January 1998

Nebraska Summary 279: Massey Ferguson 4253, 4255 and 4355 Diesel 12-Speed

Nebraska Tractor Test Lab
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SUMMARY OF OECD TEST 1800–NEBRASKA SUMMARY 279
MASSEY FERGUSON 4255 DIESEL
ALSO MASSEY FERGUSON 4253 DIESEL
ALSO MASSEY FERGUSON 4355 DIESEL
12 SPEED

POWER TAKE-OFF PERFORMANCE (540 RPM Shaft)

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—625 rpm)					
82.2 *(61.3)*	2201	5.43 *(20.55)*	0.482 *(0.293)*	15.14 *(2.98)*	
Maximum Power (2 hours)					
84.1 *(62.7)*	1999	5.16 *(19.55)*	0.449 *(0.273)*	16.27 *(3.20)*	
Standard Power Take-off Speed (540 rpm)					
83.3 *(62.1)*	1903	5.00 *(18.92)*	0.437 *(0.266)*	16.66 *(3.28)*	
VARYING POWER AND FUEL CONSUMPTION					
82.2 *(61.3)*	2201	5.43 *(20.55)*	0.482 *(0.293)*	15.14 *(2.98)*	Air temperature
70.7 *(52.7)*	2225	4.97 *(18.82)*	0.513 *(0.312)*	14.22 *(2.80)*	75°F *(24°C)*
53.7 *(40.0)*	2258	4.06 *(15.35)*	0.550 *(0.335)*	13.23 *(2.61)*	Relative humidity
36.1 *(26.9)*	2278	3.25 *(12.30)*	0.655 *(0.399)*	11.10 *(2.19)*	37%
18.3 *(13.6)*	2291	2.44 *(9.24)*	0.972 *(0.591)*	7.49 *(1.48)*	Barometer
-- --	2315	1.65 *(6.26)*	-- --	-- --	29.8" Hg *(100.8 kPa)*

Maximum Torque -257.2 lb.-ft. *(348.7 Nm)* at 1305 rpm
Maximum Torque Rise -31.0%
Torque rise at 1800 engine rpm -21%

POWER TAKE-OFF PERFORMANCE (1000 RPM Shaft)

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—1101 rpm)					
84.9 *(63.3)*	2202	5.40 *(20.44)*	0.463 *(0.282)*	15.72 *(3.10)*	
Standard Power Take-off Speed (1000 rpm)					
86.7 *(64.7)*	2000	5.14 *(19.45)*	0.432 *(0.263)*	16.87 *(3.32)*	
Maximum Power (2 hours)					
86.7 *(64.7)*	2000	5.14 *(19.45)*	0.432 *(0.263)*	16.87 *(3.32)*	
VARYING POWER AND FUEL CONSUMPTION					
84.9 *(63.3)*	2202	5.40 *(20.44)*	0.463 *(0.282)*	15.72 *(3.10)*	Air temperature
73.4 *(54.7)*	2241	4.97 *(18.80)*	0.493 *(0.300)*	14.77 *(2.91)*	75°F *(24°C)*
56.1 *(41.8)*	2274	4.10 *(15.53)*	0.533 *(0.325)*	13.66 *(2.69)*	Relative humidity
37.4 *(27.9)*	2284	3.28 *(12.40)*	0.638 *(0.388)*	11.42 *(2.25)*	34%
18.8 *(14.0)*	2297	2.46 *(9.32)*	0.955 *(0.581)*	7.63 *(1.50)*	Barometer
-- --	2314	1.69 *(6.38)*	-- --	-- --	29.8" Hg *(100.8 kPa)*

Maximum Torque -269.4 lb.-ft. *(365.2 Nm)* at 1297 rpm
Maximum Torque Rise -33.1%
Torque rise at 1800 engine rpm-24%

Location of Test: Silsoe Research Institute, Wrest Park, Silsoe, Bedford, England MK45 4HS

Dates of Test: June to July, 1998

Manufacturer: AGCO Limited, P.O. Box 62, Banner Lane, Coventry, West Midlands, England CV4 9GF

FUEL and OIL: Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F *(15°/15°C)*** 0.875 **Fuel weight** 7.28 lbs/gal *(0.873 kg/l)* **Oil SAE** 15W-30 **API service classification** CD **Transmission and hydraulic lubricant** SAE 15W-30 **Front axle lubricant** SAE 15W-30

ENGINE: Make Perkins Diesel **Type** four cylinder vertical with turbocharger **Serial No.** U809240C **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 3.937" x 5.00" *(100.0 mm x 127.0 mm)* **Compression ratio** 17.3 to 1 **Displacement** 243 cu in *(3990 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

CHASSIS: Type front wheel assist **Serial No.** ABED24ABXAE10999 **Tread width** rear 60.4" *(1535 mm)* to 83.9" *(2130 mm)* front 63.4" *(1610 mm)* to 75.4" *(1915 mm)* **Wheelbase** 92.5" *(2350 mm)* **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Nominal travel speeds mph *(km/h)*** first 1.45 *(2.33)* second 1.89 *(3.04)* third 2.48 *(3.99)* fourth 3.25 *(5.23)* fifth 4.08 *(6.57)* sixth 5.33 *(8.58)* seventh 7.00 *(11.26)* eighth 9.16 *(14.74)* ninth 11.02 *(17.73)* tenth 14.39 *(23.16)* eleventh 18.89 *(30.40)* twelfth 24.74 *(39.81)* reverse 1.45 *(2.33)*, 1.90 *(3.05)*, 2.49 *(4.00)*, 3.26 *(5.24)*, 4.09 *(6.58)*, 5.34 *(8.59)*, 7.01 *(11.28)*, 9.18 *(14.77)*, 11.03 *(17.75)*, 14.42 *(23.20)*, 18.92 *(30.45)*, 24.77 *(39.87)* **Clutch** single dry 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 1902 engine rpm or 1000 rpm at 2000 engine rpm **Unladen tractor mass** 8430 lb *(3824 kg)*

REPAIRS AND ADJUSTMENTS: No repairs or adjustments

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—5th (1M) Gear									
65.6 *(48.9)*	6190 *(27.5)*	3.97 *(6.39)*	2200	5.3	0.572 *(0.348)*	12.22 *(2.41)*	185 *(85)*	66 *(19)*	30.0 *(101.6)*
75% of Pull at Maximum Power—5th (1M) Gear									
50.8 *(37.9)*	4645 *(20.7)*	4.10 *(6.60)*	2247	4.1	0.648 *(0.394)*	10.77 *(2.12)*	185 *(85)*	66 *(19)*	30.0 *(101.6)*
50% of Pull at Maximum Power—5th (1M) Gear									
34.7 *(25.9)*	3105 *(13.8)*	4.19 *(6.75)*	2271	2.9	0.765 *(0.466)*	9.12 *(1.80)*	186 *(86)*	68 *(20)*	30.0 *(101.6)*
75% of Pull at Reduced Engine Speed—6th (2M) Gear									
50.8 *(37.9)*	4655 *(20.7)*	4.09 *(6.59)*	1718	4.2	0.517 *(0.315)*	13.50 *(2.66)*	184 *(84)*	72 *(22)*	30.0 *(101.6)*
50% of Pull at Reduced Engine Speed—6th (2M) Gear									
34.9 *(26.0)*	3110 *(13.8)*	4.20 *(6.76)*	1741	3.0	0.590 *(0.359)*	11.83 *(2.33)*	184 *(84)*	69 *(21)*	30.0 *(101.6)*

MAXIMUM POWER IN SELECTED GEARS

1st (1L) Gear									
31.8 *(23.7)*	9170 *(40.8)*	1.30 *(2.09)*	2259	14.8	0.810 *(0.493)*	8.62 *(1.70)*	185 *(85)*	72 *(22)*	30.0 *(101.6)*
2nd (2L) Gear									
40.6 *(30.3)*	8815 *(39.2)*	1.73 *(2.78)*	2249	12.9	0.724 *(0.441)*	9.64 *(1.90)*	185 *(85)*	73 *(23)*	30.0 *(101.6)*
3rd (3L) Gear									
53.1 *(39.6)*	8710 *(38.8)*	2.29 *(3.68)*	2227	11.4	0.640 *(0.389)*	10.91 *(2.15)*	185 *(85)*	72 *(22)*	30.0 *(101.6)*
4th (4L) Gear									
64.9 *(48.4)*	8230 *(36.6)*	2.96 *(4.76)*	2134	8.6	0.563 *(0.343)*	12.41 *(2.45)*	185 *(85)*	72 *(22)*	30.0 *(101.6)*
5th (1M) Gear									
67.9 *(50.6)*	7340 *(32.7)*	3.47 *(5.58)*	1946	6.5	0.516 *(0.314)*	13.55 *(2.67)*	185 *(85)*	72 *(22)*	30.0 *(101.6)*
6th (2M) Gear									
68.3 *(50.9)*	5555 *(24.7)*	4.61 *(7.42)*	1947	4.9	0.517 *(0.315)*	13.50 *(2.66)*	185 *(85)*	68 *(20)*	30.0 *(101.6)*
7th (3M) Gear									
67.2 *(50.1)*	4100 *(18.2)*	6.14 *(9.88)*	1951	3.7	0.524 *(0.319)*	13.33 *(2.63)*	185 *(85)*	68 *(20)*	30.0 *(101.6)*
8th (4M) Gear									
63.7 *(47.5)*	2965 *(13.2)*	8.05 *(12.96)*	1938	2.8	0.549 *(0.334)*	12.73 *(2.51)*	185 *(85)*	70 *(21)*	30.0 *(101.6)*
9th (1H) Gear									
63.9 *(47.7)*	2455 *(10.9)*	9.76 *(15.71)*	1947	2.5	0.545 *(0.332)*	12.82 *(2.53)*	185 *(85)*	70 *(21)*	30.0 *(101.6)*

REMARKS: All test results were determined from observed data obtained in accordance with official OECD test procedures. This tractor did not meet the manufacturers 3 point lift capacity claim of 6614 lbs *(3000 kg)* at lower link ends. The performance results on this summary were taken from OECD tests conducted under the Code 2 test code procedure.

Report reissued: Supplemental sales permit for Massey Ferguson 4253 Diesel, July, 2000.

Report reissued: Supplemental sales permit for Massey Ferguson 4355 Diesel, March, 2003.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **1800**, Nebraska Summary 279, March 4, 2003.

Leonard L. Bashford
Director

M.F. Kocher
V.I. Adamchuk
W.P. Campbell
Board of Tractor Test Engineers

TIRES AND WEIGHT

	Tested Without Ballast
Rear Tires–No., size ,ply & psi *(kPa)*	Two 18.4R38;**;12*(83)*
Front Tires–No., size ,ply & psi *(kPa)*	Two 420/70R28;**;15*(103)*
Height of Drawbar	22.4 in *(570 mm)*
Static Weight with operator –Rear	5100 lb *(2314 kg)*
–Front	3495 lb *(1585 kg)*
–Total	8595 lb *(3899 kg)*

DRAWBAR PERFORMANCE

(Unballasted - Front Drive Disengaged)

FUEL CONSUMPTION CHARACTERISTICS

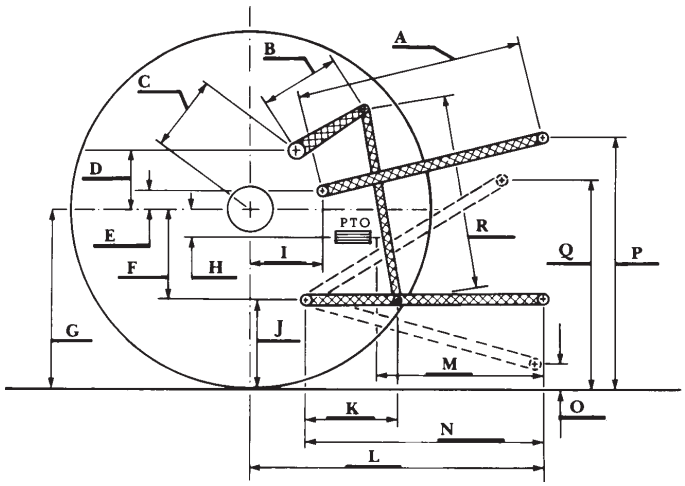
Power Hp *(kW)*	Drawbar pull lbs *(kN)*	Speed mph *(km/h)*	Crank-shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*	Temp.°F *(°C)* cool-ing med	Air dry bulb	Barom. inch Hg *(kPa)*
Maximum Power—7th (3M) Gear									
65.4	3625	6.78	2198	3.4	0.569	12.28	187	66	29.7
(48.8)	*(16.1)*	*(10.91)*			*(0.346)*	*(2.42)*	*(86)*	*(19)*	*(100.5)*
75% of Pull at Maximum Power—7th (3M) Gear									
50.3	2705	6.97	2246	2.8	0.637	10.96	187	79	29.7
(37.5)	*(12.0)*	*(11.22)*			*(0.388)*	*(2.16)*	*(86)*	*(26)*	*(100.5)*
50% of Pull at Maximum Power—7th (3M) Gear									
34.9	1840	7.10	2270	2.0	0.723	9.65	187	79	29.7
(26.0)	*(8.2)*	*(11.42)*			*(0.440)*	*(1.90)*	*(86)*	*(26)*	*(100.5)*
75% of Pull at Reduced Engine Speed—8th (4M) Gear									
51.8	2785	6.97	1716	2.7	0.504	13.86	183	79	29.7
(38.6)	*(12.4)*	*(11.22)*			*(0.307)*	*(2.73)*	*(84)*	*(26)*	*(100.5)*
50% of Pull at Reduced Engine Speed—8th (4M) Gear									
35.6	1880	7.09	1732	2.1	0.580	12.03	183	81	29.7
(26.5)	*(8.4)*	*(11.41)*			*(0.353)*	*(2.37)*	*(84)*	*(27)*	*(100.5)*
MAXIMUM POWER IN SELECTED GEARS									
2nd (2L) Gear									
28.8	6475	1.67	2263	15.0	0.824	8.48	187	75	29.7
(21.5)	*(28.8)*	*(2.69)*			*(0.501)*	*(1.67)*	*(86)*	*(24)*	*(100.5)*
3rd (3L) Gear									
38.1	6250	2.29	2251	10.1	0.727	9.61	185	68	29.7
(28.4)	*(27.8)*	*(3.69)*			*(0.442)*	*(1.89)*	*(85)*	*(20)*	*(100.5)*
4th(4L) Gear									
50.6	6290	3.02	2228	8.7	0.644	10.83	187	66	29.7
(37.7)	*(28.0)*	*(4.86)*			*(0.392)*	*(2.13)*	*(86)*	*(19)*	*(100.5)*
5th (1M) Gear									
63.0	6400	3.69	2202	9.9	0.593	11.78	187	66	29.7
(47.0)	*(28.5)*	*(5.94)*			*(0.361)*	*(2.32)*	*(86)*	*(19)*	*(100.5)*
6th (2M) Gear									
68.0	5735	4.45	1942	5.8	0.515	13.55	185	64	29.7
(50.7)	*(25.5)*	*(7.16)*			*(0.313)*	*(2.67)*	*(85)*	*(18)*	*(100.5)*
7th (3M) Gear									
68.3	4165	6.15	2003	3.7	0.519	13.45	185	66	29.7
(50.9)	*(18.5)*	*(9.90)*			*(0.316)*	*(2.65)*	*(85)*	*(19)*	*(100.5)*
8th (4M) Gear									
67.3	3090	8.17	2016	3.1	0.523	12.35	185	77	29.7
(50.2)	*(13.7)*	*(13.14)*			*(0.318)*	*(2.63)*	*(85)*	*(25)*	*(100.5)*

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive Disengaged dB(A)	Front Wheel Drive Engaged dB(A)
Maximum sound level in 5th (1M) Gear	81.0	81.0
Bystander in 12th (4H) Gear	85.0	--

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II		
Quick Attach: None		
Maximum Force Exerted Through Whole Range:	5710 lbs	*(25.4 kN)* (at the frame)
	6360 lbs	*(28.3 kN)* (at the hitch points)
i) Opening pressure of relief valve:	NA	
Sustained pressure of the open relief valve:	3105 psi	*(214 bar)*
ii) Pump delivery rate at minimum pressure:	10.0 GPM	*(38.0 l/min)*
iii) Pump delivery rate at maximum hydraulic power:	9.5 GPM	*(36.0 l/min)*
Delivery pressure:	2685 psi	*(185 bar)*
Power:	14.9 HP	*(11.1 kW)*

HITCH DIMENSIONS AS TESTED—NO LOAD



	inch	*mm*
A	32.1	*815*
B	12.2	*310*
C	12.0	*304*
D	9.2	*233*
E	8.1	*205*
F	8.4	*212*
G	32.3	*820*
H	5.4	*137*
I	7.3	*186*
J	23.9	*608*
K	24.8	*630*
L	40.1	*1018*
M	27.0	*685*
N	41.3	*1050*
O	7.8	*198*
P	48.0	*1218*
Q	35.3	*896*
R	30.5	*775*

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