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Nebraska Summary S713: Challenger MT465B (S/N T025056 and higher)

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SUMMARY OF OECD TEST 2527–NEBRASKA SUMMARY 713
CHALLENGER MT465B DIESEL
16 SPEED
Tractor chassis S/N T025056 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—1099 rpm)					
102.5 *(76.4)*	2199	6.51 *(24.63)*	0.452 *(0.275)*	15.74 *(3.10)*	
Standard Power Take-off Speed(1000 rpm)					
113.0 *(84.3)*	2000	6.78 *(25.67)*	0.427 *(0.260)*	16.67 *(3.28)*	
Maximum Power (1 hour)					
113.0 *(84.3)*	2000	6.78 *(25.67)*	0.427 *(0.260)*	16.67 *(3.28)*	
VARYING POWER AND FUEL CONSUMPTION					
102.5 *(76.4)*	2199	6.51 *(24.63)*	0.452 *(0.275)*	15.74 *(3.10)*	Air temperature
87.2 *(65.0)*	2202	5.75 *(21.78)*	0.470 *(0.286)*	15.15 *(2.98)*	73°F *(23°C)*
65.7 *(49.0)*	2210	4.88 *(18.48)*	0.529 *(0.322)*	13.45 *(2.65)*	Relative humidity
44.0 *(32.8)*	2221	4.07 *(15.41)*	0.659 *(0.401)*	10.80 *(2.13)*	42%
22.1 *(16.5)*	2237	2.71 *(10.25)*	0.869 *(0.529)*	8.17 *(1.61)*	Barometer
-- --	2248	1.54 *(5.82)*	-- --	-- --	30.0" Hg *(100.7 kPa)*

Maximum torque - 370.3 lb.-ft. *(502.1 Nm)* at 1250 rpm
Maximum torque rise - 51.4%
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—9th(3A) Gear									
80.3 *(59.9)*	5035 *(22.4)*	5.98 *(9.62)*	2193	3.4	0.545 *(0.332)*	13.03 *(2.57)*	180 *(82)*	68 *(20)*	29.6 *(100.4)*
75% of Pull at Maximum Power—9th(3A) Gear									
61.3 *(45.7)*	3785 *(16.8)*	6.07 *(9.77)*	2197	2.0	0.600 *(0.365)*	11.83 *(2.33)*	180 *(82)*	68 *(20)*	29.6 *(100.3)*
50% of Pull at Maximum Power—9th(3A) Gear									
40.9 *(30.5)*	2500 *(11.1)*	6.14 *(9.88)*	2208	1.5	0.756 *(0.460)*	9.39 *(1.85)*	176 *(80)*	68 *(20)*	29.6 *(100.3)*
75% of Pull at Reduced Engine Speed—10th(3B) Gear									
61.3 *(45.7)*	3800 *(16.9)*	6.05 *(9.73)*	1781	2.3	0.526 *(0.320)*	13.50 *(2.66)*	176 *(80)*	66 *(19)*	29.6 *(100.3)*
50% of Pull at Reduced Engine Speed—10th(3B) Gear									
40.6 *(30.3)*	2495 *(11.1)*	6.11 *(9.83)*	1794	1.9	0.627 *(0.381)*	11.33 *(2.23)*	174 *(79)*	66 *(19)*	29.6 *(100.3)*

Location of tests: Groupement d'Antony, Parc de Touvoie, BP 44 Antony, Cedex, France 92163
Dates of tests: March to May, 2009

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

ENGINE: Make Perkins Diesel **Type** four cylinder vertical with turbocharger and air to air intercooler **Serial No.** U020241S **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** 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 and variable speed fan

CHASSIS: Type front wheel assist **Serial No.** T245056 **Tread width** rear 53.4" *(1357 mm)* to 73.7" *(1871 mm)* front 52.4" *(1332 mm)* to 73.6" *(1870 mm)* **Wheelbase** 97.0" *(2464 mm)* **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with partial (4) range operator controlled powershift **Nominal travel speeds mph *(km/h)*** first 1.22 *(1.96)* second 1.50 *(2.42)* third 1.83 *(2.95)* fourth 2.25 *(3.62)* fifth 2.90 *(4.66)* sixth 3.56 *(5.73)* seventh 4.34 *(6.99)* eighth 5.34 *(8.60)* ninth 5.88 *(9.46)* tenth 7.23 *(11.64)* eleventh 8.82 *(14.19)* twelfth 10.85 *(17.46)* thirteenth 13.27 *(21.36)* fourteenth 16.32 *(26.27)* fifteenth 19.91 *(32.04)* sixteenth 24.49 *(39.41)* reverse 1.22 *(1.96)*, 1.50 *(2.42)*, 1.83 *(2.95)*, 2.25 *(3.62)*, 2.90 *(4.66)*, 3.56 *(5.73)*, 4.34 *(6.99)*, 5.34 *(8.60)*, 5.88 *(9.46)*, 7.23 *(11.64)*, 8.82 *(14.19)*, 10.85 *(17.46)*, 13.27 *(21.36)*, 16.32 *(26.27)*, 19.91 *(32.04)*, 24.49 *(39.41)* **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** 10140 lb *(4600 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)*	Hp.hr/gal *(kW.h/l)*	Temp.°F*(°C)* cool-ing med	Air dry bulb	Barom. inch Hg *(kPa)*
				4th(1D)Gear					
55.1 *(41.1)*	10205 *(45.4)*	2.03 *(3.26)*	2193	14.5	0.683 *(0.416)*	10.40 *(2.05)*	180 *(82)*	61 *(16)*	29.7 *(100.6)*
				5th(2A)Gear					
71.1 *(53.0)*	9980 *(44.4)*	2.67 *(4.30)*	2180	12.0	0.595 *(0.362)*	11.93 *(2.35)*	180 *(82)*	61 *(16)*	29.7 *(100.5)*
				6th (2B) Gear					
80.9 *(60.3)*	9690 *(43.1)*	3.13 *(5.04)*	2026	9.4	0.540 *(0.329)*	13.15 *(2.59)*	181 *(83)*	61 *(16)*	29.7 *(100.5)*
				7th(2C)Gear					
85.2 *(63.5)*	8080 *(35.9)*	3.95 *(6.36)*	2008	5.4	0.514 *(0.312)*	13.82 *(2.72)*	181 *(83)*	63 *(17)*	29.7 *(100.5)*
				8th(2D)Gear					
85.3 *(63.6)*	6525 *(29.0)*	4.90 *(7.89)*	2004	4.3	0.512 *(0.311)*	13.87 *(2.73)*	181 *(83)*	63 *(17)*	29.7 *(100.5)*
				9th(3A)Gear					
94.5 *(70.5)*	6540 *(29.1)*	5.42 *(8.73)*	2001	4.1	0.489 *(0.297)*	14.52 *(2.86)*	183 *(84)*	68 *(20)*	29.6 *(100.3)*
				10th (3B) Gear					
94.0 *(70.1)*	5260 *(23.4)*	6.70 *(10.78)*	2000	3.5	0.497 *(0.302)*	14.28 *(2.81)*	183 *(84)*	68 *(20)*	29.6 *(100.3)*
				11th (3C) Gear					
92.7 *(69.1)*	4205 *(18.7)*	8.26 *(13.30)*	2006	3.2	0.507 *(0.309)*	14.00 *(2.76)*	185 *(85)*	68 *(20)*	29.6 *(100.3)*
				*12th (3D) Gear					
92.8 *(69.2)*	3465 *(15.4)*	10.04 *(16.15)*	2004	3.7	0.511 *(0.311)*	13.91 *(2.74)*	185 *(85)*	68 *(20)*	29.6 *(100.3)*

*Front Drive Disengaged

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive Disengaged dB(A)	Engaged dB(A)
At no load in 7th (2C) gear	72.0	73.0
Bystander	--	--

TRACTOR SOUND LEVEL WITHOUT CAB	Front Wheel Drive Disengaged dB(A)	Engaged dB(A)
At no load in 8th (2D) gear	85.0	85.0
Bystander	--	--

TIRES AND WEIGHT

	Tested without ballast
Rear tires - No.,size, ply & psi*(kPa)*	Two 480/80R38; **;15*(100)*
Front tires - No.,size, ply & psi*(kPa)*	Two 380/85R28; **;16*(110)*
Height of Drawbar	19.7 in *(500 mm)*
Static Weight with operator- Rear	6295 lb *(2855 kg)*
- Front	4010 lb *(1820 kg)*
- Total	10305 lb *(4675 kg)*

REPAIRS AND ADJUSTMENTS: No repairs or adjustments

NOTE 1: The engine on this tractor is electronically controlled to give 2 power levels. A "boosted" level is available when the PTO is engaged, tractor stationary, and when the tractor is operated in ranges 3 and 4.

NOTE 2: The data on this summary was obtained from OECD report 2527 conducted on the Massey Ferguson 5460 Diesel.

NOTE 3: The performance figures on this report apply to tractors with chassis S/N T025056 and higher.

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 GPM *(100 lpm)* hydraulic flow at the remote outlets. 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 Reports No. **2527**, Nebraska Summary 713, September 8, 2010.

Roger M. Hoy
Director

M.F. Kocher
D.R. Keshwani
J.A. Smith
Board of Tractor Test Engineers

DRAWBAR PERFORMANCE

(Unballasted - Front Drive Disengaged)

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)*	Hp.hr/gal *(kW.h/l)*	Temp.°F *(°C)* cool-ing med	Air dry bulb	Barom. inch Hg *(kPa)*
				5th(2A) Gear					
60.1	8510	2.65	2195	13.7	0.610	11.63	178	55	29.7
(44.8)	*(37.9)*	*(4.26)*			*(0.371)*	*(2.29)*	*(81)*	*(13)*	*(100.6)*
				6th (2B) Gear					
72.8	8205	3.33	2164	10.5	0.595	11.92	180	55	29.7
(54.3)	*(36.5)*	*(5.36)*			*(0.362)*	*(2.35)*	*(82)*	*(13)*	*(100.6)*
				7th(2C) Gear					
83.7	8310	3.78	2004	10.0	0.532	13.35	181	57	29.7
(62.4)	*(37.0)*	*(6.08)*			*(0.324)*	*(2.63)*	*(83)*	*(14)*	*(100.6)*
				8th(2D) Gear					
83.5	6475	4.84	2000	5.9	0.534	13.30	180	57	29.7
(62.3)	*(28.8)*	*(7.79)*			*(0.325)*	*(2.62)*	*(82)*	*(14)*	*(100.6)*
				9th(3A) Gear					
95.1	6700	5.32	2004	6.4	0.507	14.01	176	57	29.7
(70.9)	*(29.8)*	*(8.56)*			*(0.308)*	*(2.76)*	*(80)*	*(14)*	*(100.6)*
				10th (3B) Gear					
94.8	5395	6.59	2002	6.0	0.503	14.11	183	57	29.7
(70.7)	*(24.0)*	*(10.60)*			*(0.306)*	*(2.78)*	*(84)*	*(14)*	*(100.6)*
				11th (3C) Gear					
93.9	4340	8.11	1999	5.5	0.511	13.91	185	59	29.7
(70.0)	*(19.3)*	*(13.05)*			*(0.311)*	*(2.74)*	*(85)*	*(15)*	*(100.6)*
				12th (3D) Gear					
90.0	3380	9.99	2003	5.0	0.540	13.16	183	59	29.7
(67.1)	*(15.0)*	*(16.07)*			*(0.328)*	*(2.59)*	*(84)*	*(15)*	*(100.6)*

TIRES AND WEIGHT

	Tested without ballast
Rear tires - No.,size, ply & psi(*kPa*)	Two 480/80R38; **;15(*100*)
Front tires - No.,size, ply & psi(*kPa*)	Two 380/85R28; **;16(*110*)
Height of Drawbar	33.5 in *(850 mm)*
Static Weight with operator - Rear	6295 lb *(2855 kg)*
- Front	4010 lb *(1820 kg)*
- Total	10305 lb *(4675 kg)*

HYDRAULIC PERFORMANCE

CATEGORY: II
Quick Attach: None
OECD Static test
Maximum force exerted through whole range: 7817 lbs *(34.8 kN)* (66 mm lift cylinders)
9189 lbs *(40.9 kN)* (75 mm lift cylinders)

	Open center system		Closed center system
	100 l/min pump	57 l/min pump	110 l/min pump
i) Sustained pressure of the open relief valve:	3136 psi *(216 bar)*	2755 psi *(190 bar)*	2848 psi *(196 bar)*
ii) Pump delivery rate at minimum pressure:	24.1 GPM *(91.2 l/min)*	15.9 GPM *(60.3 l/min)*	29.8 GPM *(112.7 l/min)*
iii) Pump delivery rate at maximum hydraulic power:	22.4 GPM *(84.8 l/min)*	14.8 GPM *(56.2 l/min)*	24.2 GPM *(91.6 l/min)*
Delivery pressure:	2338 psi *(161 bar)*	2580 psi *(178 bar)*	2708 psi *(187 bar)*
Power:	30.6 HP *(22.8 kW)*	22.3 Hp *(16.7 kW)*	38.2 hp *(28.5 kW)*

THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi. *(bar)*	2770 *(191)*
Location:	lift cylinder
Hydraulic oil temperature: °F *(°C)*	152 *(67)*
Location:	hydraulic valve
Category:	II
Quick attach:	none

66 mm cylinders

SAE Static Test—System pressure 2490 psi *(172 Bar)*

Hitch point distance to ground level in. *(mm)*	9.9 *(251)*	15.0 *(381)*	22.0 *(559)*	29.0 *(737)*	36.0 *(914)*
Lift force on frame lb	15561	12897	11745	10314	9126
" " " " " " *(kN)*	*(69.2)*	*(57.4)*	*(51.0)*	*(45.9)*	*(40.6)*

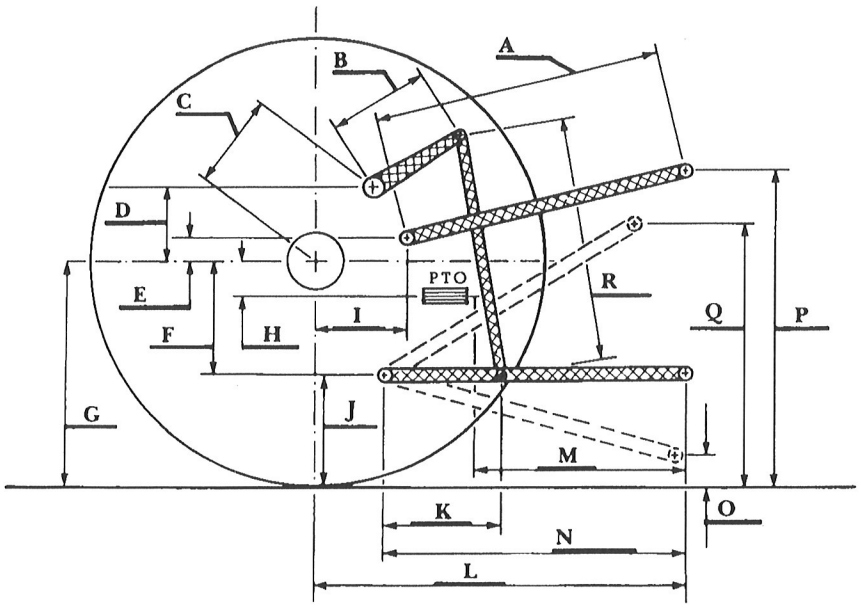
75 mm cylinders

SAE Static Test—System pressure 2490 psi *(172 Bar)*

Hitch point distance to ground level in. *(mm)*	10.2 *(259)*	15.0 *(381)*	22.0 *(559)*	29.0 *(737)*	36.0 *(914)*
Lift force on frame lb	18747	15849	14310	12789	11421
" " " " " " *(kN)*	*(83.4)*	*(70.5)*	*(63.7)*	*(56.9)*	*(50.8)*

HITCH DIMENSIONS AS TESTED—NO LOAD

	SAE test		OECD test	
	inch	*mm*	inch	*mm*
A	24.8	*629*	24.8	*629*
B	11.6	*295*	11.6	*295*
C	13.9	*353*	13.9	*353*
D	13.0	*330*	13.0	*330*
E	7.9	*200*	7.9	*200*
F	10.2	*260*	10.2	*260*
G	30.3	*770*	30.3	*770*
H	1.4	*35*	1.4	*35*
I	16.2	*413*	16.2	*413*
J	20.1	*510*	20.1	*510*
K	24.2	*615*	24.2	*615*
L	41.2	*1046*	41.2	*1046*
M	23.5	*596*	23.5	*596*
N	37.2	*946*	37.2	*946*
O	8.0	*203*	8.0	*203*
P	40.2	*1020*	44.1	*1120*
Q	33.5	*850*	33.5	*850*
R	29.0	*737*	29.0	*737*



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