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Tests 2278 & 2319: Case IH JX 1100U Diesel

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SUMMARY OF OECD TESTS 2278 and 2319—NEBRASKA SUMMARY 531

CASE IH JX 1100U 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—1050 rpm) | | | | | |
| 87.3 (65.1) | 2500 | 5.62 (21.27) | 0.451 (0.275) | 15.53 (3.06) | |
| Maximum Power (2 hours) | | | | | |
| 88.1 (65.7) | 2400 | 5.51 (20.85) | 0.438 (0.267) | 15.99 (3.15) | |
| Standard Power Take-off speed (1008 rpm) | | | | | |
| 88.1 (65.7) | 2400 | 5.51 (20.85) | 0.438 (0.267) | 15.99 (3.15) | |
| VARYING POWER AND FUEL CONSUMPTION | | | | | |
| 87.3 (65.1) | 2500 | 5.62 (21.27) | 0.451 (0.275) | 15.53 (3.06) | Air temperature |
| 78.2 (58.3) | 2619 | 5.41 (20.49) | 0.485 (0.295) | 14.47 (2.85) | 75°F (24°C) |
| 58.7 (43.8) | 2631 | 4.38 (16.57) | 0.523 (0.318) | 13.40 (2.64) | Relative humidity |
| 39.3 (29.3) | 2636 | 3.64 (13.79) | 0.649 (0.395) | 10.80 (2.13) | 50% |
| 19.7 (14.7) | 2652 | 2.82 (10.68) | 1.001 (0.609) | 7.00 (1.38) | Barometer |
| -- | 2664 | 2.08 (7.87) | -- | -- | 29.4" Hg (99.4 kPa) |
| Maximum Torque -269.6 lb.-ft. (365.5 Nm) at 1400 rpm | | | | | |
| Maximum Torque rise -47.1% | | | | | |
| Torque rise at 2000 engine rpm -21% | | | | | |

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

Dates of tests: September 2004

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 CH-4 **Oil consumption for 10 hours** 0.03 lb (15 gm) **Transmission and hydraulic lubricant** Ambra Multi G **Front axle lubricant** Ambra Multi G

ENGINE: **Make** CNH Diesel **Type** four cylinder vertical with turbocharger **Serial No.** 00116282
Crankshaft lengthwise **Rated Engine speed** 2500
Bore and stroke 4.094" x 5.197" (104.0 mm x 132.0 mm) **Compression ratio** 17.5 to 1 **Displacement** 274 cu in (4485 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 and variable speed fan

CHASSIS: **Type** 2WD and front wheel assist **Serial No.** HJT002764 **Tread width** rear 68.2" (1732 mm) to 83.9" (2132 mm) front: 2WD - 55.4" (1407 mm) to 85.6" (2175 mm), FWA - 56.1" (1425 mm) to 84.0" (2133 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 mph (km/h)** first 1.41 (2.27) second 2.05 (3.30) third 2.96 (4.76) fourth 3.30 (5.31) fifth 4.24 (6.82) sixth 4.79 (7.71) seventh 6.88 (11.07) eighth 7.76 (12.49) ninth 9.90 (15.93) tenth 11.28 (18.16) eleventh 16.27 (26.18) twelfth 23.30 (37.50) reverse 1.41 (2.27), 2.05 (3.30), 2.96 (4.76), 3.30 (5.31), 4.24 (6.82), 4.79 (7.71), 6.88 (11.07), 7.76 (12.49), 9.90 (15.93), 11.28 (18.16), 16.27 (26.18), 23.30 (37.50) **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 - 8565 lb (3885 kg), FWA - 8930 lb (4050 kg)

**DRAWBAR PERFORMANCE(40 km/h trans.)
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) |
|---|-----------------------------|------------------------|---------------------------------|-----------|---|-----------------------|-------------------------------------|--------------------|-------------------------------|
| 75% of Pull at Maximum Power—Five Hours 6th (2 Med) Gear | | | | | | | | | |
| 59.5 (44.4) | 4490 (20.0) | 4.97 (8.00) | 2609 | 3.0 | 0.639 (0.389) | 10.96 (2.16) | 196 (91) | 73 (23) | 29.4 (99.5) |
| MAXIMUM POWER IN SELECTED GEARS | | | | | | | | | |
| 2nd (2 Lo) Gear | | | | | | | | | |
| 48.7 (36.3) | 10125 (45.0) | 1.80 (2.90) | 2630 | 15.0 | 0.645 (0.392) | 10.87 (2.14) | 192 (89) | 73 (23) | 29.4 (99.4) |
| 3rd (3 Lo) Gear | | | | | | | | | |
| 66.0 (49.2) | 9720 (43.2) | 2.54 (4.10) | 2400 | 9.0 | 0.585 (0.356) | 11.98 (2.36) | 194 (90) | 75 (24) | 29.4 (99.4) |
| 4th (1 Med) Gear | | | | | | | | | |
| 70.3 (52.4) | 9015 (40.1) | 2.92 (4.70) | 2395 | 7.0 | 0.550 (0.334) | 12.75 (2.51) | 192 (89) | 77 (25) | 29.4 (99.4) |
| 5th (4 Lo) Gear | | | | | | | | | |
| 70.0 (52.2) | 6925 (30.8) | 3.79 (6.10) | 2402 | 4.7 | 0.550 (0.335) | 12.74 (2.51) | 196 (91) | 75 (24) | 29.4 (99.4) |
| 6th (2 Med) Gear | | | | | | | | | |
| 70.4 (52.5) | 6070 (27.0) | 4.35 (7.00) | 2405 | 4.1 | 0.550 (0.334) | 12.75 (2.51) | 197 (92) | 75 (24) | 29.4 (99.4) |
| 7th (3 Med) Gear | | | | | | | | | |
| 69.9 (52.1) | 4095 (18.2) | 6.40 (10.30) | 2400 | 2.4 | 0.552 (0.336) | 12.69 (2.50) | 196 (91) | 77 (25) | 29.4 (99.4) |
| 8th (1 Hi) Gear | | | | | | | | | |
| 70.3 (52.4) | 3595 (16.0) | 7.33 (11.80) | 2402 | 2.1 | 0.548 (0.334) | 12.78 (2.52) | 194 (90) | 79 (26) | 29.4 (99.4) |
| 9th (4 Med) Gear | | | | | | | | | |
| 66.6 (49.7) | 2715 (12.1) | 9.20 (14.80) | 2408 | 1.8 | 0.580 (0.353) | 12.08 (2.38) | 192 (89) | 77 (25) | 29.4 (99.4) |
| 10th (2 Hi) Gear | | | | | | | | | |
| 64.6 (48.2) | 2295 (10.2) | 10.56 (17.00) | 2400 | 1.2 | 0.598 (0.363) | 11.73 (2.31) | 197 (92) | 75 (24) | 29.4 (99.4) |

REPAIRS AND ADJUSTMENTS: No repairs or adjustments

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 78.0 dB(A) cab sound level in the FWA mode. The manufacturer's 3 point lift claim of 6445 lbs (2923 kg) with EDC (electronic draft control) was not verified. 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. **2278** and **2319**, Nebraska Summary 531, May 26, 2006.

Leonard L. Bashford
Director

M.F. Kocher
V.I. Adamchuk
J.A. Smith
Board of Tractor Test Engineers

FWA-(40 km/h trans)

| | With Ballast | Without Ballast |
|------------------------------------|--|----------------------------|
| TIRES, BALLAST AND WEIGHT | | |
| Rear Tires | -No., size, ply & psi (kPa) Two 600/65R34; **,13 (90) | Two 600/65R34; **,13 (90) |
| Ballast | -Liquid (total) None | None |
| | -Cast Iron (total) 660 lb (300 kg) | None |
| Front Tires | -No., size, ply & psi (kPa) Two 480/65R24; **,17 (120) | Two 480/65R24; **,17 (120) |
| Ballast | -Liquid (total) None | None |
| | -Cast Iron (total) 1115 lb (505 kg) | None |
| Height of Drawbar | 19.1 in (485 mm) | 19.3 in (490 mm) |
| Static Weight with Operator | Rear 5735 lb (2600 kg) | 5525 lb (2505 kg) |
| | - Front 5135 lb (2330 kg) | 3570 lb (1620 kg) |
| | - Total 10870 lb (4930 kg) | 9095 lb (4125 kg) |

DRAWBAR PERFORMANCE(30 km/h trans.)

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) | Hp.hr/gal (kW.h/l) | Temp.°F (°C) cool- ing med | Air dry bulb | Barom. inch Hg (kPa) |
|---|--------------------------------|------------------------|---------------------------------|-----------|---|-----------------------|-------------------------------------|--------------------|-------------------------------|
| 75% of Pull at Maximum Power—Five Hours 7th (3 Med) Gear | | | | | | | | | |
| 58.1 (43.3) | 3940 (17.5) | 5.53 (8.90) | 2618 | 4.5 | 0.654 (0.398) | 10.71 (2.11) | 192 (89) | 68 (20) | 29.0 (98.2) |

MAXIMUM POWER IN SELECTED GEARS

| | | | | | | | | | |
|------------------|----------------|-----------------|------|------|------------------|-----------------|-------------|------------|----------------|
| 6th (2 Med) Gear | | | | | | | | | |
| 61.3 (45.7) | 6720 (29.9) | 3.42 (5.50) | 2587 | 15.0 | 0.626 (0.381) | 11.20 (2.21) | 194 (90) | 75 (24) | 29.1 (98.6) |
| 7th (3 Med) Gear | | | | | | | | | |
| 69.7 (52.0) | 5260 (23.4) | 4.97 (8.00) | 2397 | 6.5 | 0.553 (0.337) | 12.67 (2.50) | 190 (88) | 73 (23) | 29.1 (98.6) |
| 8th (1 Hi) Gear | | | | | | | | | |
| 68.5 (51.1) | 4495 (20.0) | 5.72 (9.20) | 2402 | 5.5 | 0.563 (0.342) | 12.45 (2.45) | 189 (87) | 72 (22) | 29.1 (98.6) |
| 9th (4 Med) Gear | | | | | | | | | |
| 68.1 (50.8) | 3485 (15.5) | 7.33 (11.80) | 2405 | 4.2 | 0.566 (0.344) | 12.39 (2.44) | 192 (89) | 75 (24) | 29.1 (98.6) |
| 10th(2 Hi) Gear | | | | | | | | | |
| 67.9 (50.6) | 3035 (13.5) | 8.39 (13.50) | 2397 | 3.5 | 0.568 (0.346) | 12.33 (2.43) | 190 (88) | 73 (23) | 29.1 (98.6) |

2WD-(30 km/h trans)

TIRES, BALLAST AND WEIGHT

| | With Ballast | Without Ballast |
|------------------------------------|--|--------------------------|
| Rear Tires | -No., size, ply & psi (kPa) Two 600/65R34;**,13 (90) | Two 600/65R34;**,13 (90) |
| Ballast | -Liquid (total) None | None |
| | -Cast Iron (total) 660 lb (300 kg) | None |
| Front Tires | -No., size, ply & psi (kPa) Two 10.00-16;8;35 (240) | Two 10.00-16; 8;35 (240) |
| Ballast | -Liquid (total) None | None |
| | -Cast Iron (total) 1115 lb (505 kg) | None |
| Height of Drawbar | 19.1 in (485 mm) | 19.3 in (490 mm) |
| Static Weight with Operator | -Rear 6270 lb (2845 kg) | 5895 lb (2675 kg) |
| | -Front 4235 lb (1920 kg) | 2835 lb (1285 kg) |
| | -Total 10505 lb (4765 kg) | 8730 lb (3960 kg) |

| TRACTOR SOUND LEVEL WITH CAB | FWA dB(A) | 2WD dB(A) |
|--------------------------------|--------------|--------------|
| At no load in 6th (2 Med) gear | 78.1 | 78.0 |
| Bystander in 12th (4 Hi) gear | 86.7 | 86.6 |

CENTER OF GRAVITY - 2WD

| | |
|--|-------------------------------|
| Horizontal distance forward from centerline of rear wheels | 29.9" (760 mm) |
| Vertical distance above roadway | 37.6" (955 mm) |
| Horizontal distance from center of rear wheel tread | 0.0" (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 | 37.6" (955 mm) |
| Horizontal distance from center of rear wheel tread | 0.0" (0 mm) to the left/right |

TURNING ON A CONCRETE SURFACE (2WD)

| |
|---|
| Turning radius—without brake right 157" (4.00 m) left 157" (4.00 m) |
| Turning space radius—without brake right 161" (4.10 m) left 161" (4.10 m) |

TURNING ON A CONCRETE SURFACE (FWA)

| |
|---|
| Turning radius—without brake right 209" (5.30 m) left 209" (5.30 m) |
| Turning space radius—without brake right 220" (5.60 m) left 220" (5.60 m) |

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II

Quick Attach: None

| | |
|---|-----------------------|
| Maximum force exerted through whole range: | 6025 lbs (26.8 kN) |
| i) Opening pressure of relief valve: | NA |
| Sustained pressure with relief valve open: | 2800 psi (193 bar) |
| ii) Pump delivery rate at minimum pressure: | 16.4 GPM (61.9 l/min) |
| iii) Pump delivery rate at maximum | |
| hydraulic power: | 14.3 GPM (54.3 l/min) |
| Delivery pressure: | 2450 psi (169 bar) |
| Power: | 20.5 HP (15.3 kW) |

| | inch | mm |
|---|------|------|
| A | 27.8 | 705 |
| B | 10.0 | 255 |
| C | 13.9 | 352 |
| D | 11.7 | 296 |
| E | 10.1 | 257 |
| F | 8.1 | 205 |
| G | 30.3 | 770 |
| H | 0.4 | 9 |
| I | 15.7 | 400 |
| J | 22.2 | 565 |
| K | 17.7 | 450 |
| L | 42.1 | 1070 |
| M | 21.6 | 548 |
| N | 37.0 | 940 |
| O | 7.9 | 200 |
| P | 46.3 | 1175 |
| Q | 34.8 | 885 |
| R | 25.2 | 640 |

HITCH DIMENSIONS AS TESTED—NO LOAD

