NEBRASKA TRACTOR TEST 1983
BOBCAT CT450 DIESEL
HYDROSTATIC
(Chassis S/N ABHM11001 and higher)

Location of tests: Nebraska Tractor Test Laboratory, University of Nebraska, Lincoln Nebraska 68583-0832
Manufacturer: Daedong Corporation; Daegu, South Korea

FUEL, OIL and TIME: Fuel
No. 2 Diesel
Specific gravity converted to 60°/60° F (15°/15°C)
0.8402
Fuel weight
6.996 lbs/gal
(0.838 kg/l)
Oil
SAE 10W30
API service classification
CG-4
Transmission and hydraulic lubricant
Bobcat
Hydraulic transmission fluid ASTM D445
Front axle lubricant
SAE 80W-90
Total time engine was operated
11.0 hours

ENGINE: Make Daedong Diesel
Type four cylinder vertical
Serial No. HD8600007
Crankshaft lengthwise
Rated engine speed
2600 rpm
Bore and stroke
3.425" x 4.031"
(87.0 mm x 102.4 mm)
Compression ratio
22.0 to 1
Displacement
149 cu in
(2435 ml)
Starting system
12 volt
Lubrication pressure
Air cleaner
one paper element and one polyester felt element
Oil filter
one full flow cartridge
Oil cooler
engine coolant heat exchanger for crankcase oil, radiator for transmission and hydraulic oil
Fuel filter
one paper element
Muffler
underhood
Exhaust horizontal forward
Cooling medium temperature control
one thermostat

ENGINE OPERATING PARAMETERS: Fuel rate:
19.4 - 21.4 lb/h (8.8 - 9.7 kg/h) High idle: 2750 - 2850 rpm

CHASSIS: Type Front wheel assist
Serial No. *ABHM11001* Tread width: rear 50.0" (1270 mm) to 59.8" (1518 mm) front 52.6" (1336 mm) to 54.3" (1379 mm) Wheelbase 74.0" (1880 mm)
Hydraulic control system direct engine drive
Transmission Hydrostatic. Infinitely variable within the ranges shown. The transmission has 3 mechanical ranges Nominal travel speeds mph (km/h) L-0-3.9(6.3), M-0-6.7(10.8), H-0-16.5(26.5) reverse L-0-2.6(4.2), M-0-4.5(7.2), H-0-11.0(17.8)
Clutch none - travel speed is mechanically controlled by foot pedal
Brakes single wet disc mechanically operated by two foot pedals which can be locked together
Steering hydrostatic
Power take-off 540 rpm at 2495 engine rpm

POWER TAKE-OFF PERFORMANCE

<table>
<thead>
<tr>
<th>Power HP (kW)</th>
<th>Crankshaft speed rpm</th>
<th>Gal/hr (l/h)</th>
<th>Bhp.hr (kgfW.hr)</th>
<th>Hp.hr/gal (kW/l)</th>
<th>Mean Atmospheric Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>38.48</td>
<td>2599</td>
<td>2.90</td>
<td>0.528</td>
<td>13.25</td>
<td></td>
</tr>
<tr>
<td>(28.70)</td>
<td>(10.99)</td>
<td>(0.321)</td>
<td>(2.61)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38.89</td>
<td>2493</td>
<td>2.87</td>
<td>0.517</td>
<td>13.54</td>
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<tr>
<td>(29.09)</td>
<td>(10.87)</td>
<td>(0.314)</td>
<td>(2.67)</td>
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</tbody>
</table>

VARYING POWER AND FUEL CONSUMPTION

<table>
<thead>
<tr>
<th>Power HP (kW)</th>
<th>Crankshaft speed rpm</th>
<th>Gal/hr (l/h)</th>
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<td>(10.99)</td>
<td>(0.321)</td>
<td>(2.61)</td>
<td></td>
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<tr>
<td>33.74</td>
<td>2683</td>
<td>2.68</td>
<td>0.555</td>
<td>12.61</td>
<td></td>
</tr>
<tr>
<td>(25.16)</td>
<td>(10.13)</td>
<td>(0.337)</td>
<td>(2.48)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25.00</td>
<td>2740</td>
<td>2.29</td>
<td>0.620</td>
<td>11.29</td>
<td></td>
</tr>
<tr>
<td>(19.31)</td>
<td>(8.68)</td>
<td>(0.377)</td>
<td>(2.22)</td>
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</tr>
<tr>
<td>17.48</td>
<td>2766</td>
<td>1.92</td>
<td>0.769</td>
<td>9.10</td>
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</tr>
<tr>
<td>(13.03)</td>
<td>(7.27)</td>
<td>(0.468)</td>
<td>(1.79)</td>
<td>17%</td>
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<tr>
<td>8.77</td>
<td>2798</td>
<td>1.54</td>
<td>1.229</td>
<td>5.69</td>
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</tr>
<tr>
<td>(6.54)</td>
<td>(5.83)</td>
<td>(0.478)</td>
<td>(1.12)</td>
<td></td>
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<tr>
<td>1.28</td>
<td>2827</td>
<td>1.22</td>
<td>6.667</td>
<td>1.05</td>
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</tr>
<tr>
<td>(0.96)</td>
<td>(4.63)</td>
<td>(4.056)</td>
<td>(0.21)</td>
<td>28.66°F (97.93°C)</td>
<td></td>
</tr>
</tbody>
</table>

Maximum Torque 100 lb.-ft. (135 Nm) at 1500 rpm
Maximum Torque Rise - 28.1%
Torque rise at 2100 rpm - 17%

TRACTOR SOUND LEVEL WITHOUT CAB

At no load in M range-speed setting 4.6 mph (7.4 km/h) (engine 2820 rpm) 88.0
Bystander in H range 88.5
Front Wheel Drive Engaged dB(A) Disengaged dB(A)
82.3

TIRES AND WEIGHT

<table>
<thead>
<tr>
<th>Tires No., size, ply &amp; psi (kPa)</th>
<th>Tested Without Ballast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rear</td>
<td>14.9-24; 12 (85)</td>
</tr>
<tr>
<td>Front</td>
<td>10-16.5; 24 (165)</td>
</tr>
<tr>
<td>Height of Drawbar</td>
<td>13.5 in (345 mm)</td>
</tr>
<tr>
<td>Static Weight with operator – Rear</td>
<td>1815 lb (823 kg)</td>
</tr>
<tr>
<td>– Front</td>
<td>2520 lb (11052 kg)</td>
</tr>
<tr>
<td>– Total</td>
<td>4135 lb (1873 kg)</td>
</tr>
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Steering hydrostatic
Power take-off 540 rpm at 2495 engine rpm

Unladen tractor mass 3960 lb (1796 kg)
**HYDRAULIC PERFORMANCE**

**CATEGORY:** I  
**Quick Attach:** None  
OECD Static test  
Maximum force exerted through whole range: 2111 lbs (9.4 kN)  
i) Sustained pressure of the open relief valve: 2513 psi (173 bar)  
and rated engine speed: 9.8 GPM (37.1 l/min)  
ii) Pump delivery rate at minimum pressure and maximum hydraulic power: 10.2 GPM (38.5 l/min)  
Delivery pressure: 1923 psi (133 bar)  
Power: 11.4 HP (8.5 kW)

**THREE POINT HITCH PERFORMANCE**

Observed maximum pressure psi (bar): 2571 (177)  
Location: hydraulic service port  
Hydraulic oil temperature: °F (°C): 150 (66)  
Location: pump inlet  
Category: I  
Quick attach: none  

**OECD/SAE Test**—System pressure 2313 psi (159 Bar)  
Hitch point distance to ground level in. (mm): 8.0 (203) 14.0 (356) 20.0 (508) 26.0 (660) 32.0 (813)  
Lift force on frame lb (kN): (12.5) (11.4) (10.8) (10.3) (9.7)

**HITCH DIMENSIONS AS TESTED - NO LOAD**

**REPAIRS AND ADJUSTMENTS:** No repairs or adjustments.

**NOTE:** The performance figures on this report apply to tractors with chassis S/N ABHM11001 and higher.

**REMARKS:** All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures. It was necessary to restrain the mid PTO control lever during the PTO tests. For the maximum power tests, the fuel temperature at the injection pump inlet was maintained at 133°F (56°C).

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. 1983, May 12, 2011

Roger M. Hoy  
Director

M.F. Kocher  
D.R. Keshwani  
John A. Smith  
Board of Tractor Test Engineers

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**Bobcat CT450 Diesel**

Institute of Agriculture and Natural Resources  
University of Nebraska–Lincoln