

SUMMARY OF OECD TEST 2906—NEBRASKA SUMMARY 994

CHALLENGER MT645E DIESEL

TECHSTAR TRANSMISSION

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)	
MAXIMUM POWER AND FUEL CONSUMPTION						
Rated Engine Speed—(PTO speed—1065 rpm)						
217.8 (162.4)	2098	12.88 (48.76)	0.413 (0.251)	16.91 (3.33)	0.74 (2.80)	
Standard Power Take-off Speed (999 rpm)						
241.4 (180.0)	1968	13.51 (51.16)	0.391 (0.238)	17.87 (3.52)	0.75 (2.84)	
Maximum Power (1 hour)						
242.6 (180.9)	1950	13.52 (51.16)	0.388 (0.236)	17.95 (3.54)	0.75 (2.84)	
VARYING POWER AND FUEL CONSUMPTION						
217.8 (162.4)	2098	12.88 (48.76)	0.413 (0.251)	16.91 (3.33)	0.74 (2.80)	Air temperature
186.8 (139.3)	2120	11.42 (43.22)	0.426 (0.259)	16.36 (3.22)	0.50 (1.89)	72°F (22°C)
140.5 (104.8)	2130	9.18 (34.75)	0.455 (0.277)	15.31 (3.02)	0.36 (1.35)	Relative humidity
94.4 (70.4)	2139	7.09 (26.82)	0.524 (0.319)	13.32 (2.62)	0.31 (1.19)	43%
47.3 (35.3)	2143	4.76 (18.03)	0.702 (0.427)	9.94 (1.96)	0.10 (0.39)	Barometer
----	2151	2.91 (11.00)	----	----	----	30.1" Hg (101.8 kPa)

Maximum torque - 790 lb.-ft. (1071 Nm) at 1200 rpm
 Maximum torque rise - 44.8%
 Torque rise at 1700 engine rpm - 35%
 Power increase at 1950 engine rpm - 11.4%

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)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—Turtle 8								
184.7 (137.7)	14075 (62.6)	4.92 (7.92)	2098	5.9	0.480 (0.292)	14.39 (2.84)	194 (90)	46 (8)
75% of Pull at Maximum Power—Turtle 8								
139.7 (104.2)	10545 (46.9)	4.97 (8.00)	2120	4.5	0.531 (0.323)	12.99 (2.56)	183 (84)	46 (8)
50% of Pull at Maximum Power—Turtle 8								
95.2 (71.0)	7035 (31.3)	5.08 (8.17)	2129	3.2	0.584 (0.355)	11.83 (2.33)	181 (83)	46 (8)
75% of Pull at Reduced Engine Speed—Turtle 11								
140.5 (104.8)	10590 (47.1)	4.98 (8.01)	1642	4.6	0.461 (0.280)	14.97 (2.95)	185 (85)	46 (8)
50% of Pull at Reduced Engine Speed—Turtle 11								
94.7 (70.6)	7035 (31.3)	5.05 (8.12)	1650	2.8	0.520 (0.317)	13.27 (2.62)	183 (84)	46 (8)

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

Dates of tests: January to April, 2015.

Manufacturer: AGCOS.A.S, 41 Avenue Blaise Pascal, 60000 Beauvais, France

CONSUMABLE FLUIDS: Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.837 Fuel weight 6.98 lbs/gal (0.836 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 Terrac Trantan 9 10W/40 Front axle lubricant SAE 85W90 API GL4

ENGINE: Make AGCO Power Diesel Type six cylinder vertical with two turbochargers, air to air intercooler and D.E.F (diesel exhaust fluid) technology Serial No. 84AWF 1018 T06951 Crankshaft lengthwise Rated engine speed 2100 Bore and stroke 4.370" x 5.709" (111.0 mm x 145.0 mm) Compression ratio 16.7 to 1 Displacement 513 cu in (8419 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. D035901 Tread width rear 76.0" (1930 mm) to 89.1" (2262 mm) front 61.5" (1560 mm) to 89.4" (2268 mm) Wheelbase 121.8" (3093 mm) Hydraulic control system direct engine drive Transmission CVT. A combination of mechanical and hydrostatic sections allow an infinite speed adjustment within the ranges noted. The transmission has two mechanical ranges. Nominal travel speeds mph (km/h) forward: Low range 0-20 (0-32), high range 0-25 (0-40) reverse: Low range 0-12 (0-20), high range 0-18 (0-30) Clutch a foot pedal controls the hydrostatic oil flow Brakes multiple wet disc hydraulically operated by two foot pedals that can be locked together Steering hydrostatic Power take-off 1000 rpm at 1970 engine rpm Unladen tractor mass 24670 lb (11190 kg)

HYDRAULIC PERFORMANCE

CATEGORY: III

Quick Attach: Yes

OECD Static test

Maximum force exerted through whole range: 20390 lbs (90.7 kN) (at 24" (610 mm) behind QA ends)
22460 lbs (99.9 kN) (at QA ends)

i) Sustained pressure at compensator cutoff: 2885 psi (199 bar)
two outlet sets combined

ii) Pump delivery rate at minimum pressure: 53.1 GPM (201.1 l/min)

iii) Pump delivery rate at maximum
hydraulic power: 47.3 GPM (179.2 l/min)
Delivery pressure: 2435 psi (168 bar)
Power: 67.3 HP (50.2 kW)

single outlet set

ii) Pump delivery rate at minimum pressure: 35.8 GPM (135.5 l/min)

iii) Pump delivery rate at maximum
hydraulic power: 33.8 GPM (127.9 l/min)
Delivery pressure: 2265 psi (156 bar)
Power: 44.6 HP (33.2 kW)

HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	31.9	810
B	14.6	370
C	19.1	484
D	15.9	405
E	8.9	225
F	13.0	330
G	40.4	1025
H	2.4	60
I	18.8	478
J	27.4	695
K	24.7	628
L	49.2	1250
*L'	53.9	1370
M	26.8	680
N	39.9	1014
O	10.2	260
P	50.4	1280
Q	38.5	977
R	37.4	950

*L' to Quick Attach ends

