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January 2003

Nebraska Summary 558: Massey Ferguson 5465 Diesel 16-Speed

Nebraska Tractor Test Lab

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SUMMARY OF OECD TESTS 2110 & 2111-NEBRASKA SUMMARY 558

MASSEY FERGUSON 5465 DIESEL

16 SPEED

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—1100 rpm)					
97.8 (72.9)	2199	6.26 (23.70)	0.454 (0.276)	15.63 (3.08)	
Standard Power Take-off Speed(1000 rpm)					
106.1 (79.1)	2000	6.30 (23.83)	0.421 (0.256)	16.85 (3.32)	
Maximum Power (2 hours)					
109.4 (81.6)	1848	6.13 (23.20)	0.397 (0.242)	17.86 (3.52)	

VARYING POWER AND FUEL CONSUMPTION

97.8 (72.9)	2199	6.26 (23.70)	0.454 (0.276)	15.63 (3.08)	Air temperature
84.5 (63.0)	2216	5.58 (21.14)	0.469 (0.285)	15.13 (2.98)	
63.2 (47.1)	2238	4.81 (18.21)	0.540 (0.329)	13.13 (2.59)	Relative humidity
42.5 (31.7)	2259	3.97 (15.01)	0.662 (0.402)	10.72 (2.11)	
21.0 (15.7)	2276	3.00 (11.34)	1.011 (0.615)	7.02 (1.38)	Barometer
--	2293	2.20 (8.32)	--	--	

Maximum torque - 342.2 lb.-ft. (464.0 Nm) at 1398 rpm

Maximum torque rise - 46.5%

Torque rise at 1790 engine rpm - 36%

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(4TA) Gear									
82.6 (61.6)	6775 (30.1)	4.57 (7.36)	2160	6.0	0.566 (0.344)	12.54 (2.47)	183 (84)	36 (2)	29.9 (101.1)
75% of Pull at Maximum Power—7th(4TA) Gear									
64.1 (47.8)	5060 (22.5)	4.75 (7.65)	2195	3.0	0.616 (0.375)	11.51 (2.27)	181 (83)	36 (2)	29.9 (101.1)
50% of Pull at Maximum Power—7th(4TA) Gear									
43.9 (32.7)	3370 (15.0)	4.88 (7.85)	2220	2.0	0.743 (0.452)	9.54 (1.88)	181 (83)	37 (3)	29.9 (101.1)
75% of Pull at Reduced Engine Speed—8th(4TB) Gear									
64.6 (48.2)	5035 (22.4)	4.81 (7.74)	1764	4.0	0.531 (0.323)	13.35 (2.63)	178 (81)	37 (3)	29.9 (101.1)
50% of Pull at Reduced Engine Speed—8th(4TB) Gear									
44.3 (33.0)	3395 (15.1)	4.89 (7.87)	1774	3.0	0.583 (0.355)	12.17 (2.40)	178 (81)	37 (3)	29.9 (101.1)

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

Dates of tests: November - December, 2003

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)** 0.852 **Fuel weight** 7.09 lbs/gal (0.850 kg/l) **Oil SAE** 15W40 **API service classification** CH4 **Transmission and hydraulic lubricant** BP Terrac Tractan 9 fluid **Front axle lubricant** API GL5 - SAE 85W140

ENGINE: Make Perkins Diesel **Type** six cylinder vertical with turbocharger and air to air intercooler **Serial No.** U090189J **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 3.937" x 5.00" (100.0 mm x 127.0 mm) **Compression ratio** 17.5 to 1 **Displacement** 365 cu in (5985 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 and prefilter **Muffler** vertical **Cooling medium temperature control** thermostat and variable speed fan

CHASSIS: **Type** 2WD and FWA **Serial No.** N176101 **Tread width** rear 59.8" (1518 mm) to 74.7" (1871 mm) front 2WD - 52.8" (1342 mm) to 65.9" (1674 mm), FWA - 60.9" (1546 mm) to 70.0" (1778 mm) **Wheelbase** 2WD - 111.0" (2820 mm) FWA - 109.4" (2780 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with partial (2) range operator controlled powershift **Nominal travel speeds mph (km/h)** first 1.56 (2.51) second 1.97 (3.17) third 2.36 (3.79) fourth 2.98 (4.79) fifth 3.26 (5.24) sixth 4.11 (6.62) seventh 4.72 (7.59) eighth 5.96 (9.59) ninth 6.24 (10.05) tenth 7.89 (12.70) eleventh 9.43 (15.18) twelfth 11.93 (19.20) thirteenth 13.06 (21.01) fourteenth 16.50 (26.56) fifteenth 18.90 (30.43) sixteenth 23.89 (38.44) reverse 1.52 (2.44), 1.91 (3.08), 2.29 (3.68), 2.89 (4.65), 3.16 (5.09), 4.00 (6.43), 4.58 (7.37), 5.79 (9.32), 6.07 (9.77), 7.67 (12.35), 9.17 (14.76), 11.59 (18.65), 12.69 (20.42), 16.10 (25.91), 18.37 (29.56), 23.22 (37.37) **Clutch** multiple wet 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 1976 engine rpm or 1000 rpm at 2000 engine rpm **Unladen tractor mass** 2WD - 9810 lb (4450 kg), FWA - 10525 lb (4775 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)	Consumption Hp.hr/gal (kW.h/l)	Temp. °F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
50.3 (37.5)	8970 (39.9)	2.10 (3.38)	2209	15.0	3rd(2TA)Gear 0.740 (0.450)	9.59 (1.89)	172 (78)	36 (2)	29.9 (101.1)
61.8 (46.1)	8655 (38.5)	2.68 (4.31)	2181	13.0	4th(2TB)Gear 0.658 (0.400)	10.78 (2.12)	181 (83)	36 (2)	29.9 (101.1)
67.5 (50.3)	8565 (38.1)	2.96 (4.76)	2174	12.0	5th(3TA)Gear 0.642 (0.391)	11.05 (2.18)	181 (83)	36 (2)	29.9 (101.1)
81.4 (60.7)	8205 (36.5)	3.72 (5.99)	2094	9.0	6th(3TB)Gear 0.582 (0.354)	12.18 (2.40)	171 (77)	37 (3)	29.9 (101.1)
86.5 (64.5)	7960 (35.4)	4.08 (6.56)	1963	8.0	7th(4TA) Gear 0.533 (0.324)	13.30 (2.62)	181 (83)	37 (3)	29.9 (101.1)
87.4 (65.2)	6610 (29.4)	4.96 (7.99)	1850	6.0	8th(4TB) Gear 0.512 (0.311)	13.86 (2.73)	181 (83)	37 (3)	29.9 (101.1)
89.4 (66.7)	6395 (28.4)	5.24 (8.44)	1852	5.0	9th(1LA) Gear 0.502 (0.305)	14.16 (2.79)	183 (84)	37 (3)	29.9 (101.1)
87.4 (65.2)	4925 (21.9)	6.66 (10.71)	1846	4.0	10th(1LB)Gear 0.512 (0.311)	13.86 (2.73)	183 (84)	37 (3)	29.9 (101.1)
86.0 (64.1)	4005 (17.8)	8.05 (12.96)	1845	3.0	11th(2LA)Gear 0.521 (0.317)	13.60 (2.68)	183 (84)	37 (3)	29.9 (101.1)

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 manufacturer's claim of 75 dB(A) cab sound level. The manufacturer's claim of 23.6 GPM(89.7 lpm), remote hydraulic flow with optional pump, was not verified. The performance figures on this summary were taken from a test conducted under the OECD Code II test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Reports No. **2110 & 2111**, Nebraska Summary 558, December 15, 2006.

Roger M. Hoy
Director

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

TRACTOR SOUND LEVEL WITH CAB	2WD dB(A)	Front Wheel Drive Engaged dB(A)
At no load in 6th (3TB) gear	79.0	79.0
Bystander in 16th(4LB) gear	--	--

Tested without ballast

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

Front Wheel Assist

Two 18.4R38;*,15(100)

Two 14.9R28;*,16(110)

22.4 in (570 mm)

6425 lb (2915 kg)

4265 lb (1935 kg)

10690 lb (4850 kg)

2WD

Two 18.4R38;*,15(100)

Two 11.00-16; 8; 30 (210)

35.4 in (900 mm)

6350 lb (2880 kg)

3605 lb (1635 kg)

9955 lb (4515 kg)

DRAWBAR PERFORMANCE
(Unballasted - 2WD)
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(4TA) Gear									
72.8 (54.3)	5955 (26.5)	4.59 (7.38)	2199	7.0	0.612 (0.372)	11.59 (2.28)	185 (85)	36 (2)	29.8 (100.8)
75% of Pull at Maximum Power—7th(4TA) Gear									
56.3 (42.0)	4475 (19.9)	4.72 (7.59)	2214	5.0	0.675 (0.411)	10.51 (2.07)	185 (85)	36 (2)	29.8 (100.8)
50% of Pull at Maximum Power—7th(4TA) Gear									
38.5 (28.7)	2980 (13.3)	4.84 (7.80)	2238	4.0	0.812 (0.494)	8.73 (1.72)	185 (85)	37 (3)	29.8 (100.8)
75% of Pull at Reduced Engine Speed—8th(4TB) Gear									
56.3 (42.0)	4505 (20.0)	4.69 (7.54)	1737	5.0	0.538 (0.327)	13.20 (2.60)	181 (83)	37 (3)	29.8 (100.8)
50% of Pull at Reduced Engine Speed—8th(4TB) Gear									
38.5 (28.7)	2975 (13.2)	4.85 (7.81)	1764	3.0	0.632 (0.385)	11.22 (2.21)	181 (83)	36 (2)	29.8 (100.8)
MAXIMUM POWER IN SELECTED GEARS									
5th(3TA) Gear									
57.1 (42.6)	7305 (32.5)	2.93 (4.72)	2193	14.0	0.686 (0.417)	10.36 (2.04)	181 (83)	36 (2)	29.8 (100.8)
6th(3TB) Gear									
70.4 (52.5)	7135 (31.7)	3.70 (5.95)	2186	13.0	0.631 (0.384)	11.23 (2.21)	183 (84)	36 (2)	29.8 (100.8)
7th(4TA) Gear									
78.9 (58.8)	6700 (29.8)	4.42 (7.11)	2144	8.0	0.589 (0.358)	12.04 (2.37)	185 (85)	36 (2)	29.8 (100.8)
8th(4TB) Gear									
86.5 (64.5)	6475 (28.8)	5.01 (8.06)	1919	8.0	0.528 (0.321)	13.45 (2.65)	185 (85)	37 (3)	29.8 (100.8)
9th(1LA) Gear									
88.2 (65.8)	6520 (29.0)	5.07 (8.16)	1859	8.0	0.506 (0.308)	14.01 (2.76)	185 (85)	36 (2)	29.8 (100.8)
10th(1LB) Gear									
87.3 (65.1)	5030 (22.4)	6.51 (10.47)	1848	6.0	0.512 (0.311)	13.86 (2.73)	183 (84)	36 (2)	29.8 (100.8)
11th(2LA) Gear									
86.9 (64.8)	4150 (18.5)	7.85 (12.64)	1848	5.0	0.516 (0.314)	13.76 (2.71)	183 (84)	36 (2)	29.8 (100.8)

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II	
Quick Attach: None	
Maximum force exerted through whole range:	9240 lbs (41.1 kN)
i) Opening pressure of relief valve:	NA
Sustained pressure of the open relief valve:	2815 psi (194 bar)
ii) Pump delivery rate at minimum pressure:	16.1 GPM (61.1 l/min)
iii) Pump delivery rate at maximum	
hydraulic power:	15.3 GPM (57.9 l/min)
Delivery pressure:	2510 psi (173 bar)
Power:	22.4 hp (16.7 kW)

HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	24.8	630
B	11.6	295
C	13.9	354
D	13.0	330
E	7.9	200
F	10.2	260
G	32.3	820
H	1.7	43
I	16.3	413
J	22.1	560
K	21.4	544
L	41.2	1046
M	22.5	571
N	37.2	946
O	7.6	193
P	46.1	1170
Q	34.2	869
R	28.3	720

