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2011

Test 1983: Bobcat CT450

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1983

BOBCAT CT450 DIESEL HYDROSTATIC

(Chassis S/N ABHM11001 and higher)

POWER TAKE-OFF PERFORMANCE

| Power HP (kW) | Crank shaft speed rpm | Gal/hr (l/h) | lb/hp.hr (kg/kW.h) | Hp.hr/gal (kW.h/l) | Mean Atmospheric Conditions |
|---------------------|--------------------------------|-----------------|-----------------------|-----------------------|--------------------------------|
|---------------------|--------------------------------|-----------------|-----------------------|-----------------------|--------------------------------|

MAXIMUM POWER AND FUEL CONSUMPTION

| Rated Engine Speed—(PTO speed—563 rpm) | | | | | |
|--|------|-----------------|------------------|-----------------|--|
| 38.48 (28.70) | 2599 | 2.90 (10.99) | 0.528 (0.321) | 13.25 (2.61) | |

| Standard Power Take-off Speed(540 rpm) | | | | | |
|--|------|-----------------|------------------|-----------------|--|
| 38.89 (29.00) | 2493 | 2.87 (10.87) | 0.517 (0.314) | 13.54 (2.67) | |

VARYING POWER AND FUEL CONSUMPTION

| | | | | | |
|------------------|------|-----------------|------------------|-----------------|----------------------|
| 38.48 (28.70) | 2599 | 2.90 (10.99) | 0.528 (0.321) | 13.25 (2.61) | Air temperature |
| 33.74 (25.16) | 2683 | 2.68 (10.13) | 0.555 (0.337) | 12.61 (2.48) | 74°F (23°C) |
| 25.90 (19.31) | 2740 | 2.29 (8.68) | 0.620 (0.377) | 11.29 (2.22) | Relative humidity |
| 17.48 (13.03) | 2766 | 1.92 (7.27) | 0.769 (0.468) | 9.10 (1.79) | 17% |
| 8.77 (6.54) | 2798 | 1.54 (5.83) | 1.229 (0.748) | 5.69 (1.12) | Barometer |
| 1.28 (0.96) | 2827 | 1.22 (4.63) | 6.667 (4.056) | 1.05 (0.21) | 28.66"Hg (97.05 kPa) |

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 | Front Wheel Drive | |
|---|-------------------|---------------------|
| | Engaged dB(A) | Disengaged dB(A) |
| At no load in M range-speed setting 4.6 mph (7.4 km/h)(engine 2820 rpm) | 88.6 | 88.5 |
| Bystander in H range | | 82.3 |

TIRES AND WEIGHT

Rear Tires—No., size, ply & psi (kPa)
Front Tires—No., size, ply & psi (kPa)
Height of Drawbar
Static Weight with operator—Rear
— Front
— Total

Tested Without Ballast
Two 14.9-24; 8; 12 (85)
Two 10-16.5; 6; 24 (165)
13.5 in (345 mm)
2320 lb (1052 kg)
1815 lb (823 kg)
4135 lb (1875 kg)

Location of tests: Nebraska Tractor Test Laboratory, University of Nebraska, Lincoln Nebraska 68583-0832

Dates of tests: March 23-25, 2011.

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 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 2493 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)

ii) Pump delivery rate at minimum pressure and rated engine speed: 9.8 GPM (37.1 l/min)

iii) Pump delivery rate at 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

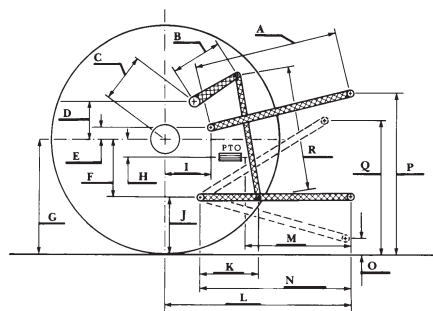
SAE Static Test—System pressure 2313 psi (159 Bar)

| 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 | 2808 | 2553 | 2421 | 2322 | 2192 |
| " " " " " (kN) | (12.5) | (11.4) | (10.8) | (10.3) | (9.7) |

OECD/SAE Test

| | inch | mm |
|---|------|-----|
| A | 27.8 | 705 |
| B | 10.6 | 270 |
| C | 11.5 | 293 |
| D | 11.3 | 288 |
| E | 14.3 | 364 |
| F | 4.3 | 110 |
| G | 23.0 | 585 |
| H | 1.3 | 32 |
| I | 4.1 | 105 |
| J | 18.7 | 475 |
| K | 12.3 | 312 |
| L | 31.8 | 807 |
| M | 25.9 | 657 |
| N | 28.7 | 730 |
| O | 8.0 | 203 |
| P | 36.8 | 935 |
| Q | 35.5 | 902 |
| R | 16.3 | 413 |

HITCH DIMENSIONS AS TESTED - NO LOAD



Bobcat CT450 Diesel

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