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January 2000

## Test 1768: AGCO Allis 8765 Diesel 12-Speed

Nebraska Tractor Test Lab

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# NEBRASKA TRACTOR TEST 1768

## AGCO ALLIS 8765 DIESEL

### 12 SPEED

#### POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft 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					
		<b>Rated Engine Speed</b>	<b>(PTO speed</b>	<b>1100 rpm)</b>	
85.39 (63.68)	2200	5.56 (21.05)	0.460 (0.280)	15.36 (3.03)	
		<b>Maximum Power (2 hours)</b>			
87.21 (65.03)	2100	5.47 (20.71)	0.443 (0.270)	15.94 (3.14)	
		<b>Standard Power Take-off Speed(1000 rpm)</b>			
87.19 (65.02)	2000	5.30 (20.08)	0.430 (0.261)	16.44 (3.24)	

#### VARYING POWER AND FUEL CONSUMPTION

85.39 (63.68)	2200	5.56 (21.05)	0.460 (0.280)	15.36 (3.03)	Air temperature
74.62 (55.64)	2253	5.09 (19.28)	0.482 (0.293)	14.65 (2.89)	76°F (24°C)
56.47 (42.11)	2286	4.29 (16.23)	0.537 (0.327)	13.17 (2.59)	Relative humidity
37.97 (28.31)	2312	3.61 (13.66)	0.672 (0.409)	10.52 (2.07)	41%
19.46 (14.51)	2335	2.93 (11.09)	1.064 (0.647)	6.64 (1.31)	Barometer
1.12 (0.84)	2357	2.04 (7.71)	12.830 (7.804)	0.55 (0.11)	28.91"Hg (97.90 kPa)

Maximum Torque 280 lb.-ft. (380 Nm) at 1100 rpm  
Maximum Torque Rise - 37.6%  
Torque rise at 1799 rpm - 19%

#### TRACTOR SOUND LEVEL WITH CAB

	Front Wheel Drive Disengaged	Engaged
At no load in 6th(2M) gear	dB(A)	dB(A)
Bystander	81.9	81.8

#### 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 18.4R34; \*\*,16 (110)  
Two 14.9R24; \*\*,24 (165)  
18.0 in (405 mm)  
5120 lb (2322 kg)  
3700 lb (1678 kg)  
8820 lb (4000 kg)

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

**Dates of Test:** March 15-17, 2000

**Manufacturer:** AGCO Corporation, Duluth Georgia 30096

**FUEL, OIL and TIME:** Fuel No. 2 Diesel Specific gravity converted to 60°/60° F (15°/15°C) 0.8487 Fuel weight 7.067 lbs/gal (0.847 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 9.5 hours

**ENGINE: Make** SiSu Diesel **Type** four cylinder vertical with turbocharger **Serial No.** H12384 **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.252" x 4.724" (108.0 mm x 120.0 mm) **Compression ratio** 16.5 to 1 **Displacement** 268 cu in (4400 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, radiator for hydraulic and transmission oil **Fuel filter** one paper element and water separator **Muffler** underhood **Exhaust** vertical **Cooling medium temperature control** one thermostat

**ENGINE OPERATING PARAMETERS: Fuel rate:** 37.5 - 41.5 lb/h (17.0 - 18.8 kg/h) **High idle:** 2350 - 2400 rpm **Turbo boost:** nominal 12.0 - 16.0 psi (83 - 110 kPa) as measured 14.5 psi (100 kPa)

**CHASSIS: Type** front wheel assist **Serial No.** G34490 **Tread width** rear 60.0" (1525 mm) to 87.5" (2223 mm) front 61.3" (1557 mm) to 81.0" (2058 mm) **Wheelbase** 98.9" (2513 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Nominal travel speeds mph (km/h)** first 1.38 (2.22) second 1.81 (2.91) third 2.37 (3.81) fourth 3.11 (5.00) fifth 3.90 (6.27) sixth 5.10 (8.20) seventh 6.69 (10.76) eighth 8.76 (14.09) ninth 10.53 (16.94) tenth 13.75 (22.13) eleventh 18.05 (29.05) twelfth 23.63 (38.04) reverse 1.39 (2.23), 1.81 (2.91), 2.37 (3.82), 3.11 (5.00), 3.90 (6.28), 5.10 (8.21), 6.69 (10.77), 8.77 (14.11), 10.54 (16.96), 13.77 (22.16), 18.08 (29.09), 23.67 (38.10) **Clutch** multiple wet 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 1902 engine rpm or 1000 rpm at 2000 engine rpm **Unladen tractor mass** 8645 lb (3921 kg)

### THREE POINT HITCH PERFORMANCE (OECD Static Test)

#### CATEGORY: II

Quick Attach: None

Maximum Force Exerted Through Whole Range:	3348 lbs (14.9 kN)	High lift Option 5733 lbs (25.5 kN)
i) Opening pressure of relief valve:	NA	Combined flow 2960 psi (204 bar)
Sustained pressure of the open relief valve:	2960 psi (204 bar)	2960 psi (204 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:	7.1 GPM (26.9 l/min)	14.4 GPM (54.5 l/min)
Delivery pressure:	2650 psi (183 bar)	2770 psi (191 bar)
Power:	11.0 HP (8.2 kW)	23.3 HP (17.4 kW)

### THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi.(bar)	3320(229)
Location:	lift cylinder
Hydraulic oil temperature: °F(°C)	158(70)
Location:	hydraulic sump
Category:	II
Quick attach:	none

#### SAE Static Test System pressure 2990 psi (206 Bar)

Hitch point distance to ground level in. (mm)	9.4(239)	14.9(378)	21.9(556)	28.9(734)	37.4(950)
Lift force on frame lb	4113	4500	4631	4613	4743
" " " " " (kN)	(18.3)	(20.0)	(20.6)	(20.5)	(21.1)

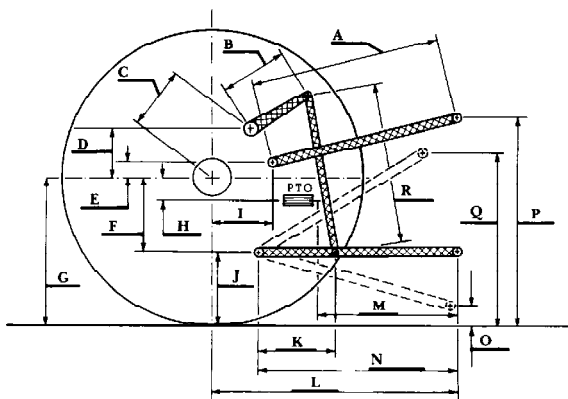
#### High lift Option

#### SAE Static Test System pressure 2990 psi (206 Bar)

Hitch point distance to ground level in. (mm)	7.7(196)	14.7(373)	21.7(551)	28.7(729)	35.7(907)
Lift force on frame lb	6894	7421	7565	7488	7425
" " " " " (kN)	(30.7)	(33.0)	(33.7)	(33.3)	(33.0)

	High lift option			
	inch	mm	inch	mm
A	31.0	788	34.0	864
B	12.2	310	12.2	310
C	15.1	384	15.1	384
D	9.4	240	9.4	240
E	7.6	192	7.6	192
F	8.3	210	11.0	280
G	31.3	795	31.3	795
H	1.3	32	1.3	32
I	5.7	145	5.7	145
J	23.0	585	20.3	515
K	26.3	667	24.5	622
L	38.3	972	41.3	1048
M	21.8	552	24.8	629
N	39.0	991	42.0	1067
O	7.9	200	7.9	200
P	47.0	1195	44.3	1125
Q	33.9	860	33.1	841
R	31.6	802	32.1	815

#### HITCH DIMENSIONS AS TESTED - NO LOAD



**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 manufacturers claim of 17.9 GPM (67 l/min) hydraulic flow. For the maximum power tests, the fuel temperature at the injection pump was maintained at 150°F (66°C).

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1768**, March 29, 2000.

David L. Morgan  
Assistant Director

L. L. Bashford  
M. F. Kocher  
R. D. Grisso Jr.  
Board of Tractor Test Engineers



**AGCO Allis 8765 Diesel**

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