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Test 1836A: Case IH DX48 Diesel

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NEBRASKA TRACTOR TEST 1836A
CASE IH DX48 DIESEL
12 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—611 rpm)					
40.98 *(30.56)*	2800	3.36 *(12.72)*	0.576 *(0.350)*	12.19 *(2.40)*	
Standard Power Take-off Speed(540 rpm)					
38.56 *(28.75)*	2477	2.95 *(11.18)*	0.538 *(0.327)*	13.06 *(2.57)*	
VARYING POWER AND FUEL CONSUMPTION					
40.98 *(30.56)*	2800	3.36 *(12.72)*	0.576 *(0.350)*	12.19 *(2.40)*	Air temperature
36.61 *(27.30)*	2941	3.03 *(11.48)*	0.582 *(0.354)*	12.07 *(2.38)*	77°F *(25°C)*
27.97 *(20.86)*	2980	2.39 *(9.06)*	0.601 *(0.365)*	11.69 *(2.30)*	Relative humidity
18.74 *(13.97)*	3006	1.92 *(7.28)*	0.720 *(0.438)*	9.75 *(1.92)*	26%
9.36 *(6.98)*	3027	1.45 *(5.50)*	1.090 *(0.663)*	6.44 *(1.27)*	Barometer
0.63 *(0.47)*	3044	1.11 *(4.21)*	12.339 *(7.506)*	0.57 *(0.11)*	28.86"Hg *(97.73 kPa)*

Maximum torque 96 lb.-ft. *(130 Nm)* at 1602 rpm
Maximum torque rise - 24.8%
Torque rise at 2206 rpm - 14%

TRACTOR SOUND LEVEL WITHOUT CAB	Front Wheel Drive Disengaged dB(A)	Front Wheel Drive Engaged dB(A)
At no load in 7th (M3) gear	92.0	92.0
Bystander	--	--

TIRES AND WEIGHT	Tested Without Ballast
Rear Tires–No., size, ply & psi *(kPa)*	Two 18.4-24; 8; 12 *(85)*
Front Tires–No., size, ply & psi *(kPa)*	Two 12-16.5; 8; 12 *(85)*
Height of Drawbar	17.0 in *(405 mm)*
Static Weight with operator– Rear	2650 lb *(1202 kg)*
– Front	1840 lb *(835 kg)*
– Total	4490 lb *(2037 kg)*

Location of Test: Nebraska Tractor Test Laboratory, University of Nebraska, Lincoln Nebraska 68583-0832
Dates of Test: April 27-30, 2004

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

FUEL, OIL and TIME: Fuel No. 2 Diesel **Specific gravity converted to 60°/60° F *(15°/15°C)*** 0.8432 **Fuel weight** 7.021 lbs/gal *(0.841 kg/l)* **Oil SAE** 15W40 **API service classification** CF-4/SG **Transmission and hydraulic lubricant** Case IH Hytran ultra fluid **Front axle lubricant** Case IH Hytran ultra fluid **Total time engine was operated** 12.5 hours

ENGINE: Make ISM Diesel **Type** four cylinder vertical **Serial No.** 28854 **Crankshaft** lengthwise **Rated engine speed** 2800 **Bore and stroke** 3.307" x 3.937" *(84.0 mm x 100.0 mm)* **Compression ratio** 22.4 to 1 **Displacement** 135 cu in *(2216 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 **Fuel filter** one paper element **Muffler** underhood **Exhaust** horizontal **Cooling medium temperature control** one thermostat

ENGINE OPERATING PARAMETERS: Fuel rate: 21.6 - 23.8 lb/h *(9.8 - 10.8 kg/h)* **High idle:** 2950 - 3050 rpm

CHASSIS: Type front wheel assist **Serial No.** HV10007 **Tread width** rear 52.8" *(1341 mm)* to 76.3" *(1939 mm)* front 56.4" *(1432 mm)* **Wheelbase** 74.8" *(1900 mm)* **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Nominal travel speeds mph *(km/h)*** first 1.12 *(1.81)* second 1.52 *(2.45)* third 1.99 *(3.21)* fourth 2.56 *(4.12)* fifth 2.83 *(4.56)* sixth 3.84 *(6.18)* seventh 5.03 *(8.09)* eighth 6.45 *(10.38)* ninth 7.98 *(12.84)* tenth 10.81 *(17.39)* eleventh 14.14 *(22.76)* twelfth 18.15 *(29.21)* reverse 1.21 *(1.95)*, 1.64 *(2.64)*, 2.09 *(3.36)*, 2.76 *(4.44)*, 3.05 *(4.91)*, 4.13 *(6.65)*, 5.41 *(8.70)*, 6.94 *(11.17)*, 8.58 *(13.81)*, 11.63 *(18.71)*, 15.09 *(24.29)*, 19.53 *(31.43)* **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 2475 engine rpm **Unladen tractor mass** 4315 lb *(1957 kg)*

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: I, II		
Quick Attach: None		
Maximum Force Exerted Through Whole Range:	2776 lbs *(12.3 kN)* Category I	
	2430 lbs *(10.8 kN)* Category II	
i) Opening pressure of relief valve:	NA	
Sustained pressure of the open relief valve:	2460 psi	*(170 bar)*
ii) Pump delivery rate at minimum pressure and rated engine speed:	11.2 GPM	*(42.5 l/min)*
iii) Pump delivery rate at maximum hydraulic power:	11.3 GPM	*(42.9 l/min)*
Delivery pressure:	1735 psi	*(120 bar)*
Power:	11.5 HP	*(8.6 kW)*

THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi. *(bar)*	2565 *(177)*
Location:	lift cylinder
Hydraulic oil temperature: °F *(°C)*	178 *(81)*
Location:	hydraulic sump
Category:	I, II
Quick attach:	none

Category I

SAE Static Test—System pressure 2320 psi *(160 Bar)*

Hitch point distance to ground level in. *(mm)*	8.0 *(203)*	14.0 *(356)*	20.1 *(511)*	25.9 *(658)*	32.1 *(815)*
Lift force on frame lb	3832	3647	3433	3180	2789
" " " " " " *(kN)*	*(17.0)*	*(16.2)*	*(15.3)*	*(14.1)*	*(12.4)*

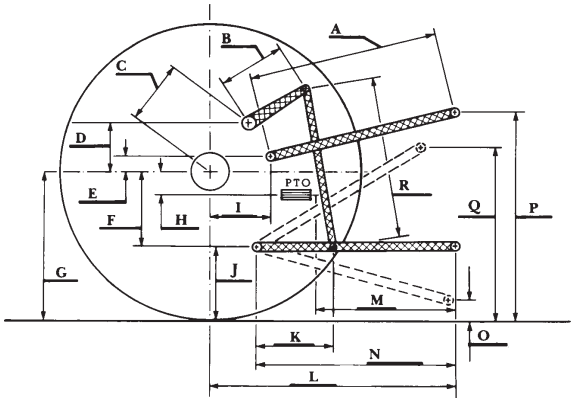
Category II

SAE Static Test—System pressure 2320 psi *(160 Bar)*

Hitch point distance to ground level in. *(mm)*	8.2 *(208)*	15.2 *(386)*	22.0 *(559)*	29.0 *(737)*	35.9 *(912)*
Lift force on frame lb	3439	3356	3143	2892	2305
" " " " " " *(kN)*	*(15.3)*	*(14.9)*	*(14.0)*	*(12.9)*	*(10.3)*

	Category I		Category II	
	inch	*mm*	inch	*mm*
A	23.1	*587*	23.0	*584*
B	11.8	*300*	11.8	*300*
C	13.5	*344*	13.5	*344*
D	13.5	*342*	13.5	*342*
E	10.3	*262*	10.3	*262*
F	5.2	*132*	5.2	*132*
G	26.0	*660*	26.0	*660*
H	0.5	*13*	0.5	*13*
I	12.2	*309*	12.2	*309*
J	20.8	*528*	20.8	*528*
K	14.2	*362*	14.2	*361*
L	34.6	*879*	34.5	*876*
M	22.9	*582*	22.8	*579*
N	31.5	*800*	31.4	*797*
O	6.6	*168*	6.9	*175*
P	38.9	*988*	39.9	*1013*
Q	34.1	*865*	34.5	*876*
R	21.4	*543*	21.4	*543*

HITCH DIMENSIONS AS TESTED - NO LOAD



REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE: The performance results on this report were obtained from tests carried out on the New Holland TC 48DA Diesel.

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 claims of 3465 lb *(1571 kg)* 3 point hitch lift at 24" nor 12.0 GPM *(45.5 lpm)* hydraulic flow. For the maximum power tests, the fuel temperature at the injection pump inlet was maintained at 104°F *(40°C)*.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1836A** , November 1, 2004

Leonard L. Bashford
Director

M.F. Kocher
V.I. Adamchuk
W.P. Campbell
Board of Tractor Test Engineers

Case IH DX 48 Diesel

Agricultural Research Division
Institute of Agriculture and Natural Resources
University of Nebraska–Lincoln
Darrell Nelson, Dean and Director