

SUMMARY OF OECD TEST 3033-NEBRASKA SUMMARY 1124 CHALLENGER MT475E TECHSTAR DIESEL CONTINUOUSLY VARIABLE 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—1102 rpm)						
126.2 (94.1)	2098	7.67 (29.02)	0.424 (0.258)	16.45 (3.24)	0.42 (1.58)	
Standard Power Take-off Speed (1000 rpm)						
132.0 (98.4)	1903	7.94 (30.05)	0.419 (0.255)	16.62 (3.28)	0.51 (1.92)	
Maximum Power (1 hour)						
132.0 (98.4)	1903	7.94 (30.05)	0.419 (0.255)	16.62 (3.28)	0.51 (1.92)	

VARYING POWER AND FUEL CONSUMPTION						
126.2 (94.1)	2098	7.67 (29.02)	0.424 (0.258)	16.45 (3.24)	0.42 (1.58)	Air temperature
108.0 (80.5)	2113	6.77 (25.64)	0.437 (0.266)	15.94 (3.14)	0.37 (1.39)	70°F (21°C)
81.3 (60.6)	2121	5.43 (20.55)	0.466 (0.283)	14.97 (2.95)	0.31 (1.19)	Relative humidity
54.4 (40.6)	2132	4.13 (15.65)	0.529 (0.322)	13.18 (2.60)	0.18 (0.70)	88%
27.4 (20.4)	2141	2.86 (10.84)	0.728 (0.443)	9.59 (1.89)	0.11 (0.42)	Barometer
---	2149	1.88 (7.13)	---	---	0.05 (0.21)	30.1" Hg (102.1 kPa)

Maximum torque - 429 lb.-ft. (582 Nm) at 1348 rpm
 Maximum torque rise - 36.0%
 Torque rise at 1700 engine rpm - 25%
 Power increase at 1903 engine rpm - 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		Temp. °F (°C)		Barom. inch Hg (kPa)
					lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	cool- ing med	Air dry bulb	
Power at Rated Engine Speed—Turtle 8									
102.1 (76.1)	8140 (36.2)	4.70 (7.57)	2095	3.5	0.530 (0.323)	13.20 (2.60)	185 (85)	59 (15)	29.8 (100.9)
75% of Pull at Rated Engine Speed—Turtle 8									
77.0 (57.4)	6070 (27.0)	4.76 (7.65)	2122	2.4	0.592 (0.360)	11.83 (2.33)	183 (84)	59 (15)	29.8 (100.9)
50% of Pull at Rated Engine Speed—Turtle 8									
53.8 (40.1)	4090 (18.2)	4.93 (7.94)	2127	1.1	0.661 (0.402)	10.58 (2.09)	183 (84)	59 (15)	29.8 (100.9)
75% of Pull at Reduced Engine Speed—Turtle 12									
77.6 (57.9)	6135 (27.3)	4.74 (7.64)	1413	2.5	0.487 (0.296)	14.37 (2.83)	181 (83)	59 (15)	29.8 (100.9)
50% of Pull at Reduced Engine Speed—Turtle 12									
53.4 (39.8)	4055 (18.0)	4.94 (7.95)	1417	1.0	0.556 (0.338)	12.59 (2.48)	180 (82)	59 (15)	29.8 (100.9)

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

Dates of tests: October to November, 2016

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

CONSUMABLE Fluids and OIL: 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 9.08 lbs/gal (1.091 kg/l) Oil SAE 15W40 API service classification CJ-4 Transmission and hydraulic lubricant BP Terrac Tractan 915W/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. A49576 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 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 Exhaust DOC (diesel oxidation catalyst) and SCR (selective catalyst reduction) within a vertical muffler Cooling medium temperature control thermostat and variable speed fan

CHASSIS: Type front wheel assist Serial No. F 097 901 Tread width rear 66.3" (1685 mm) to 96.7" (2455 mm) front 60.2" (1530 mm) to 89.8" (2280 mm) Wheelbase 105.1" (2670 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 0-17 (0-28), high range 0-25 (0-40) reverse: Low range 0-10 (0-16), high range 0-23 (0-38) 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 540 rpm at 1868 engine rpm or 1000 rpm at 1903 engine rpm Unladen tractor mass 16810 lb (7625 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 lb/hp.hr (kg/kW.h)	Consumption Hp.hr/gal (kW.h/l)	Temp. ^o F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
88.2 (65.8)	15130 (67.3)	2.19 (3.52)	2113	15.0	Turtle 3.5 0.566 (0.344)	12.35 (2.43)	180 (82)	59 (15)	29.8 (101.0)
105.8 (78.9)	14005 (62.3)	2.83 (4.56)	1987	6.8	Turtle 4.5 0.536 (0.326)	13.05 (2.57)	181 (83)	59 (15)	29.8 (101.0)
111.2 (82.9)	10520 (46.8)	3.96 (6.38)	1960	5.9	Turtle 6.5 0.514 (0.313)	13.60 (2.68)	183 (84)	59 (15)	29.8 (101.0)
112.4 (83.8)	9105 (40.5)	4.63 (7.45)	1967	4.8	Turtle 8 0.508 (0.309)	13.76 (2.71)	187 (86)	59 (15)	29.8 (100.9)
111.7 (83.3)	6675 (29.7)	6.28 (10.10)	1950	3.3	Turtle 10 0.511 (0.311)	13.67 (2.69)	187 (86)	59 (15)	29.8 (100.9)
110.4 (82.3)	5710 (25.4)	7.25 (11.66)	1950	2.2	Turtle 12 0.516 (0.314)	13.55 (2.67)	189 (87)	59 (15)	29.8 (100.9)
107.3 (80.0)	4790 (21.3)	8.40 (13.52)	1947	1.8	Turtle 14 0.522 (0.318)	13.40 (2.64)	187 (86)	59 (15)	29.8 (100.9)
106.7 (79.6)	7195 (32.0)	5.56 (8.96)	1950	3.4	Rabbit 9 0.514 (0.312)	13.61 (2.68)	185 (85)	59 (15)	29.8 (100.8)
110.6 (82.5)	5845 (26.0)	7.10 (11.42)	1941	2.6	Rabbit 12 0.511 (0.311)	13.68 (2.69)	187 (86)	59 (15)	29.8 (100.9)
106.6 (79.5)	4405 (19.6)	9.07 (14.60)	1942	1.4	Rabbit 15 0.520 (0.316)	13.45 (2.65)	187 (86)	59 (15)	29.8 (100.9)
103.7 (77.3)	4050 (18.0)	9.60 (15.45)	1949	1.0	Rabbit 17 0.543 (0.330)	12.89 (2.54)	189 (87)	59 (15)	29.8 (100.9)

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, when the tractor is operated during stationary PTO operations and when the travelling speed exceeds 9 mph (15 kph).

NOTE 2: The performance figures on this report are the result of replacing the electronic engine control module of the Massey Ferguson 6716S Dyna VT with the Massey Ferguson 6714S Dyna VT module.

NOTE 3: The data on this summary was obtained from OECD report 3033 conducted on the Massey Ferguson 6714S Dyna-VT 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. **3033**, Nebraska Summary 1124, February 23, 2018.

Roger M. Hoy
Director

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

TRACTOR SOUND LEVEL WITH CAB	Front wheel drive	
	Engaged dB(A)	Disengaged dB(A)
At no load in Turtle 8	70.0	70.0
Bystander		--

Horizontal distances of drawbar hitch point behind rear wheel axis - 33.6 in (854 mm), 34.8 in (885 mm), 36.8 in (935 mm), 40.7 in (1035 mm), 42.7 in (1085 mm), 46.6 in (1185 mm)

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)
 20.7 in (520 mm)
 10010 lb (4540 kg)
 6965 lb (3160 kg)
 16975 lb (7700 kg)

The data presented here is from a test series conducted on the Massey Ferguson 7715 Dyna VT, OECD Approval Number 2/2988 and Nebraska Summary number 1060.

HYDRAULIC PERFORMANCE

CATEGORY: 3, NAO lower links

Quick Attach: None

OECD Static test

Maximum force exerted through whole range: 16750 lbs (74.5 kN)

i) Sustained pressure of the open relief valve: 2915 psi (201 bar)

Standard Pump	Optional pump
29 GPM (110 l/min)	50 GPM (190 l/min)
<u>two outlet sets combined</u>	<u>two outlet sets combined</u>
29.6 GPM (112.1 l/min)	51.9 GPM (196.5 l/min)

ii) Pump delivery rate at minimum pressure:

iii) Pump delivery rate at maximum

hydraulic power: 27.0 GPM (102.3 l/min) 48.2 GPM (182.5 l/min)

Delivery pressure: 2725 psi (188 bar) 2395 psi (165 bar)

Power: 42.9 HP (32.0 kW) 67.3 HP (50.2 kW)

ii) Pump delivery rate at minimum pressure:

iii) Pump delivery rate at maximum

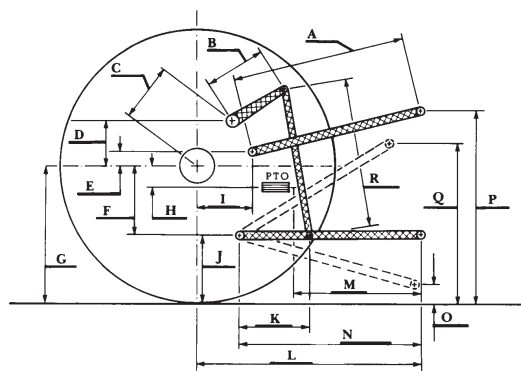
hydraulic power: 27.5 GPM (104.0 l/min) 27.5 GPM (104.0 l/min)

Delivery pressure: 2470 psi (170 bar) 2410 psi (166 bar)

Power: 39.6 HP (29.5 kW) 38.6 HP (28.8 kW)

HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	30.4	773
B	14.8	375
C	16.5	419
D	14.0	355
E	10.8	275
F	10.9	276
G	34.5	875
H	2.4	60
I	17.8	452
J	23.6	599
K	27.0	687
L	47.8	1213
M	24.4	621
N	40.3	1024
O	9.3	235
P	50.6	1284
Q	38.0	964
R	30.7	780



RECOMMENDED CITATION FORMAT:

NTTL.(2018). OECD tractor test 3033 for Challenger MT475E Techstar Diesel.

Lincoln, NE:Nebraska Tractor Test Laboratory. Retrieved from <http://tractortestlab.unl.edu>