

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F.
Larsen

January 2005

Nebraska Tractor Test 1850: AGCO GT75A Diesel

Follow this and additional works at: <https://digitalcommons.unl.edu/tractormuseumlit>



Part of the [Applied Mechanics Commons](#)

"Nebraska Tractor Test 1850: AGCO GT75A Diesel" (2005). *Nebraska Tractor Tests*. 171.

<https://digitalcommons.unl.edu/tractormuseumlit/171>

This Article is brought to you for free and open access by the Tractor Test and Power Museum, The Lester F. Larsen at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Nebraska Tractor Tests by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

NEBRASKA TRACTOR TEST 1850

AGCO GT75A 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—1077 rpm)					
76.31 (56.90)	2200	4.87 (18.44)	0.448 (0.273)	15.67 (3.09)	
Standard Power Take-off Speed - (1004 rpm)					
76.81 (57.28)	2050	4.73 (17.89)	0.432 (0.263)	16.25 (3.20)	

VARYING POWER AND FUEL CONSUMPTION

76.31 (56.90)	2200	4.87 (18.44)	0.448 (0.273)	15.67 (3.09)	Air temperature
69.16 (51.57)	2339	4.65 (17.62)	0.473 (0.288)	14.86 (2.93)	80°F (27°C)
52.22 (38.94)	2363	3.72 (14.06)	0.500 (0.304)	14.04 (2.77)	Relative humidity
--	Unable to run, see note	--	--	--	54%
--	Unable to run, see note	--	--	--	Barometer
--	2412	1.35 (5.12)	--	--	28.82"Hg (97.60 kPa)

Maximum Torque 237 lb.-ft. (321 Nm) at 1299 rpm
 Maximum Torque Rise - 30.0%
 Torque rise at 1800 rpm - 18%

TRACTOR SOUND LEVEL WITH CAB	Front wheel drive Engaged	Disengaged
dB(A)	dB(A)	dB(A)
At no load in 9th(1HL) gear	77.3	77.3
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 16.9R30; **, 16 (110)
 Two 11.2R24; **, 20 (135)
 17.0 in (430 mm)
 3935 lb (1785 kg)
 2790 lb (1265 kg)
 6725 lb (3050 kg)

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

Dates of Test: May 20-26, 2005

Manufacturer: SAME Deutz-Fahr Italia S.p.A. Viale F. Cassini, 15, 24047 Treviglio (BG) Italy

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 7.5 hours

ENGINE: Make SAME Deutz-Fahr Diesel **Type** four cylinder vertical with turbocharger **Serial No.** 1000 4WT6E*1650* **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.134" x 4.547" (105.0 mm x 115.5 mm) **Compression ratio** 16.0 to 1 **Displacement** 244 cu in (4000 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 **Fuel filter** one paper element and water separator **Muffler** underhood **Exhaust** vertical **Cooling medium temperature control** one thermostat

ENGINE OPERATING PARAMETERS: Fuel rate: 32.6 - 35.2 lb/h (14.8 - 16.0 kg/h) **High idle:** 2400 - 2430 rpm **Turbo boost:** nominal 9.7-11.1 psi (67 - 77 kPa) as measured 10.4 psi (71 kPa)

CHASSIS: Type front wheel assist **Serial No.** GT75A4TN3940043 **Tread width** rear 62.6" (1590 mm) to 75.2" (1910 mm) front 56.7" (1440 mm) to 68.5" (1740 mm) **Wheelbase** 86.1" (2186 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Nominal travel speeds mph (km/h)** first 0.89 (1.43) second 1.09 (1.76) third 1.40 (2.25) fourth 1.74 (2.80) fifth 2.22 (3.57) sixth 2.75 (4.42) seventh 3.51 (5.65) eighth 4.35 (6.99) ninth 4.85 (7.81) tenth 6.03 (9.70) eleventh 7.70 (12.39) twelfth 9.54 (15.35), thirteenth 12.19 (19.61) fourteenth 15.18 (24.43), fifteenth 19.31 (31.08) sixteenth 23.97 (38.58) reverse 1.04 (1.68), 1.64 (2.64), 2.61 (4.20), 4.13, (6.65), 5.71, (9.19), 9.05 (14.57), 14.36 (23.10), 22.72 (36.57) **Clutch** single dry disc operated by foot pedal **Brakes** single wet disc hydraulically operated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 1967 engine rpm or 1000 rpm at 2043 engine rpm **Unladen tractor mass** 6550 lb (2971 kg)

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II

Quick Attach: None

Maximum Force Exerted Through Whole Range: 3414 lbs (15.2 kN) (at the frame)
3802 lbs (16.9 kN) (at ball ends)

- i) Opening pressure of relief valve: NA
- Sustained pressure of the open relief valve: 2771 psi (191 bar)
- ii) Pump delivery rate at minimum pressure and rated engine speed: 11.7 GPM (44.3 l/min)
- iii) Pump delivery rate at maximum hydraulic power: 12.4 GPM (46.9 l/min)
- Delivery pressure: 2593 psi (179 bar)
- Power: 18.8 HP (14.0 kW)

THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi.(bar) 2650(183)
Location: lift cylinder
Hydraulic oil temperature: °F(°C) 166(74)
Location: hydraulic valve
Category: II
Quick attach: none

SAE Static Test—System pressure 2385 psi (164 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	5495	4895	4619	4471	4265
" " " " " " (kN)	(24.4)	(21.8)	(20.5)	(19.9)	(19.0)

NOTE: This tractor has an electronic control that disengages the PTO when the PTO speed exceeds 1165 rpm.

REPAIRS AND ADJUSTMENTS: No repairs or adjustments

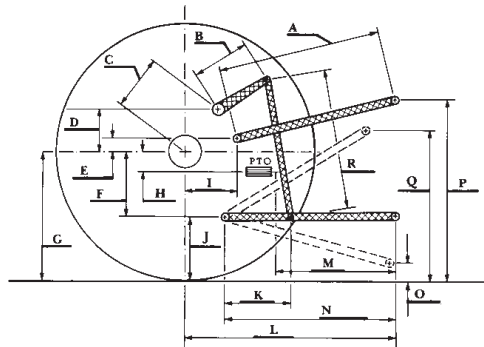
REMARKS: All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures. This tractor did not meet the manufacturer's claim of 14.0 GPM (53.0 lpm) hydraulic flow at remote outlets nor lift capacity at ball ends of 6393 lbs (2900 kg). For the maximum power tests, the fuel temperature at the injection pump inlet was maintained at 155°F (69°C).

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1850**, July 21, 2005.

Leonard L. Bashford
Director

M.F. Kocher
V.I. Adamchuk
W.P. Campbell
Board of Tractor Test Engineers

	SAE test		OECD test	
	inch	mm	inch	mm
A	23.0	584	23.6	600
B	10.1	257	10.1	257
C	13.5	342	13.5	342
D	11.5	292	11.5	292
E	13.6	346	13.6	346
F	5.1	130	5.1	130
G	26.2	665	26.2	665
H	0.4	11	0.4	11
I	18.3	464	18.3	464
J	21.1	535	21.1	535
K	16.0	406	16.0	406
L	39.5	1004	39.5	1004
M	22.2	563	22.2	563
N	33.3	845	33.3	845
O	8.0	203	8.0	203
P	40.1	1018	45.1	1145
Q	34.3	870	34.3	870
R	23.8	603	23.8	603



HITCH DIMENSIONS AS TESTED - NO LOAD



AGCO GT 75A Diesel

Institute of Agriculture and Natural Resources
University of Nebraska-Lincoln