

SUMMARY OF OECD TEST 2909—NEBRASKA SUMMARY 997

CHALLENGER MT675E 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—1064 rpm)						
287.0 (214.0)	2096	16.32 (61.79)	0.397 (0.241)	17.58 (3.46)	0.77 (2.93)	
Standard Power Take-off Speed (1000 rpm)						
312.3 (232.9)	1970	17.13 (64.83)	0.383 (0.233)	18.23 (3.59)	0.73 (2.78)	
Maximum Power (1 hour)						
314.3 (234.4)	1948	17.01 (64.39)	0.378 (0.230)	18.48 (3.64)	0.82 (3.12)	
VARYING POWER AND FUEL CONSUMPTION						
287.0 (214.0)	2096	16.32 (61.79)	0.397 (0.241)	17.58 (3.46)	0.77 (2.93)	Air temperature
247.4 (184.5)	2122	14.38 (54.45)	0.405 (0.247)	17.21 (3.39)	0.62 (2.34)	73°F (23°C)
185.9 (138.6)	2129	11.27 (42.67)	0.422 (0.257)	16.50 (3.25)	0.54 (2.04)	Relative humidity
124.6 (92.9)	2140	8.62 (32.64)	0.483 (0.294)	14.45 (2.85)	0.36 (1.35)	58%
62.5 (46.6)	2147	5.73 (21.69)	0.639 (0.389)	10.91 (2.15)	0.29 (1.11)	Barometer
----	2153	2.95 (11.18)	----	----	----	30.4" Hg (103.1 kPa)

Maximum torque - 1016 lb.-ft. (1378 Nm) at 1507 rpm
 Maximum torque rise - 41.3%
 Torque rise at 1700 engine rpm - 35%
 Power increase at 1948 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 (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—Turtle 8									
234.4 (174.8)	18185 (80.9)	4.83 (7.78)	2101	7.8	0.502 (0.306)	13.76 (2.71)	190 (88)	43 (6)	30.4 (103.0)
75% of Pull at Maximum Power—Turtle 8									
181.4 (135.3)	13715 (61.0)	4.96 (7.98)	2126	4.2	0.519 (0.316)	13.30 (2.62)	190 (88)	43 (6)	30.4 (103.0)
50% of Pull at Maximum Power—Turtle 8									
126.6 (94.4)	9215 (41.0)	5.15 (8.29)	2129	2.4	0.579 (0.352)	11.93 (2.35)	189 (87)	43 (6)	30.4 (103.0)
75% of Pull at Reduced Engine Speed—Turtle 11									
179.8 (134.1)	13825 (61.5)	4.88 (7.85)	1592	3.5	0.444 (0.270)	15.58 (3.07)	187 (86)	43 (6)	30.4 (103.0)
50% of Pull at Reduced Engine Speed—Turtle 11									
126.5 (94.3)	9285 (41.3)	5.11 (8.22)	1604	2.4	0.469 (0.285)	14.73 (2.90)	185 (85)	43 (6)	30.4 (103.0)

Location of tests: IRSTEA, Centre d'Antony, 1 rue Pierre-Gilles de Gemmes 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 1021 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)

DRAWBAR PERFORMANCE
(Unballasted - Front Drive Engaged)
MAXIMUM POWER AT SELECTED SPEEDS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel 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)
Turtle 5									
150.9 (112.5)	22255 (99.0)	2.54 (4.09)	2117	15.3	0.565 (0.344)	12.23 (2.41)	181 (83)	43 (6)	30.4 (102.9)
Turtle 6.5									
196.8 (146.8)	21715 (96.6)	3.40 (5.47)	2115	12.0	0.529 (0.322)	13.05 (2.57)	185 (85)	41 (5)	30.4 (102.9)
Turtle 8									
254.9 (190.1)	20435 (90.9)	4.68 (7.53)	2033	8.0	0.468 (0.285)	14.77 (2.91)	187 (86)	41 (5)	30.4 (103.0)
Turtle 11									
258.1 (192.5)	14950 (66.5)	6.47 (10.42)	1949	4.6	0.459 (0.279)	15.08 (2.97)	196 (91)	41 (5)	30.4 (103.0)
Turtle 14									
254.0 (189.4)	11260 (50.1)	8.46 (13.61)	1938	2.7	0.460 (0.280)	15.02 (2.96)	201 (94)	43 (6)	30.4 (102.9)
*Turtle 16									
251.0 (187.2)	9935 (44.2)	9.48 (15.25)	1941	2.3	0.479 (0.292)	14.42 (2.84)	201 (94)	43 (6)	30.4 (102.9)
*Turtle 18									
244.1 (182.0)	8610 (38.3)	10.63 (17.11)	1932	2.2	0.514 (0.313)	13.44 (2.65)	201 (94)	43 (6)	30.4 (102.9)
Rabbit 8.5									
231.2 (172.4)	18455 (82.1)	4.70 (7.56)	1939	6.2	0.507 (0.308)	13.62 (2.68)	199 (93)	43 (6)	30.4 (103.1)
Rabbit 11									
253.5 (189.0)	15555 (69.2)	6.11 (9.83)	1958	4.5	0.467 (0.284)	14.78 (2.91)	192 (89)	43 (6)	30.4 (103.0)
Rabbit 14									
254.7 (189.9)	11600 (51.6)	8.23 (13.25)	1963	3.2	0.463 (0.281)	14.93 (2.94)	194 (90)	43 (6)	30.4 (103.1)
*Rabbit 16									
254.9 (190.1)	9935 (44.2)	9.62 (15.48)	1941	2.6	0.476 (0.290)	14.52 (2.86)	196 (91)	43 (6)	30.4 (103.1)
*Rabbit 18									
254.1 (189.5)	9195 (40.9)	10.36 (16.68)	1927	2.3	0.481 (0.293)	14.37 (2.83)	196 (91)	43 (6)	30.4 (103.1)
*Rabbit 21									
249.2 (185.8)	7375 (32.8)	12.67 (20.39)	1943	1.8	0.493 (0.300)	14.01 (2.76)	198 (92)	43 (6)	30.4 (103.0)

* Boosted mode

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE 1: This tractor has an engine control feature that allows the engine to run in a "boosted" mode, increased power level, at travel speeds above 8.7 mph (14.0 km/h).

NOTE 2: The data on this summary was obtained from OECD report 2909 conducted on the Massey Ferguson 8735 Diesel.

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 54 GPM (205 l/min) remote flow. 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. 2909, Nebraska Summary 997, November 23, 2015.

Roger M. Hoy
Director

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

TRACTOR SOUND LEVEL WITH CAB	dB(A)
At no load in Turtle - 4.9 mph (7.9 km/h) - no load	71.0
Bystander	---

TIRES 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 710/75R42;***;12(80)
Two 600/65R34;***;19(130)
21.7 in (550 mm)
13615 lb (6175 kg)
11220 lb (5090 kg)
24835 lb(11265 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

