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Test 1796: Case IH STX 275/New Holland TJ 275 Diesel

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NEBRASKA OECD TRACTOR TEST 1796 - SUMMARY 361
CASE IH STX 275 DIESEL
ALSO NEW HOLLAND TJ 275 DIESEL
16 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 1001 rpm)					
238.92 *(178.16)*	2000	13.61 *(51.51)*	0.401 *(0.244)*	17.56 *(3.46)*	
Maximum Power (2 Hours)					
274.11 *(204.40)*	1800	15.02 *(56.85)*	0.386 *(0.235)*	18.25 *(3.60)*	
VARYING POWER AND FUEL CONSUMPTION					
238.92 *(178.16)*	2000	13.61 *(51.51)*	0.401 *(0.244)*	17.56 *(3.46)*	Air temperature
206.68 *(154.12)*	2036	12.05 *(45.61)*	0.411 *(0.250)*	17.15 *(3.38)*	76°F *(24°C)*
157.00 *(117.07)*	2062	9.84 *(37.23)*	0.441 *(0.268)*	15.96 *(3.14)*	Relative humidity
105.75 *(78.86)*	2087	7.37 *(27.90)*	0.491 *(0.299)*	14.36 *(2.83)*	48%
53.83 *(40.14)*	2112	5.24 *(19.82)*	0.685 *(0.417)*	10.28 *(2.03)*	Barometer
0.92 *(0.68)*	2134	3.24 *(12.25)*	24.916 *(15.156)*	0.28 *(0.06)*	28.89" Hg *(97.83 kPa)*

Maximum Torque - 953 lb.-ft. *(1293 Nm)* at 1101 rpm
Maximum Torque Rise - 52.0%
Torque rise at 1601 engine rpm - 39%

DRAWBAR PERFORMANCE
FUEL CONSUMPTION CHARACTERISTICS

Power Hp *(kW)*	Drawbar pull lbs *(kN)*	Speed mph *(km/h)*	Crank-shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr *(kg/kW.h)*	Fuel Consumption Hp.hr/gal *(kW.h/l)*	Temp.°F *(°C)* cool-ing med	Temp.°F *(°C)* Air dry bulb	Barom. inch Hg *(kPa)*
Maximum Power 4th Gear									
211.57 *(157.76)*	18642 *(82.92)*	4.26 *(6.85)*	2002	1.76	0.457 *(0.278)*	15.43 *(3.04)*	184 *(84)*	58 *(14)*	28.85 *(97.70)*
75% of Pull at Maximum Power 4th Gear									
163.32 *(121.79)*	14044 *(62.47)*	4.36 *(7.02)*	2043	1.40	0.495 *(0.301)*	14.24 *(2.80)*	180 *(82)*	64 *(18)*	28.90 *(97.87)*
50% of Pull at Maximum Power 4th Gear									
111.01 *(82.78)*	9368 *(41.67)*	4.44 *(7.15)*	2073	1.03	0.569 *(0.346)*	12.39 *(2.44)*	177 *(81)*	67 *(19)*	28.90 *(97.87)*
75% of Pull at Reduced Engine Speed 7th Gear									
163.22 *(121.71)*	14052 *(62.50)*	4.36 *(7.01)*	1475	1.40	0.442 *(0.269)*	15.92 *(3.14)*	182 *(83)*	65 *(18)*	28.90 *(97.87)*
50% of Pull at Reduced Engine Speed 7th Gear									
110.94 *(82.73)*	9352 *(41.60)*	4.45 *(7.16)*	1502	1.03	0.493 *(0.300)*	14.28 *(2.81)*	177 *(81)*	68 *(20)*	28.90 *(97.87)*

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

Dates of Test: October 3 - 12, 2001

Manufacturer: Case Corporation, 700 State Street Racine, Wi. 53404 USA.

FUEL, OIL and TIME: Fuel No. 2 Diesel **Specific gravity converted to 60°/60° F *(15°/15°C)*** 0.8462 **Fuel weight** 7.046 lbs/gal *(0.844 kg/l)* **Oil SAE** 15W40 **API service classification** CH-4 **Transmission and hydraulic lubricant** Case Hy-Tran Ultra fluid **Front and rear axle lubricant** Case Hy-Tran Ultra fluid **Total time engine was operated** 16.5 hours

ENGINE: Make Case Diesel **Type** six cylinder vertical with turbocharger and air to air aftercooler **Serial No.** 46062581 **Crankshaft** lengthwise **Rated engine speed** 2000 **Bore and stroke** 4.488" x 5.315" *(114.0 mm x 135.0 mm)* **Compression ratio** 17.1 to 1 **Displacement** 505 cu in *(8268 ml)* **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements and aspirator **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 **Fuel cooler** radiator for returned fuel **Muffler** vertical **Cooling medium temperature control** one thermostat and variable speed fan

ENGINE OPERATING PARAMETERS: Fuel rate: 91.7 - 97.2 lb/h *(41.6 -44.1 kg/h)* **High idle:** 2125 - 2165 rpm **Turbo boost:** nominal 22.2 - 25.1 psi *(153 - 173 kPa)* as measured 23.2 psi *(160 kPa)*

CHASSIS: Type four wheel drive with duals **Serial No.** *JEE0098550* **Tread width** rear 61.0" *(1549 mm)* to 130.0" *(3302 mm)* front 61.0"*(1549 mm)* to 130.0" *(3302 mm)* **Wheelbase** 139.0" *(3531 mm)* **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with full range operator controlled powershift **Nominal travel speeds mph *(km/h)*** first 2.44 *(3.93)* second 2.94 *(4.73)* third 3.55 *(5.71)* fourth 4.28 *(6.88)* fifth 4.91 *(7.90)* sixth 5.39 *(8.68)* seventh 5.92 *(9.52)* eighth 6.50 *(10.46)* ninth 7.14 *(11.49)* tenth 7.85 *(12.63)* eleventh 8.60 *(13.84)* twelfth 9.45 *(15.21)* thirteenth 10.84 *(17.46)* fourteenth 13.06 *(21.03)* fifteenth 15.79 *(25.41)* sixteenth 19.01 *(30.59)* reverse 3.70 *(5.95)*, 8.17 *(13.15)* **Clutch** multiple wet disc electro-hydraulically operated by foot pedal **Brakes** single wet disc hydraulically actuated by foot pedal **Steering** hydrostatic and articulated **Power take-off** 1000 rpm at 1998 engine rpm **Unladen tractor mass** 31785 lb *(14417 kg)*

DRAWBAR PERFORMANCE

MAXIMUM POWER IN SELECTED GEARS

Power Hp *(kW)*	Drawbar pull lbs *(kN)*	Speed mph *(km/h)*	Crank-shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*	Temp.°F*(°C)* cool-ing med	Air dry bulb	Barom. inch Hg *(kPa)*
					1st Gear				
204.45 *(152.46)*	32944 *(146.54)*	2.33 *(3.75)*	2021	6.88	0.467 *(0.284)*	15.08 *(2.97)*	179 *(82)*	56 *(13)*	28.82 *(97.60)*
					2nd Gear				
231.79 *(172.85)*	32434 *(144.27)*	2.68 *(4.31)*	1912	5.69	0.460 *(0.280)*	15.33 *(3.02)*	182 *(83)*	56 *(13)*	28.83 *(97.63)*
					3rd Gear				
246.13 *(183.54)*	29681 *(132.03)*	3.11 *(5.00)*	1798	3.72	0.438 *(0.267)*	16.08 *(3.17)*	186 *(85)*	57 *(14)*	28.84 *(97.66)*
					4th Gear				
246.51 *(183.82)*	24230 *(107.78)*	3.82 *(6.14)*	1806	2.49	0.439 *(0.267)*	16.06 *(3.16)*	189 *(87)*	58 *(14)*	28.85 *(97.70)*
					5th Gear				
245.06 *(182.74)*	20968 *(93.27)*	4.38 *(7.05)*	1800	2.04	0.439 *(0.267)*	16.05 *(3.16)*	190 *(88)*	59 *(15)*	28.86 *(97.73)*
					6th Gear				
245.90 *(183.36)*	19104 *(84.98)*	4.83 *(7.77)*	1801	1.95	0.437 *(0.266)*	16.11 *(3.17)*	189 *(87)*	59 *(15)*	28.86 *(97.73)*
					7th Gear				
241.39 *(180.01)*	17094 *(76.04)*	5.30 *(8.52)*	1799	1.76	0.447 *(0.272)*	15.76 *(3.10)*	190 *(88)*	60 *(16)*	28.87 *(97.77)*
					8th Gear				
242.47 *(180.81)*	15567 *(69.24)*	5.84 *(9.40)*	1802	1.58	0.444 *(0.270)*	15.87 *(3.13)*	190 *(88)*	60 *(16)*	28.87 *(97.77)*
					9th Gear				
239.59 *(178.66)*	14040 *(62.45)*	6.40 *(10.30)*	1795	1.40	0.447 *(0.272)*	15.76 *(3.10)*	190 *(88)*	61 *(16)*	28.86 *(97.73)*
					10th Gear				
239.92 *(178.91)*	12727 *(56.61)*	7.07 *(11.38)*	1803	1.31	0.447 *(0.272)*	15.78 *(3.11)*	191 *(88)*	62 *(17)*	28.87 *(97.77)*
					11th Gear				
232.40 *(173.30)*	11231 *(49.96)*	7.76 *(12.49)*	1803	1.21	0.465 *(0.283)*	15.14 *(2.98)*	191 *(88)*	62 *(17)*	28.88 *(97.80)*
					12th Gear				
234.88 *(175.15)*	10340 *(45.99)*	8.52 *(13.71)*	1800	1.03	0.454 *(0.276)*	15.52 *(3.06)*	191 *(88)*	63 *(17)*	28.89 *(97.83)*

TRACTOR SOUND LEVEL WITH CAB	dB(A)
At no load in 5th gear	72.4
Bystander in 16th gear	87.6

TIRES AND WEIGHT	Tested Without Ballast
Rear tires - No.,size, ply & psi*(kPa)*	Four 20.8R42;**;8*(55)*
Front tires - No.,size, ply & psi*(kPa)*	Four 20.8R42;**;11*(75)*
Height of Drawbar	14.5 in *(370 mm)*
Static Weight with operator- Rear	14030 lb *(6364 kg)*
- Front	17930 lb *(8133 kg)*
- Total	31960 lb *(14497 kg)*

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. The drawbar pull in 1st gear was limited to avoid excessive tractor bouncing. For the maximum power tests, the fuel temperature at the injection pump inlet was maintained at 112°F *(44°C)*. The performance figures on this Summary were taken from a test conducted under the OECD Code II test procedure.

Supplemental report: New Holland TJ 275 Diesel. Manufactured for New Holland by Case Corporation.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1796**, Nebraska Summary 361, October 26, 2001.

Leonard L. Bashford
Director

M.F. Kocher
V.I. Adamchuk
G.J. Hoffman
Board of Tractor Test Engineers

THREE POINT HITCH PERFORMANCE (OECD Static Test)

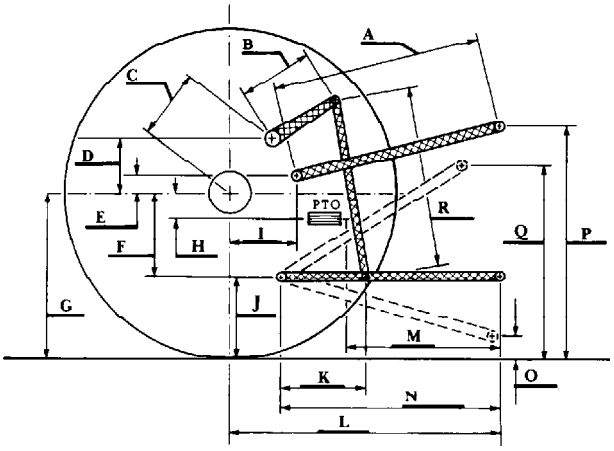
CATEGORY: IV
Quick Attach: yes
Maximum Force Exerted
Through Whole Range: 15678 lbs *(69.7 kN)*

		High flow option
i) Opening pressure of relief valve:	NA	NA
Sustained pressure of the open relief valve:	2870 psi *(198 bar)*	2955 psi *(204 bar)*
ii) Pump delivery rate at minimum pressure and rated engine speed:	40.9 GPM *(154.8 l/min)*	58.0 GPM *(219.6 l/min)*
iii) Pump delivery rate at maximum hydraulic power:	34.6 GPM *(131.0 l/min)*	54.6 GPM *(206.7 l/min)*
Delivery pressure:	2450 psi *(169 bar)*	2550 psi *(176 bar)*
Power:	49.5 HP *(36.9 kW)*	81.2 Hp *(60.6 kW)*

HITCH DIMENSIONS AS TESTED - NO LOAD

	inch	*mm*
A	33.7	*855*
B	29.9	*760*
C	23.2	*590*
D	22.0	*558*
E	13.5	*342*
F	13.4	*340*
G	37.2	*945*
H	2.7	*68*
I	21.2	*538*
J	23.8	*605*
K	29.0	*736*
L	54.8	*1391*
*L'	62.0	*1575*
M	27.0	*687*
N	39.3	*997*
O	8.0	*203*
P	47.6	*1209*
Q	40.2	*1020*
R	39.5	*1004*

*L' to Quick Attach ends



Case IH STX 275 Diesel

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