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2008

Nebraska Summary: S643 Massey Ferguson 7480

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SUMMARY OF OECD TEST 2432–NEBRASKA SUMMARY 643
MASSEY FERGUSON 7480 DYNAVT DIESEL
CONTINOUSLY VARIABLE TRANSMISSION
Tractor chassis S/N S037046 and higher

POWER TAKE-OFF PERFORMANCE

Power HP *(kW)*	Crank shaft speed rpm	Gal/hr *(l/h)*	lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed—(PTO speed—1081 rpm)					
130.8 *(97.6)*	2200	8.53 *(32.27)*	0.464 *(0.282)*	15.34 *(3.02)*	
Standard Power Take-off Speed(1000 rpm)					
152.7 *(113.9)*	2035	9.21 *(34.86)*	0.429 *(0.261)*	16.59 *(3.27)*	
Maximum Power (1 hour)					
156.2 *(116.5)*	1950	9.13 *(34.56)*	0.416 *(0.253)*	17.11 *(3.37)*	
VARYING POWER AND FUEL CONSUMPTION					
130.8 *(97.6)*	2200	8.53 *(32.27)*	0.464 *(0.282)*	15.34 *(3.02)*	Air temperature
110.5 *(82.4)*	2204	7.66 *(28.98)*	0.493 *(0.300)*	14.42 *(2.84)*	75°F *(24°C)*
83.3 *(62.1)*	2217	6.19 *(23.44)*	0.529 *(0.322)*	13.45 *(2.65)*	Relative humidity
56.1 *(41.8)*	2230	4.58 *(17.35)*	0.582 *(0.354)*	12.24 *(2.41)*	47%
28.0 *(20.9)*	2242	3.02 *(11.42)*	0.767 *(0.467)*	9.28 *(1.83)*	Barometer
-- --	2251	1.98 *(7.51)*	-- --	-- --	29.6" Hg *(100.3 kPa)*

Maximum Torque - 490.5 lb.-ft. *(665.1 Nm)* at 1401 rpm
Maximum Torque Rise - 57.1%
Torque rise at 1750 engine rpm - 45%

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									
111.0 *(82.8)*	8675 *(38.6)*	4.80 *(7.72)*	2189	7	0.566 *(0.345)*	12.57 *(2.48)*	181 *(83)*	59 *(15)*	29.5 *(99.8)*
75% of Pull at Maximum Power—Turtle 8									
85.8 *(64.0)*	6520 *(29.0)*	4.93 *(7.94)*	2197	5	0.612 *(0.372)*	11.62 *(2.29)*	179 *(82)*	59 *(15)*	29.5 *(99.8)*
50% of Pull at Maximum Power—Turtle 8									
58.7 *(43.8)*	4360 *(19.4)*	5.05 *(8.13)*	2206	3	0.670 *(0.407)*	10.63 *(2.09)*	181 *(83)*	59 *(15)*	29.5 *(99.8)*
75% of Pull at Reduced Engine Speed—Turtle 9									
85.8 *(64.0)*	6540 *(29.1)*	4.92 *(7.92)*	1981	5	0.561 *(0.341)*	12.69 *(2.50)*	181 *(83)*	57 *(14)*	29.5 *(99.8)*
50% of Pull at Reduced Engine Speed—Turtle 9									
58.1 *(43.3)*	4315 *(19.2)*	5.05 *(8.12)*	1998	4	0.609 *(0.370)*	11.69 *(2.30)*	178 *(81)*	57 *(14)*	29.5 *(99.8)*

Location of tests: Groupement d'Antony, Parc de Touvoie, BP 44 Antony, France 92163

Dates of tests: March - May, 2008

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

FUEL and OIL: Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F *(15°/15°C)*** 0.855 **Fuel weight** 7.11 lbs/gal *(0.853 kg/l)* **Oil SAE** 15W40 **API service classification** CH4 **Transmission and hydraulic lubricant** BP Terrac Tractan 9 10W/40 **Front axle lubricant** SAE 85W140 API GL-5

ENGINE: Make Perkins Diesel **Type** six cylinder vertical with turbocharger and air to air intercooler **Serial No.** U004188P **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.134" x 5.000" *(105.0 mm x 127.0 mm)* **Compression ratio** 16.2 to 1 **Displacement** 402 cu in *(6596 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** underhood **Exhaust** vertical **Cooling medium temperature control** thermostat and variable speed fan

CHASSIS: Type front wheel assist **Serial No.** S171018 **Tread width** rear 61.7" *(1566 mm)* to 74.6" *(1896 mm)* front 63.4" *(1610 mm)* to 78.1" *(1984 mm)* **Wheelbase** 109.4" *(2780 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 0-18 *(0-29)*, high range 0-25 *(0-40)* reverse: Low range 0-18 *(0-29)*, high range 0-25 *(0-40)* **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 2062 engine rpm or 1000 rpm at 2034 engine rpm **Unladen tractor mass** 15750 lb *(7145 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 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)*
					Turtle 5				
94.1 *(70.2)*	13385 *(59.5)*	2.64 *(4.24)*	2194	15	0.601 *(0.365)*	11.85 *(2.33)*	178 *(81)*	46 *(8)*	29.5 *(99.8)*
					Turtle 6				
111.0 *(82.8)*	12915 *(57.5)*	3.22 *(5.19)*	2168	12	0.574 *(0.349)*	12.40 *(2.44)*	178 *(81)*	46 *(8)*	29.5 *(99.8)*
					Turtle 7				
120.4 *(89.8)*	12680 *(56.4)*	3.56 *(5.73)*	2053	12	0.512 *(0.311)*	13.91 *(2.74)*	178 *(81)*	48 *(9)*	29.5 *(99.8)*
					Turtle 8				
123.5 *(92.1)*	11310 *(50.3)*	4.09 *(6.59)*	1936	11	0.535 *(0.326)*	13.30 *(2.62)*	181 *(83)*	54 *(12)*	29.5 *(99.8)*
					Turtle 9				
124.8 *(93.1)*	10050 *(44.7)*	4.66 *(7.50)*	1954	9	0.527 *(0.321)*	13.50 *(2.66)*	185 *(85)*	54 *(12)*	29.5 *(99.8)*
					Turtle 10				
127.1 *(94.8)*	8815 *(39.2)*	5.41 *(8.70)*	1954	8	0.524 *(0.319)*	13.59 *(2.68)*	183 *(84)*	55 *(13)*	29.5 *(99.8)*
					Turtle 11				
126.7 *(94.5)*	7520 *(33.4)*	6.32 *(10.17)*	1959	8	0.521 *(0.317)*	13.65 *(2.69)*	187 *(86)*	55 *(13)*	29.5 *(99.8)*
					Rabbit 9				
122.8 *(91.6)*	9825 *(43.7)*	4.69 *(7.55)*	2000	10	0.537 *(0.327)*	13.25 *(2.61)*	181 *(83)*	59 *(15)*	29.5 *(99.8)*
					Rabbit 12				
126.2 *(94.1)*	7645 *(34.0)*	6.19 *(9.96)*	1949	8	0.519 *(0.316)*	13.71 *(2.70)*	183 *(84)*	59 *(15)*	29.5 *(99.8)*
					Rabbit 14				
126.6 *(94.4)*	6620 *(29.5)*	7.17 *(11.54)*	1950	5	0.519 *(0.316)*	13.71 *(2.70)*	181 *(83)*	59 *(15)*	29.5 *(99.8)*
					Rabbit 16				
125.8 *(93.8)*	5290 *(23.5)*	8.92 *(14.36)*	1948	5	0.515 *(0.313)*	13.82 *(2.72)*	183 *(84)*	59 *(15)*	29.5 *(99.8)*

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE: The performance figures on this report apply to tractors with chassis S/N S037046 and higher.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD test procedures. The manufacturer's three point lift claim of 10500 lbs *(4762 kg)* with category III hitch was 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. **2432,** Nebraska Summary 643, January 14, 2010.

Roger M. Hoy
Director

M.F. Kocher
V.I. Adamchuk
J.A. Smith
Board of Tractor Test Engineers

TRACTOR SOUND LEVEL WITH CAB	dB(A)
At no load in Turtle 7	69.0
Bystander	---

TIRES, BALLAST AND WEIGHT	With Ballast	Without Ballast
Rear tires - No.,size, ply & psi*(kPa)*	Four 480/80R42; **;15*(100)*	Two 480/80R42;**;15*(100)*
Ballast - Duals(total)	1610 lb *(730 kg)*	None
- Cast iron(total)	995 lb *(450 kg)*	None
Front tires - No.,size, ply & psi*(kPa)*	Two 16.9R28;**;15 *(100)*	Two 16.9R28;**;15*(100)*
Ballast - Liquid(total)	None	None
- Cast Iron(total)	1345 lb *(610 kg)*	None
Height of Drawbar	18.5 in *(470 mm)*	18.5 in *(470 mm)*
Static Weight with operator- Rear	12545 lb *(5690 kg)*	10360 lb *(4700 kg)*
- Front	7320 lb*(3320 kg)*	5555 lb *(2520 kg)*
- Total	19865 lb*(9010 kg)*	15915 lb *(7220 kg)*

DRAWBAR PERFORMANCE

(Ballasted - 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)*
					Turtle 4				
100.3 *(74.8)*	16635 *(74.0)*	2.26 *(3.64)*	2189	15.0	0.612 *(0.372)*	11.62 *(2.29)*	181 *(83)*	48 *(9)*	29.4 *(99.6)*
					Turtle 5				
112.4 *(83.8)*	15780 *(70.2)*	2.67 *(4.30)*	2170	12.1	0.574 *(0.349)*	12.40 *(2.44)*	181 *(83)*	48 *(9)*	29.4 *(99.6)*
					Turtle 6				
120.4 *(89.8)*	15330 *(68.2)*	2.95 *(4.74)*	1994	11.8	0.549 *(0.334)*	12.95 *(2.55)*	181 *(83)*	46 *(8)*	29.4 *(99.6)*
					Turtle 7				
124.4 *(92.8)*	13060 *(58.1)*	3.57 *(5.74)*	1965	8.2	0.526 *(0.320)*	13.54 *(2.67)*	183 *(84)*	48 *(9)*	29.4 *(99.6)*
					Turtle 8				
126.7 *(94.5)*	11305 *(50.3)*	4.20 *(6.76)*	1959	7.8	0.518 *(0.315)*	13.76 *(2.71)*	181 *(83)*	48 *(9)*	29.4 *(99.6)*
					Turtle 9				
128.1 *(95.5)*	10105 *(44.9)*	4.75 *(7.65)*	1959	6.2	0.514 *(0.312)*	13.86 *(2.73)*	183 *(84)*	48 *(9)*	29.4 *(99.6)*
					Turtle 10				
127.7 *(95.2)*	8970 *(39.9)*	5.34 *(8.59)*	1959	5.6	0.510 *(0.310)*	13.96 *(2.75)*	185 *(85)*	46 *(8)*	29.4 *(99.6)*
					Turtle 11				
126.7 *(94.5)*	7445 *(33.1)*	6.38 *(10.27)*	1949	5.2	0.514 *(0.312)*	13.86 *(2.73)*	187 *(86)*	45 *(7)*	29.4 *(99.6)*
					Rabbit 9				
122.0 *(91.0)*	9465 *(42.1)*	4.83 *(7.78)*	2012	10.1	0.534 *(0.325)*	13.34 *(2.63)*	189 *(87)*	48 *(9)*	29.4 *(99.6)*
					Rabbit 12				
125.5 *(93.6)*	7430 *(33.1)*	6.34 *(10.20)*	1948	5.0	0.515 *(0.313)*	13.82 *(2.72)*	189 *(87)*	46 *(8)*	29.4 *(99.6)*
					Rabbit 14				
126.7 *(94.5)*	6475 *(28.8)*	7.34 *(11.82)*	1955	4.9	0.519 *(0.315)*	13.73 *(2.70)*	190 *(88)*	48 *(9)*	29.4 *(99.6)*
					Rabbit 16				
125.0 *(93.2)*	5260 *(23.4)*	8.91 *(14.34)*	1955	3.7	0.519 *(0.316)*	13.71 *(2.70)*	189 *(87)*	48 *(9)*	29.4 *(99.6)*

HYDRAULIC PERFORMANCE

CATEGORY: II	
Quick Attach: None	
OECD Static test	
Maximum force exerted through whole range:	12630 lbs *(56.2 kN)*
i) Opening pressure of relief valve:	NA
Sustained pressure of the open relief valve:	2900 psi *(200 bar)*
ii) Pump delivery rate at minimum pressure:	30.2 GPM *(114.2 l/min)*
iii) Pump delivery rate at maximum hydraulic power:	25.9 GPM *(98.2 l/min)*
Delivery pressure:	2395 psi *(165 bar)*
Power:	36.2 HP *(27.0 kW)*

THREE POINT HITCH PERFORMANCE - SAE Test

Observed Maximum Pressure psi. *(bar)*	2900 *(200)*
Location:	lift cylinder
Hydraulic oil temperature: °F *(°C)*	158 *(70)*
Location:	hydraulic sump
Category:	II
Quick attach:	None

System pressure 2610 psi *(180 bar)*

Hitch point distance to ground level in. *(mm)*	12.0 *(280)*	17.7 *(419)*	23.6 *(560)*	27.6 *(679)*	33.5 *(825)*	38.3 *(964)*
Lift force on frame lb	14300	14815	15175	15510	15445	14410
" " " " " " *(kN)*	*(63.6)*	*(65.9)*	*(67.5)*	*(69.0)*	*(68.7)*	*(64.1)*

HITCH DIMENSIONS AS TESTED - NO LOAD

	SAE TEST		OECD TEST	
	inch	*mm*	inch	*mm*
A	30.5	*775*	30.0	*763*
B	13.4	*340*	13.4	*340*
C	13.9	*354*	13.9	*354*
D	11.9	*303*	11.9	*303*
E	12.9	*328*	10.9	*276*
F	10.3	*261*	10.3	*261*
G	34.5	*875*	34.5	*875*
H	2.4	*60*	2.4	*60*
I	13.7	*348*	14.4	*367*
J	24.2	*614*	24.2	*614*
K	26.2	*665*	26.2	*665*
L	45.9	*1166*	45.9	*1166*
M	26.4	*670*	26.4	*670*
N	40.2	*1021*	40.2	*1021*
O	10.8	*274*	8.4	*214*
P	43.2	*1097*	48.2	*1224*
Q	37.1	*942*	37.8	*959*
R	28.7	*729*	30.5	*775*

