Report on test in accordance with O.E.C.D. STANDARD CODE

O.E.C.D. No. 946



Agricultural Tractor LANDINI DT 5830 (4WD)

Type denomination TL 22 DT/L

submitted for test by
Landini Trattori S.P.A.
7 Fabbrico (R.E.), Italy

Deutsche Landwirtschafts-Gesellschaft e. V.
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This bulletin is based on engineering tests in accordance with the O.E.C.D. STANDARD CODE for the Official Testing of Agricultural Tractor Performance. It does not contain an evaluation of the tractor performance on practical work.

Duration of Tests: October 1984 till March 1985
DLG-Testing-Station for Agricultural Machinery, Max-Eyth-Weg 1,
D-6114 Groß-Umstadt

This report has been approved by the O.E.C.D. Coordinating Centre (C.E.M.A.G.R.E.F., France) as being in accordance with the O.E.C.D. STANDARD CODE.

Date of Approval: 2nd August 1985 O.E.C.D. No. 946

The tractor LANDINI 5830, serial-no. 122 GO 0001, had been tested in 2 variants

— as model DT 5830 (4WD)
— as model R 5830 (2WD)

Complete front axle and front axle drive had been changed.
In the rest the 2 variants are identical.
This report refers to the model DT 5830

In this report all performance characteristics are given corresponding to the International System of Units.

The reference to the former used Technical System of Units is given by the following relations:

Forces	1 daN = 10 N	=	1,02 kp	or 1 kp	= 0,981 daN
Powers	1 kW	=	1,36 PS	or 1 PS	= 0,736 kW
Pressures	1 bar	=	1,02 kp/cm²	or 1 kp/cm²	= 0,981 bar
	1000 mbar	=	750,10 mm Hg		

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CORRIGENDUM

This sheet replaces the pages 3 and 4 of the printed OECD-report 946 on the agricultural tractor LANDINI DT 5830

PRÜFUNGS-ABTEILUNG
LANDINI DT 5830

Test No. 84-204

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*) All stated dimensions refer to tyre sizes 8.3 - 24 at front and 14.9 R 28 at rear, as well as to track widths 1500 mm at front and 1400 mm at rear

PRÜFUNGS-ABTEILUNG
LANDINI DT 5830 Test No. 84-204

Tractor manufacturer:	MASSEY-FERGUSON S.P.A. LANDINI DIVISION, WORKS OF FABBRICO (R.E.), Italy
Submitted for test by:	LANDINI TRATTORI S.P.A., 7 FABBRICO (R.E.), Italy
Selected by:	Manufacturer with agreement by DLG
Place of running-in:	Fabbrico and Groß-Umstadt
Duration of running-in:	Engine and tractor appr. 65 hours

SPECIFICATION OF TRACTOR

Tractor

Make:	LANDINI
Trade name:	DT 5830
Type denomination:	TL 22 DT/L
Type:	Wheel tractor, unit construction, four wheel driven
Serial No.: *)	122 GO 0001
Start of series:	222 LO 0001

Engine

Make:	PERKINS
Model:	AD3.152
Type:	Watercooled 4-stroke Diesel-engine, direct injection
Serial No.:	CE 21899 U 709 145 J
Cylinders:	3, in line, bore 91,4 mm, stroke 127 mm, displacement 2500 cm^3, compression ratio 16,5:1; replaceable wet cylinder liners
Valves:	Overhead
Fuel system:	AC-DELCO fuel supply pump; CAV distributor injection pump with timing device DPA 3233 F521; manufacturer's production setting $51 \pm 1{,}5$ mm^3/stroke at rated engine speed and full load, injection timing $16^\circ \pm 2^\circ$ before TDC + 8° range; CAV 4 hole-injection nozzles BKBL 67 S 5299 injection pressure 192 ± 5 bar, CAV fuel filter 296 with replaceable paper element; capacity of fuel tank 60,5 l
Serial No. of injection pump:	R 295 88 WZ

*) see note on page 2

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*) All stated dimensions refer to tyre sizes 6.50 - 16 at front and 14.9 R 28 at rear, as well as to track widths 1320 mm at front and 1400 mm at rear

PRÜFUNGS-ABTEILUNG
LANDINI R 5830 Test No. 84-205

Tractor manufacturer:	MASSEY-FERGUSON S.P.A. LANDINI DIVISION, WORKS OF FABBRICO (R.E.), Italy
Submitted for test by:	LANDINI TRATTORI S.P.A., 7 FABBRICO (R.E.), Italy
Selected by:	Manufacturer with agreement by DLG
Place of running-in:	Fabbrico and Groß-Umstadt
Duration of running-in:	Engine and tractor appr. 35 hours

SPECIFICATION OF TRACTOR

Tractor

Make:	LANDINI
Trade name:	R 5830
Type denomination:	TL 22 N/G
Type:	Wheel tractor, unit construction, rear wheel driven
Serial No.: *)	122 GO 0001 (start of series)

Engine

Make:	PERKINS
Model:	AD3.152
Type:	Watercooled 4-stroke Diesel-engine, direct injection
Serial No.:	CE 21899 U 709 145 J
Cylinders:	3, in line, bore 91,4 mm, stroke 127 mm, displacement 2500 cm³, compression ratio 16,5:1; replaceable wet cylinder liners
Valves:	Overhead
Fuel system:	AC-DELCO fuel supply pump; CAV distributor injection pump with timing device DPA 3233 F521; manufacturer's production setting $51 \pm 1{,}5$ mm³/stroke at rated engine speed and full load, injection timing $16^{\circ} \pm 2^{\circ}$ before TDC + 8° range; CAV 4 hole-injection nozzles BKBL 67 S 5299 injection pressure 192 ± 5 bar, CAV fuel filter 296 with replaceable paper element; capacity of fuel tank 60,5 l
Serial No. of injection pump:	R 295 88 WZ

*) see note on page 2

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LANDINI DT 5830

Test No. 84-204

Governor:	CAV centrifugal variable speed governor, governed range of engine speed 750 to 2380 1/min, rated engine speed 2250 1/min
Air cleaner:	FISPA oil bath air filter, cyclone pre-cleaner; oil capacity 0,7 l, oil change every 100 operating hours, no maintenance indicator; air intake in front of engine, below bonnet
Exhaust silencer:	MASSEY FERGUSON expansion type silencer, 100 mm dia, 600 mm long; on the left hand side beside of engine bonnet, mouth showing upwards, 2273 mm above ground
Lubrication system:	Forced feed with gear pump; PERKINS oil filter in full flow, replaceable filter, filter change every 250 operating hours; oil capacity 6,8 l; recommended oil quality API-CC, MIL-L-2104 B, oil change every 250 operating hours, specified oil viscosities: winter SAE 10W, 20W or 10W/30 summer SAE 20W or 20W/30 tropics SAE 30, 20W/40 or 20W/50 or for all conditions SAE 15W/40
Cooling system:	Water cooling with impeller pump, overpressure relief valve set to 0,7 bar, thermostat with by-pass; fan with 4 blades with 394 mm dia, water capacity 10,5 l
Starting system:	Electrical, LUCAS solenoid pre engaged-drive starter motor 2,5 kW; depressed pedal of clutch as safety device; CAV flame plug in intake manifold

Electrical equipment: 12 Volt, negative earth;
LUCAS 3-phase alternator 12 V 500 W;
1 lead acid battery, 100 Ah at 20 hours rating

Transmission

Clutch: OMG
dry dual-disc clutch;
pedal operated travel drive, disc 279 mm dia;
hand lever operated p.t.o. drive,
disc 279 mm dia

Gear box: MASSEY FERGUSON
synchronized speed change gear with 4 gears, range gear with 3 forward ranges (L-range sliding gear, M- and H-ranges collar shifted) and 1 sliding gear shifted reverse range; total 12 forward and 4 reverse speeds, 2 gear shift levers;
optionally available creeper group

Rear axle and final drives: MASSEY FERGUSON
bevel gear drive,
bevel gear differential with pedal operated lock, self disengaging;
spur gear final drives

Front axle and final drives: MASSEY FERGUSON
driven by jointless central propeller shaft, hand lever operated, sliding gear shifted;
bevel gear drive, No-spin differential,
planetary final drives

Lubrication:

	oil quality API - MIL-L-	oil viscosity SAE	oil capacity l	oil change interval operating hours
gear box including rear axle	CC 2104 B	15W/40	33	1500
final drives at rear	GL 4 2105 (A)	80W or 80W/90	2,1 each	
front axle with differential			4,5	
final drives at front			1,5 each	

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Total ratios and speeds

Range	Gear	Total ratio engine : driving wheel	Nominal travelling speed *) at rated engine speed km/h
L	1	315,19	1,72
	2	201,80	2,69
	3	156,39	3,47
	4	106,21	5,11
M	1	128,94	4,21
	2	82,55	6,58
	3	63,98	8,49
	4	43,45	12,49
H	1	52,35	10,37
	2	33,52	16,20
	3	25,97	20,90
	4	17,64	30,78
R	1	120,88	4,49
	2	77,39	7,01
	3	59,98	9,05
	4	40,73	13,33

*) calculated with the radius index 640 mm

Power-take-off

Main p.t.o.: Shiftable by hand lever (collar shifting) to independent or ground speed p.t.o. and by second hand lever to 540 or 1000 1/min;

1 p.t.o. shaft at rear of tractor, in tractor's median plane;
height above ground 630 mm,
horizontal distance to rear axle centre line 265 mm;
35 mm Ø, 6 splines, ISO 500/DIN 9611, type 1

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Independent p.t.o.: Driven by second plate of dry dual-disc clutch; sense of rotation clockwise, viewed to tractor's rear

p.t.o	p.t.o. speed 1/min	engine speed 1/min	transmission ratio engine : p.t.o.
540	540	1944	3,6000
	625	2250	
1000	1000	1917	1,9167
	1174	2250	

Ground speed p.t.o.: Driven by rear axle drive, sense of rotation clockwise, at forward movement

p.t.o.	travel distance per p.t.o. revolution m	number of p.t.o. revolutions per rear wheel revolution
540	0,4499	8,938
1000	0,2395	16,787

Power lift: MASSEY FERGUSON
hydraulic power lift, unit construction;
draft and position control, floating position;
adjustable raise control,
top link sensing

Hydraulic system: Open centre system
TUROLLA (PLESSEY) gear type pump
TFP 200/11 S directly driven by engine,
delivery 36 l/min at rated engine speed;
hydraulic oil circuit in common with gear box with 33 l capacity,
6 l can be taken off when tractor is working stationary or moving,
hydraulic oil filter within suction line,
filter change every 250 operating hours

MASSEY FERGUSON control valve 3306 467, relief valve pressure setting 170±5 bar; single acting cylinder with 100 mm bore and 130 mm stroke, overpressure relief valve in cylinder set to 200 bar; with a change-over valve 1 oil coupling may be controlled by the a.m. MF control valve;

2 OMC additional control valves 2-1180 (adjustable to single or double acting), with 2 oil couplings each at rear of tractor

Implement linkage: See pages 10 and 11

Pull attachment

Trailer hitch: MASSEY FERGUSON, non automatical;

hitch point	
above ground	425, 520, 650 or 745 mm
behind rear axle centre line	395 mm
above p.t.o. shaft end	20 or 115 mm
below p.t.o. shaft end	110 or 205 mm
permissible vertical load	1327 kg

Swinging drawbar: Optionally available (not fitted on tested tractor)

Holed drawbar: Length 1500 mm, thickness 30 mm, width 80 mm, length between joint balls 770 mm; 7 holes between joint balls with 80 mm distance each, 2 holes outside of joint balls on either side with 120 mm distance each, holes' diameter 22 mm and 24 mm alternately; at each end of the bar 1 hole with 32 mm dia;

height above ground (measured without load)	
minimum	68 mm
maximum	1015 mm
holes' centre line behind p.t.o. shaft end	710 mm

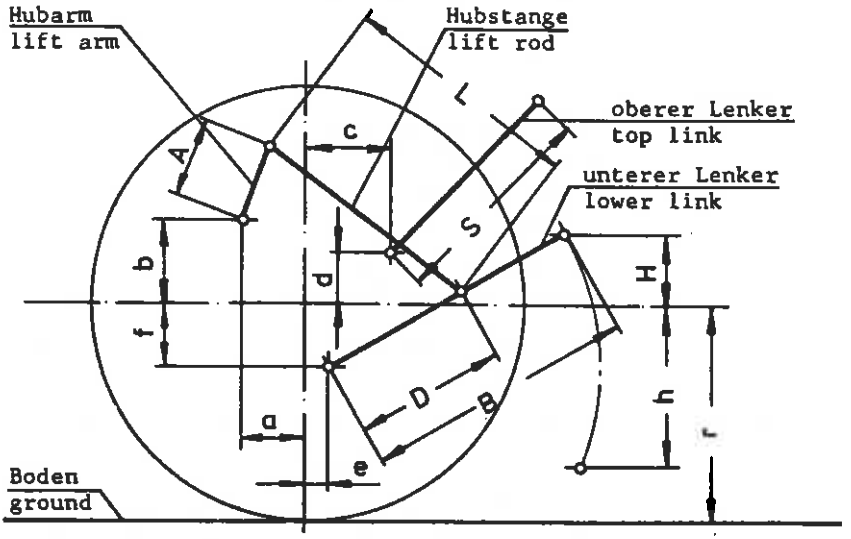
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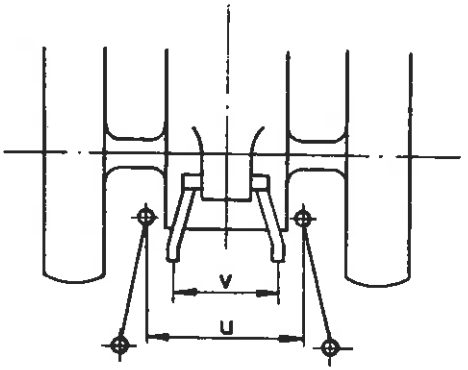
Towing hitch: At front, height above ground 620 mm

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Implement linkage: Three point linkage,
joint balls category 2 acc. to
ISO 730/I, DIN 9674





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dimensions of rear implement linkage (projected lengths, in mm)
underlined dimensions are valid for power lift test page 25

Rear tyres (size 14.9 - 28)	radius index	(r)	640
Front tyres (size 8.3 - 24)	radius index	(r')	470
Length of lift arms		(A)	272
Length of lower links		(B)	865
Distance of lift arm pivot point from rear wheel centre line	horizontally	(a)	12
	vertically	(b)	310
Horizontal distance between the 2 lower link points		(u)	390
Horizontal distance between the 2 lift arm end points		(v)	525
Length of upper link		(S)	590 to 790, <u>692</u>
Distance of upper link pivot point from rear wheel centre line	horizontally	(c)	224
	vertically	(d)	<u>256</u> or 301
Distance of lower link pivot point from rear wheel centre line	horizontally	(e)	70
	vertically	(f)	138
Distance of lower link pivot points to lift rod pivot points on lower links		(D)	455
Length of lift rods		(L)	545 to 665, <u>590</u>

Height of lower link hitch points relative to rear axle centre line (situated 640 mm above ground) in mm

These data are valid for unloaded power lift

		lift rod length L		
		545 mm	590 mm	665 mm
Lowest position	(h)	335 mm	440 mm	647 mm *)
Highest position	(H)	300 mm	218 mm	82 mm
Transport position	(H')	300 mm	218 mm	82 mm

*) lowest position of lower link hitch points 7 mm below ground

Steering	MASSEY FERGUSON hydrostatic steering; separate oil circuit with 2,3 l capacity, specified oil ATF, oil change every 1000 operating hours, oil filter cleaning every 500 operating hours, TUROLLA gear type pump at front of engine, driven by crankshaft, delivery 24,8 l/min at rated speed, working pressure 100 bar; 1 double acting differential ram, 57 mm bore, 150 mm stroke, piston rod 25 mm dia; acting on steering levers of front axle
Wheels	
Steering wheels:	At front, 2 pneumatics 8.3 - 24 8 ply GOODYEAR, cross-ply tyres; maximum permissible load per tyre 935 kg at 3,1 bar inflation pressure and 30 km/h; track width 1500 mm (unchangeable) rims W7 x 24
Driving wheels:	At front and at rear rear driving wheels: 2 pneumatics 14.9 R 28 6 ply KLEBER radial-ply tyres; maximum permissible load per tyre 1610 kg at 1.4 bar inflation pressure and 30 km/h; track width variable by adjustable-gauge wheels in steps of 100 mm each from 1200 to 1500 mm, or after turning the wheels from 1600 to 1900 mm rims W12 x 28
Wheel base:	2060 mm

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Brakes

Parking brake:	Mechanically actuated by hand lever with ratchet, acting on service brake
Service brake: *)	Pedal operated muscle power brake with mechanical transmission, acting on rear axle of tractor; wet disc brakes on the differential half shafts with 5 lining discs each, with 178 mm dia
Steering brake:	Divided pedals of service brake, for normal use locked together

Number of grease points: 14

Overall dimensions

Total length:	3580 mm without ballast 3830 mm with ballast
Total width:	1815 mm without ballast 1965 mm with ballast
Total height:	2280 mm to top of safety frame
Ground clearance:	345 mm below front axle

Available wheel equipment

Tyre sizes	
front	rear
9.5 - 20 8 ply 11.2 - 20 6 ply	13.6 - 28 6 ply
8.3 - 24 8 ply 12.4 - 20 6 ply	14.9 - 28 6 ply
9.5 - 24 6 ply	12.4 - 32 6 ply

*) Trailer braking take off: None

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Safety frame	LANDINI TS9 OECD tested safety frame OECD approval no. CSD 0700/14
Seat	GRAMMER DS 20/4 H upholstered seat with back rest, adjustable suspension and shock absorber; height of driver's platform above ground 750 mm, height of unloaded seat above platform from 530 to 590 mm infinitely adjustable; longitudinal seat adjustment 200 mm
Lighting equipment	Electrical 12 Volt, in accordance with Italian legislation

	Dimensions mm	Height above ground of centre mm	Distance from outside edge of tractor to centre mm
Head lights	130 ⌀	1050	730
Side lights	70 x 60	1430	200
Rear lights	80 x 60	1430	238
Reflectors			
1st pair	80 ⌀	1330	110
2nd pair	80 ⌀	540	520

Running-time meter	Mechanical, combined with tachometer, driven by camshaft of engine; reference engine speed for one really counted hour 1600 1/min

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TEST CONDITIONS

Track setting 1500 mm at front
1400 mm at rear

Weights

		without driver	with driver
Without ballast:	front	970 kg	980 kg
	rear	1420 kg	1490 kg
	total	2390 kg	2470 kg
Front ballast:	7 weights, total		210 kg
	water in the tyres		65 kg
Rear ballast:	3 weights per wheel, total		360 kg
	water in the tyres		380 kg
With ballast:	front	1325 kg	1335 kg
	rear	2080 kg	2150 kg
	total	3405 kg	3485 kg

Fuels and lubricants used in tests

Fuel: ARAL Diesel-fuel DIN 51 601
density at 15°C
at engine test 0,822 kg/l
at p.t.o. test and
at drawbar test 0,834 kg/l

Engine oil and
Transmission oil: MF SUPER UNIVERSALOIL 20W/30

Steering oil: MOBIL ATF 200

Remarks and repairs None

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R 5830

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COMPULSORY TESTS

(1) MAIN POWER TAKE-OFF PERFORMANCE (540 1/min)

Date of tests: 25th October 1984
Location of tests: DLG-Testing-Station Groß-Umstadt
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

Power kW	Speed engine 1/min	Speed p.t.o. 1/min	Fuel consumption hourly l/h	Fuel consumption hourly kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
MAXIMUM POWER						
At 2-hour test						
32.9	2250	625	10.43	8.69	264	3.16
At rated engine speed						
32.9	2250	625	10.43	8.69	264	3.16
At standard p.t.o. speed						
31.5	1944	540	9.40	7.83	249	3.35
Part loads, the governor hand lever in the position corresponding to the maximum power at full load (curve a)						
(i) the torque corresponding to maximum power at rated speed						
32.9	2250	625	10.43	8.69	264	3.16
(ii) 85% of the torque obtained in (i)						
28.4	2288	636	9.21	7.67	270	3.09
(iii) 75% of the torque defined in (ii)						
21.7	2324	646	7.57	6.31	291	2.86
(iv) 50% of the torque defined in (ii)						
14.6	2343	651	5.90	4.92	338	2.47
(v) 25% of the torque defined in (ii)						
7.3	2359	655	4.53	3.77	515	1.62
(vi) unloaded						
-	2379	661	3.44	2.87	-	-

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Power kW	Speed engine 1/min	Speed p.t.o. 1/min	Fuel consumption hourly 1/h	Fuel consumption hourly kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
Part loads, the governor hand lever in the position corresponding to the standard p.t.o. speed at full load (curve b)						
(i) the torque corresponding to maximum power						
31.5	1944	540	9.40	7.83	249	3.35
(ii) 85% of the torque obtained in (i)						
27.5	1998	555	8.18	6.81	248	3.36
(iii) 75% of the torque defined in (ii)						
21.0	2039	566	6.78	5.64	268	3.10
(iv) 50% of the torque defined in (ii)						
14.2	2070	575	5.19	4.32	304	2.74
(v) 25% of the torque defined in (ii)						
7.2	2093	581	3.81	3.17	441	1.89
(vi) unloaded						
-	2114	587	2.53	2.11	-	-

Standard specific fuel consumption (g/kWh): 270/338/248/304

No load maximum engine speed: 2379 1/min
Equivalent flywheel torque at maximum power (2 hours): 140 Nm
Maximum equivalent flywheel torque: 172 Nm at 1303 1/min of the engine

Mean atmospheric conditions:	temperature	17 °C
	pressure	990 mbar
	relative humidity	87 %
Maximum temperatures:	coolant	80 °C
	engine oil	115 °C
	fuel	17 °C
	engine air intake	18 °C

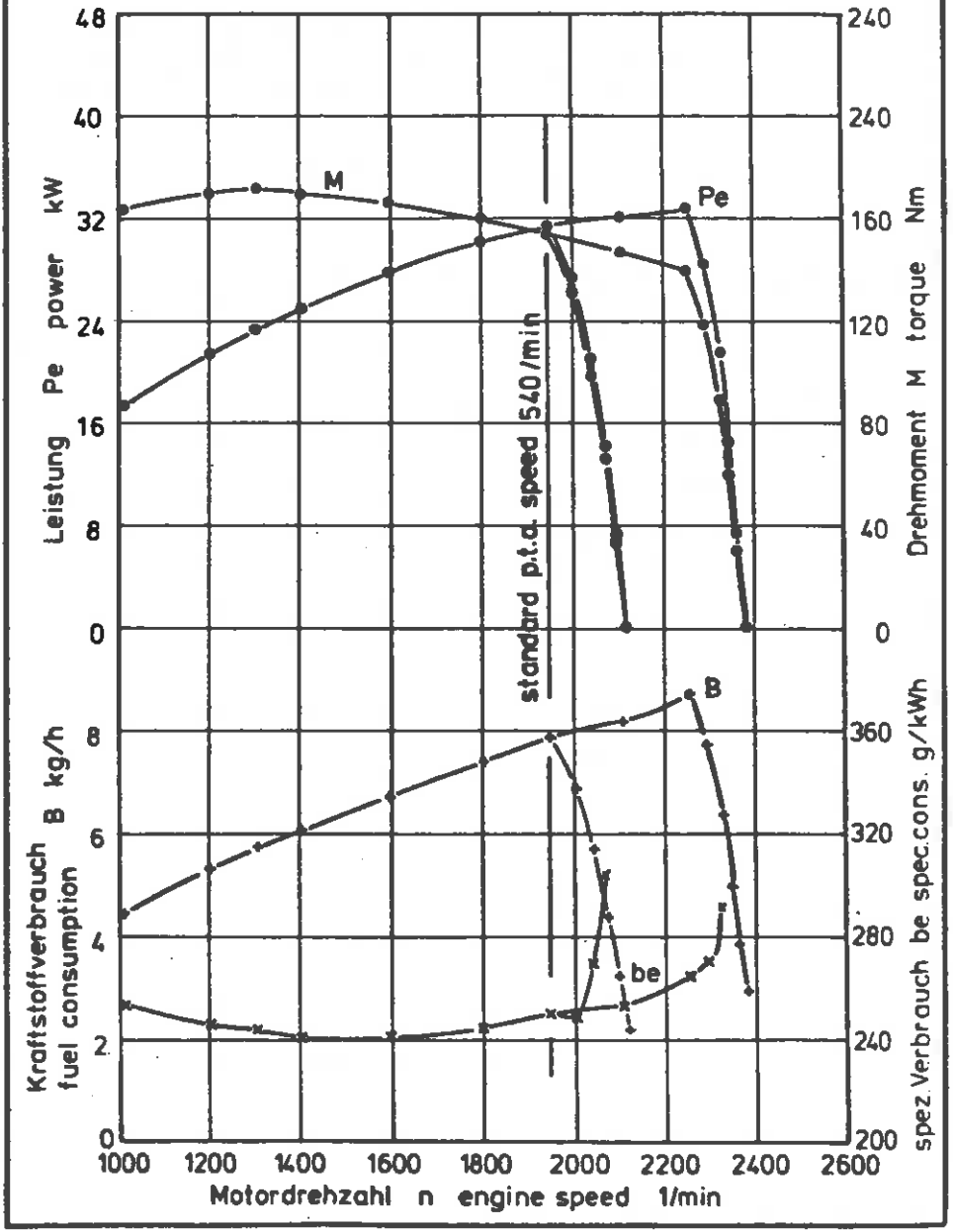
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Zapfwellenleistung

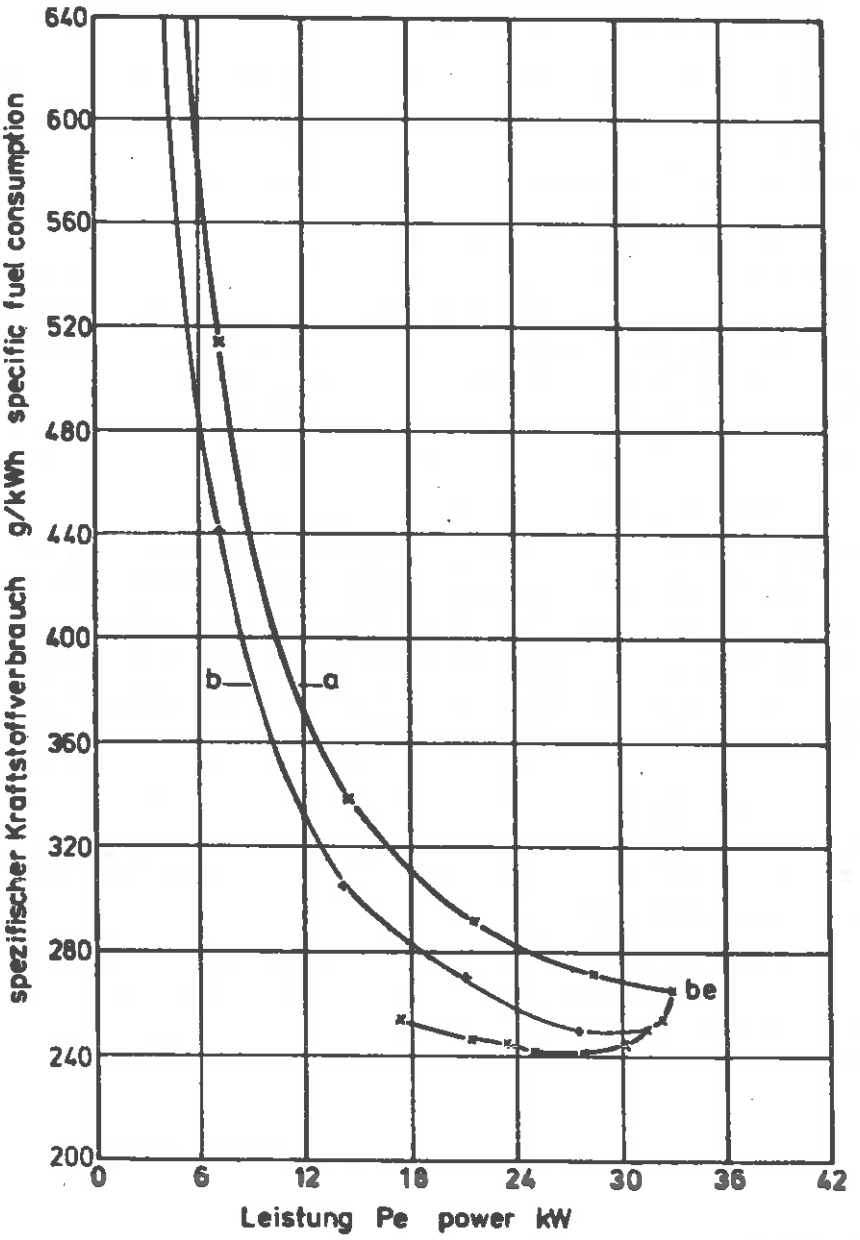
P.t.o. performance



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Zapfwellenleistung — P.t.o. performance



PRÜFUNGS-ABTEILUNG
LANDINI DT 5830

(2) DRAWBAR PERFORMANCE

Date of tests: 4th till 12th March 1985
Type of track: Concrete

Gear	Driving speed km/h	Power kW	Drawbar pull daN	Engine speed 1/min	Slip of wheels %
(i)	MAXIMUM POWER (unballasted) height of drawbar above ground 420 mm				
3 L	3,00	20,4	2448	2315	14,9
1 M	3,57	24,2	2436	2281	15,0
4 L	4,45	26,2	2118	2247	11,5
2 M	5,97	26,4	1591	2247	7,7
3 M	7,87	26,6	1216	2254	5,7
1 H	9,69	26,6	989	2248	4,5
4 M	11,61	25,5	777	2250	3,6
(ii)	MAXIMUM POWER (ballasted) Height of drawbar above ground 410 mm				
1 L	1,50	13,9	3325	2349	15,0
2 L	2,30	21,2	3322	2311	15,1
3 L	2,95	26,0	3175	2251	13,0
1 M	3,76	26,8	2566	2254	8,8
4 L	4,66	27,2	2105	2248	6,7
2 M	6,13	27,0	1585	2251	4,7
3 M	7,99	26,8	1209	2249	3,5
1 H	9,84	26,5	968	2248	2,8
(iii)	FIVE-HOUR-TEST at 75 % of pull at maximum power in 3 M gear				
3 M	8,30	20,9	907	2314	2,6
(iv)	FIVE-HOUR-TEST at pull corresponding to 15 % wheel slip in test (ii)				
2 L	2,29	21,2	3325	2315	-

Total oil consumption during ten hours duration of tests (iii) and (iv) 13 g/h

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Tyre size front: 8.3 - 24 8 ply
rear: 14.9 R 28 6 ply

Tread bar height at the beginning of drawbar tests:
96 % at front, 71 % at rear, of the value when new

Specific fuel consumpt. g/kWh	Specific energy kWh/l	Temperatures Fuel °C	Coolant °C	Engine-oil °C	Atmospheric conditions Tempe-rature °C	Relative humidity %	Pressure mbar
tyre inflation pressure 1,1 bar at front; 0,8 bar at rear							
359	2,32	20	69	86	7	86	994
349	2,39	20	71	87	7	86	994
331	2,52	24	78	88	7	86	994
327	2,55	24	77	94	8	85	994
324	2,57	24	78	92	8	81	994
323	2,58	25	78	93	11	79	994
339	2,46	26	78	90	12	77	994
tyre inflation pressure 1,8 bar at front; 0,8 bar at rear							
404	2,07	21	75	91	6	64	1013
353	2,37	20	75	89	6	53	1013
331	2,52	21	72	90	6	65	1013
321	2,60	19	78	94	9	67	1012
316	2,64	22	78	94	9	66	1012
319	2,62	23	79	95	10	63	1012
323	2,58	23	80	95	10	64	1012
325	2,57	24	80	96	11	64	1012
344	2,42	23	75	99	12	75	1012
-	-	21	76	98	6	83	1006

Test (iv) was carried out with additional ballast,
the figures not quoted are therefore irrelevant

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(3) TURNING SPACE AND TURNING CIRCLE (front wheel drive disengaged)

Wheel equipment front: 8.3 - 24
rear: 14.9 R 28

Track of wheels front: 1500 mm
rear: 1400 mm

	With brakes		Without brakes	
	left-hand m	right-hand m	left-hand m	right-hand m
Radius of turning space	3,99	3,95	4,71	4,77
Radius of turning circle	3,85	3,80	4,57	4,62

(4) LOCATION OF CENTRE OF GRAVITY

Height above ground	755 mm
Distance forward from rear axle centre	821 mm
Distance from tractor's median plane, to the left	3 mm

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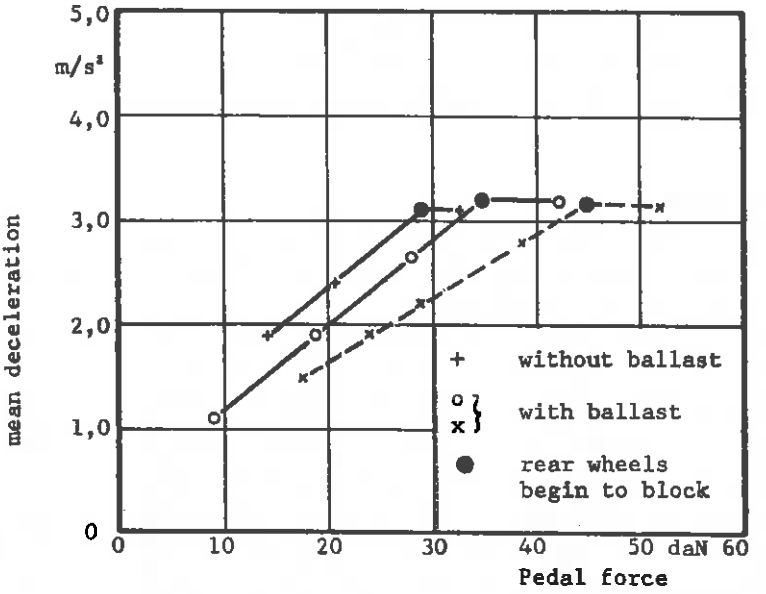
(5) Braking (front wheel drive disengaged)

Date of tests: 7th March 1985

Tractor masses during tests with driver:	front kg	rear kg	total kg
without ballast	980	1490	2470
with ballast	1335	2150	3485

A) Service brake

Type-0-test (cold brakes) ——, Type-I-(fade)test – – –



Speed before application of brakes, without ballast 31,2 km/h
with ballast 30,6 km/h

The brakes were heated by towing of the tractor for 1 km ; no deviation, no abnormal vibrations

B) Parking brake

	Ballasted tractor on 18%-slope		Unballasted tractor on 12%-slope with trailer of 2470 kg	
	up	down	up	down
Braking device control force daN	16	16	15	16

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(6) MEASUREMENT OF EXTERNAL NOISE LEVEL

Date of test: 5th March 1985
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2203

Results of test

Gear: 4 H *)
Travelling speed before acceleration: 23,4 km/h
Sound level: 87,0 dB(A)

(7) NOISE MEASUREMENT AT THE DRIVER'S EAR

Date of tests: 4th March 1985
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2209

tractor fitted out with LANDINI safety frame model TS9

Results of tests

Gear	Drawbar pull at which the tractor develops the maximum sound level daN	Travelling speed nominal km/h	Travelling speed effective km/h	Sound level dB(A)
1 L	2417	1,72	1,53	96,0
2 L	2417	2,69	2,35	96,5
3 L	2427	3,47	2,99	96,5
1 M	2426	4,21	3,55	97,5
4 L	2115	5,11	4,46	98,5
2 M **)	1592	6,58	5,96	98,0
2 M **)	light load	6,58	6,84	94,5
3 M	1217	8,49	7,84	97,5
1 H	981	10,37	9,68	98,0
4 M	775	12,49	11,80	98,0
2 H	758	16,20	11,75	98,0
4 H *)	light load	30,78	31,20	97,0

*) front wheel drive disengaged
**) the 2nd M gear corresponds to the nominal travelling speed nearest to 7,5 km/h

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84-205

(8) POWER LIFT AND HYDRAULIC POWER TEST

Date of tests: 17th December 1984

Power Lift

	Height of lower hitch point above ground in down pos. mm	Vertical movement mm	Max. force exerted through full range daN	Corresp. pressure of hydraul. fluid bar	Moment about rear axle daNm	Max. tilt angle of mast over range of lift degrees
At hitch points	200	640	1440	151	-	-
On the frame	200	755	1340	151	2034	12,0

Temperature of hydraulic fluid at start of test 35 °C
Main linkage dimensions see on pages 10 and 11

Lifting heights relative to horizontal lower links

mm	-347	-302	-300	-200	-100	0	+100	+200	+300	+338	+400	+408
Lifting forces at hitch points												
daN		1440	1440	1720	1900	2010	2080	2110	2180	2190		
Lifting forces at test frame												
daN	1340		1450	1590	1650	1680	1680	1640	1600		1530	1530

Hydraulic power test

Sustained pressure with relief valve open 168 bar

Pump delivery rate at minimum pressure and maximum engine speed 36,1 l/min

hydraulic power	kW	flow rate l/min	pressure bar	oil temperature °C
at 90% of the actual relief valve setting	8,41	33,4	151	35 *)
maximum	8,42	33,2	152	35 *)

tapping point used for test: at rear of tractor

*) oil temperature in suction line of hydraulic pump more than 60 °C

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OPTIONAL TESTS

(9) ENGINE PERFORMANCE

Date of tests: 15th October 1984
Location of tests: DLG-Testing-Station Groß-Umstadt
Type of dynamometer: SCHENCK eddy-current dynamometer W 150

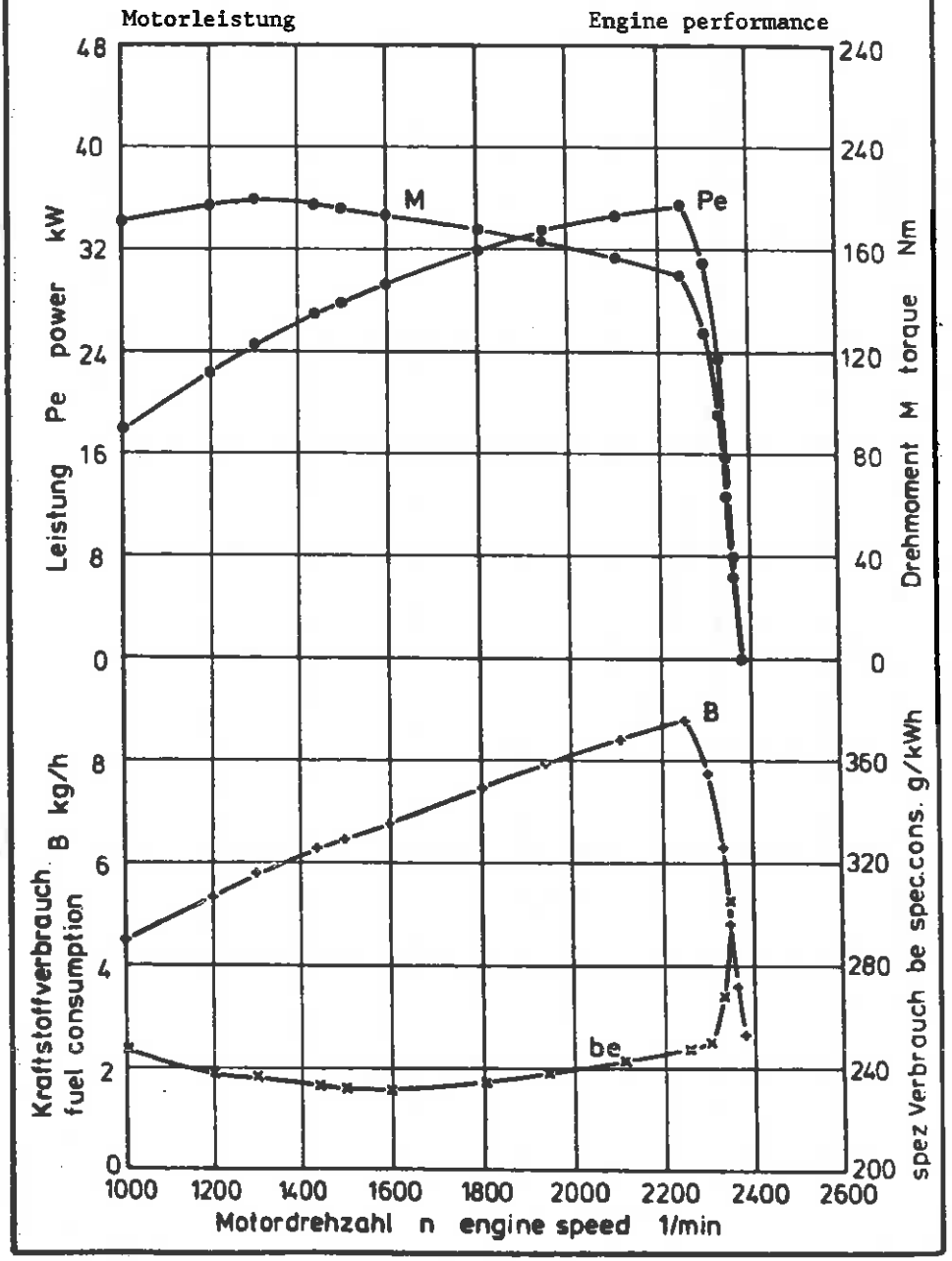
Power kW	Engine speed 1/min	Fuel consumption hourly l/h	Fuel consumption hourly kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
Maximum power					
At 2-hour test					
35.7	2250	10.56	8.80	246	3.38
At rated engine speed					
35.7	2250	10.56	8.80	246	3.38
At standard p.t.o. speed (540 1/min)					
33.6	1944	9.53	7.94	236	3.53
Part loads					
(i) the torque corresponding to maximum power at rated speed					
35.7	2250	10.56	8.80	246	3.38
(ii) 85% of the torque obtained in (i)					
31.0	2301	9.27	7.72	249	3.35
(iii) 75% of the torque defined in (ii)					
23.6	2335	7.55	6.29	266	3.13
(iv) 50% of the torque defined in (ii)					
15.8	2350	5.78	4.82	304	2.74
(v) 25% of the torque defined in (ii)					
8.0	2366	4.29	3.58	448	1.86
(vi) unloaded					
-	2383	3.15	2.63	-	-

Optimum fuel consumption: 220 g/kWh at 17.7 kW and 1238 1/min
No load maximum engine speed: 2383 1/min
Torque at rated engine speed: 151 Nm
Maximum torque: 181 Nm at 1301 1/min of the engine

Mean atmospheric conditions:	temperature	20 °C
	pressure	1007 mbar
	relative humidity	60 %
Maximum temperatures:	coolant	72 °C
	engine oil	92 °C
	fuel	21 °C
	engine air intake	20 °C

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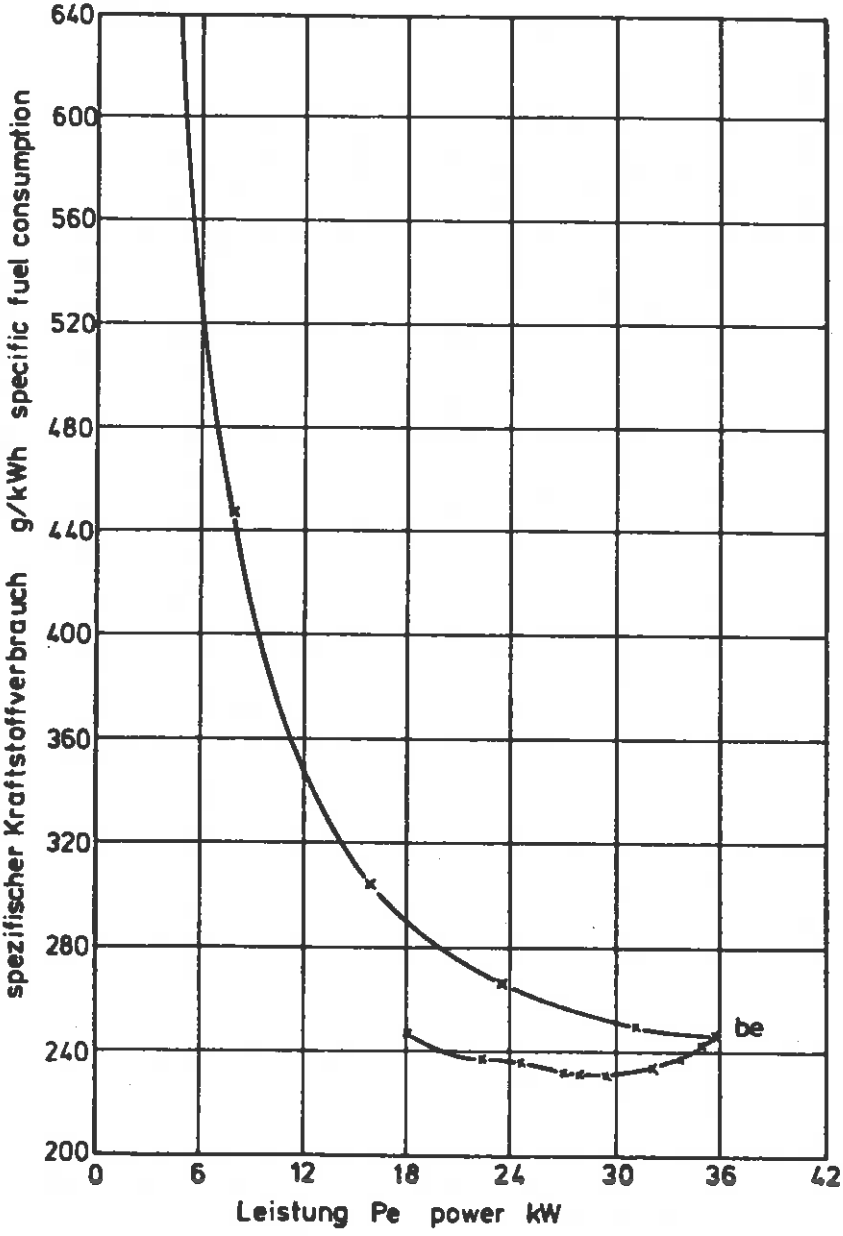
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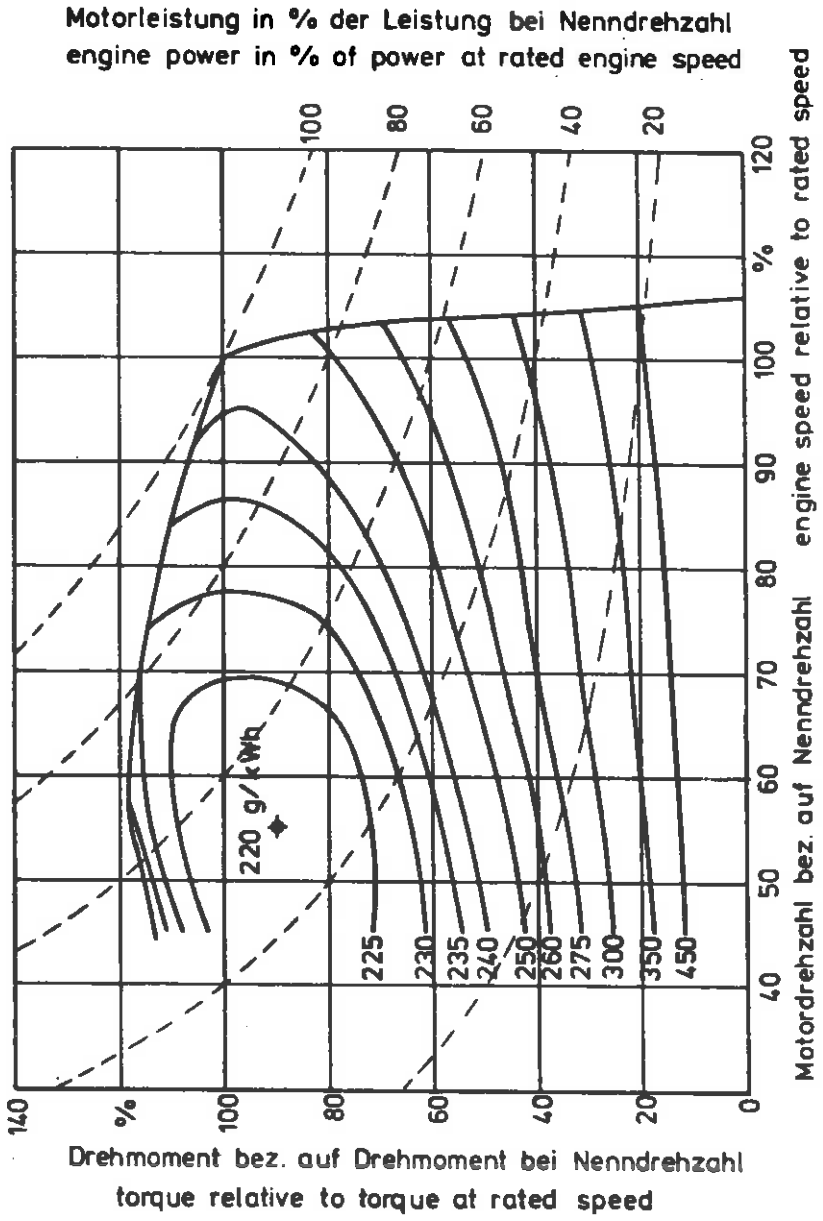
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Motorleistung — Engine performance



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