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## Test 2259: Case IH MXU125 Diesel

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# SUMMARY OF OECD TEST 2259—NEBRASKA SUMMARY 495

## CASE IH MXU125 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—1038 rpm)</b>					
109.4 (81.6)	2200	6.65 (25.17)	0.429 (0.261)	16.45 (3.24)	
<b>Standard Power Take-off Speed (1001 rpm)</b>					
113.6 (84.7)	2123	6.64 (25.14)	0.413 (0.251)	17.11 (3.37)	
<b>Maximum Power (2 hours)</b>					
121.2 (90.4)	1895	6.61 (25.03)	0.385 (0.234)	18.33 (3.61)	

#### VARYING POWER AND FUEL CONSUMPTION

109.4 (81.6)	2200	6.65 (25.17)	0.429 (0.261)	16.45 (3.24)	Air temperature
95.1 (70.9)	2249	6.12 (23.15)	0.454 (0.276)	15.53 (3.06)	72°F (22°C)
72.7 (54.2)	2294	5.18 (19.61)	0.503 (0.306)	14.03 (2.76)	Relative humidity
49.3 (36.7)	2324	4.26 (16.13)	0.610 (0.371)	11.56 (2.28)	29%
24.9 (18.5)	2348	3.27 (12.36)	0.926 (0.564)	7.60 (1.50)	Barometer
--	2372	2.36 (8.93)	--	--	30.3" Hg (102.6 kPa)

Maximum Torque - 373.3 lb.-ft. (528.0 Nm) at 1406 rpm  
 Maximum Torque Rise - 49.0%  
 Torque rise at 1800 engine rpm - 32%

#### 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. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
<b>Maximum Power—12th (2 II Hi) Gear</b>									
88.5 (66.0)	7405 (32.9)	4.48 (7.21)	2201	3.6	0.534 (0.325)	13.20 (2.60)	180 (82)	52 (11)	29.9 (101.3)
<b>75% of Pull at Maximum Power—12th (2 II Hi) Gear</b>									
68.9 (51.4)	5555 (24.7)	4.65 (7.49)	2272	3.0	0.569 (0.346)	12.39 (2.44)	181 (83)	52 (11)	29.9 (101.3)
<b>50% of Pull at Maximum Power—12th (2 II Hi) Gear</b>									
47.1 (35.1)	3710 (16.5)	4.76 (7.66)	2302	2.1	0.748 (0.455)	9.44 (1.86)	181 (83)	52 (11)	29.9 (101.3)
<b>75% of Pull at Reduced Engine Speed—13th (3 II Lo) Gear</b>									
69.1 (51.5)	5550 (24.7)	4.67 (7.51)	1948	2.8	0.505 (0.307)	14.01 (2.76)	178 (81)	61 (16)	30.0 (101.5)
<b>50% of Pull at Reduced Engine Speed—13th (3 II Lo) Gear</b>									
47.1 (35.1)	3695 (16.4)	4.78 (7.69)	1980	2.0	0.589 (0.358)	11.98 (2.36)	180 (82)	61 (16)	30.0 (101.5)

**Location of test:** Silsoe Research Institute, Wrest Park, Silsoe, MK45 4HS, United Kingdom

**Dates of test:** March to May, 2005.

**Manufacturer:** CNH U.K. Ltd., Basildon, Essex, SS14 3AD, England

**FUEL and OIL:** Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F (15°/15°C)** 0.847 **Fuel weight** 7.04 lbs/gal (0.8453 kg/l) **Oil SAE** 10W30 **API service classification** CH-4 **Transmission and hydraulic lubricant** NH410B fluid **Front axle lubricant** NH 410B fluid

**ENGINE:** Make CNH Diesel **Type** six cylinder vertical with turbocharger and air to air intercooler **Serial No.** 00103907 **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.094" x 5.196" (104.0 mm x 132.0 mm) **Compression ratio** 17.0 to 1 **Displacement** 410 cu in (6728 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 hydraulic and transmission oil **Fuel filter** one paper element **Muffler** vertical **Cooling medium temperature control** thermostat and variable speed fan

**CHASSIS:** **Type** front wheel assist **Serial No.** 216664 **Tread width** rear 68.1" (1730 mm) to 83.9" (2130 mm) front 64.2" (1630 mm) to 81.9" (2080 mm) **Wheelbase** 104.4" (2652 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with partial (2) range operator controlled powershift **Nominal travel speeds mph (km/h)** first 1.02 (1.64) second 1.25 (2.01) third 1.49 (2.40) fourth 1.83 (2.94) fifth 2.13 (3.43) sixth 2.56 (4.12) seventh 2.61 (4.20) eighth 3.11 (5.00) ninth 3.13 (5.04) tenth 3.75 (6.04) eleventh 3.80 (6.11) twelfth 4.59 (7.39) thirteenth 5.36 (8.62) fourteenth 6.20 (9.98) fifteenth 6.56 (10.55) sixteenth 7.59 (12.21), seventeenth 7.80 (12.55), eighteenth 9.08 (14.62), nineteenth 9.54 (15.35), twentieth 11.11 (17.88), twenty-first 12.97 (20.88), twenty-second 15.87 (25.54), twenty-third 18.88 (30.38), twenty-fourth 23.09 (37.16) reverse 1.06 (1.70), 1.29 (2.08), 1.55 (2.49), 1.89 (3.04), 2.21 (3.55), 2.65 (4.26), 2.70 (4.34), 3.21 (5.17), 3.24 (5.21), 3.88 (6.24) 3.93 (6.32), 6.20 (7.64), 5.54 (8.92), 6.41 (10.32), 6.78 (10.91), 7.84 (12.62), 8.07 (12.98), 9.40 (15.12), 9.86 (15.87), 11.49 (18.49), 13.42 (21.59), 16.41 (26.41), 19.52 (31.41), 23.87 (38.42)

## DRAWBAR PERFORMANCE

### (Unballasted - Front Drive Engaged) 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)	Consumption Hp.hr/gal (kW.h/l)	Temp. °F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
2nd(1 I Hi) Gear									
40.0 (29.8)	12770 (56.8)	1.17 (1.89)	2321	11.9	0.747 (0.454)	9.44 (1.86)	185 (85)	52 (11)	29.9 (101.3)
3rd(2 I Lo) Gear									
47.7 (35.6)	12680 (56.4)	1.41 (2.27)	2303	11.0	0.688 (0.418)	10.25 (2.02)	183 (84)	52 (11)	29.9 (101.3)
4th(2 I Hi) Gear									
57.8 (43.1)	12590 (56.0)	1.72 (2.77)	2292	10.6	0.620 (0.377)	11.37 (2.24)	183 (84)	52 (11)	29.9 (101.3)
5th(3 I Lo) Gear									
66.2 (49.4)	12340 (54.9)	2.01 (3.24)	2274	9.9	0.605 (0.368)	11.65 (2.29)	183 (84)	52 (11)	29.9 (101.3)
6th(1 II Lo) Gear									
79.1 (59.0)	12410 (55.2)	2.39 (3.85)	2229	8.9	0.563 (0.342)	12.54 (2.47)	181 (83)	57 (14)	29.9 (101.4)
7th(3 I Hi) Gear									
79.9 (59.6)	12275 (54.6)	2.44 (3.93)	2223	9.0	0.554 (0.337)	12.74 (2.51)	183 (84)	59 (15)	29.9 (101.4)
8th(4 I Lo) Gear									
90.1 (67.2)	12115 (53.9)	2.79 (4.49)	2131	8.5	0.515 (0.313)	13.70 (2.70)	180 (82)	57 (14)	29.9 (101.3)
9th(1 II Hi) Gear									
91.3 (68.1)	12115 (53.9)	2.83 (4.55)	2139	8.5	0.517 (0.314)	13.65 (2.69)	180 (82)	57 (14)	29.9 (101.4)
10th(2 II Lo) Gear									
96.0 (71.6)	11645 (51.8)	3.09 (4.98)	1931	7.3	0.478 (0.291)	14.76 (2.91)	178 (81)	59 (15)	29.9 (101.4)
11th(4 I Hi) Gear									
98.6 (73.5)	11735 (52.2)	3.15 (5.07)	1946	7.4	0.473 (0.288)	14.92 (2.94)	178 (81)	52 (11)	29.9 (101.3)
12th(2 II Hi) Gear									
99.8 (74.4)	9845 (43.8)	3.80 (6.11)	1891	5.0	0.466 (0.284)	15.13 (2.98)	178 (81)	54 (12)	29.9 (101.3)
13th(3 II Lo) Gear									
97.9 (73.0)	8230 (36.6)	4.46 (7.18)	1882	4.0	0.487 (0.296)	14.48 (2.85)	178 (81)	52 (11)	29.9 (101.3)
14th(1 III Lo) Gear									
99.6 (74.3)	7240 (32.2)	5.16 (8.30)	1874	3.6	0.457 (0.278)	15.43 (3.04)	176 (80)	55 (13)	29.9 (101.4)
15th(3 II Hi) Gear									
99.2 (74.0)	6730 (29.9)	5.53 (8.90)	1897	3.4	0.463 (0.282)	15.23 (3.00)	178 (81)	52 (11)	29.9 (101.3)
16th(1 III Hi) Gear									
100.7 (75.1)	5935 (26.4)	6.36 (10.23)	1878	3.1	0.448 (0.273)	15.74 (3.10)	176 (80)	55 (13)	29.9 (101.4)
17th(4 II Lo) Gear									
97.8 (72.9)	5580 (24.8)	6.57 (10.57)	1884	2.8	0.474 (0.288)	14.87 (2.93)	176 (80)	52 (11)	29.9 (101.3)
18th(2 III Lo) Gear									
96.6 (72.0)	4690 (20.9)	7.72 (12.42)	1894	2.5	0.495 (0.301)	14.26 (2.81)	178 (81)	55 (13)	29.9 (101.4)
19th(4 II Hi) Gear									
97.9 (73.0)	4560 (20.3)	8.05 (12.96)	1881	2.5	0.478 (0.290)	14.77 (2.91)	178 (81)	55 (13)	29.9 (101.4)

#### 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

Two 600/65R38; \*\*,10 (70)

Two 480/65R28; \*\*,10 (70)

20.9 in (465 mm)

7500 lb (3402 kg)

4730 lb (2146 kg)

12230 lb (5548 kg)

**Clutch** multiple wet disc electro-hydraulically operated by foot pedal **Brakes** wet disc hydraulically operated by two foot pedals that can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 1969 engine rpm or 1000 rpm at 2120 engine rpm **Unladen tractor mass** 12065 lb (5473 kg)

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

**NOTE 1:** The test results on this Summary were obtained from tests carried out on the New Holland TS125A Diesel.

**NOTE 2:** All results reported were for a tractor equipped with a cab unless noted otherwise.

**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 claims of 25 Hp increase with "power boost", 26.5 GPM (100 lpm) hydraulic flow with a variable displacement pump nor 3 point lift claims of 9285 lbs (4212 kg) with mechanical lower links or 12185 lbs (5527 kg) with electronic draft control. The performance figures on this summary were taken from a test conducted under the OECD Code II test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **2259** Nebraska Summary 495, December 15, 2005.

Leonard L. Bashford  
Director

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

**DRAWBAR PERFORMANCE**  
**(Unballasted - Front Drive Disengaged)**  
**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)	Temp. °F (°C)	Air dry bulb	Barom. in Hg (kPa)
<b>Maximum Power—16th (1 III Hi) Gear</b>								
90.4 (67.4)	4590 (20.4)	7.38 (11.88)	2199	2.6	0.501 (0.305)	14.06 (2.77)	180 (82)	50 (10)
<b>75% of Pull at Maximum Power—16th(1 III Hi)Gear</b>								
70.3 (52.4)	3435 (15.3)	7.67 (12.35)	2272	2.1	0.547 (0.333)	12.89 (2.54)	180 (82)	50 (10)
<b>50% of Pull at Maximum Power—16th(1 III Hi) Gear</b>								
47.6 (35.5)	2285 (10.2)	7.81 (12.57)	2302	1.5	0.682 (0.415)	10.34 (2.04)	181 (83)	50 (10)
<b>75% of Pull at Reduced Engine Speed—18th(2 III Lo) Gear</b>								
70.4 (52.5)	3440 (15.3)	7.68 (12.36)	1901	2.2	0.481 (0.293)	14.66 (2.89)	178 (81)	54 (12)
<b>50% of Pull at Reduced Engine Speed—18th(2 III Lo) Gear</b>								
47.7 (35.6)	2295 (10.2)	7.79 (12.54)	1919	1.6	0.579 (0.352)	12.18 (2.40)	178 (81)	54 (12)
<b>MAXIMUM POWER IN SELECTED GEARS</b>								
2nd(1 I Hi) Gear								
30.3 (22.6)	9845 (43.8)	1.16 (1.86)	2334	12.7	0.827 (0.503)	8.53 (1.68)	185 (85)	52 (11)
3rd(2 I Lo) Gear								
36.6 (27.3)	9765 (43.4)	1.41 (2.26)	2325	10.9	0.781 (0.475)	9.04 (1.78)	183 (84)	52 (11)
4th(2 I Hi) Gear								
44.7 (33.3)	9665 (43.0)	1.73 (2.79)	2312	9.7	0.665 (0.405)	10.60 (2.09)	183 (84)	52 (11)
5th(3 I Lo) Gear								
51.2 (38.2)	9530 (42.4)	2.01 (3.24)	2299	9.7	0.649 (0.395)	10.86 (2.14)	183 (84)	52 (11)
6th(1 II Lo) Gear								
60.7 (45.3)	9465 (42.1)	2.41 (3.88)	2284	9.4	0.613 (0.373)	11.51 (2.27)	183 (84)	54 (12)
7th(3 I Hi) Gear								
62.1 (46.3)	9440 (42.0)	2.47 (3.97)	2286	9.1	0.591 (0.359)	11.94 (2.35)	181 (83)	52 (11)
8th(4 I Lo) Gear								
73.2 (54.6)	9395 (41.8)	2.92 (4.70)	2266	8.8	0.565 (0.344)	12.49 (2.46)	181 (83)	52 (11)
9th(1 II Hi) Gear								
73.4 (54.7)	9380 (41.7)	2.93 (4.72)	2261	8.9	0.554 (0.337)	12.74 (2.51)	181 (83)	54 (12)
10th(2 II Lo) Gear								
84.8 (63.2)	9315 (41.4)	3.41 (5.49)	2196	9.0	0.532 (0.323)	13.26 (2.61)	181 (83)	54 (12)
11th(4 I Hi) Gear								
87.2 (65.0)	9285 (41.3)	3.52 (5.67)	2217	8.0	0.487 (0.296)	14.47 (2.85)	181 (83)	52 (11)
12th(2 II Hi) Gear								
95.1 (70.9)	8970 (39.9)	3.98 (6.40)	2047	6.9	0.479 (0.291)	14.72 (2.90)	180 (82)	55 (13)
13th(3 II Lo) Gear								
97.9 (73.0)	8330 (37.0)	4.41 (7.09)	1915	5.5	0.463 (0.282)	15.23 (3.00)	178 (81)	55 (13)
14th(1 III Lo) Gear								
100.3 (74.8)	7305 (32.5)	5.15 (8.29)	1907	4.2	0.465 (0.283)	15.18 (2.99)	176 (80)	50 (10)
15th(3 II Hi) Gear								
100.8 (75.2)	6970 (31.0)	5.42 (8.73)	1895	4.0	0.462 (0.281)	15.23 (3.00)	176 (80)	54 (12)
16th(1 III Hi) Gear								
102.7 (76.6)	6105 (27.2)	6.31 (10.16)	1894	3.4	0.455 (0.277)	15.48 (3.05)	176 (80)	50 (10)
17th(4 II Lo) Gear								
99.8 (74.4)	5815 (25.8)	6.44 (10.37)	1878	3.2	0.453 (0.275)	15.58 (3.07)	176 (80)	50 (10)
18th(2 III Lo) Gear								
99.6 (74.3)	4910 (21.8)	7.61 (12.25)	1895	2.8	0.460 (0.280)	15.33 (3.02)	176 (80)	52 (11)
19th(4 II Hi) Gear								
99.6 (74.3)	4690 (20.9)	7.97 (12.82)	1888	2.7	0.465 (0.283)	15.18 (2.99)	176 (80)	50 (10)

This vehicle is equipped with an electronically controlled engine Power management system that monitors and boosts engine power output in certain circumstances. This is achieved by electronically changing the characteristics of the engine power-speed curve. The engine Power management function ("boosted" power level) becomes active in the higher transmission gears (13th and above) and for road transport applications. The system is also activated when power transfer through the PTO exceeds a preset level (and forward speed exceeds 0.5 km/h), for mobile PTO driven implement applications. An override system is provided to enable PTO operations at the "boosted" power level while the vehicle is stationary for test purposes. The results of of this PTO output test are presented below.

### 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—1038 rpm)</b>					
132.8 (99.0)	2201	7.86 (29.74)	0.418 (0.254)	16.90 (3.33)	
<b>Standard Power Take-off Speed - (1000 rpm)</b>					
136.5 (101.8)	2120	7.79 (29.47)	0.403 (0.245)	17.52 (3.45)	
<b>Maximum Power (2 hours)</b>					
143.9 (107.3)	1901	7.72 (29.23)	0.378 (0.230)	18.63 (3.67)	

### VARYING POWER AND FUEL CONSUMPTION

132.8 (99.0)	2201	7.86 (29.74)	0.418 (0.254)	16.90 (3.33)	Air temperature
114.7 (85.5)	2235	7.00 (26.49)	0.430 (0.262)	16.39 (3.23)	70°F (21°C)
87.4 (65.2)	2272	5.80 (21.97)	0.469 (0.285)	15.08 (2.97)	Relative humidity
59.3 (44.2)	2308	4.58 (17.33)	0.544 (0.331)	12.94 (2.55)	36%
30.0 (22.4)	2344	3.44 (13.02)	0.809 (0.492)	8.73 (1.72)	Barometer
--	2372	2.28 (8.63)	--	--	30.4" Hg (102.9 kPa)

Maximum Torque 424.8 lb.-ft. (576.0 Nm) at 1647 rpm  
 Maximum Torque Rise - 34.0%  
 Torque rise at 1800 rpm - 30%

TRACTOR SOUND LEVEL WITHOUT CAB	Front Wheel Drive	
	Disengaged dB(A)	Engaged dB(A)
At no load in 7th (1C) gear	84.0	84.0
Bystander	--	--
TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Disengaged dB(A)	Engaged dB(A)
At no load in 12th (2 II hi) gear	68.0	69.0
Bystander	--	--

## THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II

Quick Attach: No

Maximum Force Exerted Through Whole Range: 7330 lbs (32.6 kN) Mechanical lower links  
9530 lbs (42.4 kN) Electronic draft control

i) Opening pressure of relief valve:	NA	NA
	<b>fixed disp. pump</b>	<b>variable disp. pump</b>
Sustained pressure at compensator cutoff:	3120 psi (215 bar)	3105 psi (214 bar)
ii) Pump delivery rate at minimum pressure:	21.8 GPM(82.5 l/min)	26.2 GPM(99.0 l/min)
iii) Pump delivery rate at maximum hydraulic power:	18.3 GPM(69.2 l/min)	25.0 GPM(94.5 l/min)
Delivery pressure:	2685 psi (185 bar)	2610 psi (180 bar)
Power:	28.6 HP (21.3 kW)	38.0 HP (28.3 kW)

## THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi.(bar)	3060(211)				
Location:	lift cylinder				
Hydraulic oil temperature: °F(°C)	150(65)				
Location:	hydraulic sump				
Category:	II				
Quick attach:	none				
<b>Mechanical lower links</b>					
<b>SAE Static Test</b> —System pressure 2625 psi (181 Bar) (2x 50 mm boost cylinders)					
Hitch point distance to ground level in. (mm)	7.9(200)	16.3(415)	23.0(585)	28.5(723)	34.4(875)
Lift force on frame lb	13330	12565	11355	10185	8950
" " " " " " (kN)	(59.3)	(55.9)	(50.5)	(45.3)	(39.8)
<b>Electronic draft control</b>					
<b>SAE Static Test</b> —System pressure 2685 psi (185 Bar) (two 90 mm external cylinders)					
Hitch point distance to ground level in. (mm)	7.7(195)	15.6(395)	23.0(585)	30.3(770)	36.2(920)
Lift force on frame lb	14500	13510	12970	12455	11240
" " " " " " (kN)	(64.5)	(60.1)	(57.7)	(55.4)	(50.0)

## HITCH DIMENSIONS AS TESTED—NO LOAD

	OECD test		SAE test	
	inch	mm	inch	mm
A	27.6	700	28.0	710
B	12.2	310	12.2	310
C	15.6	395	15.6	395
D	14.6	370	14.6	370
E	8.2	208	10.8	275
F	9.3	235	9.3	235
G	32.3	820	32.3	820
H	1.9	48	1.9	48
I	17.9	455	16.9	430
J	23.0	585	23.0	585
K	19.8	505	23.0	585
L	44.0	1118	44.0	1118
M	22.2	563	22.2	563
N	37.4	950	37.4	950
O	8.5	217	7.9	200
P	47.0	1195	42.0	1068
Q	32.3	820	32.3	820
R	30.0	762	32.1	815

