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January 2000

Nebraska Summary 360: Massey Ferguson 4233 and 4335 Diesel 12-Speed

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

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SUMMARY OF OECD TEST 1950-NEBRASKA SUMMARY 360

MASSEY FERGUSON 4233 DIESEL

ALSO MASSEY FERGUSON 4335 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)					
68.4 (51.0)	2201	4.27 (16.18)	0.436 (0.265)	16.02 (3.16)	
Standard Power Take-off Speed (540 rpm)					
64.8 (48.3)	1903	3.83 (14.50)	0.413 (0.251)	16.90 (3.33)	
VARYING POWER AND FUEL CONSUMPTION					
68.4 (51.0)	2201	4.27 (16.18)	0.436 (0.265)	16.02 (3.16)	Air temperature
59.5 (44.4)	2251	3.78 (14.31)	0.444 (0.270)	15.74 (3.10)	73°F (23°C)
45.2 (33.7)	2275	3.07 (11.61)	0.475 (0.289)	14.73 (2.90)	Relative humidity
30.4 (22.7)	2295	2.41 (9.13)	0.555 (0.337)	12.59 (2.48)	42%
15.3 (11.4)	2310	1.77 (6.70)	0.809 (0.492)	8.63 (1.70)	Barometer
--	2325	1.19 (4.50)	--	--	29.4" Hg (99.5 kPa)
--					

Maximum Torque -191.7 lb.-ft. (259.9 Nm) at 1103 rpm
Maximum Torque Rise -17.3%
Torque rise at 1800 engine rpm -13%

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 1100 rpm)					
69.7 (52.0)	2200	4.26 (16.14)	0.427 (0.260)	16.34 (3.22)	
Standard Power Take-off Speed (1000 rpm)					
68.0 (50.7)	2000	3.99 (15.11)	0.409 (0.249)	17.06 (3.36)	
VARYING POWER AND FUEL CONSUMPTION					
69.7 (52.0)	2200	4.26 (16.14)	0.427 (0.260)	16.34 (3.22)	Air temperature
60.6 (45.2)	2254	3.76 (14.24)	0.434 (0.264)	16.09 (3.17)	73°F (23°C)
46.0 (34.3)	2277	3.06 (11.57)	0.464 (0.282)	15.06 (2.97)	Relative humidity
30.8 (23.0)	2296	2.40 (9.08)	0.543 (0.330)	12.86 (2.53)	38%
15.6 (11.6)	2311	1.76 (6.67)	0.791 (0.481)	8.83 (1.74)	Barometer
--	2326	1.22 (4.63)	--	--	29.5" Hg (99.9 kPa)
--					

Maximum Torque -197.5 lb.-ft. (267.8 Nm) at 1401 rpm
Maximum Torque Rise -19.7%
Torque rise at 1800 engine rpm -9%

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

Dates of Test: October to December, 2000

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)** 0.839
Fuel weight 6.98 lbs/gal (0.837 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 cylindervertical **Serial No.** U060437F **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.055" x 5.00" (103.0 mm x 127.0 mm) **Compression ratio** 17.3 to 1 **Displacement** 258 cu in (4233 ml) **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements **Oil filter** one full flow cartridge **Oil cooler** 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.** ABBD24JHXAJ01334 **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(3.05) third 2.49(4.00) fourth 3.26(5.24) fifth 4.09(6.58) sixth 5.34(8.60) seventh 7.02(11.29) eighth 9.18(14.78) ninth 11.04(17.77) tenth 14.43(23.22) eleventh 18.94(30.48) twelfth 24.80(39.91) reverse 1.64(2.64), 2.14(3.45), 2.81(4.52), 3.68(5.93), 4.62(7.44), 6.04(9.72), 7.93(12.76), 10.38(16.71), 12.48(20.09), 16.31(26.25), 21.41(34.45), 28.04(45.12) **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** single speed - 540 rpm at 1789 engine rpm, dual speed -540 rpm at 1903 engine rpm or 1000 rpm at 2000 engine rpm **Unladen tractor mass** 6935 lb (3145 kg)

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 7th (3M) Gear									
60.2 (44.9)	3400 (15.1)	6.64 (10.69)	2198	4.0	0.504 (0.306)	13.87 (2.73)	183 (84)	45 (7)	29.2 (98.8)
75% of Pull at Maximum Power 7th (3M) Gear									
46.8 (34.9)	2550 (11.3)	6.88 (11.06)	2252	3.2	0.533 (0.324)	13.09 (2.58)	183 (84)	43 (6)	29.2 (98.8)
50% of Pull at Maximum Power 7th (3M) Gear									
31.5 (23.5)	1685 (7.5)	7.01 (11.28)	2278	2.3	0.620 (0.377)	11.27 (2.22)	183 (84)	43 (6)	29.2 (98.8)
75% of Pull at Reduced Engine Speed 8th (4M) Gear									
46.5 (34.7)	2540 (11.3)	6.87 (11.06)	1719	3.1	0.468 (0.285)	14.92 (2.94)	179 (82)	43 (6)	29.2 (98.8)
50% of Pull at Reduced Engine Speed 8th (4M) Gear									
31.4 (23.4)	1675 (7.5)	7.03 (11.31)	1743	2.2	0.508 (0.309)	13.76 (2.71)	181 (83)	43 (6)	29.2 (98.8)

MAXIMUM POWER IN SELECTED GEARS

2nd (2L) Gear									
30.4 (22.7)	6970 (31.0)	1.64 (2.64)	2275	15.0	0.649 (0.395)	10.76 (2.12)	184 (84)	45 (7)	29.2 (98.8)
3rd (3L) Gear									
39.4 (29.4)	6870 (30.6)	2.15 (3.47)	2259	14.7	0.601 (0.366)	11.62 (2.29)	183 (84)	45 (7)	29.2 (98.8)
4th (4L) Gear									
50.8 (37.9)	6720 (29.9)	2.83 (4.56)	2235	13.4	0.557 (0.339)	12.54 (2.47)	183 (84)	45 (7)	29.2 (98.8)
5th (1M) Gear									
58.1 (43.3)	5890 (26.2)	3.70 (5.96)	2206	8.6	0.526 (0.320)	13.29 (2.62)	183 (84)	43 (6)	29.2 (98.8)
6th (2M) Gear									
59.7 (44.5)	4485 (20.0)	4.99 (8.03)	2199	5.6	0.508 (0.309)	13.76 (2.71)	183 (84)	45 (7)	29.2 (98.8)
7th (3M) Gear									
60.2 (44.9)	3400 (15.1)	6.64 (10.69)	2198	4.0	0.503 (0.306)	13.87 (2.73)	183 (84)	45 (7)	29.2 (98.8)
8th (4M) Gear									
58.8 (43.8)	2510 (11.2)	8.79 (14.15)	2200	3.1	0.519 (0.316)	13.45 (2.65)	183 (84)	45 (7)	29.2 (98.8)
9th (1H) Gear									
59.3 (44.2)	2100 (9.4)	10.58 (17.03)	2192	2.8	0.508 (0.309)	13.76 (2.71)	183 (84)	43 (6)	29.2 (98.8)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments

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 5732 lbs (2600 kg) at the 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 4335 Diesel, April 2002.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **1950**, Nebraska Summary 360, April 16, 2002.

Brent T. Sampson
Test Engineer

L.L. Bashford
M.F. Kocher
V.I. Adamchuk
Board of Tractor Test Engineers

TIRES AND WEIGHT

Rear Tires No., size, ply & psi (kPa)
Front Tires No., size, ply & psi (kPa)

Tested Without Ballast

Two 13.6R38; **, 12(83)
Two 12.4R24; **, 13(90)

Height of Drawbar

Static Weight with operator

Rear
Front
Total

18.3 in (466 mm)
4210 lb (1910 kg)
2890 lb (1310 kg)
7100 lb (3220 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 cool- ing med	Temp.°C Air dry bulb	Barom. inch Hg (kPa)
Maximum Power 7th (3M) Gear									
57.5 (42.9)	3290 (14.6)	6.56 (10.55)	2199	4.3	0.526 (0.320)	13.29 (2.62)	185 (85)	57 (14)	29.7 (100.5)
75% of Pull at Maximum Power 7th (3M) Gear									
45.1 (33.6)	2485 (11.0)	6.80 (10.94)	2253	3.3	0.544 (0.331)	12.84 (2.53)	183 (84)	57 (14)	29.7 (100.5)
50% of Pull at Maximum Power 7th (3M) Gear									
30.2 (22.5)	1635 (7.3)	6.93 (11.15)	2275	2.3	0.637 (0.388)	10.96 (2.16)	183 (84)	57 (14)	29.7 (100.5)
75% of Pull at Reduced Engine Speed 8th (4M) Gear									
45.1 (33.6)	2485 (11.0)	6.80 (10.94)	1722	3.4	0.468 (0.285)	14.92 (2.94)	181 (83)	57 (14)	29.7 (100.5)
50% of Pull at Reduced Engine Speed 8th (4M) Gear									
30.1 (22.4)	1630 (7.3)	6.92 (11.13)	1736	2.4	0.521 (0.317)	13.40 (2.64)	181 (83)	57 (14)	29.7 (100.5)
MAXIMUM POWER IN SELECTED GEARS									
1st (1L) Gear									
17.9 (13.4)	5315 (23.6)	1.26 (2.03)	2292	14.5	0.821 (0.500)	8.50 (1.68)	183 (84)	57 (14)	29.7 (100.5)
2nd (2L) Gear									
23.6 (17.6)	5240 (23.3)	1.69 (2.72)	2285	12.4	0.721 (0.439)	9.67 (1.91)	183 (84)	57 (14)	29.7 (100.5)
3rd (3L) Gear									
30.8 (23.0)	5170 (23.0)	2.23 (3.59)	2275	11.3	0.635 (0.386)	11.01 (2.17)	183 (84)	57 (14)	29.7 (100.5)
4th (4L) Gear									
39.4 (29.4)	5035 (22.4)	2.94 (4.73)	2262	10.2	0.580 (0.353)	12.03 (2.37)	183 (84)	57 (14)	29.7 (100.5)
5th (1M) Gear									
49.5 (36.9)	4970 (22.1)	3.73 (6.01)	2242	8.5	0.536 (0.326)	13.01 (2.56)	183 (84)	57 (14)	29.7 (100.5)
6th (2M) Gear									
57.3 (42.7)	4390 (19.5)	4.89 (7.87)	2201	6.5	0.525 (0.319)	13.30 (2.62)	185 (85)	57 (14)	29.7 (100.5)
7th (3M) Gear									
57.5 (42.9)	3290 (14.6)	6.56 (10.55)	2199	4.3	0.526 (0.320)	13.29 (2.62)	185 (85)	57 (14)	29.7 (100.5)
8th (4M) Gear									
55.9 (41.7)	2415 (10.8)	8.68 (13.97)	2198	3.3	0.538 (0.327)	12.99 (2.56)	185 (85)	57 (14)	29.7 (100.5)
9th (1H) Gear									
57.0 (42.5)	2045 (9.1)	10.45 (16.81)	2189	2.8	0.526 (0.320)	13.29 (2.62)	183 (84)	57 (14)	29.7 (100.5)

TRACTOR SOUND LEVEL WITHOUT CAB	Front Wheel Drive	
	Disengaged dB(A)	Engaged dB(A)
Maximum sound level in 6th(2M) gear	95.0	95.0
Bystander in 12th(4H) gear	--	--

THREE POINT HITCH PERFORMANCE (OECD Static Test)

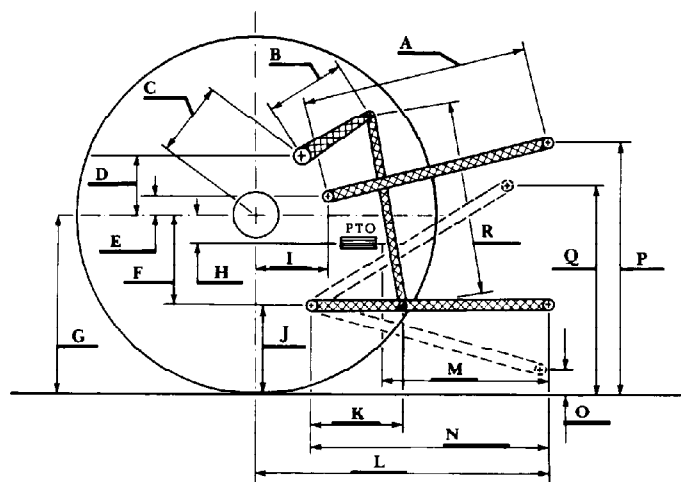
CATEGORY: II

Quick Attach: None

Maximum Force Exerted Through Whole Range: 3665 lbs (16.3 kN) (at the frame)
4340 lbs (19.3 kN) (at the lower link ends)

- i) Opening pressure of relief valve: NA
- Sustained pressure of the open relief valve: 3250 psi (224 bar)
- ii) Pump delivery rate at minimum pressure: 11.3 GPM (42.8 l/min)
- iii) Pump delivery rate at maximum
 - hydraulic power: 9.9 GPM (37.3 l/min)
 - Delivery pressure: 2830 psi (195 bar)

HITCH DIMENSIONS AS TESTED NO LOAD



	inch	mm
A	32.0	815
B	12.2	310
C	12.0	304
D	9.2	233
E	8.1	205
F	8.3	212
G	28.3	720
H	5.4	136
I	7.3	186
J	20.0	508
K	26.6	675
L	38.1	968
M	25.0	635
N	39.4	1000
O	7.8	197
P	44.0	1118
Q	33.3	845
R	30.7	780