Report on test in accordance with OECD STANDARD CODE

OECD No. **1210/1**

Agricultural Tractor
LANDINI
DT 5860 (4WD)

Type denomination

TL 22 DT/K



OECD No. **1210/2**

Agricultural Tractor
MASSEY-FERGUSON
353-4 (4WD)

Type denomination

TL 22 DT/V



Manufacturer

Massey-Ferguson S.p.A., Landini Division
I-42042 Fabbrico (R.E.) Italy

Deutsche Landwirtschafts-Gesellschaft e.V.
Zimmerweg 16 · D-6000 Frankfurt a. M. 1
Telefon: (069) 71 68-0 · Telex: 04 131 85 dlg-d

This is a report on a tractor test in accordance with OECD STANDARD CODE for the Official Testing of Agricultural Tractor Performance (C(87)53(Final), Code I).

It does not contain an evaluation of the tractor on practical work.

Duration of tests: May till September 1988
DLG-Testing Station for Agricultural Machinery, Max-Eyth-Weg 1,
D-6114 Groß-Umstadt

This report has been approved by the OECD Co-Ordinating Centre (CEMAGREF, France) as being in accordance with the OECD STANDARD CODE.

Date of approval: 23 rd August 1989
OECD No. 1210/1 for LANDINI DT 5860 (4WD)
OECD No. 1210/2 for MASSEY-FERGUSON 353-4 (4WD)

The tractors LANDINI DT 5860 and
MASSEY-FERGUSON 353-4
are technically identical in all main respects except colour and denominations.

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 kN	=	1000 N	=	102 kp
Powers			1 kW	=	1,36 PS
Prossures	1 MPa	=	10 bar	=	10,2 kp/cm²
	100 kPa	=	1000 mbar	=	750,10 mm Hg

All rights including the right of translation, reprint and photo-mechanical copying — also of excerpts — reserved by the editor.

Printed in the Federal Republic of Germany
September 1989; DLG-No. 250

TABLE OF CONTENTS

		Page
SPECIFICATION OF TRACTOR		4 to 14
TEST CONDITIONS		14 to 16
COMPULSORY TESTS		
1	Main power take-off performance	17 to 20
2	Hydraulic power and lifting force	21
3	Drawbar power	22 and 23
4	Turning area and turning circle	24
5	Position of centre of gravity	24
6	Braking	25
7	External noise level	26
APPENDIX		
	Measurements of noise in the protective structure (according to CODE V), carried out under the responsibility of the testing station	26
OPTIONAL TESTS		
8	Engine performance	27 to 30

Tractor manufacturer:	MASSEY-FERGUSON S.p.A. I-42042 Fabbrico (R.E.), Italy
Location of tractor assembly:	I-42042 Fabbrico
Submitted for test by:	Manufacturer
Selected by:	Manufacturer with agreement by DLG
Place of running-in:	Fabbrico and Groß-Umstadt
Duration of running-in:	Engine and tractor appr. 20 hours

SPECIFICATION OF TRACTOR

Tractor

Make:	LANDINI respectively MASSEY-FERGUSON
Trade name:	DT 5860 respectively 353-4
Type denomination:	TL 22 DT/K respectively TL 22 DT/V
Type:	Wheel tractor, unit construction, four wheel driven
Serial No.:	5369 V 50012
Start of series:	5360 V 52090

Engine

Make:	PERKINS
Model:	D3.152 S
Type:	Watercooled 4-stroke Diesel-engine, direct injection, naturally aspirated
Serial No.:	CE 31197 U 81 3447 P
Cylinders:	3, in line, bore 91,5 mm, stroke 127 mm, displacement 2505 cm^3, compression ratio 16,5:1; replaceable wet cylinder liners
Valves:	Overhead

Fuel system:	PERKINS fuel supply pump; CAV distributor injection pump DPA 3238 F480/DSA 651, serial no. 08226 LEG; manufacturer's production setting 50±1,2 mm³/stroke at rated engine speed and full load; with automatic injection timing device; injection timing 15±2° before TDC static, additional 8° automatic; CAV multihole-injection nozzles PN 2646825, injection pressure 19,0 MPa, CAV fuel filter with replaceable paper element; capacity of fuel tank 86 dm³
Governor:	CAV centrifugal variable speed governor, governed range of engine speed 750 to 2465 rev/min, rated engine speed 2250 rev/min
Air cleaner:	FISPA oil bath air filter, cyclone pre-cleaner; no maintenance indicator; air intake in front of engine, below bonnet
Lubrication system:	Forced feed with gear pump; strainer in sump, PERKINS oil filter in full flow, replaceable filter
Cooling system:	Water cooling with impeller pump, overpressure relief valve set to 70 kPa, thermostat with by-pass; fan with 4 blades with 394 mm dia, water capacity 10,5 dm³
Starting system:	Electrical; LUCAS solenoid pre engaged-drive starter motor 2,5 kW; depressed pedal of clutch as safety device; ISKRA flame plug in intake manifold
Electrical equipment:	12 Volt, negative earth; LUCAS 3-phase alternator 12 V 500 W; 1 lead acid battery, 72 Ah at 20 hours rating test current for low temperature 420 A

Exhaust silencer: ANSA, DGM SA 1269,
expansion type silencer, vertical,
130 x 100 mm oval, 660 mm long;
on the left, beside the engine bonnet,
mouth showing upwards, 2300 mm above ground

Transmission

Clutch: LUK, model A2.028.074.08
dry dual-disc clutch;
pedal operated travel drive, disc 280 mm dia,
cerametallic organic lining;
hand lever operated p.t.o. drive, disc 280 mm dia

Gear box: MASSEY-FERGUSON
synchronized speed change gear with
4 gears, collar shifted range gear
with 3 forward ranges (L, M and H) and
1 reverse range (R); total 12 forward and
4 reverse speeds, 2 gear shift levers;
two further gear box models on request
available:

1. gear arrangement as described above,
   additional range gear with 3 ranges,
   in 3 variants:
   Standard range combined with
   a) creeper and underdrive range, or
   b) creeper and overdrive range, or
   c) underdrive and overdrive range;
   in each case total: 36 forward and 12
   reverse speeds

2. change gear with 4 gears,
   range gear with 3 forward ranges,
   reversing gear (acting on 4x3 forward speeds),
   combined in 3 variants with
   a) creeper range, or
   b) underdrive range, or
   c) overdrive range;
   in each case total: 24 forward and 12
   reverse speeds

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, collar shifted;
bevel gear drive, planetary final drives,
No-spin differential optionally available

Lubrication: Gear box, rear axle and hydraulic system
have oil in common, see pages 15 and 16

Total ratios and speeds

Range	Gear	Total ratio engine : driving wheel	Nominal travelling speed *) at rated engine speed of 2250 rev/min km/h
L	1	331,81	1,64
	2	211,09	2,57
	3	167,15	3,25
	4	113,28	4,79
M	1	138,90	3,91
	2	88,36	6,14
	3	69,97	7,76
	4	47,42	11,45
H	1	56,31	9,64
	2	35,82	15,15
	3	28,37	19,14
	4	19,22	28,24
R	1	124,32	4,37
	2	79,09	6,86
	3	62,63	8,76
	4	42,44	12,79

*) calculated with the radius index 640 mm (ISO 4251/1-1984)

Number of revolutions of front wheels for one revolution of rear wheels: 1,3632

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 rev/min;
p.t.o. speed indicator lamps

1 p.t.o. shaft at rear of tractor, in tractor's median plane; height above ground 630 mm, horizontal distance to rear wheels centre line 265 mm;
35 mm dia, 6 splines, in conformity with ISO 500/1979, type 1, when using 540 rev/min speed

Power take-off proportional to engine speed
(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. type	P.t.o. speed rev/min	Engine speed rev/min	Ratio engine : p.t.o.	Power restriction kW
540	540	1944	3,6000	-
	625	2250		
1000	1000	1917	1,9167	-
	1174	2250		

Power take-off proportional to ground speed:
Driven by rear axle drive, sense of rotation clockwise (at forward movement, viewed to tractor's rear)

P.t.o. type	Travel distance per p.t.o. revolution m	Number of p.t.o. revolutions per rear wheel revolution
540	0,4378	9,1852
1000	0,2331	17,2522

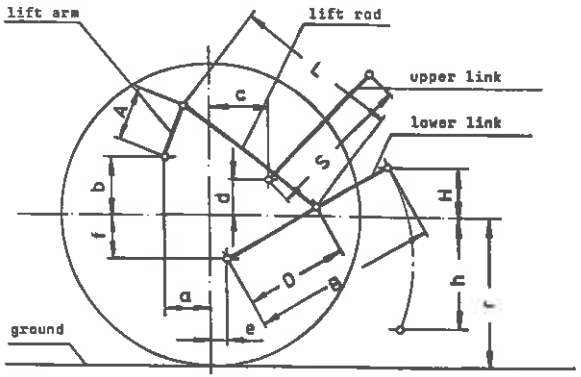
Power lift

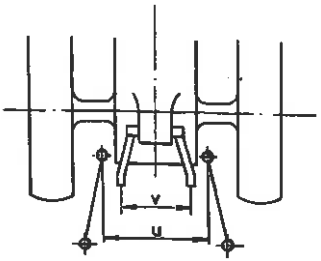
MASSEY-FERGUSON
hydraulic power lift, unit construction;
draft and position control, both infinitely mixable, floating position, lowering throttle (non-adjustable);
adjustable raise control, top link sensing;
open centre system
1 single acting lifting cylinder,
100 mm bore, 127 mm stroke;
cylinder safety valve set to 19,0 MPa

no linkage lock for transport;
SUNDSTRAND/TUROLLA gear type pump TFA/211 S;
gear driven by engine;
delivery 36 l/min at rated engine speed, relief valve pressure setting 17,0±0,5 MPa;
1 hydraulic oil filter within suction line;
hydraulic oil circuit in common with gear box lubrication, reservoir within gear box;

MASSEY-FERGUSON control valve, 1 double acting OMC additional control valve, 2 oil couplings ar rear of tractor; maximum volume of oil available to external cylinders 5 dm³

Three-point linkage — category 2 acc. to ISO 730/I-1977





PRÜFUNGS-ABTEILUNG
LANDINI DT 5860

Test No. 88-79

Dimensions of rear implement linkage (projected lengths in mm, underlined dimensions are valid for power lift measurements p.21)

Rear tyres (14.9 R 28)	radius index	(r)	640
Front tyres (12.4 R 20)	radius index	(r')	490
Length of lift arms		(A)	272
Length of lower links		(B)	855
Distance of lift arm pivot points from rear wheel centre	horizontal	(a)	12
	vertical	(b)	310
Horizontal distance between lower link pivot points		(u)	390
Horizontal distance between lift arm end points		(v)	525
Length of upper link		(S)	590 to 790, 680
Distance of upper link pivot point from rear wheel centre	horizontal	(c)	254
	vertical	(d)	256 or 301
Distance of lower link pivot point from rear wheel centre	horizontal	(e)	80
	vertical	(f)	138
Distance of lower link pivot points from lift rod pivot points on lower links		(D)	455
Length of lift rods		(L)	545 to 665, 590

Height of lower link hitch points relative to rear wheels' centre line (situated 640 mm above ground), these data are valid for unloaded power lift:

Length of lift rods	(L)	590	545	665
Linkage distance of lift rods	(D)	455		
Lowest position	(h)	440	335	647 *)
Highest position	(H)	240	315	95
Transport position	(H')	240	315	95

*) 7 mm below ground

Pull attachment

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

Trailer hitch: LANDINI, DGM GA 725 C-87 6 tV 1.5; non-automatical, height adjustable;

hole diameter	28 mm
hitch point	
above ground	425, 520, 650 or 745 mm
behind rear wheel axis	
horizontal	395 mm
distance from p.t.o. shaft end	
vertical, above	20 or 115 mm
below	110 or 205 mm
horizontal	130 mm
maximum permissible vertical load	15 kN

Holed drawbar: Long bar; 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 the 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	minimum	53 mm*)
	maximum	1015 mm
holes' centre line behind p.t.o. shaft end (lower links in horizontal position)		710 mm

Towing hitch: At front of tractor,

height above ground	680 mm

*) lower link hitch points 7 mm below ground

Steering	MASSEY-FERGUSON and DANFOSS, model ORBITROL OSPC 100, hydrostatic steering; separate oil circuit fed by SUNDSTRAND/ TUROLLA gear type pump TFA/211 S directly driven by front end of crankshaft; delivery 24,8 l/min at rated engine speed, working pressure 15,0 MPa; 1 double acting ram (symmetrical design), bore 57 mm, stroke 234 mm, piston rod 32 mm dia, acting on steering levers of front axle; oil filter incorporated in steering oil tank
Brakes	
Service brake:	SIRMAC, 7 x 5,5 inches pedal operated muscle power brake with mechanical transmission, acting on rear axle of tractor; wet disc brakes on the differential half shafts with 4 lining discs each with 178 mm dia
Parking brake:	Mechanically actuated by hand lever with ratchet, acting on the discs of service brake
Steering brake:	Divided pedals of service brake, for normal use locked together
Trailer braking take-off:	None
Wheels	
Steering wheels:	At front, 2 pneumatics 12.4 R 20, rims W9x20
Driving wheels:	At front and at rear, rear wheels: 2 pneumatics 14.9 R 28, rims W12x28
Wheelbase:	2109 mm
Track widths:	At front 1412, 1500, 1600, 1688, 1522, 1610, 1710, 1798 mm, variable by adjustable gauge bowl wheels, at rear 1400 to 1900 mm in steps of 100 mm each variable by adjustable gauge bowl wheels

Permissible tyre combinations:

Tyre sizes

at front		at rear	
12.4 R 20	116 A8	14.9 R 28 420/70 R 28	128 A8 133 A8
11.2 R 20	111 A8	13.6 R 28	123 A8
9.5 R 24	6 ply	12.4 R 32 9.5 - 36	6 ply

Protective structure: LANDINI TS 19/2 - MASSEY-FERGUSON TS 20/2, 4 post frame, OECD-tested, approval-no. CSS 081/17 for LANDINI DT 5860 (TL 22DT/K), CSS 081/37 for MASSEY-FERGUSON 353-4 (TL22DT/V)

Driver's seat: GRAMMER, DS 44/1H; upholstered seat with back rest, adjustable suspension and hydraulic shock absorber; driver's platform 780 mm above ground, 1 step, 500 mm above ground; range of adjustment of unloaded seat: longitudinal 200 mm vertical 510 to 570 mm (stepless) above platform

Running-time meter: Electronic, counts real operating hours, when engine is running with 1600 rev/min

PRÜFUNGS-ABTEILUNG
LANDINI DT 5860

Test No. 88-79

Lighting — Electrical 12 Volt, in accordance with Italian legislation

	Size mm	Height above ground of centre mm	Distance from outside edge of lights to median plane of tractor mm
Head lights	130 dia	1070	241
Side lights	110x30	1365	788
Rear lights	70x50	1430	606
Reflectors	45x50	1430	644

TEST CONDITIONS

Overall dimensions

Length: 3574 mm without ballast, 3810 mm with ballast

Width: 1815 mm without ballast, 1880 mm with ballast

Height: 2280 mm to top of protective structure
2300 mm to exhaust pipe's mouth

Ground clearance: 370 mm below front axle

Tractor mass

			without driver kg	with driver kg
Without ballast:	Mass	front	1055	1065
		rear	1390	1470
		total	2445	2535
With ballast:	Mass	front	1400	1410
		rear	2040	2120
		total	3440	3530

PRÜFUNGS-ABTEILUNG
LANDINI DT 5860

Test No. 88-79

Ballast

Front:	5 weights, total	180 kg
	water in the tyres	175 kg
Rear:	2 weights per wheel, total	240 kg
	water in the tyres	400 kg

Tyres and track widths specifications

	Front	Rear
Tyres:	PIRELLI TM 200	PIRELLI TM 300 S
dimensions	12.4 R 20	14.9 R 28
type	radial	radial
ply rating/load index	-/116 A8	-/128 A8
maximum load	1250 kg	1800 kg
inflation pressure	160 kPa	160 kPa
radius index	490 mm	640 mm
Chosen track width:	1522 mm	1400 mm
Technically permissible axle load:	1400 kg	2800 kg
Technically permissible total weight:	3540 kg	

Oils and lubrication

Capacity and change interval:

	Capacity dm³	Oil change h	Filter change h
engine	6,7	250	250
gear box including rear axle and hydraulic system	33,0		250 *)
front axle	5,8		-
final drives at front	2 x 1,4	1000	-
final drives at rear	2 x 2,2		-
steering system	2,3		500 *)

*) only filter cleaning

PRÜFUNGS-ABTEILUNG
LANDINI DT 5860

Test No. 88-79

Specifications

	Recommended	Used during test
Engine oil:		
type	engine oil	MF SUPER UNIVERSALOIL
viscosity		
winter	SAE 10W, 20W or 10W/30	SAE 15W/40
summer	SAE 20W or 20W/30	
tropics	SAE 30, 20W/40 or 20W/50	
for all conditions	SAE 15W/40	
classification	API - CC	API - CC
Transmission oils:		
Gearbox, rear axle hydraulic system		
type	super tractor oil universal	MF SUPER UNIVERSALOIL
viscosity	SAE 15W/40	SAE 15W/40
classification	API - CD/API -GL4	API - CD/API - GL4
Final drives at front and at rear, front axle		
type	gear oil	MOBILUBE GX85W/90-A
viscosity	SAE 85W/90	SAE 85W/90
classification	API - GL4	API - GL4
Steering oil:		
Steering system		
type	automatic transmission fluid	MOBIL ATF 200
viscosity	-	
classification	Type A, SUFFIX A	

Grease: Multi purpose grease
number of lubrication points 13

Fuel

type: ARAL Diesel-fuel in conformity with DIN 51601
density: at 15°C at engine test 0,839 g/cm³
at p.t.o. test 0,836 g/cm³
at drawbar power test 0,819 g/cm³

REPAIRS None

REMARKS None

PRÜFUNGS-ABTEILUNG
Landini DT 5860

Test No.88-79

COMPULSORY TESTS

1. MAIN POWER TAKE OFF PERFORMANCE (540 rev/min)

Date of tests: 20th May 1988
Location of tests: DLG-Testing Station Groß-Umstadt
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

Power	speed		fuel consumption			specific
	engine	p.t.o.	hourly		specific	energy
kW	rev/min	rev/min	l/h	kg/h	g/kWh	kWh/l
Maximum power						
1.1 At 2-hour test						
32,0	2250	625	10,27	8,58	269	3,11
1.2 At rated speed						
32,0	2250	625	10,27	8,58	269	3,11
1.3 At standard p.t.o. speed						
29,6	1944	540	9,01	7,53	255	3,28
1.4 Part loads, the governor hand lever in the position corresponding to maximum power at full load (curve a)						
1.4.1 the torque corresponding to maximum power at rated speed						
32,0	2250	625	10,27	8,58	269	3,11
1.4.2 85% of the torque obtained in 1.4.1						
28,1	2326	646	9,24	7,72	275	3,04
1.4.3 75% of the torque defined in 1.4.2						
21,5	2369	658	7,70	6,43	300	2,79
1.4.4 50% of the torque defined in 1.4.2						
14,6	2416	671	6,09	5,08	348	2,40
1.4.5 25% of the torque defined in 1.4.2						
7,4	2451	681	4,66	3,89	526	1,59
1.4.6 unloaded						
-	2466	685	3,31	2,77	-	-

PRÜFUNGS-ABTEILUNG
Landini DT 5860

Test No. 88-79

Power kW	speed engine rev/min	speed p.t.o. rev/min	fuel consumption hourly l/h	fuel consumption hourly kg/h	fuel consumption specific g/kWh	specific energy kWh/l
1.5 Part loads, the governor hand lever in the position corresponding to the standard p.t.o. speed at full load (curve b)						
1.5.1 the torque corresponding to maximum power						
29,6	1944	540	9,01	7,53	255	3,28
1.5.2 85% of the torque obtained in 1.5.1						
26,0	2007	558	7,87	6,57	253	3,30
1.5.3 75% of the torque defined in 1.5.2						
20,0	2059	572	6,58	5,50	275	3,03
1.5.4 50% of the torque defined in 1.5.2						
13,7	2116	588	5,17	4,32	316	2,65
1.5.5 25% of the torque defined in 1.5.2						
7,0	2157	599	3,87	3,23	464	1,80
1.5.6 unloaded						
-	2189	608	2,58	2,15	-	-

No load maximum engine speed: 2466 rev/m
Equivalent flywheel torque at rated engine speed: 136 Nm
Maximum equivalent flywheel torque: 159 Nm at 1402 rev/min of the engine

Mean atmospheric conditions

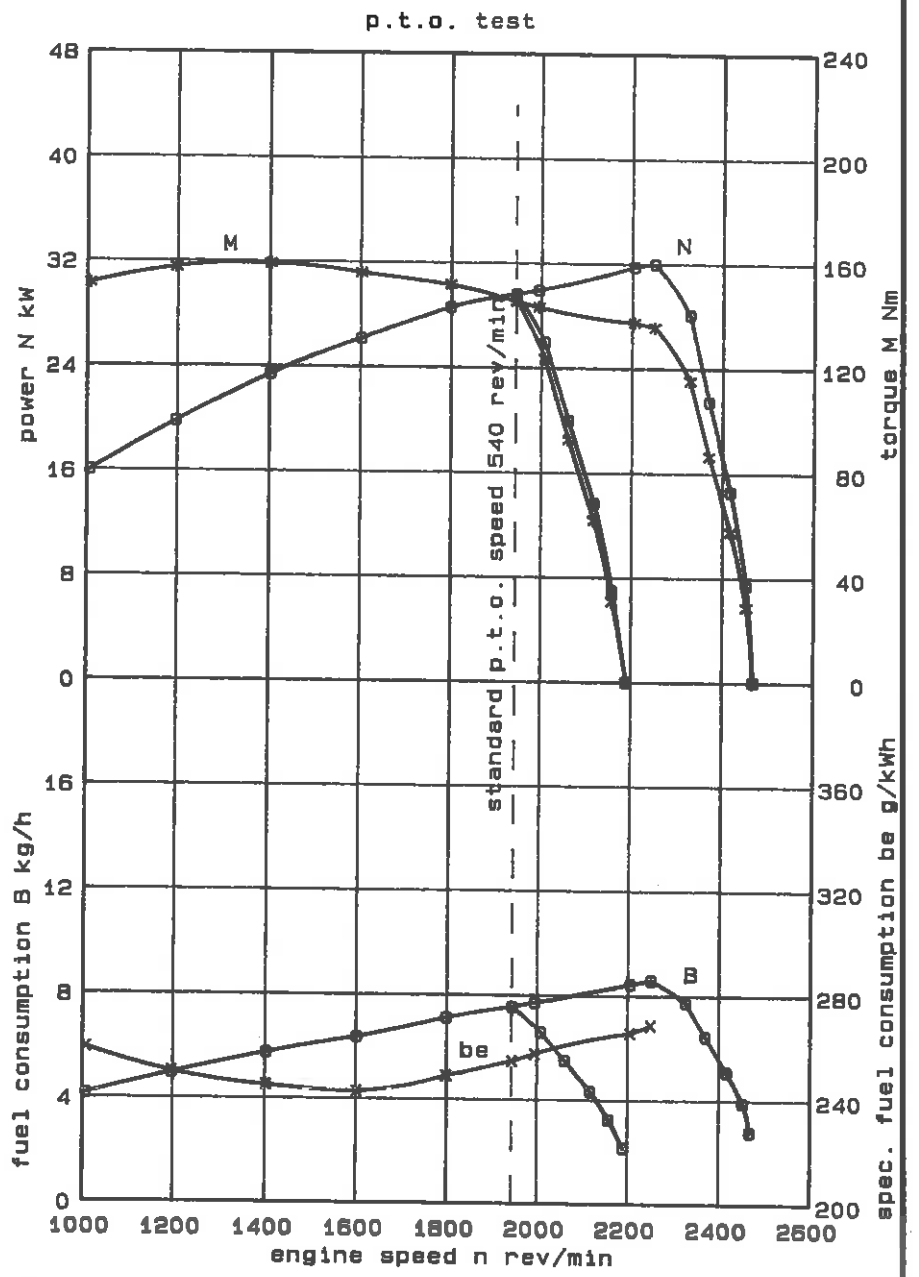
temperature	24 °C
pressure	100 kPa
rel. humidity	40 %

Maximum temperatures

coolant	79 °C
oil	94 °C
fuel	29 °C
air intake	24 °C

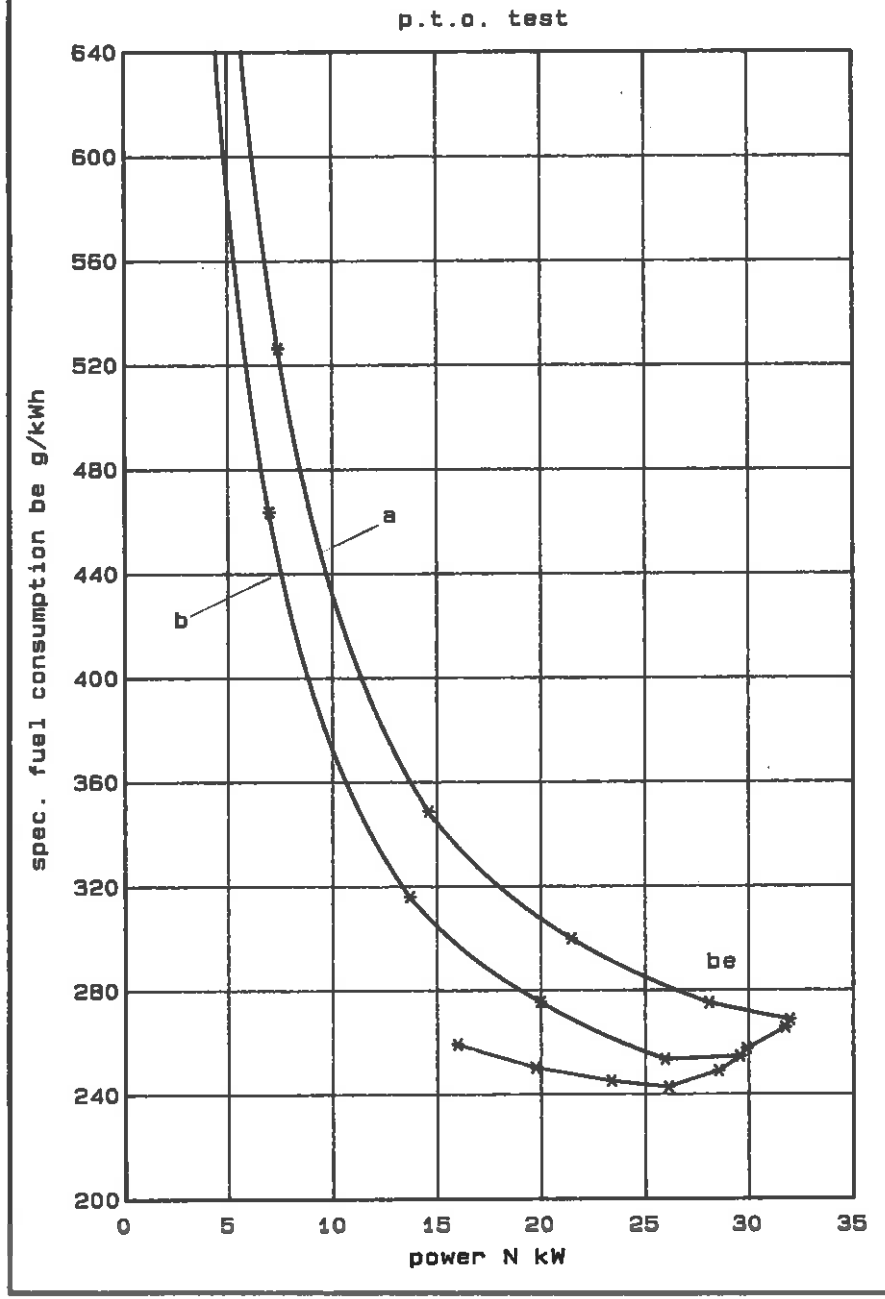
PRÜFUNGS-ABTEILUNG
Landini DT 5860

Test-No.88-79



PRÜFUNGS-ABTEILUNG
Landini DT 5860

Test-No.88-79



PRÜFUNGS-ABTEILUNG
LANDINI DT 5860

Test No. 88-79

2 HYDRAULIC POWER AND LIFTING FORCE

Date of tests: 22nd June 1988

2.1 Hydraulic power test

Sustained pressure with relief valve open **16,7 MPa**
Pump delivery rate at minimum pressure **37,9 l/min**

	Hydraulic power kW	Flow rate l/min	Pressure MPa	Oil temperature °C
At 90% of the actual relief valve setting	8,2	32,6	15,0	35 *)
At max. power	8,5	34,5	14,8	35 *)

Tapping point used for test: At rear of tractor
*) oil temperature in suction line of hydraulic pump more than 60°C

2.2 Power lift test

	At the hitch point	On the frame
Height of lower hitch points above ground in down position	200 mm	200 mm
Vertical movement without lifting forces	680 mm	795 mm
Vertical movement with lifting forces	660 mm	715 mm
Max. corrected force exerted through full range	14,7 kN	14,4 kN
Corresponding pressure	14,8 MPa	14,8 MPa
Moment about rear axle	-	22,2 kNm
Max. tilt angle of mast from vertical	-	8°

Lifting heights relative to horizontal lower links

mm	-337	-302	-300	-200	-100	0	+100	+200	+300	+358	+378

Lifting forces at hitch points, corrected to 14,8 MPa

kN		14,7	14,8	17,3	19,0	20,0	20,8	21,3	21,7	21,9	

Lifting forces at standard frame, corrected to 14,8 MPa

kN	14,4		15,3	16,7	17,3	17,4	17,4	17,0	16,3		15,8

PRÜFUNGS-ABTEILUNG
LANDINI DT 5860

3 DRAWBAR PERFORMANCE

Date of tests: 8th till 16th June 1988
Type of track: Concrete

Gear	Driving speed km/h	Power kW	Drawbar pull kN	Engine speed rev/min	Slip of wheels %
3.1 Maximum power in tested gears (unballasted tractor) height of drawbar above ground 425 mm					
3 L	2,90	20,9	25,99	2315	14,9
1 M	3,37	24,4	26,02	2250	15,0
4 L	4,39	25,5	20,89	2250	9,9
2 M	5,80	26,2	16,28	2254	7,3
3 M	7,45	25,5	12,34	2250	5,3
1 H	9,35	25,6	9,86	2250	4,3
4 M	11,22	23,7	7,59	2246	3,3
3.2 Maximum power in tested gears (ballasted tractor) height of drawbar above ground 410 mm					
1 L	1,49	14,2	34,39	2374	14,9
2 L	2,26	21,5	34,28	2300	15,1
3 L	2,93	25,2	30,99	2254	11,1
1 M	3,62	25,9	25,79	2246	8,5
4 L	4,55	25,7	20,30	2254	6,2
2 M	5,90	25,8	15,76	2246	4,6
3 M	7,54	25,1	11,99	2250	3,5
3.3.1 Five-hour-test at 75% of pull at maximum power in 3 M gear					
3 M	7,84	19,6	8,99	2340	3,5
3.3.2 Five-hour-test at pull corresponding to 15% wheel slip in test 3.2					
2 L	2,24	21,4	34,45	2311	-

Total oil consumption during ten hours duration of tests 3.3.1 and 3.3.2 : 21 g/h

PRÜFUNGS-ABTEILUNG

Test No. 88-79

Tyre size front: 12.4 R 20
rear: 14.9 R 28

Specific fuel consumption g/kWh	Specific energy kWh/l	Temperatures Fuel °C	Coolant °C	Engine-oil °C	Atmospheric conditions Tempe-rature °C	Relative humidity %	Pressure kPa
tyre inflation pressure: 80 kPa at front and at rear							
359	2,28	19	74	77	16	97	99,6
355	2,31	20	75	75	16	99	99,6
339	2,42	20	75	74	16	99	99,6
328	2,50	21	75	79	17	95	99,6
334	2,45	21	74	81	17	95	99,6
336	2,44	21	74	80	17	95	99,6
362	2,26	21	74	78	17	98	99,6
tyre inflation pressure: 80 kPa at front and at rear							
408	2,01	24	75	78	18	74	99,5
364	2,25	23	75	77	18	90	99,5
339	2,42	24	74	79	18	87	99,6
329	2,49	27	75	81	21	72	99,5
331	2,47	25	75	80	19	73	99,5
331	2,48	26	74	80	20	71	99,5
339	2,42	27	75	81	20	69	99,5
367	2,23	24	75	83	18	80	100,0
-	-	29	77	90	22	74	99,5

Test 3.3.2 was carried out with additional ballast of 505 kg
the figures not quoted are therefore irrelevant

4 TURNING AREA AND TURNING CIRCLE (front wheel drive disengaged)

Wheel equipment front: 12.4 R 20
rear: 14.9 R 28

Track of wheels front: 1522 mm
rear: 1400 mm

	With brakes		Without brakes	
	left-hand m	right-hand m	left-hand m	right-hand m
Radius of turning area	3,86	3,87	4,52	4,50
Radius of turning circle	3,62	3,64	4,28	4,27

5 LOCATION OF CENTRE OF GRAVITY

Height above ground	771 mm
Distance forward from rear axle centre	887 mm
Distance from tractor's median plane, to the right	3 mm

PRÜFUNGS-ABTEILUNG
LANDINI DT 5860

Test No. 88-79

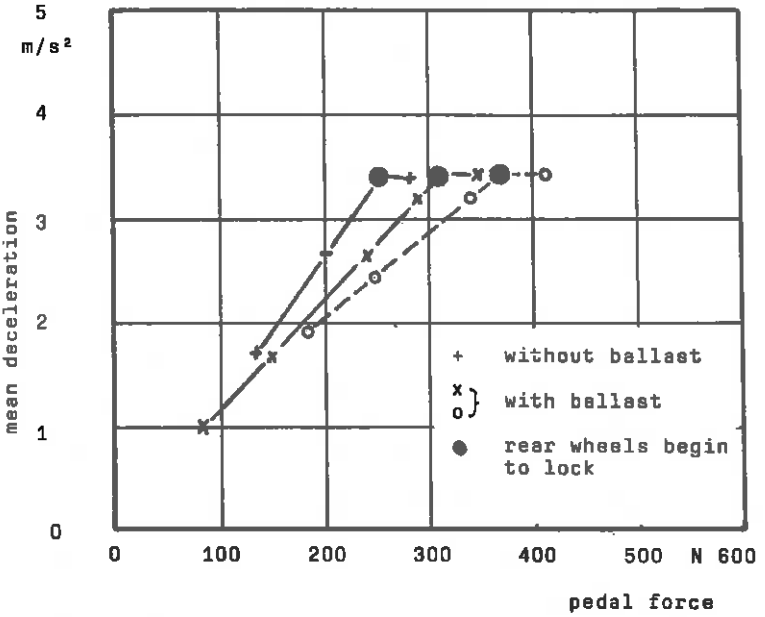
6 BRAKING (Front wheel drive disengaged)

Date of tests: 14th June 1988

	Tractor mass (with driver) front kg	rear kg	total kg	Speed before application of brakes km/h
Without ballast	1065	1470	2535	29,6
With ballast	1410	2120	3530	29,1

6.1 Cold service braking device test

6.2 Fade test



No significant deviation of tractor from original course and no abnormal vibrations

Brakes-heating: Actuating of brake for 1 km with pedal force corresponding to 1 m/s²

6.3 Parking braking device test

		Ballasted tractor on 18% - slope up	down
Braking device control force	N	170	170

PRÜFUNGS-ABTEILUNG
LANDINI DT 5860 Test No. 88-79

7 MEASUREMENT OF EXTERNAL NOISE LEVEL

Date of test: 13th June 1988
Type of track: Concrete
Type of sound level meter: BRÜEL & KJAER model 2233

Results of test

Gear: 4 H (Front wheel drive disengaged)
Travelling speed before acceleration: 22,2 km/h
Sound level: 86,0 dB(A)

APPENDIX

MEASUREMENT OF NOISE IN THE PROTECTIVE STRUCTURE

with 4-post frame LANDINI TS 19/2

Date of test: 9th September 1988
Type of track: Concrete
Type of sound level meter: BRÜEL & KJAER model 2233

Gear	Drawbar pull kN	Travelling speed km/h	Sound level dB(A)
1 L	25,20	1,44	93,5
2 L	25,59	2,27	94,5
3 L	25,54	2,87	95,0
1 M	25,40	3,33	95,0
4 L	20,79	4,38	96,0
2 M	16,15	5,79	96,0
3 M +)	12,25	7,45	95,5
3 M +)	light load	8,53	91,5
1 H	9,74	9,36	95,5
4 M	7,44	11,24	95,5
2 H	5,49	15,03	95,0
4 H *)	light load	29,58	95,0

+) The 3 M gear corresponds to the nominal travelling speed nearest to 7,5 km/h

*) Front wheel drive disengaged

OPTIONAL TEST

8. ENGINE PERFORMANCE

Date of tests: 9th May 1988
Location of tests: DLG-Testing-Station Groß-Umstadt
Type of dynamometer: SCHENCK eddy-current-dynamometer W 150

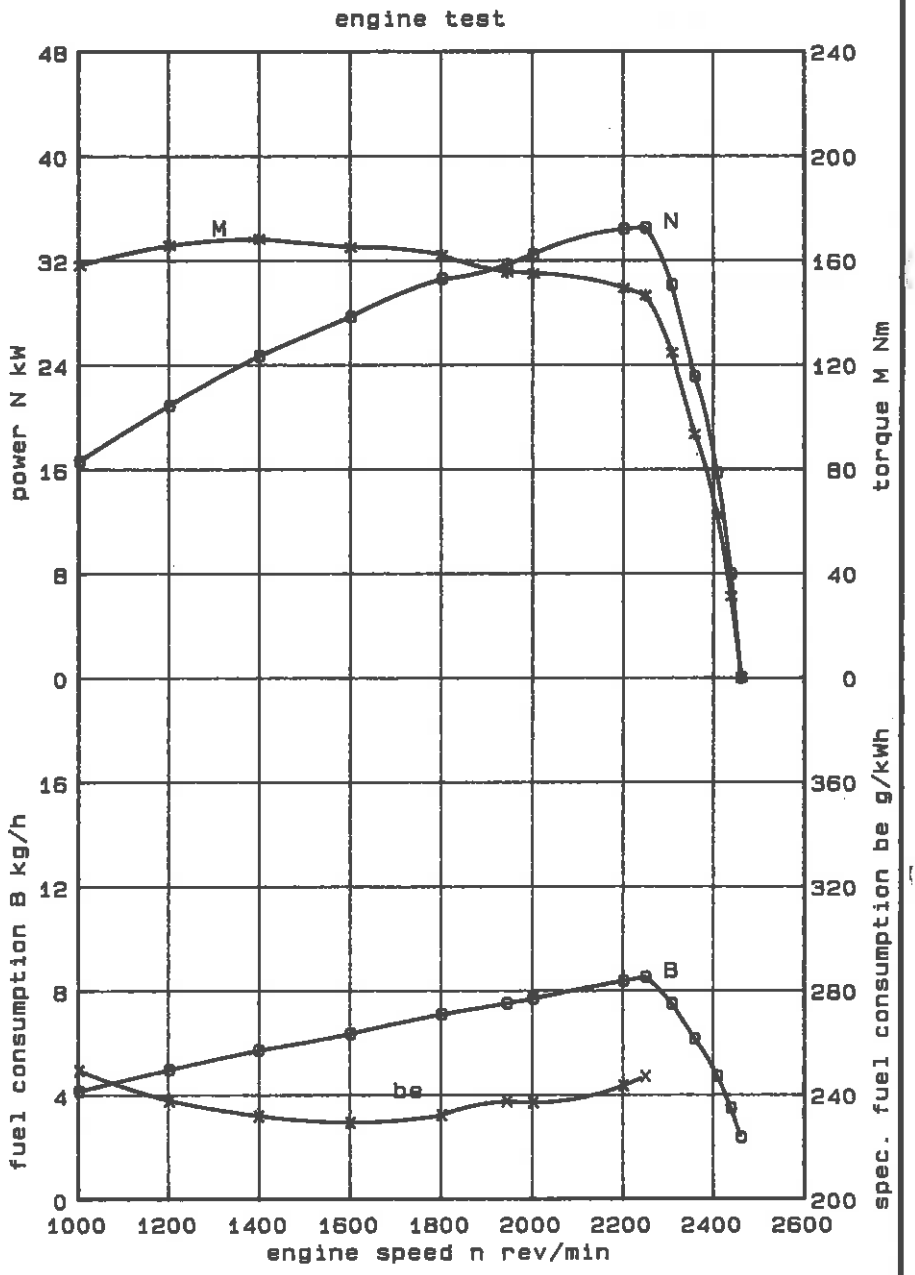
Power kW	Engine speed rev/min	Fuel consumption hourly l/h	Fuel consumption hourly kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
Maximum power					
8.1 At 2-hour test					
34,5	2250	10,16	8,53	247	3,40
8.2 At rated engine speed					
34,5	2250	10,16	8,53	247	3,40
8.3 At standard p.t.o. speed (540 rev/min)					
31,7	1944	8,96	7,52	237	3,53
8.4 Part loads					
8.4.1 the torque corresponding to maximum power at rated speed					
34,5	2250	10,16	8,53	247	3,40
8.4.2 85% of the torque obtained in 8.4.1					
30,1	2308	8,93	7,49	249	3,37
8.4.3 75% of the torque obtained in 8.4.2					
23,1	2359	7,32	6,14	266	3,15
8.4.4 50% of the torque obtained in 8.4.2					
15,7	2409	5,62	4,72	300	2,79
8.4.5 25% of the torque obtained in 8.4.2					
8,0	2439	4,15	3,48	438	1,91
8.4.6 unloaded					
-	2461	2,82	2,37	-	-

Optimum fuel consumption: 222 g/kWh at 17.1 kW and 1238 rev/min
No load maximum engine speed: 2461 rev/min
Torque at rated engine speed: 146 Nm
Maximum torque: 168 Nm at 1399 rev/min of the engine

Mean atmospheric conditions	temperature	25 °C
	pressure	100 kPa
	relative humidity	40 %
Maximum temperatures	coolant	75 °C
	oil	86 °C
	fuel	24 °C
	engine air intake	24 °C

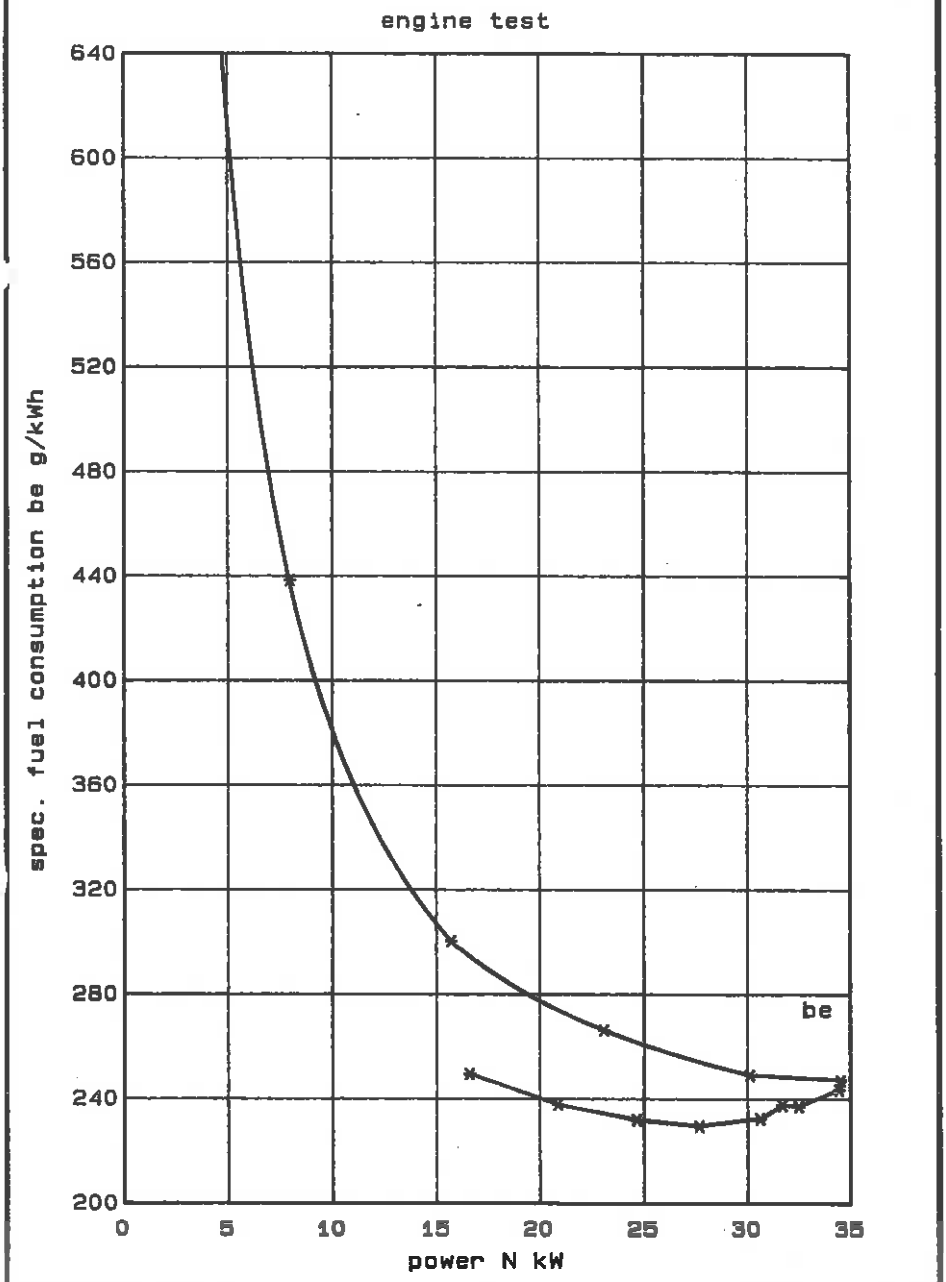
PRÜFUNGS-ABTEILUNG
Landini DT 5860

Test-No.88-79



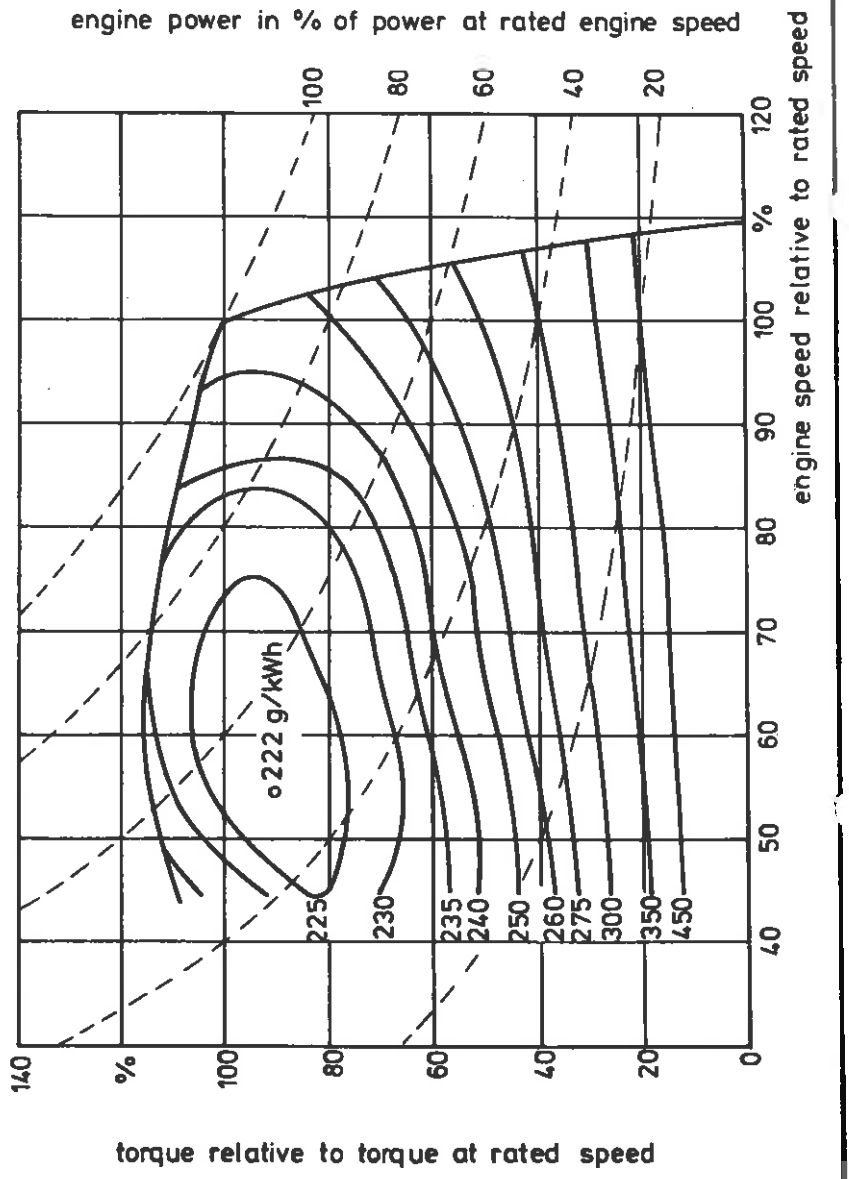
PRÜFUNGS-ABTEILUNG
Landini DT 5860

Test-No.88-79



PRÜFUNGS-ABTEILUNG
LANDINI DT 5860

Test No. 88-79



Published
with the support of the Federal Minister for Food, Agriculture and Forestry

Deutsche Landwirtschafts-Gesellschaft e.V. (DLG)
Fachbereich Landtechnik — Prüfungsabteilung —
Zimmerweg 16 (DLG-Haus)
D-6000 Frankfurt am Main 1