OECD APPROVAL # 1545
(Restricted code)
Date of approval: 16 February, 1995

NEBRASKA TRACTOR TESTING LABORATORY
DEPARTMENT OF BIOLOGICAL SYSTEMS ENGINEERING
INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES
UNIVERSITY OF NEBRASKA - EAST CAMPUS
LINCOLN, NEBRASKA 68583-0832, USA

REPORT ON TEST IN ACCORDANCE WITH OECD RESTRICTED CODE (CODE II)

FOR THE OFFICIAL TESTING OF AGRICULTURAL TRACTORS





AGCO ALLIS 9690 MFWD

MANUFACTURED BY: AGCO Corporation
Duluth, Georgia 30136, USA

NEBRASKA TEST NO. 1684
Test dates: 4 till 19 October 1994

This test report provides the results of the tests conducted in accordance with the OECD Standard Test Code for the Official Testing of Agricultural Tractor Performance - C(87)53 Final - Annex II, Restricted Code.

This report has been approved by the OECD Coordinating Centre in Paris (CEMAGREF) on 16 February, 1995

AGCO Allis 9690 MFWD OECD # 1545

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SPECIFICATIONS OF TRACTOR.

Manufacturers name/address	AGCO Corporation Duluth, Georgia 30136, USA
Submitted for test by	The manufacturer
Selected for test by	The manufacturer in agreement with the test station.
Place of running in	AGCO Corporation, Coldwater, Ohio, USA
Duration of running in	67 hours
Location of Test	Tractor Testing Laboratory Lincoln, Nebraska,USA.

TRACTOR SPECIFICATIONS.

Make	AGCO
Model	9690
Type	Unit construction;Mechanical Front Wheel Drive (MFWD)
Number of driving wheels	2 front, 2 or 4 rear
Serial Number	981058 PA
1st Serial number	980001 PA

ENGINE.

Make	KHD (DEUTZ)
Model	BF6L513C
Type	Diesel; 4-stroke; turbocharged; direct injection
Serial Number	8049766
Cylinders	
Number/Disposition	6, in line vertical
Bore/stroke	125 mm x 130 mm
Capacity	9570 cm^3
Compression Ratio	15.8:1
Arrangement of valves	In head, 2 per cylinder
Cylinder liners	None
Super charging	
Make/Model/Type	KRUPP/4180180/Exhaust gas driven
Pressure	95 kPa
Fuel System	
Feed system	Two tanks with engine driven transfer pump
Make/Type/Model of filters	Metal screen in tank; Spin-on KHD primary filter; spin on DAVCO paper element secondary
Fuel tank capacity	367 l
Cooling System	Air to liquid radiator

Make/Model/Type Injection	Bosch/PES6P110A-720RS310/ In-line Pump
Pump Serial number	368260029
Production setting of pump Flow Rate (Rated Eng.Spd & Full Load)	37.5 - 41.4 kg/h
Make/Model/Type Injectors	Bosch/DLLA/multi-hole
Injection pressure	27.5 - 28.3 MPa
Timing	30° ± 1° before TDC

Governor

Make/Model/Type	Bosch/RSV-1150PA/mechanical
Governed engine speed range	750-2500 rpm
Rated engine speed	2300 rpm
High-idle speed range	2450 - 2500 rpm

Air Cleaner.

Pre-cleaner	Integral with main cleaner
Main Cleaner	
Make/Model/Type	Donaldson/STV-11-0089/Paper main and secondary elements; exhaust aspirated
Location	Under Hood, left side, in front of engine compartment
Secondary cleaner	Under Hood, left side, front of engine compartment
Maintenance indicator	Restriction warning light on dash

Lubrication system.

Type of feed pump	Gear pump
Type of filters	Full flow spin-on
Number	Two
Oil cooler	Air-to-oil heat exchanger

Cooling system.

Type of coolant	Air cooled
Type of pump	Blower fan with modulated speed dependent upon engine oil or hydraulic oil temperature
Fan specification	Aluminum; 44.5 mm pitch
Number of fan blades	11
Fan diameter	610 mm
Coolant system capacity	Not applicable
Type of temperature control	Engine and Hydraulic oil temperature sensors

Starting system.

Make/Model/Type of starter	DELCO/37MT/Type 300/Solenoid engaged
Power Rating	4.48 kW
Cold starting aid	KBI; ether injection into intake manifold

Safety device	Clutch pedal interlock
Electrical system.	
Voltage & grounding.	12 Volt, Negative ground
Alternator	
Make/Model/Type	DELCO/15SI/Belt driven
Power rating	105 Amp
Batteries	
Number & connection	Two 12-Volt in parallel
Rating	580 CCA each at -17.5 ° C, 130 minute rating
Exhaust system.	
Muffler Make/Model/Type	Nelson/24265A/Reactive
Location	Underhood; above engine
Exhaust stack location	Right side of Cab along post
TRANSMISSION.	
Clutch. (travel)	
Make/Model/Type	Funk/9400/wet plate type
Number of plates	14 (master clutch)
Plate diameter	148.8 mm
Method of operation	Hydraulic
Gear Box.	
Make/Model/Type	Funk/YZ15021A/9400EB Powershift Mechanical
Arrangement	Countershaft type with 9 clutch packs and 8 shafts; Two forward and one reverse master clutch
Number of gears	18 forward; 8 reverse with single lever control
Oil cooler	Air-Oil heat exchanger on engine
Available options	None
Rear axle and final drives.	
Make/Model/Type (before serial # 00100)	AGCO/Crown wheel and pinion/ differential and in-board planetary reduction
Make/Model/Type (after serial # 00100)	David Brown/Crown wheel and pinion/differential and in-board planetary reduction
Differential Lock	
Type	Multi-Disc wet clutch, electrically activated
Method of engagement	Rocker switch on right arm rest
Method of disengagement	Service brake pedal

Front Axle and final drives.

Make/Model/Type	ZF/5052C/Central drive input
Differential lock	Limited Slip Differential

Gear ratios and travel speeds.
(Tire dynamic radius of 945 mm)

Gear Number	Number of engine revolutions for one revolution of the driving wheels	Nominal travel speed at rated engine speed of 2300 rev/min [km/h]
Forward		
1	291.7	2.808
2	246.8	3.319
3	210.9	3.883
4	184.1	4.448
5	155.8	5.256
6	133.2	6.151
7	113.1	7.241
8	95.7	8.558
9	81.8	10.015
10	70.4	11.633
11	59.6	13.743
12	50.9	16.084
13	44.5	18.424
14	37.6	21.774
15	32.1	25.479
16	27.3	29.988
17	23.1	35.448
18	19.7	41.483
Reverse		
1 (R4)	240.5	3.405
2 (R5)	203.5	4.024
3 (R6)	173.9	4.709
4 (R7)	151.8	5.394
5 (R8)	128.5	6.375
6 (R9)	109.8	7.460
7 (R10)	93.3	8.782
8 (R11)	78.9	10.379
9 (R12)	67.4	11.149

Number of front wheel revolutions
for one rear wheel revolution: 1.2953

POWER - TAKE - OFF.

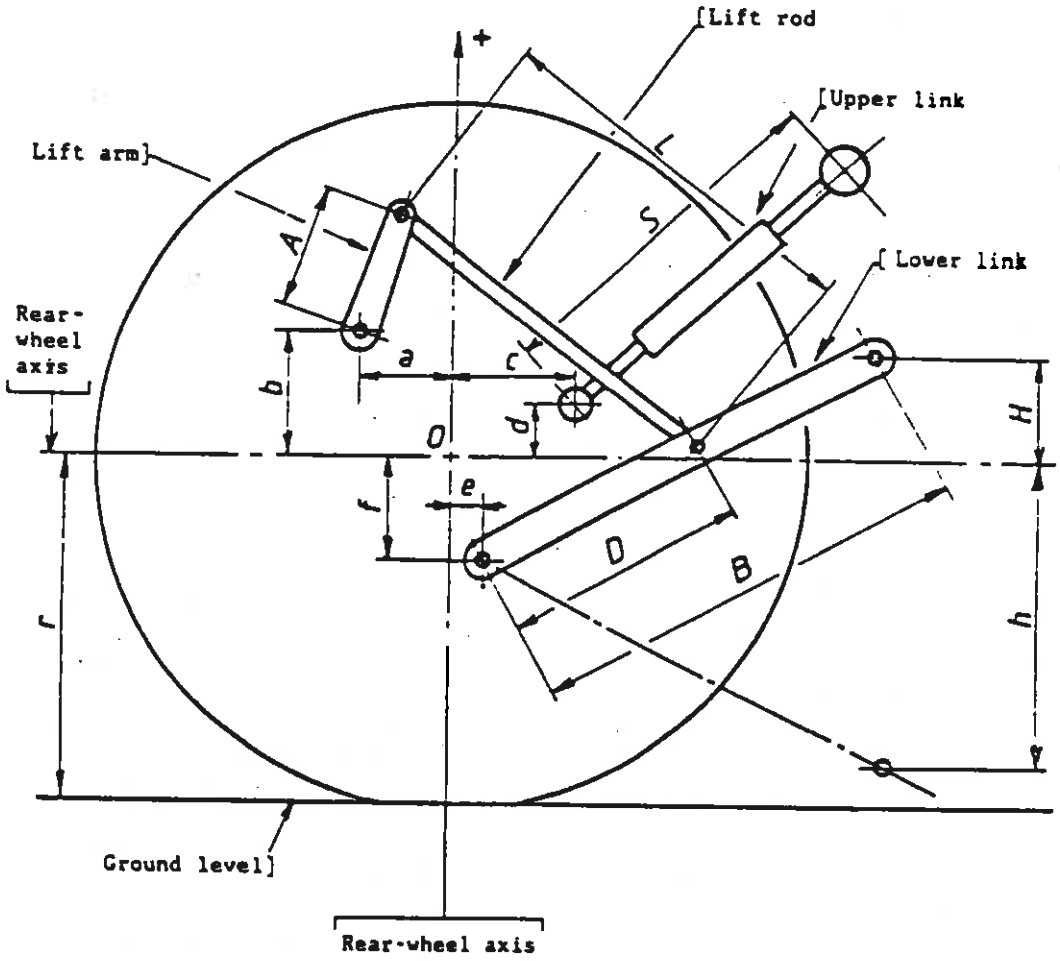
Main Power-Take-Off.	
Type	Independent
Method of engagement	Hydraulically activated multiplate wet clutch operated by hand lever
Number of shafts	One; 1000 rpm
Standard PTO. 1000 rev/min.	
Location	Rear of tractor; vertical center plane
Diameter of shaft	44.5 mm (ISO 500/1991)
Number of splines	20
Height above ground	851 mm
Distance from median plane of tractor	0 mm
Distance behind rear axle	546 mm
PTO Speed at rated engine spd	1104 rpm
Engine speed at Std. PTO spd	2083 rpm
Engine speed/PTO speed ratio	2.083:1
Power restriction	None
Direction of rotation when viewed from shaft end	Clockwise

POWER LIFT.

Make/Model/Type (before serial # 00100)	AGCO/Standard/3-point hitch
Make/Model/Type (from serial # 00100)	David Brown/Standard/3-point hitch
Type of hydraulic system	Charged closed center
Number/Type of cylinders	One/internal;
bore x stroke	127 mm x 155.6 m
	One/external;
bore x stroke	38.1 mm x 292.1 mm
Type of linkage lock for transport	Hydraulic; on lift lever
Relief valve pressure setting	16.88 to 17.57 MPa
Opening pressure of cylinder safety valve	19.57 to 20.34 MPa
Lift pump type	Axial piston;Variable positive displacement
Power transmission to pump	Internal mechanical drive
Type/Number of filters	One 10 micron
Location of oil reservoir	Rear main frame
Number/Type/Location of tapping points.	Three ISO couplers at left rear; One extra optional
Max. oil volume available for external cylinders.	30 l.

THREE POINT LINKAGE.

- Category 3 in conformity with ISO 730/1-1990
- Category adaptor None



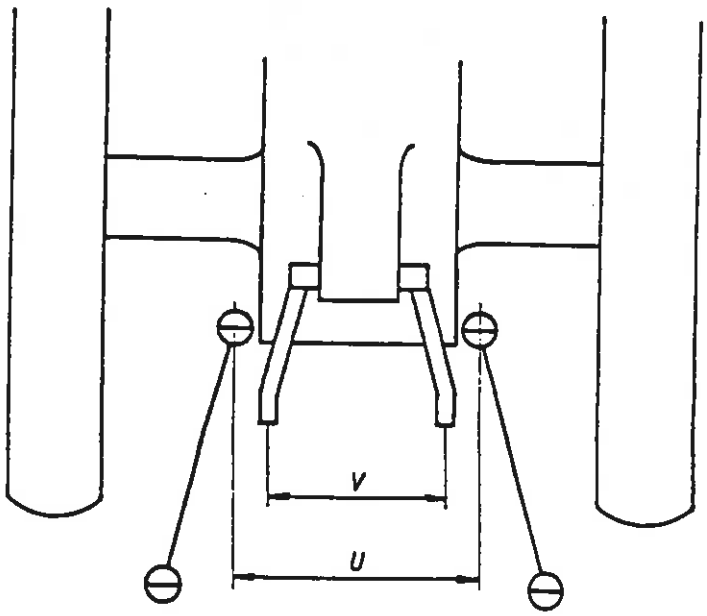


Table 1.1 -*Linkage geometry dimensions.

		Dimension or range [mm]	Settings used on test [mm]
Lift category		III	III
Rear Tire - Radius Index	(r)	945	889
Front Tire - Radius Index	(r')	695	670
Length of lift arms	(A)	406	406
Length of lower links	(B)	884	884
Distance of lift arm pivot from: horizontal	(a)	-200	-200
rear wheel axis: vertical	(b)	461	461
Horizontal distance between the 2 lower link points	(U)	540	540
Horizontal distance between the 2 lift arm end points	(V)	718	718
Length of upper link	(S)	570	641
	to	760	
Distance of upper link pivot point from rear wheel axis			
Top hole - horizontal	(c)	509	509
- vertical	(d)	230	230
Bottom hole - horizontal	(c)	531	531
- vertical	(d)	160	160
Distance of lower link pivot from: horizontal	(e)	267	267
rear wheel axis: vertical	(f)	259	259
Distance of lower link pivot points to lift rod pivot pts on lower links.	(D)	542	542
Length of lift rods	(L)	876	983
	to	1008	
Height of lower hitch points relative to rear wheel axis			
In low position	(h)	705	676
In high position	(H)	157	67
Height above ground of lower hitch points when locked in transport position.		1004	956
	to	1195	

*Assuming (r) with a tire dynamic index of 945 mm

SWINGING DRAWBAR.

Type	Oscillating; 76.2 mm wide; 41.3 mm thick
Height above ground	545 mm
Adjustments	5 fixed positions side to side; 3 fore/aft positions
Distance of hitch point from rear wheel axis-horizontal	927 mm ; 978 mm; 1054 mm
Distance of hitch point from PTO shaft end: Vertical	287 mm
Horizontal	381 mm
Lateral adjustment-Right side	305 mm
Left side	305 mm
Distance of pivot point from rear wheel axis-horizontal	36 mm ahead of axle centerline
Diameter of drawbar pin hole	35 mm
Maximum vertical static permissible load(s)	Foremost position 29.83 kN Center position 25.65 kN Rearmost position 21.19 kN

STEERING.

Make/Model/Type	Eaton/212-1065-100/hydrostatic
Method of operation	Hydrostatic
Pump	Supplied from main hydraulics
Ram(s)	Two; double-acting
Working pressure	17.24 ± 0.34 MPa

BRAKES.

Service brake.	
Make/Model/Type (Before serial # 00100)	AGCO Raybestos/30-3145786/Wet disk
Make/Model/Type (from serial # 00100)	AGCO Raybestos/72506044/Wet disk
Method of operation	Hydraulic; pedal activated
Parking brake.	
Type	Park Lock on Transmission
Method of operation	Mechanical; lever on right side
Trailer Brake	None

WHEELS.

Number	
Front	2 - Steering and Driving
Rear	2 or 4 - Driving
Wheel base	2972 mm

Track width adjustment

	Minimum [mm]	Maximum [mm]	Adjustment method
Front	1590	2250	Adjustable rim
Rear-singles	1651	2591	Rim slides on axle
-duals	2794	3150	As Above

PROTECTIVE STRUCTURE.

Make/Model/Type	AGCO/72.504.500/Safety Cab
Manufacturer's name/address	AGCO Corp., Duluth, Georgia 30136, USA
OECD approval number	CSS 0239/1

OPERATOR'S SEAT.

Make/Model/Type	Grammer/MSG 95A/20
Type of suspension	Air
Type of damping	Adjustable shock absorber
Range of adjustment	
Longitudinal	0-150 mm
Vertical	0-80 mm

LIGHTING.

	Height above ground of light center [mm]	Size [mm] x [mm]	Distance from outside edge to median plane of tractor. [mm]
Head lights	1600	149 x 98.5	229
Rear lights	2571	146 x 90.5	762
Rear reflectors	2342	63.5x 189	762

TEST CONDITIONS.

Overall dimensions.

Length		5054 mm - unballasted 5190 mm - ballasted
Width	Minimum	2935 mm
	Maximum	3556 mm
Height - Top protective structure		3167 mm
- Top of exhaust		3107 mm
Ground clearance. (unballasted)		460 mm
Clearance-limiting part		Three point sway brackets

Tractor Mass (with cab,full fuel tank).

		without driver [kg]	with driver [kg]
Unballasted	Front	3417	3428
	Rear	5385	5449
	Total	8802	8877
Ballasted	Front	4024	4034
	Rear	6552	6617
	Total	10576	10651

Ballast.

	Number of weights	Mass (total) [kg]	Water [kg]
Front	10	471	--
Rear	--	--	198
Duals	yes	1105	--

Tire Specifications.

	Front Wheels		Rear Wheels
Make	Armstrong		Armstrong
Dimensions	16.9R30		18.4R46
Ply rating	2 Star (8-10 P.R.)		3 star (8-10 P.R.)
Type	Radial		Radial
Max.load (tire manufacturer)	2304 kg		3886 kg
Max.load(tractor manufacturer)	2304 kg		3886 kg
Inflation pressure (tire mfr)-max	165 kPa		207 kPa
-min	83 kPa		83 kPa
Dynamic Radius Index	695 mm		945 mm
Chosen track width	2230 mm	Inner	1570 mm
		Outer	3005 mm

Oils and Lubrication.

Capacity and change interval:

	Capacity litre	Oil change hours	Filter change hours
Engine (w/o filter)	23.2	250	250
Gear Box, final drive, rear axle and hydraulics	83.3	1000	1000
Front axle	10.0	1000	
Final drive, front	4.0	1000	

Oil and Lubricant specifications:

	Recommended	Used during test
Engine oil	AGCO Power Lube	same
Type	15W40	
Viscosity	68.9 cS at 40°C, 10.6 cS at 100°C	
Classification	CF-4/CE/CD-II/SG Spec; MIL-L-46152E	
Transmission	AGCO Power Fluid 821XL	same
Type	Multipurpose hydraulic & transmission fluid	
Viscosity	60 cS at 40°C 8.8 cS at 100° C (ASTM D445)	
Classification		
Hydraulic fluid	AGCO Power Fluid 821XL	same
Type	Multipurpose hydraulic & transmission fluid	
Viscosity	8.8 cS at 100° C (ASTM D445)	
Classification		
Front axle and hubs	AGCO Gear Lube 715	same
Type	Multi-gear Lube EP SAE 80W90	
Viscosity	132 cS at 40°C, 14 cS at 100°C	
Classification	API GL-5, MIL-L-21050	
Steering System	Same as Hydraulic system	same
Grease		
Type	AGCO Super Lithium No.2	same
Number of lube points	22	

Fuel

Type/grade	Premier; Grade 2-D, in conformity with the national standard
Density (Pto test)	0.835 kg/l at 15° C
(Drawbar test)	0.835 kg/l at 15° C
Cetane number	50.6
Viscosity	2.51 cSt at 38 ° C

COMPULSORY TESTS

1. MAIN POWER TAKE-OFF

Date: 05-Oct-94 Location: UNL Tractor Test Lab, Lincoln, NE, U.S.A.

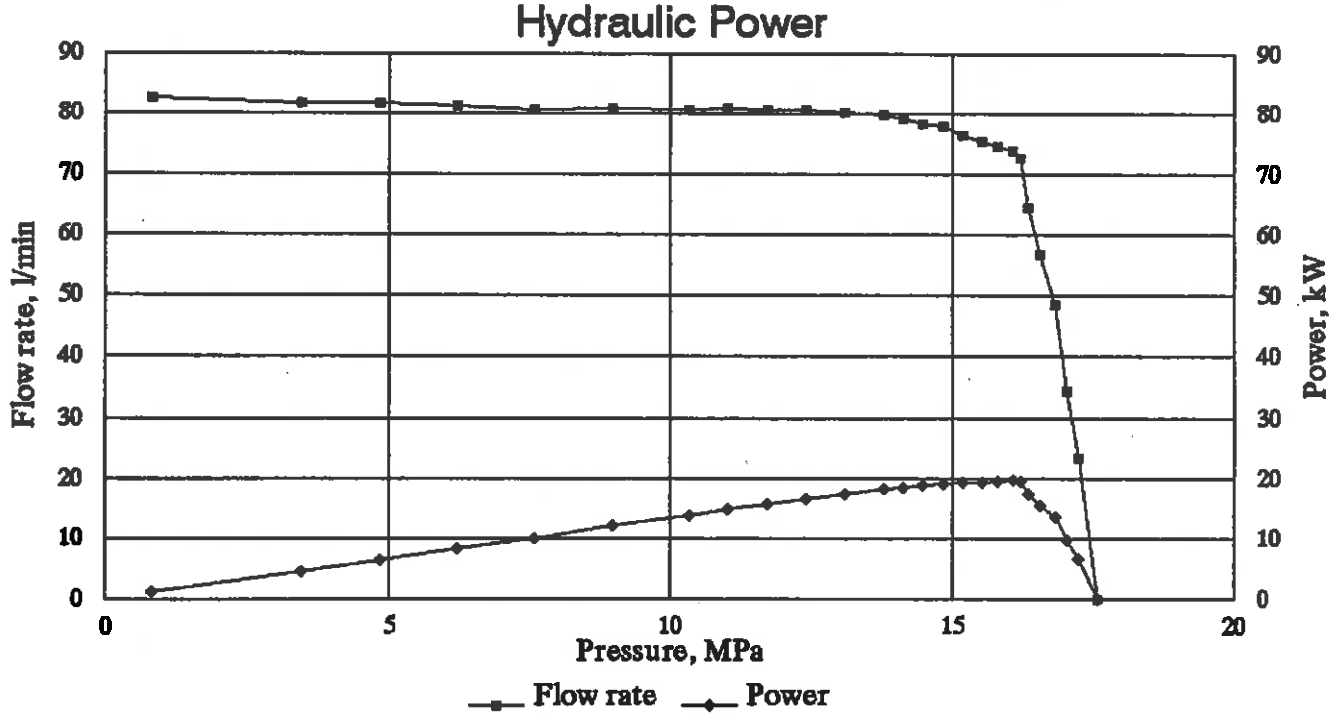
Type of dynamometer: Eddy current, Eaton Fuel density: 0.835 kg/l

Power kW *hp*	Eng rev/min	PTO rev/min	l/h *gal/h*	kg/h *lb/h*	kg/kW-h *lb/hp-h*	kW-h/l *hp-h/gal*
1.1 Maximum Power - 2 hours						
153.23	2085	1000	45.26	37.79	0.247	3.39
205.49			*11.96*	*83.31*	*0.405*	*17.19*
1.2 Power at Rated Engine Speed - 1 hour						
145.88	2300	1104	47.00	39.24	0.269	3.10
195.63			*12.42*	*86.50*	*0.442*	*15.76*
1.3 Power at Standard Power Take-Off Speed - 1 hour						
153.23	2085	1000	45.26	37.79	0.247	3.39
205.49			*11.96*	*83.31*	*0.405*	*17.19*
1.4 Part Loads						
1.4.1 Torque at maximum power at rated engine speed						
145.88	2300	1104	47.00	39.24	0.269	3.10
195.63			*12.42*	*86.50*	*0.442*	*15.76*
1.4.2 85% of torque obtained in 1.4.1						
126.14	2342	1124	42.54	35.52	0.282	2.96
169.15			*11.24*	*78.30*	*0.463*	*15.05*
1.4.3 75% of torque defined in 1.4.2						
95.84	2376	1140	35.53	29.66	0.310	2.70
128.52			*9.39*	*65.40*	*0.509*	*13.69*
1.4.4 50% of torque defined in 1.4.2						
64.59	2409	1156	28.85	24.09	0.373	2.24
86.61			*7.62*	*53.10*	*0.613*	*11.36*
1.4.5 25% of torque defined in 1.4.2						
32.70	2440	1171	22.01	18.37	0.562	1.49
43.85			*5.81*	*40.50*	*0.924*	*7.54*
1.4.6 unloaded						
1.05	2475	1188	15.81	13.20	12.526	0.07
1.41			*4.18*	*29.10*	*20.593*	*0.34*
1.5 Part Loads at Standard Power Take-off Speed						
1.5.1 Torque at maximum power						
153.23	2085	1000	45.26	37.79	0.247	3.39
205.49			*11.96*	*83.31*	*0.405*	*17.19*
1.5.2 85% of torque obtained in 1.5.1						
129.99	2079	998	39.28	32.79	0.252	3.31
174.32			*10.38*	*72.30*	*0.415*	*16.80*
1.5.3 75% of torque defined in 1.5.2						
99.74	2126	1020	32.76	27.35	0.274	3.04
133.75			*8.66*	*60.30*	*0.451*	*15.45*
1.5.4 50% of torque defined in 1.5.2						
67.43	2165	1039	25.92	21.64	0.321	2.60
90.43			*6.85*	*47.70*	*0.527*	*13.21*
1.5.5 25% of torque defined in 1.5.2						
34.66	2208	1059	19.07	15.92	0.459	1.82
46.49			*5.04*	*35.10*	*0.755*	*9.23*
1.5.6 unloaded						
0.88	2255	1082	13.04	10.89	12.325	0.07
1.18			*3.44*	*24.00*	*20.262*	*0.34*

No load maximum engine speed:	2475 rev/min	
Equivalent torque at rated speed:	606 N.m	*447 lb-ft*
Equivalent torque at maximum power:	702 N.m	*518 lb-ft*
(engine speed:	2085 rev/min)	
Maximum equivalent crankshaft torque:	798 N.m	*588 lb-ft*
(engine speed:	1599 rev/min)	
Mean Dry bulb:	24 deg C	*75 deg F*
Wet bulb:	18 deg C	*65 deg F*
Relative humidity:	56 %	
Pressure:	97.82 kPa	*28.89 in Hg*
Maximum Coolant:	98 deg C	*208 deg F*
Engine oil:	120 deg C	*248 deg F*
Fuel:	55 deg C	*131 deg F*
Air intake:	26 deg C	*78 deg F*
Transmission/hydraulic oil:	56 deg C	*133 deg F*
Intake manifold pressure at rated speed:	117 kPa	*17.0 psig*
Intake manifold pressure at maximum power:	110 kPa	*16.0 psig*

Hydraulic Power Test

Date of test: 11–Oct–94					
Location of test–City–State: Tractor Test Lab, Lincoln, NE, USA					
Tapping point used for test: Remote hydraulic outlets					
I. Sustained pressure with pump stalled:					
17.58 MPa					
2550 psi					
II. Pump delivery rate at minimum pressure and rated engine speed:					
82.5 l/min					
21.8 gpm					
III. Flow rate, pressure, power:					
90% of relief valve setting:					
	74.6 l/min		15.79 MPa		19.63 kW
	19.7 gpm		*2290 psi*		*26.32 hp*
Maximum hydraulic power:					
	73.8 l/min		16.06 MPa		19.77 kW
	19.5 gpm		*2330 psi*		*26.51 hp*
IV. Hydraulic fluid temperature at flow meter:					
66 C					
151 F					



2.2 POWER LIFT TEST. Cat III, with boost cylinder
(for settings see p. 8)
Date of test: 10 May 1994

		Hitch points	Frame
Lower hitch points above ground - down position:	[mm/in]	213/8.4	142/5.6
Vertical movement:			
without load:	[mm/in]	743/29.3	970/38.2
with load:	[mm/in]	729/28.7	925/36.4
Maximum corrected force through full range:	[kN/lb]	53.6/12060	36.4/8172
Corresponding pressure:	[kPa/psi]	15513/2250	
Moment about rear axle:	[kN.m/lb.ft]	61.7/45476	63.9/47159
Maximum mast tilt angle:	[deg]	--	12.0

Lifting height relative to horizontal position of lower links.

	[mm]	480	-409	-297	-198	-97	3
	[in]	-18.9	-16.1	-11.7	-7.8	-3.8	0.1
Corrected lift forces							
Hitch point.	[kN]	--	53.6	57.1	62.0	67.3	71.8
	[lb]	--	12060	12848	13928	15138	16137
at frame	[kN]	36.4	38.7	41.2	--	43.3	44.5
	[lb]	8172	8694	9261	--	9738	9999

Lifting height relative to horizontal position of lower links.

	[mm]	102	201	302	320	422	445
	[in]	4.0	7.9	11.9	12.6	16.6	17.5
Corrected lift forces							
Hitch point	[kN]	76.5	80.3	80.4	80.4	--	--
	[lb]	17204	18063	18072	18072	--	--
at frame	[kN]	45.1	--	44.2	--	43.9	40.9
	[lb]	10143	--	9936	--	9869	9198

OECD Drawbar Data (SI)

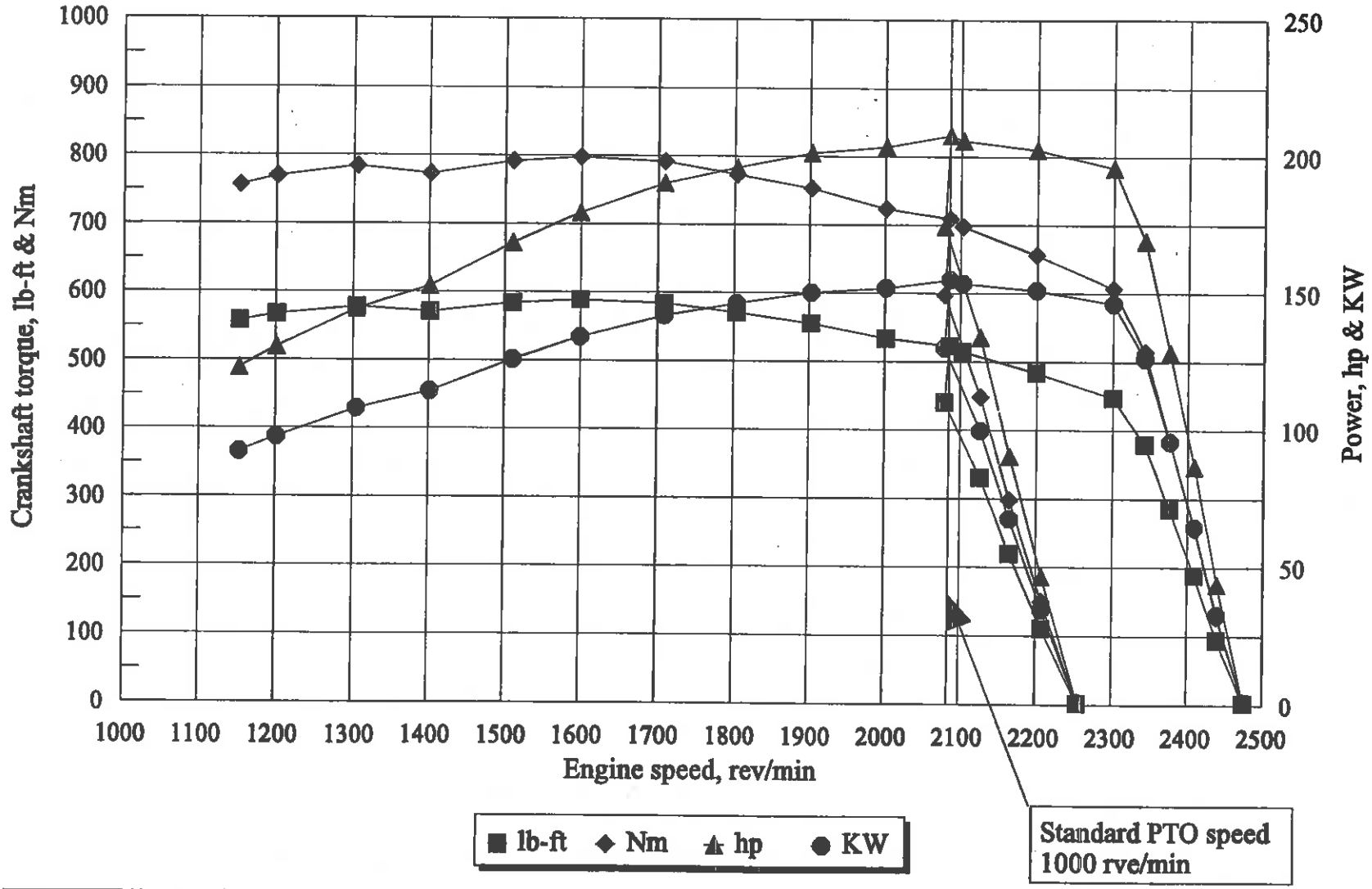
Date of tests:		12,19-Oct-94		Fuel density:		0.835 kg/l								
Type of track:		Concrete		Test number:		1684								
Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg C					Rel humidity	Baro. Pres
	kW	kN	km/h	rev/min		kg/kW.h	kW.h/l	Fuel	Coolant	Oil	Dry	Wet		kPa
I. Maximum Power (unballasted,4wd at 2085 rev/min)						Tire pressure:		124 kPa, rear		165 kPa, front		Drawbar height:	419 mm	
4 *	95.45	83.71	4.10	2353	9.01%	0.356	2.34	59	71	102	14	11	73%	97.87
5 *	113.36	84.74	4.82	2327	8.69%	0.337	2.48	58	66	102	14	10	59%	97.87
6	123.52	79.71	5.58	2288	8.21%	0.324	2.58	58	73	104	17	12	53%	98.17
7	130.95	76.21	6.19	2130	7.06%	0.297	2.81	56	80	106	17	12	53%	98.17
8	132.87	65.32	7.32	2086	4.93%	0.289	2.89	54	78	105	18	12	49%	98.14
9	133.43	55.39	8.67	2087	3.69%	0.286	2.92	55	80	108	18	12	47%	98.10
10	134.25	47.70	10.13	2084	3.06%	0.284	2.94	55	79	106	19	12	48%	98.14
11	135.15	40.27	12.08	2091	2.52%	0.282	2.96	55	79	108	19	13	48%	98.04
12	133.51	33.89	14.18	2087	2.05%	0.288	2.90	56	76	109	21	13	41%	98.00
Note: Pull limited to avoid excessive bouncing														
II. Part loads (unballasted, 4wd)														
II.1 in selected gear at maximum power at rated speed														
11	130.56	35.23	13.34	2299	2.24%	0.307	2.72	55	76	108	21	13	45%	98.04
II.1.1 75% of pull at maximum power at rated speed														
11	100.99	26.46	13.74	2355	1.68%	0.338	2.47	56	72	104	22	13	39%	98.00
II.1.2 50% of pull at maximum power at rated speed														
11	68.78	17.63	14.05	2394	1.12%	0.401	2.08	56	74	103	22	13	39%	98.00
II.1.3 next higher gear at reduced engine speed, same pull and travel speed as II.1.1														
13	100.55	26.38	13.72	1754	1.59%	0.280	2.98	54	74	103	22	13	39%	98.00
II.1.4 next higher gear at reduced engine speed, same pull and travel speed as II.1.2														
13	68.90	17.60	14.09	1792	0.93%	0.310	2.69	54	74	102	22	13	39%	98.00
II.2 in selected gear nearest to 7.5 km/h at rated speed														
7	127.19	67.33	6.80	2297	5.28%	0.311	2.68	56	82	106	18	12	49%	98.17
II.2.1 75% of pull at maximum power at rated speed														
7	99.64	50.38	7.12	2357	3.24%	0.335	2.49	58	79	105	21	13	39%	98.00
II.2.2 50% of pull at maximum power at rated speed														
7	68.44	33.59	7.34	2398	2.05%	0.392	2.13	57	78	103	21	13	39%	98.00
II.2.3 next higher gear at reduced engine speed, same pull and travel speed as II.2.1														
9	99.76	50.21	7.15	1712	3.24%	0.274	3.04	54	77	103	21	13	39%	98.00
II.2.4 next higher gear at reduced engine speed, same pull and travel speed as II.2.2														
9	68.48	33.57	7.34	1735	2.15%	0.298	2.80	55	76	101	22	13	36%	98.00

OECD Drawbar Data (US)

Date of tests:		12,19-Oct-94		Fuel density:		6.967 lb/gal								
Type of track:		Concrete		Test number:		1684								
Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg F					Rel humidity	Baro. Pres
	hp	lb	mph	rev/min		lb/hp.h	hp.h/gal	Fuel	Coolant	Oil	Dry	Wet		in Hg
I. Maximum Power (unballasted,4wd at 2085 rev/min)						Tire pressure:		18 psig, rear		24 psig, front		Drawbar height:	16.5 in	
4 *	127.99	18819	2.55	2353	9.01%	0.586	11.89	138	160	216	57	52	73%	28.90
5 *	152.02	19050	2.99	2327	8.69%	0.554	12.58	136	151	216	58	50	59%	28.90
6	165.64	17919	3.47	2288	8.21%	0.533	13.08	136	164	219	63	53	53%	28.99
7	175.61	17132	3.84	2130	7.06%	0.489	14.25	133	177	223	63	53	53%	28.99
8	178.18	14685	4.55	2086	4.93%	0.475	14.68	130	173	222	64	53	49%	28.98
9	178.94	12452	5.39	2087	3.69%	0.471	14.80	132	176	226	65	54	47%	28.97
10	180.04	10724	6.30	2084	3.06%	0.467	14.91	131	174	224	66	54	48%	28.98
11	181.24	9054	7.51	2091	2.52%	0.464	15.03	131	174	226	67	55	48%	28.95
12	179.03	7619	8.81	2087	2.05%	0.473	14.73	133	169	228	69	55	41%	28.94
Note: Pull limited to avoid excessive bouncing														
II. Part loads (unballasted, 4wd)														
II.1 in selected gear at maximum power at rated speed														
11	175.09	7921	8.29	2299	2.24%	0.505	13.80	131	169	226	69	56	45%	28.95
II.1.1 75% of pull at maximum power at rated speed														
11	135.43	5948	8.54	2355	1.68%	0.556	12.53	133	162	220	71	56	39%	28.94
II.1.2 50% of pull at maximum power at rated speed														
11	92.24	3963	8.73	2394	1.12%	0.660	10.56	133	165	217	71	56	39%	28.94
II.1.3 next higher gear at reduced engine speed, same pull and travel speed as II.1.1														
13	134.84	5930	8.53	1754	1.59%	0.461	15.12	129	166	218	71	56	39%	28.94
II.1.4 next higher gear at reduced engine speed, same pull and travel speed as II.1.2														
13	92.40	3957	8.76	1792	0.93%	0.510	13.65	130	165	215	71	56	39%	28.94
II.2 in selected gear nearest to 4.6 mph at rated speed														
7	170.56	15137	4.23	2297	5.28%	0.511	13.62	134	180	224	64	53	49%	28.99
II.2.1 75% of pull at maximum power at rated speed														
7	133.61	11327	4.42	2357	3.24%	0.551	12.65	137	175	222	70	55	39%	28.94
II.2.2 50% of pull at maximum power at rated speed														
7	91.78	7552	4.56	2398	2.05%	0.645	10.80	135	173	218	70	55	39%	28.94
II.2.3 next higher gear at reduced engine speed, same pull and travel speed as II.2.1														
9	133.78	11289	4.44	1712	3.24%	0.451	15.46	130	171	218	70	55	39%	28.94
II.2.4 next higher gear at reduced engine speed, same pull and travel speed as II.2.2														
9	91.84	7547	4.56	1735	2.15%	0.491	14.20	131	169	214	71	55	36%	28.94

Power and Equivalent Crankshaft Torque

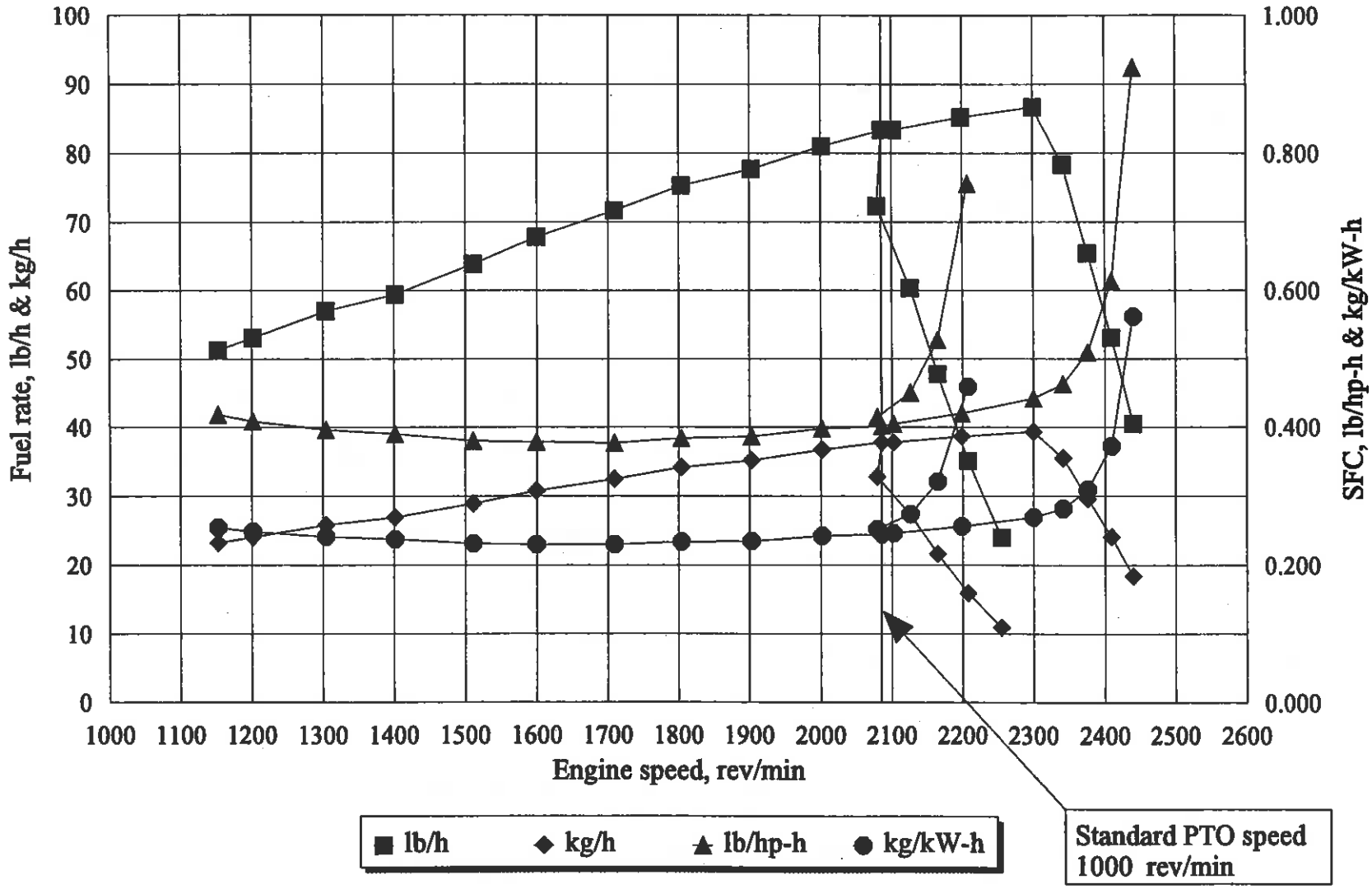
AGCO Allis 9690



Nebraska Test #1684

Specific Fuel Consumption and Fuel Rate

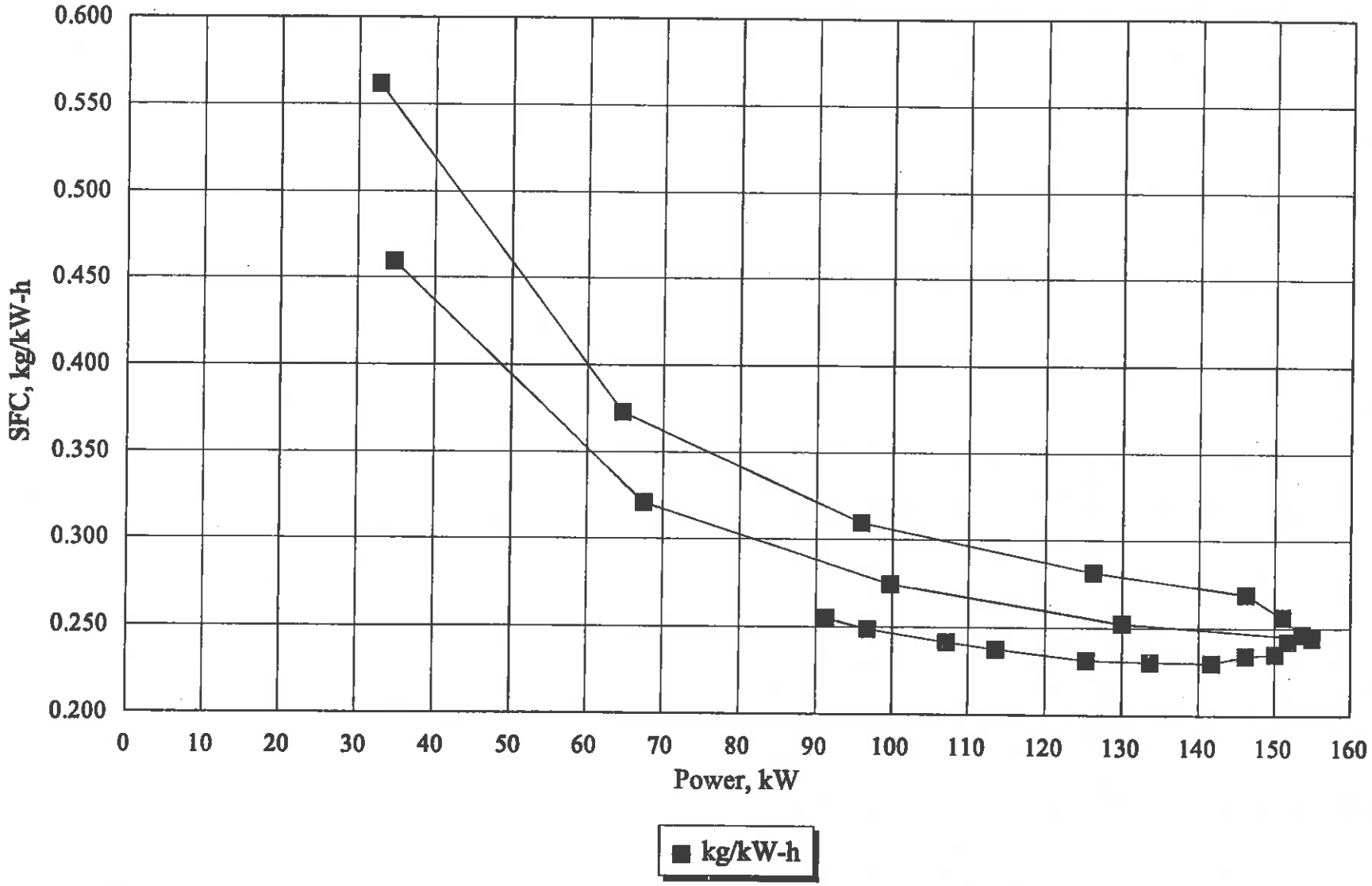
AGCO Allis 9690



Nebraska Test #1684

Power and Specific Fuel Consumption

AGCO Allis 9690



Nebraska Test #1684

OPTIONAL TESTS - Ballasted Tractor, front Drive engaged
Tests conducted under the responsibility of the NEBRASKA TRACTOR TESTING LABORATORY

OECD Drawbar Data (SI)

Date of tests: 07-Oct-94 Fuel density: 0.835 kg/l
Type of track: Concrete Test number: 1684

Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg C					Rel humidity	Baro. Pres
	kW	kN	km/h	rev/min		kg/kW.h	kW.h/l	Fuel	Coolant	Oil	Dry	Wet		kPa
I. Maximum Power (ballasted, 4wd at 2085 rev/min)						Tire pressure:		124 kPa, rear		165 kPa, front		Drawbar height:		419 mm
4 *	118.38	106.49	4.00	2317	10.01%	0.335	2.49	58	74	104	14	12	79%	97.26
5	127.91	99.07	4.65	2199	6.86%	0.311	2.68	58	76	107	15	11	64%	97.32
6	130.63	89.71	5.24	2085	5.24%	0.296	2.82	57	76	108	16	12	65%	97.53
7	133.93	77.13	6.25	2086	4.10%	0.288	2.90	57	81	111	16	12	65%	97.53
8	134.35	64.92	7.45	2084	3.30%	0.286	2.92	58	79	111	16	12	65%	97.53
9	135.53	55.54	8.78	2088	2.57%	0.284	2.94	56	79	109	16	12	61%	97.49
10	136.37	48.01	10.23	2085	2.20%	0.282	2.96	58	78	108	16	12	61%	97.56
11	136.23	40.39	12.14	2087	2.02%	0.281	2.97	57	77	108	16	12	61%	97.56
12	133.53	33.66	14.28	2089	1.65%	0.287	2.91	56	76	108	16	12	61%	97.56

Note: Pull limited to avoid excessive bouncing

OECD Drawbar Data (US)

Date of tests: 07-Oct-94 Fuel density: 6.967 lb/gal
Type of track: Concrete Test number: 1684

Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg F					Rel humidity	Baro. Pres
	hp	lb	mph	rev/min		lb/hp.h	hp.h/gal	Fuel	Coolant	Oil	Dry	Wet		in Hg
I. Maximum Power (ballasted, 4wd at 2085 rev/min)						Tire pressure:		18 psig, rear		24 psig, front		Drawbar height:		16.5 in
4 *	158.75	23940	2.49	2317	10.01%	0.551	12.65	136	165	219	58	54	79%	28.72
5	171.53	22272	2.89	2199	6.86%	0.512	13.61	136	169	224	59	52	64%	28.74
6	175.18	20169	3.26	2085	5.24%	0.487	14.31	135	170	226	60	53	65%	28.80
7	179.61	17340	3.88	2086	4.10%	0.474	14.70	135	179	232	60	53	65%	28.80
8	180.16	14594	4.63	2084	3.30%	0.471	14.80	136	174	232	60	53	65%	28.80
9	181.75	12487	5.46	2088	2.57%	0.466	14.95	134	175	228	61	53	61%	28.79
10	182.88	10793	6.35	2085	2.20%	0.464	15.01	136	172	226	61	53	61%	28.81
11	182.69	9080	7.55	2087	2.02%	0.462	15.07	134	171	227	61	53	61%	28.81
12	179.06	7567	8.87	2089	1.65%	0.471	14.79	134	169	226	61	53	61%	28.81

Note: Pull limited to avoid excessive bouncing

REPAIRS : None
REMARKS : The high idle speed needed to be reset to its original value during the the drawbar test.

Addendum Sheet for OECD Test # 1545
AGCO Allis 9690 MFWD (4WD)

Page 2:Fuel Density: 0.830 to 0.845 kg/l

Page 4:At bottom of travel speed table, (*) Calculated with a tyre dynamic index of 945 mm.

Page 14: Hydraulic Power Test: This hydraulic system does not use an accumulator. Opening and closing pressures of the unloading valve could not be measured.

OECD Drawbar Data (SI)

Date of tests:	12,19-Oct-94		Fuel density:	0.835 kg/l										
Type of track:	Concrete		Test number:	1684										
Gear	**Power**	**Pull**	**Speed**	**Engine speed**	**Slip**	**SFC**	**SFE**	**Temperature, deg C**					**Rel humidity**	**Bare. Pres**
	kW	kN	km/h	rev/min		kg/kW.h	kW.h/l	Fuel	Coolant	Oil	Dry	Wet		kPa
I. Maximum Power (unballasted, 4wd at 2085 rev/min)						Tire pressure:		124 kPa, rear		165 kPa, front		Drawbar height:		419 mm
4 *	95.45	83.71	4.10	2353	9%	0.356	2.34	59	71	102	14	11	73%	97.87
5 *	113.36	84.74	4.82	2327	9%	0.337	2.48	58	66	102	14	10	59%	97.87
6	123.52	79.71	5.58	2288	8%	0.324	2.58	58	73	104	17	12	53%	98.17
7	130.95	76.21	6.19	2130	7%	0.297	2.81	56	80	106	17	12	53%	98.17
8	132.87	65.32	7.32	2086	5%	0.289	2.89	54	78	105	18	12	49%	98.14
9	133.43	55.39	8.67	2087	4%	0.286	2.92	55	80	108	18	12	47%	98.10
10	134.25	47.70	10.13	2084	3%	0.284	2.94	55	79	106	19	12	48%	98.14
11	135.15	40.27	12.08	2091	3%	0.282	2.96	55	79	108	19	13	48%	98.04
12	133.51	33.89	14.18	2087	2%	0.288	2.90	56	76	109	21	13	41%	98.00
Note: Pull limited to avoid excessive bouncing														
II. Part loads (unballasted, 4wd)														
II.1 in selected gear at maximum power at rated speed														
11	130.56	35.23	13.34	2299	2%	0.307	2.72	55	76	108	21	13	45%	98.04
II.1.1 75% of pull at maximum power at rated speed														
11	100.99	26.46	13.74	2355	2%	0.338	2.47	56	72	104	22	13	39%	98.00
II.1.2 50% of pull at maximum power at rated speed														
11	68.78	17.63	14.05	2394	1%	0.401	2.08	56	74	103	22	13	39%	98.00
II.1.3 higher gear at reduced engine speed, same pull and travel speed as II.1.1														
13	100.55	26.38	13.72	1754	2%	0.280	2.98	54	74	103	22	13	39%	98.00
II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2														
13	68.90	17.60	14.09	1792	1%	0.310	2.69	54	74	102	22	13	39%	98.00
II.2 in selected gear nearest to 7.5 km/h at rated speed														
7	127.19	67.33	6.80	2297	5%	0.311	2.68	56	82	106	18	12	49%	98.17
II.2.1 75% of pull at maximum power at rated speed														
7	99.64	50.38	7.12	2357	3%	0.335	2.49	58	79	105	21	13	39%	98.00
II.2.2 50% of pull at maximum power at rated speed														
7	68.44	33.59	7.34	2398	2%	0.392	2.13	57	78	103	21	13	39%	98.00
II.2.3 higher gear at reduced engine speed, same pull and travel speed as II.2.1														
9	99.76	50.21	7.15	1712	3%	0.274	3.04	54	77	103	21	13	39%	98.00
II.2.4 higher gear at reduced engine speed, same pull and travel speed as II.2.2														
9	68.48	33.57	7.34	1735	2%	0.298	2.80	55	76	101	22	13	36%	98.00

OECD Drawbar Data (US)

Date of tests:	12,19-Oct-94		Fuel density:	6.967 lb/gal										
Type of track:	Concrete		Test number:	1684										
Gear	**Power**	**Pull**	**Speed**	**Engine speed**	**Slip**	**SFC**	**SFE**	**Temperature, deg F**					**Rel humidity**	**Bare. Pres**
	hp	lb	mph	rev/min		lb/hp.h	hp.h/gal	Fuel	Coolant	Oil	Dry	Wet		in Hg
I. Maximum Power (unballasted, 4wd at 2085 rev/min)						Tire pressure:		18 psig, rear		24 psig, front		Drawbar height:		16.5 in
4 *	127.99	18819	2.55	2353	9%	0.586	11.89	138	160	216	57	52	73%	28.90
5 *	152.02	19050	2.99	2327	9%	0.554	12.58	136	151	216	58	50	59%	28.90
6	165.64	17919	3.47	2288	8%	0.533	13.08	136	164	219	63	53	53%	28.99
7	175.61	17132	3.84	2130	7%	0.489	14.25	133	177	223	63	53	53%	28.99
8	178.18	14685	4.55	2086	5%	0.475	14.68	130	173	222	64	53	49%	28.98
9	178.94	12452	5.39	2087	4%	0.471	14.80	132	176	226	65	54	47%	28.97
10	180.04	10724	6.30	2084	3%	0.467	14.91	131	174	224	66	54	48%	28.98
11	181.24	9054	7.51	2091	3%	0.464	15.03	131	174	226	67	55	48%	28.95
12	179.03	7619	8.81	2087	2%	0.473	14.73	133	169	228	69	55	41%	28.94
Note: Pull limited to avoid excessive bouncing														
II. Part loads (unballasted, 4wd)														
II.1 in selected gear at maximum power at rated speed														
11	175.09	7921	8.29	2299	2%	0.505	13.80	131	169	226	69	56	45%	28.95
II.1.1 75% of pull at maximum power at rated speed														
11	135.43	5948	8.54	2355	2%	0.556	12.53	133	162	220	71	56	39%	28.94
II.1.2 50% of pull at maximum power at rated speed														
11	92.24	3963	8.73	2394	1%	0.660	10.56	133	165	217	71	56	39%	28.94
II.1.3 higher gear at reduced engine speed, same pull and travel speed as II.1.1														
13	134.84	5930	8.53	1754	2%	0.461	15.12	129	166	218	71	56	39%	28.94
II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2														
13	92.40	3957	8.76	1792	1%	0.510	13.65	130	165	215	71	56	39%	28.94
II.2 in selected gear nearest to 4.6 mph at rated speed														
7	170.56	15137	4.23	2297	5%	0.511	13.62	134	180	224	64	53	49%	28.99
II.2.1 75% of pull at maximum power at rated speed														
7	133.61	11327	4.42	2357	3%	0.551	12.65	137	175	222	70	55	39%	28.94
II.2.2 50% of pull at maximum power at rated speed														
7	91.78	7552	4.56	2398	2%	0.645	10.80	135	173	218	70	55	39%	28.94
II.2.3 higher gear at reduced engine speed, same pull and travel speed as II.2.1														
9	133.78	11289	4.44	1712	3%	0.451	15.46	130	171	218	70	55	39%	28.94
II.2.4 higher gear at reduced engine speed, same pull and travel speed as II.2.2														
9	91.84	7547	4.56	1735	2%	0.491	14.20	131	169	214	71	55	36%	28.94

OECD APPROVAL # 1545 - AGCO ALLIS 9690 MFWD DIESEL
OPTIONAL TEST - Ballasted, Front Drive Engaged

Tests conducted under the responsibility of
the NEBRASKA TRACTOR TESTING LABORATORY

OECD Drawbar Data (SI)

Date of tests: 07-Oct-94 Fuel density: 0.835 kg/l
Type of track: Concrete Test number: 1684

Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg C					Rel hum-	Baro. Pres
	kW	kN	km/h	rev/min		kg/kW.h	kW.h/l	Fuel	Coolant	Oil	Dry	Wet	idity	kPa
I. Maximum Power (ballasted,4wd at 2085 rev/min)						Tire pressure:		124 kPa, rear		165 kPa, front		Drawbar height:		419 mm
4 *	118.38	106.49	4.00	2317	10%	0.335	2.49	58	74	104	14	12	79%	97.26
5	127.91	99.07	4.65	2199	7%	0.311	2.68	58	76	107	15	11	64%	97.32
6	130.63	89.71	5.24	2085	5%	0.296	2.82	57	76	108	16	12	65%	97.53
7	133.93	77.13	6.25	2086	4%	0.288	2.90	57	81	111	16	12	65%	97.53
8	134.35	64.92	7.45	2084	3%	0.286	2.92	58	79	111	16	12	65%	97.53
9	135.53	55.54	8.78	2088	3%	0.284	2.94	56	79	109	16	12	61%	97.49
10	136.37	48.01	10.23	2085	2%	0.282	2.96	58	78	108	16	12	61%	97.56
11	136.23	40.39	12.14	2087	2%	0.281	2.97	57	77	108	16	12	61%	97.56
12	133.53	33.66	14.28	2089	2%	0.287	2.91	56	76	108	16	12	61%	97.56
Note: Pull limited to avoid excessive bouncing														

OECD Drawbar Data (US)

Date of tests: 07-Oct-94 Fuel density: 6.967 lb/gal
Type of track: Concrete Test number: 1684

Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg F					Rel hum-	Baro. Pres
	hp	lb	mph	rev/min		lb/hp.h	hp.h/gal	Fuel	Coolant	Oil	Dry	Wet	idity	in Hg
I. Maximum Power (ballasted,4wd at 2085 rev/min)						Tire pressure:		18 psig, rear		24 psig, front		Drawbar height:		16.5 in
4 *	158.75	23940	2.49	2317	10%	0.551	12.65	136	165	219	58	54	79%	28.72
5	171.53	22272	2.89	2199	7%	0.512	13.61	136	169	224	59	52	64%	28.74
6	175.18	20169	3.26	2085	5%	0.487	14.31	135	170	226	60	53	65%	28.80
7	179.61	17340	3.88	2086	4%	0.474	14.70	135	179	232	60	53	65%	28.80
8	180.16	14594	4.63	2084	3%	0.471	14.80	136	174	232	60	53	65%	28.80
9	181.75	12487	5.46	2088	3%	0.466	14.95	134	175	228	61	53	61%	28.79
10	182.88	10793	6.35	2085	2%	0.464	15.01	136	172	226	61	53	61%	28.81
11	182.69	9080	7.55	2087	2%	0.462	15.07	134	171	227	61	53	61%	28.81
12	179.06	7567	8.87	2089	2%	0.471	14.79	134	169	226	61	53	61%	28.81
Note: Pull limited to avoid excessive bouncing														