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Nebraska Tractor Test 1849: AGCO GT55A Diesel

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1849

AGCO GT55A 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)					
58.89 (43.92)	2200	4.02 (15.22)	0.480 (0.292)	14.65 (2.89)	
Standard Power Take-off Speed - (1000 rpm)					
57.80 (43.10)	2043	3.85 (14.57)	0.468 (0.285)	15.02 (2.96)	

VARYING POWER AND FUEL CONSUMPTION

58.89 (43.92)	2200	4.02 (15.22)	0.480 (0.292)	14.65 (2.89)	Air temperature
52.76 (39.34)	2312	3.80 (14.39)	0.506 (0.308)	13.88 (2.73)	77°F (25°C)
39.93 (29.77)	2347	3.03 (11.48)	0.533 (0.325)	13.17 (2.59)	Relative humidity
---	Unable to run, see note	---	---	---	52%
---	Unable to run, see note	---	---	---	Barometer
---	2379	1.15 (4.36)	---	---	28.47"Hg (96.41 kPa)

Maximum Torque 185 lb.-ft. (250 Nm) at 1349 rpm
Maximum Torque Rise - 31.3%
Torque rise at 1802 rpm - 13%

TRACTOR SOUND LEVEL WITH CAB	Front wheel drive	
	Engaged dB(A)	Disengaged dB(A)
At no load in 9th (1HL) gear	78.7	78.7
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 420/70R30; **, 16 (110)
Two 360/70R20; ***, 20 (135)
16.0 in (405 mm)
3745 lb (1699 kg)
2655 lb (1204 kg)
6400 lb (2903 kg)

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

Dates of Test: May 17-26, 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 CF-4 Transmission and hydraulic lubricant AGCO Power Fluid 821 XL fluid Total time engine was operated 13.0 hours

ENGINE: Make SAME Deutz-Fahr Diesel Type three cylinder vertical with turbocharger Serial No. 1000.3WT3E*1262* 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 183 cu in (3000 ml) Starting system 12 volt Lubrication pressure Air cleaner one paper element 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 horizontal Cooling medium temperature control one thermostat

ENGINE OPERATING PARAMETERS: Fuel rate: 26.9 - 28.8 lb/h (12.2 - 13.1 kg/h) High idle: 2400 - 2430 rpm Turbo boost: nominal 10.2 - 11.3 psi (70 - 78 kPa) as measured 10.7 psi (74 kPa)

CHASSIS: Type front wheel assist Serial No. GT55A4TN4120009 Tread width rear 55.1" (1400 mm) to 75.0" (1904 mm) front 57.5" (1460 mm) to 69.1" (1754 mm) Wheelbase 80.9" (2056 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio Nominal travel speeds mph (km/h) first 0.83 (1.34) second 1.04 (1.67) third 1.32 (2.12) fourth 1.64 (2.64) fifth 2.10 (3.38) sixth 2.60 (4.18) seventh 3.32 (5.34) eighth 4.11 (6.61) ninth 4.59 (7.39) tenth 5.70 (9.17) eleventh 7.28 (11.72) twelfth 9.02 (14.52) thirteenth 11.52 (18.54) fourteenth 14.36 (23.11), fifteenth 18.26 (29.39) sixteenth 22.65 (36.45) reverse 0.98 (1.58), 1.55 (2.49), 2.47 (3.98), 3.90, (6.28), 5.40, (8.69), 8.56 (13.78), 13.57 (21.84), 21.48 (34.57) 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 6225 lb (2824 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 frame)
3802 lbs (16.9 kN) (at link ends)

- i) Opening pressure of relief valve: NA
Sustained pressure of the open relief valve: 2709 psi (187 bar)
- ii) Pump delivery rate at minimum pressure and rated engine speed: 12.5 GPM (47.3 l/min)
- iii) Pump delivery rate at maximum hydraulic power: 12.5 GPM (47.3 l/min)
Delivery pressure: 2506 psi (173 bar)
Power: 18.3 HP (13.6 kW)

THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi. (bar) 2650 (183)
Location: lift cylinder
Hydraulic oil temperature: °F (°C) 165 (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

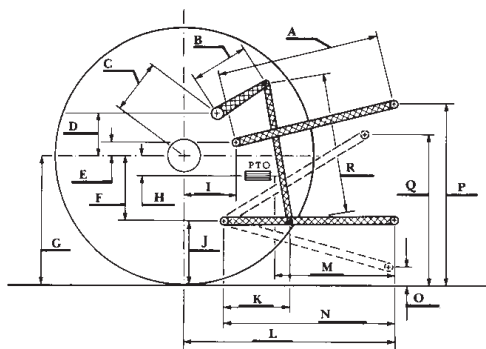
REMARKS: All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures. This tractor did not meet the manufacturer's claims of 14.0 GPM (53.0 lpm) hydraulic flow at remote outlets nor lift capacity at ball ends of 6393 lbs (2900 kg). The engine high idle was not adjusted within the manufacturers specified range. For the maximum power tests, the fuel temperature at the injection pump inlet was maintained at 134°F (56°C).

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1849**, 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 55A Diesel

Institute of Agriculture and Natural Resources
University of Nebraska-Lincoln