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2015

Nebraska Summary: S1024 Challenger MT595E

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SUMMARY OF OECD TEST 2915–NEBRASKA SUMMARY 1024
CHALLENGER MT595E AP6 DIESEL
24 SPEED

POWER TAKE-OFF PERFORMANCE

Power HP *(kW)*	Crank shaft speed rpm	Diesel Consumption Gal/hr *(l/h)*	lb/hp.hr *(kg/kW.h)*	D.E.F. Consumption Hp.hr/gal *(kW.h/l)*	Gal/hr *(l/h)*	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION						
Rated Engine Speed—(PTO speed—1088 rpm)						
208.0 *(155.1)*	2100	12.24 *(46.33)*	0.410 *(0.250)*	17.00 *(3.35)*	0.74 *(2.79)*	
Maximum Power (1 hour)						
227.7 *(169.8)*	1950	12.66 *(47.94)*	0.388 *(0.236)*	17.98 *(3.54)*	0.85 *(3.23)*	
Standard Power Take-off Speed (1000 rpm)						
227.0 *(169.3)*	1930	12.58 *(47.63)*	0.386 *(0.235)*	18.04 *(3.56)*	0.85 *(3.21)*	
VARYING POWER AND FUEL CONSUMPTION						
208.0 *(155.1)*	2100	12.24 *(46.33)*	0.410 *(0.250)*	17.00 *(3.35)*	0.74 *(2.79)*	Air temperature
178.5 *(133.1)*	2120	10.65 *(40.32)*	0.416 *(0.253)*	16.75 *(3.30)*	0.63 *(2.40)*	73°F *(23°C)*
134.2 *(100.1)*	2127	8.15 *(30.87)*	0.424 *(0.258)*	16.46 *(3.24)*	0.55 *(2.10)*	Relative humidity
89.8 *(67.0)*	2135	6.12 *(23.17)*	0.476 *(0.289)*	14.67 *(2.89)*	0.43 *(1.63)*	48%
45.1 *(33.6)*	2143	4.14 *(15.69)*	0.642 *(0.390)*	10.87 *(2.14)*	0.27 *(1.04)*	Barometer
-- --	2155	2.36 *(8.95)*	-- --	-- --	-- --	30.2" Hg *(102.2 kPa)*

Maximum torque - 722.5 lb.-ft. *(979.6 Nm)* at 1201 rpm
Maximum torque rise - 38.9%
Torque rise at 1700 engine rpm - 30%
Power increase at 1950 engine rpm - 9.5%

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 cool-ing	*(°C)* Air dry bulb	Barom. inch Hg *(kPa)*
Power at Rated Engine Speed—13th(3B) Gear									
169.6 *(126.5)*	10610 *(47.2)*	6.00 *(9.65)*	2100	5.0	0.501 *(0.305)*	13.81 *(2.72)*	190 *(88)*	86 *(30)*	30.2 *(102.1)*
75% of Pull at Rated Engine Speed—13th(3B) Gear									
129.4 *(96.5)*	7890 *(35.1)*	6.15 *(9.90)*	2125	4.0	0.519 *(0.316)*	13.33 *(2.63)*	190 *(88)*	86 *(30)*	30.2 *(102.1)*
50% of Pull at Rated Engine Speed—13th(3B) Gear									
89.4 *(66.7)*	5280 *(23.5)*	6.35 *(10.22)*	2133	1.8	0.577 *(0.351)*	11.98 *(2.36)*	187 *(86)*	86 *(30)*	30.2 *(102.2)*
75% of Pull at Reduced Engine Speed—15th(3C) Gear									
129.0 *(96.2)*	7890 *(35.1)*	6.13 *(9.87)*	1807	3.5	0.467 *(0.284)*	14.82 *(2.92)*	189 *(87)*	86 *(30)*	30.2 *(102.2)*
50% of Pull at Reduced Engine Speed—15th(3C) Gear									
90.3 *(67.3)*	5375 *(23.9)*	6.29 *(10.13)*	1816	1.8	0.493 *(0.300)*	14.04 *(2.77)*	185 *(85)*	86 *(30)*	30.2 *(102.2)*

Location of tests: IRSTEA, Centre d'Antony, 1 rue Pierre-Gilles de Gennes CS 10030 Antony, 92163, Cedex, France

Dates of tests: July to August, 2015

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

CONSUMABLE FLUIDS: **Fuel** No. 2 Diesel **Specific gravity converted to 60°/60°F *(15°/15°C)*** 0.838 **Fuel weight** 6.98 lbs/gal *(0.836 kg/l)* **Diesel Exhaust Fluid (DEF)** 32% aqueous urea solution **DEF weight** 9.10 lbs/gal *(1.091 kg/l)* **Oil SAE** 15W40 **API service classification** CJ-4 **Transmission and hydraulic lubricant** BP Terrac Tractan 9 15W/40 **Front axle lubricant** BP Terrac Tractan 9 15W/40

ENGINE: Make AGCO Power Diesel **Type** six cylinder vertical with turbocharger, air to air intercooler and SCR (selective catalyst reduction) exhaust treatment **Serial No.** Y00233 **Crankshaft** lengthwise **Rated engine speed** 2100 **Bore and stroke** 4.252" x 5.276" *(108.0 mm x 134.0 mm)* **Compression ratio** 17.8 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** three paper cartridges **Muffler** vertical **Cooling medium temperature control** thermostat and variable speed fan

CHASSIS: Type front wheel assist **Serial No.** D 119901 **Tread width** rear 52.8" *(1340 mm)* to 87.8" *(2230 mm)* front 52.8" *(1340 mm)* to 87.8" *(2230 mm)* **Wheelbase** 117.0" *(2973 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 0.99 *(1.60)* second 1.19 *(1.92)* third 1.40 *(2.25)* fourth 1.68 *(2.71)* fifth 1.98 *(3.19)* sixth 2.39 *(3.84)* seventh 2.68 *(4.32)* eighth 3.23 *(5.19)* ninth 3.78 *(6.09)* tenth 4.55 *(7.33)* eleventh 5.14 *(8.27)* twelfth 5.36 *(8.62)* thirteenth 6.18 *(9.94)* fourteenth 6.45 *(10.38)* fifteenth 7.25 *(11.67)* sixteenth 8.72 *(14.04)* seventeenth 10.26 *(16.51)* eighteenth 12.35 *(19.87)* nineteenth 14.26 *(22.95)* twentieth 17.15 *(27.60)* twenty-first 20.13 *(32.39)* twenty-second 24.22 *(38.98)* twenty-third 24.86 *(40.00)* twenty-fourth 24.86 *(40.00)* electronically limited reverse 0.99 *(1.60)*, 1.19 *(1.92)*, 1.40 *(2.25)*, 1.68 *(2.71)*, 1.98 *(3.19)*, 2.39 *(3.84)*, 2.68 *(4.32)*, 3.23 *(5.19)*, 3.78 *(6.09)*, 4.55 *(7.33)*, 5.14 *(8.27)*, 5.36 *(8.62)*, 6.18 *(9.94)*, 6.45 *(10.38)*, 7.25 *(11.67)*, 8.72 *(14.04)* 10.26 *(16.51)*, 12.35 *(19.87)*, 14.26 *(22.95)*, 17.15 *(27.60)*, 20.13 *(32.39)*, 24.22 *(38.98)*, 24.86 *(40.00)*, 24.86 *(40.00)* electronically limited

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					
72.8 *(54.3)*	18095 *(80.5)*	1.51 *(2.43)*	2135	14.0	0.628 *(0.382)*	11.01 *(2.17)*	178 *(81)*	77 *(25)*	30.2 *(102.2)*
				5th(1E) Gear					
83.8 *(62.5)*	17265 *(76.8)*	1.82 *(2.93)*	2128	10.0	0.608 *(0.370)*	11.37 *(2.24)*	181 *(83)*	79 *(26)*	30.2 *(102.2)*
				6th(1F) Gear					
104.1 *(77.6)*	17785 *(79.1)*	2.19 *(3.53)*	2124	10.5	0.569 *(0.346)*	12.16 *(2.40)*	187 *(86)*	79 *(26)*	30.2 *(102.3)*
				7th(2A) Gear					
117.6 *(87.7)*	17645 *(78.5)*	2.50 *(4.02)*	2122	10.0	0.533 *(0.324)*	12.99 *(2.56)*	189 *(87)*	79 *(26)*	30.2 *(102.2)*
				8th(2B) Gear					
140.3 *(104.6)*	17670 *(78.6)*	2.98 *(4.79)*	2114	10.0	0.521 *(0.317)*	13.29 *(2.62)*	189 *(87)*	81 *(27)*	30.2 *(102.2)*
				9th(2C) Gear					
153.5 *(114.5)*	16230 *(72.2)*	3.55 *(5.71)*	2093	8.0	0.503 *(0.306)*	13.76 *(2.71)*	192 *(89)*	81 *(27)*	30.2 *(102.2)*
				*10th(2D) Gear					
168.7 *(125.8)*	15150 *(67.4)*	4.18 *(6.72)*	2044	6.5	0.496 *(0.302)*	13.96 *(2.75)*	192 *(89)*	81 *(27)*	30.2 *(102.2)*
				*11th(3A) Gear					
184.0 *(137.2)*	15510 *(69.0)*	4.45 *(7.16)*	1953	7.0	0.477 *(0.290)*	14.52 *(2.86)*	194 *(90)*	84 *(29)*	30.2 *(102.1)*
				*12th(2E) Gear					
188.0 *(140.2)*	14970 *(66.6)*	4.71 *(7.58)*	1943	6.0	0.463 *(0.282)*	14.95 *(2.95)*	192 *(89)*	82 *(28)*	30.1 *(102.0)*
				*13th(3B) Gear					
187.7 *(140.0)*	12950 *(57.6)*	5.44 *(8.75)*	1938	5.6	0.459 *(0.279)*	15.08 *(2.97)*	192 *(89)*	86 *(30)*	30.2 *(102.1)*
				*14th(2F) Gear					
189.2 *(141.1)*	12320 *(54.8)*	5.76 *(9.27)*	1948	5.4	0.464 *(0.282)*	14.92 *(2.94)*	194 *(90)*	84 *(29)*	30.2 *(102.1)*
				*15th(3C) Gear					
190.3 *(141.9)*	10925 *(48.6)*	6.53 *(10.51)*	1959	5.0	0.456 *(0.278)*	15.15 *(2.99)*	192 *(89)*	86 *(30)*	30.2 *(102.1)*
				*16th(3D) Gear					
193.4 *(144.2)*	9305 *(41.4)*	7.79 *(12.54)*	1947	4.6	0.458 *(0.279)*	15.11 *(2.98)*	192 *(89)*	86 *(30)*	30.2 *(102.1)*
				*17th(3E) Gear					
190.8 *(142.3)*	7575 *(33.7)*	9.45 *(15.20)*	1958	3.8	0.460 *(0.280)*	15.02 *(2.96)*	190 *(88)*	88 *(31)*	30.2 *(102.1)*
				*18th(3F) Gear					
182.0 *(135.7)*	5915 *(26.3)*	11.55 *(18.58)*	1968	2.2	0.491 *(0.299)*	14.10 *(2.78)*	192 *(89)*	89 *(32)*	30.2 *(102.1)*

* Powerboost mode

TRACTOR SOUND LEVEL WITH CAB	Front wheel drive Engaged dB(A)	Front wheel drive Disengaged dB(A)
At no load in 10th (2D) gear	70.0	69.0
Bystander		--

TIRES, BALLAST AND WEIGHT

	Tested without ballast
Rear Tires - No., size, ply & psi(*kPa*)	Two 650/85R38;**;15(*100*)
Front Tires - No., size, ply & psi(*kPa*)	Two 600/70R28;**;16(*110*)
Height of Drawbar	23.6 in (*600 mm*)
Static Weight with operator - Rear	11665 lb (*5290 kg*)
- Front	8345 lb (*3785 kg*)
- Total	20010 lb (*9075 kg*)

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 1890 engine rpm or 1000 rpm at 1930 engine rpm **Unladen tractor mass** 19840 lb *(9000 kg)*

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE 1: This tractor has a power management system that provides an engine power increase when the PTO is engaged and for travel speeds from gear 2D and higher.

NOTE 2: The data on this summary was obtained from OECD report 2915 conducted on the Massey Ferguson 7726 Dyna 6 Diesel.

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 2 test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **2915,** Nebraska Summary 1024, June16, 2016.

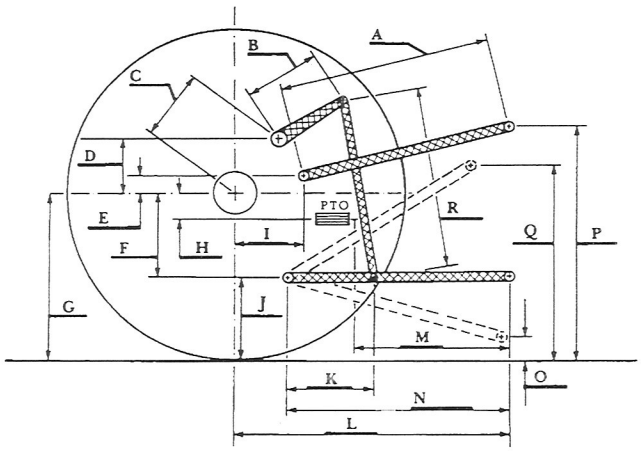
Roger M. Hoy
Director

M.F. Kocher
J.D. Luck
P.J. Jasa
Board of Tractor Test Engineers

HYDRAULIC PERFORMANCE

CATEGORY: III
Quick Attach: None
OECD Static test

Maximum force exerted through whole range:	13920 lbs *(61.9 kN)*	
i) Sustained pressure of the open relief valve:	2700 psi *(186 bar)*	
	Standard Pump	Optional pump
	29 GPM *(110 l/min)*	39 GPM *(150 l/min)*
	two outlet sets combined	two outlet sets combined
ii) Pump delivery rate at minimum pressure:	30.7 GPM *(116.2 l/min)*	42.1 GPM *(159.2 l/min)*
iii) Pump delivery rate at maximum		
hydraulic power:	29.2 GPM *(110.5 l/min)*	38.6 GPM *(146.3 l/min)*
Delivery pressure:	1990 psi *(137 bar)*	1820 psi *(126 bar)*
Power:	33.9 HP *(25.2 kW)*	41.0 HP *(30.6 kW)*
	single outlet set	single outlet set
ii) Pump delivery rate at minimum pressure:	30.2 GPM *(114.2 l/min)*	29.6 GPM *(112.0 l/min)*
iii) Pump delivery rate at maximum		
hydraulic power:	28.6 GPM *(108.3 l/min)*	27.0 GPM *(102.1 l/min)*
Delivery pressure:	1975 psi *(136 bar)*	1945 psi *(134 bar)*
Power:	32.9 HP *(24.5 kW)*	30.6 HP *(22.8 kW)*



HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	*mm*
A	31.1	*790*
B	15.7	*400*
C	20.7	*525*
D	19.1	*485*
E	8.3	*210*
F	12.2	*310*
G	38.4	*975*
H	2.0	*50*
I	17.7	*450*
J	26.2	*665*
K	23.3	*591*
L	48.3	*1228*
M	23.6	*600*
N	38.2	*970*
O	9.3	*235*
P	44.7	*1135*
Q	40.0	*1017*
R	39.4	*1000*