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2010

Test 1982: New Holland TS6030

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

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NEBRASKA TRACTOR TEST 1982

NEW HOLLAND TS6030 DIESEL

8 SPEED

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—628 rpm) | | | | | |
|--|------|-----------------|------------------|-----------------|--|
| 97.76 (72.90) | 2198 | 6.82 (25.81) | 0.488 (0.297) | 14.34 (2.82) | |
| Standard Power Take-off Speed(540 rpm) | | | | | |
| 99.50 (74.20) | 1890 | 6.37 (24.11) | 0.448 (0.272) | 15.62 (3.08) | |
| Maximum Power(1 hour) | | | | | |
| 99.55 (74.23) | 1799 | 6.24 (23.61) | 0.438 (0.267) | 15.96 (3.14) | |

VARYING POWER AND FUEL CONSUMPTION

| | | | | | |
|------------------|------|-----------------|-------------------|-----------------|---------------------|
| 97.76 (72.90) | 2198 | 6.82 (25.81) | 0.488 (0.297) | 14.34 (2.82) | Air temperature |
| 87.15 (64.99) | 2303 | 6.40 (24.21) | 0.513 (0.312) | 13.63 (2.68) | 73°F (23°C) |
| 66.15 (49.33) | 2329 | 5.43 (20.54) | 0.574 (0.349) | 12.19 (2.40) | Relative humidity |
| 44.59 (33.25) | 2355 | 4.10 (15.53) | 0.643 (0.391) | 10.87 (2.14) | 1% |
| 22.64 (16.88) | 2392 | 2.88 (10.89) | 0.889 (0.541) | 7.87 (1.55) | Barometer |
| 1.30 (0.97) | 2413 | 1.98 (7.48) | 10.658 (6.483) | 0.66 (0.13) | 29.08"Hg (98.48kPa) |

Maximum Torque - 391 lb.-ft. (530 Nm) at 1051 rpm
 Maximum Torque rise - 66.9%
 Torque rise at 1799 rpm - 24%

TRACTOR SOUND LEVEL WITHOUT CAB

| | Front Wheel Drive | |
|-----------------------------|-------------------|---------------------|
| | Engaged dB(A) | Disengaged dB(A) |
| At no load in 4th (4L) gear | 94.0 | 94.1 |
| Bystander in 8th (8H) gear | | 87.9 |

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 18.4-34; 8:16 (110)
 Two 14.9-24; 8:18 (125)
 21.0 in (535 mm)
 5450 lb (2472 kg)
 3425 lb (1554 kg)
 8875 lb (4026 kg)

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

Dates of tests: December 7 - 13, 2010

Manufacturer: CNH America LLC, 700 State Street, Racine, Wi. 53404

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 15W40 API service classification CI-4 Transmission and hydraulic lubricant New Holland M2C134D fluid Front axle lubricant New Holland M2C134D fluid Total time engine was operated 19.0 hours

ENGINE: Make F.P.T NEF series Diesel **Type** four cylinder vertical with turbocharger and air to air intercooler **Serial No.** 738118 **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.094" x 5.197" (104.0 mm x 132.0 mm) **Compression ratio** 17.5 to 1 **Displacement** 274 cu in (4485 ml) **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements **Oil filter** one full flow cartridge **Oil cooler** engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil **Fuel filter** one paper element **Muffler** vertical **Cooling medium temperature control** one thermostat

ENGINE OPERATING PARAMETERS: Fuel rate: 46.3 - 49.1 lb/h (21.0 - 22.3 kg/h) **High idle:** 2350 - 2450 rpm **Turbo boost:** nominal 17.4 - 20.3 psi (120 - 140 kPa) as measured 18.9 psi (130 kPa)

CHASSIS: Type front wheel assist **Serial No.** N50135M **Tread width** rear 64.0" (1626 mm) to 80.0" (2032 mm) front 64.0" (1626 mm) to 80.0" (2032 mm) **Wheelbase** 99.2" (2520 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Nominal travel speeds mph (km/h)** first 1.82 (2.92) second 2.27 (3.65) third 3.96 (6.36) fourth 5.44 (8.76) fifth 6.50 (10.47) sixth 8.12 (13.07) seventh 14.22 (22.90) eighth 19.36 (31.15) reverse 2.65 (4.27), 9.36 (15.06) **Clutch** single dry disc operated by foot pedal **Brakes** single wet disc operated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 1890 engine rpm or 1000 at 2049 engine rpm **Unladen tractor mass** 8700 lb (3946 kg)

HYDRAULIC PERFORMANCE

CATEGORY: II

Quick Attach: None

OECD Static test

Maximum force exerted through whole range: 3096 lbs (13.77 kN)
 4608 lbs (20.50 kN)(1 external lift cylinder)
 6174 lbs (27.46 kN)(2 external lift cylinders)

| | <u>Single pump system</u> | <u>Two pump system</u> |
|--|---------------------------------|------------------------|
| | <u>two outlet sets combined</u> | |
| i) Sustained pressure of the open relief valve: | 2754 psi (190 bar) | 2652 psi (183 bar) |
| ii) Pump delivery rate at minimum pressure and rated engine speed: | 13.4 GPM (50.8 l/min) | 18.8 GPM (71.2 l/min) |
| iii) Pump delivery rate at maximum hydraulic power: | 11.2 GPM (42.3 l/min) | 17.2 GPM (65.1 l/min) |
| Delivery pressure: | 2553 psi (176 bar) | 1881 psi (130 bar) |
| Power: | 16.6 HP (12.4 kW) | 18.9 HP (14.1 kW) |

| | <u>single outlet set</u> | |
|--|--------------------------|-----------------------|
| i) Sustained pressure of the open relief valve: | 2748 psi (190 bar) | 2657 psi (183 bar) |
| ii) Pump delivery rate at minimum pressure and rated engine speed: | 13.4 GPM (50.8 l/min) | 15.1 GPM (57.3 l/min) |
| iii) Pump delivery rate at maximum hydraulic power: | 11.9 GPM (45.2 l/min) | 14.4 GPM (54.3 l/min) |
| Delivery pressure: | 2456 psi (169 bar) | 1860 psi (128 bar) |
| Power: | 17.1 HP (12.8 kW) | 15.6 HP (11.6 kW) |

THREE POINT HITCH PERFORMANCE(SAE Static test)

| | |
|-------------------------------------|---------------|
| Observed maximum pressure psi.(bar) | 2480 (171) |
| Location: | lift cylinder |
| Hydraulic oil temperature: °F(°C) | 145 (63) |
| Location: | pump inlet |
| Category: | II |
| Quick attach: | none |

System pressure 2210 psi (152 Bar)

| | | | | | |
|---|-----------|------------|------------|------------|------------|
| Hitch point distance to ground level in. (mm) | 8.0 (203) | 15.0 (381) | 22.0 (559) | 29.0 (737) | 36.0 (914) |
| Lift force on frame lb | 4374 | 4244 | 4127 | 4257 | 3735 |
| " " " " " " (kN) | (19.5) | (18.9) | (18.4) | (18.9) | (16.6) |

One external cylinder

System pressure 2210 psi (152 Bar)

| | | | | | |
|---|-----------|------------|------------|------------|------------|
| Hitch point distance to ground level in. (mm) | 8.0 (203) | 15.0 (381) | 22.0 (559) | 29.0 (737) | 36.0 (914) |
| Lift force on frame lb | 6764 | 6444 | 6174 | 6300 | 5499 |
| " " " " " " (kN) | (30.1) | (28.7) | (27.5) | (28.0) | (24.5) |

Two external cylinders

System pressure 2210 psi (152 Bar)

| | | | | | |
|---|-----------|------------|------------|------------|------------|
| Hitch point distance to ground level in. (mm) | 8.0 (203) | 15.0 (381) | 22.0 (559) | 29.0 (737) | 36.0 (914) |
| Lift force on frame lb | 9270 | 8622 | 8199 | 8361 | 7326 |
| " " " " " " (kN) | (41.2) | (38.4) | (36.5) | (37.2) | (32.6) |

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

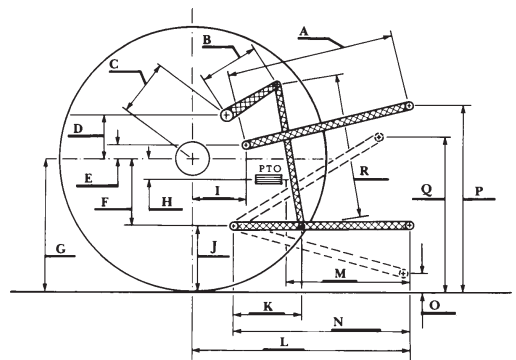
REMARKS: All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures. This tractor did not meet the manufacturer's claim of 22.0 GPM (83 lpm) hydraulic flow with optional pump. For the maximum power tests, the fuel temperature at the primary filter was maintained at 102°F (39°C).

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1982**, January 18, 2011.

Roger M. Hoy
 Director

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

| | SAE Test | | OECD Test | |
|---|----------|------|-----------|------|
| | inch | mm | inch | mm |
| A | 27.7 | 705 | 28.5 | 724 |
| B | 9.8 | 250 | 9.8 | 250 |
| C | 14.1 | 357 | 14.1 | 357 |
| D | 13.5 | 342 | 13.5 | 342 |
| E | 8.1 | 205 | 8.1 | 205 |
| F | 9.0 | 229 | 9.0 | 229 |
| G | 30.3 | 770 | 30.3 | 770 |
| H | 0.4 | 10 | 0.4 | 10 |
| I | 12.7 | 323 | 12.7 | 323 |
| J | 21.3 | 541 | 21.3 | 541 |
| K | 18.1 | 460 | 18.1 | 460 |
| L | 40.8 | 1037 | 40.8 | 1037 |
| M | 22.9 | 581 | 22.9 | 581 |
| N | 36.6 | 930 | 36.6 | 930 |
| O | 8.0 | 203 | 8.0 | 203 |
| P | 40.3 | 1024 | 45.3 | 1151 |
| Q | 34.0 | 864 | 34.0 | 864 |
| R | 32.5 | 826 | 32.5 | 826 |



HITCH DIMENSIONS AS TESTED - NO LOAD



New Holland TS6030 Diesel

Institute of Agriculture and Natural Resources
University of Nebraska-Lincoln