January 1959

Test 731: David Bradley Super 300 (Gasoline)

Tractor Museum

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

Part of the Applied Mechanics Commons

http://digitalcommons.unl.edu/tractormuseumlit/1152

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.
NEBRASKA TRACTOR TEST 731 - DAVID BRADLEY SUPER 300 GASOLINE

University of Nebraska Agricultural Experiment Station
W. V. Lambert, Director, Lincoln, Nebraska

BELT PERFORMANCE

<table>
<thead>
<tr>
<th>Hp</th>
<th>Crankshaft speed rpm</th>
<th>Fuel Consumption</th>
<th>Temperature Degrees F</th>
<th>Barometer inches of mercury</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Gal per hr</td>
<td>Lb per hp-hr</td>
<td>Hp-hr per gal</td>
</tr>
</tbody>
</table>

MAXIMUM POWER AND FUEL CONSUMPTION
Rated Engine Speed—Two Hours
1.77 3600 0.377 1.294 4.69 Air Cooled 72 76 29.947

VARYING POWER AND FUEL CONSUMPTION—TWO HOURS
1.58 3770 0.326 1.253 4.85 Air Cooled 72 76
0.03 4291 0.257 1.204 Air Cooled 72 76
0.86 4012 0.267 1.884 3.22 Air Cooled 72 77
1.86 3602 0.386 1.258 4.82 Air Cooled 71 75
0.44 4123 0.262 3.614 1.68 Air Cooled 71 74
1.21 3839 0.301 1.512 4.02 Air Cooled 71 75
Av 1.00 3926 0.300 1.820 3.33 Air Cooled 71 75 29.077

DRAWBAR PERFORMANCE

<table>
<thead>
<tr>
<th>Hp</th>
<th>Drawbar pull lbs</th>
<th>Speed miles per hr</th>
<th>Crankshaft speed rpm</th>
<th>% Slip of drive wheels</th>
<th>Fuel Consumption</th>
<th>Hp-hr per gal</th>
<th>Temp. Degrees F</th>
<th>Barometer inches of mercury</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Gal per hr</td>
<td>Lb per hp-hr</td>
<td>Cooling medium</td>
<td>Air wet bulb</td>
</tr>
</tbody>
</table>

VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST
Maximum Available Power—Two Hours
1.65 241 2.57 3598 3.23 0.341 1.255 4.84 Air Cooled 43 54 28.765

VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST
Maximum Available Power—Two Hours
1.58 190 2.72 3737 2.58 0.319 1.404 4.33 Air Cooled 35 42 28.916

MAXIMUM POWER WITH BALLAST
1.75 253 2.59 3604 3.47 Air Cooled 38 43 28.800

MAXIMUM POWER WITHOUT BALLAST
1.62 237 2.57 3611 5.16 Air Cooled 27 29 29.210

VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST
Pounds pull 255 260 250 260 250 230
Horsepower 1.8 1.6 1.3 1.2 1.0 0.8
Miles per hour 2.6 2.3 2.0 1.8 1.5 1.3

TIREs, BALLAST and WEIGHT

<table>
<thead>
<tr>
<th>Drive tires</th>
<th>With Ballast</th>
<th>Without Ballast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ballast</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height of drawbar</td>
<td>12 inches</td>
<td>12 inches</td>
</tr>
</tbody>
</table>

Total weight as tested without operator 486 lb 334 lb

Department of Agricultural Engineering
Dates of Test: November 19 to December 7, 1959
Manufacturer: DAVID BRADLEY MANUFACTURING WORKS, BRADLEY, ILLINOIS
Manufacturer's Power Rating: Engine rated at 3 horsepower by its manufacturer.

FUEL, OIL and TIME Fuel regular gasoline Octane No ASTM 84 Research 92 (rating taken from oil company's typical inspection data) Specific gravity converted to 60°/60° 0.7292 Weight per gallon 6.070 lb Oil SAE 30 API service classification ML, MM, MS, DG To motor 0.299 gal Drained from motor 0.147 gal Transmission and Final-drive lubricant SAE No 30 Type engine crankcase oil Total time motor was operated 37 hours.

ENGINE Make Briggs & Stratton Type 71 cylinder vertical air cooled Serial No 591090 Crankshaft mounted crosswise Rated rpm 3600 Lubrication splash Bore and stroke 2¾" x 1½" Compression ratio 6.2 1 Displacement 7.75 cu in Carburetor size 3/8" Ignition system magneto Cranking system recoil rope starter Air cleaner oil washed wire mesh Muffler was used Oil filter none Cooling medium temperature control air cooled.

CHASSIS Type 2 wheel Serial No 55126 Tread width 20" to 22" Transmission fixed sheave V-belt drive Advertised speeds mph 2.7 Belt pulley 2.65" pitch diameter B section V-belt rpm 3600 Belt speed 2510 fpm Belt B section V-belt length 70" Clutch single disc, ball lock over center operated by hand lever Brakes none Steering manual.

REPAIRS AND ADJUSTMENTS No repairs or adjustments.

REMARKS All test results were determined from observed data obtained in accordance with SAE and ASAE test code. During the test the recoil starter did not function properly on several occasions.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No 731.

L. F. Larsen
Engineer-in-Charge

L. W. Hurlbut
G. W. Steinbruegge
J. J. Sulek
Boar of Tractor
Test Engineers