O.E.C.D. Report No.: 248

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

# MC. CORMICK DIESEL TRACTOR 323

Manufactured by: INTERNATIONAL HARVESTER COMPANY m.b.H.
404 Neuss am Rhein




Date of Tests: February - 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 wit the O.E.C.D.-Tractor Test Code.

Date of Approval: 29.10.1968 Serial No. 248

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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
I.H. 323

Test No.4041/SPF

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**SCHLEPPER-PRÜFFELD**
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Test No.4041/SPF

| | |
|---|---|
| Tractor manufacturer: | INTERNATIONAL HARVESTER COMPANY m.b.H.<br>404 Neuss am Rhein |
| Submitted for test by: | Manufacturer |
| Selected by: | Manufacturer by agreement with Schlepper-Prüffeld Darmstadt |
| Place of running-in: | Neuss and Darmstadt |
| Duration of running-in: | Engine 100 hours, tractor 100 hours |

## SPECIFICATION OF TRACTOR

### Tractor

Make: International Harvester Company m.b.H.,404 Neuss am Rhein
Model: 323
Type: Wheel type tractor, unit construction
Serial No.: 900 515

### Engine

Make: International Harvester Company m.b.H.,Neuss am Rhein
Model: D-111
Type: Direct injection type Diesel, 4-stroke
Serial No.: 01N/3069

Cylinders: 3 cylinders, vertical in line, 87,3 mm bore 101.6 mm stroke; piston displacement 1825 $cm^3$ ; compression ratio 19 : 1 ; wet replaceable cylinders liners

Fuel system: Fuel: Commercially available diesel oil;
Bosch type PES 3 M 65 C 320/3 LS 35 Y injection pump
Bosch type DN 4 S D 24 injection nozzles; injection pressure 150 $kp/cm^2$ ; injection timing 24° before TDC;
I.H. 0,6 l roll-type paper filter; capacity of fuel tank appr. 60 l

Governor: Make: Robert Bosch G.m.b.H.,7 Stuttgart;
centrifugal variable speed type governor;
governed range of engine speed 550 rev/min to 2120 rev/min
rated engine speed for p.t.o.-work 1900 rev/min
for field-work 1900 rev/min
for transportation-work 1900 rev/min
for belt-work 1900 rev/min

Air cleaner: Main filter
Make: Mann & Hummel, 714 Ludwigsburg :
oil bath cleaner, oil capacity appr.0,35 l

Pre-cleaner
Make: Mann & Hummel, 714 Ludwigsburg
cyclone type pre-cleaner

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Lubrication system: Forced feed from gear type pump; fine filter in full flow make ETS-Guiot; oil capacity 4,2 l; oil change period 200 hours; recommended oil in winter HD SAE 10 W, in summer HD SAE 20 W, in tropics HD SAE 30 W

Cooling system: Pressurised water cooling, impeller assisted and fan with 4 blades 380 mm dia, radiator, thermostat for temperature control; cooling water capacity 7,5 l

**Electrical equipment** Voltage 12 Volt, negative earth

Starting device: Bosch type JD 12 V 1,8 PS starter motor

Starting aid: Glow plug

Generator: Bosch type EH 14 V 11 A 19 generator

Battery: Lead acid battery 12 V 84 Ah

**Transmission**

Clutch: Make: Fichtel & Sachs A.G.,872 Schweinfurt; dry single disc type clutch type 250, foot pedal operated

Gearbox: Make: International Harvester Company m.b.H. 404 Neuss am Rhein; Agriomatic-transmission including a selecting gear with 4 forward gears and 1 reverse and a group gear with 2 groups, both groups are coupled by a multiple disc type clutch; transmission gives 8 forward speeds and 2 reverse

Rear axle and final drive: Make: International Harvester Company m.b.H. 404 Neuss am Rhein; bevel gear type differential gear with crown wheel and pinion; Differential lock fitted, operated by foot pedal

Oil capacity: 34 l; recommended oil-change period 1600 hours

Total ratios an speeds

| Group gear | Gear No. | Number of engine revolutions for one revolution of the driving wheel | Theoretical travelling speed for 1900 rated speed of engine km/h | m/s |
|---|---|---|---|---|
| On the field | 1.L. | 228,22 : 1 | 1,87 | 0,52 |
| | 2.L. | 116,58 : 1 | 3,66 | 1,02 |
| | 3.L. | 73,20 : 1 | 5,83 | 1,62 |
| | 4.L | 58,19 : 1 | 7,34 | 2,04 |
| On roads | 1.S. | 87,16 : 1 | 4,90 | 1,36 |
| | 2.S. | 44,52 : 1 | 9,59 | 2,665 |
| | 3.S. | 27,96 : 1 | 15,27 | 4,24 |
| | 4.S. | 22,22 : 1 | 19,21 | 5,33 |
| Field road | 1.R. | 136,51 : 1 | 3,13 | 0,87 |
| | 2.R. | 52,13 : 1 | 8,19 | 2,275 |

| | |
|---|---|
| **Power take-off** | Power take-off by hand lever engaged |
| Location: | At rear of tractor, 580 mm above ground, in median plane of tractor |
| Dimensions: | Spline shaft 29 X 34,9 X 8,7 mm = $1^3/8$", 6 splines (acc.to DIN 9611 Form A; BS 1495; ASAE S 203.2) |
| Speed: | 577 rev/min at 1900 rev/min rated engine speed; standard p.t.o.-speed 540 rev/min at 1780 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 attached to p.t.o. |
| Dimensions: | 241 mm diameter, 162 mm width |
| Speed: | 1441 rev/min at 1900 rev/min rated engine speed; linear belt speed 18,2 m/s |
| Direction of rotation: | Clockwise, viewed from right hand side of tractor; manually engaged by p.t.o.engaging lever |
| **Power lift** | Make: International Harvester Company m.b.H. 404 Neuss am Rhein;<br>IH type Exact Regelhydraulic, with position control, power control and floating position; single acting ram with relief valve, opening pressure 250 kp/cm² (manufacturers figure);<br>Bosch type HY ZFR 1/7 AR 110 gear type pump, directly driven from engine; IH control valve; oil capacity 12,8 l; maximum oil pressure 150 kp/cm²; 3 tappings for remote controlled rams with IH additional control valve for single or dual acting ram |
| **Pull atachment** | |
| Implement linkage: | Three-point implement linkage categorie I (acc.to DIN 9674), controlled by power lift;<br>lift height above ground: from 180 mm to 880 mm |
| Drawbar: | Fixed on three-point implement linkage; central hole and 7 holes with 40 mm distance each, 1 hole 320 mm distance and 2 holes with 80 mm distance apart either side of centre line (acc.to DIN 9676); height above ground may be riged fixed at 440 mm by hinging the rods in brackets. Distance of centre hole to the end of p.t.o. 480 mm with lower links in horizontal position |
| Swinging drawbar: | Height above ground 385 mm;<br>distance of hole from rear axle 680 mm and 730 mm |

| | |
|---|---|
| Trailer hitch: | At rear of tractor; height above ground 680 mm and 795 mm, changed by reversing hitch; distance from rear axle 422 mm |
| Towing hitch: | At front of tractor; height above ground 595 mm |
| Steering device | Make: Cam Gears Ltd.<br>Model: Ross Type 250 |
| Brakes | |
| Parking brake: | Mechanically operated band brake, acting on brake drum on differential case |
| Foot brake: | Mechanically operated disc brake, acting on brake drums on differential shafts |
| Steering brake: | Brake device and single pedals of foot brake, single pedals latched together for normal use |
| Wheels | |
| Steering wheels: | Two at front; 6,00-16 AS Front 6 ply pneumatic tyres (acc.to DIN 7808); maximum permissible weight on each tyre 560 kp at 2,5 kp/cm² inflation pressure, 700 kp when transporting mounted implements; rim 4,50 E x 16; track width from 1225 mm to 1725 mm and from 1375 mm to 1875 mm in 100 mm steps changed by extending front axle and reversing wheels |
| Driving wheels: | Two at rear; 12,4/11-28 AS 6 ply (acc.to DIN 7807); maximum permissible weight on each tyre 1200 kp at 1,5 kp/cm², 1410 kp when transporting mounted implements; track width from 1225 mm to 1925 mm changed in 100 mm steps by reversing wheels and offset lug type rim |
| Wheel base: | 1815 mm |

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**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: | 668 kp | 682 kp |
| | Rear axle load: | 1136 kp | 1194 kp |
| | Total: | 1804 kp | 1876 kp |

Ballast front: 80 kp - 2 weights per wheel

Ballast rear: 1181 kp - consisting of 6 weights per wheel = 936 kp
and water in tyres = 245 kp

| | | without driver | with driver |
|---|---|---|---|
| Weight of tractor with ballast: | Front axle load: | 748 kp | 762 kp |
| | Rear axle load: | 2317 kp | 2375 kp |
| | Total: | 3065 kp | 3137 kp |

**Seat** — Make: Sable, upholstered mould seat and back rest, adjustable spring and shock absorber; height above ground 1055 mm to 1080 mm, in median plane of tractor

**Number of grease points** (whole tractor): 14

**Overall dimensions**

| | |
|---|---|
| Overall length: | 3165 mm with three-point linkage |
| Overall width: | 1642 mm at 1325 mm track, without ballast weights |
| Overall height: | 1555 mm to top of exhaust pipe |
| Maximum ground clearance: | 310 mm in median plane of tractor,<br>405 mm apart median plane |

**Lighting equipment:** Electric 12 Volt, acc.to StVZO (German lighting regulation) with main head light beam

| | Height above ground of centre mm | Dimensions of area mm | Distance from outside edge of tractor to centre mm |
|---|---|---|---|
| Head lights | 965 | 130 Ø | 680 |
| Side lights | 1280 | 70 x 38 | 77 |
| Rear lights | 1270 | 70 x 38 | 77 |
| Reflectors | 900 | 75 Ø | 80 |

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## FUELS AND LUBRICANTS USED IN TESTS

### Laboratory tests

| | |
|---|---|
| Fuel: | Shell Diesel oil, specific gravity at 15°C: 0,837 kg/l (commercially available quality acc.to DIN 51 601) |
| Engine oil: | BP HD 20 |
| Transmission oil: | SAE 80 |

### Track tests

| | |
|---|---|
| Fuel: | Shell Diesel oil, specific gravity at 15°C: 0,837 kg/l (commercially available quality acc.to DIN 51 601) |
| Engine oil: | BP HD 20 |
| Transmission oil: | SAE 80 |

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## COMPULSORY TESTS

### (1) MAIN POWER TAKE-OFF PERFORMANCE

Date and location of tests: 26.6.1968, 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/hph | hph/l |
|---|---|---|---|---|---|
| At maximum power - 2 hours test | | | | | |
| 24,6 | 1900 | 577 | 6,41 | 216 | 3,83 |
| At standard p.t.o.speed (540 U/min) | | | | | |
| 23,5 | 1780 | 540 | 6,00 | 212 | 3,92 |
| At the speed recommended by the manufacturer for drawbar work | | | | | |
| 24,6 | 1900 | 577 | 6,41 | 216 | 3,83 |

Fuel consumption at part loads

| | | | | | |
|---|---|---|---|---|---|
| (i) 85% of torque at maximum power | | | | | |
| 21,8 | 1985 | 601 | 5,78 | 222 | 3,79 |
| (ii) unloaded | | | | | |
| 0,64 | 2100 | 636 | 2,16 | - | - |
| (iii) 50% of the load defined in (i) | | | | | |
| 11,2 | 2040 | 619 | 3,73 | 276 | 3,0 |
| (iv) maximum power | | | | | |
| 24,6 | 1900 | 577 | 6,41 | 216 | 3,83 |
| (v) 25% of the load defined in (i) | | | | | |
| 5,7 | 2077 | 629 | 2,79 | 406 | 2,04 |
| (vi) 75% of the load defined in (i) | | | | | |
| 16,6 | 2020 | 611 | 4,73 | 237 | 3,51 |

No load maximum engine speed: 2105 rev/min

Torque*) at maximum power: 9,28 kpm

Maximum torque*) 10,2 kpm at 1480 rev/min of the engine

Mean atmospheric conditions: temperature: 22°C
pressure: 751 mm Hg
relative humidity: 64%

Maximum temperatures: coolant: 85°C
engine oil: 70°C
fuel: 24°C

*) The torque reported is the equivalent crankshaft torque

(2) DRAWBAR PERFORMANCE

Date of tests: 17.7.-29.7 1968

Type of track: concrete

Height of drawbar above ground: 375 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. | 18,1 | 3000 | 1985 | 15,2 | 2,95 | 292 | 15 | 80 | 65 | 15 | 80 | 754 |
| 2.L. | 20,2 | 1634 | 1895 | 7,0 | 3,13 | 264 | 20 | 80 | 65 | 22 | 65 | 751 |
| 1.S. | 20,3 | 1192 | 1905 | 5,0 | 3,17 | 261 | 15 | 80 | 68 | 16 | 95 | 751 |
| 3.L. | 20,5 | 1000 | 1905 | 3,6 | 3,17 | 260 | 24 | 82 | 68 | 25 | 55 | 755 |
| 4.L. | 20,3 | 780 | 1905 | 3,2 | 3,14 | 262 | 20 | 82 | 70 | 19 | 55 | 755 |
| 2.S. | 20,3 | 592 | 1905 | 2,3 | 3,14 | 261 | 24 | 85 | 70 | 25 | 56 | 755 |
| (ii) FIVE-HOUR-TEST AT 75% OF PULL AT MAXIMUM POWER IN 3.L. GEAR | | | | | | | | | | | | |
| 3.L. | 16,1 | 750 | 2000 | 3,4 | 2,84 | 289 | 22 | 85 | 70 | 24 | 56 | 755 |
| (iii) FIVE-HOUR-TEST AT PULL CORRESPONDING TO 15% WHEEL SLIP IN TEST (i) | | | | | | | | | | | | |
| 1.L. | 18,1 | 3000 | 1985 | 15,0 | 2,95 | 292 | 17 | 80 | 70 | 18 | 80 | 755 |
| Without ballast | | | | | | | | | | | | |
| (v) MAXIMUM POWER | | | | | | | | | | | | |
| 1.L. | 10,5 | 1710 | 2000 | 15,3 | 2,39 | 346 | 16 | 78 | 65 | 17 | 77 | 755 |
| 2.L. | 19,2 | 1630 | 1895 | 12,9 | 3,01 | 276 | 15 | 78 | 65 | 14 | 85 | 755 |
| 1.S. | 19,8 | 1192 | 1900 | 8,1 | 3,08 | 268 | 18 | 80 | 67 | 18 | 87 | 751 |
| 3.L. | 20,2 | 1008 | 1895 | 6,9 | 3,14 | 263 | 20 | 85 | 68 | 20 | 73 | 748 |
| 4.L. | 20,4 | 788 | 1900 | 4,7 | 3,17 | 260 | 22 | 85 | 70 | 23 | 70 | 751 |
| 2.S. | 20,4 | 600 | 1900 | 4,0 | 3,17 | 260 | 20 | 85 | 70 | 20 | 73 | 748 |

Engine oil consumption during ten hours duration of tests (ii) and (iii): 18,5 g/h

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(3 and 4) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 6,00-16 AS Front, 6 ply, without ballast
rear: 12,4/11-28 AS, 6 ply, without ballast

Track of wheels front: 1325 mm
rear: 1325 mm

| | With brakes | | Without brakes | |
|---|---|---|---|---|
| | left-hand | right-hand | left-hand | right-hand |
| Radius of turning space | 2,85 m | 2,82 m | 3,13 m | 3,10 m |
| Radius of turning circle | 2,78 m | 2,75 m | 3,06 m | 3,03 m |

(5) LOCATION OF CENTRE OF GRAVITY

| | Without ballast |
|---|---|
| Height above ground | 681 mm |
| Distance forward from the vertical plane containing the axis of the rear wheels | 658 mm |
| Distance from the median plane of the tractor | 0 mm |

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## (6) BRAKE TESTS

### A) FOOT BRAKE

Date of test: 16.4.1968

Type of track: concrete

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

Travelling speed of tractor: 20,3 km/h

With cold brakes

| | Tractor without ballast | Tractor with ballast |
|---|---|---|
| Maximum deceleration $m/s^2$ | 5,0 | 5,6 |
| Stopping distance m | 6,0 | 3,6 |
| Force on pedal kp | 30 | 58 |

Brake fade characteristics, hot tests, tractor without ballast

Deceleration: hot/cold 88%

Stopping distance: cold/hot 94%

Force on pedal: cold/hot 100%

### B) PARKING BRAKE

Force applied on the brake lever, cold brake 20 kp.
No rotation of the rear-wheels of tractor occured when the tractor has been towed.

Tests with hot brake not applicable because parking brake is not influenced by the temperatur of foot brake.

(7) MEASUREMENT OF AMBIENT NOISE EMITTED BY THE TRACTOR

Date of test: 30.7.1968
Type of track: concrete
Type of sound level meter: EZGN, Rohde & Schwarz, 8 München

Results of test

Speed: 4.S.
Travelling speed before acceleration: 15,0 km/h
Sound level: 79 dBA

(8) NOISE MEASUREMENT AT THE DRIVER'S EAR

Date of test: 30.7.1968
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 |
|---|---|---|---|
| 4.L. | 7,34 | 7,20 | 86 |
| 1.S. | 4,90 | 4,80 | 87 |

*) 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: 30.7.1968, Darmstadt-Kranichstein
Hydraulic fluid: I.H.-Hydraulic oil

### 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 | | | | | |
| 187 | - | 669 | 975 | 152 | 1500 |
| Measured at the test frame 610 mm to the rear of the hitch points | | | | | |
| 187 | 162 | 982 | 860 | 152 | 862 |

Type of linkage lock for transport: Mechanically operated shut off valve in cylinder head
Opening pressure of the cylinder over pressure relief valve: 250 kp/cm² (acc.to manufacturers specification)

### PUMP CHARACTERISTICS

(i) opening pressure of relief valve: 155 kp/cm²
sustained pressure by the open relief valve: 152 kp/cm²

Pump delivery rate at external tapping
(ii) at minimum pressure: 28,8 l/min
(iii) at maximum hydraulic power: 25,0 l/min
maximum hydraulic power: 8,17 hp (metric)
delivery pressure: 147 kp/cm²

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OPTIONAL TESTS

(10) ENGINE TESTS

Date and location of tests: 5.2.1968, 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 | | | | |
| 27,0 | 1900 | 6,34 | 197 | 4,26 |
| At standard p.t.o.speed (540 rev/min) | | | | |
| 26,2 | 1780 | 6,17 | 196 | 4,25 |
| At the speed recommended by the manufacturer for drawbar work | | | | |
| 27,0 | 1900 | 6,34 | 197 | 4,26 |
| Fuel consumption at part loads | | | | |
| (i) 85% of torque at maximum power | | | | |
| 24,0 | 1980 | 5,70 | 199 | 4,21 |
| (ii) unloaded | | | | |
| - | 2120 | 2,00 | - | - |
| (iii) 50% of the load defined in (i) | | | | |
| 12,3 | 2040 | 3,62 | 246 | 3,40 |
| (iv) maximum power | | | | |
| 27,0 | 1900 | 6,34 | 197 | 4,26 |
| (v) 25% of the load defined in (i) | | | | |
| 6,2 | 2076 | 2,54 | 372 | 2,44 |
| (vi) 75% of the load defined in (i) | | | | |
| 18,2 | 2017 | 4,61 | 213 | 3,98 |

Optimum fuel consumption: 191 g/hph at 17,5 hp and 1350 rev/min

Standard fuel consumption 1/2 (acc.to DIN 9606) : 2,48/5,43 l/h

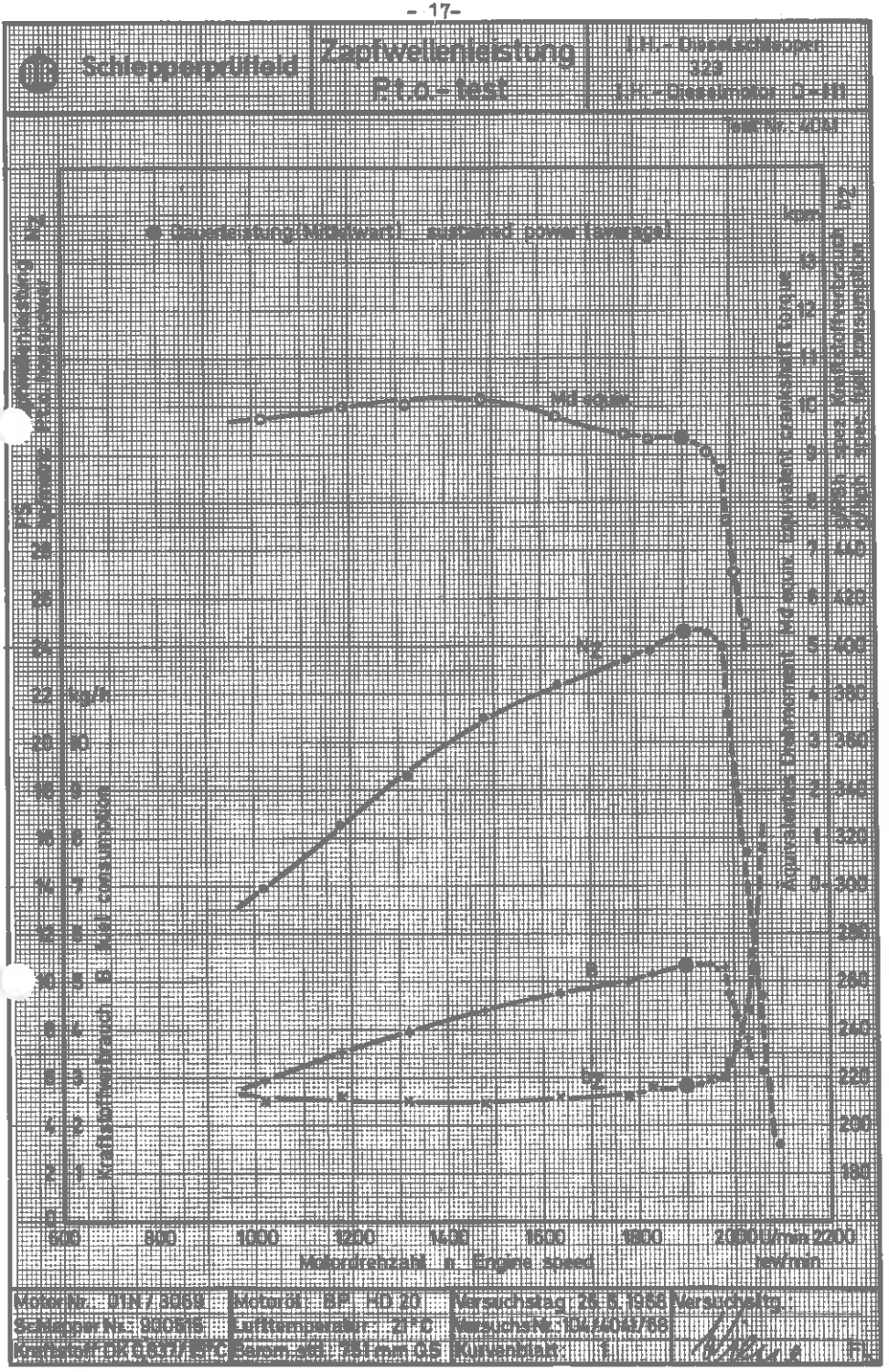
No load maximum engine speed: 2120 rev/min

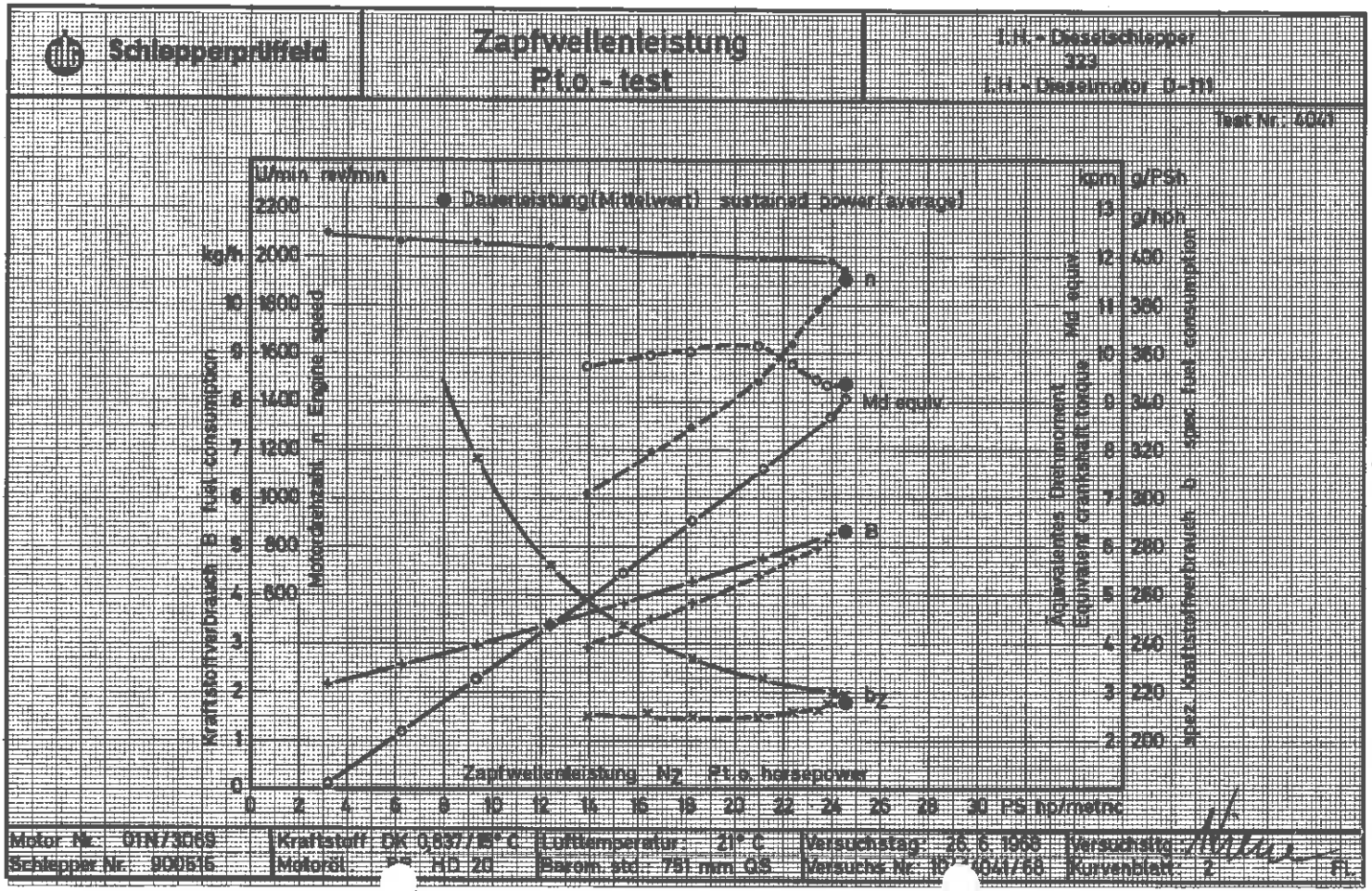
Torque at maximum power: 10,15 kpm

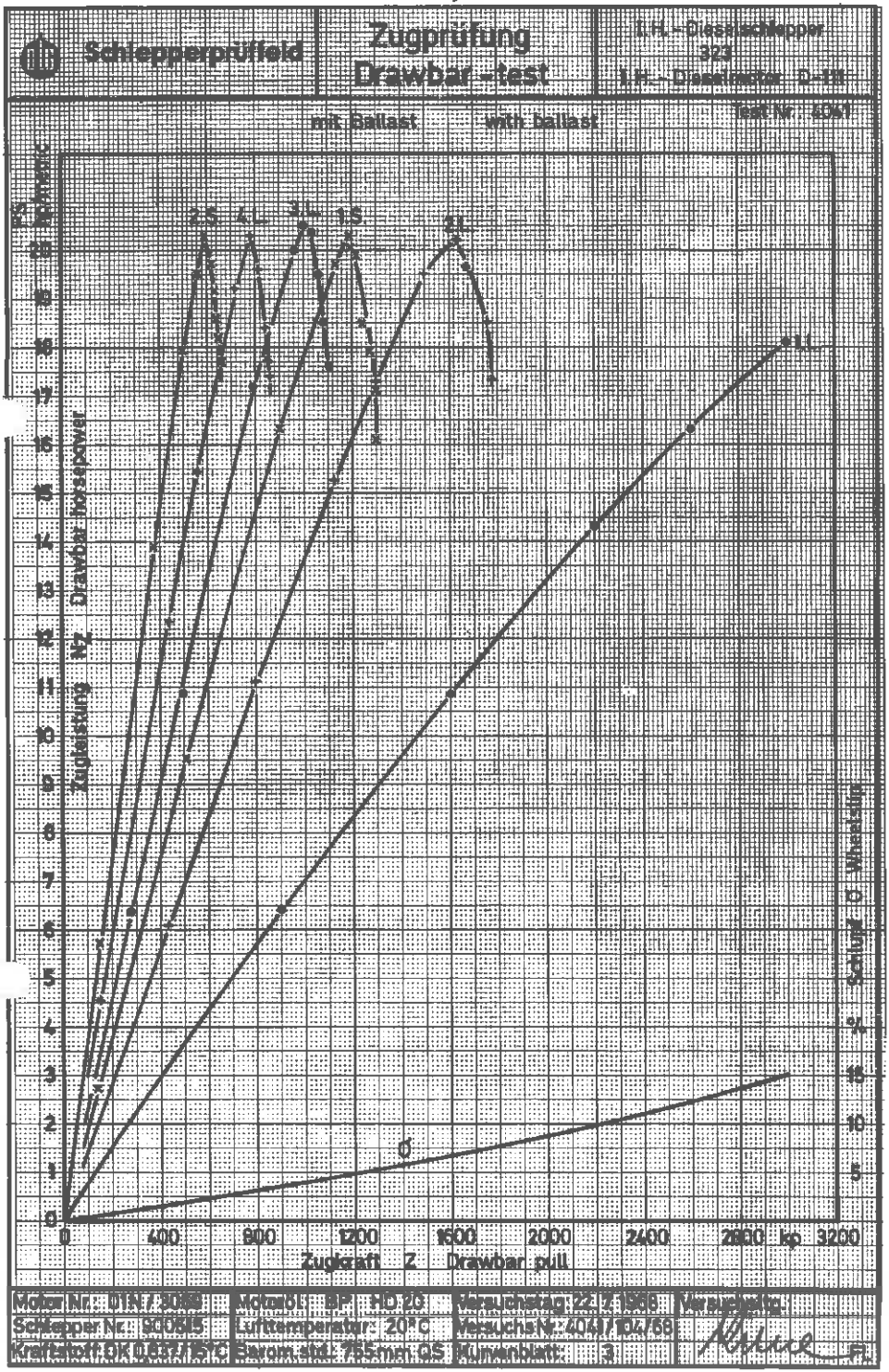
Maximum torque: 11,10 kpm at 1480 rev/min of the engine

Mean atmospheric conditions: temperature: 11°C
pressure: 739 mm Hg
relative humidity: 35%

Maximum temperatures: coolant: 80°C
engine oil: 60°C
fuel: 23°C


Schlepperprüffeld
Zapfwellenleistung
P.t.o.-test
Motor-Nr. 40/61
Belastung/Mittelwert
Kraftstoffverbrauch
Motordrehzahl
Engine speed
Motor-Nr. 01N7/8069
Motorart 6P HD 20
Versuchstag 28.6.1968
Versuchs-Nr. 904/204/68


Schlepperprüffeld
Zapfwellenleistung
Pt.o. - test
I.H. - Dieselschlepper
323
I.H. - Dieselmotor D-111
Test Nr.: 4001
U/min rev/min
2200
2000
1800
1600
1400
1200
1000
800
600
kg/h
10
9
8
7
6
5
4
3
2
1
0
Kraftstoffverbrauch fuel consumption
Motordrehzahl Engine speed
● Dauerleistung(Mittelwert) sustained power(average)
n
Md equiv
B
bz
Zapfwellenleistung Nz Pt.o. horsepower
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 PS hp/metric
Äquivalentes Dauermoment equivalent continuous torque
Md equiv
Nm
13
12
11
10
9
8
7
6
5
4
3
2
g/PSh
g/hph
600
560
520
480
440
400
360
320
280
240
220
200
spez. Kraftstoffverbrauch b specific fuel consumption
Motor Nr.: 01N/3069
Schlepper Nr.: 990515
Kraftstoff: DK 0,837/15° C
Motoröl: HD 20
Lufttemperatur: 21° C
Barom. std: 751 mm QS
Versuchstag: 26. 6. 1968
Versuchs Nr.: 10[illegible]/044/68
Versuchstg.
Kurvenblatt Nr.: 2

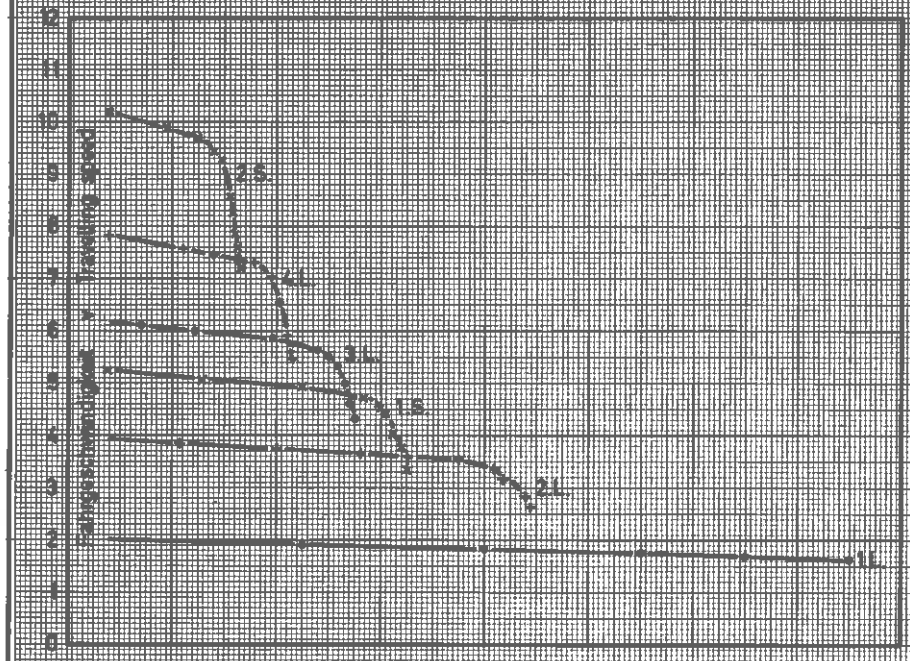

Schlepperprüfstand
Zugprüfung
Drawbar-test
I.H.-Diesel-Schlepper
323
I.H.-Diesel-tractor D-178
mit Ballast
with ballast
Test Nr. 4041
2 S
4 L
3 L
1 S
3 L
4 L
Drehzahl
Zugleistung
Drawbar horsepower
PS
Schlupf
% Wheel slip
0
400
800
1200
1600
2000
2400
2800
kp
3200
Zugkraft Z
Drawbar pull
Motor Nr.: 01N / 30869
Motoröl: BP HD 20
Versuchstag: 22.7.1968
Schlepper Nr.: 500845
Lufttemperatur: 20°C
Versuchs Nr.: 4041/04/68
Kraftstoff: DK 0,827 / 15°C
Barom. std.: 765 mm QS
Kurvenblatt: 3

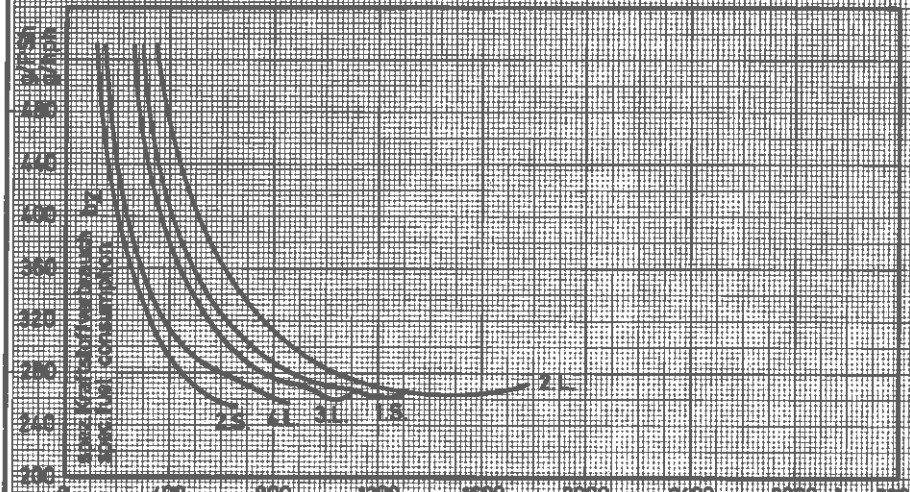
Schlepperprüffeld

# Zugprüfung
# Drawbar-test

L.A. = Dieselschlepper 32 l
L.K. = Dieselschlepper D-111

km/h — mit Ballast — with ballast — Test Nr. 4347




| | | | |
|---|---|---|---|
| Motor Nr. 01N73659 | Motoröl BP HD 20 | Versuchstag 22.7.1968 | Versuchsstand: |
| Schlepper Nr. 900615 | Lufttemperatur 20°C | Versuchs Nr. 4047/4347/68 | |
| Kraftstoff DK 0807/15°C | Seiom. skd 755 mm QS | Kurvenblatt 4 | FL |

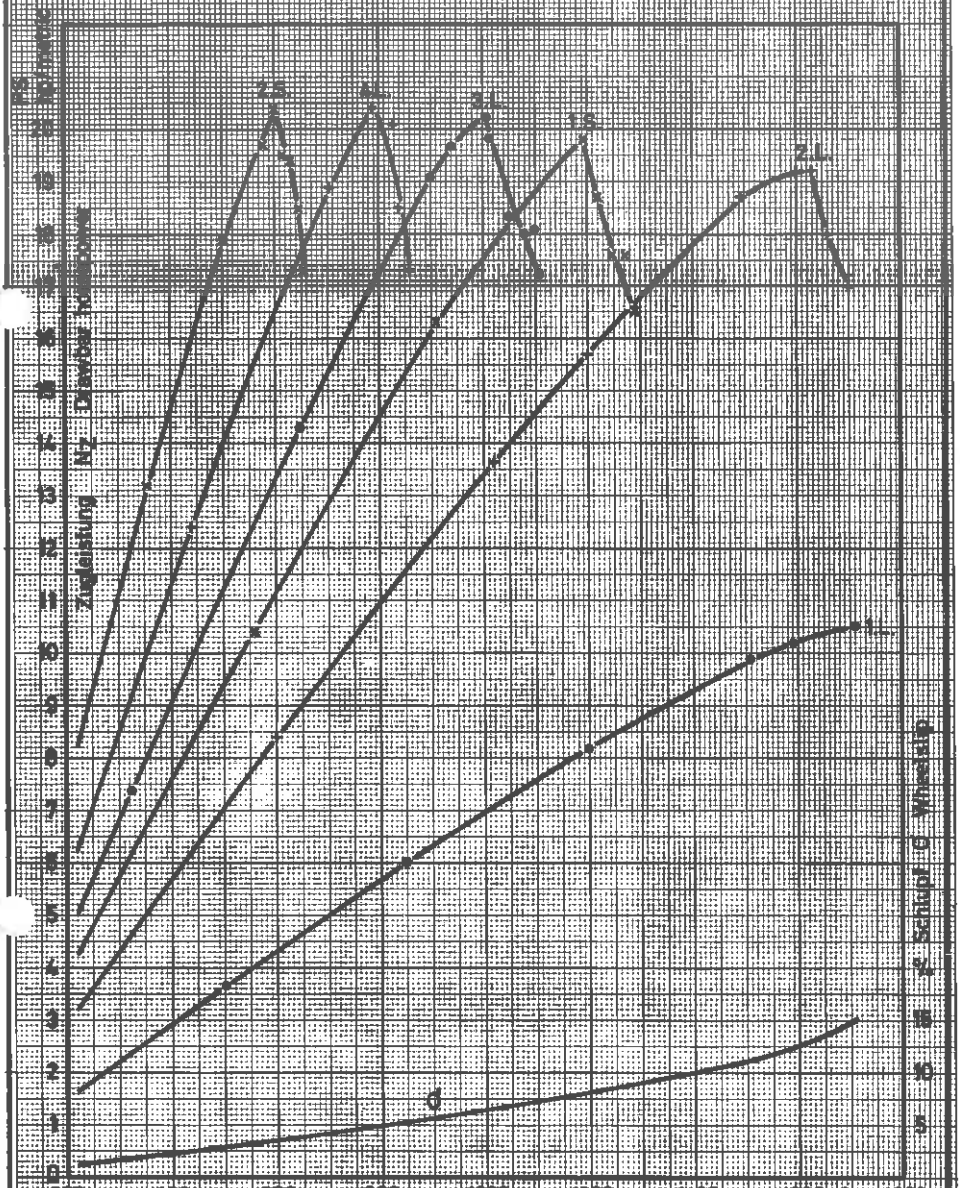
Schlepperprüfstand

# Zugprüfung
# Drawbar-test

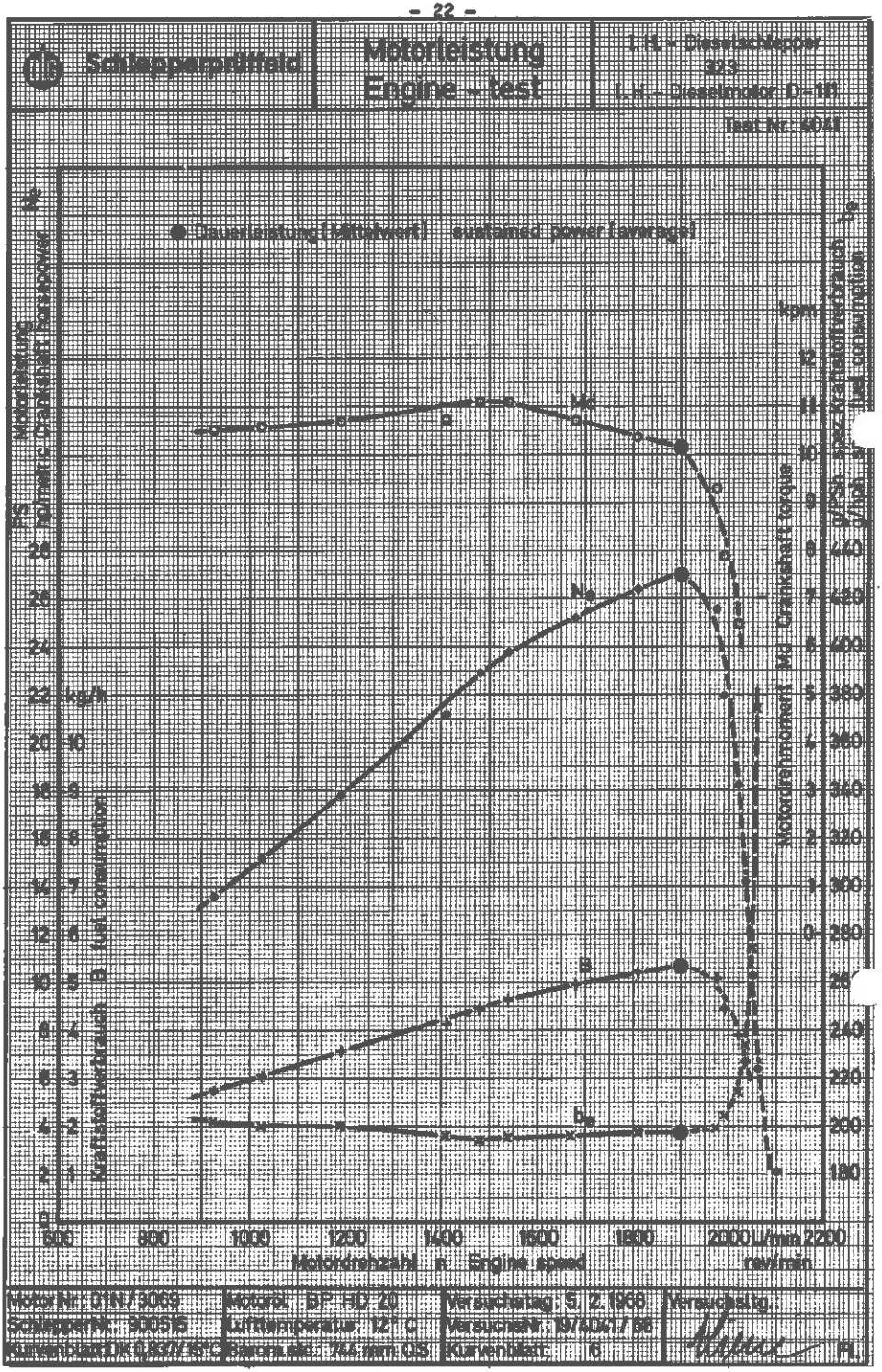
1 HL – Diesel-Schlepper 328
1 HL – Diesel-tractor D 15

Test Nr. 4041

ohne Ballast  without ballast




| | | | |
|---|---|---|---|
| Motor Nr. DIN/ 3069 | Motor D: BP HD 20 | Versuchstag: 17.7.1968 | Versuchsltg. |
| Schlepper Nr.: 3005315 | Lufttemperatur: 20° C | Versuchsstand: 404/967/68 | |
| Kraftstoff: DK 0837/15° C | Barometerstd.: 730 mm QS | Kurbelölfett: S | F |


Schlepperprüffeld
Motorleistung
Engine - test
1 HL - Dieselmotor
323
1 M - Dieselmotor D - 111
Test Nr.: 4041
Dauerleistung (Mittelwert) sustained power (average)
Motorleistung Drehzahl engine power speed
Kraftstoffverbrauch fuel consumption
Motordrehmoment Drehzahl engine torque speed
Motorleistung engine power
Kraftstoffverbrauch fuel consumption
Motordrehmoment engine torque
Motordrehzahl n Engine speed
U/min rev/min
Motor Nr.: D1N/3068
Schlepper Nr.: 300515
Kurvenblatt: DK 0,8/7,5/C
Motorart: BF 1D 20
Lufttemperatur: 12° C
Barometer: 744 mm QS
Versuchstag: 5. 2. 1968
Versuchsart: 19/4041/66
Kurvenblatt: 6
Versuchsltg.:

Engine - test
Kennfeld
Characteristic diagram
Kennlinienfeld
Motorleistung P Engine power
Motordrehzahl n Engine speed
Kraftstoffverbrauch B Fuel consumption
spez. Kraftstoffverbrauch be spec. fuel consumption