

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F.  
Larsen

---

January 2002

## Tests 2031 & 2055: Case IH JX 85 Diesel

Follow this and additional works at: <https://digitalcommons.unl.edu/tractormuseumlit>



Part of the [Applied Mechanics Commons](#)

---

"Tests 2031 & 2055: Case IH JX 85 Diesel" (2002). *Nebraska Tractor Tests*. 202.  
<https://digitalcommons.unl.edu/tractormuseumlit/202>

This Article is brought to you for free and open access by the Tractor Test and Power Museum, The Lester F. Larsen at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Nebraska Tractor Tests by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

# SUMMARY OF OECD TESTS 2031 & 2055—NEBRASKA SUMMARY 405

## CASE IH JX 85 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-614 rpm)					
71.1 (53.0)	2500	4.22 (15.99)	0.410 (0.250)	16.83 (3.32)	
Standard Power Take-off Speed (540 rpm)					
65.8 (49.1)	2200	3.91 (14.80)	0.409 (0.249)	16.85 (3.32)	

#### VARYING POWER AND FUEL CONSUMPTION

71.1 (53.0)	2500	4.22 (15.99)	0.410 (0.250)	16.83 (3.32)	Air temperature
62.8 (46.8)	2598	3.64 (13.77)	0.400 (0.243)	17.26 (3.40)	79°F (26°C)
48.0 (35.8)	2652	2.89 (10.95)	0.416 (0.253)	16.60 (3.27)	Relative humidity
32.5 (24.2)	2684	2.22 (8.40)	0.472 (0.287)	14.62 (2.88)	36%
16.4 (12.2)	2706	1.58 (5.98)	0.666 (0.405)	10.36 (2.04)	Barometer
--	2741	1.00 (3.80)	--	--	27.0" Hg (91.6 kPa)

Maximum Torque - 169.7 lb.-ft. (230.1 Nm) at 1500 rpm  
 Maximum Torque Rise - 13.6%  
 Torque rise at 2000 engine rpm - 9%

#### DRAWBAR PERFORMANCE

(Unballasted-Front Drive Engaged)

#### 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. °C (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—10th (III-2) Gear									
58.4 (43.5)	2455 (10.92)	8.92 (14.35)	2508	6.0	0.478 (0.291)	14.42 (2.84)	167 (75)	79 (26)	27.1 (91.9)
75% of Pull at Maximum Power—10th (III-2) Gear									
45.2 (33.7)	1840 (8.19)	9.22 (14.83)	2559	4.8	0.569 (0.346)	12.13 (2.39)	167 (75)	79 (26)	27.1 (91.9)
50% of Pull at Maximum Power—10th (III-2) Gear									
31.2 (23.3)	1230 (5.46)	9.53 (15.34)	2623	3.9	0.673 (0.409)	10.25 (2.02)	167 (75)	79 (26)	27.1 (91.9)
75% of Pull at Reduced Engine Speed—11th (III-3) Gear									
45.1 (33.7)	1835 (8.17)	9.22 (14.83)	1875	4.5	0.514 (0.313)	13.43 (2.64)	167 (75)	79 (26)	27.1 (91.9)
50% of Pull at Reduced Engine Speed—11th (III-3) Gear									
28.3 (21.1)	1110 (4.95)	9.54 (15.34)	1933	4.1	0.560 (0.341)	12.32 (2.43)	167 (75)	79 (26)	27.1 (91.9)

**Locations of tests:** DAEMTC (The Directorate of Agricultural Equipment and Machinery Testing Centre) Ankara, Turkey and CNH America LLC Burr Ridge, IL USA

**Dates of Test:** PTO & Drwb: May - August, 2002  
 Sound tests: December 2, 2003  
 Hydraulic flow: August 8, 2003  
 Lift tests: December 2, 2003

**Manufacturer:** CNH America LLC, 700 State St. Racine, Wi. 53404 USA

**FUEL and OIL:** Fuel No. 2 Diesel **Specific gravity converted to 60°/60° F (15°/15°C)** 0.829  
**Fuel weight** 6.90 lbs/gal (0.827 kg/l) **Oil SAE** 20W-50 **API service classification** CF-4/SG  
**Transmission and hydraulic lubricant** BP Terrac Tractan 8 fluid **Front axle lubricant** BP Terrac Tractan 8 fluid

**ENGINE:** Make Iveco Diesel **Type** four cylinder vertical **Serial No.** 846667 **Crankshaft** lengthwise  
**Rated engine speed** 2500 **Bore and stroke** 4.094" x 4.528" (104.0 mm x 115.0 mm) **Compression ratio** 17.0 to 1 **Displacement** 238 cu in (3908 ml)  
**Starting system** 12 volt **Lubrication** pressure **Air cleaner** paper element **Oil filter** two cartridges **Fuel filter** one paper element **Muffler** underhood **Exhaust** vertical **Cooling medium temperature control** thermostat

**CHASSIS:** **Type** 2WD & front wheel assist **Serial No.** 2WD - HFD000039, FWA-HFD000300  
**Tread width** rear 59.1" (1500 mm) to 78.7" (2000 mm) front 2WD - 55.5" (1410 mm) to 75.2" (1910 mm) FWA-60.2"(1530 mm) to 77.0"(1955 mm)  
**Wheel base** 2WD - 90.7" (2305 mm), FWA-88.5"(2249 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Nominal travel speeds mph (km/h)** first 1.06 (1.71) second 1.64 (2.64) third 2.23 (3.59) fourth 2.49 (4.00) fifth 3.19 (5.14) sixth 3.83 (6.16) seventh 5.21 (8.38) eighth 5.85 (9.42) ninth 7.46 (12.00) tenth 9.02 (14.51) eleventh 12.26 (19.73) twelfth 17.56 (28.26) reverse 1.07 (1.72), 1.65 (2.65), 2.24 (3.60), 2.49 (4.01), 3.21 (5.16), 3.84 (6.18), 5.23 (8.41), 5.87 (9.45), 7.48 (12.04), 9.04 (14.55), 12.30 (19.79), 17.62 (28.35) **Clutch** dual dry disc operated by foot pedal **Brakes** wet disc operated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 2200 engine rpm and 1000 rpm at 2382 engine rpm **Unladen tractor mass** 2WD - 6425 lb (2914 kg), FWA - 6995 lb (3172 kg)

**DRAWBAR PERFORMANCE**  
**(Unballasted – Front Drive Engaged)**  
**MAXIMUM POWER IN SELECTED GEARS**

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crankshaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Temp. °F (°C) cooling med	Barom. inch Hg (kPa)		
5th (I-4) Gear									
35.7 (26.6)	4460 (19.84)	3.00 (4.82)	2609	14.4	0.635 (0.386)	10.86 (2.14)	172 (78)	82 (28)	27.2 (92.0)
6th (II-2) Gear									
41.6 (31.0)	4380 (19.48)	3.56 (5.73)	2587	14.3	0.603 (0.367)	11.45 (2.26)	172 (78)	81 (27)	27.2 (92.0)
7th (II-3) Gear									
48.8 (36.4)	3765 (16.74)	4.86 (7.83)	2521	11.4	0.569 (0.346)	12.13 (2.39)	172 (78)	81 (27)	27.2 (92.0)
8th (III-1) Gear									
51.0 (38.0)	3320 (14.77)	5.76 (9.26)	2513	6.8	0.542 (0.329)	12.74 (2.51)	176 (80)	81 (27)	27.2 (92.0)
9th (II-4) Gear									
52.2 (38.9)	2660 (11.83)	7.36 (11.84)	2510	6.4	0.531 (0.323)	12.99 (2.56)	176 (80)	81 (27)	27.2 (92.0)
10th (III-2) Gear									
58.4 (43.5)	2455 (10.93)	8.92 (14.35)	2508	6.0	0.478 (0.291)	14.42 (2.84)	176 (80)	81 (27)	27.2 (92.0)

**REPAIRS AND ADJUSTMENTS:** No repairs or adjustments

**NOTE:** The PTO and drawbar results shown on this report are from tests conducted on the New Holland TD 85D.

**REMARKS:** All test results were determined from observed data obtained in accordance with official OECD test procedures. This tractor did not meet the manufacturer's claim of 3 point lift capacity of 5975 lbs (2710 kg). The performance results on this summary were taken from OECD tests conducted under the Code II Test Code procedure.

We, the undersigned, certify that this is a true summary of data from OECD Reports No. **2031** & **2055**, Nebraska Summary 405, January 14, 2004.

Leonard L. Bashford  
 Director

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

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Engaged dB(A)	Disengaged dB(A)
At no load in 7th(II-3) Gear	88.7	88.1
Bystander	-	-

**Tested Without Ballast**

**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

**Front Wheel Assist**

Two 18.4-30; 6; 22(150)  
 Two 12.4-24; 6; 32(220)  
 16.1 in (410 mm)  
 4315 lb (1956 kg)  
 2845 lb (1291 kg)  
 7160 lb (3247 kg)

**2WD**

Two 18.4-30; 6; 22 (150)  
 Two 7.50-18; 8; 32 (220)  
 16.7 in (425 mm)  
 4405 lb (1998 kg)  
 2185 lb (991 kg)  
 6590 lb (2989 kg)

## DRAWBAR PERFORMANCE

(Unballasted - 2WD)

### 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 cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
<b>Maximum Power—10th(III-2) Gear</b>									
58.2 (43.4)	2530 (11.25)	8.62 (13.88)	2508	8.0	0.517 (0.315)	13.34 (2.63)	167 (75)	79 (26)	27.0 (91.5)
<b>75% of Pull at Maximum Power—10th(III-2) Gear</b>									
46.1 (34.4)	1895 (8.44)	9.12 (14.68)	2604	6.3	0.581 (0.353)	11.88 (2.34)	167 (75)	79 (26)	27.0 (91.5)
<b>50% of Pull at Maximum Power—10th(III-2) Gear</b>									
31.6 (23.4)	1265 (5.63)	9.36 (15.07)	2646	5.3	0.673 (0.409)	10.25 (2.02)	167 (75)	79 (26)	27.0 (91.5)
<b>75% of Pull at Reduced Engine Speed—11th(III-3) Gear</b>									
46.7 (34.8)	1915 (8.53)	9.13 (14.70)	1918	6.3	0.501 (0.305)	13.76 (2.71)	167 (75)	79 (26)	27.0 (91.5)
<b>50% of Pull at Reduced Engine Speed—11th(III-3) Gear</b>									
32.1 (23.9)	1285 (5.71)	9.38 (15.10)	1951	5.3	0.556 (0.338)	12.43 (2.45)	167 (75)	79 (26)	27.0 (91.5)
<b>MAXIMUM POWER IN SELECTED GEARS</b>									
8th(III-1) Gear									
45.5 (33.9)	3145 (14.00)	5.42 (8.72)	2614	14.5	0.589 (0.358)	11.73 (2.31)	176 (80)	77 (25)	27.0 (91.6)
9th(II-4) Gear									
55.2 (41.1)	2925 (13.02)	7.07 (11.38)	2515	9.1	0.543 (0.330)	12.71 (2.50)	176 (80)	77 (25)	27.2 (92.0)
10th(III-2) Gear									
58.2 (43.4)	2530 (11.25)	8.62 (13.88)	2508	8.0	0.517 (0.315)	13.34 (2.63)	176 (80)	77 (25)	27.0 (91.6)

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

CATEGORY: II

Quick Attach: none

Maximum Force Exerted Through Whole Range: 3845 lbs (17.1 kN)

- i) Opening pressure of relief valve: NA
- Sustained pressure of the open relief valve: 2680 psi (185 bar)
- ii) Pump delivery rate at minimum pressure and rated engine speed: 11.9 GPM (45.2 l/min)
- iii) Pump delivery rate at maximum hydraulic power: 9.5 GPM (35.9 l/min)
- Delivery pressure: 2314 psi (160 bar)
- Power: 12.8 HP (9.5 kW)

### THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi. (bar)	2580 (178)
Location:	hydraulic manifold
Hydraulic oil temperature: °F (°C)	149 (65)
Location:	hydraulic sump
Category:	II
Quick attach:	none

#### SAE Static Test—System pressure 2325 psi (160 Bar)

Hitch point distance to ground level in. (mm)	8.0 (203)	15.0 (380)	21.9 (556)	29.0 (737)	36.0 (914)
Lift force on frame lb	5652	5862	5487	5658	5002
" " " " " " (kN)	(25.1)	(26.1)	(24.4)	(25.2)	(22.3)

### HITCH DIMENSIONS AS TESTED—NO LOAD

	OECD test		SAE test	
	inch	mm	inch	mm
A	32.7	830	31.6	803
B	10.2	260	10.2	260
C	11.5	291	11.5	291
D	11.4	290	11.4	290
E	7.9	200	9.4	240
F	7.9	200	7.9	200
G	28.4	720	27.4	695
H	0.2	5	0.2	5
I	7.1	180	7.1	180
J	20.5	520	19.5	495
K	18.1	460	21.1	535
L	40.1	1018	40.1	1018
M	28.5	723	28.5	723
N	38.2	970	38.2	970
O	8.1	205	8.0	203
P	44.5	1130	38.3	973
Q	32.3	820	33.6	854
R	23.8	605	25.7	654

