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Tests 2274 & 2275: Challenger MT425B Diesel

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SUMMARY OF OECD TESTS 2274 & 2275—NEBRASKA SUMMARY 514 CHALLENGER MT425B DIESEL 16 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—1100 rpm)					
61.0 (45.5)	2199	4.02 (15.21)	0.469 (0.285)	15.13 (2.98)	
Maximum Power (2 hours)					
61.7 (46.0)	2150	3.97 (15.04)	0.457 (0.278)	15.53 (3.06)	
Standard Power Take-off Speed(1000 rpm)					
59.7 (44.5)	2000	3.70 (14.01)	0.440 (0.268)	16.13 (3.18)	

VARYING POWER AND FUEL CONSUMPTION

61.0 (45.5)	2199	4.02 (15.21)	0.469 (0.285)	15.13 (2.98)	Air temperature
53.3 (39.8)	2248	3.70 (14.01)	0.492 (0.300)	14.41 (2.84)	68°F (20°C)
40.6 (30.3)	2285	3.18 (12.05)	0.557 (0.339)	12.74 (2.51)	Relative humidity
27.4 (20.4)	2312	2.71 (10.24)	0.701 (0.426)	10.12 (1.99)	54%
13.8 (10.3)	2328	2.12 (8.04)	1.094 (0.666)	6.48 (1.28)	Barometer
--	2337	1.59 (6.00)	--	--	30.3" Hg (102.6 kPa)

Maximum Torque -175.4 lb.-ft. (237.8 Nm) at 1349 rpm
Maximum Torque Rise -20.5%
Torque rise at 1750 engine rpm -13%

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	Barom. inch Hg (kPa)
Maximum Power—5th(3TC) Gear								
48.5 (36.2)	5585 (24.9)	3.26 (5.24)	2203	5.6	0.575 (0.350)	12.33 (2.43)	187 (86)	36 (2)
75% of Pull at Maximum Power—5th(3TC) Gear								
38.0 (28.3)	4210 (18.7)	3.38 (5.44)	2256	4.4	0.598 (0.364)	11.87 (2.34)	189 (87)	36 (2)
50% of Pull at Maximum Power—5th(3TC) Gear								
26.1 (19.5)	2810 (12.5)	3.48 (5.60)	2294	3.1	0.808 (0.491)	8.78 (1.73)	189 (87)	36 (2)
75% of Pull at Reduced Engine Speed—6th(3TD) Gear								
37.8 (28.2)	4180 (18.6)	3.39 (5.45)	1794	4.6	0.508 (0.309)	13.96 (2.75)	183 (84)	36 (2)
50% of Pull at Reduced Engine Speed—6th(3TD) Gear								
26.3 (19.6)	2810 (12.5)	3.51 (5.64)	1831	3.2	0.641 (0.390)	11.07 (2.18)	185 (85)	36 (2)

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

Dates of tests: January - February, 2005

Sound tests: January 18, 2006

Manufacturer: AGCOS.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) 0.852 Fuel weight 7.09 lbs/gal (0.850 kg/l) Oil SAE 15W40 API service classification CH4 Transmission and hydraulic lubricant BP Terrac Tractan 9 fluid Front axle lubricant API GL5 -SAE 85W140

ENGINE: Make Perkins Diesel Type four cylinder vertical Serial No. U0903885 Crankshaft lengthwise Rated engine speed 2200 Bore and stroke 4.134" x 5.00" (105.0 mm x 127.0 mm) Compression ratio 19.3 to 1 Displacement 268 cu in (4400 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

CHASSIS: Type 2WD and FWA Serial No. M350101 Tread width rear 59.8" (1518 mm) to 67.0" (1703 mm) front 2WD - 53.0" (1345 mm) to 87.3" (2217 mm), FWA - 53.4" (1357 mm) to 64.8" (1646 mm) Wheelbase 2WD - 97.0" (2463 mm) FWA - 97.0" (2463 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio with partial (2) range operator controlled powershift Nominal travel speeds mph (km/h) first 1.58 (2.55) second 2.00 (3.22) third 2.39 (3.85) fourth 3.03 (4.87) fifth 3.31 (5.33) sixth 4.19 (6.74) seventh 4.80 (7.72) eighth 6.06 (9.76) ninth 6.36 (10.23) tenth 8.03 (12.93) eleventh 9.60 (15.45) twelfth 12.14 (19.54) thirteenth 13.29 (21.39) fourteenth 16.80 (27.03) fifteenth 19.24 (30.96) sixteenth 24.33 (39.15) reverse 1.54 (2.48), 1.94 (3.13), 2.32 (3.74), 2.94 (4.73), 3.22 (5.18), 4.07 (6.55), 4.66 (7.50), 5.89 (9.48), 6.16 (9.91), 7.81 (12.57), 9.33 (15.02), 11.79 (18.98), 12.91 (20.78), 16.33 (26.27), 18.70 (30.09), 23.63 (38.03) Clutch multiple wet disc operated by foot pedal Brakes multiple wet disc hydraulically operated by two foot pedals that can be locked together Steering hydrostatic Power take-off 540 rpm at 1980 engine rpm or 1000 rpm at 2000 engine rpm Unladen tractor mass 2WD - 8695 lb (3945 kg), FWA - 9335 lb (4235 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 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)
3rd(2TC)Gear									
45.9 (34.2)	8385 (37.3)	2.05 (3.30)	2140	15.1	0.610 (0.371)	11.62 (2.29)	185 (85)	32 (0)	30.1 (101.8)
4th(2TD)Gear									
50.0 (37.3)	6540 (29.1)	2.87 (4.62)	2155	6.9	0.557 (0.339)	12.74 (2.51)	178 (81)	34 (1)	30.1 (101.8)
5th(3TC)Gear									
50.2 (37.4)	6000 (26.7)	3.13 (5.04)	2140	6.6	0.563 (0.343)	12.59 (2.48)	187 (86)	34 (1)	30.1 (101.8)
6th(3TD)Gear									
50.2 (37.4)	4650 (20.7)	4.05 (6.51)	2146	4.6	0.529 (0.322)	13.40 (2.64)	180 (82)	34 (1)	30.1 (101.8)
7th(4TC) Gear									
48.7 (36.3)	3890 (17.3)	4.69 (7.55)	2152	3.8	0.566 (0.344)	12.54 (2.47)	187 (86)	34 (1)	30.1 (101.8)
8th(4TD) Gear									
46.0 (34.3)	2910 (12.9)	5.93 (9.55)	2150	3.8	0.607 (0.369)	11.68 (2.30)	187 (86)	34 (1)	30.1 (101.8)
9th(1LC) Gear									
48.7 (36.3)	2940 (13.1)	6.21 (10.00)	2142	3.1	0.568 (0.346)	12.49 (2.46)	189 (87)	34 (1)	30.1 (101.8)
10th(1LD)Gear									
47.6 (35.5)	2210 (9.8)	8.08 (13.01)	2163	1.7	0.587 (0.357)	12.08 (2.38)	189 (87)	36 (2)	30.1 (101.8)
11th(2LC)Gear									
42.0 (31.3)	1635 (7.3)	9.64 (15.51)	2149	1.3	0.691 (0.420)	10.26 (2.02)	189 (87)	36 (2)	30.1 (101.8)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE : The test results on this Summary were obtained from tests carried out on the Massey Ferguson 5435 Diesel.

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 26.4 GPM (100 lpm) remote hydraulic flow. The manufacturer's claim of 72 dB(A) cab sound level was not tested for verification. 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 Reports No. **2274 & 2275**, Nebraska Summary 514, March 17, 2006.

Leonard L. Bashford
 Director

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

TRACTOR SOUND LEVEL WITHOUT CAB	Front Wheel Drive	
	2WD dB(A)	Engaged dB(A)
At no load in 7th(4TC) gear	91.1	91.1
Bystander in 16th(4LD) gear	86.9	--

Tested Without Ballast

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

Front Wheel Assist	2WD
Two 18.4R34; **,15(100)	Two 18.4R34; **,15(100)
Two 14.9R24; **,16(110)	Two 7.50-16; 6; 30 (210)
22.0 in (560 mm)	28.5 in (730 mm)
5975 lb (2710 kg)	5930 lb (2690 kg)
3540 lb (1605 kg)	2955 lb (1340 kg)
9515 lb (4315 kg)	8885 lb (4030 kg)

DRAWBAR PERFORMANCE
(Unballasted - 2WD)
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)	Fuel Consumption Hp.hr/gal (kW.h/l)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—9th(1LC) Gear									
48.4 (36.1)	2900 (12.9)	6.26 (10.08)	2198	5.2	0.566 (0.344)	12.54 (2.47)	190 (88)	52 (11)	30.0 (101.7)
75% of Pull at Maximum Power—9th(1LC) Gear									
37.5 (28.0)	2185 (9.7)	6.44 (10.36)	2251	4.8	0.657 (0.400)	10.80 (2.13)	190 (88)	52 (11)	30.0 (101.7)
50% of Pull at Maximum Power—9th(1LC) Gear									
25.7 (19.2)	1465 (6.5)	6.59 (10.61)	2285	4.0	0.857 (0.521)	8.27 (1.63)	190 (88)	52 (11)	30.0 (101.7)
75% of Pull at Reduced Engine Speed—10th(1LD) Gear									
37.3 (27.8)	2175 (9.7)	6.43 (10.35)	1782	5.0	0.544 (0.331)	13.05 (2.57)	187 (86)	52 (11)	30.0 (101.7)
50% of Pull at Reduced Engine Speed—10th(1LD) Gear									
25.5 (19.0)	1470 (6.5)	6.51 (10.48)	1783	3.4	0.671 (0.408)	10.56 (2.08)	185 (85)	52 (11)	30.0 (101.7)
MAXIMUM POWER IN SELECTED GEARS									
3rd (2TC) Gear									
39.6 (29.5)	6880 (30.6)	2.16 (3.48)	2242	14.7	0.650 (0.395)	10.91 (2.15)	187 (86)	48 (9)	30.0 (101.7)
4th (2TD) Gear									
48.0 (35.8)	6630 (29.5)	2.72 (4.37)	2160	12.2	0.560 (0.341)	12.67 (2.50)	187 (86)	48 (9)	30.0 (101.7)
5th (3TC) Gear									
48.5 (36.2)	6000 (26.7)	3.03 (4.88)	2151	10.1	0.577 (0.351)	12.28 (2.42)	187 (86)	48 (9)	30.0 (101.7)
6th (3TD) Gear									
49.8 (37.1)	4795 (21.3)	3.89 (6.26)	2142	8.1	0.563 (0.343)	12.59 (2.48)	189 (87)	48 (9)	30.0 (101.7)
7th (4TC) Gear									
49.3 (36.8)	4110 (18.3)	4.50 (7.24)	2143	7.4	0.563 (0.343)	12.59 (2.48)	189 (87)	48 (9)	30.0 (101.7)
8th (4TD) Gear									
46.9 (35.0)	3045 (13.6)	5.78 (9.30)	2147	6.1	0.605 (0.368)	11.73 (2.31)	190 (88)	48 (9)	30.0 (101.7)
9th (1LC) Gear									
50.8 (37.9)	3140 (14.0)	6.07 (9.77)	2149	6.0	0.561 (0.341)	12.64 (2.49)	189 (87)	48 (9)	30.0 (101.7)
10th (1LD) Gear									
46.8 (34.9)	2265 (10.1)	7.74 (12.46)	2149	5.3	0.595 (0.362)	11.93 (2.35)	190 (88)	52 (11)	30.0 (101.7)
11th (2LC) Gear									
43.9 (32.7)	1775 (7.9)	9.27 (14.92)	2148	5.0	0.652 (0.396)	10.88 (2.14)	176 (80)	52 (11)	30.0 (101.7)

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II

Quick Attach: None

Maximum force exerted through whole range: 7285 lbs (32.4 kN)

i) Opening pressure of relief valve: NA

one outlet set two outlet sets combined

Sustained pressure of the open relief valve: 2715 psi (187 bar) 2715 psi (187 bar)

ii) Pump delivery rate at minimum pressure: 15.6 GPM (59.2 l/min) 15.9 GPM (60.4 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 14.6 GPM (55.2 l/min) 14.6 GPM (55.4 l/min)

Delivery pressure: 2235 psi (154 bar) 2265 psi (156 bar)

Power: 19.0 hp (14.2 kW) 19.3 Hp (14.4 kW)

HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	25.6	650
B	11.6	295
C	13.9	354
D	13.0	330
E	7.9	200
F	10.2	260
G	30.5	775
H	1.9	48
I	16.3	413
J	20.3	515
K	25.2	640
L	41.2	1046
M	22.5	571
N	37.2	946
O	8.1	205
P	44.3	1125
Q	31.5	801
R	30.1	765

