January 1995

Test 1698: Agco Allis 9655 Diesel 18-Speed

Nebraska Tractor Test Lab
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NEBRASKA OECD TRACTOR TEST 1698—SUMMARY 186
AGCO ALLIS 9655 DIESEL
18 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–1001 rpm)					
155.66 *(116.08)*	2198	9.80 *(37.10)*	0.442 *(0.269)*	15.88 *(3.13)*	
Maximum Power (2 hours)					
168.70 *(125.80)*	1900	9.84 *(37.24)*	0.410 *(0.249)*	17.15 *(3.38)*	
VARYING POWER AND FUEL CONSUMPTION					
155.66 *(116.08)*	2198	9.80 *(37.10)*	0.442 *(0.269)*	15.88 *(3.13)*	Air temperature
138.02 *(102.92)*	2292	9.14 *(34.60)*	0.465 *(0.283)*	15.10 *(2.97)*	81°F *(27°C)*
104.65 *(78.04)*	2323	7.69 *(29.11)*	0.516 *(0.314)*	13.61 *(2.68)*	Relative humidity
70.93 *(52.89)*	2356	6.15 *(23.28)*	0.609 *(0.370)*	11.53 *(2.27)*	58%
35.70 *(26.62)*	2389	4.74 *(17.95)*	0.933 *(0.567)*	7.53 *(1.48)*	Barometer
2.62 *(1.95)*	2415	3.46 *(13.10)*	9.290 *(5.651)*	0.76 *(0.15)*	28.82"Hg *(97.60 kPa)*

Maximum Torque 486 lb.-ft. *(659 Nm)* at 1701 rpm
Maximum Torque Rise 30.7%
Torque rise at 1801 engine rpm 30%

DRAWBAR PERFORMANCE
(UNBALLASTED—FRONT DRIVE ENGAGED)
FUEL CONSUMPTION CHARACTERISTICS

Power Hp *(kW)*	Drawbar pull lbs *(kN)*	Speed mph *(km/h)*	Crank-shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr *(kg/kW.h)*	Fuel Consumption Hp.hr/gal *(kW.h/l)*	Temp.°F (°C) cool-ing med	Temp.°F (°C) Air dry bulb	Barom. inch Hg *(kPa)*
Maximum Power—11th Gear									
135.53 *(101.07)*	6705 *(29.83)*	7.58 *(12.20)*	2195	2.36	0.508 *(0.309)*	13.83 *(2.72)*	195 *(91)*	68 *(20)*	28.99 *(98.17)*
75% of Pull at Maximum Power—11th Gear									
107.59 *(80.23)*	5040 *(22.42)*	8.01 *(12.89)*	2306	1.83	0.570 *(0.347)*	12.33 *(2.43)*	191 *(88)*	68 *(20)*	28.96 *(98.07)*
50% of Pull at Maximum Power—11th Gear									
72.84 *(54.32)*	3349 *(14.90)*	8.16 *(13.13)*	2337	1.29	0.680 *(0.414)*	10.33 *(2.03)*	187 *(86)*	68 *(20)*	28.96 *(98.07)*
75% of Pull at Reduced Engine Speed—13th Gear									
107.41 *(80.10)*	5031 *(22.38)*	8.01 *(12.89)*	1720	1.92	0.496 *(0.302)*	14.16 *(2.79)*	193 *(89)*	68 *(20)*	28.96 *(98.07)*
50% of Pull at Reduced Engine Speed—13th Gear									
72.65 *(54.18)*	3347 *(14.89)*	8.14 *(13.10)*	1740	1.29	0.550 *(0.335)*	12.77 *(2.51)*	185 *(85)*	68 *(20)*	28.96 *(98.07)*

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

Dates of Test: September 6-22, 1995

Manufacturer: AGCO Corporation, Duluth, Georgia 30136

FUEL OIL and TIME: Fuel No. 2 Diesel **Cetane No.** 50.6 **Specific gravity converted to 60°/60° F *(15°/15°C)*** 0.8435 **Fuel weight** 7.023 lbs/gal *(0.842 kg/l)* **Oil SAE** 15W-40 **API service classification** CD-II, CG **To motor** 6.076 gal *(23.002 l)* **Drained from motor** 5.847 gal *(22.134 l)* **Transmission and hydraulic lubricant** AGCO Power Fluid 821XL **Front axle lubricant** AGCO Gear Lube 715 SAE 80W-90 **Total time engine was operated** 31.5 hours.

ENGINE: Make Detroit Diesel series 40 Diesel **Type** six cylinder vertical with turbocharger **Serial No.** *WN3324N0911066* **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** (as specified) 4.30" × 5.35" *(109.2 mm × 135.9 mm)* **Compression ratio** 15.8 to 1 **Displacement** 466 cu in *(7600 ml)* **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements and aspirator **Oil filter** one full flow cartridge **Oil cooler** engine coolant heat exchanger for crankcase oil, radiator for hydraulic and final drive oil, radiator for transmission oil **Fuel filter** two paper elements **Muffler** underhood **Exhaust** vertical **Cooling medium temperature control** thermostat

ENGINE OPERATING PARAMETERS: Fuel rate: 63.3-69.7 lb/h *(28.7-31.6 kg/h)* **High idle:** 2325-2425 rpm **Turbo boost** nominal 17.0 psi *(117 kPa)* as measured 16.9 psi *(117 kPa)*

CHASSIS: Type front wheel assist **Serial No.** 951521PL **Tread width** rear 62.0" *(1574 mm)* to 124.0" *(3150 mm)* front 62.6" *(1590 mm)* to 88.6" *(2250 mm)* **Wheel base** 116.0" *(2946 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 1.57 *(2.53)* second 1.86 *(2.99)* third 2.17 *(3.50)* fourth 2.49 *(4.00)* fifth 2.94 *(4.73)* sixth 3.44 *(5.54)* seventh 4.05 *(6.52)* eighth 4.78 *(7.70)* ninth 5.60 *(9.01)* tenth 6.51 *(10.47)* eleventh 7.69 *(12.37)* twelfth 8.99 *(14.47)* thirteenth 10.30 *(16.58)* fourteenth 12.18 *(19.60)* fifteenth 14.25 *(22.93)* sixteenth 16.77 *(26.99)* seventeenth 19.82 *(31.90)* eighteenth 23.20 *(37.33)* reverse 1.90 *(3.06)*, 2.25 *(3.62)*, 2.63 *(4.24)*, 3.02 *(4.86)*, 3.57 *(5.74)*, 4.17 *(6.71)*, 4.91 *(7.90)*, 5.80 *(9.34)*, 6.79 *(10.93)* **Clutch** multiple wet disc electro-hydraulically actuated by foot pedal **Brakes** wet multiple disc hydraulically actuated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 2228 engine rpm and 1000 rpm at 2200 engine rpm **Unladen tractor mass** 17505 lb *(7940 kg)*

DRAWBAR PERFORMANCE
(UNBALLASTED—FRONT DRIVE ENGAGED)
MAXIMUM POWER IN SELECTED GEARS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank-shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp.°F (°C) cool-ing med	Air dry bulb	Barom. inch Hg (kPa)
				5th Gear					
115.85 (86.39)	16739 (74.46)	2.60 (4.18)	2246	14.49	0.595 (0.362)	11.80 (2.33)	188 (87)	61 (16)	29.00 (98.21)
				6th Gear					
128.41 (95.76)	15405 (68.52)	3.13 (5.03)	2156	8.33	0.536 (0.326)	13.10 (2.58)	192 (89)	62 (17)	29.02 (98.27)
				7th Gear					
136.82 (102.02)	14813 (65.89)	3.46 (5.58)	2016	7.78	0.503 (0.306)	13.97 (2.75)	192 (89)	63 (17)	29.01 (98.24)
				8th Gear					
141.60 (105.59)	13484 (59.98)	3.94 (6.34)	1900	5.85	0.483 (0.294)	14.54 (2.86)	195 (90)	65 (18)	29.00 (98.21)
				9th Gear					
143.37 (106.91)	11485 (51.09)	4.68 (7.53)	1900	4.35	0.481 (0.293)	14.60 (2.88)	194 (90)	66 (19)	29.00 (98.21)
				10th Gear					
144.83 (108.00)	9888 (43.98)	5.49 (8.84)	1903	3.50	0.479 (0.291)	14.67 (2.89)	195 (91)	67 (19)	29.00 (98.21)
				11th Gear					
146.38 (109.15)	8423 (37.47)	6.52 (10.49)	1898	2.89	0.468 (0.285)	15.01 (2.96)	195 (91)	69 (21)	28.99 (98.17)
				12th Gear					
144.05 (107.42)	7037 (31.30)	7.68 (12.36)	1901	2.36	0.478 (0.291)	14.68 (2.89)	195 (90)	69 (21)	28.99 (98.17)
				13th Gear					
142.08 (105.95)	6052 (26.92)	8.80 (14.17)	1897	2.10	0.484 (0.295)	14.50 (2.86)	196 (91)	70 (21)	28.99 (98.17)

DRAWBAR PERFORMANCE
(BALLASTED—FRONT DRIVE ENGAGED)
MAXIMUM POWER IN SELECTED GEARS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank-shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp.°F (°C) cool-ing med	Air dry bulb	Barom. inch Hg (kPa)
				4th Gear					
121.60 (90.68)	20087 (89.35)	2.27 (3.65)	2224	11.04	0.567 (0.345)	12.39 (2.44)	187 (86)	60 (16)	29.16 (98.75)
				5th Gear					
130.25 (97.13)	19122 (85.06)	2.55 (4.11)	2088	9.78	0.530 (0.322)	13.25 (2.61)	191 (88)	62 (17)	29.18 (98.81)
				6th Gear					
138.03 (102.93)	18534 (82.44)	2.79 (4.49)	1912	8.09	0.501 (0.305)	14.02 (2.76)	192 (89)	65 (18)	29.18 (98.81)
				7th Gear					
140.76 (104.97)	15734 (69.99)	3.35 (5.40)	1902	5.59	0.487 (0.296)	14.42 (2.84)	195 (90)	66 (19)	29.18 (98.81)
				8th Gear					
143.86 (107.28)	13458 (59.86)	4.01 (6.45)	1900	4.50	0.478 (0.291)	14.69 (2.89)	195 (91)	69 (21)	29.17 (98.78)
				9th Gear					
144.19 (107.52)	11418 (50.79)	4.74 (7.62)	1901	3.65	0.479 (0.291)	14.67 (2.89)	195 (91)	72 (22)	29.18 (98.81)
				10th Gear					
145.17 (108.25)	9843 (43.78)	5.53 (8.90)	1901	3.04	0.475 (0.289)	14.79 (2.91)	195 (91)	75 (24)	29.19 (98.85)
				11th Gear					
145.40 (108.42)	8297 (36.91)	6.57 (10.58)	1900	2.42	0.473 (0.287)	14.86 (2.93)	196 (91)	77 (25)	29.19 (98.85)
				12th Gear					
142.63 (106.36)	6953 (30.93)	7.69 (12.38)	1893	2.16	0.478 (0.291)	14.68 (2.89)	195 (91)	78 (26)	29.19 (98.85)
				13th Gear					
140.23 (104.57)	5920 (26.33)	8.88 (14.30)	1902	1.89	0.485 (0.295)	14.48 (2.85)	196 (91)	80 (27)	29.19 (98.85)

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 return was maintained at 132° F *(55°C)*. This tractor did not meet manufacturers claim of 22 GPM *(83 l/m)* hydraulic flow or 3 point lift capacity of 7212 lbs *(3271 kg)*. The pull in 4th gear (ballasted—front drive engaged) was limited to avoid excessive tractor bouncing. The performance results on this summary were taken from OECD tests conducted under the Code II Restricted Standard Test Code procedure.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1698**, Summary 186, December 20, 1995.

LOUIS I. LEVITICUS
Engineer-in-Charge

L.L. BASHFORD
K. VON BARGEN
M.F. KOCHER
Board of Tractor Test Engineers

DRAWBAR PERFORMANCE
(BALLASTED—FRONT DRIVE DISENGAGED)
FUEL CONSUMPTION CHARACTERISTICS

Power Hp *(kW)*	Drawbar pull lbs *(kN)*	Speed mph *(km/h)*	Crank-shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*	Temp.°F (°C) cool-ing med	Air dry bulb	Barom. inch Hg *(kPa)*
Maximum Power—8th Gear									
130.86 *(97.58)*	10568 *(47.01)*	4.64 *(7.47)*	2195	3.89	0.523 *(0.318)*	13.43 *(2.65)*	195 *(91)*	71 *(22)*	29.18 *(98.81)*
75% of Pull at Maximum Power—8th Gear									
103.64 *(77.29)*	7867 *(34.99)*	4.94 *(7.95)*	2308	2.85	0.579 *(0.352)*	12.13 *(2.39)*	195 *(90)*	80 *(27)*	29.18 *(98.81)*
50% of Pull at Maximum Power—8th Gear									
70.76 *(52.77)*	5252 *(23.36)*	5.05 *(8.13)*	2338	1.97	0.690 *(0.420)*	10.18 *(2.01)*	190 *(88)*	80 *(27)*	29.18 *(98.81)*
75% of Pull at Reduced Engine Speed—10th Gear									
104.03 *(77.57)*	7877 *(35.04)*	4.95 *(7.97)*	1702	2.85	0.488 *(0.297)*	14.40 *(2.84)*	193 *(89)*	80 *(27)*	29.18 *(98.81)*
50% of Pull at Reduced Engine Speed—10th Gear									
70.80 *(52.80)*	5258 *(23.39)*	5.05 *(8.13)*	1720	1.88	0.535 *(0.325)*	13.13 *(2.59)*	186 *(85)*	80 *(27)*	29.18 *(98.81)*
MAXIMUM POWER IN SELECTED GEARS									
5th Gear									
118.99 *(88.73)*	17103 *(76.08)*	2.61 *(4.20)*	2223	13.30	0.580 *(0.353)*	12.11 *(2.39)*	188 *(87)*	61 *(16)*	29.17 *(98.78)*
6th Gear									
129.13 *(96.29)*	16102 *(71.62)*	3.01 *(4.84)*	2078	8.61	0.530 *(0.322)*	13.25 *(2.61)*	194 *(90)*	65 *(18)*	29.18 *(98.81)*
7th Gear									
135.72 *(101.20)*	15630 *(69.53)*	3.26 *(5.24)*	1900	8.06	0.505 *(0.307)*	13.89 *(2.74)*	195 *(91)*	67 *(19)*	29.18 *(98.81)*
8th Gear									
140.49 *(104.77)*	13320 *(59.25)*	3.96 *(6.37)*	1900	5.49	0.488 *(0.297)*	14.40 *(2.84)*	196 *(91)*	70 *(21)*	29.17 *(98.78)*
9th Gear									
141.41 *(105.45)*	11292 *(50.23)*	4.70 *(7.56)*	1904	4.40	0.484 *(0.294)*	14.51 *(2.86)*	195 *(91)*	73 *(23)*	29.18 *(98.81)*
10th Gear									
142.25 *(106.08)*	9722 *(43.25)*	5.49 *(8.83)*	1901	3.72	0.481 *(0.292)*	14.61 *(2.88)*	196 *(91)*	76 *(24)*	29.19 *(98.85)*
11th Gear									
143.47 *(106.99)*	8260 *(36.74)*	6.51 *(10.48)*	1897	2.94	0.475 *(0.289)*	14.80 *(2.91)*	196 *(91)*	78 *(26)*	29.19 *(98.85)*
12th Gear									
141.05 *(105.18)*	6880 *(30.60)*	7.69 *(12.37)*	1904	2.50	0.486 *(0.296)*	14.44 *(2.84)*	197 *(92)*	79 *(26)*	29.19 *(98.85)*
13th Gear									
138.93 *(103.60)*	5888 *(26.19)*	8.85 *(14.24)*	1905	2.15	0.494 *(0.301)*	14.21 *(2.80)*	197 *(91)*	80 *(27)*	29.18 *(98.81)*

TRACTOR SOUND LEVEL WITH CAB	**dB(A)**
At 75% load in 7th gear	77.0
Bystander	—

TIRES, BALLAST AND WEIGHT	**With Ballast**	**Without Ballast**
Rear Tires—No., size, ply & psi *(kPa)*	Four 18.4R42; **; 20 *(140)*	Two 18.4R42; **, 20 *(140)*
Ballast—Duals (total)	1680 lb *(762 kg)*	None
—Test Equip. (total)	110 lb *(50 kg)*	None
Front Tires—No., size, ply & psi *(kPa)*	Two 16.9R28; **; 24 *(165)*	Two 16.9R28; **; 24 *(165)*
Ballast—Liquid (total)	None	None
—Cast Iron (total)	None	None
Height of Drawbar	24.0 in *(610 mm)*	22.5 in *(570 mm)*
Static Weight with Operator—Rear	13380 lb *(6069 kg)*	11590 lb *(5257 kg)*
—Front	6080 lb *(2758 kg)*	6080 lb *(2758 kg)*
—Total	19460 lb *(8827 kg)*	17670 lb *(8015 kg)*

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: III
Quick Attach: None

Maximum Force Exerted Through Whole Range:	5913 lbs	*(26.3 kN)*
	6962 lbs	*(31.0 kN)* with (1) lift assist cylinder
i) Opening pressure of relief valve:	NA	
Sustained pressure with pump stalled:	2270 psi	*(156 bar)*
ii) Pump delivery rate at minimum pressure and rated engine speed:	20.5 GPM	*(77.6 l/min)*
iii) Pump delivery rate at maximum hydraulic power:	18.4 GPM	*(69.7 l/min)*
Delivery pressure:	2020 psi	*(139 bar)*
Power:	21.7 HP	*(16.2 kW)*

The following values apply to tractors with chassis S/N 952300 and higher.

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: III
Quick Attach: no

Maximum Force Exerted Through Whole Range:	5220 lbs	*(23.2 kN)*
	7146 lbs	*(31.8 kN)* (with two lift assist cylinders)

THREE POINT LIFT PERFORMANCE

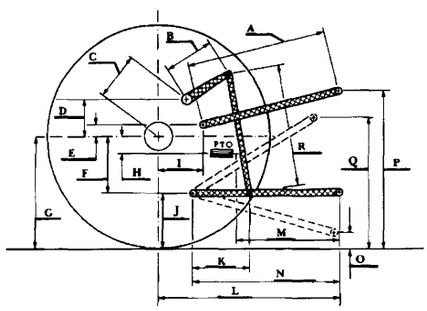
Observed Maximum Pressure psi. *(bar)*	2275 *(157)*
Location	lift cylinder
Hydraulic oil temperature °F *(°C)*	149 *(65)*
Location	hydraulic sump
Category	III
Quick attach	no

As per current SAE test procedures

Hitch point distance to ground level in. / to ground level *(mm)*	8.0 *(203)*	13.3 *(338)*	18.6 *(472)*	24.0 *(610)*	29.3 *(744)*	34.7 *(881)*	40.0 *(1016)*
Lift force on frame lb. / Lift force on frame *(kN)*	6804 *(30.3)*	6498 *(28.9)*	6966 *(31.0)*	6984 *(31.1)*	6660 *(29.6)*	6786 *(30.2)*	6606 *(29.4)*
with 2 lift assist cylinders							
Hitch point distance to ground level in. / to ground level *(mm)*	8.0 *(203)*	13.3 *(338)*	18.6 *(472)*	24.0 *(610)*	29.3 *(744)*	34.7 *(881)*	40.0 *(1016)*
Lift force on frame lb / Lift force one frame *(kN)*	9558 *(42.5)*	8964 *(39.9)*	9198 *(40.9)*	9126 *(40.6)*	9000 *(40.0)*	8298 *(36.9)*	8244 *(36.7)*

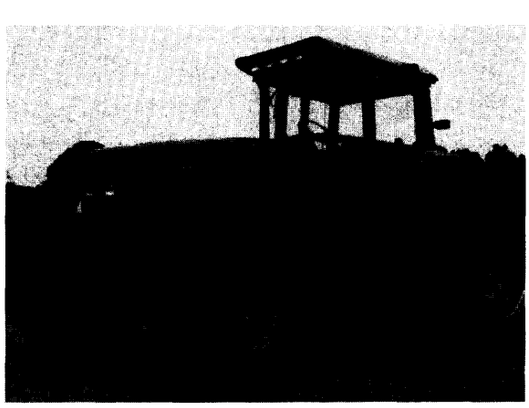
As per current ASAE test procedures

Hitch point distance to ground level in. / to ground level *(mm)*	8.0 *(203)*	13.3 *(338)*	18.6 *(472)*	24.0 *(610)*	29.3 *(744)*	34.7 *(881)*	40.0 *(1016)*
Lift force on frame lb. / Lift force on frame *(kN)*	7311 *(32.5)*	6982 *(31.1)*	7568 *(33.7)*	7760 *(34.5)*	7485 *(33.3)*	7372 *(32.8)*	7098 *(31.6)*
with 2 lift assist cylinders							
Hitch point distance to ground level in. / to ground level *(mm)*	8.0 *(203)*	13.3 *(338)*	18.6 *(472)*	24.0 *(610)*	29.3 *(744)*	34.7 *(881)*	40.0 *(1016)*
Lift force on frame lb. / Lift force on frame *(kN)*	10270 *(45.7)*	9527 *(42.4)*	9883 *(44.0)*	9806 *(43.6)*	9735 *(43.3)*	9220 *(41.0)*	8858 *(39.4)*



HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	*mm*
A	25.3	*641*
B	16.0	*406*
C	19.8	*502*
D	18.2	*461*
E	9.1	*230*
F	10.2	*259*
G	35.0	*889*
H	1.9	*48*
I	20.1	*508*
J	24.8	*630*
K	21.4	*543*
L	45.3	*1150*
M	22.4	*568*
N	34.8	*884*
O	9.0	*229*
P	51.8	*1316*
Q	38.3	*972*
R	38.7	*983*



AGCO ALLIS 9655 DIESEL

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