

SUMMARY OF OECD TEST 2430–NEBRASKA SUMMARY 644

CHALLENGER MT525B TECHSTAR DIESEL CONTINUOUSLY VARIABLE TRANSMISSION

Tractor chassis S/N S068039 and higher

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)					
103.5 (77.2)	2200	6.85 (25.94)	0.470 (0.286)	15.11 (2.98)	
Standard Power Take-off Speed(1000 rpm)					
119.8 (89.3)	2032	7.12 (26.95)	0.423 (0.257)	16.83 (3.32)	
Maximum Power (1 hour)					
121.0 (90.2)	2000	7.12 (26.94)	0.419 (0.255)	17.00 (3.35)	
VARYING POWER AND FUEL CONSUMPTION					
103.5 (77.2)	2200	6.85 (25.94)	0.470 (0.286)	15.11 (2.98)	Air temperature
88.9 (66.3)	2204	6.21 (23.50)	0.497 (0.303)	14.31 (2.82)	70°F (21°C)
66.6 (49.6)	2214	5.25 (19.86)	0.561 (0.341)	12.69 (2.50)	Relative humidity
44.9 (33.5)	2229	4.09 (15.50)	0.649 (0.395)	10.97 (2.16)	57%
22.6 (16.9)	2241	2.77 (10.48)	0.873 (0.531)	8.16 (1.61)	Barometer
--	2247	1.92 (7.28)	--	--	30.2" Hg (102.2 kPa)
Maximum Torque - 391.6 lb.-ft. (530.9 Nm) at 1400 rpm					
Maximum Torque Rise - 58.5%					
Torque rise at 1750 engine rpm - 36%					

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 8									
79.4 (59.2)	5980 (26.6)	4.98 (8.01)	2191	4	0.599 (0.364)	11.89 (2.34)	176 (80)	57 (14)	30.3 (102.5)
75% of Pull at Maximum Power—Turtle 8									
63.0 (47.0)	4540 (20.2)	5.21 (8.38)	2202	3	0.665 (0.404)	10.71 (2.11)	178 (81)	57 (14)	30.3 (102.5)
50% of Pull at Maximum Power—Turtle 8									
43.2 (32.2)	3055 (13.6)	5.30 (8.53)	2214	2	0.796 (0.484)	8.94 (1.76)	178 (81)	57 (14)	30.3 (102.5)
75% of Pull at Reduced Engine Speed—Turtle 9									
63.4 (47.3)	4565 (20.3)	5.21 (8.38)	2010	3	0.597 (0.363)	11.93 (2.35)	180 (82)	57 (14)	30.3 (102.5)
50% of Pull at Reduced Engine Speed—Turtle 9									
43.5 (32.4)	3090 (13.7)	5.28 (8.49)	2023	2	0.725 (0.441)	9.81 (1.93)	176 (80)	57 (14)	30.3 (102.5)

Location of tests: Groupement d'Antony, Parc de Touvoie, BP 44 Antony, France 92163

Dates of tests: September - November, 2007

Manufacturer: AGCO S.A. BP 307, Avenue Blaise Pascal, 60026 Beauvais, France

FUEL and OIL: Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F (15°/15°C)** 0.855 **Fuel weight** 7.12 lbs/gal (0.853 kg/l) **Oil SAE** 15W40 **API service classification** CH4 **Transmission and hydraulic lubricant** BP Terrac Tractan 9 10W/40 **Front axle lubricant** SAE 85W140 API GL-5

ENGINE: Make Perkins Diesel **Type** six cylinder vertical with turbocharger and air to air intercooler **Serial No.** U003493P **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.134" x 5.000" (105.0 mm x 127.0 mm) **Compression ratio** 16.2 to 1 **Displacement** 402 cu in (6596 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** underhood **Exhaust** vertical **Cooling medium temperature control** thermostat and variable speed fan

CHASSIS: **Type** front wheel assist **Serial No.** S151037 **Tread width** rear 61.7" (1566 mm) to 74.6" (1896 mm) front 63.4" (1610 mm) to 78.1" (1984 mm) **Wheelbase** 109.4" (2780 mm) **Hydraulic control system** direct engine drive **Transmission** CVT. A combination of mechanical and hydrostatic sections allow an infinite speed adjustment within the ranges noted. The transmission has two mechanical ranges. **Nominal travel speeds mph (km/h)** forward: Low range 0-18 (0-29), high range 0-25 (0-40) reverse: Low range 0-18 (0-29), high range 0-25 (0-40) **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** 15200 lb (6895 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)	Consumption Hp.hr/gal (kW.h/l)	Temp. ^o F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Turtle 4									
79.9 (59.6)	12815 (57.0)	2.34 (3.76)	2150	16	0.614 (0.373)	11.60 (2.28)	178 (81)	52 (11)	30.3 (102.5)
Turtle 5									
91.5 (68.2)	12700 (56.5)	2.70 (4.35)	2019	13	0.552 (0.336)	12.89 (2.54)	180 (82)	52 (11)	30.3 (102.5)
Turtle 6									
95.2 (71.0)	11240 (50.0)	3.18 (5.11)	2016	11	0.529 (0.322)	13.45 (2.65)	178 (81)	54 (12)	30.3 (102.5)
Turtle 7									
96.8 (72.2)	9365 (41.7)	3.88 (6.24)	2012	8	0.519 (0.316)	13.71 (2.70)	181 (83)	54 (12)	30.3 (102.5)
Turtle 8									
98.4 (73.4)	8285 (36.9)	4.45 (7.17)	2007	6	0.512 (0.311)	13.91 (2.74)	178 (81)	57 (14)	30.3 (102.5)
Turtle 9									
96.3 (71.8)	7105 (31.6)	5.08 (8.18)	2003	4	0.519 (0.315)	13.73 (2.70)	185 (85)	57 (14)	30.3 (102.5)
Turtle 10									
96.3 (71.8)	6295 (28.0)	5.74 (9.24)	1991	4	0.521 (0.317)	13.65 (2.69)	183 (84)	57 (14)	30.3 (102.5)
*Turtle 11									
95.3 (71.1)	5125 (22.8)	6.97 (11.21)	1993	5	0.526 (0.320)	13.54 (2.67)	183 (84)	57 (14)	30.3 (102.5)
Rabbit 9									
91.9 (68.5)	7450 (33.1)	4.62 (7.44)	1999	9	0.544 (0.331)	13.10 (2.58)	181 (83)	57 (14)	30.3 (102.5)
Rabbit 12									
96.2 (71.7)	5665 (25.2)	6.37 (10.25)	1997	5	0.514 (0.313)	13.85 (2.73)	183 (84)	57 (14)	30.3 (102.5)
*Rabbit 14									
94.4 (70.4)	4515 (20.1)	7.84 (12.61)	2001	5	0.526 (0.320)	13.55 (2.67)	183 (84)	57 (14)	30.3 (102.5)
*Rabbit 16									
93.5 (69.7)	4000 (17.8)	8.77 (14.11)	2001	3	0.525 (0.319)	13.55 (2.67)	185 (85)	57 (14)	30.3 (102.5)

*Front Drive disengaged

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE 1: The performance figures on this report apply to tractors with chassis S/N S068039 and higher.

NOTE 2: The data on this summary was obtained from OECD report 2340 conducted on the Massey Ferguson 7465 Diesel.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD test procedures. The manufacturer's three point lift claim of 10915 lbs (4950 kg) with category III hitch was not verified. The performance figures on this summary were taken from a test conducted under the OECD Code 2 test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **2430**, Nebraska Summary 644, January 14, 2010.

Roger M. Hoy
Director

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Board of Tractor Test Engineers

TRACTOR SOUND LEVEL WITH CAB

	dB(A)
At no load in Turtle 7	69.0
Bystander	---

TIRES, BALLAST 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 480/80R42;**,14(100)
Two 16.9R28;**,14(100)
18.5 in (470 mm)
9920 lb (4500 kg)
5445 lb (2470 kg)
15365 lb (6970 kg)

HYDRAULIC PERFORMANCE

CATEGORY: II

Quick Attach: None

OECD Static test

Maximum force exerted through whole range:	12410 lbs (55.2 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:	30.4 GPM (115.2 l/min)
iii) Pump delivery rate at maximum	
hydraulic power:	25.8 GPM (97.7 l/min)
Delivery pressure:	2395 psi (165 bar)
Power:	36.1 HP (26.9 kW)

THREE POINT HITCH PERFORMANCE - SAE Test

Observed Maximum Pressure psi. (bar)	2900 (200)
Location:	lift cylinder
Hydraulic oil temperature: °F (°C)	158 (70)
Location:	hydraulic sump
Category:	II
Quick attach:	None

System pressure 2610 psi (180 bar)

Hitch point distance to ground level in. (mm)	12.0 (286)	17.7 (435)	23.6 (580)	27.6 (706)	33.5 (850)	38.3 (991)
Lift force on frame lb	13465	14455	14925	15285	15105	13625
" " " " " " (kN)	(59.9)	(64.3)	(66.4)	(68.0)	(67.2)	(60.6)

HITCH DIMENSIONS AS TESTED - NO LOAD

	SAE TEST		OECD TEST	
	inch	mm	inch	mm
A	30.3	770	30.0	763
B	14.0	355	14.0	355
C	13.6	346	13.6	346
D	12.0	305	12.0	305
E	12.6	321	10.9	276
F	10.0	255	10.0	255
G	34.4	875	34.4	875
H	3.1	78	3.1	78
I	15.0	380	15.6	397
J	24.4	620	24.4	620
K	24.9	633	24.9	633
L	46.3	1175	46.3	1175
M	27.0	685	27.0	685
N	40.6	1030	40.6	1030
O	11.3	286	8.8	224
P	43.4	1103	48.4	1230
Q	39.0	991	38.2	970
R	28.7	729	30.0	763

