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Nebraska Summary 540: AGCO DT180A Diesel

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SUMMARY OF OECD TEST 2321-NEBRASKA SUMMARY 540

AGCO DT 180A DIESEL POWERMAXX 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—1082 rpm)					
186.5 (139.1)	2201	11.35 (42.95)	0.424 (0.258)	16.45 (3.24)	
Standard Power Take-off Speed(1000rpm)					
209.9 (156.5)	2034	11.49 (43.49)	0.381 (0.232)	18.27 (3.60)	
Maximum Power (2 hours)					
210.4 (156.9)	1999	11.28 (42.69)	0.373 (0.227)	18.68 (3.68)	
VARYING POWER AND FUEL CONSUMPTION					
186.5 (139.1)	2201	11.35 (42.95)	0.424 (0.258)	16.45 (3.24)	Air temperature
160.9 (120.0)	2237	10.04 (38.04)	0.436 (0.265)	15.99 (3.15)	63°F(17°C)
121.6 (90.7)	2248	8.18 (30.97)	0.468 (0.285)	14.87 (2.93)	Relative humidity
81.4 (60.7)	2260	6.07 (22.96)	0.519 (0.316)	13.40 (2.64)	35%
40.8 (30.4)	2270	4.12 (15.58)	0.704 (0.428)	9.90 (1.95)	Barometer
--	2279	2.45 (9.27)	--	--	29.2" Hg(98.8 kPa)
Maximum Torque - 645 lb.-ft. (875 Nm) at 1200 rpm					
Maximum Torque Rise - 45.1%					
Torque rise at 1800 engine rpm - 33%					

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									
155.2 (115.7)	12175 (54.16)	4.78 (7.69)	2201	4.2	0.507 (0.308)	13.71 (2.70)	176 (80)	61 (16)	29.6 (100.2)
75% of Pull at Maximum Power—Turtle									
120.3 (89.7)	9115 (40.54)	4.95 (7.97)	2243	3.2	0.543 (0.330)	12.79 (2.52)	178 (81)	61 (16)	29.6 (100.2)
50% of Pull at Maximum Power—Turtle									
81.3 (60.6)	6045 (26.88)	5.04 (8.12)	2252	2.1	0.616 (0.375)	11.27 (2.22)	178 (81)	61 (16)	29.6 (100.2)
75% of Pull at Reduced Engine Speed—Turtle									
120.2 (89.6)	9105 (40.50)	4.95 (7.97)	1935	3.1	0.458 (0.279)	15.18 (2.99)	181 (83)	61 (16)	29.6 (100.2)
50% of Pull at Reduced Engine Speed—Turtle									
81.9 (61.1)	6060 (26.96)	5.07 (8.16)	1949	2.0	0.507 (0.309)	13.70 (2.70)	181 (83)	61 (16)	29.6 (100.2)

Location of tests: DLG - Test Centre, Technology and Farm inputs, Max-Eyth-Weg 1, D-64823 Gross-Umstadt, Germany

Dates of tests: March - May, 2005

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)** 0.836 **Fuel weight** 6.96 lbs/gal (0.8346 kg/l) **Oil SAE 10W40 API service classification** CH4 **Transmission and hydraulic lubricant** BP STOU 10W/40 **Front axle lubricant** SAE 85W90 API GL5

ENGINE: Make Sisu Diesel **Type** six cylinder vertical with turbocharger and air to air intercooler **Serial No.** P08255 **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.252" x 5.276" (108.0 mm x 134.0 mm) **Compression ratio** 17.5 to 1 **Displacement** 449 cu in (7365 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** vertical **Cooling medium temperature control** thermostat and variable speed fan

CHASSIS: Type front wheel assist **Serial No.** N174999 **Tread width** rear 66.9" (1699 mm) to 91.6" (2326 mm) front 72.5" (1842 mm) to 78.6" (1996 mm) **Wheelbase** 121.1" (3075 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 1588 engine rpm or 1000 rpm at 2033 engine rpm **Unladen tractor mass** 19910 lb (9030 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. °F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Turtle									
151.4 (112.9)	19795 (88.06)	2.87 (4.62)	2096	15.0	0.520 (0.316)	13.36 (2.63)	178 (81)	61 (16)	29.6 (100.2)
Turtle									
169.4 (126.3)	19560 (87.01)	3.25 (5.23)	2002	10.3	0.464 (0.282)	14.97 (2.95)	176 (80)	61 (16)	29.6 (100.2)
Turtle									
175.5 (130.9)	17085 (76.01)	3.85 (6.20)	2000	6.4	0.447 (0.272)	15.58 (3.07)	181 (83)	61 (16)	29.6 (100.2)
Turtle									
174.7 (130.3)	15345 (68.27)	4.27 (6.87)	2001	5.5	0.452 (0.275)	15.38 (3.03)	180 (82)	61 (16)	29.6 (100.2)
Turtle									
176.2 (131.4)	12935 (57.55)	5.11 (8.22)	2003	4.4	0.447 (0.272)	15.53 (3.06)	180 (82)	61 (16)	29.6 (100.2)
Turtle									
175.1 (130.6)	11350 (50.49)	5.79 (9.31)	2002	3.6	0.450 (0.274)	15.43 (3.04)	181 (83)	61 (16)	29.6 (100.2)
Turtle									
174.7 (130.3)	9880 (43.95)	6.63 (10.67)	2002	3.2	0.452 (0.275)	15.38 (3.03)	181 (83)	61 (16)	29.6 (100.2)
Turtle									
173.5 (129.4)	8720 (38.78)	7.46 (12.01)	2003	2.8	0.456 (0.278)	15.23 (3.00)	183 (84)	61 (16)	29.6 (100.2)
Turtle									
170.8 (127.4)	7375 (32.80)	8.69 (13.98)	2003	2.6	0.459 (0.279)	15.13 (2.98)	180 (82)	61 (16)	29.6 (100.2)
Rabbit									
166.6 (124.2)	14780 (65.75)	4.23 (6.80)	2000	5.3	0.473 (0.288)	14.67 (2.89)	180 (82)	61 (16)	29.6 (100.2)
Rabbit									
169.6 (126.5)	13345 (59.37)	4.77 (7.67)	2001	4.7	0.464 (0.282)	14.97 (2.95)	180 (82)	61 (16)	29.6 (100.2)
Rabbit									
171.5 (127.9)	11975 (53.26)	5.37 (8.65)	2001	4.0	0.459 (0.279)	15.13 (2.98)	178 (81)	61 (16)	29.6 (100.2)
Rabbit									
171.0 (127.5)	10910 (48.53)	5.88 (9.46)	2002	3.7	0.460 (0.280)	15.08 (2.97)	183 (84)	61 (16)	29.6 (100.2)
Rabbit									
171.6 (128.0)	9850 (43.82)	6.53 (10.51)	2002	3.3	0.458 (0.279)	15.18 (2.99)	185 (85)	61 (16)	29.6 (100.2)
Rabbit									
172.3 (128.5)	8380 (37.27)	7.71 (12.41)	2002	3.1	0.456 (0.278)	15.23 (3.00)	185 (85)	61 (16)	29.6 (100.2)
Rabbit									
170.6 (127.2)	7775 (34.59)	8.23 (13.24)	2005	2.5	0.461 (0.281)	15.07 (2.97)	178 (81)	61 (16)	29.6 (100.2)

NOTE: The data on this summary was obtained from OECD report 2321 conducted on the Massey Ferguson 8450 Diesel.

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 claim of 39.0 GPM (147 lpm) flow at the remote outlets. 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. **2321**, Nebraska Summary 540, June 16, 2006.

Leonard L. Bashford
Director

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

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 480/80R46; ***,10 (65)

2190 lb (993 kg)

1005 lb (455 kg)

Two 14.9R34; ***,30 (210)

None

1215 lb (552 kg)

20.5 in (520 mm)

15170 lb (6880 kg)

9315 lb (4225 kg)

24485 lb(11105 kg)

Without Ballast

Two 650/85R38; ***,12(80)

None

None

Two 600/70R28; ***,12(80)

None

None

20.5 in (520 mm)

12280 lb (5570 kg)

7795 lb (3535 kg)

20075 lb (9105 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)	Consumption Hp.hr/gal (kW.h/l)	Temp. °F cool- ing med	°C Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—Turtle									
153.0 (114.1)	11670 (51.90)	4.92 (7.91)	2200	4.4	0.507 (0.309)	13.70 (2.70)	174 (79)	54 (12)	29.5 (100.0)
75% of Pull at Maximum Power—Turtle									
118.0 (88.0)	8725 (38.80)	5.07 (8.16)	2242	3.5	0.550 (0.335)	12.63 (2.49)	176 (80)	54 (12)	29.5 (100.0)
50% of Pull at Maximum Power—Turtle									
79.5 (59.3)	5775 (25.70)	5.16 (8.31)	2251	2.8	0.639 (0.389)	10.86 (2.14)	176 (80)	54 (12)	29.5 (100.0)
75% of Pull at Reduced Engine Speed—Turtle									
118.4 (88.3)	8725 (38.82)	5.09 (8.19)	2009	3.5	0.480 (0.292)	14.47 (2.85)	174 (79)	52 (11)	29.5 (100.0)
50% of Pull at Reduced Engine Speed—Turtle									
79.9 (59.6)	5780 (25.72)	5.19 (8.35)	2017	2.8	0.554 (0.337)	12.54 (2.47)	171 (77)	52 (11)	29.5 (100.0)
MAXIMUM POWER IN SELECTED GEARS									
Turtle									
150.3 (112.1)	24905 (110.79)	2.26 (3.64)	2128	15.0	0.523 (0.318)	13.30 (2.62)	174 (79)	48 (9)	29.5 (100.0)
Turtle									
167.5 (124.9)	23610 (105.03)	2.66 (4.28)	2001	11.1	0.470 (0.286)	14.77 (2.91)	174 (79)	46 (8)	29.5 (100.0)
Turtle									
169.9 (126.7)	22115 (98.37)	2.88 (4.64)	2001	9.1	0.464 (0.282)	14.97 (2.95)	178 (81)	55 (13)	29.4 (99.6)
Turtle									
173.9 (129.7)	19855 (88.31)	3.29 (5.29)	2001	7.4	0.452 (0.275)	15.38 (3.03)	176 (80)	55 (13)	29.4 (99.5)
Turtle									
174.7 (130.3)	16840 (74.90)	3.89 (6.26)	2000	5.9	0.450 (0.274)	15.43 (3.04)	178 (81)	55 (13)	29.4 (99.5)
Turtle									
174.9 (130.4)	14410 (64.09)	4.55 (7.32)	2001	5.2	0.450 (0.274)	15.43 (3.04)	181 (83)	61 (16)	29.5 (100.0)
Turtle									
175.0 (130.5)	13155 (58.52)	4.99 (8.03)	2001	4.8	0.450 (0.274)	15.43 (3.04)	180 (82)	61 (16)	29.5 (100.0)
Turtle									
172.5 (128.6)	11205 (49.85)	5.77 (9.29)	2001	4.2	0.455 (0.276)	15.29 (3.01)	180 (82)	63 (17)	29.5 (100.0)
Turtle									
171.1 (127.6)	9775 (43.47)	6.56 (10.57)	2004	3.6	0.460 (0.280)	15.12 (2.98)	180 (82)	63 (17)	29.5 (100.0)
Turtle									
166.2 (123.9)	8240 (36.65)	7.56 (12.17)	2002	3.5	0.472 (0.287)	14.71 (2.90)	176 (80)	59 (15)	29.4 (99.5)
Turtle									
163.6 (122.0)	7240 (32.21)	8.47 (13.64)	2002	3.1	0.480 (0.292)	14.45 (2.85)	180 (82)	59 (15)	29.4 (99.5)
Rabbit									
165.2 (123.2)	14815 (65.89)	4.18 (6.73)	2000	5.4	0.475 (0.289)	14.62 (2.88)	180 (82)	63 (17)	29.5 (100.0)
Rabbit									
169.6 (126.5)	13250 (58.93)	4.80 (7.73)	2002	5.0	0.464 (0.282)	14.97 (2.95)	178 (81)	61 (16)	29.5 (100.0)
Rabbit									
169.0 (126.0)	11825 (52.61)	5.36 (8.62)	2001	4.7	0.463 (0.281)	15.02 (2.96)	176 (80)	52 (11)	29.6 (100.2)
Rabbit									
169.2 (126.2)	10640 (47.33)	5.96 (9.60)	2002	4.4	0.463 (0.282)	15.01 (2.96)	180 (82)	52 (11)	29.6 (100.1)
Rabbit									
169.4 (126.3)	9595 (42.69)	6.62 (10.65)	2001	4.0	0.463 (0.282)	15.01 (2.96)	181 (83)	54 (12)	29.6 (100.1)
Rabbit									
167.5 (124.9)	8255 (36.73)	7.61 (12.24)	2002	3.2	0.467 (0.284)	14.87 (2.93)	180 (82)	54 (12)	29.6 (100.1)
Rabbit									
166.2 (123.9)	7620 (33.89)	8.18 (13.17)	2004	3.1	0.472 (0.287)	14.72 (2.90)	178 (81)	59 (15)	29.6 (100.1)

TRACTOR SOUND LEVEL WITH CAB

dB(A)

At no load in Turtle-4.6 mph (7.5 km/h)- no load	71.0
Bystander	---

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: III

Quick Attach: None

Maximum force exerted through whole range: 14648 lbs (65.2 kN)

i) Opening pressure of relief valve: NA

Sustained pressure of the open relief valve: 2875 psi (192 bar)

ii) Pump delivery rate at minimum pressure: 37.4 GPM (141.5 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 35.3 GPM (133.7 l/min)

Delivery pressure: 2320 psi (160 bar)

Power: 47.7 HP (35.6 kW)

	OECD test		SAE test	
	inch	mm	inch	mm
A	31.9	809	30.4	773
B	14.2	360	14.2	360
C	17.7	449	17.7	449
D	15.4	390	15.4	390
E	11.8	300	8.9	225
F	13.0	330	13.0	330
G	36.2	920	36.2	920
H	3.4	85	3.4	85
I	15.7	400	18.7	475
J	23.2	590	23.2	590
K	26.8	680	26.8	680
L	50.4	1281	50.4	1281
M	27.9	709	27.9	709
N	41.1	1045	41.1	1045
O	9.0	230	8.0	203
P	50.2	1275	45.2	1150
Q	39.3	999	38.5	978
R	34.3	872	34.8	886

THREE POINT HITCH PERFORMANCE SAE Test

Observed Maximum Pressure psi. (bar)	2800 (193)
Location:	lift cylinder
Hydraulic oil temperature: °F (°C)	150 (66)
Location:	hydraulic sump
Category:	III
Quick attach:	None

SAE Static Test—System pressure 2520 psi (174 Bar)

Hitch point distance to ground level in. (mm)	8.2 (208)	16.1 (409)	24.1 (612)	32.1 (815)	40.0 (1016)
Lift force on frame lb	16994	18242	18320	18191	16921
" " " " " (kN)	(75.6)	(81.1)	(81.5)	(80.9)	(75.3)

