

# NEBRASKA TRACTOR TEST 1977

## MASSEY FERGUSON 2670HD DIESEL

### 8 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
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#### MAXIMUM POWER AND FUEL CONSUMPTION

Rated Engine Speed—(PTO speed—1101 rpm)					
79.54 (59.32)	2200	5.39 (20.39)	0.475 (0.289)	14.77 (2.91)	
Standard Power Take-off Speed - (1000 rpm)					
82.77 (61.72)	1998	5.15 (19.51)	0.437 (0.266)	16.06 (3.16)	
Maximum Power (1 hour)					
83.12 (61.98)	1800	4.90 (18.57)	0.414 (0.252)	16.95 (3.34)	

#### VARYING POWER AND FUEL CONSUMPTION

79.54 (59.32)	2200	5.39 (20.39)	0.475 (0.289)	14.77 (2.91)	Air temperature
70.02 (52.21)	2274	5.00 (18.91)	0.501 (0.305)	14.01 (2.76)	78°F (25°C)
53.06 (39.57)	2306	4.25 (16.09)	0.562 (0.342)	12.49 (2.46)	Relative humidity
35.67 (26.60)	2325	3.21 (12.16)	0.633 (0.385)	11.10 (2.19)	65%
17.76 (13.24)	2332	2.34 (8.85)	0.925 (0.562)	7.59 (1.50)	Barometer
2.52 (1.88)	2343	1.67 (6.30)	4.647 (2.827)	1.51 (0.30)	28.85" Hg (97.70 kPa)

Maximum torque 284 lb.-ft. (385 Nm) at 1301 rpm  
 Maximum torque rise - 49.5%  
 Torque rise at 1750 rpm - 30%  
 Power increase at 1800 engine rpm - 4.5%

#### TRACTOR SOUND LEVEL WITH CAB

	Front wheel drive Engaged dB(A)	Disengaged dB(A)
At no load in 4th(4L) gear	82.3	82.3
Bystander in 8th(4H) gear		84.4

#### 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; 16 (110)  
 18.0 in (455 mm)  
 5040 lb (2286 kg)  
 3590 lb (1628 kg)  
 8630 lb (3914 kg)

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

**Dates of tests:** June 22 - 25, 2010

**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) 0.8433 Fuel weight 7.022 lbs/gal (0.842 kg/l) Oil SAE 15W40 API service classification CF-4 Transmission and hydraulic lubricant MF Permatran III fluid Front axle lubricant SAE 90 API GL-5 Total time engine was operated 9.0 hours

**ENGINE:** Make Perkins Diesel Type four cylinder vertical with turbocharger Serial No. NL38791\*B500262T\* 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: 34.8 - 38.6 lb/h (15.8 - 17.5 kg/h) High idle: 2260 - 2360 rpm Turbo boost: nominal 17.4-19.6 psi (120 - 135 kPa) as measured 18.5 psi (128 kPa)

**CHASSIS:** Type front wheel assist Serial No. 3101BU32003 Tread width rear 61.2" (1555 mm) to 97.0" (2464 mm) front 62.5" (1588 mm) to 95.5" (2425 mm) Wheelbase 92.9" (2360 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio Nominal travel speeds mph (km/h) first 1.76 (2.83) second 2.54 (4.08) third 3.75 (6.03) fourth 5.29 (8.51) fifth 6.83 (10.99) sixth 10.33 (16.62) seventh 15.01 (24.15) eighth 21.28 (34.24) reverse 1.99 (3.21), 3.10 (4.99), 4.41 (7.09), 6.28 (10.10), 8.12 (13.07), 12.12 (19.50), 17.62 (28.36), 24.99 (40.22) 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 2008 engine rpm or 1000 rpm at 2000 engine rpm Unladen tractor mass 8455 lb (3835 kg)

## HYDRAULIC PERFORMANCE

CATEGORY: II

Quick Attach: None

OECD Static test

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

	<u>Auxiliary pump</u>	<u>Auxiliary and linkage pumps combined</u>
i) Sustained pressure of the open relief valve:	2497 psi (172 bar)	2631 psi (181 bar)
ii) Pump delivery rate at minimum pressure and rated engine speed:	10.3 GPM (38.8 l/min)	18.3 GPM (69.1 l/min)
iii) Pump delivery rate at maximum hydraulic power:	9.2 GPM (34.7 l/min)	16.3 GPM (61.9 l/min)
Delivery pressure:	1880 psi (130 bar)	1962 psi (135 bar)
Power:	10.1 HP (7.5 kW)	18.7 HP (13.9 kW)

## THREE POINT HITCH PERFORMANCE (SAE Static test)

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

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)

**REPAIRS AND ADJUSTMENTS:** No repairs or adjustments.

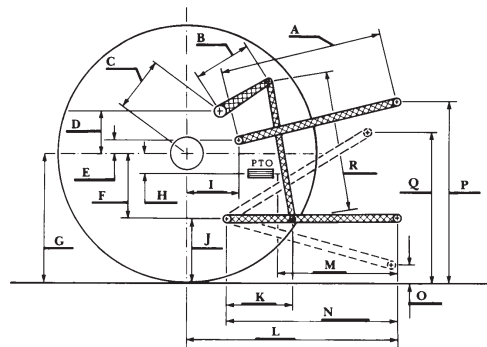
**REMARKS:** All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures. For the maximum power tests, the fuel temperature at the injection pump inlet was maintained at 132°F (55°C).

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. 1977, July 29, 2010.

Roger M. Hoy  
Director

M.F. Kocher  
D.R. Keshwani  
J.A. Smith  
Board of Tractor Test Engineers

	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 2670HD Diesel

Institute of Agriculture and Natural Resources  
University of Nebraska-Lincoln