O.E.C.D. Report No.: 1594 Full Code

Bundesanstalt für Landtechnik

A-3250 Wieselburg, Austria

Dieseltractor STEYR 9025.25

40 km/h version

Trade name:

STEYR 968 a (4WD)



Date of approval: 24.1.1996

This report has been approved by the O.E.C.D. Coordinating Centre (CEMAGREF, France) as being in accordance with the O.E.C.D. Test Code

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Tractor manufacturer's name and address:	Steyr Landmaschinentechnik GmbH. A-4300 St. Valentin, Austria
Location of tractor assembly:	St. Valentin
Submitted for test by:	Manufacturer
Selected for test by:	Manufacturer by agreement with BLT Wieselburg
Place of running-in:	St. Valentin
Duration of running-in:	100 hours
Location of test:	Wieselburg, Austria

SPECIFICATIONS OF TRACTOR

TRACTOR:

Make:	STEYR
Trade name:	STEYR 968 a
Type:	9025.25
Model:	40 km/h version
Number of driving wheels:	4
Serial no.:	9025.25 - 01811
1st serial no.:	9025.25 - 01002

ENGINE:

Make:	Steyr
Model:	WD 301.89
Type:	4 stroke diesel engine with direct injection and exhaust turbo supercharger
Serial no.:	301.89-001346

Cylinder:

Number/disposition:	3, vertical in line
Bore/stroke:	105/120 mm

Capacity:	3117 cm^3
Compression ratio:	16,0 : 1
Arrangement of valves:	Overhead valves
Cylinder liners:	Wet liners

Supercharging:

Make:	SCHWITZER or KKK
Model:	S 1 B - 07 resp. K 14 134 AC
Type:	Exhaust turbo supercharger
Pressure:	max. 146 kPa

Fuel system:

Fuel feed system:	Fuel feed pump integrated in injection pump
Make, model and type of fuel filter:	KNECHT filter 7394471 with water trap
Capacity of fuel tank:	83 l
Make, model and type of injection pump:	BOSCH in line injection pump BOSCH PES 3 A90D320/3RS 2826
Serial no.:	0400 863 019
Manufacturer's production setting of injection pump, flow rate and timing:	$67^{\pm 2}$ mm^3/stroke at pump speed of 1150 rev/min and full load $23^{\pm 1}$ before TDC
Make, model and type of injectors:	BOSCH DLLA 151 S 972
Injection pressure:	$22,0^{+0,5}$ MPa (220^{+8} bar)

Governor:

Make:	BOSCH
Type:	Variable speed governor, mechanically acting, incorporated in injection pump
Governed range of engine speed:	From 850^{+50} to 2470^{-30} rev/min engine speed
Rated engine speed:	2300 rev/min

Air cleaner:

Location of air intake:	Inside the bonnet, in front of the radiator
Pre-cleaner:	Incorporated in main-cleaner
Main-cleaner:	
Make:	MANN & HUMMEL or KNECHT
Model:	MANN & HUMMEL 45 165 92 824 or KNECHT LVPO 6060 S/2
Type:	Piclon combined filter, dry type with integrated cyclonic pre-cleaner with automatic dust-drain valve and changeable paper filter insert and additional safety cartridge
Service intervals:	
Pre-cleaner:	Visual control, each 250 hours
Main-cleaner paper insert:	Cleaning interval: when control lamp indication is shown Changing interval: 1 year
Maintenance indication:	Electric lamp indication, -65 mbar for indication

Lubrication system:

Type of feed pump:	Forced oil circulation, by gear pump
Type of filter:	STEYR 409 07 0036
Type of oilcooler:	BEHR or MODINE

Cooling system:

Type of coolant:	Water-frost protection mixture down to -20°C
Type of pump:	Centrifugal pump belt driven
Specification of fan:	Puller, 1 driving belt
Number of fan blades:	7
Fan diameter:	460 mm
Coolant capacity:	13 l

Type of temperature control:	Thermostat control and electrical coolant thermometer
Superpressure system:	0,7 bar

Starting system:

Make:	BOSCH
Model:	JF-12 V 2,7 kW
Type:	Solenoid engaged screw push starter motor
Starter motor power rating:	2,7 kW
Cold starting aid:	Electrically, glow plug in inlet manifold
Safety device:	Electrically starting block system by engaged clutch

Electrical system:

Voltage:	12 V, negative earth
Generator:	Make: BOSCH Type: three phase alternator type Power: 910 W/65 A - 14 V
Battery:	1 with 12 V/90 Ah lead acid type Rating: 90 Ah at 20 hours rating

Exhaust system:

Make:	ROTH
Model:	47.05.9402.0.00
Type:	Absorption-reflexion type
Location:	140 mm left of the median plane of engine, 1485 mm above centre of crankshaft end of bended exhaust tube

TRANSMISSION TO WHEELS:

Clutch:

Make:	FICHTEL & SACHS
Model:	DUT 295/280
Type:	Dry double clutch with 2 plates
Number of plates:	2
Diameter of plates:	295/280 mm
Method of operation:	2 plates incorporated in the same clutch housing are operated independent for p.t.o. and gear box

Gear box:

Make:	STEYR
Model:	TW 537
Type:	Mechanically acting gear box
Model:	as tested (40 km/h) 2 forward and 1 reverse group (FORWARD FAST, FORWARD NORMAL, REVERSE) combined with 4 speed change gear and reduction gear (ROAD - FIELD) Total: 16 forward and 8 reverse speeds
Arrangement:	1 lever for group gear (VS, VL, R) 1 lever for the 4 speed gear (1 - 4) 1 lever for the reduction gear (ROAD, NEUTRAL, FIELD)
Available options:	Synchronized 4 speed change gear top speed 30 km/h Total: 16 forward and 8 reverse speeds Synchronized 4 speed change gear top speed 30 or 40 km/h with 2 forward groups and 1 reverse group. Crawler group (normal and crawler) and reduction gear (ROAD, NEUTRAL, FIELD) Total: 32 forward and 16 reverse speeds

Rear axle and final drives:

Make:	STEYR
Model:	537
Type:	Central axle, pinion and bevel gear, reduction by planetary gear in final drives
Differential lock:	Type: mechanically acting from half axle to differential housing Method of engagement: foot lever operated Method of disengagement: lockable and preselectable, selfdisengaging when not locked

Front axle and final drives:

Make:	SIGE
Model:	010 SSD
Type:	Steering and driving axle, central type, integrated steering cylinder Driving shaft, pinion and bevel gear differential, half shafts, universal joints, planetary gears in wheel hubs
Differential lock:	Without differential lock Optional: automatically locking differential (multi-plate-clutch-type)
Optional:	
Make:	ZF
Model:	APL 2015
Front wheel drive:	Mechanically engaged, multi-plate-clutch in oil bath, hand lever operated, direct central jointless driving shaft to front axle

Total ratios and travelling speeds:

Gear no.	Group	Number of engine revolutions for one revolution of driving wheels		Nominal travelling speed at rated engine speed to 2300 rev/min *) km/h	
-	-	field L	road S	field L	road S
1	forward	317,69	95,06	1,90	6,43
2	normal	181,86	54,42	3,31	11,07
3	VL	111,24	33,29	5,42	18,10
4		71,63	21,43	8,41	28,11
1	forward	233,99	70,02	2,58	8,61
2	fast	133,95	40,08	4,50	15,04
3	VS	81,94	24,52	7,35	24,58
4		52,76	15,79	11,42	38,17
1		317,69	95,06	1,90	6,34
2	reverse	181,86	54,42	3,31	11,07
3	R	111,24	33,29	5,42	18,10
4		71,63	21,43	8,41	28,11

*) Calculated with rear tyre dynamic radius index of 695 mm (ISO 4251/1 - 1992)
test tyre equipment: rear 480/70 R 30
front 14,9 LR 20 (375/75 R 20)

Number of revolutions of front wheels for one revolution of rear wheels: 1,398

POWER TAKE-OFF:

Main power take-off:

Type: Independent and (optional) proportional to ground speed p.t.o.

Method of engagement: Hand lever operated, mechanically engaged dry disc clutch, driven by the 2nd plate of main clutch

Number of shafts: 1

Method of changing power take-off shaft speeds: Speed selection by hand lever and spur gears, no changing of shaft ends

Power take-off proportional to engine speed:

540 and 1000 rev/min

Location:	At rear of tractor
Diameter of power take-off shaft end:	34,9 mm
Number of splines:	6, in conformity with ISO R 500 - 1991, type I
Height above ground:	585 mm with tyre dynamic radius index of 695 mm
Distance from the median plane of the tractor:	0 mm
Distance behind rear wheel axis:	306 mm
P.t.o. speed at rated engine speed:	607 rev/min resp. 1080 rev/min
Engine speed at standard power take-off speeds:	2045 rev/min resp. 2130 rev/min
Ratio of rotation speeds (engine speed/ p.t.o.speed):	3,79 resp. 2,13
Power restriction and max. torque:	None
Direction of rotation (viewed from behind tractor):	Clockwise

Optional additional - 430 and 540E rev/min:

P.t.o. speed at rated engine speed:	464 rev/min resp. 825 rev/min
Engine speed at economic standard p.t.o. speeds:	2130 rev/min resp. 1510 rev/min
Ratio of rotation speeds (engine speed/p.t.o. speed):	4,96 resp. 2,79

Middle p.t.o.:	None
Front p.t.o.:	Optional
Location:	In front of tractor, direction frontwards, 730 mm above ground, 306 mm before front axle, in median plane. Driven directly from the engine by a propellershaft, hydraulical acting dry cone clutch and planetary gear transmission. Shaft end is blocked when cone clutch is disengaged.
Dimension of p.t.o. shaft end:	ISO R 500 - 1991, type I (34,9 mm, 6 splines)
P.t.o. speed at rated engine speed:	1073 rev/min
Ratio of rotation speed:	2,143
Power restriction and max. torque:	None
Direction of rotation (viewed from front of tractor):	Anticlockwise
Power take-off proportional to ground speed:	Optional
Speed of shaft:	The shifting position "540 - 1000" of the engine p.t.o.-shaft has no influence on the p.t.o.-shaft speed.
Travelling distance for one revolution of p.t.o. shaft:	0,112 m (with tyre dynamic radius index of 695 mm)
Location:	At rear of tractor, same shaft end as p.t.o. proportional to engine speed
Number of p.t.o. shaft revolutions for one revolution of rear wheels:	38,96 rev
Direction of rotation with forward gear engaged (viewed from behind tractor):	Clockwise
Stationary mode (reduction gear in neutral position - tractor not driving):	Number of p.t.o. shaft revolutions at 2300 rev/min rated engine speed

Normal model, 40 km/h:

Group gear	L	S	R
Gear no.: 1	282	382	282
2	492	668	492
3	805	1093	805
4	1250	1698	1250
Direction of rotation	clockwise	clockwise	anticlockwise
	viewed from behind tractor		

POWER LIFT:

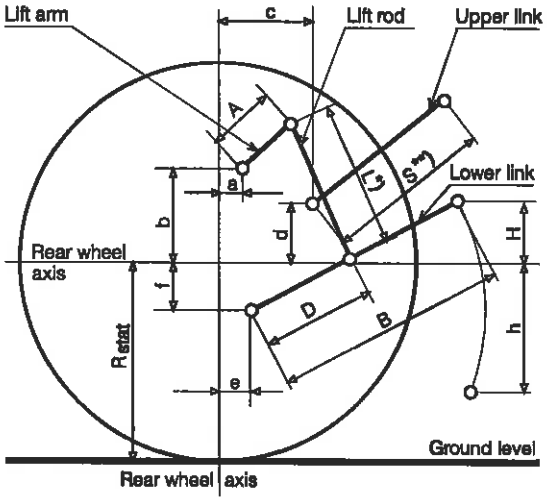
In the rear:

Make:	Own make
Type:	Draught control with two-stage pull, adjustment and upper link sensing, position control, floating position
Type of hydraulic system:	Open center type
Type and number of cylinder:	One single acting type 152 mm stroke, 85 mm diameter Optional: 1 additional single acting cylinder, 45 mm bore, 146 mm stroke
Type of linkage lock for transport:	Hydraulically by throttle valve
Relief valve pressure setting:	17,5 MPa (175 bar)
Opening pressure of cylinder safety valve:	24,0 MPa (240 bar)
Lift pump type:	Gear type pump
Transmission between pump and engine:	Pump directly driven by engine by gear transmission
Type and number of filter:	One filter cartridge in suction line, connected at the hydraulic housing
Site of oil reservoir:	Hydraulic housing

Type, number and location of tapping points:	Up to 8 tapping points (4 oil circuits for single or double acting cylinders), 295 - 360 mm behind rear axle, 515 - 587 mm above rear axle, max. 128 mm left or 135 mm right of median plane In accordance to ISO/DIS 5675 - 1979
Maximum volume of oil available to external cylinders:	6 l (optional 14 l)
In the front:	
Make:	HYDRAC
Type:	GR I
Type of hydraulic system:	Open center type, independent lower links with quick coupling ends cat. II fastened to a lifting frame
Type and number of cylinder:	2 single acting cylinder 139 mm stroke, 70/30 mm bore
Type of linkage lock for transport:	Hydraulically by non return valve
Optional:	In connection with front axle ZF
Make:	THANHOFER
Type:	GR I
Type of hydraulic system:	Open center type, independent lower links with quick coupling ends cat. II fastened on front axle
Type and number of cylinder:	2 single acting cylinder 168 mm stroke, 70/30 mm bore

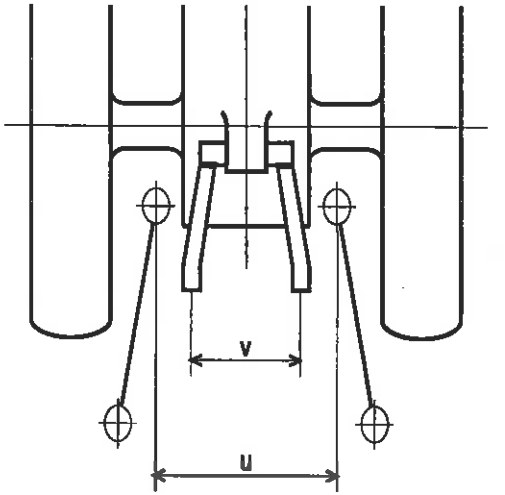
Three-point-linkage:

Category adapter: I/II; in conformity with ISO 730/1-1990



*) Left lift rod adjustable from 535 mm to 655 mm length be thread, right lift rod adjustable from 535 mm to 655 mm by thread.

**) Upper link length adjustable from 565 mm to 800 mm.



Dimensions of linkage geometry:

			Dimension of range mm	Settings used in test mm
Length of lift arms:		(A)	200/240	200/240
Length of lower links:		(B)	900	900
Distance of lift arm pivot points from rear wheel axis:	horizontally	(a)	53	53
	vertically	(b)	325	325
Horizontal distance between the lower link points:		(u)	480	480
Horizontal distance between the 2 lift arm end points:		(v)	560	560
Length of upper link:		(S)	565 - 800	650 (frame 460) 675 (frame 610)
Distance of upper link pivot point from rear wheel axis:	horizontally	(c)	337	337
	vertically	(d)	258	258
Distance of lower link pivot point from rear wheel axis:	horizontally	(e)	70	70
	vertically	(f)	180	180

Height of lower link hitch points relative to the rear wheel axis (515 mm above ground)*):

		Min. lift rod length		During test		Max. lift rod length	
Length of lift arms	(A) mm	200	240	200	240	200	240
Linkage distance of lift rod	(D) mm	450					
Length of lift rods	(L) mm	545		640	595	680	
Lowest position	(h) mm	275	375	495	495	590	705
Highest position	(H) mm	245	265	120	170	0	5

Height above ground of lower hitch points when locked in transport position*): Any height within lift range

*) With dynamic radius index 695 mm (ISO 4251/1 - 1992)

TRAILER HITCH:

Type:	295.93.0003, on tested tractor	
Hole diameter:	32,0 mm	
Height above ground:	(413)752/780 mm; (441)812/840 mm	
Distance of hitch point from rear wheel axis, horizontally:	(367 mm) 447 mm	
Distance of hitch point from power take-off shaft end, vertically:	167/195 mm; 227/255 mm	
horizontally:	141 mm	
Maximum vertical permissible load:	9,70 kN	

or

	German	Italian
Type:	2145	23
Hole diameter:	30,5 mm	28,5 mm
Height above ground:	852/812/764/716/668/620/572/519/446/398 mm	
Distance of hitch point from rear wheel axis horizontally:	530 mm	484 mm
Distance of hitch point from power take-off shaft end, vertically:	267/227/179/131/83/35/-13/-66/-139/-187 mm	
horizontally:	235 mm	89 mm
Maximum vertical permissible load:	9,70 kN	9,70 kN

HOLED DRAWBAR: Category II

Length:	825 mm
Number of holes (with central hole):	7
Distance between holes:	115 mm

Hole diameter:	33 mm
Thickness/width of the drawbar:	30/80 mm
Height above gound min.: max.:	 0 mm 960 mm
Horizontal distance to power take-off shaft end (rear):	675 mm

STEERING:

Make:	Zahnradfabrik Friedrichshafen (ZF) or DANFOSS, Nordborg
Model:	ZF 8492 974 626 or DANFOSS OSPC 125 OR
Type:	Hydrostatic steering with priority valve, common circuit with power lift
Method of operation:	Steering wheel acting on front wheels
Pump:	43 l/min at rated engine speed, common with power lift
Rams:	Incorporated in front axle, acting piston area 20,6 cm², stroke 240 mm Optional: acting piston area 20,2 cm², stroke 206 mm
Working pressure:	12,0 MPa (120 bar)

BRAKES:

Service brake:

Make:	Rear axle: SIRMAC Optional on front axle: KNOTT
Model:	Rear axle: 6 1/2" x 4 1/2" Optional on front axle: Type 13414
Type:	Rear axle: Multi disc brake in oil bath, 8 acting faces with 141,2 mm effective diameter each Optional on front axle: Calliper disc brake acting on front axle drive shaft piston area 18,1 cm² 2 acting faces with 38,3 cm²

Method of operation: Pedal operated, hydraulically transmission

Optional: front axle brake with hydraulic transmission

Trailer braking take-off: Optional, hydraulic trailer brake or pressure air system
Storage pressure: 0,74 MPa (7,4 bar)
Storage volume: 20 l
Working pressure:
0,74 MPa (7,4 bar) two line system
0,56 MPa (5,6 bar) one line system

Parking brake:

Type: Mechanically acting on the same discs as service brake

Method of operation: Hand lever with ratchet, mechanically transmission acting on separate linkage with service brake

Steering assistance brake: Operated by divided pedal of service brake, pedals disconnectable by a flap

WHEELS:

Number: Front: 2, steering and driving function
Rear: 2, driving function

Wheelbase: 2229 mm

Track width adjustment:

	Minimum mm	Maximum mm	Adjustment method
Front	1556	1588	wheels turned around
Rear	-	1600	

PROTECTIVE STRUCTURE:

Make:	Own make
Model:	STEYR 125.04
Type:	Cab
Manufacturer's name and address:	Steyr Landmaschinen GmbH., A-4300 St. Valentin
Protective device:	Welded and screwed profile steel tube construction
OECD-approval no.:	CSD 1393/3

DRIVER'S SEAT:

Make:	GRAMMER	GRAMMER
Model:	DS 85 H1/3	MSG 95 A
Type of suspension:	Mechanical, 2 coil springs	Pneumatical, with a rubber bladder
Type of damping:	Hydraulically damping	Hydraulically damping
Range of adjustment, longitudinal:	150 mm	150 mm
vertical:	60 mm	100 mm

MISCELLANEOUS:

Additional seat:	Own make
Location:	On left side of driver's seat
Number of places:	1

LIGHTING:

	*) Height above ground of centre mm	Size mm	Distance from outside edge of lights to median plane of tractor mm
Head lights	940	140 x 75	205
Side lights	1495	90 x 40	675
Rear lights	1530	90 x 40	850
Brake lights			
Direction indicators front	1455	90 x 40	675
Direction indicators rear	1570	90 x 40	850
Reflectors	1470 745	92 x 48 80 Ø	850 455

*) Measured with tyre dynamic radius index at rear 695 mm and 495 mm at front (ISO 4251/1 - 1992)

TEST CONDITIONS

Overall dimensions:

	Length	Width	Height at top of	
			exhaust silencer	protective structure
	mm	mm	mm	mm
Ballasted	4050	2080*/2230**	2270	2345
Unballasted	3825	2080*/2230**	2270	2345

*) Measured on the outside edges of the rear wheels
**) Measured on the outside edges of the driving mirrors

Ground clearance:
(unballasted tractor)

Clearance limiting part:

385 mm under the front axle
365 mm four wheel drive transmission
335 mm under the trailer hitch mounting plate

Tractor mass: With tanks full

		Without driver	With driver
		kg	kg
Unballasted	Front	1250	1260
	Rear	2000	2065
	Total	3250	3325
Ballasted	Front	1660	1670
	Rear	2840	2905
	Total	4500	4575

Ballast:

	Number of weights	Mass total kg	Water kg
Front	9	340	-
Rear	2 x (2 + 1)	330	580
Optional	-	-	-

Tyres and track width specifications:

Tyres:

	Front	Rear
Dimensions	14.9 LR 20 (375/75 R 20)	16.9 R 30
Ply rating	119 A 8	137 A8
Type	radial carcass	radial carcass
Max. load (tyre manufacturer's)	1360 kp resp. 2040 kp with 10 km/h speed limit	2575 kp resp. 3860 kp with 10 km/h speed limit
Max. load (tractor manufacturer's)	-	-
Inflation pressure (tyre manufacturer's)	1,6 bar	1,6 bar
Dynamic radius index	495 mm	695 mm
Chosen track width	1588 mm	1600 mm

Oil and lubrication:

Capacity and change interval:

	Capacity (dm^3)	Oil change (h)	Filter change (h)
Engine	7,0	250	250
Gear box and rear axle	30,0	1000	-
Front axle	4,5	1000	-
Rear axle	-	-	-
Final drive front	1,0 x 2	1000	-
Final drive rear	-	1000	-
Hydraulic system	15,0 [23,0]	1000	1000
Steering	-	-	-

Specifications:

	Recommended:	Used during test:
Engine oil:		
Type:	One range viscosity oil	
Viscosity:	SAE 30 summer SAE 20 W-20 winter	
Classification:	API CD/MIL-L-2104 CD	As recommended
Transmission oils:		
Type:	Transmission oil	
Viscosity:	SAE 80 W	
Classification:	API GL 4, MIL-L-2105	As recommended
Hydraulic fluid:	Hydraulic oil ISO VG 46/ HLP nach DIN 51524 ISO VG 68	
Steering oil:	As hydr. fluid	
Brake fluid:		
Type:	-	
Classification:	SAE J 170 3e FMVSS 116 DOT 3	
Grease:		
Type:	Lithium soap basis	
Classification:	NLGI 2 (multigrade grease)	
Number of lubrication points:	15	
Fuel:		
Type:	ELAN diesel fuel In conformity with national standard according to DIN 51601	
Density at 15°C:	0,842 g/cm³	

TEST RESULTS

COMPULSORY TEST:

Main power take-off performance:
Date and location of tests: 4.9.1995, Wieselburg, Austria
Type of dynamometer: SCHENCK eddy-current brake W 780

Main test on: ISO R 500 - 1991, type I (DIN 9611) - 1000 rev/min

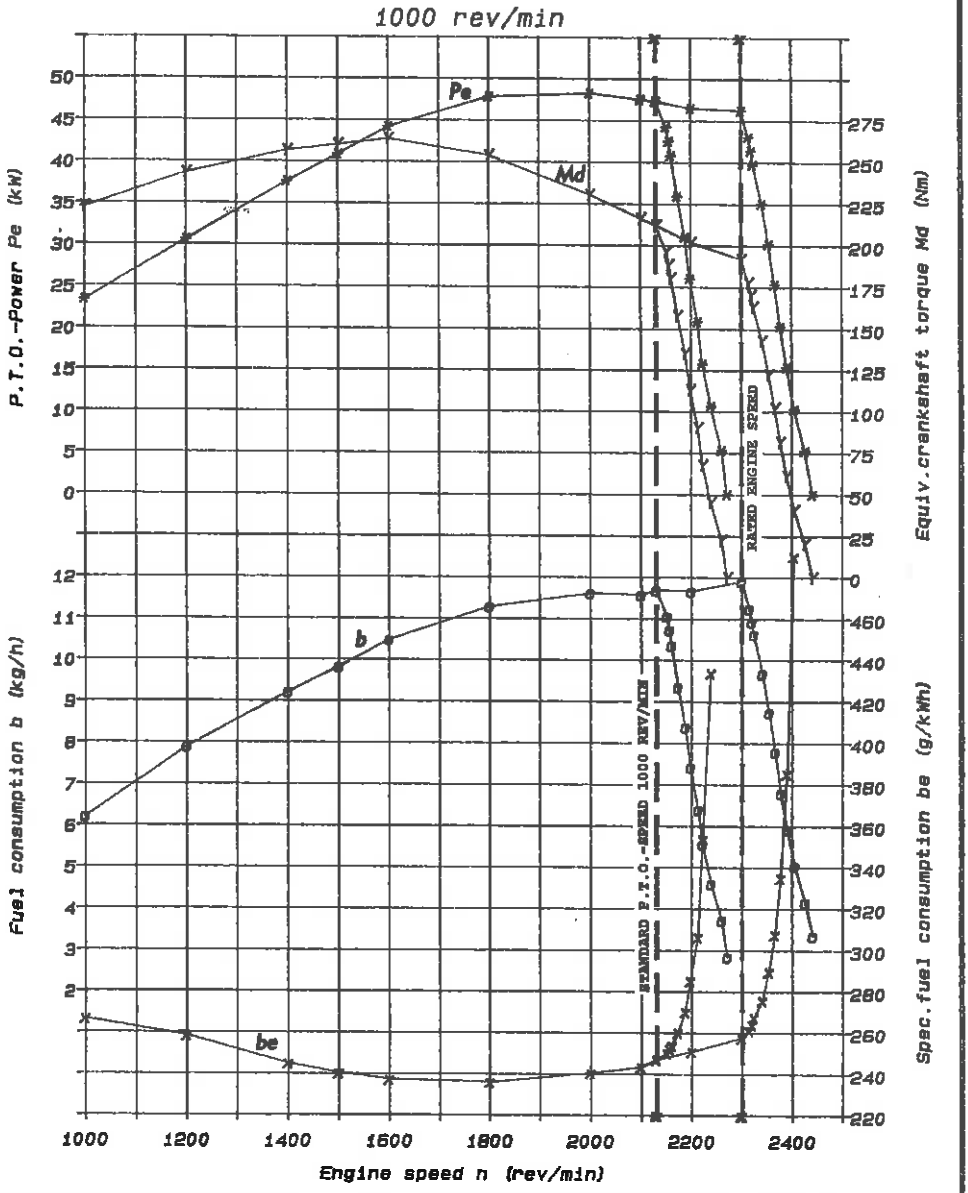
Power	Speed		Fuel consumption		Specific energy
	engine	p.t.o.	hourly	specific	
kW	rev/min	rev/min	kg/h l/h	g/kWh	kWh/l
MAXIMUM POWER					
Maximum power - 2 hours test					
48,30	2000	939	11,61 13,79	240,5	3,50
Power at rated engine speed					
46,20	2300	1080	11,91 14,14	258,0	3,27
Standard power take-off speed					
47,30	2130	1000	11,69 13,88	247,0	3,41
PART LOADS					
(i) The torque corresponding to maximum power at rated engine speed					
46,20	2300	1080	11,91 14,14	258,0	3,27
(ii) 85 % of torque obtained in (i)					
39,70	2324	1091	10,63 12,62	268,0	3,15
(iii) 75 % of torque defined in (ii)					
30,20	2354	1105	8,74 10,38	289,5	2,91
(iv) 50 % of torque defined in (ii)					
20,30	2377	1116	6,80 8,08	335,0	2,51
(v) 25 % of torque defined in (ii)					
10,30	2405	1129	5,00 5,94	490,0	1,73
(vi) unloaded					
0	2441	1146	3,34 3,97	-	-

Power	Speed		Fuel consumption		Specific energy
	engine	p.t.o.	hourly	specific	
kW	rev/min	rev/min	kg/h 1/h	g/kWh	kWh/l
PART LOADS AT STANDARD POWER TAKE-OFF SPEED					
(i) The torque corresponding to maximum power available					
47,30	2130	1000	11,69 13,88	247,0	3,41
(ii) 85 % of torque obtained at maximum power					
40,80	2160	1014	10,34 12,28	254,0	3,32
(iii) 75 % of torque defined in (ii)					
31,00	2188	1027	8,37 9,94	270,0	3,12
(iv) 50 % of torque defined in (ii)					
20,90	2213	1039	6,39 7,59	306,0	2,75
(v) 25 % of torque defined in (ii)					
10,60	2239	1051	4,60 5,46	433,5	1,94
(vi) unloaded					
0	2271	1066	2,84 3,37	-	-

No load maximum engine speed: 2441 rev/min
Equivalent crankshaft torque
at maximum power: 191,8 Nm at rated engine speed
Maximum equivalent crankshaft torque: 263,8 Nm at 1600 rev/min of engine

Mean atmospheric conditions	temperature:	18°C
	pressure:	980 mbar
	rel. humidity:	60 %
Maximum temperatures	coolant:	97°C
	engine oil:	119°C
	fuel:	36°C
	engine air intake:	22°C

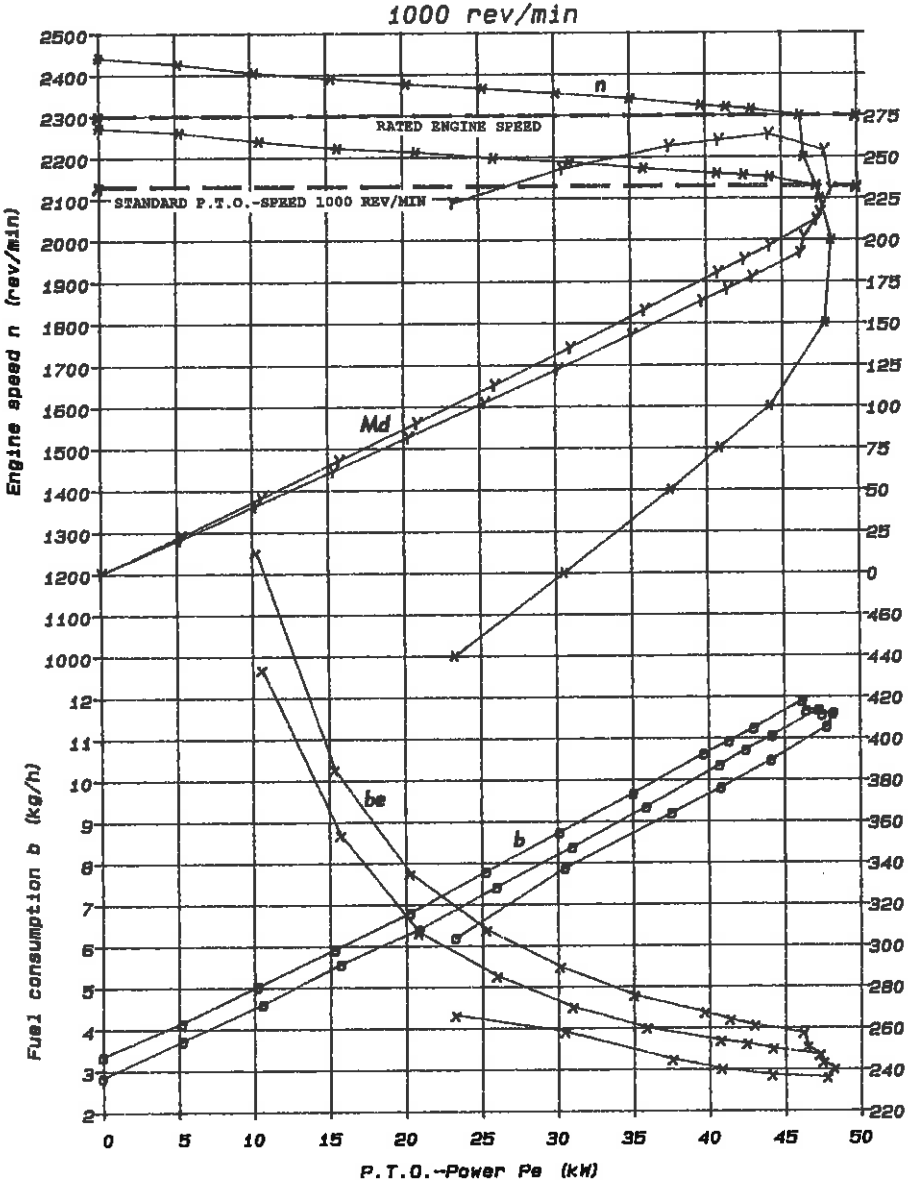
Bundesanstalt für Landtechnik Wieselburg/Erlauf, Austria Prot.Nr.:	P.T.O.-test	Steyr Dieseltractor Typ 9025.25 (968a) (4WD) Mot.Typ Steyr WD 301.89



Engine ser.nr. : 301.89-001346	atm. pressure: 980 mbar	fuel temp. :36 C	signature
Tractor ser.nr.: 9025.25-01811	air temper. : 18 C	d.of tests :1995-09-04	
Fuel : 0.842/15 C	coolant temp.: 97 C	test no. :780-757-95	
Engine oil : SAE 30	oil temp. : 119 C	curves no. : 1	Haider/Schaufler

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Bundesanstalt fOr Landtechnik Wieselburg/Erlauf, Austria Prot.Nr.:	P.T.O.-test	Steyr Dieseltractor Typ 9025.25 (968a) (4WD) Mot.Typ Steyr WD 301.89



engine ser.nr. : 301.89-001346	atm. pressure: 980 mbar	fuel temp. :36 C	signature
tractor ser.nr.: 9025.25-01811	air temper. : 18 C	d.of tests :1995-09-04	
fuel : 0.842/15 C	coolant temp.: 97 C	test no. :780-767-95	
engine oil : SAE 30	oil temp. : 119 C	curves no. : 2	Haider/Schaufler

HYDRAULIC POWER AND LIFTING FORCE:

Date of tests: 16.10.1995

Hydraulic power test:

Sustained pressure with relief valve open: 18,0 MPa (180 bar)

Pump delivery rate at minimum pressure (at rated engine speed): 41,4 l/min

	Flow rate	Pressure	Power
	l/min	MPa	kW
Flow rate corresponding to a hydraulic pressure equivalent to 90 % of the actual relief valve pressure setting and corresponding hydraulic power	37,0	16,7	10,30
Flow rate and hydraulic pressure corresponding to maximum hydraulic power	36,9	17,0	10,46

Tapping point used for test: At rear of tractor

Temperature of hydraulic fluid, if different from 65° + 5°C: -

Opening pressure of the unloading valve: 18,5 MPa (185 bar)

Closing pressure of the unloading valve: 18,0 MPa (180 bar)

Remarks:

Flow rate corresponding to a hydraulic pressure equivalent up to 80 % (14,8 MPa) of the actual relief valve pressure setting is equal to pump delivery rate at minimum pressure (at rated engine speed).

By reasons of the characteristic of the hydraulic spool valves about 20 % control flow above 14,8 MPa are normal.

Power lift test:

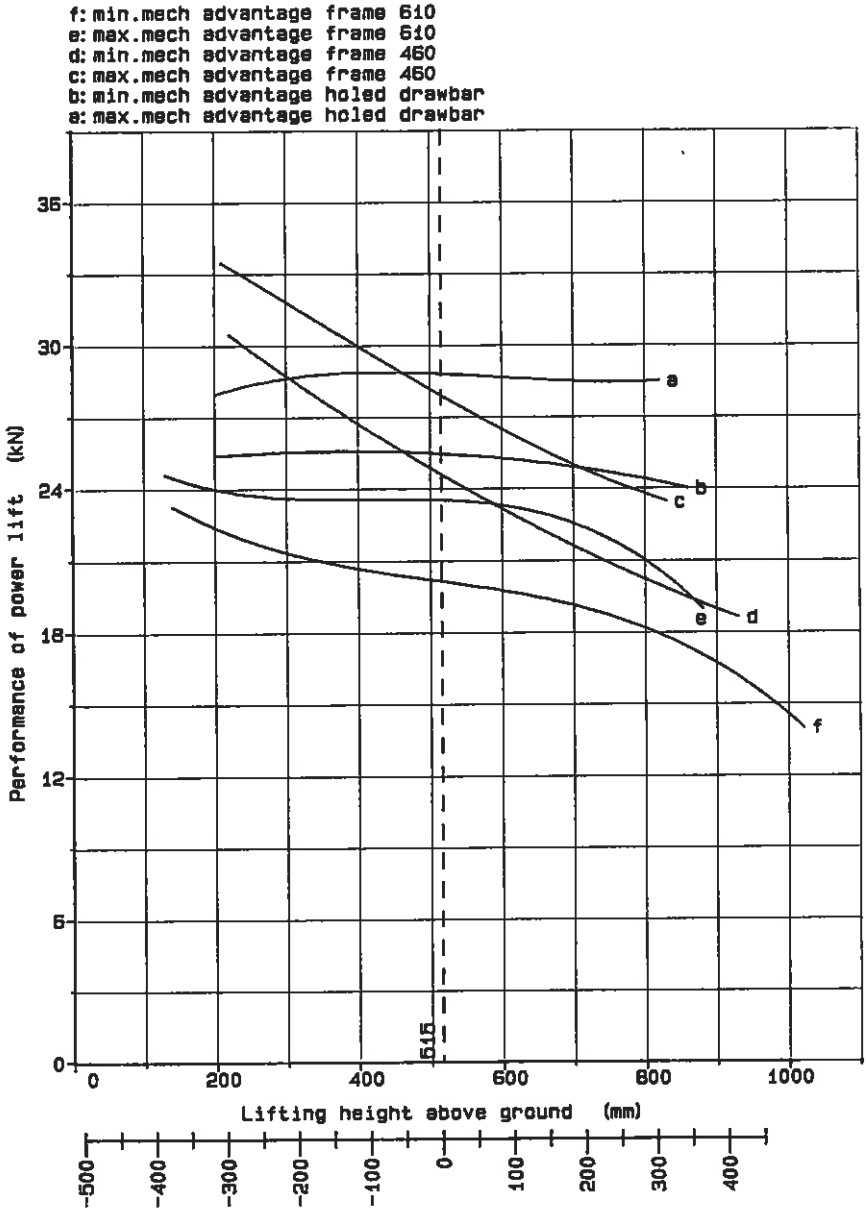
	at the hitch point	on the frame	
		460 mm mast height	610 mm mast height
Height of lower hitch points above ground in down position *)	200/200 mm	200/200 mm	200/200 mm
Vertical movement *)	615/665 mm	625/715 mm	755/885 mm
Maximum corrected force exerted through full range *)	28,0/24,0 kN	23,4/18,5 kN	18,8/13,8 kN
Corresponding pressure of hydraulic fluid	16,7 MPa (167 bar)	16,7 MPa (167 bar)	16,7 MPa (167 bar)
Moment about rear wheel axis *)	27,2 / 23,3 kNm	37,0 / 29,2 kNm	29,7 / 21,8 kNm
Maximum tilt angle of mast from vertical	-	from +1 to 0° and to +7°	from -6° to 0° and to +10°

Linkage settings for test: See table and figure in specification

With one additional hydraulic cylinder

Lifting heights relative to the horizontal plane including the lower link pivot points															
mm		-375	-315	-295	-200	-100	0	+100	+200	+300	+320	+350	+370	+420	+510
Lifting forces (the values measured are corrected to correspond to a hydraulic pressure equivalent to 90 % of the actual relief valve pressure setting or to maximum power delivered by the hydraulic system, which is lower)															
Corresponding pressure: 16,7 MPa (167 bar)															
at the hitch point kN	max.mech. advantage		28,0	28,1	28,7	28,9	28,8	28,6	28,5	28,5					
	min.mech. advantage		25,3	25,4	25,5	25,6	25,4	25,2	24,8	24,3	24,2	24,0			
at the frame kN (460 mm mast height)	max.mech. advantage			33,3	31,5	29,7	27,9	26,2	24,8	23,6	23,4				
	min.mech. advantage			30,4	28,4	26,4	24,6	22,9	21,4	20,0	19,7	19,4	19,1	18,5	
at the frame kN (610 mm mast height)	max.mech. advantage		24,5	24,0	23,8	23,6	23,5	23,5	23,2	22,3	20,7	20,2	19,4	18,8	
	min.mech. advantage	23,2	22,4	22,1	21,2	20,6	20,1	19,6	19,0	18,0	17,7	17,3	16,9	16,0	13,8

Performance of power lift: With one additional hydraulic cylinder



Height relative to the horizontal plane including the lower link pivot points (dyn. radius index 695 mm)

Drawbar performance:

Date of test: 6.9.1995, 25.9.1995, 10.10.1995, 18.10.1995

Type of track: Concrete

Height of drawbar above ground: unballasted 350 mm, ballasted 350 mm

Tyre inflation pressure: front: unballasted 100 kPa, ballasted 100 kPa
rear: unballasted 100 kPa, ballasted 100 kPa

Tyre sizes: front: 14.9 LR 20; rear: 16.9 R 30

Gear	Power	Drawbar pull	Speed	Engine speed	Slip of wheels	Specific fuel consumption	Specific energy	Temperature			Atmosph. conditions		
								Fuel	Coolant	Engine oil	Temperature	Rel.humidity	Pressure
	kW	kN	km/h	rev/min	%	g/kWh	kWh/l	°C	°C	°C	°C	%	kPa
(i) Maximum power in tested gears (unballasted tractor)													
LVL 1	14,65	31,18	1,69	2385	15,0	-	-	32	83	102	28	48	98,3
LVS 1	19,55	30,55	2,30	2377	15,0	-	-	34	85	106	30	48	98,3
LVL 2	25,67	31,30	2,95	2353	15,0	340,5	2,47	35	87	111	30	48	98,3
LVS 2	34,76	31,89	3,92	2312	15,0	323,5	2,60	36	88	115	29	48	98,3
LVL 3	38,24	26,74	5,15	2300	6,9	311,5	2,70	38	88	117	29	48	98,3
SVL 1	38,37	22,84	6,05	2300	6,2	310,5	2,71	39	89	118	30	48	98,3
LVS 3	37,30	18,84	7,13	2300	5,6	319,5	2,64	39	89	118	30	48	98,3
LVL 4	36,64	16,07	8,21	2300	4,1	325,0	2,59	40	89	118	31	48	98,3
SVS 1	36,39	15,62	8,39	2300	3,3	327,5	2,57	41	89	118	31	48	98,3

Gear	Power	Drawbar pull	Speed	Engine speed	Slip of wheels	Specific fuel consumption	Specific energy	Temperature			Atmosph. conditions		
								Fuel	Coolant	Engine oil	Tempe-rature	Rel.hu-midity	Pres-sure
	kW	kN	km/h	rev/min	%	g/kWh	kWh/l	°C	°C	°C	°C	%	kPa
(ii) Maximum power in tested gears (ballasted tractor)													
LVL 1	19,26	41,86	1,66	2374	15,0	-	-	32	90	112	15	65	99,3
LVS 1	26,58	41,53	2,30	2356	15,0	329,0	2,56	29	89	112	15	65	99,3
LVL 2	33,20	41,50	2,88	2338	15,0	306,0	2,75	32	90	113	15	65	99,3
LVS 2	39,20	32,63	4,32	2300	6,7	304,0	2,77	32	92	115	16	64	99,3
LVL 3	39,30	27,13	5,22	2300	6,2	303,0	2,78	32	92	115	16	64	99,3
SVL 1	39,40	22,93	6,19	2300	5,5	302,5	2,79	30	92	117	16	66	99,3
LVS 3	37,23	18,71	7,16	2300	4,6	320,0	2,63	30	92	117	16	66	99,3
LVL 4	36,85	16,02	8,28	2300	2,3	323,0	2,61	30	90	114	16	66	99,3
SVS 1	37,70	16,04	8,46	2300	2,1	316,0	2,67	33	92	116	17	70	99,3
(iii) Five-hour-test at 75 % of pull at maximum power													
SVL 1	30,62	17,30	6,37	2348	2,3	301,0	2,80	37	85	106	15	80	100,1
(iv) Five-hour-test at pull corresponding to 15 % wheelslip in test (ii)													
LVL 2	33,20	41,50	2,88	2338	15,0	306,0	2,75	56	90	118	20	62	99,9

Oil consumption during 10 hours duration of tests (iii) and (iv): 44,5 g/h

TURNING AREA AND TURNING CIRCLE:

Wheel equipment: front: 14.9 LR 20
rear: 16.9 R 30

Track of wheel: front: 1588 mm
rear: 1600 mm

Results *)	With brakes		Without brakes	
	right-hand	left-hand	right-hand	left-hand
	m	m	m	m
Radius of turning area	4,56/4,11	4,06/4,12	5,40/5,18	5,36/5,02
Radius of turning circle	3,91/3,86	3,72/3,85	4,96/4,72	5,96/4,67

*) Four-wheel-drive switched: ON/OFF

LOCATION OF CENTRE OF GRAVITY:

	mm
Height above ground	821
Distance forward from the vertical plane containing the axis of the rear wheels	845
Distance from the median plane of the tractor, left-side	15

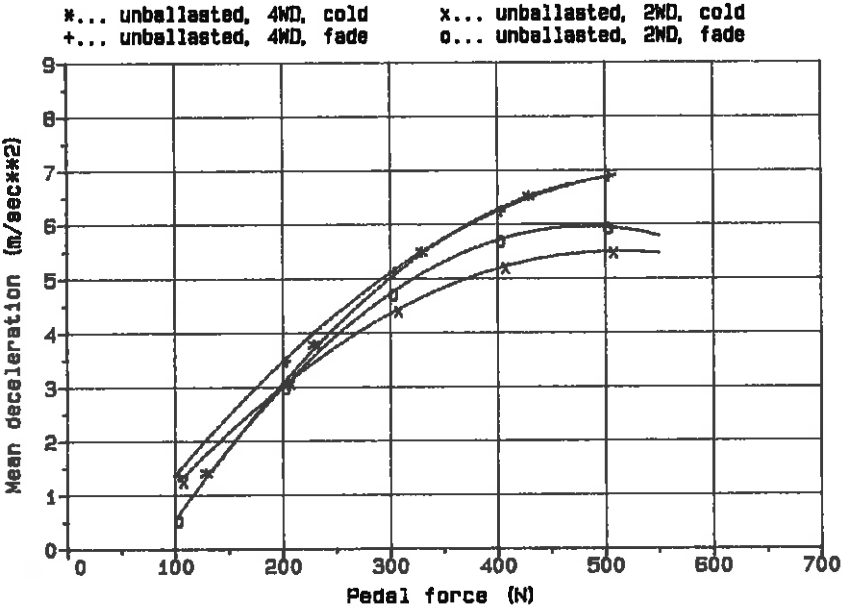
BRAKING:

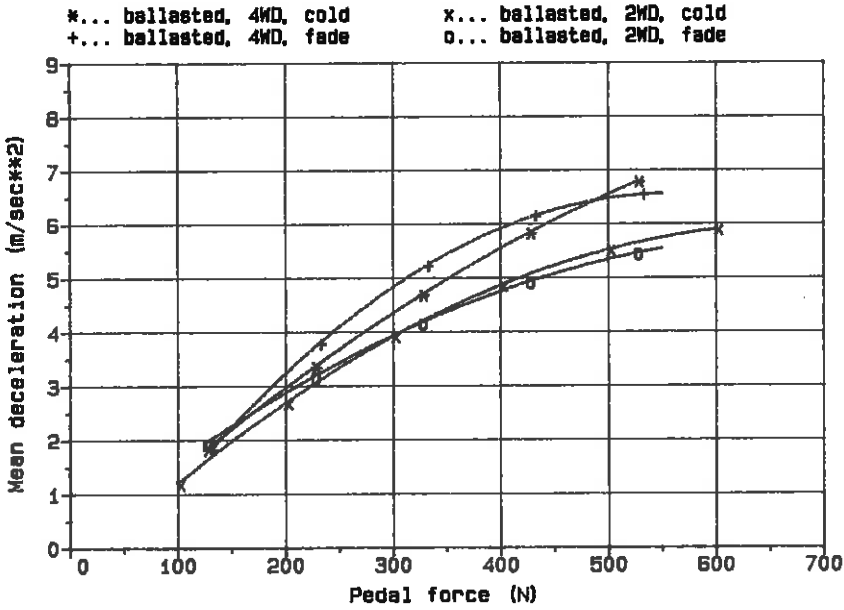
Date of tests: 25.10.1995
Type of track: Concrete
Type of decelerometer: Moto-Meter Nr. 03382 (Kombi-Schreiber)

Tractor mass during brake tests (with driver):

	Front kg	Rear kg	Total kg
Ballasted	1670	2905	4575
Unballasted	1260	2065	3325

Service brake:





Speed before application of brakes: 39.10 km/h
The tractor brakes were heated by towing of the tractor for 1 km.

Maximum deviation of tractor from its original course: None

Abnormale vibration: None

Parking brake device test:

	Ballasted tractor on 18 % slop	
Braking device control force	up	down
	220/250 N	280/300 N

Four-wheel-drive switched: ON/OFF

MEASUREMENT OF EXTERNAL NOISE LEVEL:

Date of test: 19.9.1995

Type of sound level meter: BRÜEL & KJAER 2209 and 2308

Type of track: Concrete

Gear number: VS 4 S

Travelling speed before acceleration: 29,3 km/h

Sound level: 82,6 dB(A)

REPAIRS: None

REMARKS: None

The head of department:

(Dipl.Ing. H. Lampel)
Oberrat

Bundesanstalt für Landtechnik, Wieselburg a. d. Erlauf

Test and report carried out by:

(Ing. Hermann Schaufler)

The director of testing station:

(Dipl.Ing.Dr. J. Schrottmaier)
Hofrat