NEBRASKA TRACTOR TEST 1902
AGCO LT90A 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—1100 rpm)					
91.75 *(68.42)*	2200	5.79 *(21.90)*	0.441 *(0.268)*	15.86 *(3.12)*	
Standard Power Take-off Speed - (1001 rpm)					
93.74 *(69.90)*	2000	5.45 *(20.62)*	0.407 *(0.247)*	17.21 *(3.39)*	
Maximum Power (1 hour)					
93.74 *(69.90)*	2000	5.45 *(20.62)*	0.407 *(0.247)*	17.21 *(3.39)*	
VARYING POWER AND FUEL CONSUMPTION					
91.75 *(68.42)*	2200	5.79 *(21.90)*	0.441 *(0.268)*	15.86 *(3.12)*	Air temperature
81.19 *(60.54)*	2288	5.46 *(20.66)*	0.470 *(0.286)*	14.88 *(2.93)*	76°F *(25°C)*
61.25 *(45.67)*	2304	4.67 *(17.68)*	0.534 *(0.325)*	13.11 *(2.58)*	Relative humidity
40.70 *(30.35)*	2330	3.59 *(13.57)*	0.617 *(0.375)*	11.35 *(2.24)*	34%
20.58 *(15.35)*	2377	2.60 *(9.84)*	0.884 *(0.538)*	7.92 *(1.56)*	Barometer
1.72 *(1.28)*	2410	1.83 *(6.92)*	7.439 *(4.525)*	0.94 *(0.19)*	29.21"Hg *(98.92 kPa)*

Maximum torque - 291 lb.-ft. *(394 Nm)* at 1198 rpm
Maximum torque rise - 32.6%
Torque rise at 1803 rpm - 16%
Power increase at 2000 rpm - 2.2%

TRACTOR SOUND LEVEL WITH CAB	Front wheel drive Engaged dB(A)	Front wheel drive Disengaged dB(A)
At no load in 7th(2C) gear	76.7	76.4
Bystander in 16th (4D) gear	--	83.1

TIRES AND WEIGHT

	Tested without ballast
Rear Tires–No., size, ply & psi *(kPa)*	Two 18.4R38;**;10 *(70)*
Front Tires–No., size, ply & psi *(kPa)*	Two 14.9R28;**;10 *(70)*
Height of Drawbar	21.0 in *(535 mm)*
Static Weight with operator– Rear	6250 lb *(2835 kg)*
– Front	4250 lb *(1928 kg)*
– Total	10500 lb *(4763 kg)*

Location of tests: Nebraska Tractor Test Laboratory, University of Nebraska, Lincoln Nebraska 68583-0832
Dates of tests: May 24 - 30, 2007

Manufacturer: AGCO Corporation, Duluth Georgia 30096

FUEL, OIL and TIME: Fuel No. 2 Diesel **Specific gravity converted to 60°/60° F *(15°/15°C)*** 0.8407 **Fuel weight** 7.000 lbs/gal *(0.839 kg/l)* **Oil SAE** 10W40 **API service classification** CH-4 **Transmission and hydraulic lubricant** AGCO Power Fluid 821 XL fluid **Front axle lubricant** AGCO 715 gear lube **Total time engine was operated** 12.0 hours

ENGINE: Make Sisu Diesel **Type** four cylinder vertical with turbocharger and air to air intercooler **Serial No.** S08729 **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** 268 cu in *(4397 ml)* **Starting system** 12 volt **Lubrication** pressure **Air cleaner** one paper element and one polyester felt 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** vertical **Cooling medium temperature control** thermostat and variable speed fan

ENGINE OPERATING PARAMETERS: Fuel rate: 39.7 - 42.1 lb/h *(18.0 - 19.1 kg/h)* **High idle:** 2350 - 2450 rpm **Turbo boost:** nominal 16.8 - 19.6 psi *(115- 135 kPa)* as measured 18.1 psi *(125 kPa)*

CHASSIS: Type front wheel assist **Serial No.** R156012 **Tread width** rear 56.4" *(1432 mm)* to 84.1" *(2136 mm)* front 61.7" *(1566 mm)* to 80.9" *(2054 mm)* **Wheelbase** 105.3" *(2674 mm)* **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with full range operator controlled powershift **Nominal travel speeds mph *(km/h)*** first 1.21 *(1.95)* second 1.49 *(2.40)* third 1.82 *(2.93)* fourth 2.23 *(3.60)* fifth 2.88 *(4.63)* sixth 3.54 *(5.70)* seventh 4.32 *(6.95)* eighth 5.31 *(8.54)* ninth 5.85 *(9.41)* tenth 7.19 *(11.57)* eleventh 8.77 *(14.11)* twelfth 10.78 *(17.35)*, thirteenth 13.48 *(21.69)* fourteenth 16.58 *(26.68)* fifteenth 20.22 *(32.54)* sixteenth 24.87 *(40.03)* reverse 1.21 *(1.95)*, 1.49 *(2.40)*, 1.82 *(2.93)*, 2.23, *(3.60)*, 2.88 *(4.63)*, 3.54 *(5.70)*, 4.32 *(6.95)*, 5.31 *(8.54)*, 5.85 *(9.41)*, 7.19 *(11.57)*, 8.77 *(14.11)*, 10.78 *(17.35)*, 13.48 *(21.69)*, 16.58 *(26.68)*, 20.22 *(32.54)*, 24.87 *(40.03)* **Clutch** multiple wet disc electro-hydraulically 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 1980 engine rpm or 1000 rpm at 2000 or 1550 engine rpm **Unladen tractor mass** 10325 lb *(4683 kg)*

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II				
Quick Attach: None				
Maximum force exerted through whole range:	7817 lbs *(34.8 kN)*(66 mm lift cylinders)			
	9189 lbs *(40.9 kN)*(75 mm lift cylinders)			
	standard pump		optional pump	
i) Sustained pressure of the open relief valve:	3136 psi	*(216 bar)*	2879 psi	*(190 bar)*
ii) Pump delivery rate at minimum pressure and rated engine speed:	24.1 GPM	*(91.2 l/min)*	14.5 GPM	*(54.9 l/min)*
iii) Pump delivery rate at maximum hydraulic power:	22.4 GPM	*(84.8 l/min)*	13.5 GPM	*(51.1 l/min)*
Delivery pressure:	2338 psi	*(161 bar)*	2505 psi	*(173 bar)*
Power:	30.6 HP	*(22.8 kW)*	19.7 Hp	*(14.7 kW)*

THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi. *(bar)*	2770 *(191)*
Location:	lift cylinder
Hydraulic oil temperature: °F *(°C)*	152 *(67)*
Location:	hydraulic valve
Category:	II
Quick attach:	none

66 mm lift cylinders

SAE Static Test—System pressure 2490 psi *(172 Bar)*

Hitch point distance to ground level in. *(mm)*	9.9 *(251)*	15.0 *(381)*	22.0 *(559)*	29.0 *(737)*	36.0 *(914)*
Lift force on frame lb	15561	12897	11745	10314	9126
" " " " " " *(kN)*	*(69.2)*	*(57.4)*	*(51.0)*	*(45.9)*	*(40.6)*

75 mm lift cylinders

SAE Static Test—System pressure 2490 psi *(172 Bar)*

Hitch point distance to ground level in. *(mm)*	10.2 *(259)*	15.0 *(381)*	22.0 *(559)*	29.0 *(737)*	36.0 *(914)*
Lift force on frame lb	18747	15849	14310	12789	11421
" " " " " " *(kN)*	*(83.4)*	*(70.5)*	*(63.7)*	*(56.9)*	*(50.8)*

REPAIRS AND ADJUSTMENTS: No repairs or adjustments

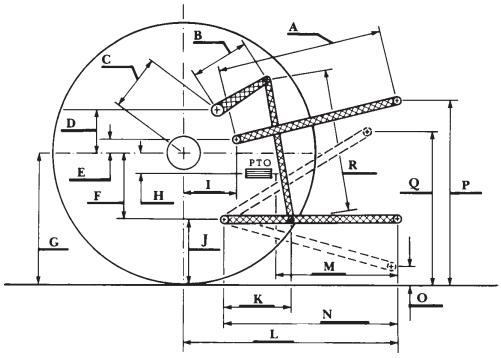
REMARKS: All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures. This tractor did not meet the manufacturer's claims of 26 GPM *(100 lpm)* (standard pump) nor 15 GPM *(57 lpm)*(optional pump) hydraulic flow at the remote outlets. For the maximum power tests, the fuel temperature at the injection pump return was maintained at 152°F *(67°C)*.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1902,** July 30, 2007.

Roger M. Hoy
Director

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

	SAE test		OECD test	
	inch	*mm*	inch	*mm*
A	24.8	*629*	24.8	*629*
B	11.6	*295*	11.6	*295*
C	13.9	*353*	13.9	*353*
D	13.0	*330*	13.0	*330*
E	7.9	*200*	7.9	*200*
F	10.2	*260*	10.2	*260*
G	30.3	*770*	30.3	*770*
H	1.4	*35*	1.4	*35*
I	16.2	*413*	16.2	*413*
J	20.1	*510*	20.1	*510*
K	24.2	*615*	24.2	*615*
L	41.2	*1046*	41.2	*1046*
M	23.5	*596*	23.5	*596*
N	37.2	*946*	37.2	*946*
O	8.0	*203*	8.0	*203*
P	40.2	*1020*	44.1	*1120*
Q	33.5	*850*	33.5	*850*
R	29.0	*737*	29.0	*737*



HITCH DIMENSIONS AS TESTED - NO LOAD

Shiftable PTO Performance

Economy mode
1000 PTO rpm @ 1550 engine rpm

Power HP *(kW)*	Crank shaft speed rpm	Gal/hr *(l/h)*	lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*
43.74 *(32.62)*	1548	2.83 *(10.71)*	0.453 *(0.275)*	15.47 *(3.05)*
32.78 *(24.45)*	1550	2.27 *(8.60)*	0.485 *(0.295)*	14.43 *(2.84)*
21.94 *(16.36)*	1549	1.73 *(6.54)*	0.551 *(0.335)*	12.69 *(2.50)*
10.87 *(8.11)*	1552	1.21 *(4.60)*	0.782 *(0.475)*	8.96 *(1.76)*
1.29 *(0.96)*	1554	0.83 *(3.14)*	4.495 *(2.734)*	1.56 *(0.31)*

Normal mode
1000 PTO rpm @2000 engine rpm

43.79 *(32.66)*	2000	3.31 *(12.55)*	0.530 *(0.322)*	13.21 *(2.60)*
32.92 *(24.55)*	2002	2.57 *(9.73)*	0.547 *(0.333)*	12.80 *(2.52)*
21.99 *(16.40)*	2001	2.09 *(7.90)*	0.664 *(0.404)*	10.54 *(2.08)*
10.76 *(8.03)*	2010	1.60 *(6.06)*	1.041 *(0.633)*	6.73 *(1.33)*
1.29 *(0.96)*	2008	1.20 *(4.54)*	6.510 *(3.960)*	1.08 *(0.21)*

AGCO LT 90A Diesel

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