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January 2004

Nebraska Summary 468: Massey Ferguson 6490 Diesel 32-speed

Nebraska Tractor Test Lab

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SUMMARY OF OECD TEST 2200-NEBRASKA SUMMARY 468

MASSEY FERGUSON 6490 DIESEL

32 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—1102 rpm)					
140.7 (104.9)	2204	8.72 (33.00)	0.439 (0.267)	16.14 (3.18)	
Standard Power Take-off Speed(1001 rpm)					
145.2 (108.3)	2002	8.19 (31.01)	0.400 (0.243)	17.73 (3.49)	
Maximum Power (2 hours)					
145.2 (108.3)	2002	8.19 (31.01)	0.400 (0.243)	17.73 (3.49)	

VARYING POWER AND FUEL CONSUMPTION

140.7 (104.9)	2204	8.72 (33.00)	0.439 (0.267)	16.14 (3.18)	Air temperature
122.2 (91.1)	2247	7.49 (28.34)	0.435 (0.264)	16.31 (3.21)	72°F(22°C)
92.7 (69.1)	2267	6.42 (24.30)	0.492 (0.299)	14.43 (2.84)	Relative humidity
62.0 (46.2)	2292	5.13 (19.41)	0.587 (0.357)	12.08 (2.38)	44%
31.2 (23.3)	2317	3.77 (14.29)	0.855 (0.520)	8.29 (1.63)	Barometer
--	2336	2.51 (9.52)	--	--	29.9" Hg(101.3 kPa)

Maximum Torque - 485.0 lb.-ft. (657.7 Nm) at 1172 rpm
 Maximum Torque Rise - 44.7%
 Torque rise at 1760 engine rpm - 25%

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	
Maximum Power—12th(4TA) Gear									
121.5 (90.6)	9960 (44.3)	4.57 (7.36)	2202	5.2	0.504 (0.306)	14.08 (2.77)	181 (83)	45 (7)	29.9 (101.1)
75% of Pull at Maximum Power—12th(4TA) Gear									
92.9 (69.3)	7465 (33.2)	4.67 (7.52)	2240	4.9	0.546 (0.332)	12.99 (2.56)	181 (83)	45 (7)	29.9 (101.1)
50% of Pull at Maximum Power—12th(4TA) Gear									
63.3 (47.2)	4980 (22.2)	4.77 (7.67)	2268	4.1	0.651 (0.396)	10.90 (2.15)	180 (82)	45 (7)	29.9 (101.1)
75% of Pull at Reduced Engine Speed—14th(4TB) Gear									
92.8 (69.2)	7440 (33.1)	4.68 (7.53)	1916	5.0	0.475 (0.289)	14.92 (2.94)	180 (82)	46 (8)	29.9 (101.1)
50% of Pull at Reduced Engine Speed—14th(4TB) Gear									
63.6 (47.4)	4990 (22.2)	4.78 (7.69)	1940	4.2	0.551 (0.335)	12.86 (2.53)	180 (82)	46 (8)	29.9 (101.1)

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

Dates of tests: March - June, 2004

Sound tests: January 19, 2006

Manufacturer: AGCO S.A. Z.A.-No.2 BP 60307, 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** 10W40 **API service classification** CF4 **Transmission and hydraulic lubricant** BP Terrac Tractan 9 10W/40 **Front axle lubricant** Terrac Tractan 9 10W/40

ENGINE: Make Sisu Diesel **Type** six cylinder vertical with turbocharger and air to air intercooler **Serial No.** N13304 **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.252" x 4.724" (108.0 mm x 120.0 mm) **Compression ratio** 18.5 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.** M302015 **Tread width** rear 61.7" (1567 mm) to 95.2" (2417 mm) front 66.5" (1690 mm) to 85.5" (2172 mm) **Wheelbase** 118.5" (3011 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with partial (4) range operator controlled powershift **Nominal travel speeds mph (km/h)** first 1.47 (2.36) second 1.72 (2.76) third 2.03 (3.26) fourth 2.22 (3.57) fifth 2.37 (3.82) sixth 2.60 (4.18) seventh 3.06 (4.93) eighth 3.17 (5.10) ninth 3.59 (5.78) tenth 3.71 (5.97) eleventh 4.38 (7.05) twelfth 4.59 (7.39) thirteenth 5.13 (8.25) fourteenth 5.38 (8.65) fifteenth 5.65 (9.09) sixteenth 6.34 (10.21) seventeenth 6.61 (10.64) eighteenth 7.43 (11.95) nineteenth 7.80 (12.56) twentieth 8.54 (13.75) twenty-first 9.14 (14.71) twenty-second 10.00 (16.09) twenty-third 11.81 (19.00) twenty-fourth 12.20 (19.64) twenty-fifth 13.82 (22.24) twenty-sixth 14.29 (22.99) twenty-seventh 16.86 (27.14) twenty-eighth 17.68 (28.45) twenty-ninth 19.74 (31.76) thirtieth 20.69 (33.30) thirty-first 24.42 (39.30) thirty-second 24.86 (40.00) reverse 1.47 (2.36), 1.72 (2.76), 2.03 (3.26), 2.22 (3.57), 2.37 (3.82), 2.60 (4.18), 3.06 (4.93), 3.17 (5.10), 3.59 (5.78), 3.71 (5.97), 4.38 (7.05), 4.59 (7.39), 5.13 (8.25), 5.38 (8.65), 5.65 (9.09), 6.34 (10.21), 6.61 (10.64), 7.43 (11.95), 7.80 (12.56)

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)
6th(2TB) Gear									
97.0 (72.3)	15130 (67.3)	2.40 (3.87)	2221	11.8	0.552 (0.336)	12.84 (2.53)	180 (82)	45 (7)	29.9 (101.1)
7th(2TC) Gear									
114.1 (85.1)	14790 (65.8)	2.89 (4.65)	2205	9.5	0.518 (0.315)	13.71 (2.70)	180 (82)	45 (7)	29.9 (101.1)
8th(3TA) Gear									
118.0 (88.0)	14790 (65.8)	2.99 (4.81)	2199	9.2	0.516 (0.314)	13.76 (2.71)	180 (82)	45 (7)	29.9 (101.1)
9th(2TD) Gear									
126.1 (94.0)	14570 (64.8)	3.25 (5.22)	2087	8.3	0.483 (0.294)	14.67 (2.89)	180 (82)	46 (8)	29.9 (101.1)
10th(3TB) Gear									
127.4 (95.0)	14295 (63.6)	3.34 (5.38)	2065	7.7	0.475 (0.289)	14.92 (2.94)	180 (82)	45 (7)	29.9 (101.1)
11th(3TC) Gear									
129.7 (96.7)	12385 (55.1)	3.93 (6.32)	2004	5.1	0.460 (0.280)	15.43 (3.04)	180 (82)	45 (7)	29.9 (101.1)
12th(4TA) Gear									
129.4 (96.5)	11825 (52.6)	4.10 (6.61)	1999	6.3	0.455 (0.277)	15.58 (3.07)	181 (83)	45 (7)	29.9 (101.1)
13th(3TD) Gear									
129.3 (96.4)	10545 (46.9)	4.60 (7.40)	1998	4.9	0.457 (0.278)	15.53 (3.06)	181 (83)	45 (7)	29.9 (101.1)
14th(4TB) Gear									
129.3 (96.4)	10025 (44.6)	4.84 (7.79)	2001	6.0	0.457 (0.278)	15.53 (3.06)	181 (83)	46 (8)	29.9 (101.1)
15th(1LA) Gear									
130.6 (97.4)	9530 (42.4)	5.14 (8.27)	2012	4.5	0.452 (0.275)	15.68 (3.09)	181 (83)	46 (8)	29.9 (101.1)
16th(4TC) Gear									
124.2 (92.6)	8085 (36.0)	5.76 (9.27)	2003	4.0	0.474 (0.288)	14.97 (2.95)	181 (83)	46 (8)	29.9 (101.1)
17th(1LB) Gear									
126.9 (94.6)	7890 (35.1)	6.03 (9.71)	2003	3.5	0.466 (0.283)	15.23 (3.00)	181 (83)	48 (9)	29.9 (101.1)
18th(4TD) Gear									
120.6 (89.9)	6700 (29.8)	6.75 (10.87)	1996	4.2	0.488 (0.297)	14.54 (2.87)	181 (83)	48 (9)	29.9 (101.1)
19th(1LC) Gear									
124.0 (92.5)	6540 (29.1)	7.11 (11.45)	2001	3.6	0.476 (0.290)	14.90 (2.94)	181 (83)	48 (9)	29.9 (101.1)

8.54 (13.75), 9.14 (14.71), 10.00 (16.09), 11.81 (19.00), 12.20 (19.64), 13.82 (22.24), 14.29 (22.99), 16.86 (27.14), 17.68 (28.45), 19.74 (31.76), 20.69 (33.30), 24.43 (39.30), 24.86 (40.00) **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 1998 engine rpm or 1000 rpm at 2000 engine rpm **Unladen tractor mass** 15465 lb (7015 kg)

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 26.4 GPM (100 lpm) remote hydraulic flow with twin flow system. The manufacturer's claim of 23.5 GPM (88.5 lpm) remote flow, with open center system, was not tested for verification. The category IIN hitch configuration was not tested for verification. 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 Report No. **2200**, Nebraska Summary 468, March 15, 2006.

Leonard L. Bashford
Director

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

TIRES, BALLAST AND WEIGHT	FWA	FWA
	With Ballast	Without Ballast
Rear tires - No., size, ply & psi (kPa)	Four 620/70R42; **, 15(100)	Two 620/70R42; **, 15(100)
Ballast - Duals (total)	1610 lb (730 kg)	None
- Liquid (none)	None	None
Front tires - No., size, ply & psi (kPa)	Two 540/65R30; **, 16(110)	Two 540/65R30; **, 16(110)
Ballast - Liquid (total)	None	None
- Cast Iron (total)	None	None
Height of Drawbar	22.0 in (560 mm)	22.5 in (570 mm)
Static Weight with operator - Rear	11255 lb (5105 kg)	9600 lb (4355 kg)
- Front	6030 lb (2735 kg)	6075 lb (2755 kg)
- Total	17285 lb (7840 kg)	15675 lb (7110 kg)

DRAWBAR PERFORMANCE
(Ballasted - 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—12th(4TA) Gear									
116.5 (86.9)	10295 (45.8)	4.24 (6.83)	2202	5.6	0.528 (0.321)	13.43 (2.64)	183 (84)	64 (18)	30.2 (102.1)
75% of Pull at Maximum Power—12th(4TA) Gear									
91.2 (68.0)	7735 (34.4)	4.42 (7.11)	2233	3.2	0.548 (0.333)	12.94 (2.55)	181 (83)	64 (18)	30.2 (102.1)
50% of Pull at Maximum Power—12th(4TA) Gear									
62.5 (46.6)	5160 (22.9)	4.54 (7.31)	2269	2.0	0.672 (0.409)	10.56 (2.08)	181 (83)	64 (18)	30.2 (102.1)
75% of Pull at Reduced Engine Speed—14th(4TB) Gear									
91.6 (68.3)	7780 (34.6)	4.42 (7.12)	1924	3.9	0.497 (0.302)	14.26 (2.81)	181 (83)	64 (18)	30.2 (102.1)
50% of Pull at Reduced Engine Speed—14th(4TB) Gear									
62.2 (46.4)	5135 (22.8)	4.54 (7.31)	1948	2.4	0.583 (0.355)	12.17 (2.40)	180 (82)	64 (18)	30.2 (102.1)
MAXIMUM POWER IN SELECTED GEARS									
5th(1TD) Gear									
88.5 (66.0)	16455 (73.2)	2.02 (3.25)	2232	14.3	0.590 (0.359)	12.03 (2.37)	180 (82)	61 (16)	30.2 (102.1)
6th(2TB) Gear									
95.5 (71.2)	16075 (71.5)	2.23 (3.58)	2236	13.7	0.575 (0.350)	12.33 (2.43)	181 (83)	61 (16)	30.2 (102.1)
7th(2TC) Gear									
109.4 (81.6)	15760 (70.1)	2.60 (4.19)	2204	13.3	0.568 (0.346)	12.49 (2.46)	181 (83)	63 (17)	30.2 (102.1)
8th(3TA) Gear									
111.7 (83.3)	15310 (68.1)	2.74 (4.41)	2198	11.6	0.556 (0.338)	12.75 (2.51)	181 (83)	63 (17)	30.2 (102.1)
9th(2TD) Gear									
118.8 (88.6)	15015 (66.8)	2.97 (4.78)	2080	10.6	0.519 (0.316)	13.65 (2.69)	181 (83)	63 (17)	30.2 (102.1)
10th(3TB) Gear									
119.4 (89.0)	14815 (65.9)	3.02 (4.86)	2053	10.8	0.514 (0.313)	13.81 (2.72)	183 (84)	63 (17)	30.2 (102.1)
11th(3TC) Gear									
121.8 (90.8)	12610 (56.1)	3.62 (5.83)	2006	7.2	0.496 (0.301)	14.31 (2.82)	183 (84)	64 (18)	30.2 (102.1)
12th(4TA) Gear									
123.5 (92.1)	12165 (54.1)	3.81 (6.13)	2003	7.0	0.487 (0.296)	14.57 (2.87)	183 (84)	64 (18)	30.2 (102.1)
13th(3TD) Gear									
122.7 (91.5)	10680 (47.5)	4.31 (6.93)	2002	5.7	0.485 (0.295)	14.62 (2.88)	183 (84)	63 (17)	30.2 (102.1)
14th(4TB) Gear									
124.4 (92.8)	10250 (45.6)	4.55 (7.32)	2001	4.8	0.480 (0.292)	14.77 (2.91)	183 (84)	64 (18)	30.2 (102.1)
15th(1LA) Gear									
125.1 (93.3)	9780 (43.5)	4.80 (7.72)	2009	4.9	0.474 (0.289)	14.95 (2.95)	183 (84)	64 (18)	30.2 (102.1)
16th(4TC) Gear									
122.3 (91.2)	8370 (37.2)	5.48 (8.81)	2017	3.8	0.488 (0.297)	14.52 (2.86)	183 (84)	64 (18)	30.2 (102.1)
17th(1LB) Gear									
126.3 (94.2)	8340 (37.1)	5.68 (9.14)	2008	4.0	0.469 (0.285)	15.13 (2.98)	183 (84)	66 (19)	30.2 (102.1)
18th(4TD) Gear									
119.6 (89.2)	7015 (31.2)	6.39 (10.28)	2000	3.2	0.501 (0.305)	14.16 (2.79)	183 (84)	66 (19)	30.2 (102.1)
19th(1LC) Gear									
121.9 (90.9)	6765 (30.1)	6.76 (10.88)	2009	3.4	0.478 (0.292)	14.77 (2.91)	183 (84)	66 (19)	30.2 (102.1)
20th(2LA) Gear									
127.8 (95.3)	6505 (28.9)	7.37 (11.86)	2001	3.4	0.478 (0.291)	14.82 (2.92)	183 (84)	66 (19)	30.2 (102.1)
21st(1LD) Gear									
120.6 (89.9)	5880 (26.2)	7.69 (12.38)	2002	5.8	0.496 (0.301)	14.31 (2.82)	183 (84)	66 (19)	30.2 (102.1)
22nd(2LB) Gear									
126.5 (94.3)	5585 (24.8)	8.49 (13.67)	2010	5.0	0.487 (0.296)	14.57 (2.87)	183 (84)	66 (19)	30.2 (102.1)

TRACTOR SOUND LEVEL WITH CAB

dB(A)

At no load in 12th (4TA) gear	70.6
Bystander in 32nd (4LD) gear	84.9

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II

Quick Attach: None

Maximum force exerted through whole range:	15240 lbs (67.8 kN)	
	<u>twin flow system</u>	<u>closed center system</u>
i) Opening pressure of relief valve:	NA	NA
Sustained pressure of the open relief valve:	2975 psi (205 bar)	2845 psi (196 bar)
ii) Pump delivery rate at minimum pressure:	25.9 GPM (98.2 l/min)	32.1 GPM (121.7 l/min)
iii) Pump delivery rate at maximum		
hydraulic power:	23.5 GPM (89.0 l/min)	29.6 GPM (112.0 l/min)
Delivery pressure:	2365 psi (163 bar)	2175 psi (150 bar)
Power:	32.4 HP (24.2 kW)	37.5 HP (28.0 kW)

HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	31.5	800
B	15.7	400
C	21.0	534
D	19.5	495
E	8.3	210
F	12.2	310
G	35.6	905
H	2.0	50
I	17.7	450
J	23.4	595
K	25.0	635
L	47.2	1198
M	23.5	598
N	37.0	940
O	10.2	258
P	47.4	1205
Q	40.2	1022
R	36.3	923

