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## Tests 2079 & 2094: Case IH JX 100U Diesel

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# SUMMARY OF OECD TESTS 2079 and 2094—NEBRASKA SUMMARY 409

## CASE IH JX 100U 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>					
82.6 (61.6)	2496	4.93 (18.67)	0.418 (0.254)	16.75 (3.30)	
<b>Maximum Power (2 hours)</b>					
83.5 (62.3)	2394	4.87 (18.45)	0.409 (0.249)	17.16 (3.38)	
<b>Standard Power Take-off speed (538 rpm)</b>					
83.1 (62.0)	2191	4.66 (17.63)	0.392 (0.239)	17.87 (3.52)	

#### VARYING POWER AND FUEL CONSUMPTION

82.6 (61.6)	2496	4.93 (18.67)	0.418 (0.254)	16.75 (3.30)	Air temperature
74.6 (55.6)	2667	4.77 (18.04)	0.449 (0.273)	15.63 (3.08)	62°F (17°C)
55.5 (41.4)	2688	3.80 (14.39)	0.480 (0.292)	14.61 (2.88)	Relative humidity
38.0 (28.3)	2708	3.06 (11.58)	0.564 (0.343)	12.44 (2.45)	85%
19.6 (14.6)	2736	2.16 (8.17)	0.771 (0.469)	9.09 (1.79)	Barometer
--	2761	1.38 (5.23)	--	--	28.9" Hg (98.0 kPa)
--		--	--	--	

Maximum Torque -243.8 lb.-ft. (330.6 Nm) at 1507 rpm  
 Maximum Torque Rise -40.2%  
 Torque rise at 2000 engine rpm -25%

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

**Dates of Test:** October 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 **Front axle lubricant** Akcela  
 Nexplorer 130

**ENGINE: Make** Iveco Diesel **Type** four cylinder  
 vertical with turbocharger **Serial No.** 513-869787  
**Crankshaft** lengthwise **Rated Engine speed** 2500  
**Bore and stroke** 4.094" x 4.528" (104 mm x 115 mm)  
**Compression ratio** 16.5 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** vertical **Cooling medium**  
**temperature control** thermostat

**CHASSIS: Type** 2WD and front wheel assist  
**Serial No.** 001281623 **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 0.98 (1.58)  
 second 1.12 (1.80) third 1.43 (2.30) fourth 1.62  
 (2.61) fifth 2.06 (3.31) sixth 2.29 (3.69) seventh 2.34  
 (3.77) eighth 2.61 (4.20) ninth 2.95 (4.74) tenth  
 3.33 (5.36) eleventh 3.35 (5.40) twelfth 3.79 (6.10)  
 thirteenth 4.80 (7.73) fourteenth 5.40 (8.68)  
 fifteenth 5.47 (8.80) sixteenth 6.15 (9.89)  
 seventeenth 6.88 (11.07) eighteenth 7.83 (12.60)  
 nineteenth 7.84 (12.62) twentieth 8.93 (14.37)  
 twenty-first 11.31 (18.19) twenty-second 12.88  
 (20.72) twenty-third 16.20 (26.06) twenty-fourth  
 18.44 (29.67) reverse 1.10 (1.77), 1.60 (2.57), 2.30  
 (3.70), 2.57 (4.13), 3.30 (5.31), 3.73 (6.00), 5.38  
 (8.65), 6.04 (9.72), 7.70 (12.39), 8.79 (14.13), 12.66  
 (20.37), 18.13 (29.18) **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 - 8070 lb (3660 kg), FWA - 8710 lb (3950 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)	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 11th (4S Hi) Gear</b>									
56.1 (41.8)	5125 (22.8)	4.10 (6.60)	2670	3.5	0.583 (0.354)	12.03 (2.37)	194 (90)	43 (6)	30.1 (102.0)
<b>MAXIMUM POWER IN SELECTED GEARS</b>									
6th (1M Lo) Gear									
59.9 (44.7)	9510 (42.3)	2.36 (3.80)	2660	15.2	0.559 (0.340)	12.54 (2.47)	192 (89)	43 (6)	30.1 (102.1)
7th (3S Hi) Gear									
61.8 (46.1)	9105 (40.5)	2.55 (4.10)	2540	12.2	0.556 (0.338)	12.60 (2.48)	187 (86)	43 (6)	30.1 (102.1)
8th (1M Hi) Gear									
64.8 (48.3)	8500 (37.8)	2.86 (4.60)	2510	8.5	0.535 (0.325)	13.11 (2.58)	187 (86)	43 (6)	30.1 (102.1)
9th (4S Lo) Gear									
66.5 (49.6)	7870 (35.0)	3.17 (5.10)	2495	7.8	0.521 (0.317)	13.45 (2.65)	190 (88)	45 (7)	30.1 (102.1)
10th (2M Lo) Gear									
67.5 (50.3)	7015 (31.2)	3.61 (5.80)	2445	6.5	0.510 (0.310)	13.76 (2.71)	192 (89)	45 (7)	30.1 (102.1)
11th (4S Hi) Gear									
68.0 (50.7)	6835 (30.4)	3.73 (6.00)	2430	6.0	0.506 (0.308)	13.86 (2.73)	194 (90)	45 (7)	30.1 (102.1)
12th (2M Hi) Gear									
67.2 (50.1)	5955 (26.5)	4.23 (6.80)	2440	5.5	0.512 (0.312)	13.68 (2.70)	196 (91)	45 (7)	30.1 (102.1)
13th (3M Lo) Gear									
68.0 (50.7)	4945 (22.0)	5.16 (8.30)	2420	4.8	0.506 (0.308)	13.86 (2.73)	190 (88)	46 (8)	30.1 (102.1)
14th (1F Lo) Gear									
67.6 (50.4)	4340 (19.3)	5.84 (9.40)	2430	4.0	0.510 (0.310)	13.76 (2.71)	198 (92)	46 (8)	30.1 (102.1)
15th (3M Hi) Gear									
66.9 (49.9)	4000 (17.8)	6.28 (10.10)	2440	3.5	0.513 (0.312)	13.65 (2.69)	190 (88)	46 (8)	30.1 (102.1)
16th (1F Hi) Gear									
64.8 (48.3)	3460 (15.4)	7.02 (11.30)	2450	3.0	0.531 (0.323)	13.20 (2.60)	194 (90)	46 (8)	30.1 (102.1)

**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. **2079** and **2094**, Nebraska Summary 409, February 17, 2004.

Leonard L. Bashford  
 Director

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

**JX 100U- FWA (40 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 480/70R34; **,13 (90)	Two 480/70R34; **,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 380/70R24; **,13 (90)	Two 380/70R24; **,13 (90)
<b>Ballast</b>	-Liquid (total)	None	None
	-Cast Iron (total)	1210 lb (550 kg)	None
<b>Height of Drawbar</b>		19.5 in (495 mm)	19.7 in (500 mm)
<b>Static Weight with Operator</b>	- Rear	5785 lb (2625 kg)	5345 lb (2425 kg)
	- Front	4740 lb (2150 kg)	3525 lb (1600 kg)
	- Total	10525 lb (4775 kg)	8875 lb (4025 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 dry bulb	Barom. inch Hg (kPa)	
<b>75% of Pull at Maximum Power—Five Hours 13th (3M Lo) Gear</b>									
57.9 (43.2)	4340 (19.3)	5.00 (8.05)	2701	4.3	0.464 (0.282)	15.13 (2.98)	185 (85)	64 (18)	30.1 (101.9)
<b>MAXIMUM POWER IN SELECTED GEARS</b>									
12th (2M Hi) Gear									
64.5 (48.1)	7105 (31.6)	3.40 (5.47)	2499	12.3	0.539 (0.328)	12.99 (2.56)	192 (89)	68 (20)	30.2 (102.1)
13th (3M Lo) Gear									
69.3 (51.6)	5840 (26.0)	4.45 (7.16)	2503	6.2	0.506 (0.308)	13.86 (2.73)	192 (89)	70 (21)	30.2 (102.1)
14th (1F Lo) Gear									
69.4 (51.7)	5215 (23.2)	5.00 (8.04)	2502	5.4	0.506 (0.308)	13.86 (2.73)	187 (86)	68 (20)	30.2 (102.1)
15th (3M Hi) Gear									
69.4 (51.7)	5060 (22.5)	5.15 (8.28)	2496	5.1	0.510 (0.310)	13.76 (2.71)	192 (89)	68 (20)	30.2 (102.1)
16th (1F Hi) Gear									
69.4 (51.8)	4545 (20.2)	5.72 (9.21)	2501	4.8	0.506 (0.308)	13.86 (2.73)	196 (91)	70 (21)	30.2 (102.1)
17th (4M Lo) Gear									
65.5 (48.9)	4075 (18.1)	6.03 (9.71)	2503	4.0	0.533 (0.324)	13.15 (2.59)	190 (88)	70 (21)	30.2 (102.1)
18th (4M Hi) Gear									
63.4 (47.3)	3505 (15.6)	6.78 (10.91)	2500	3.5	0.548 (0.333)	12.79 (2.52)	190 (88)	68 (20)	30.2 (102.1)

**JX 100U-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 480/70R34;**,13 (90)
<b>Ballast</b>	-Liquid (total)	None
	-Cast Iron (total)	440 lb (200 kg)
<b>Front Tires</b>	-No., size, ply & psi (kPa)	Two 7.50-20;8;54 (370)
<b>Ballast</b>	-Liquid (total)	None
	-Cast Iron (total)	1210 lb (550 kg)
<b>Height of Drawbar</b>		27.4 in (695 mm)
<b>Static Weight with Operator</b>	-Rear	5575 lb (2530 kg)
	-Front	4310 lb (1955 kg)
	-Total	9885 lb (4485 kg)
		5135 lb (2330 kg)
		3100 lb (1405 kg)
		8235 lb (3735 kg)

TRACTOR SOUND LEVEL WITH CAB	FWA dB(A)	2WD dB(A)
At no load in 13th (3M Lo) gear	79.6	79.6
Bystander in 24th (4F Hi) gear	84.9	85.7

**CENTER OF GRAVITY - 2WD**

Horizontal distance forward from centerline of rear wheels	34.5" (876 mm)
Vertical distance above roadway	34.6" (880 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	36.3" (923 mm)
Vertical distance above roadway	33.8" (858 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 152" (3.85 m) left 150" (3.80 m)
Turning space radius—without brake right 154" (3.90 m) left 150" (3.80 m)

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

Turning radius—without brake right 224" (5.70 m) left 220" (5.60 m)
Turning space radius—without brake right 228" (5.80 m) left 224" (5.70 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)

**SAE TEST**

	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	29.3	745
H	0.6	15	0.6	15
I	15.7	400	15.7	400
J	21.2	540	21.2	540
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	45.3	1150
Q	34.3	870	35.0	870
R	25.8	655	23.8	605

**HITCH DIMENSIONS AS TESTED—NO LOAD**

