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Test 1907: Kubota M5700DT Diesel

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SUMMARY OF OECD TEST 1907—NEBRASKA SUMMARY 480

KUBOTA M5700DT 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—655 rpm)					
52.6 (39.2)	2800	3.79 (14.36)	0.504 (0.307)	13.86 (2.73)	
Standard Power Take-off speed (540 rpm)					
50.4 (37.6)	2307	3.37 (12.76)	0.467 (0.284)	14.97 (2.95)	
VARYING POWER AND FUEL CONSUMPTION					
52.6 (39.2)	2800	3.79 (14.36)	0.504 (0.307)	13.86 (2.73)	Air temperature
46.3 (34.5)	2880	3.42 (12.94)	0.516 (0.314)	13.55 (2.67)	75°F (24°C)
35.0 (26.1)	2910	2.78 (10.53)	0.555 (0.338)	12.59 (2.48)	Relative humidity
23.6 (17.6)	2936	2.21 (8.38)	0.655 (0.399)	10.66 (2.10)	22%
11.8 (8.8)	2957	1.71 (6.48)	1.014 (0.617)	6.89 (1.36)	Barometer
--	2983	1.26 (4.77)	--	--	30.3" Hg (102.7 kPa)
Maximum Torque -122.9 lb.-ft. (166.7 Nm) at 1500 rpm Maximum Torque Rise -24.7% Torque rise at 2200 engine rpm -19%					

Location of tests: Institute of Agricultural Machinery
Bio-oriented Technology Research Advancement
Institution (IAM-Brain) Omiya, Japan

Dates of tests: February-March, 2000

Manufacturer: Kubota Corporation, Tsukuba Plant
Aza, Sakanoshinden, Yawaramura, Tsukubagun,
Ibaraki, Japan

FUEL and OIL: Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F (15°/15°C)** 0.839
Fuel weight 6.99 lbs/gal (0.8375 kg/l) **Oil SAE**
10W30 **API service classification** CD **Oil consumption for 10 hours** 0.03 lb (14 gm)
Transmission and hydraulic lubricant SAE 75W/80 API GL-3 **Front axle lubricant** SAE 75W/80 API GL-3

ENGINE: Make Kubota Diesel **Type** five cylinder vertical **Serial No.** XY7955 **Crankshaft** lengthwise
Rated engine speed 2800 **Bore and stroke** 3.425" x 3.638" (87.0 mm x 92.4 mm) **Compression ratio**
23.0 to 1 **Displacement** 168 cu in (2746 ml) **Starting system** 12 volt **Lubrication** pressure **Air cleaner**
two paper elements **Oil filter** one full flow cartridge **Fuel filter** one paper element **Muffler** vertical
Cooling medium temperature control thermostat

CHASSIS: Type front wheel assist **Serial No.** M570-50108 **Tread width** rear 55.9" (1420 mm) to 67.7" (1720 mm) front 52.4" (1330 mm) to 56.3" (1430 mm)
Wheel base 78.7" (2000 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Nominal travel speeds mph (km/h)** first 0.25 (0.40) second 0.34 (0.54) third 0.51 (0.82) fourth 0.76 (1.22) fifth 1.76 (2.83) sixth 2.36 (3.79) seventh 3.62 (5.82) eighth 5.39 (8.67) ninth 6.33 (10.19) tenth 8.49 (13.67) eleventh 13.03 (20.98) twelfth 19.42 (31.26) reverse 0.26 (0.42), 0.35 (0.56), 0.53 (0.86), 0.80 (1.28), 1.83 (2.95), 2.46 (3.96), 3.78 (6.08), 5.63 (9.06), 6.61 (10.64), 8.87 (14.28), 13.62 (21.92), 20.29 (32.65) **Clutch** single dry disc operated by foot pedal **Brakes** multiple wet disc operated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 2307 engine rpm **Unladen tractor mass** 4260 lb (1933 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)
75% of Pull at Maximum Power—Five Hours 8th (L4) Gear									
37.7 (28.1)	2715 (12.07)	5.21 (8.39)	2868	3.9	0.606 (0.368)	11.54 (2.27)	167 (75)	70 (21)	30.3 (102.6)
MAXIMUM POWER IN SELECTED GEARS									
6th (L2) Gear									
35.7 (26.6)	6645 (29.56)	2.01 (3.24)	2873	15.2	0.642 (0.390)	10.89 (2.14)	169 (76)	53 (12)	30.2 (102.4)
7th (L3) Gear									
46.9 (35.0)	5500 (24.47)	3.20 (5.15)	2772	9.0	0.565 (0.344)	12.38 (2.44)	167 (75)	52 (11)	30.2 (102.4)
8th (L4) Gear									
48.1 (35.9)	3615 (16.09)	4.99 (8.03)	2767	4.7	0.551 (0.335)	12.69 (2.50)	167 (75)	49 (9)	30.2 (102.4)
9th (H1) Gear									
47.4 (35.4)	3015 (13.41)	5.90 (9.50)	2763	3.8	0.560 (0.340)	12.49 (2.46)	169 (76)	49 (9)	30.2 (102.4)
10th (H2) Gear									
46.8 (34.9)	2190 (9.75)	8.01 (12.89)	2760	2.6	0.567 (0.345)	12.33 (2.43)	167 (75)	50 (10)	30.2 (102.4)

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 claims of 26% torque rise nor 3310 lbs (1500 kg) 3 point lift capacity. 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 Report No. **1907**, Nebraska Summary 480, August 19, 2005.

Leonard L. Bashford
Director

M.F. Kocher
J.A. Smith
W.P. Campbell
Board of Tractor Test Engineers

TIRES, BALLAST AND WEIGHT

	With Ballast	Without Ballast
Rear Tires	Two 16.9-28; 6; 17 (118)	Two 16.9-28; 6; 17 (118)
Ballast	None	None
-Liquid (total)	1755 lb (795 kg)	None
-Cast Iron (total)	890 lb (404 kg)	None
Front Tires	Two 9.5-22; 6; 28 (196)	Two 9.5-22; 6; 28 (196)
Ballast	None	None
-Liquid (total)	19.0 in (483 mm)	19.7 in (500 mm)
-Cast Iron (total)	4160 lb (1887 kg)	2705 lb (1228 kg)
Height of Drawbar	2910 lb (1320 kg)	1720 lb (780 kg)
Static Weight with Operator	7070 lb (3207 kg)	4425 lb (2008 kg)
- Rear		
- Front		
- Total		

TRACTOR SOUND LEVEL WITHOUT CAB

dB(A)

At no load in 8th (4L) gear	91.9
Bystander in 12th (4H) gear	84.5

CENTER OF GRAVITY

Horizontal distance forward from centerline of rear wheels	30.6" (777 mm)
Vertical distance above roadway	30.5" (774 mm)
Horizontal distance from center of rear wheel tread	0.1" (1 mm) to the left

TURNING ON A CONCRETE SURFACE

Turning radius—with brake right	118" (3.00 m) left 119" (3.02 m)
Turning radius—without brake right	150" (3.81 m) left 150" (3.80 m)

Turning space radius—with brake right	129" (3.27 m) left 130" (3.29 m)
Turning space radius—without brake right	162" (4.11 m) left 161" (4.10 m)

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: I

Quick Attach: None

Maximum force exerted through whole range:	2840 lbs (12.6 kN)
i) Opening pressure of relief valve:	NA
Sustained pressure with relief valve open:	2740 psi (189 bar)
ii) Pump delivery rate at minimum pressure:	11.0 GPM (41.6 l/min)
iii) Pump delivery rate at maximum hydraulic power:	10.2 GPM (38.6 l/min)
Delivery pressure:	2420 psi (167 bar)
Power:	14.4 HP (10.7 kW)

HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	22.7	577
B	9.4	240
C	11.6	294
D	10.9	278
E	8.3	210
F	7.7	197
G	26.5	674
H	0.6	16
I	11.9	301
J	18.8	477
K	15.6	395
L	35.2	894
M	22.8	579
N	31.1	790
O	7.9	200
P	36.9	937
Q	31.6	803
R	20.9	530

