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## Test 1797: Case IH STX 325/New Holland TJ 325 Diesel

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# NEBRASKA OECD TRACTOR TEST 1797 - SUMMARY 362

## CASE IH STX 325 DIESEL

## ALSO NEW HOLLAND TJ 325 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
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>					
<b>Rated Engine Speed (PTO speed 1001 rpm)</b>					
291.80 (217.60)	2000	16.09 (60.92)	0.389 (0.236)	18.13 (3.57)	
<b>Maximum Power (2 Hours)</b>					
320.75 (239.18)	1800	17.20 (65.10)	0.378 (0.230)	18.65 (3.67)	

#### VARYING POWER AND FUEL CONSUMPTION

291.80 (217.60)	2000	16.09 (60.92)	0.389 (0.236)	18.13 (3.57)	Air temperature
252.46 (188.26)	2035	14.26 (53.99)	0.398 (0.242)	17.70 (3.49)	75°F (24°C)
191.21 (142.58)	2058	11.67 (44.16)	0.430 (0.261)	16.39 (3.23)	Relative humidity
128.83 (96.07)	2081	9.15 (34.65)	0.501 (0.305)	14.07 (2.77)	51%
64.91 (48.40)	2105	6.00 (22.73)	0.652 (0.396)	10.81 (2.13)	Barometer
0.05 (0.04)	2131	3.24 (12.25)	44.934 (27.332)	0.20 (0.04)	28.94" Hg (98.00 kPa)

Maximum Torque - 1062 lb.-ft. (1440 Nm) at 1351 rpm  
 Maximum Torque Rise - 38.6%  
 Torque rise at 1603 engine rpm - 31%

#### 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)	Hp.hr/gal (kW.h/l)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
<b>Maximum Power 5th Gear</b>									
260.87 (194.53)	19973 (88.84)	4.90 (7.88)	2002	2.16	0.440 (0.268)	16.01 (3.15)	182 (83)	62 (17)	28.92 (97.93)
<b>75% of Pull at Maximum Power 5th Gear</b>									
202.67 (151.13)	15090 (67.12)	5.04 (8.11)	2046	1.34	0.467 (0.284)	15.08 (2.97)	182 (83)	68 (20)	28.89 (97.83)
<b>50% of Pull at Maximum Power 5th Gear</b>									
137.19 (102.30)	10062 (44.76)	5.11 (8.23)	2069	1.15	0.545 (0.332)	12.93 (2.55)	180 (82)	70 (21)	28.87 (97.77)
<b>75% of Pull at Reduced Engine Speed 8th Gear</b>									
202.73 (151.17)	15063 (67.00)	5.05 (8.12)	1550	1.43	0.431 (0.262)	16.34 (3.22)	184 (84)	70 (21)	28.87 (97.77)
<b>50% of Pull at Reduced Engine Speed 8th Gear</b>									
137.46 (102.50)	10051 (44.71)	5.13 (8.25)	1568	1.06	0.469 (0.285)	15.03 (2.96)	181 (83)	71 (22)	28.86 (97.73)

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

**Dates of Test:** October 4 - 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 18.0 hours

**ENGINE: Make Case Diesel Type** six cylinder vertical with turbocharger and air to air aftercooler **Serial No.** 46065275 **Crankshaft** lengthwise **Rated engine speed** 2000 **Bore and stroke** 4.488" x 5.689" (114.0 mm x 144.5 mm) **Compression ratio** 16.5 to 1 **Displacement** 540 cu in (8849 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:** 108.9 - 115.4 lb/h (49.4 - 52.3 kg/h) **High idle:** 2125 - 2165 rpm **Turbo boost:** nominal 20.7 - 23.6 psi (143 - 163 kPa) as measured 21.7 psi (150 kPa)

**CHASSIS: Type** four wheel drive with duals **Serial No.** \*JEE0098579\* **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** 31925 lb (14481 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)	Temp. <sup>o</sup> F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)	
2ndGear									
243.45 (181.54)	32797 (145.89)	2.78 (4.48)	2011	7.39	0.459 (0.279)	15.34 (3.02)	181 (83)	52 (11)	28.93 (97.97)
3rdGear									
271.10 (202.16)	31281 (139.14)	3.25 (5.23)	1898	5.15	0.435 (0.265)	16.18 (3.19)	182 (83)	55 (13)	28.92 (97.93)
4thGear									
290.15 (216.37)	28920 (128.64)	3.76 (6.06)	1796	3.77	0.422 (0.257)	16.68 (3.29)	184 (84)	56 (13)	28.92 (97.93)
5thGear									
291.10 (217.07)	24955 (111.01)	4.37 (7.04)	1800	2.61	0.421 (0.256)	16.72 (3.29)	183 (84)	60 (16)	28.91 (97.90)
6thGear									
290.31 (216.48)	22545 (100.29)	4.83 (7.77)	1801	2.34	0.418 (0.254)	16.85 (3.32)	188 (87)	63 (17)	28.92 (97.93)
7thGear									
287.63 (214.49)	20370 (90.61)	5.30 (8.52)	1798	2.16	0.425 (0.258)	16.59 (3.27)	188 (86)	64 (18)	28.92 (97.93)
8thGear									
288.35 (215.03)	18493 (82.26)	5.85 (9.41)	1802	1.89	0.423 (0.257)	16.66 (3.28)	189 (87)	65 (18)	28.91 (97.90)
9thGear									
285.27 (212.73)	16675 (74.17)	6.42 (10.33)	1796	1.62	0.426 (0.259)	16.53 (3.26)	187 (86)	66 (19)	28.91 (97.90)
10thGear									
285.95 (213.24)	15156 (67.41)	7.08 (11.39)	1798	1.52	0.429 (0.261)	16.44 (3.24)	190 (88)	66 (19)	28.91 (97.90)
11thGear									
279.68 (208.56)	13529 (60.18)	7.75 (12.48)	1795	1.34	0.436 (0.265)	16.16 (3.18)	190 (88)	67 (19)	28.90 (97.87)
12thGear									
280.25 (208.99)	12270 (54.58)	8.57 (13.78)	1802	1.15	0.436 (0.265)	16.17 (3.19)	186 (85)	67 (19)	28.90 (97.87)

**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 2nd gear was limited to avoid excessive tractor bouncing. For the maximum power tests, the fuel temperature at the injection pump inlet was maintained at 111°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 325 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. **1797**, Nebraska Summary 362, October 26, 2001.

Leonard L. Bashford  
Director

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

**TRACTOR SOUND LEVEL WITH CAB**

**dB(A)**

At no load in 5th gear	72.3
Bystander in 16th gear	87.1

**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**

Four 20.8R42; \*\*; 8(55)  
Four 20.8R42; \*\*; 11(75)  
14.5 in (370 mm)  
14065 lb (6380 kg)  
18035 lb (8180 kg)  
32100 lb (14560 kg)

### THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: IV

Quick Attach: yes

Maximum Force Exerted

Through Whole Range: 15678 lbs (69.7 kN)

i) Opening pressure of relief valve:

NA

High flow option

NA

Sustained pressure of the open relief valve:

2870 psi (198 bar)

2965 psi (204 bar)

ii) Pump delivery rate at minimum pressure and rated engine speed:

40.9 GPM (154.8 l/min)

58.4 GPM (221.1 l/min)

iii) Pump delivery rate at maximum

hydraulic power:

34.6 GPM (131.0 l/min)

56.0 GPM (212.0 l/min)

Delivery pressure:

2450 psi (169 bar)

2447 psi (169 bar)

Power:

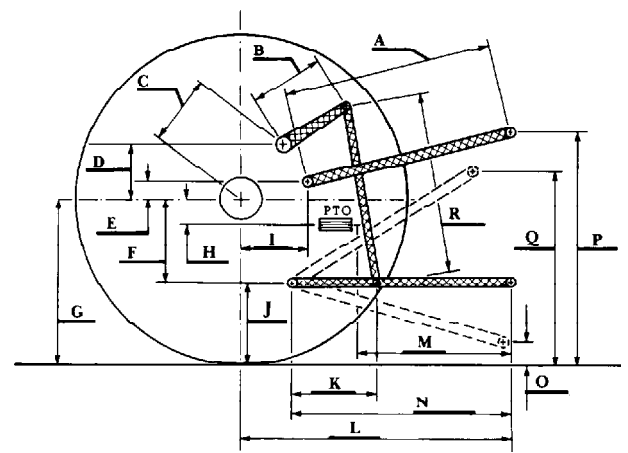
49.5 HP (36.9 kW)

79.9 Hp (59.6 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 325 Diesel

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