O.E.C.D. Report Nr.: 243

Report on test in accordance with
O.E.C.D. Test Code for agricultural tractors

DEUTZ D 40 05

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



Date of Tests: January 1967 - July 1968

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: 27.September 1968 Serial No.: 243

DEUTSCHE LANDWIRTSCHAFTS-GESELLSCHAFT e.V.
Prüfungsabteilung für Landmaschinen
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.

SCHLEPPER-PRÜFFELD
Deutz D 40 05

Test No. 4026/SPF

TABLE OF CONTENTS

	Page
Specification of tractor	1 - 8
Fuel and lubricants used in tests	9
COMPULSORY TESTS	
(1) Main power take-off performance	
Table with the results	10
Diagrams with the results	11 - 12
(2) Drawbar performance tests on a concrete track	
Table with the results	13
Diagrams with the results	14 - 16
(3 and 4) Turning space and turning circle	17
(5) Location of centre of gravity	17
(6) Tests of brakes	18
(7) Measuring of ambient noise, emitted by the tractor	19
(8) Measuring of the noise at the drivers ear level	19
(9) Test of power lift and hydraulic pump performance	20
OPTIONAL TESTS	
(10) Engine tests	
Table with the results	21
Diagrams with the results	22 - 24

SCHLEPPER-PRÜFFELD
Deutz D 40 05

Test No. 4026/SPF

Tractor manufacturer:	Klöckner-Humboldt-Deutz A.G.,5 Köln-Deutz
Submitted for test by:	Manufacturer
Selected by:	Manufacturer in agreement with Schlepper-Prüffeld Darmstadt
Place of running-in:	Köln-Deutz and Darmstadt
Duration of running-in:	Engine 100 hours, tractor 50 hours

SPECIFICATION OF TRACTOR

Tractor

Make:	Klöckner-Humboldt-Deutz A.G.,5 Köln-Deutz
Model:	D 40 05
Type:	Diesel-tractor, unit construction
Serial No.:	7863/695

Engine

Make:	Klöckner-Humboldt-Deutz A.G.,5 Köln-Deutz
Model:	F 3 L 812 S 1F
Type:	Air cooled 4 stroke Diesel-engine
Serial No.:	43 286 14/16

Cylinders: 3 cylinders, vertical in line, 95 mm bore ,120 mm stroke; capacity 2550 cm^3; compression ration 20 : 1; overhead valves; replaceable ribbed single cylinders

Fuel system: Fuel: commercially available Diesel oil; Bosch type PES 3A 70 C 410/3 RS 1117 injection pump; Bosch type DNOSD 165 injection nozzles; injection pressure 125 kp/cm^2 ; injection timing 21° before TDC; Pierburg type PE 15 252 fuel feed pump; felt tube filter element, sediment bowl and water trap incorporated in fuel tank; capacity of fuel tank appr. 63 l

Governor: Make: Bosch type EP/RSV 300-1150 A 8 B, centrifugal variable speed type; governed range of engine speed 600 rev/min to 2230 rev/min;

rated speed for p.t.o. work	2150 rev/min
for field work	2150 rev/min
for transportation work	2150 rev/min
for belt work	2150 rev/min

Air cleaner: Main filter, make: Motor-Condensator, 68 Mannheim; oil-bath type, oil capacity 1,14 l ;
pre-cleaner, make: Motor-Condensator, 68 Mannheim; centrifugal type

SCHLEPPER-PRÜFFELD
Deutz D 40 05

Test No. 4026/SPF

Lubrication system: Forced feed from gear type pump; metal strainer in sump; Mann & Hummel screen type filter in full flow with by-pass valve; oil capacity (engine sump) 9 l ; recommended oil changing period 100-200 hours when branded normal HD-oil is used, 240-340 hours when branded HD-Supplement I-oil is used;
recommended oil in winter HD SAE 20 W/20
in summer HD SAE 30
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 1 D(R)12-V 3 PS starter motor; Beru type 108 MJ 9,5 V glowing pin plugs

Generator: Bosch 12 Volt type EH(R) 14V 11A 19
Battery: Lead acid type, 12 Volt 110 Ah; special cold starting battery

Transmission

Clutch: Make: Fichtel & Sachs A.G., 8720 Schweinfurt; type DO 225/225 K, dual dry disc clutch, operated by foot pedal

Gearbox: Make: Klöckner-Humboldt-Deutz A.G., 5 Köln-Deutz; type TW 35.1 ;sliding gear type selecting gear and 2-stage group gear giving 8 forward speeds and 2 reverse

Rear axle and final drive: Make: Klöckner-Humboldt-Deutz A.G.,5 Köln-Deutz; bevel gear type differential gear with crown-wheel and pinion; differential lock fitted, operated by hand lever; self-disengaging

Oil capacity: Selecting gear, group gear and rear axle total appr. 14 l; recommended changing period 1500 hours

Gear ratios and speeds:

Group gear	Gear No.	Number of engine revolutions for one revolution of the driving wheel	Nominal travelling speed for rated speed of engine km/h	m/s
slow stage	1.	264,7 : 1	2,1	0,58
	2.	197,5 : 1	2,7	0,75
	3.	129,2 : 1	4,1	1,14
	4.	90,8 : 1	5,8	1,62
fast stage	1.	60,6 : 1	8,7	2,43
	2.	45,2 : 1	11,7	3,26
	3.	29,6 : 1	17,9	4,97
	4.	20,8 : 1	25,5	7,08
	1.R.	197,5 : 1	2,7	0,75
	2.R.	45,2 : 1	11,7	3,26

SCHLEPPER-PRÜFFELD
Deutz D 40 05

Test No. 4026/SPF

Power take-off	Main p.t.o., live power take-off, manually engaged;
Location:	at rear of tractor, in vertical centre plane of tractor, 620 mm above ground
Dimension:	29 x 34,9 x 8,7 = 1 3/8", 6 spline (acc.to DIN 9611, Form A, BS 1495; ASAE S 203.2)
Speed:	621 rev/min at 2150 rev/min rated engine speed; standard p.t.o.-speed 540 rev/min at 1869 rev/min engine speed, may be set by aid of tractormeter
Direction of rotation:	Clockwise, viewed from tractor rear
Belt pully	(Not fitted on tractor tested; figures according to manufacturers statement)
Location:	At rear of tractor; driving device fitted on p.t.o.-shaft; manually engaged
Dimensions:	320 mm diameter, 140 mm width
Speed:	1305 rev/min at 2150 rev/min rated engine speed; linear belt speed 21,9 m/s (acc. to DIN 9630)
Direction of rotation:	Anticlockwise, viewed from right hand side of tractor
Power lift	Make: Klöckner-Humboldt-Deutz A.G., 5 Köln-Deutz; hydraulic power lift with draft control, position control and floating position; single acting ram; Bosch type HY/ZFR 1/11 AL (112/1) gear type pump, directly driven from engine; maximum oil pressure 175 kp/cm²; oil capacity appr. 9 l; hydraulic control valve Bosch type HY/SR 10 H2/175 (6/2); 2 external tappings with additional hydraulic control valve Bosch type HY/SRZ 10 C 1/1 and type HY/SRZ 10 H 1B4
Pull attachment	
Implement linkage:	Three point implement linkage categorie I (acc. to DIN 9674), controlled by power lift; lift height above ground: from 215 mm to 1035 mm, lift rods hanged in foremost hole of the lower links and changing of length of lift rods; from 285 mm to 960 mm, lift rods hanged in rearemost holes of the lower links and changing of length of lift rods
Drawbar:	Fixed on hydraulically controlled implement linkage, with central hole and 3 holes in 80 mm distance apart either side of centre line (acc. to DIN 9676); height above ground from 215 mm to 1035 mm adjustable by power lift; distance from rear axle 865 mm at horizontal position of lower links; distance from centre hole to end of p.t.o. 465 mm
	Fixed mounted drawbar (acc. to DIN 9670) commercially available but not fitted on tractor tested.

Trailer hitch: At rear of tractor; height above ground 655-785-845 mm when using one axle trailers; changed by a pin; height above ground 585-715-780-655-785-845mm when using two axle trailers; changed by a pin and reversing hitch; distance from rear axle 584 mm

Towing hitch: At front of tractor; height above ground 500 mm

Steering device Make: Zahnradfabrik Friedrichshafen A.G., 799 Friedrichshafen
Z.F.-Gemmer steering type GD 28 A, model 73; operated by a hand wheel

Brakes

Parking brake: Combined with foot brake, mechanically acting as internal shoe brake on driving wheels; operated by hand lever with locking ratch

Foot brake: Combined with hand brake, mechanically acting as internal shoe brake on driving wheels; operated by foot pedal

Steering brake: Operated by the single parts of the divided foot pedal of the foot brake; at normal use both the parts are connected by a bolt

Wheels

Steering wheels: Two at front. Tyres 6,50-16 AS Front 6 ply pneumatic (acc. to DIN 7808); maximum permissible weight on each tyre 620 kp at 3,0 kp/cm²; when transporting mounted implements 775 kp; track from 1280 mm to 1880 mm by 100 mm steps changed by extending front axle; (Optional: normal front axle with track 1280 mm and 1400 mm changed by reversing wheels)

Driving wheels: Two at rear. Tyres 12,4/11-32 AS 6 ply pneumatic (acc. to DIN 7807); maximum permissible weight on each tyre 1280 kp at 1,5 kp/cm²; when transporting mounted implements 1470 kp; rims W 10 x 32; track 1219-1319-1441-1541-1634-1734 mm changed by reversing wheels centres and offset lug type rims; (Optional: reversible wheels with track 1250 mm and 1510 mm , acc to DIN 9621)

Wheel base: 1995 mm

SCHLEPPER-PRÜFFELD
Deutz D 40 05

Test No. 4026/SPF

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

		without driver	with driver
Weight of tractor without ballast:	Front axle load:	775 kp	780 kp
	Rear axle load :	1043 kp	1115 kp
	Total:	1818 kp	1895 kp
Ballast front:	5 weights =	141 kp	
Ballast rear:	10 weights per wheel =	901 kp	
	water in tyres =	270 kp	
		without driver	with driver
Weight of tractor with ballast:	Front axle load:	935 kp	958 kp
	Rear axle load :	2195 kp	2242 kp
	Total:	3130 kp	3200 kp

Seat — Make: Klöckner-Humboldt-Deutz A.G., 5 Köln-Deutz; pan seat with cushion, fixed on a long rocking lever and spring by a rubber block; pan may be fixed on the lever in 5 positions in steps of 30 mm; height above ground appr. 1100 mm, in tractor centre plane

Number of grease points (whole tractor) 14

Overall dimensions

Overall length:	3375 mm with drawbar in three-point linkage
Overall width :	1550 mm at 1219 mm track, without ballast weights
Overall height:	1640 mm to top of back-rest
Maximum ground clearance:	465 mm above centre line of tractor
	420 mm at 400 mm apart centre line

Lighting equipment

	Height above ground of centre mm	Diameter mm	Distance from outside edge of tractor to centre mm
Head lights	925	130	320
Side lights	1303	80	115
Rear lights	1318	80	182
Reflectors	1080	38 x 125	182

SCHLEPPER-PRÜFFELD
Deutz D 40 05

Test No. 4026/SPF

FUELS AND LUBRICANTS USED IN TESTS

Laboratory tests

Fuel:	Shell Diesel oil, specific gravity at 15°C : 0,830 kg/l (commercially available quality acc.to DIN 51 601)
Engine oil:	Shell Rotella HD 20 (SAE)
Transmission oil:	SAE 90

Track tests

Fuel:	Shell Diesel oil, specific gravity at 15°C : 0,830 kg/l (commercially available quality acc.to DIN 51 601)
Engine oil:	Shell Rotella HD 20 (SAE)
Transmission oil:	SAE 90

SCHLEPPER-PRÜFFELD
Deutz D 40 05

Test No. 4026/SPF

COMPULSORY TEST

(1) MAIN POWER TAKE-OFF PERFORMANCE

Date and location of tests: February 1967, Darmstadt-Kranichstein

Type of dynamometer: Schenck hydraulic dynamometer

Maximum power

Horsepower (metric) hp	Speed engine rev/min	Speed p.t.o. rev/min	Fuel consumption total l/h	Fuel consumption specific g/hp	hph/l
At maximum power - 2 hours test					
36,4	2170	627	8,43	192	4,32
At standard p.t.o.speed (540/1000 rev/min)					
33,3	1874	542	8,02	200	4,15
At standard belt speed (16,65 m/s)					
35,8	2150	622	8,43	196	4,25
At the speed recommended by the manufacturer for drawbar work					
36,2	2150	621	8,49	195	4,27
Fuel consumption at part loads					
(i) 85% of torque at maximum power					
31,2	2195	634	7,24	193	4,31
(ii) unloaded					
-	2285	660	2,10	-	-
(iii) 50% of the load defined in (i)					
15,8	2233	645	4,72	247	3,35
(iv) maximum power					
36,4	2170	627	8,43	192	4,32
(v) 25% of the load defined in (i)					
7,8	2241	648	3,51	372	2,23
(vi) 75% of the load defined in (i)					
23,5	2210	639	6,06	214	3,88

No load maximum engine speed: 2285 rev/min

Torque*) at maximum power: 12,0 kpm

Maximum torque*) 12,8 kpm at 1820 rev/min of the engine

Means atmospheric conditions: temperature: 24°C
pressure: 735 mm Hg
relative humidity: 50%

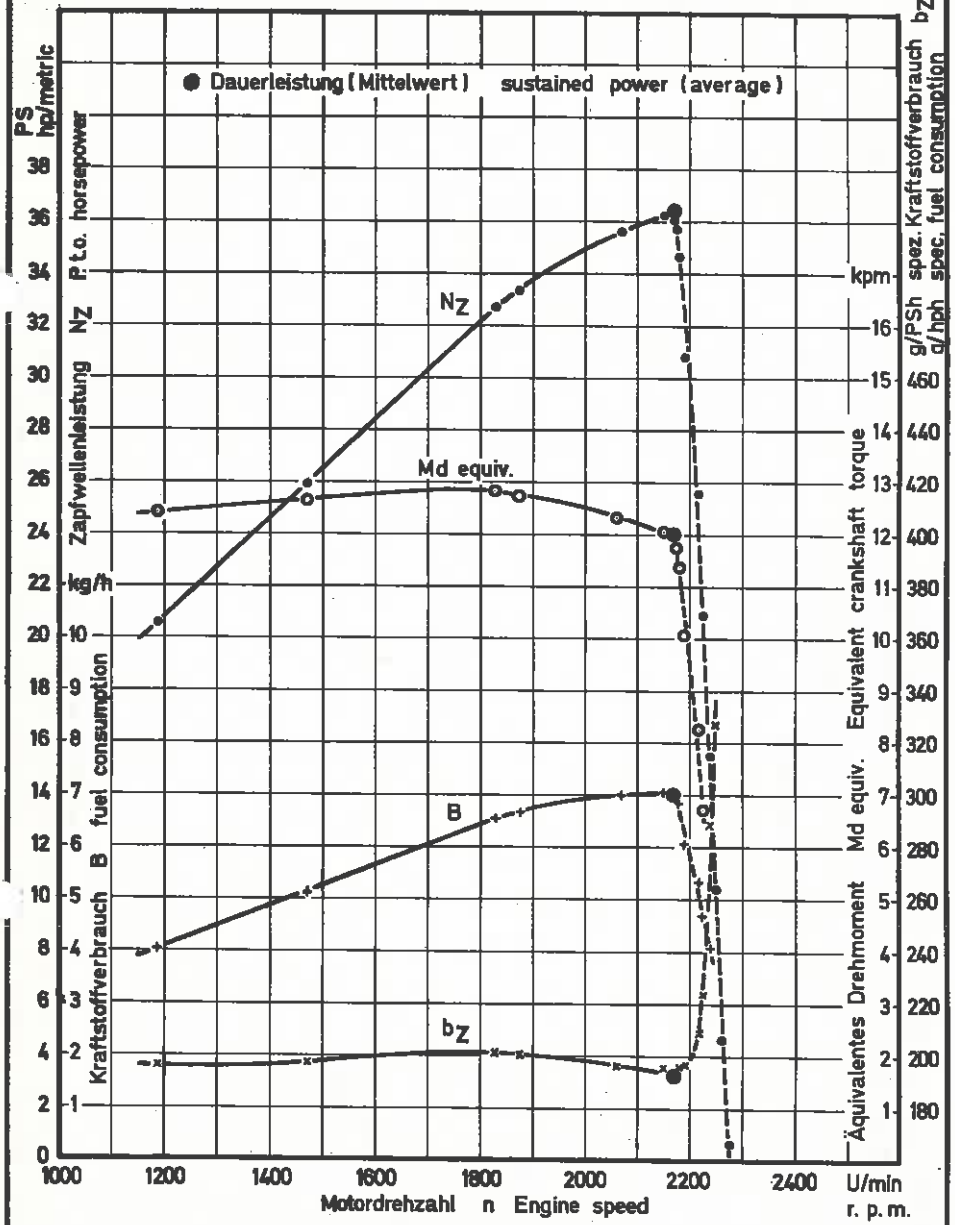
Maximum temperatures: coolant: not recorded
engine oil: 80°C
fuel: 20°C

(*) The torque reported is the equivalent crankshaft torque)

Schlepperprüffeld Darmstadt	Zapfwellenleistung	Deutz Dieselschlepper D 40 05 Deutz Dieselmotor F 3 L 812

P.t.o. - test

Test Nr.: 4026

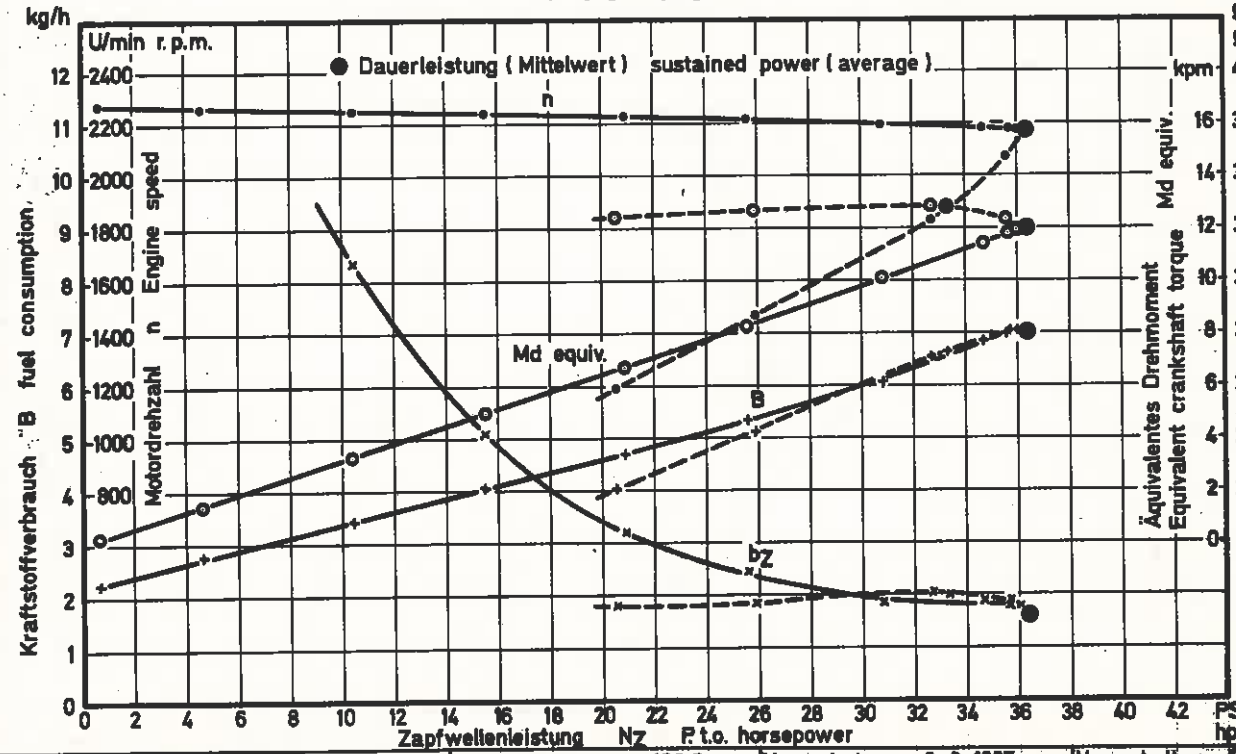


Motor Nr.: 43 286 14/16	Motoröl: Shell Rotella HD20	Versuchstag: 9. 2. 1967	Versuchsltg.:
Schlepper Nr.: 7863 / 695	Lufttemperatur: 19° C	Versuchs Nr.: 75 /4026 / 66	
Kraftstoff: DK 0,830 / 15° C	Barometerstd.: 736 mm QS	Kurvenblatt: 1	Fl.

Schlepperprüffeld Darmstadt	Zapfwellenleistung	Deutz Dieselschlepper D 40 05 Deutz Dieselmotor F 3 L 812

P. t.o.- test

Test Nr.: 4026



Motor Nr.: 43 286 14 / 16	Kraftstoff: DK 0,830 /15°C	Lufttemperatur: 19° C	Versuchstag: 9. 2. 1967	Versuchsltg.:	
Schlepper Nr.: 7863/695	Motoröl: Shell Rotella HD20	Barometerstd.: 736 mm QS	Versuchs Nr.: 75 /4026 / 66	Kurvenblatt: 2	Pf.

(2) DRAWBAR PERFORMANCE

Date of tests: 4.6. - 27.6.1968

Type of track: concrete

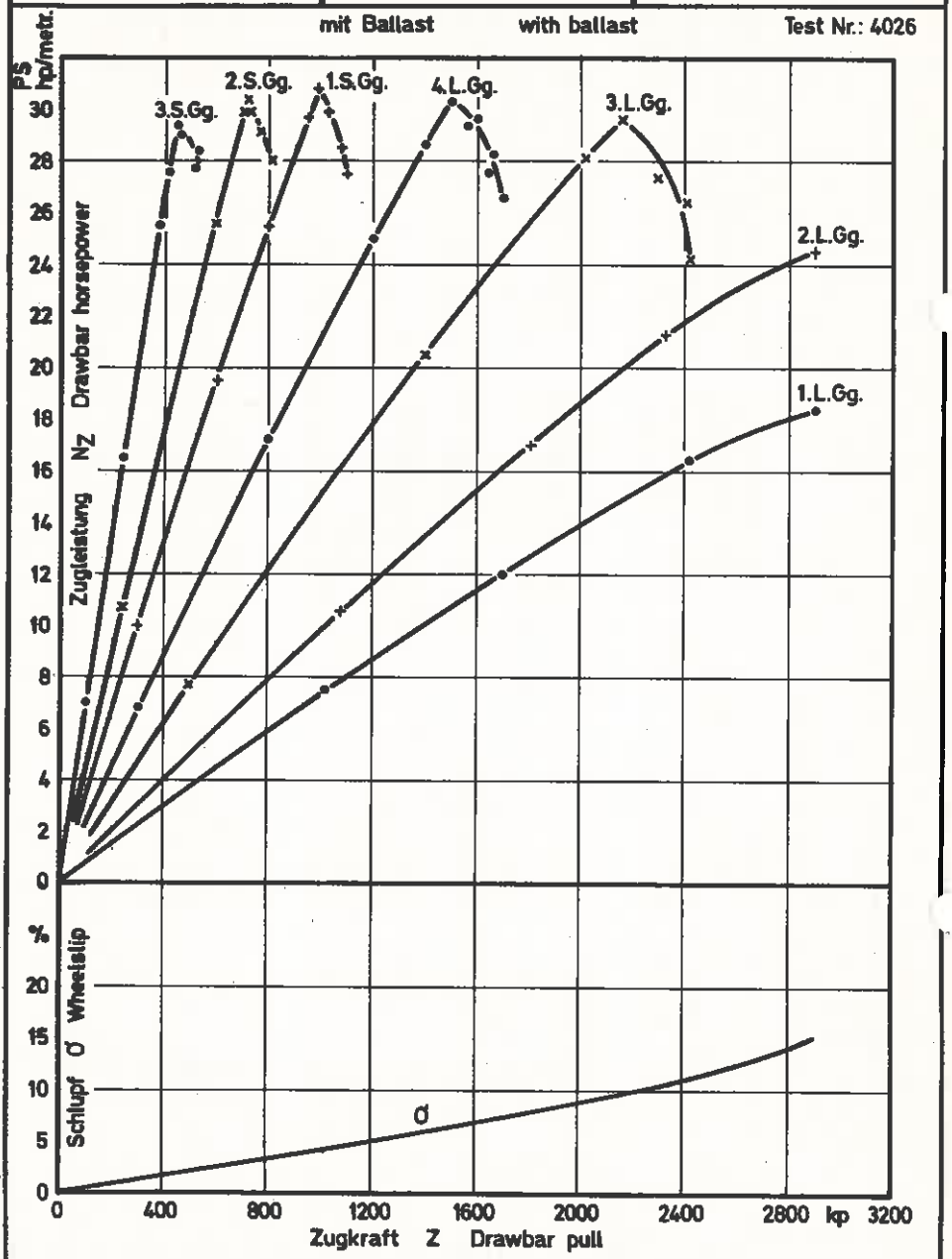
Height of drawbar above ground: 520 mm

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 humidity %	Pressure mm Hg
(i) MAXIMUM POWER												
1.L.	18,4	2900	2240	15,4	2,95	278	26	not rec.	72	26	70	751
2.L.	24,5	2900	2220	15,3	3,12	263	23	not rec.	72	25	75	751
3.L.	29,6	2160	2190	8,7	3,41	241	26	not rec.	75	26	72	752
4.L.	30,3	1500	2185	7,6	3,58	236	12	not rec.	76	12	80	751
1.S.	30,8	992	2188	5,4	3,61	230	25	not rec.	80	27	70	751
2.S.	30,4	720	2191	4,5	3,56	233	27	not rec.	82	27	66	751
3.S.	29,4	448	2184	2,4	3,47	239	26	not rec.	82	27	59	751
(ii) FIVE-HOUR-TEST AT 75% OF PULL AT MAXIMUM POWER IN 4. GEAR OF SLOW GROUP												
4.L.	23,5	1130	2225	6,6	3,46	236	27	not rec.	82	27	57	755
(iii) FIVE-HOUR-TEST AT PULL CORRESPONDING TO 15% WHEEL SLIP IN TEST (i)												
2.L.	24,5	2900	2220	15,0	3,12	263	20	not rec.	70	22	84	755
Without ballast												
(v) MAXIMUM POWER												
2.L.	14,5	1650	2240	15,3	2,78	300	20	not rec.	70	21	88	753
3.L.	22,0	1650	2220	15,2	3,25	257	20	not rec.	70	20	88	753
4.L.	29,2	1504	2185	12,3	3,44	243	18	not rec.	72	19	93	753
1.S.	30,7	1016	2185	8,1	3,60	230	26	not rec.	75	27	78	750
2.S.	30,7	736	2185	5,8	3,59	230	25	not rec.	78	26	68	750
3.S.	30,0	460	2185	3,8	3,52	236	26	not rec.	78	27	68	750

Total oil consumption during ten hours duration of tests (ii) and (iii) : 28,0 g/h

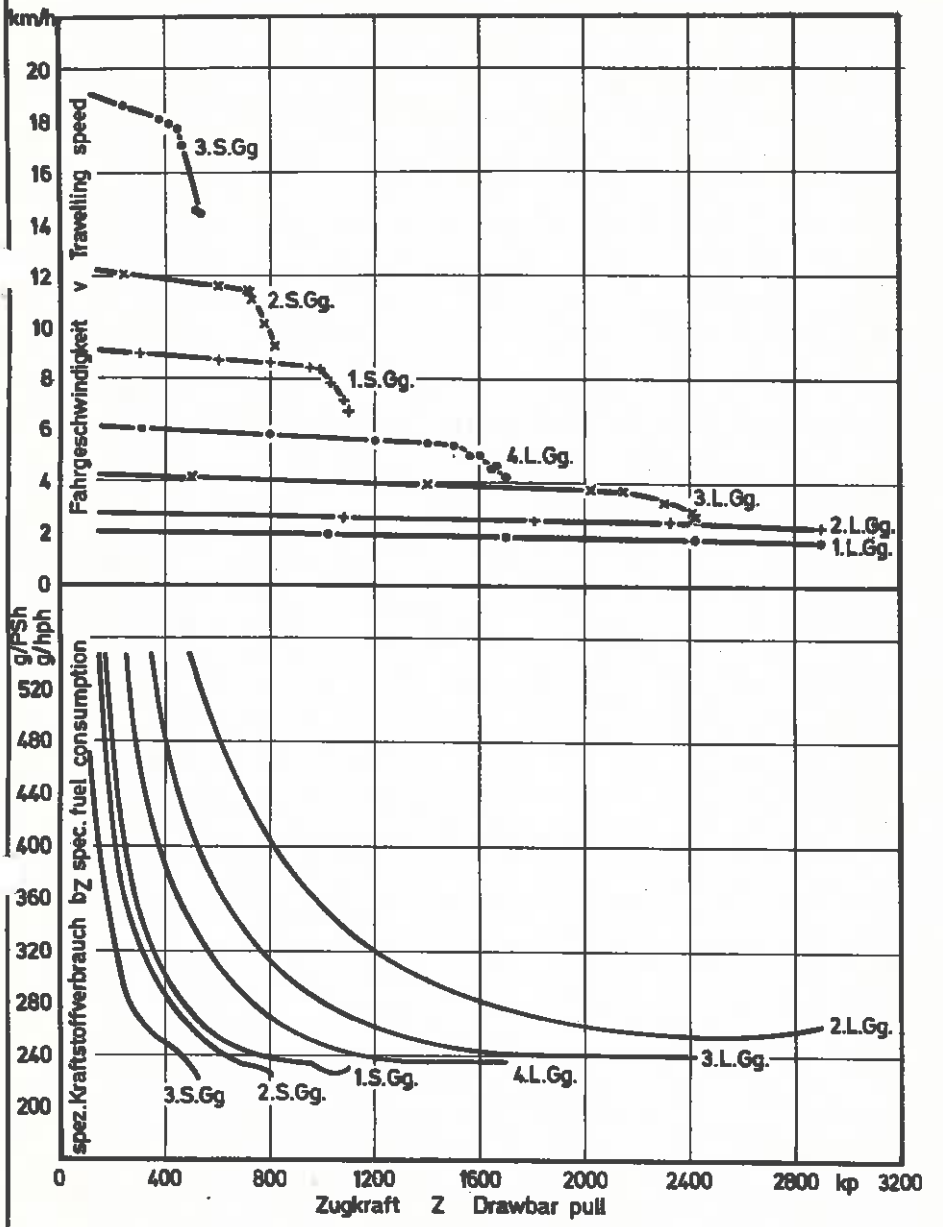
Schlepperprüffeld Darmstadt	Zugprüfung Drawbar-test	Deutz Dieselschlepper D 40 05 Deutz Dieselmotor F 3 L 812



Motor Nr.: 43 286 14/16	Motoröl: Shell Rotella HD20	Versuchstag: 27. 6. 1968	Versuchsltg.:
Schlepper Nr.: 7863/695	Lufttemperatur: 19° C	Versuchs Nr.: 4026/91/68	
Kraftstoff: DK 0,830/15° C	Barom. std.: 751 mm QS	Kurvenblatt: 3	Fl.

Schlepperprüffeld Darmstadt	Zugprüfung Drawbar - test	Deutz Dieselschlepper D 40 05 Deutz Dieselmotor F 3 L 812

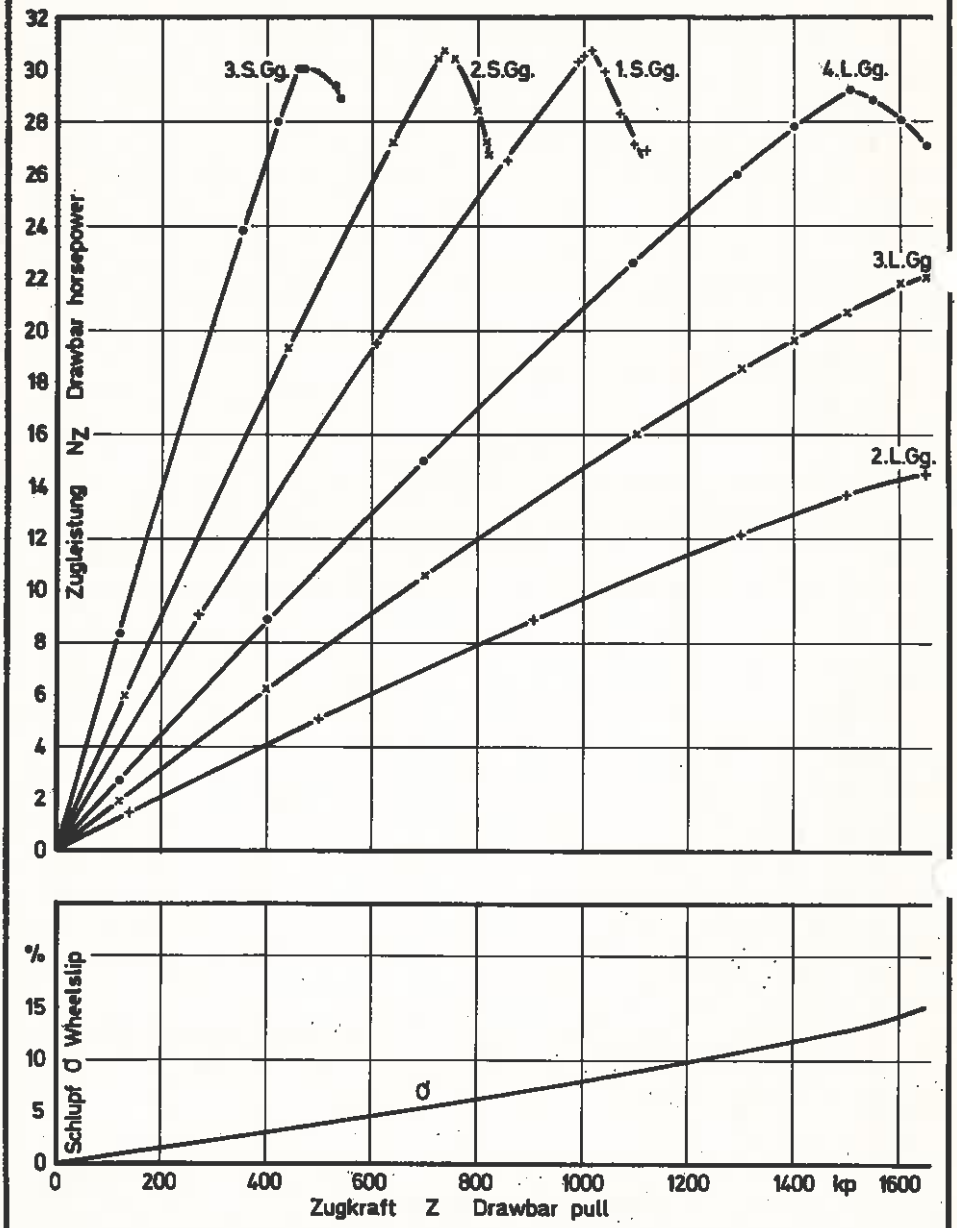
mit Ballast with ballast Test Nr.: 4026



Motor Nr.: 43 286 14/16	Motoröl: Shell Rotella HD 20	Versuchstag: 27.6.1968	Versuchsltg.:
Schlepper Nr.: 7863/695	Lufttemperatur: 19° C	Versuchs Nr.: 4026/91/68	
Kraftstoff: DK 0,830/15° C	Barom.std.: 751 mm QS	Kurvenblatt: 4	Fl.

Schlepperprüffeld Darmstadt	Zugprüfung Drawbar-test	Deutz Dieselschlepper D 40 05 Deutz Dieselmotor F 3 L 812

PS hp/metric ohne Ballast without ballast Test Nr.: 4026



Motor Nr.: 43 286 14/16	Motoröl: Shell Rotella HD 20	Versuchstag: 18.7.1967	Versuchsltg.:
Schlepper Nr.: 7863/695	Lufttemperatur: 27° C	Versuchs Nr.: 4026/124/67	
Kraftstoff: DK 0,830/15° C	Barometerstd.: 752 mm QS	Kurvenblatt: 5	Fl.

SCHLEPPER-PRÜFFELD
Deutz D 40 05

Test No. 4026/SPF

(3 and 4) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 6,50-16 AS Front 6 ply, without ballast
rear: 12,4/11-32 AS 6 ply, without ballast

Track of wheels front: 1295 mm
rear: 1250 mm

	With brakes		Without brakes	
	left-hand	right-hand	left-hand	right-hand
Radius of turning space	3,52 m	3,40 m	3,82 m	3,77 m
Radius of turning circle	3,37 m	3,25 m	3,63 m	3,67 m

(5) LOCATION OF CENTRE OF GRAVITY

	With ballast	Without ballast
Height above ground	687 mm	728 mm
Distance forward from the vertical plane containing the axis of the rear wheels	590 mm	820 mm
Distance from the median plane of the tractor	0 mm	0 mm

SCHLEPPER-PRÜFFELD
Deutz D 40 05

Test No. 4026/SPF

(6) BRAKE TESTS

A) FOOT BRAKE

Date of test: 24.7.1967

Type of track: concrete

Type of decelerometer: IFK Brake Recorder, August Fischer K.G., 34 Göttingen

Travelling speed of tractor: 23,6 km/h

With cold brakes

	Tractor without ballast	Tractor with ballast
Maximum deceleration m/s^2	4,9	5,9
Stopping distance m	8,4	9,8
Force on pedal kp	62	74

Brake fade characteristics, hot tests, tractor without ballast

Deceleration:	hot/cold	100%
Stopping distance:	cold/hot	92%
Force on pedal:	cold/hot	100%

B) PARKING BRAKE

Force applied on the brake lever, cold brake 55 kp.
No rotation of the rear-wheels of tractor occured when the tractor has been towed.

SCHLEPPER-PRÜFFELD
Deutz D 40 05

Test No. 4026/SPF

(7) MEASUREMENT OF AMBIENT NOISE EMITTED BY THE TRACTOR

Date oft test: 25.7.1967
Type of track: concrete
Type of sound level meter: EZGN, Rohde & Schwarz, 8 München

Results of test

Speed: 4.S.
Travelling speed before acceleration: 23,6 km/h
Sound level: 83 dBA

(8) NOISE MEASUREMENT AT THE DRIVERS EAR

Date of test: 25.7.1967
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.	8,1	7,6	73
2.S.	10,8	9,8	77

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

SCHLEPPER-PRÜFFELD
Deutz D 40 05

Test No.4026/SPF

(9) TEST OF POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

Date and location of tests: 8.7.1968, Darmstadt-Kranichstein

Hydraulic fluid: Shell Rotella HD 20

POWER LIFT

Height above ground in down position: hitch point mm	Height above ground in down position: test frame mm	Total vertical movement mm	Maximum force exerted through full lift range kp	Pressure of hydr. oil kp/cm²	Linkage load at wich unballasted front end of tractor lifts off the ground kp
Measured at the hitch points of lower links					
226	-	634	1265	175	*)
493	-	532	1415	175	1790
Measured at the test frame 610 mm to the rear of the hitch points					
226	196	743	900	175	1050
493	470	705	910	175	1050

*)greater than max. lifting force

Type of linkage lock for transport: Hydraulically by shutting the valve for lowering delay

Opening pressure of the cylinder over pressure relief valve: 210- 260 kp/cm² (manufacturers figure)

PUMP CHARACTERISTICS

(i) opening pressure of relief valve: 177 kp/cm²
sustained pressure the open relief valve: 175 kp/cm²

Pump delivery rate at external tapping
(ii) at minimum pressure: 27,5 l/min
(iii) at maximum hydraulic power: 25,6 l/min
maximum hydraulic power: 9,7 hp (metric)
delivery pressure: 170 kp/cm²

SCHLEPPER-PRÜFFELD
Deutz D 40 05

Test No. 4026/SPF

OPTIONAL TESTS

(10) ENGINE TEST

Date and location of tests: January 1967, Darmstadt-Kranichstein

Type of dynamometer: Schenck hydraulic dynamometer

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 hours test				
37,2	2184	8,50	190	4,37
At standard p.t.o.speed (540 rev/min)				
35,9	1870	8,08	187	4,45
At standard belt speed (16,65 m/s)				
37,0	2150	8,44	189	4,38
At the speed recommended by the manufacturer for drawbar work				
37,0	2150	8,50	192	4,36
Fuel consumption at part loads				
(i) 85% of the torque at maximum power				
32,0	2213	7,44	193	4,30
(ii) unloaded				
-	2290	2,30	-	-
(iii) 50% of the load defined in (i)				
16,3	2250	4,86	248	3,36
(iv) maximum power				
37,2	2184	8,50	190	4,37
(v) 25% of the load defined in (i)				
8,3	2275	3,65	367	2,27
(vi) 75% of the load defined in (i)				
24,2	2235	6,08	209	3,98

Optimum fuel consumption: 181 g/hph at 24,8 hp and 1510 rev/min

No load maximum engine speed: 2290 rev/min

Torque at maximum power: 12,2 kpm

Maximum torque: 13,9 kpm at 1790 rev/min of the engine

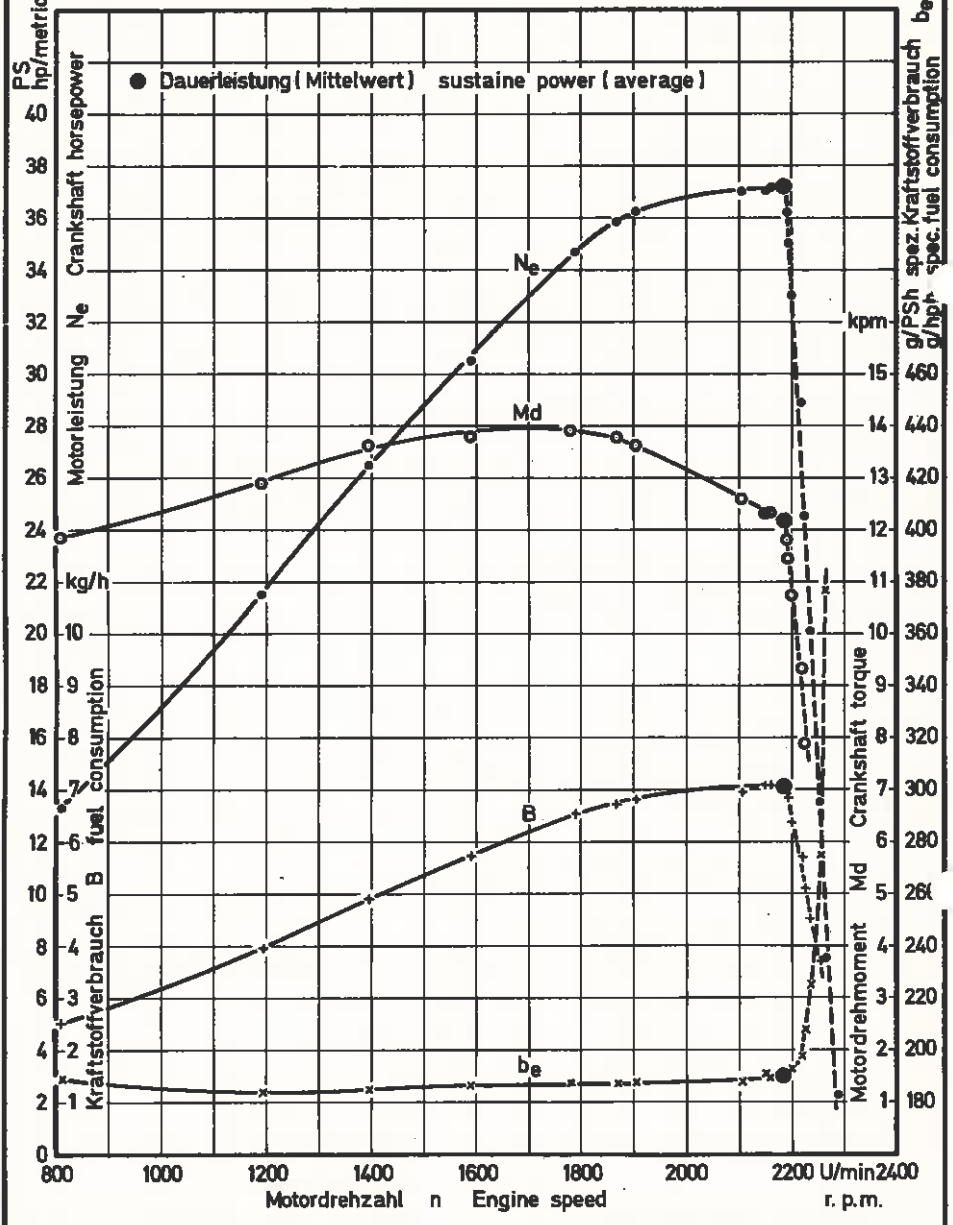
Means atmospheric conditions: temperature: 14°C
pressure: 737 mm Hg
relative humidity: 30%

Maximum temperatures: coolant: not recorded
engine oil: 70°C
fuel: 19°C

Schlepperprüffeld Darmstadt	Motorleistung	Deutz Dieselschlepper D 40 05 Deutz Dieselmotor F 3 L 812

Engine - test

Test Nr.: 4026

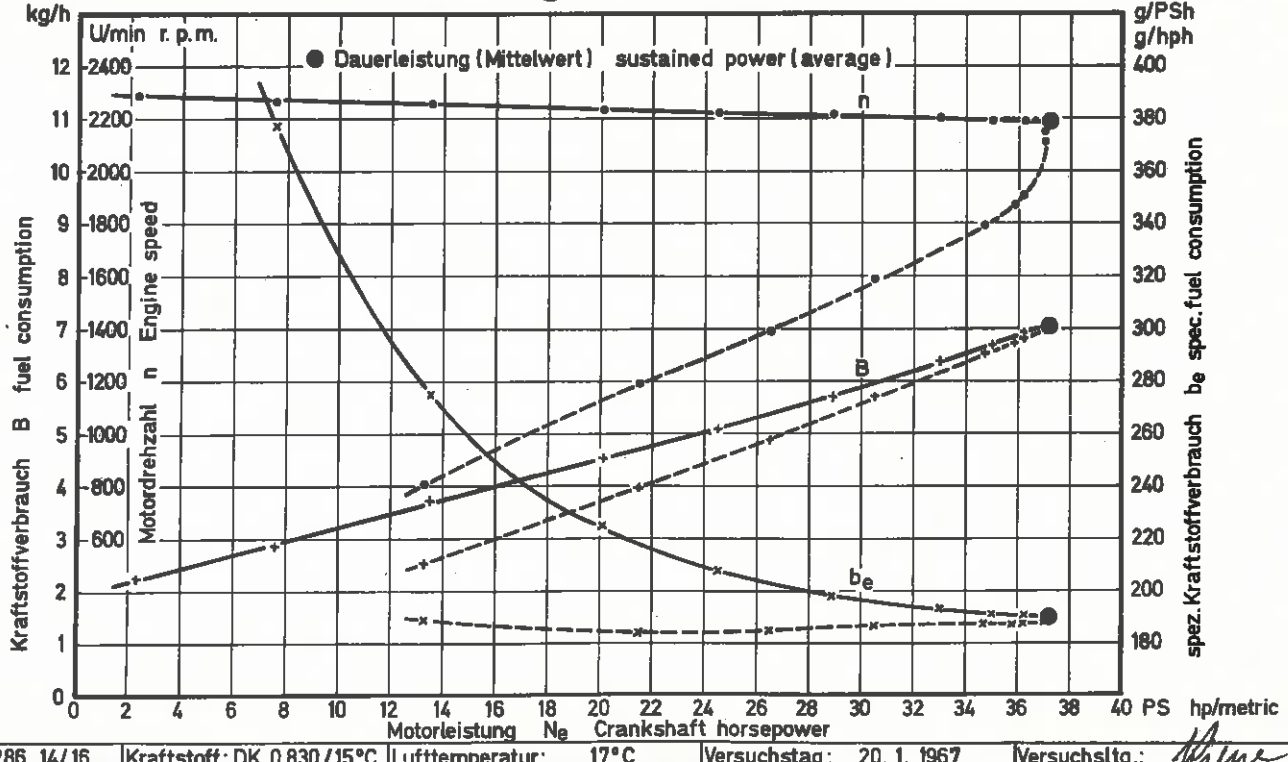


Motor Nr.: 43 286 14/16	Motoröl: Shell Rotella HD 20	Versuchstag: 20. 1. 1967	Versuchsltg.:
Schlepper Nr.: 7863/695	Lufttemperatur: 17°C	Versuchs Nr.: 24/4026/66	
Kraftstoff: DK 0,830/15°C	Barometerstd.: 738 mm QS	Kurvenblatt: 6	Fl.

Schlepperprüffeld Darmstadt	Motorleistung	Deutz Dieselschlepper D 40 05 Deutz Dieselmotor F 3 L 812

Engine - test

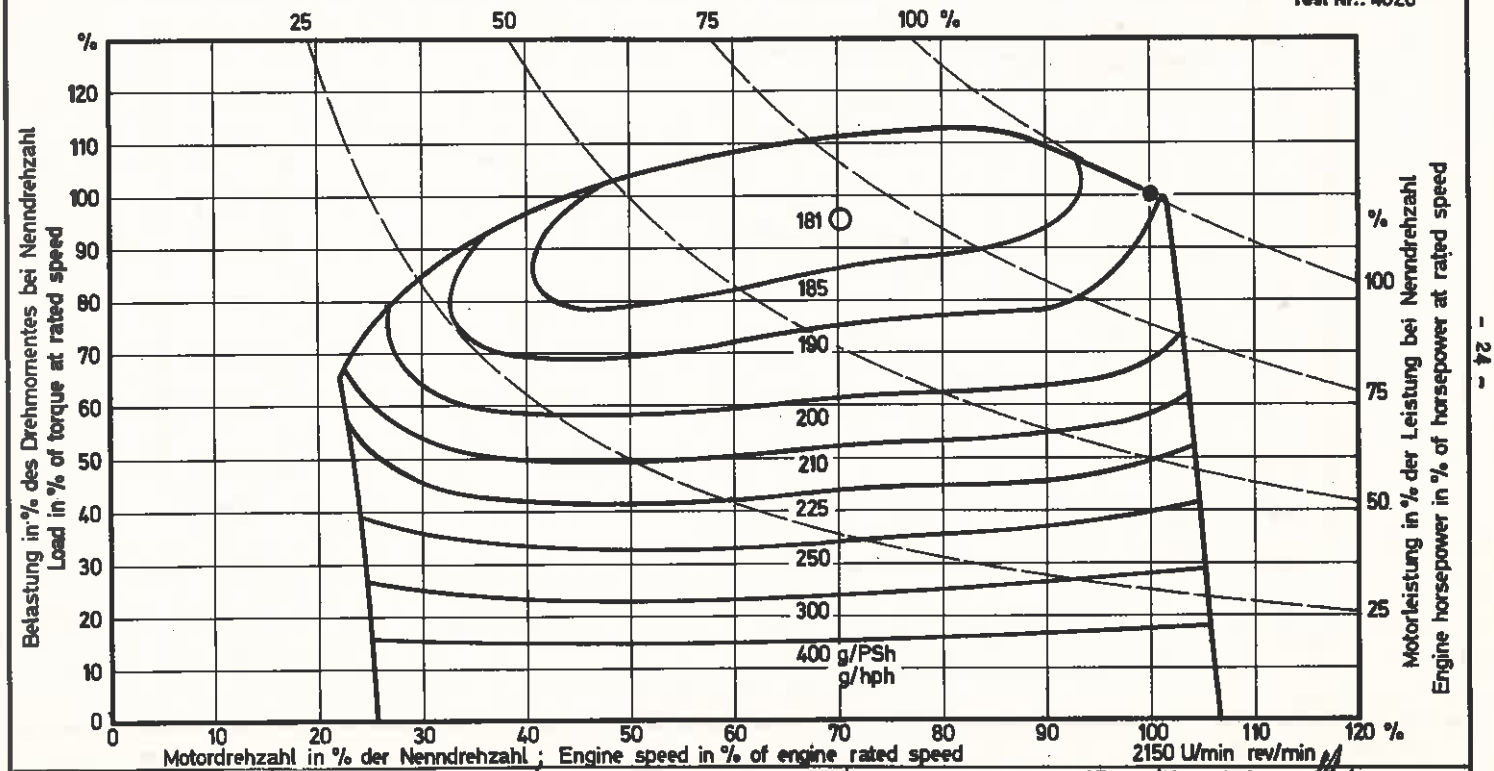
Test Nr.: 4026



Motor Nr.: 43 286 14/16	Kraftstoff: DK 0,830/15°C	Lufttemperatur: 17°C	Versuchstag: 20. 1. 1967	Versuchsltg.:	
Schlepper Nr.: 7863/695	Motoröl: Shell Rotella HD 20	Barometerstd.: 738 mm QS	Versuchs Nr.: 24/4026/66	Kurvenblatt: 7	Fl.

Schlepperprüffeld Darmstadt	Motorkennfeld Engine caracteristic field	Deutz Dieselschlepper D 40 05 Deutz Dieselmotor F 3 L 812

Test Nr.: 4026



Motor Nr.: 43 286 14/16	Kraftstoff: DK 0,83/ 15° C	Lufttemperatur: 17° C	Versuchstag: 20. 1. 1967	Versuchsltg.:
Schlepper Nr.: 7863/695	Motoröl: Shell Rot[illegible] HD 20	Barometerstd.: 738 mm QS	Versuchs Nr.: 24/[illegible]/66	Kurvenblatt: 8 FL