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Test 1852: Massey Ferguson 596 and 492 Diesel 12-Speed

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1852

MASSEY FERGUSON 492 DIESEL

ALSO MASSEY FERGUSON 596 DIESEL

12 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—1157 rpm)					
87.61 (65.33)	2200	5.40 (20.45)	0.433 (0.263)	16.22 (3.19)	
Maximum Power (1 hour)					
91.66 (68.35)	2050	5.35 (20.25)	0.410 (0.249)	17.13 (3.38)	
Standard Power Take-off Speed - (1000 rpm)					
90.37 (67.39)	1901	5.10 (19.30)	0.396 (0.241)	17.72 (3.49)	

VARYING POWER AND FUEL CONSUMPTION

87.61 (65.33)	2200	5.40 (20.45)	0.433 (0.263)	16.22 (3.19)	Air temperature
75.38 (56.21)	2231	4.81 (18.21)	0.448 (0.273)	15.67 (3.09)	75°F (24°C)
56.92 (42.45)	2251	4.06 (15.36)	0.501 (0.305)	14.03 (2.76)	Relative humidity
38.49 (28.70)	2260	3.17 (12.02)	0.579 (0.352)	12.12 (2.39)	78%
19.40 (14.47)	2279	2.29 (8.68)	0.830 (0.505)	8.47 (1.67)	Barometer
1.78 (1.32)	2289	1.57 (5.93)	6.192 (3.766)	1.13 (0.22)	28.94" Hg (98.00 kPa)

Maximum torque 293 lb.-ft. (397 Nm) at 1298 rpm
Maximum torque rise -40.1%
Torque rise at 1800 rpm -24%

TRACTOR SOUND LEVEL WITH CAB

	Front wheel drive Engaged dB(A)	Disengaged dB(A)
At no load in 6th(3LH) gear	81.1	80.9
Bystander		--

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

Tested Without Ballast

Two 18.4-34; 10; 16 (110)
Two 14.9-24; 6; 20 (135)
20.0 in (510 mm)
5060 lb (2295 kg)
3500 lb (1588 kg)
8560 lb (3883 kg)

Location of tests: Nebraska Tractor Test Laboratory, University of Nebraska, Lincoln Nebraska 68583-0832

Dates of tests: June 22-23, 2005

Manufacturer: AGCO Corporation, 4205 River Green Parkway, Duluth, Georgia 30096

FUEL, OIL and TIME: Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.8437 Fuel weight 7.025 lbs/gal (0.842 kg/l) Oil SAE 15W40 API service classification CE/CF-4 Transmission and hydraulic lubricant AGCO Power Fluid 821 XL fluid Total time engine was operated 8.5 hours

ENGINE: Make Perkins Diesel Type four cylinder vertical with turbocharger Serial No. RG38179*B503915M* Crankshaft lengthwise Rated engine speed 2200 Bore and stroke 4.134" x 5.00" (105.0 mm x 127.0 mm) Compression ratio 18.2 to 1 Displacement 268 cu in (4400 ml) Starting system 12 volt Lubrication pressure Air cleaner two paper elements Oil filter one full flow cartridge Fuel filter one paper element and water separator Muffler underhood Exhaust vertical Cooling medium temperature control one thermostat

ENGINE OPERATING PARAMETERS: Fuel rate: 36.5 - 39.2 lb/h (16.6 - 17.8 kg/h) High idle: 2250 - 2350 rpm Turbo boost: nominal 10.4-12.5 psi (72 - 86 kPa) as measured 11.4 psi (79 kPa)

CHASSIS: Type front wheel assist Serial No. 8029BP10184 Tread width rear 62.4" (1585 mm) to 85.0" (2160 mm) front 66.7" (1695 mm) to 83.6" (2123 mm) Wheelbase 90.2" (2290 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio Nominal travel speeds mph (km/h) first 1.50 (2.42) second 1.85 (2.98) third 2.22 (3.57) fourth 2.73 (4.39) fifth 4.19 (6.74) sixth 5.15 (8.28) seventh 6.16 (9.91) eighth 7.57 (12.19) ninth 9.08 (14.61) tenth 11.17 (17.98) eleventh 17.16 (27.61) twelfth 21.07 (33.91) reverse 2.16 (3.47), 2.65 (4.26), 8.82 (14.19), 10.84 (17.45) Clutch single dry disc operated by foot pedal Brakes multiple wet disc hydraulically operated by two foot pedals which can be locked together Steering hydrostatic Power take-off 540 rpm at 1908 engine rpm or 1000 rpm at 1900 engine rpm Unladen tractor mass 8385 lb (3803 kg)

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II

Quick Attach: None

Maximum force exerted through whole range: 3682 lbs (16.4 kN)

i) Opening pressure of relief valve: NA
Auxiliary pump Auxiliary and linkage pumps combined
 2630 psi (181 bar) 2694 psi (186 bar)

Sustained pressure of the open relief valve: 2630 psi (181 bar)

ii) Pump delivery rate at minimum pressure and rated engine speed: 10.0 GPM (37.9 l/min) 17.1 GPM (64.7 l/min)

iii) Pump delivery rate at maximum hydraulic power: 8.9 GPM (33.7 l/min) 14.4 GPM (54.5 l/min)

Delivery pressure: 1814 psi (125 bar) 1945 psi (134 bar)

Power: 9.4 HP (7.0 kW) 16.3 HP (12.2 kW)

THREE POINT HITCH PERFORMANCE

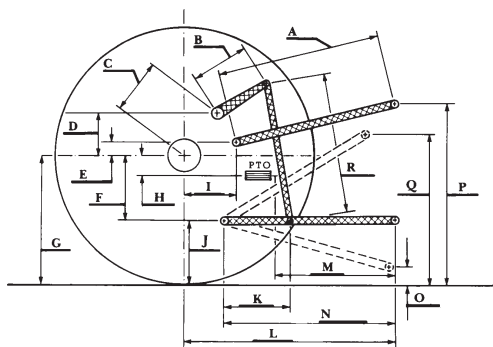
Observed maximum pressure psi.(bar) 2950(203)
 Location: lift cylinder
 Hydraulic oil temperature: °F(°C) 149(65)
 Location: hydraulic valve
 Category: II
 Quick attach: none

SAE Static Test—System pressure 2655 psi (183 Bar)

Hitch point distance to ground level in. (mm)	8.0(203)	15.0(381)	22.0(559)	29.0(737)	36.0(914)
Lift force on frame lb	4199	4519	4604	4465	4390
" " " " " (kN)	(18.7)	(20.1)	(20.5)	(19.9)	(19.5)

	SAE test		OECD test	
	inch	mm	inch	mm
A	32.8	833	33.2	843
B	10.5	267	10.5	267
C	12.0	304	12.0	304
D	9.1	232	9.1	232
E	8.0	204	8.0	204
F	8.3	212	8.3	212
G	30.3	770	30.3	770
H	5.0	127	5.0	127
I	6.9	175	6.9	175
J	22.0	558	22.0	558
K	31.4	797	31.4	797
L	41.8	1062	41.8	1062
M	30.0	762	30.0	762
N	43.2	1098	43.2	1098
O	8.0	203	8.0	203
P	41.0	1041	46.0	1168
Q	36.6	930	36.6	930
R	29.2	742	29.2	742

HITCH DIMENSIONS AS TESTED - NO LOAD



MASSEY FERGUSON 492 Diesel

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures. This tractor did not meet the manufacturer's remote flow claims of 11.2 GPM (42.4 lpm) with auxiliary pump nor 18.5 GPM (70.4 lpm) with both pumps combined. For the maximum power tests, the fuel temperature at the injection pump inlet was maintained at 133°F (56°C).

Report reissued: Supplemental sales permit for Massey Ferguson 596 Diesel, October, 2006.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1852**, November 3, 2006.

Roger M. Hoy
 Director

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