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January 2005

Test 2333: Challenger MT555B Techstar Diesel

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

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SUMMARY OF OECD TEST 2333-NEBRASKA SUMMARY 549

CHALLENGER MT555B TECHSTAR DIESEL

CONTINUOUSLY VARIABLE TRANSMISSION

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—1081 rpm)					
131.9 (98.4)	2199	8.94 (33.86)	0.471 (0.287)	14.75 (2.91)	
Standard Power Take-off Speed(1000 rpm)					
140.0 (104.4)	2034	8.93 (33.79)	0.443 (0.270)	15.68 (3.09)	
Maximum Power (2 hours)					
141.2 (105.3)	1900	8.65 (32.76)	0.426 (0.259)	16.31 (3.21)	
VARYING POWER AND FUEL CONSUMPTION					
131.9 (98.4)	2199	8.94 (33.86)	0.471 (0.287)	14.75 (2.91)	Air temperature
112.4 (83.8)	2205	7.77 (29.41)	0.480 (0.292)	14.47 (2.85)	66°F(19°C)
84.6 (63.1)	2215	6.29 (23.81)	0.517 (0.314)	13.45 (2.65)	Relative humidity
56.7 (42.3)	2223	4.99 (18.89)	0.611 (0.372)	11.37 (2.24)	30%
28.5 (21.2)	2231	3.32 (12.56)	0.810 (0.493)	8.58 (1.69)	Barometer
--	2235	2.16 (8.18)	--	--	29.5" Hg(99.9 kPa)
--			--	--	
Maximum torque - 464 lb.-ft. (629 Nm) at 1387 rpm					
Maximum torque rise - 47.3%					
Torque rise at 1800 engine rpm - 29%					

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—Turtle									
107.3 (80.0)	8430 (37.49)	4.77 (7.68)	2199	4.9	0.580 (0.353)	11.98 (2.36)	178 (81)	63 (17)	29.4 (99.5)
75% of Pull at Maximum Power—Turtle									
83.1 (62.0)	6405 (28.49)	4.87 (7.84)	2211	3.4	0.614 (0.374)	11.31 (2.23)	178 (81)	63 (17)	29.4 (99.5)
50% of Pull at Maximum Power—Turtle									
56.2 (41.9)	4250 (18.90)	4.96 (7.99)	2220	2.2	0.718 (0.437)	9.68 (1.91)	178 (81)	63 (17)	29.4 (99.5)
75% of Pull at Reduced Engine Speed—Turtle									
82.5 (61.5)	6400 (28.46)	4.83 (7.78)	1958	3.6	0.550 (0.335)	12.63 (2.49)	172 (78)	63 (17)	29.4 (99.5)
50% of Pull at Reduced Engine Speed—Turtle									
55.9 (41.7)	4245 (18.89)	4.93 (7.94)	1967	2.4	0.627 (0.381)	11.08 (2.18)	176 (80)	63 (17)	29.4 (99.5)

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

Dates of tests: April - June, 2005

Operator sound level - December 19, 2006

Manufacturer: AGCO S.A., BP 60307, Avenue Blaise Pascal, 60026 Beauvais, France

FUEL and OIL: Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F (15°/15°C)** 0.835 **Fuel weight** 6.95 lbs/gal (0.8328 kg/l) **Oil SAE** 10W40 **API service classification** CH4 **Transmission and hydraulic lubricant** SAE10W/40 **Front axle lubricant** Gear oil SAE 85W/90

ENGINE: Make Caterpillar Diesel **Type** six cylinder vertical with turbocharger and air to air intercooler **Serial No.** 207-1097 33.40.38.08 **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 3.937" x 5.00" (100.0 mm x 127.0 mm) **Compression ratio** 17.5 to 1 **Displacement** 366 cu in (5985 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 final drive oil, radiator for 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.** N009101 **Tread width** rear 66.5" (1690 mm) to 79.5" (2020 mm) front 64.6" (1640 mm) to 78.1" (1984 mm) **Wheelbase** 118.4" (3007 mm) **Hydraulic control system** direct engine drive **Transmission** AGCO CVT. A combination of mechanical and hydrostatic sections are electronically controlled to give the travel speeds shown. The transmission has two mechanical ranges. **Nominal travel speeds mph (km/h)** forward: Low range 0 - 17 (0 - 28), high range 0 - 25 (0 - 40) reverse: Low range 0 - 11 (0 - 18), high range 0 - 12 (0 - 19) **Clutch** a foot pedal controls the hydrostatic oil flow **Brakes** multiple wet disc hydraulically operated by two foot pedals that can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 2062 engine rpm or 1000 rpm at 2033 engine rpm **Unladen tractor mass** 14320 lb (6495 kg)

DRAWBAR PERFORMANCE

(Unballasted - Front Drive Engaged) MAXIMUM POWER AT SELECTED SPEEDS

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)
99.6 (74.3)	14455 (64.30)	2.58 (4.16)	1965	15.2	Turtle 0.606 (0.368)	11.47 (2.26)	180 (82)	64 (18)	29.4 (99.5)
107.1 (79.9)	12830 (57.08)	3.13 (5.04)	1900	9.1	Turtle 0.554 (0.337)	12.54 (2.47)	180 (82)	64 (18)	29.4 (99.5)
112.4 (83.8)	11865 (52.78)	3.55 (5.71)	1899	7.5	Turtle 0.531 (0.323)	13.10 (2.58)	180 (82)	64 (18)	29.4 (99.5)
110.5 (82.4)	10540 (46.89)	3.93 (6.33)	1901	6.3	Turtle 0.536 (0.326)	12.95 (2.55)	185 (85)	81 (27)	29.3 (99.3)
112.4 (83.8)	9505 (42.28)	4.44 (7.14)	1900	5.1	Turtle 0.533 (0.324)	13.05 (2.57)	174 (79)	81 (27)	29.3 (99.3)
111.2 (82.9)	7925 (35.26)	5.26 (8.46)	1901	4.7	Turtle 0.535 (0.326)	12.98 (2.56)	180 (82)	81 (27)	29.3 (99.3)
112.2 (83.7)	6785 (30.18)	6.20 (9.98)	1900	4.0	Turtle 0.531 (0.323)	13.10 (2.58)	181 (83)	81 (27)	29.3 (99.3)
110.9 (82.7)	6125 (27.25)	6.79 (10.93)	1902	3.7	Turtle 0.538 (0.327)	12.91 (2.54)	183 (84)	81 (27)	29.3 (99.3)
108.7 (81.1)	5065 (22.53)	8.05 (12.95)	1901	3.0	Turtle 0.550 (0.334)	12.64 (2.49)	178 (81)	81 (27)	29.3 (99.3)
104.9 (78.2)	8460 (37.64)	4.65 (7.48)	1900	5.0	Rabbit 0.567 (0.345)	12.23 (2.41)	176 (80)	81 (27)	29.3 (99.3)
105.3 (78.5)	7510 (33.41)	5.26 (8.46)	1902	4.4	Rabbit 0.564 (0.343)	12.33 (2.43)	189 (87)	81 (27)	29.3 (99.3)
107.8 (80.4)	6500 (28.91)	6.22 (10.01)	1901	3.6	Rabbit 0.552 (0.336)	12.59 (2.48)	183 (84)	81 (27)	29.3 (99.3)
108.4 (80.8)	5820 (25.89)	6.98 (11.24)	1905	3.2	Rabbit 0.550 (0.334)	12.64 (2.49)	183 (84)	81 (27)	29.3 (99.3)
108.1 (80.6)	5320 (23.67)	7.62 (12.26)	1901	3.0	Rabbit 0.550 (0.335)	12.63 (2.49)	180 (82)	81 (27)	29.3 (99.3)
107.7 (80.3)	4555 (20.25)	8.87 (14.28)	1904	2.5	Rabbit 0.554 (0.337)	12.54 (2.47)	183 (84)	81 (27)	29.3 (99.3)

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 3 point lift capacity claim of 13700 lbs (6214 kg) at 24" behind link ends. 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. **2333**, Nebraska Summary 549, January 5, 2007.

Roger M. Hoy
Director

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

TRACTOR SOUND LEVEL WITH CAB

dB(A)

At no load in Turtle range-4.6mph (7.5 km/h)	70.4
Bystander in Rabbit range	--

TIRES, BALLAST AND WEIGHT

Rear Tires - No., size, ply & psi(kPa)

Ballast - Duals (total)

- Cast Iron (total)

Front Tires - No., size, ply & psi(kPa)

Ballast - Liquid (total)

- Cast Iron (total)

Height of Drawbar

Static Weight with operator - Rear

- Front

- Total

With Ballast

Four 480/80R42;**,9(60)

1770 lb (803 kg)

1225 lb (555 kg)

Two 380/85R30;**,15(100)

None

465 lb (212 kg)

21.3 in (540 mm)

11550 lb (5240 kg)

6395 lb (2900 kg)

17945 lb (8140 kg)

Without Ballast

Two 520/85R42;**,12(80)

None

None

Two 420/90R30;**,12(80)

None

None

21.3 in (540 mm)

8675 lb (3935 kg)

5810 lb (2635 kg)

14485 lb (6570 kg)

DRAWBAR PERFORMANCE
(Ballasted - Front Drive Engaged)
MAXIMUM POWER AT SELECTED SPEEDS

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 cool- ing med	Temp. °C Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—Turtle									
101.0 (75.3)	7890 (35.09)	4.80 (7.72)	2201	3.0	0.598 (0.364)	11.62 (2.29)	183 (84)	75 (24)	29.4 (99.7)
75% of Pull at Maximum Power—Turtle									
76.6 (57.1)	5890 (26.20)	4.88 (7.85)	2209	2.2	0.643 (0.391)	10.81 (2.13)	181 (83)	77 (25)	29.4 (99.7)
50% of Pull at Maximum Power—Turtle									
51.4 (38.3)	3890 (17.31)	4.95 (7.97)	2218	1.5	0.766 (0.466)	9.08 (1.79)	174 (79)	75 (24)	29.4 (99.7)
75% of Pull at Reduced Engine Speed—Turtle									
77.1 (57.5)	5890 (26.21)	4.91 (7.90)	1956	2.0	0.570 (0.347)	12.18 (2.40)	172 (78)	75 (24)	29.4 (99.6)
50% of Pull at Reduced Engine Speed—Turtle									
51.9 (38.7)	3915 (17.41)	4.98 (8.01)	1955	1.3	0.649 (0.395)	10.71 (2.11)	171 (77)	75 (24)	29.4 (99.7)
MAXIMUM POWER IN SELECTED GEARS									
98.0 (73.1)	17945 (79.82)	2.05 (3.30)	1942	14.9	Turtle 0.611 (0.372)	11.37 (2.24)	181 (83)	77 (25)	29.4 (99.5)
105.3 (78.5)	16270 (72.38)	2.43 (3.91)	1899	9.7	Turtle 0.566 (0.345)	12.27 (2.42)	180 (82)	73 (23)	29.4 (99.5)
108.9 (81.2)	15165 (67.45)	2.70 (4.34)	1901	8.2	Turtle 0.545 (0.331)	12.76 (2.51)	181 (83)	73 (23)	29.4 (99.5)
105.1 (78.4)	12545 (55.80)	3.14 (5.06)	1900	5.9	Turtle 0.563 (0.342)	12.34 (2.43)	181 (83)	86 (30)	29.7 (100.6)
105.9 (79.0)	11270 (50.13)	3.52 (5.67)	1899	5.5	Turtle 0.560 (0.341)	12.41 (2.45)	178 (81)	86 (30)	29.7 (100.6)
112.4 (83.8)	10470 (46.58)	4.02 (6.47)	1901	4.8	Turtle 0.529 (0.322)	13.15 (2.59)	183 (84)	81 (27)	29.7 (100.6)
112.8 (84.1)	8980 (39.95)	4.71 (7.58)	1901	3.8	Turtle 0.526 (0.320)	13.20 (2.60)	178 (81)	81 (27)	29.7 (100.6)
104.9 (78.2)	6350 (28.24)	6.20 (9.97)	1900	2.6	Turtle 0.566 (0.344)	12.28 (2.42)	178 (81)	82 (28)	29.7 (100.6)
104.3 (77.8)	5495 (24.44)	7.11 (11.45)	1902	2.2	Turtle 0.569 (0.346)	12.20 (2.40)	176 (80)	79 (26)	29.7 (100.6)
102.2 (76.2)	4670 (20.76)	8.21 (13.22)	1901	1.9	Turtle 0.583 (0.354)	11.93 (2.35)	180 (82)	79 (26)	29.7 (100.6)
99.9 (74.5)	4010 (17.85)	9.34 (15.03)	1901	1.3	Turtle 0.595 (0.362)	11.67 (2.30)	178 (81)	79 (26)	29.7 (100.6)
109.3 (81.5)	8185 (36.42)	5.01 (8.06)	1901	3.5	Rabbit 0.545 (0.332)	12.74 (2.51)	174 (79)	79 (26)	29.7 (100.7)
110.0 (82.0)	7660 (34.08)	5.39 (8.67)	1901	3.0	Rabbit 0.541 (0.329)	12.84 (2.53)	172 (78)	64 (18)	29.8 (100.8)
111.0 (82.8)	6800 (30.25)	6.12 (9.85)	1901	2.9	Rabbit 0.537 (0.327)	12.94 (2.55)	172 (78)	64 (18)	29.7 (100.7)
110.4 (82.3)	5915 (26.32)	7.00 (11.26)	1901	2.2	Rabbit 0.541 (0.329)	12.84 (2.53)	174 (79)	66 (19)	29.7 (100.7)
109.3 (81.5)	5115 (22.76)	8.01 (12.89)	1906	2.2	Rabbit 0.545 (0.332)	12.74 (2.51)	174 (79)	68 (20)	29.7 (100.7)
106.7 (79.6)	4570 (20.32)	8.76 (14.10)	1903	2.0	Rabbit 0.557 (0.339)	12.49 (2.46)	183 (84)	73 (23)	29.7 (100.7)

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: III

Quick Attach: None

Maximum force exerted through whole range: 11230 lbs (49.95 kN)

i) Opening pressure of relief valve: NA

Sustained pressure of the open relief valve: 2875 psi (198 bar)

one coupler set two outlet sets combined

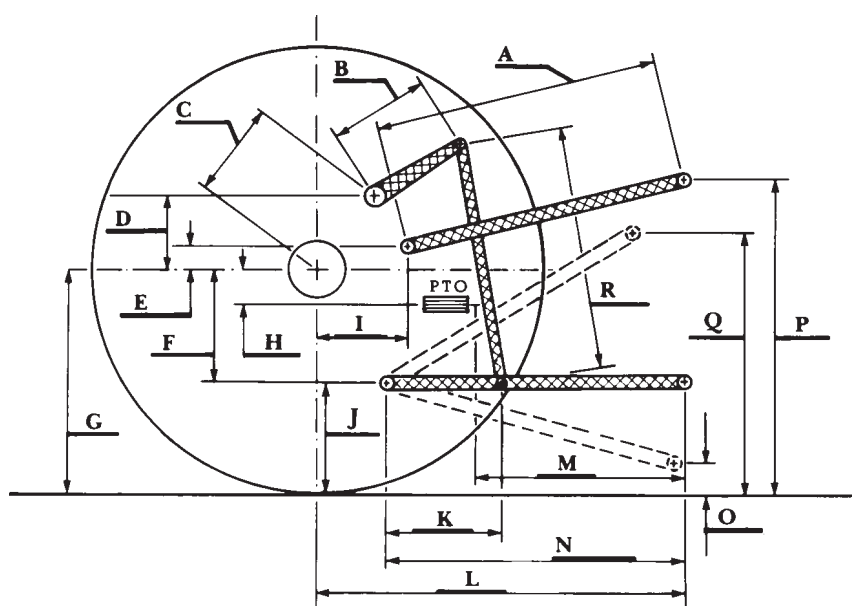
ii) Pump delivery rate at minimum pressure: 26.9 GPM (101.7 l/min) 32.2 GPM (122.0 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 26.0 GPM (98.4 l/min) 29.0 GPM (109.7 l/min)

Delivery pressure: 2465 psi (170 bar) 2610 psi (180 bar)

Power: 37.4 HP (27.9 kW) 44.1 HP (32.9 kW)



HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	31.7	805
B	14.0	355
C	13.7	347
D	12.0	305
E	8.5	215
F	10.0	255
G	36.2	920
H	1.8	45
I	15.7	400
J	26.2	665
K	23.6	600
L	46.3	1175
M	26.2	665
N	40.6	1030
O	9.1	230
P	53.1	1350
Q	42.1	1070
R	29.1	740