O.E.C.D. Report No.: 261

Report on test in accordance with
O.E.C.D. Test Code for Agricultural Tractors

DEUTZ DIESEL TRACTOR D 90 06

Manufactured by: KLÖCKNER-HUMBOLDT-DEUTZ A.G.
5 Köln-Deutz



Date of Tests: September 1968 - March 1969

This report has been approved by the O.E.C.D.
Co-ordinating Centre (C.N.E.E.M.A., France) as being
in accordance with the O.E.C.D.-Tractor Test Code

Date of Approval: 31.3.1969 Serial No.: 261

DEUTSCHE LANDWIRTSCHAFTS-GESELLSCHAFT e.V.
Prüfungsabteilung für Landmaschinen
6 Frankfurt am Main, Zimmerweg 16

This Bulletin is based on engineering tests in accordance with the O.E.C.D.-Tractor Test Code. It does not contain an evaluation of the performance of the tractor on practical farm work.

PRÜFUNGS-ABTEILUNG
Deutz D 90 06

Test No.: 68 - 151

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PRÜFUNGS-ABTEILUNG
Deutz D 90 06

Test No. 68 - 151

Tractor manufacturer: Klöckner-Humboldt-Deutz A.G.,5 Köln-Deutz
Submitted for test by: Manufacturer
Selected by: Manufacturer by agreement with DLG, Frankfurt
Place of running-in : Köln-Deutz and Gross-Umstadt
Duration of running-in : Engine appr. 70 hours, tractor appr. 70 hours

SPECIFICATION OF TRACTOR

Tractor

Make: Klöckner-Humboldt-Deutz A.G.,5 Köln-Deutz
Model: D 90 06
Type: Diesel-tractor, unit construction
Serial No.: 7923/3

Engine

Make: Klöckner-Humboldt-Deutz A.G.,5 Köln-Deutz
Model: F 6 L 912
Type: Air cooled 4-stroke Diesel engine
Serial No.: 4699 489

Cylinders: 6 cylinders, vertical in line; 95 mm bore, 120 mm stroke; capacity 5100 cm³; compression ratio 17 : 1; overhead valves; replaceable ribbed single cylinders

Fuel system: Fuel: commercially available diesel oil; Bosch type EP/VA 6100 H 1150 RV 1058 distributor type injection pump; Bosch type DLLA 149 S 394 injection nozzles; injection pressure 185 kp/cm²; injection timing 24° before TDC; felt-tube filter element, sediment bowl

Governor: Robert Bosch GmbH, 7 Stuttgart, hydraulical variable speed type governor incorporated in injection pump; governed range of engine speed 650 rev/min to 2450 rev/min; rated engine speed for p.t.o.-work 2300 rev/min
for field-work 2300 rev/min
for transportation-work 2300 rev/min
for belt-work 2300 rev/min

Air cleaner: Main cleaner
Make: Motor-Condensator, 68 Mannheim
oil-bath type, oil capacity 1,75 l

Pre-cleaner
Make: Motor-Condensator, 68 Mannheim
centrifugal type

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PRÜFUNGS-ABTEILUNG
Deutz D 90 06

Test No.: 68 - 151

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PRÜFUNGS-ABTEILUNG
Deutz D 90 06

Test No. 68 - 151

Tractor manufacturer:	Klöckner-Humboldt-Deutz A.G.,5 Köln-Deutz
Submitted for test by:	Manufacturer
Selected by:	Manufacturer by agreement with DLG, Frankfurt
Place of running-in :	Köln-Deutz and Gross-Umstadt
Duration of running-in :	Engine appr. 70 hours, tractor appr. 70 hours

SPECIFICATION OF TRACTOR

Tractor

Make: Klöckner-Humboldt-Deutz A.G.,5 Köln-Deutz
Model: D 90 06
Type: Diesel-tractor, unit construction
Serial No.: 7923/3

Engine

Make: Klöckner-Humboldt-Deutz A.G.,5 Köln-Deutz
Model: F 6 L 912
Type: Air cooled 4-stroke Diesel engine
Serial No.: 4699 489

Cylinders: 6 cylinders, vertical in line; 95 mm bore, 120 mm stroke; capacity 5100 cm³; compression ratio 17 : 1; overhead valves; replaceable ribbed single cylinders

Fuel system: Fuel: commercially available diesel oil; Bosch type EP/VA 6100 H 1150 RV 1058 distributor type injection pump; Bosch type DLLA 149 S 394 injection nozzles; injection pressure 185 kp/cm²; injection timing 24° before TDC; felt-tube filter element, sediment bowl

Governor: Robert Bosch GmbH, 7 Stuttgart, hydraulical variable speed type governor incorporated in injection pump; governed range of engine speed 650 rev/min to 2450 rev/min; rated engine speed for p.t.o.-work 2300 rev/min
for field-work 2300 rev/min
for transportation-work 2300 rev/min
for belt-work 2300 rev/min

Air cleaner: Main cleaner
Make: Motor-Condensator, 68 Mannheim
oil-bath type, oil capacity 1,75 l

Pre-cleaner
Make: Motor-Condensator, 68 Mannheim
centrifugal type

Lubrication system:	Forced feed from gear type pump; metal strainer in sump; screen type filter in full flow with by-pass valve; oil capacity 14 l; oil changing period 100 - 120 hours when branded normal oil is used, 200 - 240 hours when branded HD-Supplement I - oil is used; recommended in winter HD SAE 10 W in summer HD SAE 20 W/20 in tropics HD SAE 30
Cooling system:	Air cooling from V-belt driven axial blower
Electrical equipment	Voltage 12 Volt, negative earth
Starting device:	Bosch 12 Volt type JD (R) 12 V 4 PS starter motor
Starting aid:	Bosch flame glow plug type B 12 V H 7632 in the intake pipe
Generator:	Bosch 12 Volt type G 14 V 16 A 21
Battery:	Lead acid type 12 V 143 Ah cold starting-high capacity unit

Transmission

Clutch:	Make: J.Walterscheid K.G., 52 Siegburg type DH 327/310 dry disc dual clutch, operated by foot pedal
Gear box:	Make: Zahnradfabrik Friedrichshafen AG., 799 Friedrichshafen type T 330 I; sliding gear type selection gear with 2-stage group and creep speed group, giving 12 forward speeds and 6 reverse
Rear axle and final drive:	Make: Zahnradfabrik Friedrichshafen AG., 799 Friedrichshafen bevel gear type differential gear with crown wheel and pinion; differential lock fitted, operated by hand- or foot lever; self disengaging; planetary reduction final drive
Oil capacity:	Selecting gear and rear axle appr. 40 l, planetary reduction each one 6,5 l; recommended oil changing period 1000 hours

PRÜFUNGS-ABTEILUNG
Deutz D 90 06

Test No. 68 - 151

Total ratios and speeds

Group gear	Selecting gear No.	Number of engine revolutions for one revolution of the driving wheel	Theoretical travelling speed for 2300 rev/min rated speed of engine km/h	m/s
		Forward		
creeping gear slow group	1	686,1 : 1	0,9	0,267
	2	437,5 : 1	1,5	0,417
fast group	1	225,5 : 1	2,9	0,811
	2	143,8 : 1	4,6	1,272
slow group	1	279,5 : 1	2,4	0,656
	2	178,2 : 1	3,7	1,026
	3	114,9 : 1	5,7	1,592
	4	74,5 : 1	8,9	2,454
fast group	1	91,9 : 1	7,2	1,991
	2	58,6 : 1	11,3	3,122
	3	37,8 : 1	17,5	4,842
	4	24,5 : 1	26,9	7,467
		Reverse		
creeping gear	1	568,5 : 1	1,2	0,322
	2	362,5 : 1	1,8	0,505
slow group	1	231,5 : 1	2,8	0,790
	2	147,7 : 1	4,5	1,238
	3	95,2 : 1	6,9	1,921
	4	61,8 : 1	10,7	2,961

Remark: in page 13 and page 14 is:

1.Kr.l. = creeping gear, slow group, 1.speed
2.Kr.l. = creeping gear, slow group, 2.speed
1.l. = slow group, 1.speed
1.Kr.s. = creeping gear, fast group, 1.speed
2.l. = slow group, 2.speed
2.Kr.s. = creeping gear, fast group, 2.speed
3.l. = slow group, 3.speed
1.s. = fast group, 1.speed

PRÜFUNGS-ABTEILUNG
Deutz D 90 06

Test No. 68 - 151

Power take-off	Main p.t.o., live power take-off, manually engaged
Location:	At rear of tractor, in median plane of tractor, 635 mm above ground
Dimensions:	29 x 34,9 x 8,7 mm = $1^3/8$", 6 splines (acc.to DIN 9611 Form A; B.S. 1495; ASAE S 203.2)
Speed:	585 rev/min at 2300 rev/min rated engine speed; standard p.t.o.-speed 540 rev/min at 2118 rev/min engine speed, may be set by aid of tractormeter
Direction of rotation:	Clockwise viewed from tractor rear
Belt pulley	(not fitted on tractor tested; figures acc.to manufacturers specification)
Location:	At rear of tractor; driving device on p.t.o.-shaft; manually engaged
Dimension:	280 mm diameter, 220 mm width
Speed:	1320 rev/min at 2300 rev/min rated engine speed; linear belt speed 19,37 m/s
Direction of rotation:	Anticlockwise viewed from right hand side of tractor
Power lift	Make: Zahnradfabrik Friedrichshafen AG. 799 Friedrichshafen Type KR 25, live hydraulic power lift (Deutz Transfermatic System) with draft control, position cantrol, floating position; single acting ram; over pressure relief valve for ram; Bosch type HY/ZFR 1/14 CL (112/1) gear type pump directly driven from engine; maximum oil pressure 175 kp/cm²; oil capacity 15 l; Bosch type HY/SR 10H 2/175/7 control valve (up to 4 external tappings for remote controlled cylinders available)
Pull attachment	
Implement linkage:	Three point implement linkage category II (acc.to DIN 9674) controlled by power lift; lift range above ground from 90 mm to 718 mm with lift rods long adjusted; from 320 mm to 965 mm with lift rods short adjusted
Drawbar:	Fixed on three point linkage; hight above ground from 90 mm to 965 mm adjustable by power lift and changing length of lift rods; distance from the end of p.t.o.-shaft 742 mm at lower links in horizontal position; centre hole and 3 holes apart either side of centre line with 80 mm distance each (acc.to DIN 9611)
Swinging drawbar:	Available, but not fixed on tractor tested

Trailer hitch:	At rear of tractor; height above ground 825 mm and 855 mm, changed by reversing the hitch; distance from centre of rear axle 650 mm
Towing hitch:	At front of tractor; height above ground 795 mm

Steering device

Make: Zahnradfabrik Friedrichshafen AG.,
799 Friedrichshafen
Type: ZF Column Hydrosteering model 7409

Brakes

Parking brake:	Mechanically operated by hand lever with ratchet, acting as Simplex Internal shoe type brake on drums on differential shafts
Foot brake:	Hydraulically operated by foot pedal, acting as Servo internal shoe type brake on drums on differential shafts
Steering brake:	Hydraulically operated by the single parts of the divided foot pedal; for road work both parts must be connected by a safety bolt

Wheels

Steering wheels:	Two at front; Tyres 7,50-20 AS Front, 6 ply pneumatic (acc.to DIN 7808); track 1420 mm by 100 mm steps to 2020 mm changed by extending front axle. Maximum permissible weight on each tyre 850 kp at 2,5 kp/cm^2 inflation pressure; 1063 kp when transporting mounted implements; rim 5,50 F x 20
Driving wheels:	Two at rear; Tyres 18,4/15-34 AS, 8 ply pneumatic (acc.to DIN 7807); track 1624 - 1724 - 1820 - 1920 - 2024 - 2124 mm changed by reversing wheel centres and offset lug type rims. Maximum permissible weight on each tyre 2565 kp at 1,4 kp/cm^2 ; 2950 kp when transporting mounted implements; rim DW 14 x 34
Wheel base:	2550 mm

PRUFUNGS-ABTEILUNG
Deutz D 90 06

Test No. 68 - 151

Weights With power lift, three-point linkage, full fuel tank and oil, as tested

		without driver	with driver
Weight of tractor without driver:	Front axle load:	1385 kp	1395 kp
	Rear axle load:	2220 kp	2285 kp
	Total:	3605 kp	3680 kp
Ballast front:	5 weights on front frame		115 kp
Ballast rear:	Water in tyres		650 kp
	1 master weight and 10 weights per wheel		1525 kp
		without driver	with driver
Weight of tractor with ballast:	Front axle load:	1515 kp	1525 kp
	Rear axle load:	4380 kp	4445 kp
	Total:	5895 kp	5970 kp

Seat Make: W.Grammer, 845 Amberg
Type: upholstered seat with arm rests and back rest; parallelogram linkage, spring with hydraulic shock absorber, adjustable according drivers weight; in median plane; in length direction adjustable by 150 mm; height above ground appr. 1435 mm

Number of grease points (whole tractor): 14

Overall dimensions

Overall length:	4210 mm with three-point linkage
Overall width :	2090 mm at 1644 mm track, without ballast weights
Overall height:	2220 mm to top of exhaust pipe
Maximum ground clearance:	440 mm in median plane of tractor

Lighting equipment Electric 12 Volt, acc. to StVZO (German lighting regulation)

	Height above ground of centre mm	Dimensions of area mm	Distance from outside edge of tractor to centre mm
Head lights	1061	130 Ø	894
Side lights	1642	47 x 50	70
Rear lights	1425	47 x 50	120
Reflectors	100	85 Ø	100

PRÜFUNGS-ABTEILUNG
Deutz D 90 06

Test No. 68 - 151

FUELS AND LUBRICANTS USED IN TESTS

Laboratory tests

Fuel:	Aral Diesel oil, specific gravity at 15°C : 0,828 kg (commercially available quality acc.to DIN 51 601)
Engine oil:	Shell Rotella SAE HD 20
Transmission oil:	SAE 90

Track tests

Fuel:	Aral Diesel oil, specific gravity at 15°C .: 0,828 kg (commercially available quality acc.to DIN 51 601)
Engine oil:	Shell Rotella SAE HD 20
Transmission oil:	SAE 90

PRÜFUNGS-ABTEILUNG
Deutz D 90 06

Test No. 68 - 151

COMPULSORY TESTS

(1) MAIN POWER TAKE-OFF PERFORMANCE

Date and location of test: 18.10.1968, Gross-Umstadt

Type od dynamometer: Schenck hydraulic dynamometer U1 - 40

Maximum power

Horsepower (metric) hp	Speed engine rev/min	Speed p.t.o. rev/min	Fuel consumption total l/h	Fuel consumption specific g/hph	hph/l
At maximum power 2-hour test					
90,3	2300	586	19,6	180	4,61
At standard p.t.o.speed (540 rev/min)					
90,0	2118	540	19,0	174	4,73
At the speed recommended by the manufacturer for drawbar work					
90,3	2300	586	19,6	180	4,61
Fuel consumption at part loads					
(i) 85% of torque at maximum power					
77,7	2330	594	17,3	184	4,48
(ii) unloaded					
-	2420	616	5,4	-	-
(iii) 50% of the loed defined in (i)					
40,3	2380	605	10,7	220	3,77
(iv) maximum power					
90,3	2300	586	19,6	180	4,61
(v) 25% of the load defined in (i)					
19,5	2395	610	7,9	335	2,46
(vi) 75% of the load defined in (i)					
57,6	2360	600	13,9	198	4,18

No load maximum engine speed: 2420 rev/min

Torque*) at maximum power: 28,1 kpm

Maximum torque*) 33,2 kpm at 1285 rev/min of the engine

Mean atmospheric conditions: temperature: 22°C
pressure: 733 mm Hg
relative humidity: 65%

Maximum temperatures: coolant: not recorded
engine oil: 75°C
fuel: 25°C

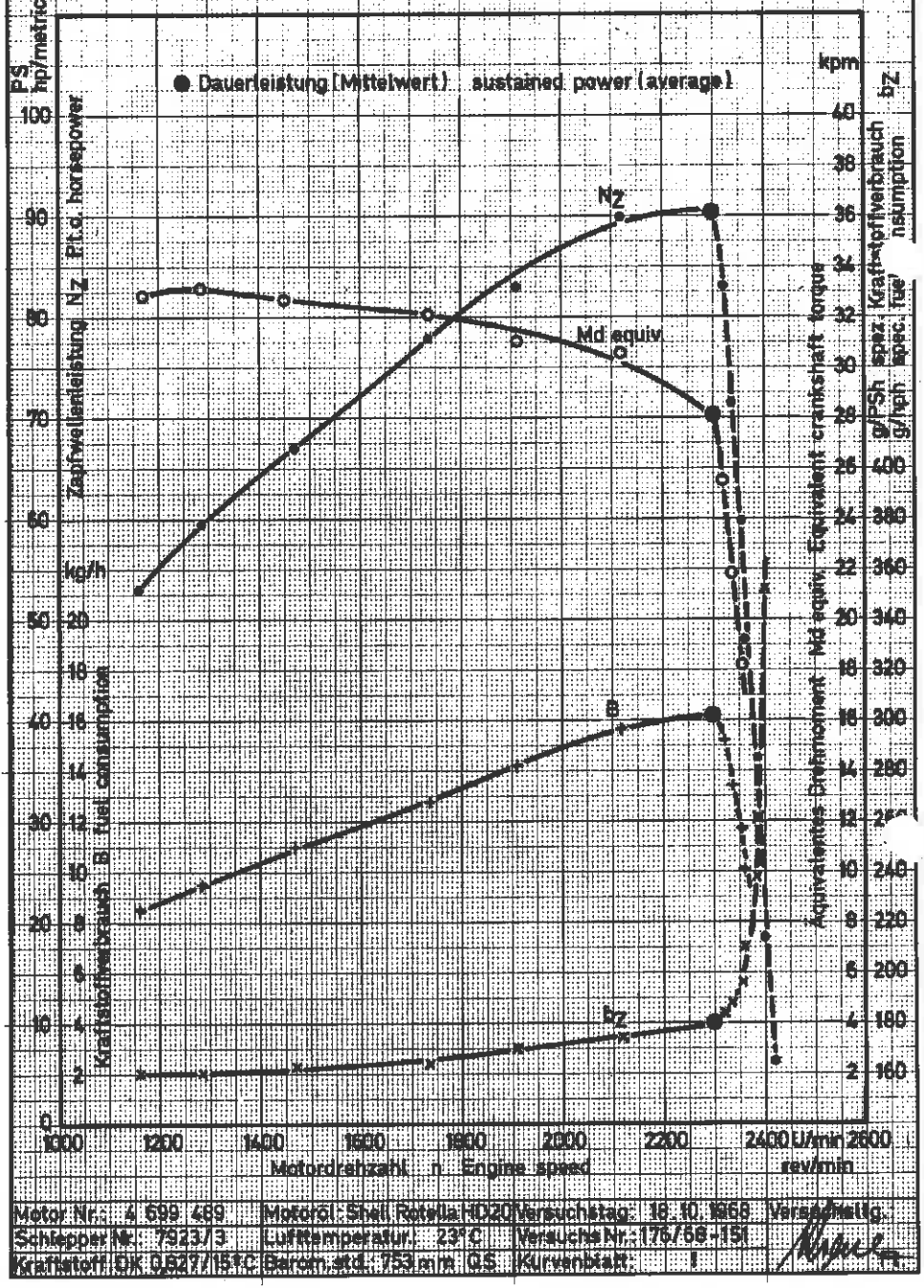
*)The torque reported is the equivalent crankshaft torque

PRÜFUNGS-ABTEILUNG

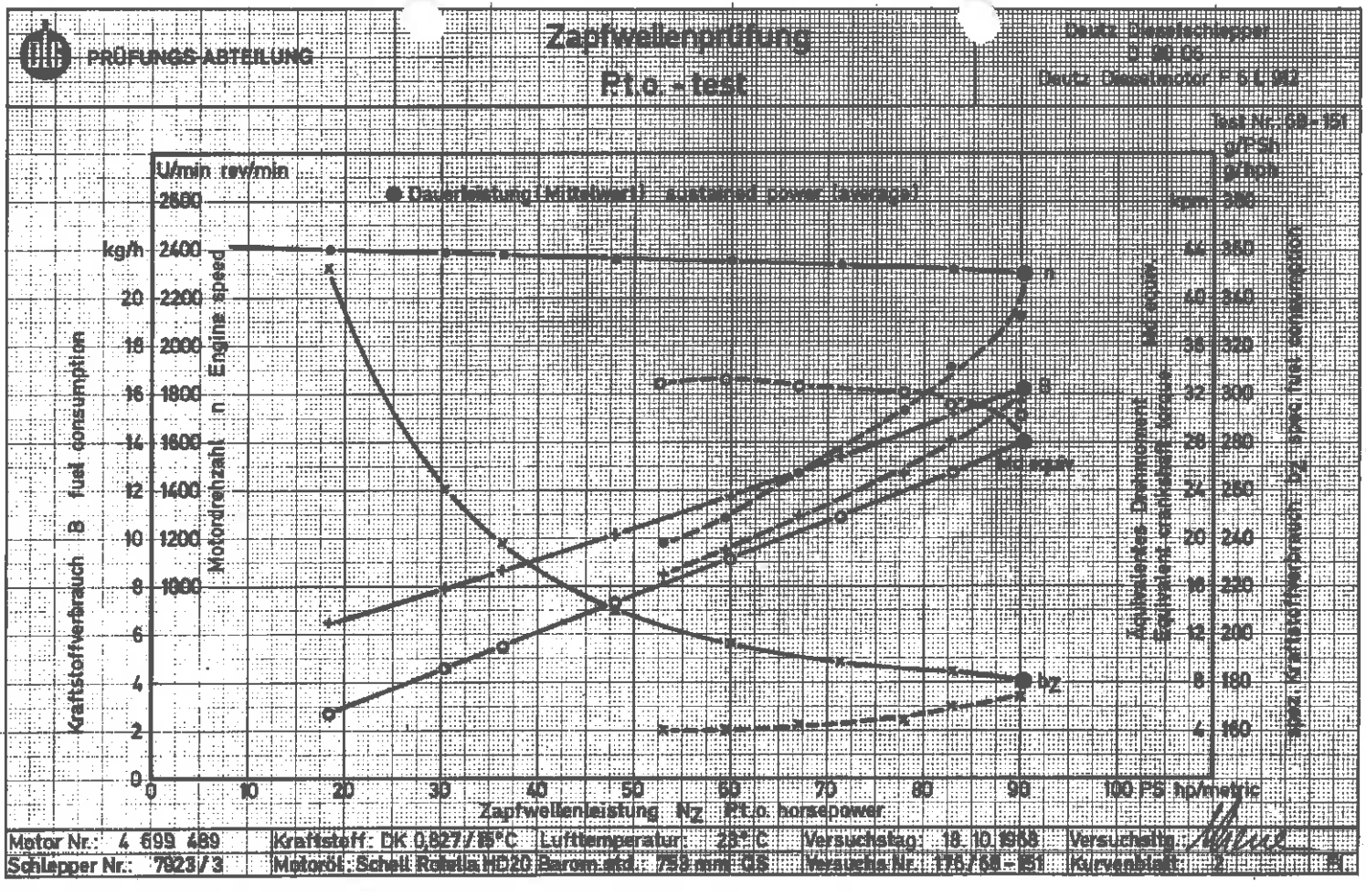
Zapfwellenprüfung
P.t.o. - test

Deutz Dieselschlepper
D 90 06
Deutz Dieselmotor F 6 L 912

Test Nr.: 68 - 151



Motor Nr.: 4 699 489 | Motoröl: Shell Retella HD 20 | Versuchstag: 18. 10. 1968 | Verantwortlich:
Schlepper Nr.: 7923/3 | Lufttemperatur: 23°C | Versuchs Nr.: 176/68 - 151
Kraftstoff: DK 0827/15 °C | Barom. std.: 753 mm QS | Kurvenblatt: 1


PRÜFUNGS-ABTEILUNG
Zapfwellenprüfung
P.t.o. - test
Deutz Dieselschlepper
D 30 06
Deutz Dieselmotor F 6 L 912
Test Nr.: 58-151
U/min rev/min
Dauerleistung (Mittelwert) sustained power (average)
kg/h
g/PSh
g/hph
Kraftstoffverbrauch B fuel consumption
Motordrehzahl n Engine speed
Zapfwellenleistung Nz P.t.o. horsepower
100 PS hp/metric
Motor Nr.: 4 699 489
Schlepper Nr.: 7923/3
Kraftstoff: DK 0,827/15°C
Motoröl: Schell Rotella HD20
Lufttemperatur: 23° C
Baromet. d.: 758 mm QS
Versuchstag: 18. 10. 1968
Versuchs Nr.: 176/68 - 51
Versuchsltg.:
Kurvenblatt:

(2) DRAWBAR PERFORMANCE

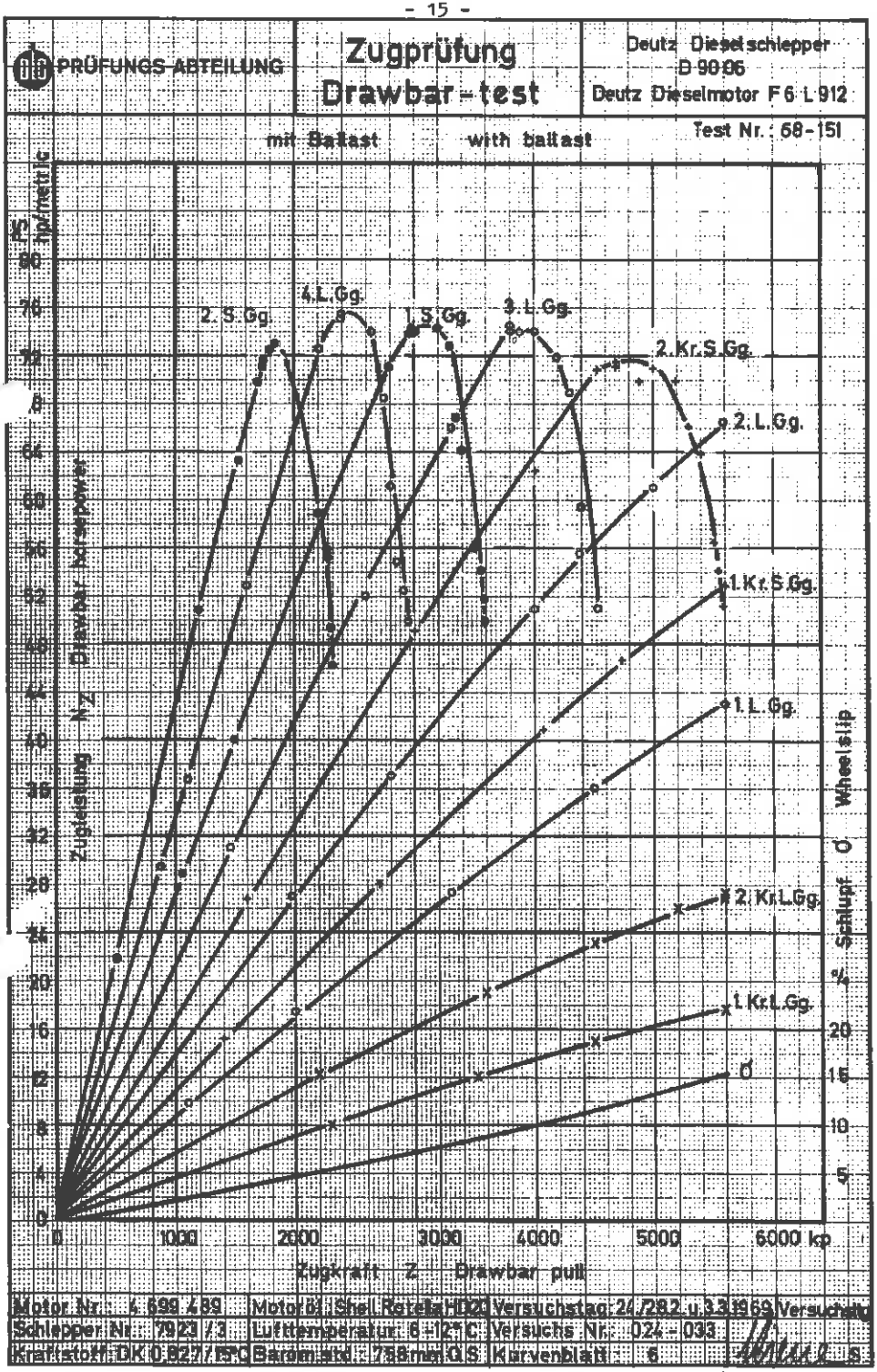
Date of tests: February and march 1969
Type of track: concrete
Height of drawbar above ground: 540 mm

With ballast

Gear No. and group	Horse-power (metric) hp	Drawbar pull kp	Engine speed rev/min	Slip of wheels %	Specific work hph/l	Specific fuel consumpt. g/hph	Temperatures Fuel °C	Coolant °C	Engine oil °C	Atmospheric conditions Temperature °C	Relative hunmidity %	Pressure mm Hg
(i) MAXIMUM POWER												
1.Kr.i.*)	17,8	5600	2400	15,5	-	-	-	n.rec.	90	10	74	750
2.Kr.i.	27,3	5580	2400	15,5	-	-	-	n.rec.	90	10	73	750
1.i.	43,1	5610	2360	15,3	-	-	-	n.rec.	90	8	76	750
1.Kr.s.	53,3	5610	2345	15,3	3,3	252	8	n.rec.	90	9	77	750
2.i.	66,4	5610	2320	15,3	3,4	243	8	n.rec.	95	8	78	750
2.Kr.s.	71,6	4750	2300	12,3	3,8	230	10	n.rec.	95	12	78	753
3.i.	74,5	3820	2305	9,3	3,8	221	9	n.rec.	95	10	82	742
1.s.	74,5	2970	2300	7,0	3,8	221	8	n.rec.	95	9	83	742
4.i.	75,7	2400	2300	5,0	3,8	218	4	n.rec.	90	6	86	742
2.s.	72,6	1800	2280	3,1	3,8	227	6	n.rec.	90	9	87	750
(ii) FIVE-HOUR-TEST AT 75% OF PULL AT MAXIMUM POWER IN 3th 1.GEAR												
3.i.	59,1	2860	2360	6,3	3,7	229	5	n.rec.	90	7	60	751
(iii) FIVE-HOUR-TEST AT PULL CORRESPONDING TO 15% WHEEL SLIP IN TEST (i)												
2.i.	-	5600	Test has been carried out with additional ballast. No other results recorded.									
Without ballast (v) MAXIMUM POWER												
2.Kr.s.	52,1	3400	2350	15,4	3,34	251	4	n.rec.	80	3	69	757
3.i.	64,7	3400	2335	15,3	3,52	237	5	n.rec.	80	4	68	757
1.s.	71,7	2970	2300	12,6	3,61	231	7	n.rec.	80	6	65	757
4.i.	74,2	2410	2300	9,9	3,74	223	7	n.rec.	80	6	60	757
2.s.	73,5	1830	2295	7,0	3,70	225	3	n.rec.	80	2	70	757

Engine oil consumption during ten hours duration of tests (ii) and (iii) : 47 g/h

*) see remark on page 6


PRÜFUNGS-ABTEILUNG
Zugprüfung
Drawbar-test
Deutz Dieselschlepper
D 9006
Deutz Dieselmotor F 6 L 912
mit Ballast
with ballast
Test Nr.: 68-151
Nutzleistung
Drawbar horsepower
Zugleistung
Wheelslip
Schlupf
2. S. Gg.
4. L. Gg.
1. S. Gg.
3. L. Gg.
2. Kr. S. Gg.
2. L. Gg.
1. Kr. S. Gg.
1. L. Gg.
2. Kr. L. Gg.
1. Kr. L. Gg.
0
1000
2000
3000
4000
5000
6000 kp
Zugkraft Z Drawbar pull
Motor Nr. 4 699 489
Motoröl: Shell Retella HD 20
Versuchstag: 24./28.2. u. 3.3.1969
Versuchsstelle
Schlepper Nr. 7923 73
Lufttemperatur: 6 - 12° C
Versuchs Nr. 024 - 033
Kraftstoff: DK 0 827 / 15° C
Barom. stand: 738 mm Q.S.
Kurvenblatt 6

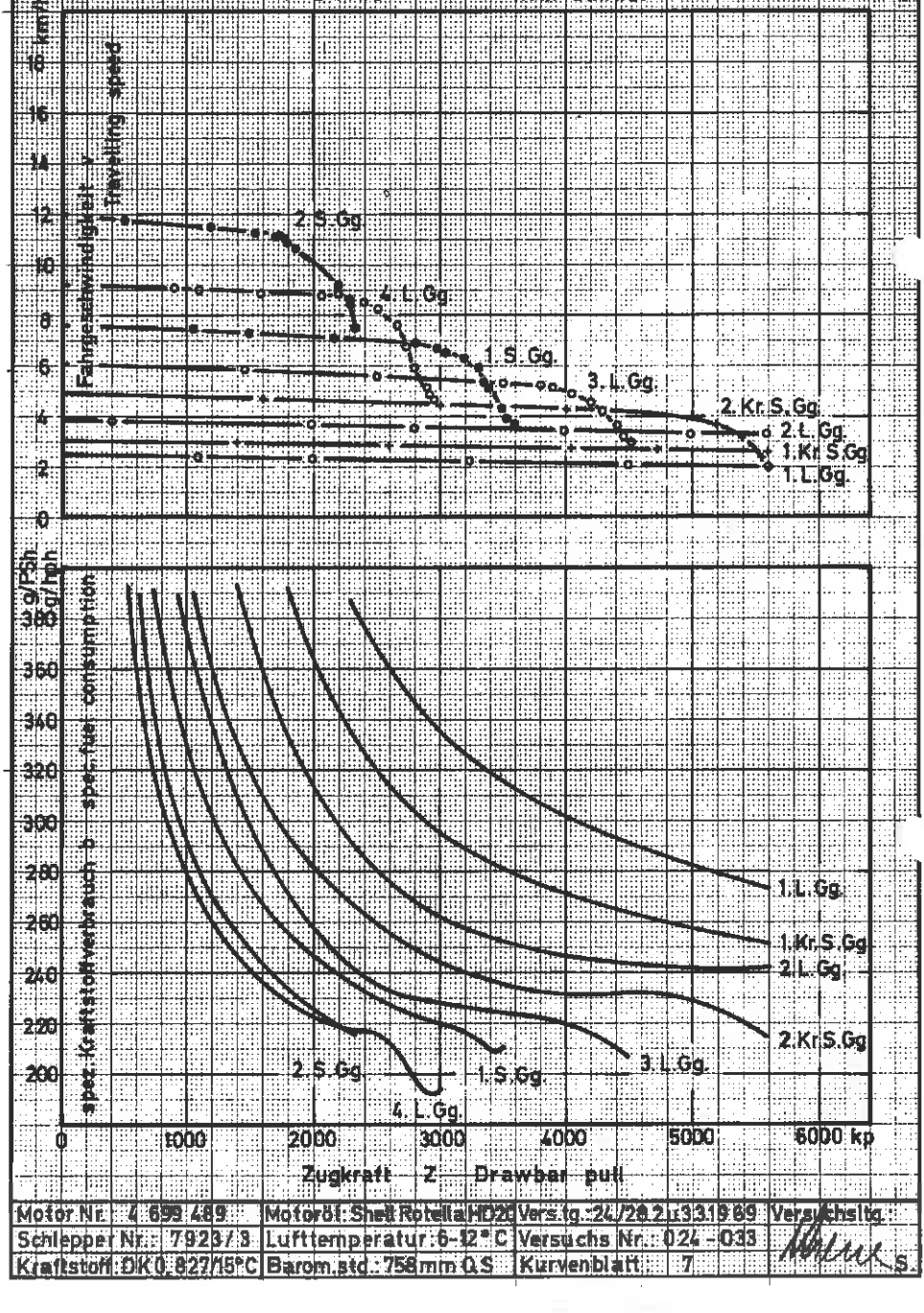
PRÜFUNGS-ABTEILUNG

Zugprüfung
Drawbar-test

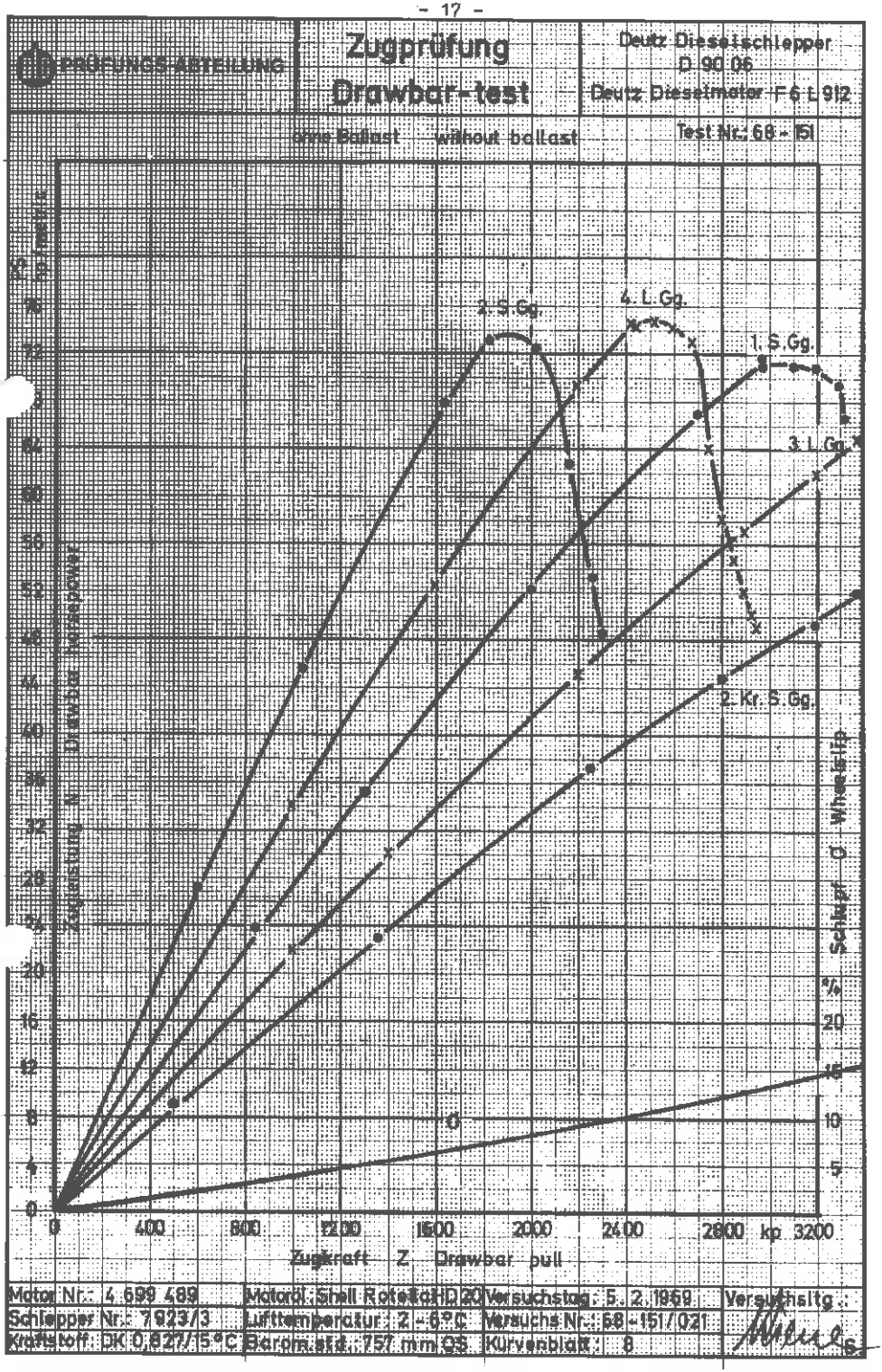
Deutz Dieselschlepper
D 90 06
Deutz Dieselmotor F6 L 912

Test Nr.: 68-151

mit Ballast with ballast



Motor Nr.: 4 699 489	Motoröl: Shell Rotella HD20	Vers.tg.: 24/28.2.1331989	Versuchsltg.:
Schlepper Nr.: 7923/3	Lufttemperatur: 6-12° C	Versuchs Nr.: 024 - 033	Mörbeck S.
Kraftstoff: DK 0,827/15°C	Barom.std.: 758 mm QS	Kurvenblatt: 7	


PRÜFUNGS-ABTEILUNG
Zugprüfung
Drawbar-test
Deutz Dieselschlepper
D 90 06
Deutz Dieselmotor F 6 L 912
ohne Ballast – without ballast
Test Nr.: 68 - 151
2. S.Gg.
4. L.Gg.
1. S.Gg.
3. L.Gg.
2. Kr. S.Gg.
Zugleistung N Drawbar horsepower
Schlupf Wheelslip
Zugkraft Z Drawbar pull
kp
Motor Nr.: 4 699 489
Motorol Shell Rotella D 20
Versuchstag: 5. 2. 1969
Schlepper Nr.: 7923/3
Lufttemperatur: 2 - 6 °C
Versuchs Nr.: 68 - 151 / 021
Kraftstoff: DIN 0,827/15 °C
Barom. std.: 757 mm QS
Kurvenblatt: 8

(3 and 4) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 7,50-20 AS Front, 6 ply, without ballast
rear: 18,4/15-34 AS, 8 ply, without ballast

Track of wheels front: 1620 mm
rear: 1650 mm

	With brakes		Without brakes	
	left-hand m	right-hand m	left-hand m	right-hand m
Radius of turning space	4,50	4,43	4,92	4,84
Radius of turning circle	4,33	4,25	4,74	4,65

(5) LOCATION OF CENTRE OF GRAVITY

	Without ballast mm
Height above ground	820
Distance forward from the vertical plane containing the axis of the rear wheels	818
Distance from the median plane of the tractor	0

(6) BRAKE TESTS

A) FOOT BRAKE

Date of test: 6.3.1969

Type of track: concrete

Type of decelerometer: Moto Meter Bremsverzögerungs- und Pedalkraftschreiber, Moto Meter Hermann Schlaich, 7 Stuttgart N

Travelling speed of tractor: 26,9 km/h

With cold brakes

		Tractor with ballast	Tractor without ballast
Maximum deceleration	m/s^2	4,6	4,2
Stopping distance	m	9,2	1o,6
Force on pedal	kp	65	39

Brake fade characteristics, hot tests, tractor without ballast

Deceleration: hot/cold 102%

Stopping distance: cold/hot 115%

Force on pedal: cold/hot 134%

B) PARKING BRAKE

Force applied on the brake lever, cold brake 48 kp.
No rotation of the rear-wheels of tractor occured when the tractor has been towed.

Force applied on the brake lever, hot brake 48 kp.
One hour after the brake has been applied no rotation of the rear-wheels of tractor occured when the tractor has been towed.

PRÜFUNGS-ABTEILUNG
Deutz D 90 06

Test No. 68 - 151

(7) MEASUREMENT OF AMBIENT NOISE EMITTED BY THE TRACTOR

Date of test: 6.12.1968
Type of track: concrete
Type of sound level meter: EZGN, Rohde & Schwarz, 8 München

Results of test

Speed: 4.S.
Travelling speed before acceleration: 8,9 km/h
Sound level: 88 dBA

(8) NOISE MEASUREMENT AT THE DRIVER'S EAR

Date of test: 6.3.1969
Type of track: concrete
Type of sound level meter: EZGN, Rohde & Schwarz, 8 München
Type of octavfilter: PBO, Rohde & Schwarz, 8 München

No cab fitted on tractor.

Results of tests

Gear	Travelling speed *) nominal km/h	real km/h	Sone
1.S.	7,2	7,1	84
3.L.	5,7	5,5	89
2.K.S	4,6	4,3	85

*) The first gear tested corresponds to the travelling speed nearest to 7,25 km/h.

(9) TEST OF POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

Date and location of tests: 1o./11.3.1969, Groß-Umstadt

Hydraulic fluid: Engine oil SAE 2o/2o W

POWER LIFT

Height above ground in down position hitch point	test frame	Total vertical movement	Maximum force exerted through full lift range	Pressure of hydr. oil	Linkage load at which unballasted front end of tractor lifts off the ground
mm	mm	mm	kp	kp/cm²	kp
Measured on the hitch points of lower links					
9o	-	628	281o	177	36oo
32o	-	645	256o	177	36oo
Measured on the test frame 61o mm to the rear of the hitch points					
9o	55	628	259o	177	23oo
32o	294	645	2o1o	177	23oo

Type of linkage lock for transport: not fitted

Opening pressure of the cylinder over pressure relief valve: 22o-25o kp/cm² (manufacturers rating)

PUMP CHARACTERISTICS

(i) opening pressure of relief valve: 18o kp/cm²
sustained pressure by the open relief valve: 177 kp/cm²

Pump delivery rate at external tapping

(ii) at minimum pressure: 31,2 l/min
at maximum hydraulic power: 29,7 l/min
maximum hydraulic power: 11,2 hp (metric)
delivery pressure: 17o kp/cm²

PRÜFUNGS-ABTEILUNG

Deutz D 90 06

Test No. 68 - 151

OPTIONAL TESTS

(1o) ENGINE TESTS

Date and location of tests: 2o.9.1968, Darmstadt-Kranichstein

Type of dynamometer: Schenck hydraulic dynamometer U1 - 3o

Maximum power

Horsepower (metric) hp	Engine speed rev/min	Fuel consumption total l/h	Fuel consumption specific g/hph	hph/l
At maximum power 2-hour test				
93,1	23oo	19,6	174	4,78
At standard p.t.o. speed (54o rev/min)				
92,4	2118	18,8	169	4,91
At the speed recommended by the manufacturer for drawbar work				
93,1	23oo	19,6	174	4,78
Fuel consumption at part loads				
(i) 85% of torque at maximum power				
81,o	2354	17,2	177	4,7o
(ii) unloaded				
-	245o	5,4	-	-
(iii) 5o% of the load defined in (i)				
41,3	24oo	1o,7	215	3,86
(iv) maximum power				
93,1	23oo	19,6	174	4,78
(v) 25% of the load defined in (i)				
2o,8	242o	7,9	313	2,64
(vi) 75% of the load defined in (i)				
61,o	2362	13,8	188	4,43

Optimum fuel consumption: 156 g/hph at 33,5 hp and 134o rev/min

Standard fuel consumption 1/2 (acc.to DIN 96o6): 7,7/16,8 l/h

No load maximum engine speed: 245o rev/min

Torque at maximum power: 29,o kpm

Maximum torque: 33,7 kpm at 1285 rev/min of the engine

Mean atmospheric conditions: temperature: 21°C
pressure: 74o mm Hg
relative humidity: 65%

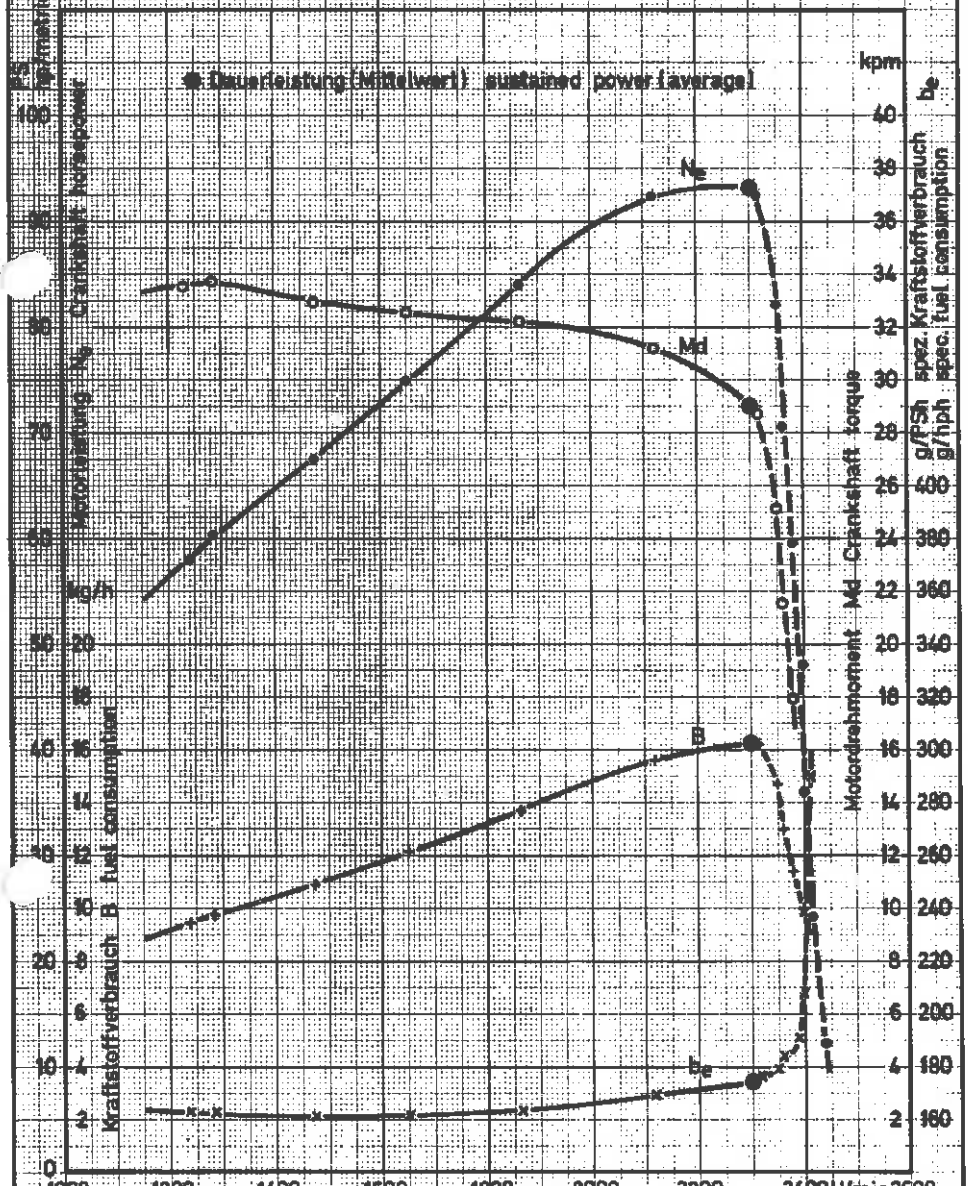
Maximum temperatures: coolant: not recorded
engine oil: 90°C
fuel: 23°C

PRÜFUNGS ABTEILUNG

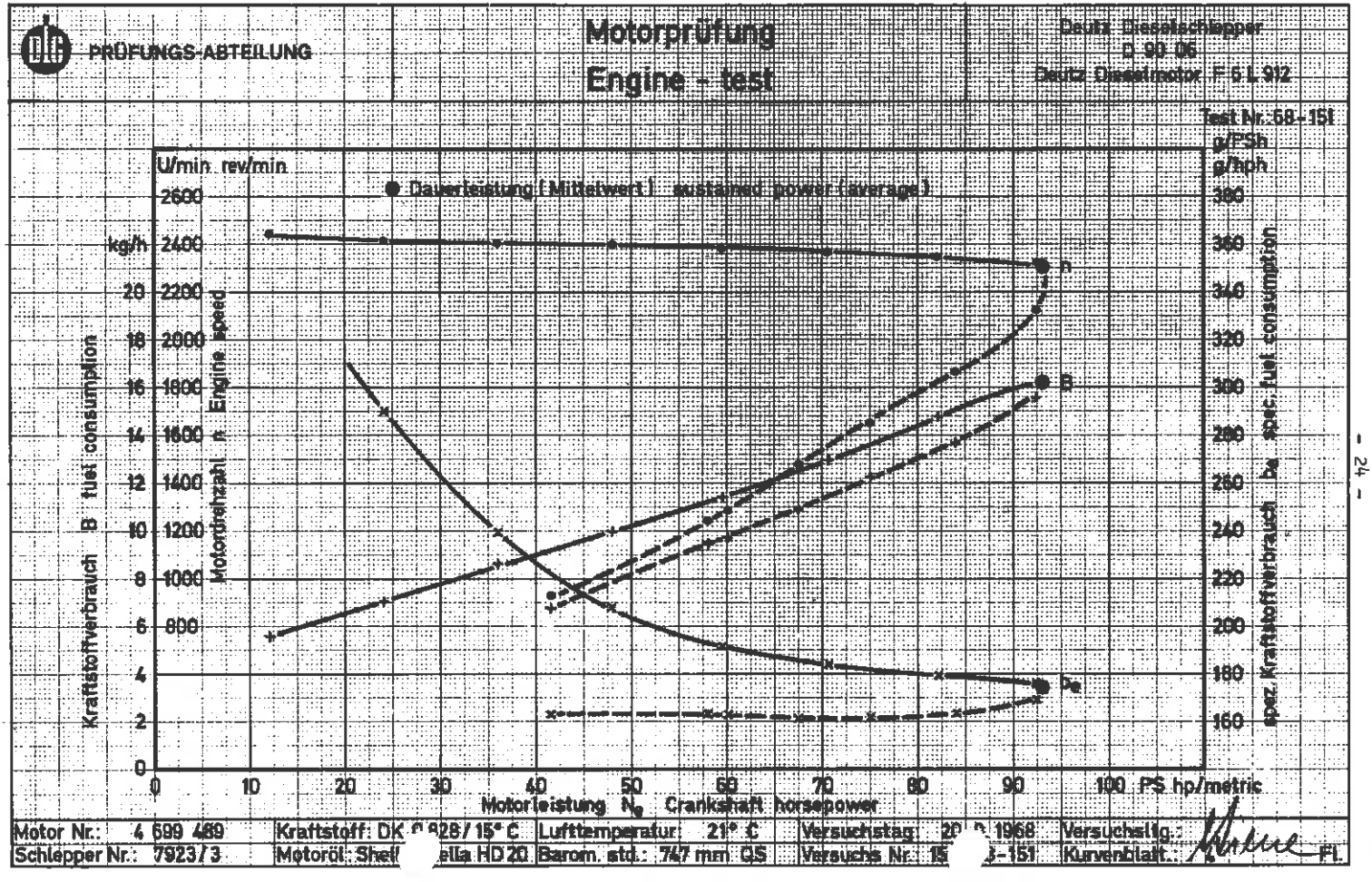
Motorprüfung
Engine - test

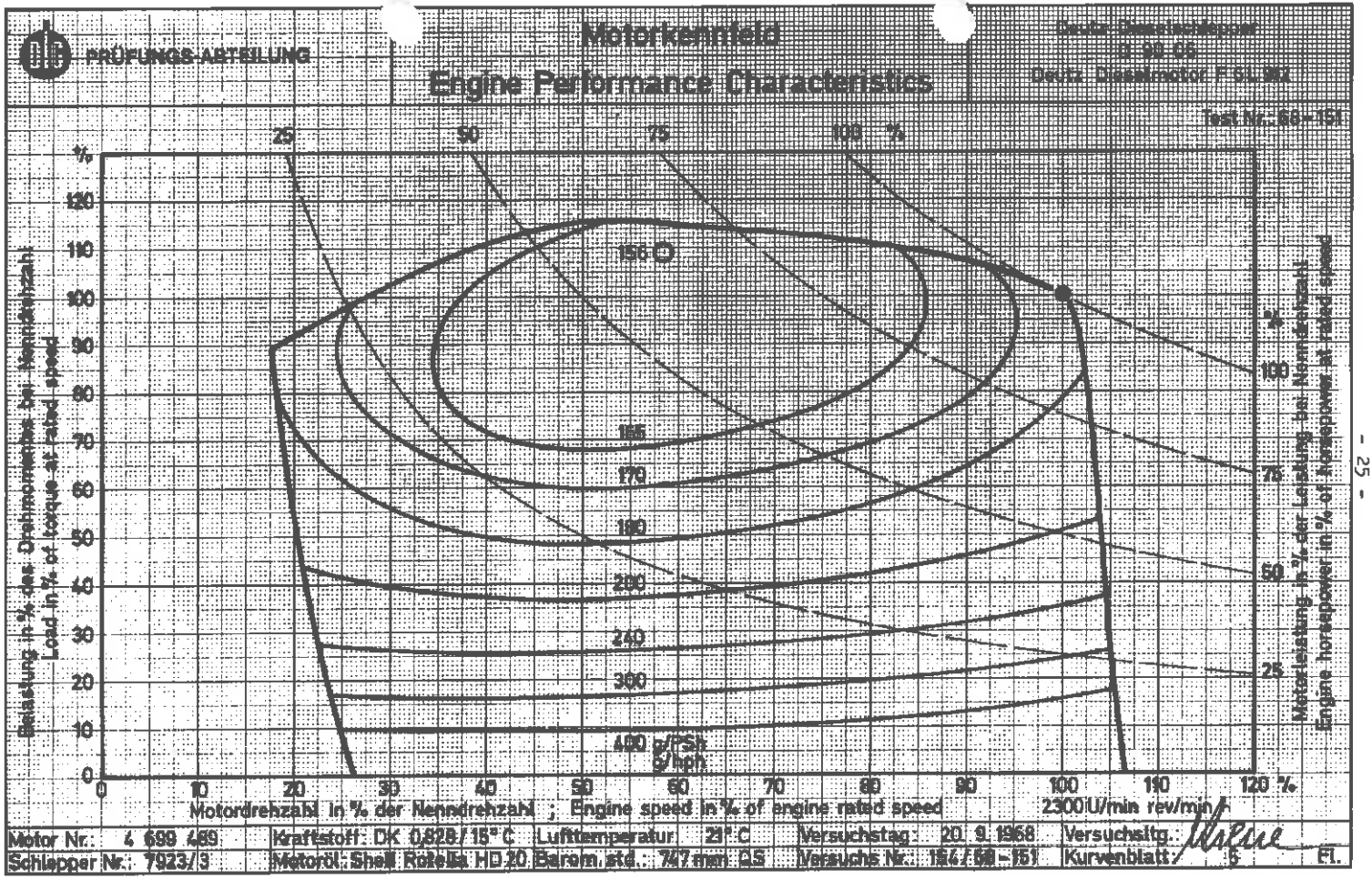
Deutz Dieselschlepper
D 90 06
Deutz Dieselmotor F 6 L 912

Test Nr.: 68-151



Motor Nr.: 4 699 489	Motoröl: Shell Rotella HD 20	Versuchstag: 20. 9. 1968	Versuchsltg.:
Schlepper Nr.: 7923/3	Lufttemperatur: 21° C	Versuchs Nr.: 154/68-151	
Kraftstoff: DK 0,828/15° C	Barom. std.: 747 mm QS	Kurvenblatt: 3	


PRÜFUNGS-ABTEILUNG
Motorprüfung
Engine - test
Deutz Dieselschlepper
D 90 06
Deutz Dieselmotor F 6 L 912
Test Nr. 68 - 151
U/min rev/min
Dauerleistung (Mittelwert) sustained power (average)
kg/h
g/PSh
g/hph
Kraftstoffverbrauch B fuel consumption
Motordrehzahl n Engine speed
spez. Kraftstoffverbrauch be spec. fuel consumption
B
n
Pe
0
10
20
30
40
50
60
70
80
90
100 PS hp/metric
Motorleistung Ne Crankshaft horsepower
Motor Nr.: 4 699 489
Schlepper Nr.: 7923/3
Kraftstoff: DK
Motoröl: Shell
Lufttemperatur: 21° C
Barom. std.: 747 mm QS
Versuchstag: 20
1968
Versuchs Nr. 15
-151
Versuchsltg.:
Kurvenblatt..
FL


PRÜFUNGS-ABTEILUNG
Motorkennfeld
Engine Performance Characteristics
Deutz Dieselmotor F 5L 912
Test Nr.: 68-151
Belastung in % des Drehmomentes bei Nenndrehzahl
Load in % of torque at rated speed
Motorleistung in % der Leistung bei Nenndrehzahl
Engine horsepower in % of horsepower at rated speed
156 g
165
170
180
200
240
360
400 g/PSh
g/hph
Motordrehzahl in % der Nenndrehzahl ; Engine speed in % of engine rated speed
2300 U/min rev/min
Motor Nr.: 4 699 469
Kraftstoff: DK 0,828/15° C
Lufttemperatur 21° C
Versuchstag: 20. 9. 1968
Versuchsltg.:
Schlepper Nr.: 7923/3
Motoröl: Shell Rotella HD 20
Barom. std.: 747 mm
Versuchs Nr.: 164/68-151
Kurvenblatt: