

# SUMMARY OF OECD TEST 2833—NEBRASKA SUMMARY 956 CHALLENGER MT485D AP4 DIESEL 16 SPEED

## POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Diesel Consumption		D.E.F. Consumption		Mean Atmospheric Conditions
		Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Gal/hr (l/h)	
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>						
<b>Rated Engine Speed—(PTO speed—1084 rpm)</b>						
119.4 (89.0)	2201	7.36 (27.85)	0.431 (0.262)	16.22 (3.20)	0.30 (1.15)	
<b>Standard Power Take-off Speed (1000 rpm)</b>						
133.8 (99.8)	2030	7.74 (29.30)	0.404 (0.246)	17.29 (3.41)	0.35 (1.31)	
<b>Maximum Power (1 hour)</b>						
136.5 (101.8)	2000	7.82 (29.60)	0.399 (0.243)	17.46 (3.44)	0.35 (1.31)	

VARYING POWER AND FUEL CONSUMPTION						
119.4 (89.0)	2201	7.36 (27.85)	0.431 (0.262)	16.22 (3.20)	0.30 (1.15)	Air temperature
103.0 (76.8)	2218	6.35 (24.04)	0.431 (0.262)	16.19 (3.19)	0.24 (0.91)	70°F (21°C)
77.6 (57.9)	2232	5.15 (19.51)	0.464 (0.282)	15.08 (2.97)	0.17 (0.66)	Relative humidity
51.9 (38.7)	2239	4.01 (15.19)	0.539 (0.328)	12.94 (2.55)	---	40%
26.0 (19.4)	2246	2.90 (10.99)	0.778 (0.473)	8.98 (1.77)	---	Barometer
---	2252	1.93 (7.31)	---	---	---	30.0" Hg (101.6 kPa)

Maximum torque - 457 lb.-ft. (619 Nm) at 1200 rpm  
 Maximum torque rise - 60.1%  
 Torque rise at 1800 engine rpm - 37%  
 Power increase at 2000 engine rpm - 14%

## 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)
<b>Maximum Power—9th(3A) Gear</b>									
99.0 (73.8)	6105 (27.2)	6.08 (9.79)	2199	3.6	0.506 (0.308)	13.78 (2.71)	187 (86)	52 (11)	30.1 (102.0)
<b>75% of Pull at Maximum Power—9th(3A) Gear</b>									
77.2 (57.6)	4610 (20.5)	6.29 (10.12)	2220	2.5	0.539 (0.328)	12.94 (2.55)	185 (85)	54 (12)	30.1 (102.0)
<b>50% of Pull at Maximum Power—9th(3A) Gear</b>									
51.1 (38.1)	3025 (13.5)	6.33 (10.19)	2238	2.0	0.613 (0.373)	11.39 (2.24)	183 (84)	54 (12)	30.1 (102.0)
<b>75% of Pull at Reduced Engine Speed—10th(3B) Gear</b>									
76.8 (57.3)	4575 (20.3)	6.29 (10.13)	1822	2.4	0.454 (0.276)	15.38 (3.03)	183 (84)	54 (12)	30.1 (102.0)
<b>50% of Pull at Reduced Engine Speed—10th(3B) Gear</b>									
51.2 (38.2)	3025 (13.5)	6.35 (10.22)	1830	1.8	0.503 (0.306)	13.91 (2.74)	181 (83)	52 (11)	30.1 (102.0)

**Location of tests:** IRSTEA, Centre d'Antony, 1 rue Pierre-Gilles de Gennes CS 10030, Antony, France 92761

**Dates of tests:** February to March, 2014

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

**CONSUMABLE Fluids and OIL: Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.839 Fuel weight 6.99 lbs/gal (0.837 kg/l) Diesel Exhaust Fluid (DEF) 32% aqueous urea solution DEF weight 9.08 lbs/gal (1.091 kg/l) Oil SAE 15W40 API service classification CJ-4 Transmission and hydraulic lubricant BP Terrac Tractan 9 10W/40 Front axle lubricant SAE 85W140 API GL-5**

**ENGINE: Make** AGCO Power Diesel **Type** four cylinder vertical with turbocharger, air to air intercooler and SCR (selective catalyst reduction) exhaust treatment **Serial No.** X00134 **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.252" x 5.276" (108.0 mm x 134.0 mm) **Compression ratio** 17.8 to 1 **Displacement** 299 cu in (4910 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** two paper cartridges **Muffler** underhood **Exhaust** vertical **Cooling medium temperature control** thermostat and variable speed fan

**CHASSIS: Type** front wheel assist **Serial No.** C 146 901 **Tread width** rear 52.8" (1340 mm) to 87.8" (2230 mm) front 52.8" (1340 mm) to 87.8" (2230 mm) **Wheelbase** 105.1" (2670 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 1.30 (2.09) second 1.60 (2.57) third 1.95 (3.14) fourth 2.40 (3.86) fifth 3.08 (4.96) sixth 3.80 (6.11) seventh 4.63 (7.45) eighth 5.69 (9.16) ninth 6.26 (10.08) tenth 7.71 (12.40) eleventh 9.40 (15.12) twelfth 11.56 (18.60) thirteenth 14.45 (23.26) fourteenth 17.77 (28.60) fifteenth 21.60 (34.77) sixteenth 26.66 (42.91) reverse 1.30 (2.09), 1.60 (2.57), 1.95 (3.14), 2.40 (3.86), 3.08 (4.96), 3.80 (6.11), 4.63 (7.45), 5.69 (9.16), 6.26 (10.08), 7.71 (12.40), 9.40 (15.12), 11.56 (18.60), 14.45 (23.26), 17.77 (28.60), 21.60 (34.77), 26.66 (42.91)

**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. <sup>o</sup> F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
4th(1D) Gear									
71.3 (53.2)	12350 (54.9)	2.16 (3.48)	2221	12.1	0.562 (0.342)	12.43 (2.45)	185 (85)	48 (9)	30.1 (102.0)
5th(2A) Gear									
88.4 (65.9)	11890 (52.9)	2.79 (4.48)	2154	9.5	0.510 (0.310)	13.71 (2.70)	187 (86)	48 (9)	30.1 (102.0)
6th(2B) Gear									
94.6 (70.6)	10800 (48.0)	3.28 (5.28)	2007	7.6	0.487 (0.296)	14.37 (2.83)	187 (86)	48 (9)	30.1 (102.0)
7th(2C) Gear									
99.1 (73.9)	9025 (40.2)	4.12 (6.63)	2006	4.2	0.464 (0.282)	15.08 (2.97)	189 (87)	50 (10)	30.1 (102.0)
8th(2D) Gear									
102.2 (76.2)	7585 (33.7)	5.05 (8.13)	1995	3.5	0.458 (0.278)	15.25 (3.00)	190 (88)	50 (10)	30.1 (102.0)
*9th(3A) Gear									
114.4 (85.3)	7735 (34.4)	5.55 (8.94)	2002	3.8	0.477 (0.290)	14.63 (2.88)	190 (88)	52 (11)	30.1 (102.0)
*10th(3B) Gear									
113.0 (84.2)	6105 (27.2)	6.94 (11.18)	2017	2.8	0.473 (0.288)	14.77 (2.91)	189 (87)	54 (12)	30.1 (102.0)
*11th(3C) Gear									
111.3 (83.0)	4895 (21.8)	8.53 (13.72)	2004	2.0	0.473 (0.288)	14.77 (2.91)	190 (88)	52 (11)	30.1 (102.0)

\* boosted power mode

**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 1981 engine rpm or 1000 rpm at 2030 engine rpm  
**Unladen tractor mass** 13900 lb (6305 kg)

**NOTE 1:** The data on this summary was obtained from OECD report 2833 conducted on the Massey Ferguson 6615 Dyna 4 Diesel.

**NOTE 2:** This tractor has an engine control feature that allows the engine to run in a "boosted" mode, increased power level, when the tractor is operated during stationary PTO operations and when the tractor is operated in drawbar 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. This tractor did not meet the manufacturer's remote hydraulic flow claim of 26 GPM with twin flow pump nor 3 point lift capacity claim of 11400 lbs (5170 kg). The manufacturer's remote hydraulic flow claims of 15 GPM (standard flow) and 29 GPM (closed center system) were not verified. 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. **2833**, Nebraska Summary 956, August 19, 2014.

Roger M. Hoy  
 Director

M.F. Kocher  
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 Board of Tractor Test Engineers

TRACTOR SOUND LEVEL WITH CAB	Front wheel drive	
	Engaged dB(A)	Disengaged dB(A)
At no load in 7th(2C) gear	71.0	71.0
Bystander		--

**TIRES, BALLAST 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

**Tested without ballast**

Two 580/70R38; \*\*; 14(100)  
 Two 480/70R28; \*\*; 14(100)  
 19.7 in (500 mm)  
 7660 lb (3475 kg)  
 6405 lb (2905 kg)  
 14065 lb (6380 kg)

## HYDRAULIC PERFORMANCE

CATEGORY: II

Quick Attach: No

OECD Static test

Maximum force exerted through whole range: 8520 lbs (37.9 kN)

**Twin Flow Pump**

**two outlet sets combined**

- i) Sustained pressure at compensator cutoff: 2930 psi (202 bar)
- ii) Pump delivery rate at minimum pressure: 25.7 GPM (97.2 l/min)
- iii) Pump delivery rate at maximum
  - hydraulic power: 23.9 GPM (90.4 l/min)
  - Delivery pressure: 2000 psi (138 bar)
  - Power: 27.8 HP (20.7 kW)

**single outlet set**

- i) Sustained pressure at compensator cutoff: 2930 psi (202 bar)
- ii) Pump delivery rate at minimum pressure: 25.0 GPM (94.6 l/min)
- iii) Pump delivery rate at maximum
  - hydraulic power: 23.6 GPM (89.5 l/min)
  - Delivery pressure: 1960 psi (135 bar)
  - Power: 27.0 HP (20.2 kW)

### HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	28.5	725
B	11.6	295
C	13.9	354
D	13.0	330
E	7.9	200
F	11.0	280
G	34.4	875
H	1.0	25
I	15.7	399
J	23.4	595
K	21.7	550
L	43.3	1101
M	24.6	626
N	37.0	940
O	9.1	230
P	47.4	1205
Q	35.4	899
R	30.1	765

