

Tractor Test and Power Museum, The Lester F. Larsen

UNL Larsen Tractor Museum Archives

University of Nebraska - Lincoln

Year 2000

Test 1930: Case IH MX 80C Diesel

SUMMARY OF OECD TEST 1930—NEBRASKA SUMMARY 356

CASE IH MX 80C DIESEL

16 SPEED

POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft 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-996 rpm)					
67.1 (50.0)	2200	4.70 (17.81)	0.488 (0.297)	14.26 (2.81)	
Maximum Power (2 hours)					
67.8 (50.6)	2100	4.55 (17.20)	0.467 (0.284)	14.92 (2.94)	
VARYING POWER AND FUEL CONSUMPTION					
67.1 (50.0)	2200	4.70 (17.81)	0.488 (0.297)	14.26 (2.81)	Air temperature
59.4 (44.3)	2266	4.45 (16.84)	0.522 (0.318)	13.34 (2.63)	70°F (20°C)
44.6 (33.3)	2289	3.83 (14.51)	0.599 (0.365)	11.63 (2.29)	Relative humidity
30.0 (22.4)	2305	3.09 (11.68)	0.717 (0.436)	9.70 (1.91)	30%
15.0 (11.2)	2317	2.34 (8.84)	1.087 (0.661)	6.40 (1.26)	Barometer
--	2327	1.58 (5.97)	--	--	29.5" Hg (100.5 kPa)

Maximum Torque - 218 lb.-ft. (296 Nm) at 1305 rpm
 Maximum Torque Rise - 36.4%
 Torque rise at 1800 engine rpm - 20%

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)
Maximum Power 6th (II2) Gear									
57.3 (42.7)	5000 (22.24)	4.30 (6.92)	2199	3.0	0.574 (0.349)	11.98 (2.36)	158 (70)	53 (12)	29.8 (101.0)
75% of Pull at Maximum Power 6th (II2) Gear									
44.9 (33.5)	3750 (16.69)	4.49 (7.22)	2281	2.4	0.659 (0.401)	10.44 (2.06)	158 (70)	52 (11)	29.8 (101.0)
50% of Pull at Maximum Power 6th (II2) Gear									
30.1 (22.5)	2480 (11.03)	4.55 (7.33)	2295	1.5	0.806 (0.490)	8.53 (1.68)	156 (69)	53 (12)	29.8 (101.0)
75% of Pull at Reduced Engine Speed 7th (II3) Gear									
45.1 (33.6)	3780 (16.82)	4.47 (7.20)	1839	2.4	0.544 (0.331)	12.64 (2.49)	156 (69)	55 (13)	29.8 (101.0)
50% of Pull at Reduced Engine Speed 7th (II3) Gear									
30.3 (22.6)	2505 (11.15)	4.53 (7.29)	1845	1.4	0.621 (0.378)	11.07 (2.18)	153 (67)	53 (12)	29.8 (101.0)

Location of Test: DLG Testing Station for Agricultural Machinery Max - Eyth - Weg 1, D-64823 Gros-Umstadt, Germany

Dates of Test: March, 2000

Manufacturer: Case United Kingdom Limited, Doncaster, DN2 4PG, England

FUEL and OIL: Fuel No. 2 Diesel **Specific gravity converted to 60°/60° F (15°/15°C)** 0.837 **Fuel weight** 6.97 lbs/gal (0.835 kg/l) **Oil SAE 15W-40 API service classification** CF-4 **Transmission and hydraulic lubricant** Case Hy-Tran Ultra fluid **Front axle lubricant** SAE 84W-140 gear oil

ENGINE: Make Perkins Diesel **Type** four cylinder vertical with turbocharger **Serial No.** U918706D **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 3.937" x 5.00" (100.0 mm x 127.0 mm) **Compression ratio** 17.25 to 1 **Displacement** 243 cu in (3990 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 **Fuel cooler** radiator for pump return fuel **Muffler** vertical **Cooling medium temperature control** thermostat and variable speed fan

CHASSIS: **Type** front wheel assist **Serial No.** JJE1050900 **Tread width** rear 64.2" (1630 mm) to 87.8" (2230 mm) front 60.2" (1530 mm) to 87.8" (2230 mm) **Wheel base** 92.8" (2422 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with partial (4) range operator controlled powershift **Nominal travel speeds mph (km/h)** first 1.61 (2.59) second 1.94 (3.12) third 2.39 (3.85) fourth 2.96 (4.77) fifth 3.67 (5.90) sixth 4.41 (7.10) seventh 5.46 (8.78) eighth 6.03 (9.70) ninth 6.75 (10.87) tenth 7.26 (11.68) eleventh 8.91 (14.34) twelfth 11.11 (17.88) thirteenth 11.71 (18.85) fourteenth 14.11 (22.71) fifteenth 17.44 (28.07) sixteenth 21.60 (34.76) reverse 1.86 (2.99), 2.24 (3.61), 2.77 (4.46), 3.43 (5.52), 4.24 (6.82), 5.11 (8.22), 6.31 (10.16), 6.97 (11.22), 7.82 (12.58), 8.39 (13.51), 10.38 (16.70), 12.86 (20.69) **Clutch** multiple wet disc hydraulically 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 1875 engine rpm and 1000 rpm at 2210 engine rpm **Unladen tractor mass** 10580 lb (4800 kg)

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)	Temp. °F (°C)	Barom. inch Hg (kPa)
2nd (I 2) Gear							
49.7 (37.1)	11080 (49.28)	1.68 (2.71)	2225	15.0	0.658 (0.400)	162 (72)	29.8 (101.0)
3rd (I 3) Gear							
53.8 (40.1)	9520 (42.35)	2.12 (3.41)	2101	8.1	0.589 (0.358)	163 (73)	29.8 (101.0)
4th (I 4) Gear							
55.9 (41.7)	7805 (34.72)	2.69 (4.32)	2094	5.5	0.570 (0.347)	162 (72)	29.8 (101.0)
5th (II 1) Gear							
57.3 (42.7)	6355 (28.27)	3.38 (5.44)	2105	4.1	0.553 (0.336)	162 (72)	29.8 (101.0)
6th (II 2) Gear							
57.8 (43.1)	5320 (23.66)	4.07 (6.56)	2091	3.2	0.553 (0.336)	162 (72)	29.8 (101.0)
7th (II 3) Gear							
57.3 (42.8)	4230 (18.82)	5.08 (8.18)	2099	2.9	0.554 (0.337)	162 (72)	29.8 (101.0)
8th (III 1) Gear							
58.9 (43.9)	3925 (17.46)	5.63 (9.06)	2098	2.6	0.540 (0.328)	160 (71)	29.8 (101.0)
9th (II 4) Gear							
56.2 (41.9)	3315 (14.76)	6.36 (10.23)	2100	2.0	0.564 (0.343)	162 (72)	29.8 (101.0)
10th (III 2) Gear							
56.9 (42.4)	3130 (13.93)	6.81 (10.96)	2094	1.9	0.560 (0.340)	157 (69)	29.8 (101.0)
11th (III 3) Gear							
54.6 (40.7)	2415 (10.74)	8.48 (13.65)	2100	1.3	0.583 (0.354)	158 (70)	29.8 (101.0)

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 claims of 37% torque rise, nor 3 point lift capacity of 8393 lbs. 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 Report No. **1930**, Nebraska Summary 356, July 13, 2000.

Brent T. Sampson
 Test Engineer

L.L. Bashford
 M.F. Kocher
 G.J. Hoffman
 Board of Tractor Test Engineers

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Engaged dB(A)	Disengaged dB(A)
Maximum Sound Level in 6th (II 2) gear	72.0	72.5
At no load in 6th (II 2) Gear	72.0	72.0
Bystander		

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 520/70R34;**, 12 (80)
 Two 440/65R24;**, 12 (80)
 15.0 in (380 mm)
 6935 lb (3145 kg)
 3815 lb (1730 kg)
 10750 lb (4875 kg)

THREE POINT HITCH PERFORMANCE (OECD Static Test)

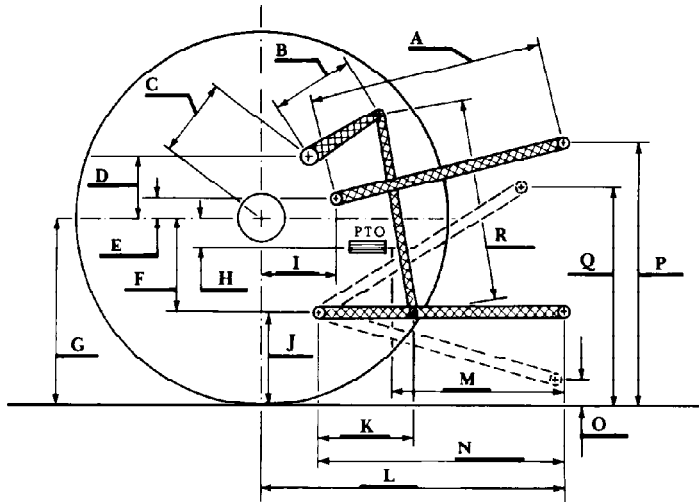
CATEGORY: II

Quick Attach: none

Maximum Force Exerted Through Whole Range: 7800 lbs (34.70 kN)

- i) Opening pressure of relief valve: NA
- Sustained pressure of the open relief valve: 2900 psi (200 bar)
- ii) Pump delivery rate at minimum pressure: 25.3 GPM (95.6 l/min)
- iii) Pump delivery rate at maximum
 - hydraulic power: 23.9 GPM (90.4 l/min)
 - Delivery pressure: 2175 psi (150 bar)
 - Power: 30.3 HP (22.6 kW)

HITCH DIMENSIONS AS TESTED NO LOAD



	inch	mm
A	30.7	780
B	9.1	230
C	12.2	310
D	7.5	190
E	9.3	235
F	9.6	245
G	30.3	770
H	3.5	90
I	14.2	360
J	20.7	525
K	21.7	550
L	44.1	1120
M	24.4	620
N	35.0	890
O	7.9	200
P	44.7	1135
Q	35.2	895
R	25.4	645