Stroke 3 5/6" x 8"; Rated rpm 1000; Compression Ratio 15.71; Foot Barometer Valves: Inlet 2.065"; Exhaust 2.065". Governor: Make own; Type centrifugal, variable speed. Fuel Injection System: none. Air Cleaner: Make Donald; Type oil washed wire screen with precleaner. Oil Filter: Make Purnistor (3 used); Type three permanent full flow elements; three replaceable bypass elements. Fuel Filter: Make own; Type three replaceable cotton yarn wound elements; Cooling medium temperature control thermostat.

STARTING ENGINE Make own; Type 2 cylinder vertical; Mounting beside engine; Mfg. rating 25 hp at 1700 rpm; Bore and Stroke 3 5/6" x 8"; Magneto: Bosch; Carburettor: Zenith; Air Cleaner: Donald; Starter: hand crank.

TOTAL WEIGHT AS TESTED (with operator) 36915 lbs.

REPAIRS AND ADJUSTMENTS No repairs or adjustments.

REMARKS All test results were determined from observed data and without allowances, additions, or deductions. Test F was made with a fuel pump setting, selected by the manufacturer, to develop approximately 130 (corrected) horsepower in second gear and data from this test were used in determining the horsepower to be developed in Test H. Test G was made with the same fuel pump setting. No belt tests were made on this tractor due to the limited capacity of the dynamometer used for belt testing.

HORSEPOWER SUMMARY

1. Sea level (calculated) maximum horsepower (based on 60°F and 29.92” Hg.) 131.20
2. Observed maximum horsepower (tests F & H) 123.09
3. Seventy-five per cent of calculated maximum drawbar horsepower and eighty-five per cent of calculated maximum belt horsepower (formerly ABAS and SAE ratings) 98.40

We, the undersigned, certify that this is a true and correct report of official tractor test No. 415.

L. P. Larsen
Engineer in Charge

G. W. Smith
F. B. Tung
L. W. Rulifb
Board of Tractor Test Engineers