

# SUMMARY OF OECD TEST 2414 - NEBRASKA SUMMARY 606

## CHALLENGER MT565B AUTOPOWER VI DIESEL

### 24 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
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>					
<b>Rated Engine Speed—(PTO speed—1100 rpm)</b>					
162.7 (121.3)	2200	10.15 (38.41)	0.443 (0.270)	16.03 (3.16)	
<b>Standard Power Take-off Speed(1000 rpm)</b>					
177.3 (132.2)	2000	10.73 (40.62)	0.431 (0.262)	16.52 (3.25)	
<b>Maximum Power (1 hour)</b>					
185.9 (138.6)	1800	10.73 (40.62)	0.411 (0.250)	17.32 (3.41)	

#### VARYING POWER AND FUEL CONSUMPTION

162.7 (121.3)	2200	10.15 (38.41)	0.443 (0.270)	16.03 (3.16)	Air temperature
138.9 (103.6)	2210	8.70 (32.95)	0.446 (0.271)	15.96 (3.14)	72°F (22°C)
104.6 (78.0)	2221	7.16 (27.09)	0.487 (0.296)	14.62 (2.88)	Relative humidity
70.1 (52.3)	2232	5.27 (19.96)	0.535 (0.326)	13.30 (2.62)	24%
35.1 (26.2)	2241	3.36 (12.74)	0.682 (0.415)	10.44 (2.06)	Barometer
--	2252	2.00 (7.57)	--	--	30.6" Hg (103.6 kPa)

Maximum Torque - 477.4 lb.-ft. (815.4 Nm) at 1199 rpm  
 Maximum Torque Rise - 54.9%  
 Torque rise at 1750 engine rpm - 47%

#### 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)
<b>Maximum Power—11th(3A) Gear</b>								
124.4 (92.8)	8545 (38.0)	5.46 (8.79)	2197	3.3	0.508 (0.309)	14.01 (2.76)	181 (83)	41 (5)
<b>75% of Pull at Maximum Power—11th(3A) Gear</b>								
94.4 (70.4)	6395 (28.5)	5.54 (8.91)	2207	2.0	0.557 (0.339)	12.78 (2.52)	181 (83)	41 (5)
<b>50% of Pull at Maximum Power—11th(3A) Gear</b>								
64.0 (47.7)	4275 (19.0)	5.61 (9.03)	2217	1.5	0.615 (0.374)	11.57 (2.28)	178 (81)	41 (5)
<b>75% of Pull at Reduced Engine Speed—13th(3B) Gear</b>								
94.1 (70.2)	6375 (28.4)	5.54 (8.91)	1844	1.8	0.529 (0.322)	13.45 (2.65)	178 (81)	41 (5)
<b>50% of Pull at Reduced Engine Speed—13th(3B) Gear</b>								
64.1 (47.8)	4270 (19.0)	5.63 (9.06)	1852	1.4	0.572 (0.348)	12.44 (2.45)	178 (81)	41 (5)

**Location of tests:** Groupement d'Antony, Parc de Touvoie, BP 44 Antony, Cedex, France 92163  
**Dates of tests:** February - March, 2008

**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)** 0.855  
**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 fluid **Front axle lubricant** API GL5 - SAE 85W140

**ENGINE: Make** Perkins Diesel **Type** six cylinder vertical with turbocharger and air to air intercooler  
**Serial No.** 28851766603122 **Crankshaft** lengthwise  
**Rated engine speed** 2200 **Bore and stroke** 4.134" x 5.00" (105.0 mm x 127.0 mm) **Compression ratio** 16.2 to 1 **Displacement** 402 cu in (6600 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.** S131 045 **Tread width** rear 61.7" (1567 mm) to 70.8" (1798 mm) front 68.8" (1747 mm) to 75.4" (1915 mm) **Wheelbase** 120.1" (2996 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with partial (6) range operator controlled powershift **Nominal travel speeds mph (km/h)** first 1.07 (1.72) second 1.29 (2.07) third 1.51 (2.43) fourth 1.82 (2.93) fifth 2.14 (3.44) sixth 2.57 (4.14) seventh 2.90 (4.66) eighth 3.49 (5.61) ninth 4.09 (6.58) tenth 4.92 (7.92) eleventh 5.55 (8.93) twelfth 5.79 (9.31) thirteenth 6.67 (10.73) fourteenth 6.97 (11.21) fifteenth 7.83 (12.60) sixteenth 9.42 (15.16) seventeenth 11.08 (17.83) eighteenth 12.60 (20.27) nineteenth 13.34 (21.46) twentieth 15.14 (24.37) twenty-first 17.78 (28.61) twenty-second 21.39 (34.42) twenty-third 25.15 (40.48) twenty-fourth 24.86 (40.00) (engine speed 1800 rpm) reverse 1.07 (1.72), 1.29 (2.07), 1.51 (2.43), 1.82 (2.93), 2.14 (3.44), 2.57 (4.14), 2.90 (4.66), 3.49 (5.61), 4.09 (6.58), 4.92 (7.92), 5.55 (8.93), 5.79 (9.31), 6.67 (10.73), 6.97 (11.21), 7.83 (12.60), 9.42 (15.16), 11.08 (17.83), 12.60 (20.27), 13.34 (21.46), 15.14 (24.37), 17.78 (28.61), 21.39 (34.42), 25.15 (40.48), 24.86 (40.00)

**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)
74.3 (55.4)	14950 (66.5)	1.86 (3.00)	2204	14.7	0.693 (0.421)	10.27 (2.02)	178 (81)	39 (4)	30.3 (102.7)
93.5 (69.7)	14695 (65.4)	2.39 (3.84)	2190	8.8	0.602 (0.366)	11.83 (2.33)	176 (80)	39 (4)	30.3 (102.7)
105.0 (78.3)	14455 (64.3)	2.73 (4.39)	2194	7.6	0.549 (0.334)	12.95 (2.55)	178 (81)	41 (5)	30.3 (102.7)
125.0 (93.2)	14545 (64.7)	3.22 (5.18)	2167	8.3	0.523 (0.318)	13.60 (2.68)	178 (81)	41 (5)	30.3 (102.7)
134.8 (100.5)	14230 (63.3)	3.55 (5.72)	2041	8.4	0.508 (0.309)	14.01 (2.76)	180 (82)	41 (5)	30.3 (102.7)
144.3 (107.6)	13040 (58.0)	4.15 (6.68)	1928	5.4	0.477 (0.290)	14.92 (2.94)	180 (82)	41 (5)	30.3 (102.7)
161.5 (120.4)	13940 (62.0)	4.34 (6.99)	1807	6.0	0.477 (0.290)	14.92 (2.94)	185 (85)	41 (5)	30.3 (102.7)
139.7 (104.2)	11260 (50.1)	4.65 (7.49)	1815	4.8	0.478 (0.291)	14.90 (2.94)	183 (84)	41 (5)	30.3 (102.7)
164.1 (122.4)	11625 (51.7)	5.29 (8.52)	1801	4.7	0.467 (0.284)	15.23 (3.00)	187 (86)	39 (4)	30.3 (102.7)
140.7 (104.9)	9375 (41.7)	5.63 (9.06)	1813	3.6	0.474 (0.289)	15.00 (2.96)	183 (84)	41 (5)	30.3 (102.7)
166.6 (124.2)	9905 (44.1)	6.31 (10.15)	1804	3.5	0.457 (0.278)	15.58 (3.07)	185 (85)	39 (4)	30.3 (102.7)
165.6 (123.5)	8195 (36.4)	7.58 (12.19)	1799	3.3	0.466 (0.283)	15.28 (3.01)	187 (86)	39 (4)	30.3 (102.7)
159.2 (118.7)	6780 (30.2)	8.81 (14.17)	1800	2.0	0.484 (0.295)	14.70 (2.90)	181 (83)	41 (5)	30.3 (102.7)

**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 2000 engine rpm or 1000 rpm at 2000 engine rpm  
**Unladen tractor mass** -16635 lb (7545 kg)

**NOTE:** The engine on this tractor is electronically controlled to give 2 power levels. A "boosted" level is available when the PTO is engaged, under load, and when the tractor is operated in ranges 3 and 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. 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. **2414**, Nebraska Summary 606, August 21, 2008.

Roger M. Hoy  
Director

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

**TIRES, BALLAST AND WEIGHT**

	With Ballast	Without Ballast
<b>Rear Tires</b> - No., size, ply & psi(kPa)	Four 520/85R42;**,15(100)	Two 520/85R42;**,15(100)
<b>Ballast</b> - Duals (total)	1795 lb (815 kg)	None
- Cast Iron (total)	2250 lb (1020 kg)	None
<b>Front Tires</b> - No., size, ply & psi(kPa)	Two 16.9R30;**,15(100)	Two 16.9R30;**,15(100)
<b>Ballast</b> - Liquid (total)	None	None
- Cast Iron (total)	1325 lb (600 kg)	None
<b>Height of Drawbar</b>	23.6 in (600 mm)	22.8 in (580 mm)
<b>Static Weight with operator</b> - Rear	13030 lb (5910 kg)	9655 lb (4380 kg)
- Front	9140 lb (4145 kg)	7155 lb (3240 kg)
- Total	22170 lb (10055 kg)	16800 lb (7620 kg)

**DRAWBAR PERFORMANCE**  
**(Ballasted - 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)	Temp. °F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
5th(1E) Gear								
97.9 (73.0)	19830 (88.2)	1.85 (2.98)	2198	14.6	0.624 (0.380)	11.41 (2.25)	179 (82)	52 (11) 29.9 (101.4)
6th(1F) Gear								
117.7 (87.8)	18615 (82.8)	2.37 (3.82)	2168	8.1	0.552 (0.336)	12.89 (2.54)	180 (82)	52 (11) 29.9 (101.4)
7th(2A) Gear								
127.5 (95.1)	18480 (82.2)	2.59 (4.17)	2103	7.9	0.529 (0.322)	13.45 (2.65)	180 (82)	52 (11) 29.9 (101.4)
8th(2B) Gear								
138.1 (103.0)	18130 (80.7)	2.86 (4.60)	1912	7.1	0.501 (0.305)	14.21 (2.80)	182 (83)	52 (11) 29.9 (101.4)
9th(2C) Gear								
142.4 (106.2)	15735 (70.0)	3.39 (5.46)	1896	5.4	0.483 (0.294)	14.72 (2.90)	183 (84)	52 (11) 29.9 (101.4)
10th(2D) Gear								
144.3 (107.6)	13355 (59.4)	4.05 (6.52)	1859	4.2	0.473 (0.288)	15.02 (2.96)	181 (83)	52 (11) 29.9 (101.4)
11th(3A) Gear								
164.7 (122.8)	13960 (62.1)	4.42 (7.12)	1802	4.4	0.469 (0.285)	15.18 (2.99)	187 (86)	52 (11) 29.9 (101.4)
12th(2E) Gear								
139.4 (104.0)	11220 (49.9)	4.66 (7.50)	1801	3.5	0.482 (0.293)	14.77 (2.91)	179 (82)	52 (11) 29.9 (101.4)
13th(3B) Gear								
163.6 (122.0)	11445 (50.9)	5.36 (8.62)	1801	3.6	0.467 (0.284)	15.23 (3.00)	189 (87)	52 (11) 29.9 (101.4)
14th(2F) Gear								
138.8 (103.5)	9285 (41.3)	5.61 (9.03)	1800	2.3	0.485 (0.295)	14.67 (2.89)	185 (85)	52 (11) 29.9 (101.4)
15th(3C) Gear								
162.7 (121.3)	9645 (42.9)	6.33 (10.18)	1799	3.3	0.473 (0.288)	15.02 (2.96)	187 (86)	52 (11) 29.9 (101.4)
16th(3D) Gear								
160.7 (119.8)	7855 (35.0)	7.67 (12.34)	1801	2.0	0.481 (0.293)	14.80 (2.92)	187 (86)	52 (11) 29.9 (101.4)

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Disengaged dB(A)	Engaged dB(A)
At no load in 10th (2D) gear	68.0	68.0
Bystander	--	--

### THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II

Quick Attach: None

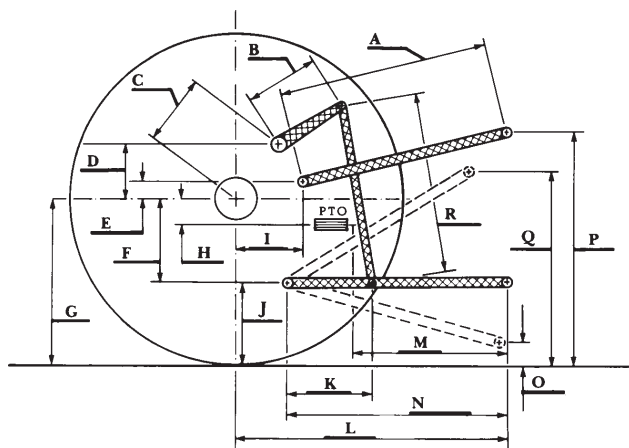
Maximum force exerted through whole range:	14095 lbs (62.7 kN)	
	<u>one coupler set</u>	<u>two outlet sets combined</u>
i) Sustained pressure of the open relief valve:	2845 psi (196 bar)	2845 psi (196 bar)
ii) Pump delivery rate at minimum pressure:	25.6 GPM (97.0 l/min)	30.3 GPM (114.7 l/min)
iii) Pump delivery rate at maximum		
hydraulic power:	23.7 GPM (89.8 l/min)	27.5 GPM (104.2 l/min)
Delivery pressure:	2045 psi (141 bar)	2220 psi (153 bar)
Power:	28.3 hp (21.1 kW)	35.7 Hp (26.6 kW)

### THREE POINT HITCH PERFORMANCE

Observed maximum pressure psi. (bar)	2845 (196)
Location:	lift cylinders
Hydraulic oil temperature: °F (°C)	151 (66)
Location:	hydraulic sump
Category:	II
Quick attach:	No

**SAE Static Test**—System pressure 2555 psi (176 Bar)

Hitch point distance to ground level in. (mm)	12.8 (324)	18.8 (477)	24.6 (624)	36.3 (923)	41.9 (1063)
Lift force on frame lb	17600	17310	17330	17265	16635
" " " " " " (kN)	(78.3)	(77.0)	(77.1)	(76.8)	(74.0)



### HITCH DIMENSIONS AS TESTED - NO LOAD

	OECD test		SAE test	
	inch	mm	inch	mm
A	29.9	760	30.5	774
B	15.7	400	15.7	400
C	20.7	525	20.7	525
D	19.1	485	19.1	485
E	8.3	210	11.6	295
F	12.2	310	12.2	310
G	36.4	925	36.4	925
H	2.0	50	2.0	50
I	17.7	450	16.9	430
J	24.2	615	24.2	615
K	21.8	554	21.8	554
L	47.2	1200	47.2	1200
M	22.0	560	22.0	560
N	37.1	942	37.1	942
O	9.2	234	12.8	324
P	48.2	1225	43.2	1098
Q	41.6	1056	41.9	1063
R	36.3	923	34.4	873