

# SUMMARY OF OECD TESTS 2077 and 2095—NEBRASKA SUMMARY 407

## CASE IH JX 80U DIESEL

### 24 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—613 rpm)</b>					
67.3 (50.2)	2496	4.15 (15.70)	0.432 (0.263)	16.24 (3.20)	
<b>Standard Power Take-off speed (540 rpm)</b>					
65.0 (48.5)	2199	3.81 (14.42)	0.411 (0.250)	17.06 (3.37)	
<b>VARYING POWER AND FUEL CONSUMPTION</b>					
67.3 (50.2)	2496	4.15 (15.70)	0.432 (0.263)	16.24 (3.20)	Air temperature
58.6 (43.7)	2565	3.78 (14.31)	0.451 (0.275)	15.53 (3.06)	61°F (16°C)
44.8 (33.4)	2639	3.06 (11.57)	0.478 (0.291)	14.67 (2.89)	Relative humidity
30.7 (22.9)	2671	2.45 (9.27)	0.560 (0.341)	12.51 (2.47)	45%
13.5 (10.1)	2696	1.73 (6.54)	0.891 (0.542)	7.87 (1.55)	Barometer
--	2732	1.29 (4.90)	--	--	29.1" Hg (98.5 kPa)
Maximum Torque -186.4 lb.-ft. (252.7 Nm) at 1409 rpm Maximum Torque Rise -31.6% Torque rise at 2000 engine rpm -15%					

**Location of Test:** Istituto Per La Macchine Agricole  
E Movimento Terra, Strada delle Cacce, 73-  
10135 Torino, Italy

**Dates of Test:** December 2002 - December 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)** 0.842  
**Fuel weight** 7.01 lbs/gal (0.840 kg/l) **Oil** SAE 15W40  
**API service classification** CF-4/SG **Oil consumption for 10 hours** 0.02 lb (10 gm)  
**Transmission and hydraulic lubricant** Akcela  
**Front axle lubricant** Akcela  
Nexplorer 130

**ENGINE: Make** Iveco Diesel **Type** four cylinder vertical **Serial No.** 513-870598 **Crankshaft** lengthwise **Rated Engine speed** 2500 **Bore and stroke** 4.094" x 4.528" (104 mm x 115 mm)  
**Compression ratio** 17.0 to 1 **Displacement** 238 cu in (3908 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** underhood **Exhaust** vertical **Cooling medium temperature control** thermostat and variable speed fan

**CHASSIS: Type** 2WD and front wheel assist **Serial No.** 001281873 **Tread width** rear 52.4" (1330 mm) to 86.8" (2205 mm) front: 2WD - 55.1" (1400 mm) to 85.4" (2170 mm), FWA - 51.2" (1301 mm) to 83.3" (2116 mm) **Wheel base** 2WD - 92.2" (2342 mm) FWA - 91.1" (2314 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Nominal travel speeds (30 km/h transmission) mph (km/h)** first 0.92 (1.47) second 1.04 (1.68) third 1.33 (2.14) fourth 1.51 (2.44) fifth 1.92 (3.09) sixth 2.14 (3.44) seventh 2.18 (3.51) eighth 2.43 (3.92) ninth 2.75 (4.42) tenth 3.11 (5.00) eleventh 3.13 (5.03) twelfth 3.54 (5.70) thirteenth 4.48 (7.21) fourteenth 5.03 (8.10) fifteenth 5.10 (8.21) sixteenth 5.73 (9.22) seventeenth 6.42 (10.32) eighteenth 7.31 (11.76) nineteenth 7.31 (11.77) twentieth 8.33 (13.41) twenty-first 10.54 (16.97) twenty-second 12.01 (19.32) twenty-third 15.10 (24.31) twenty-fourth 17.20 (27.68) reverse 1.02 (1.65), 1.49 (2.40), 2.15 (3.46), 2.39 (3.85), 3.08 (4.95), 3.48 (5.60), 5.01 (8.07), 5.63 (9.07), 7.18 (11.56), 8.19 (13.18), 11.81 (19.00), 16.91 (27.22) **Clutch** dual dry disc operated by foot pedal **Brakes** wet disc hydraulically operated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 2199 engine rpm or 1000 rpm at 2381 engine rpm **Unladen tractor mass** 2WD - 7695 lb (3490 kg), FWA - 8155 lb (3700 kg)

**DRAWBAR PERFORMANCE  
BALLASTED - 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.°F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
<b>75% of Pull at Maximum Power—Five Hours 12th (2M Hi) Gear</b>									
43.6 (32.5)	3710 (16.5)	4.41 (7.10)	2590	1.8	0.570 (0.347)	12.28 (2.42)	180 (82)	52 (11)	30.2 (102.3)
<b>MAXIMUM POWER IN SELECTED GEARS</b>									
4th (2S Hi) Gear									
37.7 (28.1)	9105 (40.5)	1.55 (2.50)	2630	15.3	0.590 (0.359)	11.88 (2.34)	174 (79)	46 (8)	30.2 (102.2)
5th (3S Lo) Gear									
45.2 (33.7)	9085 (40.4)	1.86 (3.00)	2570	14.8	0.580 (0.353)	12.08 (2.38)	176 (80)	46 (8)	30.2 (102.2)
6th (1M Lo) Gear									
51.0 (38.0)	8790 (39.1)	2.17 (3.50)	2520	11.0	0.555 (0.337)	12.64 (2.49)	178 (81)	46 (8)	30.2 (102.2)
7th (3S Hi) Gear									
52.7 (39.3)	8365 (37.2)	2.36 (3.80)	2495	8.5	0.552 (0.336)	12.69 (2.50)	176 (80)	46 (8)	30.2 (102.2)
8th (1M Hi) Gear									
53.2 (39.7)	7305 (32.5)	2.73 (4.40)	2505	7.0	0.542 (0.330)	12.93 (2.55)	180 (82)	46 (8)	30.2 (102.2)
9th (4S Lo) Gear									
53.6 (40.0)	6745 (30.0)	2.98 (4.80)	2490	5.8	0.542 (0.330)	12.93 (2.55)	178 (81)	46 (8)	30.2 (102.2)
10th (2M Lo) Gear									
53.9 (40.2)	6025 (26.8)	3.36 (5.40)	2495	5.0	0.539 (0.328)	12.99 (2.56)	176 (80)	48 (9)	30.2 (102.2)
11th (4S Hi) Gear									
53.8 (40.1)	5600 (24.9)	3.60 (5.80)	2505	4.3	0.538 (0.327)	13.05 (2.57)	180 (82)	48 (9)	30.2 (102.2)
12th (2M Hi) Gear									
54.3 (40.5)	4970 (22.1)	4.10 (6.60)	2508	3.5	0.532 (0.323)	13.18 (2.60)	178 (81)	48 (9)	30.2 (102.2)
13th (3M Lo) Gear									
54.0 (40.3)	3980 (17.7)	5.10 (8.20)	2505	3.0	0.534 (0.325)	13.14 (2.59)	180 (82)	48 (9)	30.2 (102.2)
14th (1F Lo) Gear									
53.4 (39.8)	3575 (15.9)	5.61 (9.01)	2495	2.5	0.546 (0.332)	12.84 (2.53)	174 (79)	48 (9)	30.2 (102.2)
15th (3M Hi) Gear									
51.9 (38.7)	3260 (14.5)	5.97 (9.61)	2498	2.0	0.561 (0.341)	12.49 (2.46)	176 (80)	48 (9)	30.2 (102.2)
16th (1F Hi) Gear									
51.5 (38.4)	2880 (12.8)	6.71 (10.80)	2503	1.8	0.561 (0.341)	12.49 (2.46)	180 (82)	48 (9)	30.21 (102.2)

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

**REMARKS:** All test results were determined from observed data obtained in accordance with official OECD test procedures. The performance results on this summary were taken from OECD tests conducted under the Code I Test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Reports No. **2077** and **2095**, Nebraska Summary 407, February 17, 2004.

Leonard L. Bashford  
Director

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Board of Tractor Test Engineers

**JX 80U-FWA(40 km/h transmission)**

	With Ballast	Without Ballast
<b>TIRES, BALLAST AND WEIGHT</b>		
<b>Rear Tires</b>	-No., size, ply & psi (kPa) Two 480/70R30; **,13 (90)	Two 480/70R30; **,13 (90)
<b>Ballast</b>	-Liquid (total) None	None
	-Cast Iron (total) 440 lb (200 kg)	None
<b>Front Tires</b>	-No., size, ply & psi (kPa) Two 320/70R24; **,13 (90)	Two 320/70R24; **,13 (90)
<b>Ballast</b>	-Liquid (total) None	None
	-Cast Iron (total) 1215 lb (550 kg)	None
<b>Height of Drawbar</b>	16.7 in (425 mm)	16.9 in (430 mm)
<b>Static Weight with Operator</b>		
- Rear	5465 lb (2480 kg)	5025 lb (2280 kg)
- Front	4510 lb (2045 kg)	3295 lb (1495 kg)
- Total	9975 lb (4525 kg)	8330 lb (3775 kg)

**DRAWBAR PERFORMANCE**  
**BALLASTED - 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 (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
<b>75% of Pull at Maximum Power—Five Hours 14th (1F Lo) Gear</b>									
42.8 (31.9)	3235 (14.4)	4.96 (7.97)	2595	3.4	0.544 (0.331)	12.89 (2.54)	185 (85)	70 (21)	30.0 (101.7)
<b>MAXIMUM POWER IN SELECTED GEARS</b>									
11th (4S Hi) Gear									
48.4 (36.1)	6720 (29.9)	2.70 (4.35)	2548	14.9	0.587 (0.357)	11.93 (2.35)	173 (78)	70 (21)	29.9 (101.4)
12th (2M Hi) Gear									
54.4 (40.6)	6205 (27.6)	3.29 (5.30)	2503	6.9	0.526 (0.320)	13.30 (2.62)	178 (81)	70 (21)	29.9 (101.4)
13th (3M Lo) Gear									
54.7 (40.8)	4810 (21.4)	4.27 (6.87)	2500	4.7	0.519 (0.316)	13.50 (2.66)	178 (81)	70 (21)	29.9 (101.4)
14th (1F Lo) Gear									
55.5 (41.4)	4315 (19.2)	4.82 (7.76)	2498	4.5	0.518 (0.315)	13.55 (2.67)	180 (82)	70 (21)	29.9 (101.4)
15th (3M Hi) Gear									
53.0 (39.5)	4070 (18.1)	4.88 (7.85)	2495	4.4	0.529 (0.322)	13.25 (2.61)	181 (83)	68 (20)	29.9 (101.4)
16th (1F Hi) Gear									
53.8 (40.1)	3640 (16.2)	5.54 (8.91)	2504	4.1	0.534 (0.325)	13.15 (2.59)	181 (83)	68 (20)	29.9 (101.4)
17th (4M Lo) Gear									
53.1 (39.6)	3190 (14.2)	6.24 (10.05)	2503	3.5	0.534 (0.325)	13.15 (2.59)	183 (84)	68 (20)	29.9 (101.4)

**JX 80U-2WD (30 km/h transmission)**

<b>TIRES, BALLAST AND WEIGHT</b>		<b>With Ballast</b>	<b>Without Ballast</b>
<b>Rear Tires</b>	-No., size, ply & psi (kPa)	Two 480/70R30; **, 13 (90)	Two 480/70R30; **, 13 (90)
<b>Ballast</b>	-Liquid (total)	None	None
	-Cast Iron (total)	440 lb (200 kg)	None
<b>Front Tires</b>	-No., size, ply & psi (kPa)	Two 7.50-16; 8; 54 (370)	Two 7.50-16; 8; 54 (370)
<b>Ballast</b>	-Liquid (total)	None	None
	-Cast Iron (total)	1210 lb (550 kg)	None
<b>Height of Drawbar</b>		28.1 in (715 mm)	28.5 in (725 mm)
<b>Static Weight with Operator</b>	-Rear	5570 lb (2530 kg)	5135 lb (2330 kg)
	-Front	3935 lb (1785 kg)	2720 lb (1235 kg)
	-Total	9505 lb (4315 kg)	7855 lb (3565 kg)

TRACTOR SOUND LEVEL WITH CAB	FWA dB(A)	2WD dB(A)
At no load in 13th (3M Lo) gear	81.4	81.4
Bystander in 24th (4F Hi) gear	84.4	84.5

**CENTER OF GRAVITY - 2WD**

Horizontal distance forward from centerline of rear wheels	31.9" (811 mm)
Vertical distance above roadway	33.5" (850 mm)
Horizontal distance from center of rear wheel tread	0" (0 mm) to the left/right

**CENTER OF GRAVITY - FWA**

Horizontal distance forward from centerline of rear wheels	36.2" (919 mm)
Vertical distance above roadway	32.9" (835 mm)
Horizontal distance from center of rear wheel tread	0" (0 mm) to the left/right

**TURNING ON A CONCRETE SURFACE (2WD)**

Turning radius—without brake right 150" (3.80 m) left 146" (3.70 m)
Turning space radius—without brake right 150" (3.80 m) left 150" (3.80 m)

**TURNING ON A CONCRETE SURFACE (FWA)**

Turning radius—without brake right 220" (5.60 m) left 213" (5.40 m)
Turning space radius—without brake right 224" (5.70 m) left 217" (5.50 m)

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

CATEGORY: II

Quick Attach: None

Maximum force exerted through whole range:	6825 lbs (30.4 kN)
i) Opening pressure of relief valve:	NA
Sustained pressure with relief valve open:	2875 psi (198 bar)
ii) Pump delivery rate at minimum pressure:	16.3 GPM (61.8 l/min)
iii) Pump delivery rate at maximum	
hydraulic power:	13.9 GPM (52.8 l/min)
Delivery pressure:	2435 psi (168 bar)
Power:	19.7 HP (14.7 kW)

**THREE POINT HITCH PERFORMANCE (SAE Static Test)**

Observed maximum pressure psi.(bar)	2875 (198)
Location:	hydraulic pump
Hydraulic oil temperature: °F(°C)	144 (62)
Location:	hydraulic sump
Category:	II
Quick attach:	none

System pressure 2585 psi (178 Bar)

Hitch point distance to ground level in. (mm)	8.0(203)	13.6(345)	19.2(488)	24.8(630)	30.4(773)	36.0(915)
Lift force on frame lb	12340	11600	10455	9260	8275	7900
" " " " " " (kN)	(54.9)	(51.6)	(46.5)	(41.2)	(36.8)	(35.1)

**HITCH DIMENSIONS AS TESTED—NO LOAD**

	SAE TEST		OECD TEST	
	inch	mm	inch	mm
A	27.0	685	26.8	680
B	10.0	255	10.0	255
C	13.0	329	13.0	329
D	11.8	300	11.8	300
E	13.2	335	10.0	255
F	8.1	205	8.1	205
G	29.3	745	27.4	695
H	0.6	15	0.6	15
I	15.7	400	15.7	400
J	21.2	540	19.3	490
K	21.2	540	18.3	465
L	43.3	1100	43.3	1100
M	21.7	550	21.7	550
N	38.0	965	38.0	965
O	8.0	203	7.9	200
P	40.2	1021	43.3	1100
Q	34.3	870	34.3	870
R	25.8	655	23.8	605

