



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

HOLDER AG 35

Manufactured by: GEBRÜDER HOLDER, Maschinenfabrik  
7418 Metzingen



Date of Tests: June - September 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: 4.11.1969      Serial No.: 286

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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.

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OPTIONAL TESTS

|                           |       |
|---------------------------|-------|
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Tractor manufacturer: GEBRÜDER HOLDER, Maschinenfabrik  
7418 Metzingen/ Württ.  
Submitted for test by: Manufacturer  
Selected by: Manufacturer with the agreement of the  
DLG testing station  
Place of running-in: Metzingen and Gross-Umstadt  
Duration of running-in: Engine appr. 50 hours, tractor appr. 30 hours

SPECIFICATION OF TRACTORTractor

Make: GEBRÜDER HOLDER, Maschinenfabrik, 7418 Metzingen/ Württ.  
Model: AG 35  
Type: Diesel-tractor, unit construction, Four-wheel drive  
Serial No.: 3510426

Engine

Make: GEBRÜDER HOLDER, Maschinenfabrik, 7418 Metzingen/ Württ.  
Model: HD 3  
Type: Water-cooled 2-stroke Diesel-engine, direct injection  
Serial No.: 313221

Cylinders: 3 cylinders, vertical in line; bore 84 mm, stroke 90 mm,  
capacity 1496 cm<sup>3</sup>; compression ratio 17,3 : 1

Fuel system: Fuel: commercially available diesel-oil;  
Bosch type PES 3A 55C 410/3 RS 1223 injection pump;  
Bosch type DL 90 S 1086 injection nozzles; injection  
pressure 175 kp/cm<sup>2</sup>; injection timing 38° before TDC;  
fine filter with paper filter element; capacity of  
fuel tank appr. 23 l

Governor: Make: Robert Bosch G.m.b.H., 7 Stuttgart; centrifugal  
variable speed type governor type EP/RSV;  
governed range of engine speed 700 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: Make: Filterwerk Mann & Hummel, 7 Stuttgart;  
oil bath type filter; oil capacity 0,6 l



**Lubrication system:** Recirculation system from lubrication oil pump; strainer in sump; oil capacity 5 l; recommended changing period 250 hours when normal branded HD-oil is used; recommended oil

|                             |             |
|-----------------------------|-------------|
| in winter (below 0°C)       | : HD SAE 10 |
| in summer (0° - 30°C)       | : HD SAE 20 |
| in tropics (more than 30°C) | : HD SAE 30 |

**Cooling system:** Pressurised water cooling with thermostat for temperature control, impeller assisted and 4-blade fan 230 mm dia; cooling water capacity 8,7 l

### Electrical equipment

**Voltage** 12 Volt, negative earth

**Starting device:** Bosch 12 Volt type GE 12V 1,3 PS starter motor

**Starting aid:** Bosch type KE/GSA 10/7 glowing plugs

**Generator:** Bosch type EH (R) 14V 11A 19 generator

**Battery:** Bosch acid type battery 12V 56Ah

### Transmission

**Clutch:** Make: Fichtel & Sachs AG., 872 Schweinfurt; single plate dry clutch type K 200, foot pedal operated

**Gearbox:** Make: GEBRÜDER HOLDER, Maschinenfabrik 7418 Metzingen/ Württ.  
sliding gear type, selecting gear and group gear giving 8 forward speeds and 4 reverse

**Rear axle and final drive:** Make: GEBRÜDER HOLDER, Maschinenfabrik 7418 Metzingen/ Württ.  
bevel gear type differential gear with crown wheel and pinion; spur gear final drive; differential lock fitted on differential gear of front axle as well as on differential gear of rear axle; front axle lock operated by foot pedal, rear axle lock operated by hand lever

**Oil capacity:** Total 11,7 l

### Total ratios and speeds

| Group gear   | Gear No. | Number of engine revolutions for one revolution of the driving wheel | Theoretical travelling speed at rated engine speed of 2300 rev/min |      |
|--------------|----------|----------------------------------------------------------------------|--------------------------------------------------------------------|------|
|              |          |                                                                      | km/h                                                               | m/s  |
| slow (L.)    | 1        | 349,01 : 1                                                           | 1,22                                                               | 0,34 |
|              | 2        | 203,14 : 1                                                           | 2,10                                                               | 0,58 |
|              | 3        | 125,28 : 1                                                           | 3,39                                                               | 0,94 |
|              | 4        | 78,75 : 1                                                            | 5,42                                                               | 1,50 |
| fast (S.)    | 1        | 95,99 : 1                                                            | 4,45                                                               | 1,24 |
|              | 2        | 55,87 : 1                                                            | 7,68                                                               | 2,13 |
|              | 3        | 34,46 : 1                                                            | 12,40                                                              | 3,44 |
|              | 4        | 21,66 : 1                                                            | 19,90                                                              | 5,53 |
| reverse (R.) | 1        | 255,90 : 1                                                           | 1,67                                                               | 0,46 |
|              | 2        | 148,95 : 1                                                           | 2,88                                                               | 0,80 |
|              | 3        | 91,86 : 1                                                            | 4,65                                                               | 1,29 |
|              | 4        | 57,74 : 1                                                            | 7,45                                                               | 2,07 |



- Power take-off Manually engaged, proportional engine speed p.t.o.
- Location:** At rear of tractor, 516 mm above ground, in median plane of tractor
- Dimensions:** Spline shaft 29 x 34,9 x 8,7 mm = 1<sup>3</sup>/<sub>8</sub>", 6 splines (acc.to DIN 9611 Form A; BS 1495; ASAE S 203.5)
- Speed:** 590 rev/min at 2300 rev/min rated engine speed; standard p.t.o.-speed 540 rev/min at 2110 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 manufacturer's specification)
- Location:** At rear of tractor, drive mounted on p.t.o.-shaft
- Dimensions:** 210 mm diameter, 120 mm width
- Speed:** 1480 rev/min at 2300 rev/min rated engine speed; linear belt speed 16,4 m/s
- Direction of rotation:** Clockwise as well as anticlockwise viewed from right hand side of tractor
- Power lift Make: GEBRÜDER HOLDER, Maschinenfabrik 7418 Metzingen/ Württ.  
hydraulic power lift with floating position; single acting ram; Bosch type HY/ZFR 1/8 CL 101 gear type pump; Bosch type HY/SEA 5/175/1 control valve; maximum oil pressure 175 kp/cm<sup>2</sup>; oil capacity 3,2 l; 1 external tapping
- Pull attachment
- Implement linkage:** Three-point implement linkage category I (acc.to DIN 9674) controlled by power lift; lift height above ground from 180 mm to 740 mm
- Drawbar:** Fixed on hydraulically controlled implement linkage; height above ground from 180 mm to 740 mm adjustable by power lift; to be set rigged at 400 mm height above ground; distance of center hole to the end of p.t.o.-shaft 610 mm at horizontal lower links; center hole and 3 holes with 80 mm distance each apart either side of center hole.



**Trailer hitch:** At rear of tractor; height above ground within 625 mm and 745 mm adjustable by shifting the claw; distance from rear axle 260 mm

**Towing hitch:** At front of tractor; height above ground 475 mm

**Steering device** Make: Zahnradfabrik Friedrichshafen A.G.,  
799 Friedrichshafen  
ZF hydrostatic column steering type 7407

#### Brakes

**Parking brake:** Mechanically operated internal shoe type brake acting on drums on the differential shafts of the front wheel drive; operated by ratchet hand lever

**Foot brake:** Mechanically operated internal shoe type brake acting on drums on the differential shafts of the rear wheel drive; operated by foot pedal

#### Wheels

**Steering wheels:** Two at front; tyres 8,3/8-24 AS 4 ply pneumatics (acc. to DIN 7807); maximum permissible weight on each tyre 615 kp at 1,5 kp/cm<sup>2</sup> inflation pressure; when transporting mounted implements 740 kp; track 1010 and 1250 mm (acc. to DIN 9677) changed by reversing wheels; 1500 mm (acc. to DIN 9677) changed by using extension hubs; rims W 7 x 24

**Driving wheels:** Two at rear and two at front; tyres 8,3/8-24 AS 4 ply pneumatics (acc. to DIN 7807); maximum permissible weight on each tyre 615 kp at 1,5 kp/cm<sup>2</sup> inflation pressure; when transporting mounted implements 740 kp; track 1010 mm and 1250 mm (acc. to DIN 9677) changed by reversing wheels; 1500 mm (acc. to DIN 9677) by using extension hubs; rims W 7 x 24

**Wheel base:** 1450 mm



Holder AG 35

Weights

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

Weight of tractor without ballast:

|                  | without driver | with driver |
|------------------|----------------|-------------|
| Front axle load: | 778 kp         | 794 kp      |
| Rear axle load:  | 508 kp         | 566 kp      |
| Total:           | 1286 kp        | 1360 kp     |

Ballast front:

|                              |         |
|------------------------------|---------|
| 1 weight (48,5 kp) per wheel | = 97 kp |
| Water in tyres               | = 81 kp |

Ballast rear:

|                              |         |
|------------------------------|---------|
| 1 weight (48,5 kp) per wheel | = 97 kp |
| Water in tyres               | = 81 kp |

Weight of tractor with ballast:

|                  | without driver | with driver |
|------------------|----------------|-------------|
| Front axle load: | 956 kp         | 972 kp      |
| Rear axle load:  | 686 kp         | 744 kp      |
| Total:           | 1642 kp        | 1716 kp     |

SeatMake: GEBRÜDER HOLDER, Maschinenfabrik,  
7418 Metzingen/ Württ.

upholstered pan seat swinging on a rocker arm and sprung by a rubber block; height above ground 850 mm, distance of back rest to implement bar 850 mm; in median plane of tractor

Number of grease points (whole tractor): 14Overall dimensions

|                           |                                                                                                        |
|---------------------------|--------------------------------------------------------------------------------------------------------|
| Overall length:           | 3120 mm with three-point linkage                                                                       |
| Overall width:            | 1300 mm at 1010 mm track, without ballast weights<br>1450 mm at 1250 mm track, without ballast weights |
| Overall height:           | 1245 mm to top of back rest to driver's seat<br>1445 mm to top of exhaust pipe                         |
| Maximum ground clearance: | 320 mm above median plane of tractor<br>380 mm apart median plane                                      |

Lighting equipment

Electric 12 Volt, acc.to StVZO (German Govt. regulation)

|             | Height above ground of centre<br>mm | Dimensions of area<br>mm | Distance from outside edge of tractor to centre<br>mm *) |
|-------------|-------------------------------------|--------------------------|----------------------------------------------------------|
| Head lights | 1000                                | 90 Ø                     | 520 - 635                                                |
| Side lights | 1000                                | 35 x 40                  | 195                                                      |
| Rear lights | 1000                                | 75 Ø                     | 180                                                      |
| Reflectors  | 1000                                | 75 Ø                     | 260                                                      |

\*) at smallest and widest track and guards mounted in relating position



FUELS AND LUBRICANTS USED IN TESTS

Laboratory tests

Fuel: Aral Diesel oil, specific gravity at 15°C : 0,827 kg/l  
(commercially available quality acc.to DIN 51 601)

Engine oil: Shell Rotella SAE HD 20

Transmission oil: SAE 80

Track tests

Fuel: Aral Diesel oil, specific gravity at 15°C : 0,827 kg/l  
(commercially available quality acc.to DIN 51 601)

Engine oil: Shell Rotella SAE HD 20

Transmission oil: SAE 80

COMPULSORY TESTS(1) MAIN POWER TAKE-OFF PERFORMANCE

Date and location of tests: 11.6.1969

Type of dynamometer: Schenck hydraulic dynamometer U1-40

Maximum power

| Horsepower<br>(metric)<br>hp                                         | Speed             |                   | Fuel consumption |                   | hph/l |
|----------------------------------------------------------------------|-------------------|-------------------|------------------|-------------------|-------|
|                                                                      | engine<br>rev/min | p.t.o.<br>rev/min | total<br>l/h     | specific<br>g/hph |       |
| <u>At maximum power 2-hour test</u>                                  |                   |                   |                  |                   |       |
| 30,0                                                                 | 2315              | 593               | 8,0              | 221               | 3,75  |
| <u>At standard p.t.o. speed (540 rev/min)</u>                        |                   |                   |                  |                   |       |
| 27,0                                                                 | 2100              | 540               | 7,2              | 220               | 3,75  |
| <u>At the speed recommended by the manufacturer for drawbar work</u> |                   |                   |                  |                   |       |
| 30,0                                                                 | 2315              | 593               | 8,0              | 221               | 3,75  |
| <u>Fuel consumption at part loads</u>                                |                   |                   |                  |                   |       |
| <u>(i) 85% of torque at maximum power</u>                            |                   |                   |                  |                   |       |
| 25,9                                                                 | 2345              | 601               | 6,6              | 210               | 3,93  |
| <u>(ii) unloaded</u>                                                 |                   |                   |                  |                   |       |
| -                                                                    | 2440              | 625               | 1,9              | -                 | -     |
| <u>(iii) 50% of the load defined in (i)</u>                          |                   |                   |                  |                   |       |
| 13,1                                                                 | 2375              | 609               | 3,8              | 240               | 3,45  |
| <u>(iv) maximum power</u>                                            |                   |                   |                  |                   |       |
| 30,0                                                                 | 2315              | 593               | 8,0              | 221               | 3,75  |
| <u>(v) 25% of the load defined in (i)</u>                            |                   |                   |                  |                   |       |
| 6,6                                                                  | 2410              | 618               | 2,7              | 342               | 2,93  |
| <u>(vi) 75% of the load defined in (i)</u>                           |                   |                   |                  |                   |       |
| 19,4                                                                 | 2350              | 604               | 5,0              | 214               | 3,85  |

No load maximum engine speed: 2440 rev/min

Torque \*) at maximum power: 9,28 kpm

Maximum torque \*) 9,30 kpm at 1880 rev/min of the engine

Mean atmospheric conditions:

 temperature: 25°C  
 pressure: 748 mm Hg  
 relative humidity: 50%

Maximum temperatures:

 coolant: 85°C  
 engine oil: 47°C  
 fuel: 28°C

\*) The torque reported is the equivalent crankshaft torque.



Prüfungsanstalt

Zapfenleistung

Pto - test

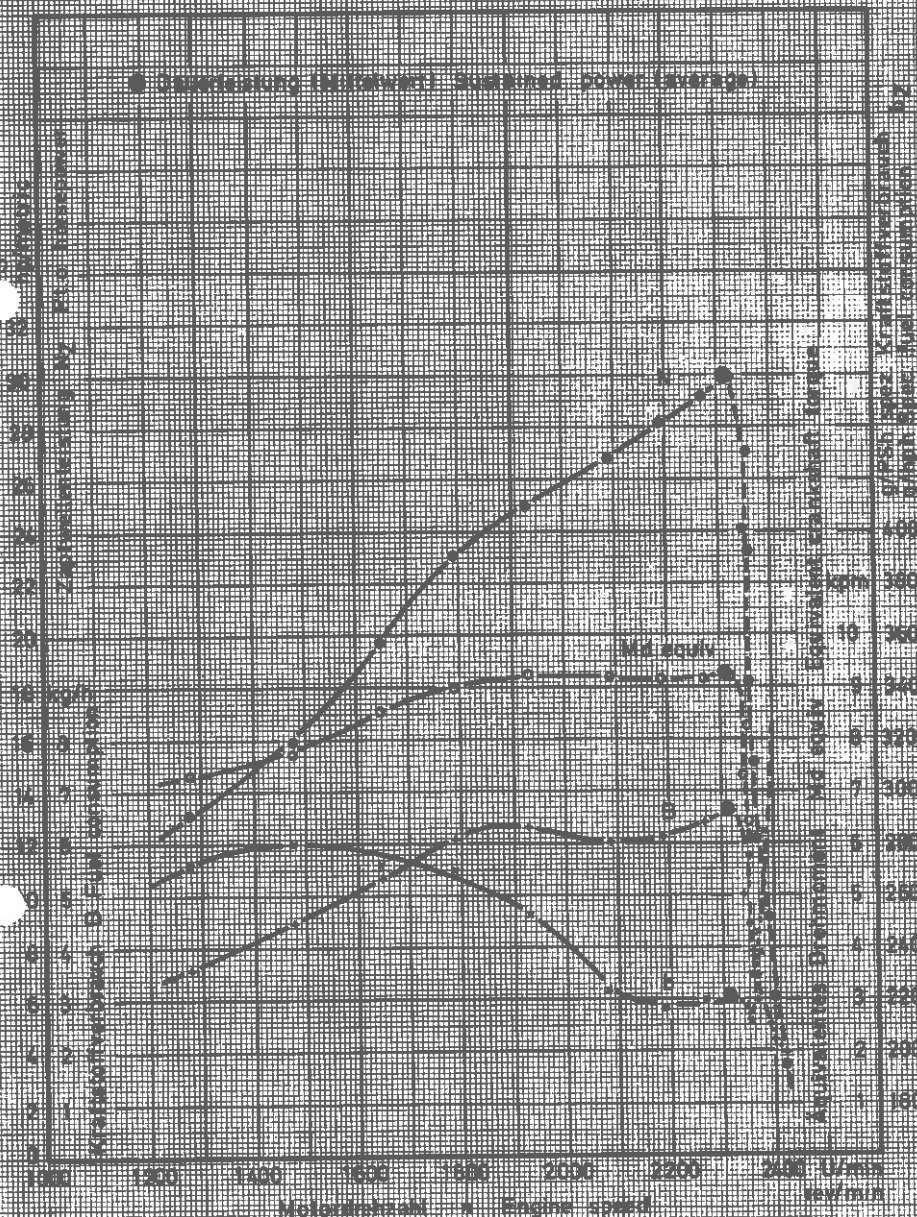
Motor Dieselschlepper

A-8-35

Motor Dieselmotor HD 3

Test Nr. 60-58

3 Zapfenleistung (Nutzleistung) Sustained power (average)





PROFESSOR-LEHRUNG

# Zapfwellenleistung

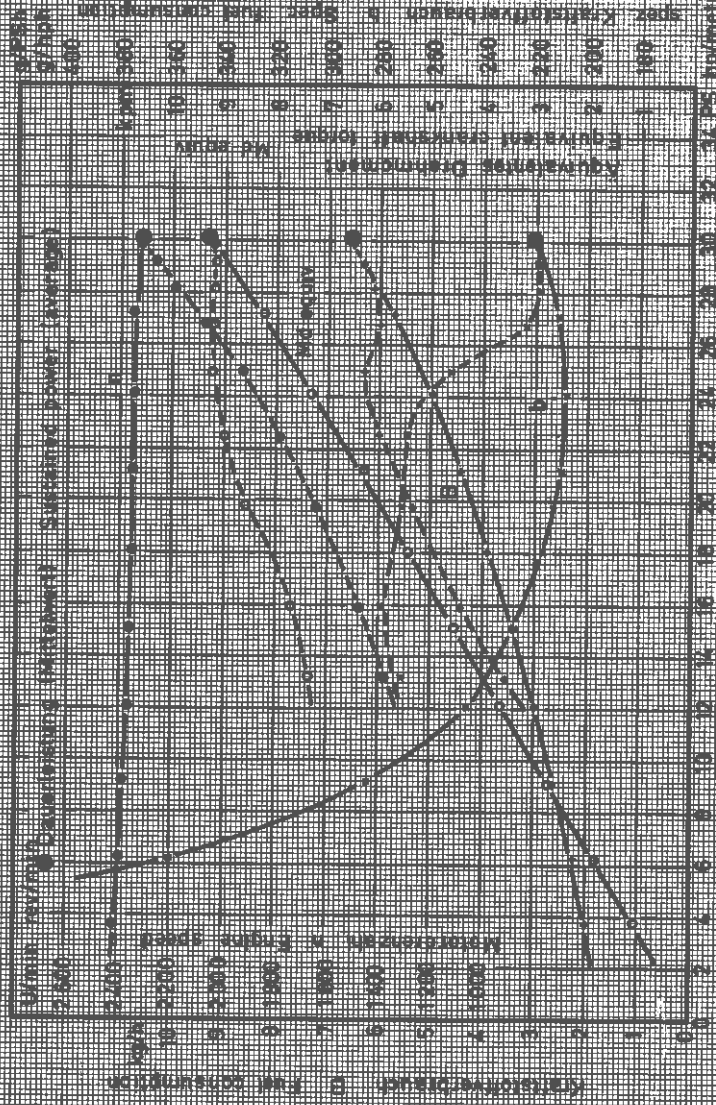
## P.t.o. - test

Motor-Dezisionskennung

A 5-33

Motor-Dezisionskennung

test Nr. 22-139



Motor Nr. 03 13/101

Stromer Nr. 13/101

Motor-Dezisionskennung

test Nr. 22-139

Motor-Dezisionskennung

test Nr. 22-139

Motor-Dezisionskennung

test Nr. 22-139

Motor-Dezisionskennung

test Nr. 22-139

Motor-Dezisionskennung

test Nr. 22-139

**(2) DRAWBAR PERFORMANCE with ballast**

Date of tests: 26.6. - 2.7.1969

Type of track: concrete

Height of drawbar above ground: 440 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 |            | Engine oil °C | Temperature °C | Atmospheric conditions |                |
|--------------------|-------------------------|-----------------|----------------------|------------------|---------------------|-------------------------------|--------------|------------|---------------|----------------|------------------------|----------------|
|                    |                         |                 |                      |                  |                     |                               | Fuel °C      | Coolant °C |               |                | Relative humidity %    | Pressure mm Hg |
| (1) MAXIMUM POWER  |                         |                 |                      |                  |                     |                               |              |            |               |                |                        |                |
| 1.L.               | 7.2                     | 1925            | 2380                 | 15.5             | 2.03                | 400                           | 25           | 80         | 45            | 25             | 77                     | 750            |
| 2.L.               | 12.4                    | 1925            | 2360                 | 15.5             | 2.56                | 309                           | 25           | 80         | 45            | 25             | 77                     | 750            |
| 3.L.               | 19.8                    | 1925            | 2325                 | 15.5             | 2.92                | 280                           | 30           | 80         | 45            | 27             | 57                     | 751            |
| 4.L.               | 24.2                    | 1375            | 2315                 | 8.1              | 3.01                | 271                           | 30           | 80         | 45            | 28             | 60                     | 751            |
| 1.S.               | 23.4                    | 1675            | 2310                 | 11.0             | 2.92                | 280                           | 30           | 80         | 45            | 28             | 60                     | 751            |
| 2.S.               | 25.7                    | 1000            | 2300                 | 4.6              | 3.14                | 260                           | 28           | 80         | 43            | 28             | 54                     | 751            |
| 3.S.               | 24.8                    | 580             | 2315                 | 2.4              | 3.11                | 264                           | 25           | 80         | 43            | 26             | 74                     | 751            |

**(ii) FIVE-HOUR-TEST AT 75% OF PULL AT MAXIMUM POWER IN 4th. L. GEAR**

|      |      |      |      |     |      |     |    |    |    |    |    |     |
|------|------|------|------|-----|------|-----|----|----|----|----|----|-----|
| 4.L. | 18.9 | 1030 | 2315 | 5.3 | 3.62 | 248 | 25 | 80 | 43 | 25 | 75 | 745 |
|------|------|------|------|-----|------|-----|----|----|----|----|----|-----|

**(iii) FIVE-HOUR-TEST AT PULL CORRESPONDING TO 15% WHEEL SLIP IN TEST (i)**

|      |      |      |      |      |      |     |    |    |    |    |    |     |
|------|------|------|------|------|------|-----|----|----|----|----|----|-----|
| 3.L. | 19.8 | 1925 | 2335 | 15.5 | 2.92 | 280 | 25 | 80 | 45 | 25 | 75 | 745 |
|------|------|------|------|------|------|-----|----|----|----|----|----|-----|

**(v) MAXIMUM POWER without ballast**

|      |      |      |      |      |      |     |    |    |    |    |    |     |
|------|------|------|------|------|------|-----|----|----|----|----|----|-----|
| 3.L. | 16.8 | 1575 | 2355 | 15.5 | 2.95 | 279 | 20 | 80 | 40 | 20 | 97 | 752 |
| 4.L. | 23.8 | 1430 | 2310 | 12.6 | 2.94 | 279 | 25 | 80 | 42 | 28 | 62 | 753 |
| 1.S. | 21.2 | 1575 | 2335 | 15.4 | 2.95 | 280 | 20 | 80 | 40 | 20 | 92 | 752 |
| 2.S. | 25.5 | 1010 | 2315 | 6.7  | 3.15 | 263 | 15 | 80 | 40 | 16 | 93 | 753 |
| 3.S. | 26.4 | 615  | 2325 | 2.4  | 3.20 | 251 | 15 | 80 | 40 | 15 | 93 | 753 |
| 4.S. | 25.4 | 370  | 2315 | 2.2  | 3.13 | 263 | 20 | 80 | 40 | 20 | 97 | 752 |

Engine oil consumption during ten hours duration of tests (ii) and (iii): 68 g/h

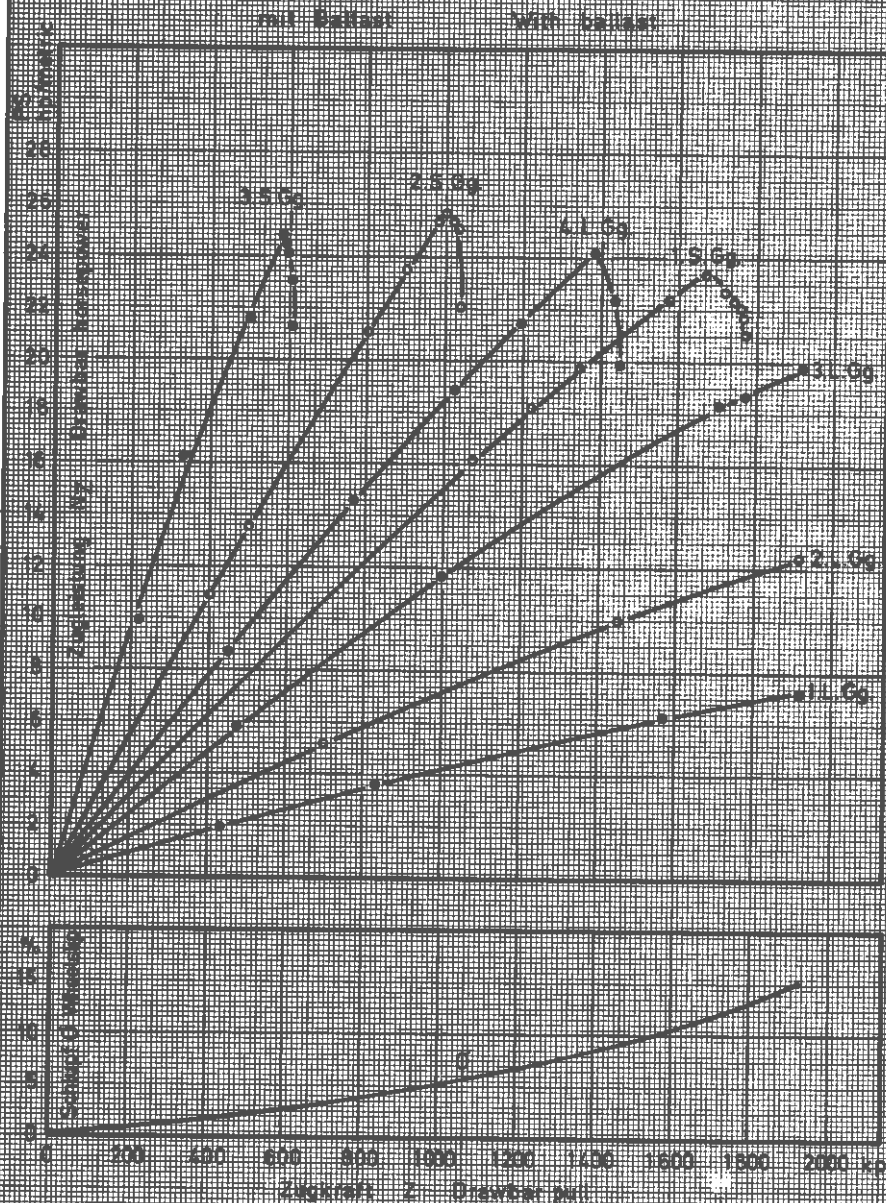


PROBUNG ABTEILUNG

# Zugprüfung Drawbar - test

Holder Dieselschlepper  
A 0-35  
Holder Dieselmotor MD 3

Test Nr. 65-66



|                         |                         |                       |                |
|-------------------------|-------------------------|-----------------------|----------------|
| Motor Nr. D 5 13 221    | Motoröl Shell Rot HD 22 | Versuchstag 12.7.1984 | Versuchsleitg. |
| Schlepper Nr. 10 426    | Lufttemperatur 20/27 °C | Versuchsnr. 65-66     |                |
| Reifenart GK 0 82/70 °C | Barometer 761 mm Q.S.   | Kartenblatt 3         |                |

*Handwritten signature: Müller*

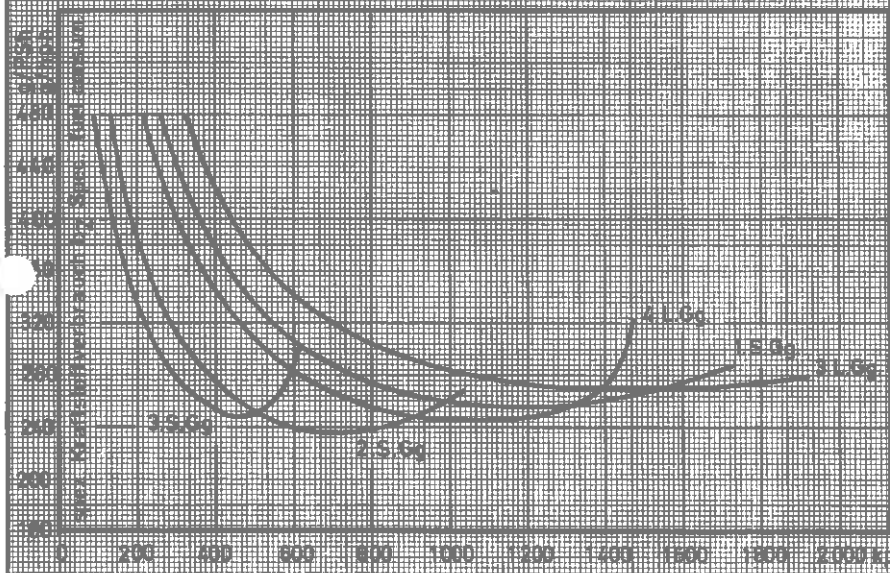
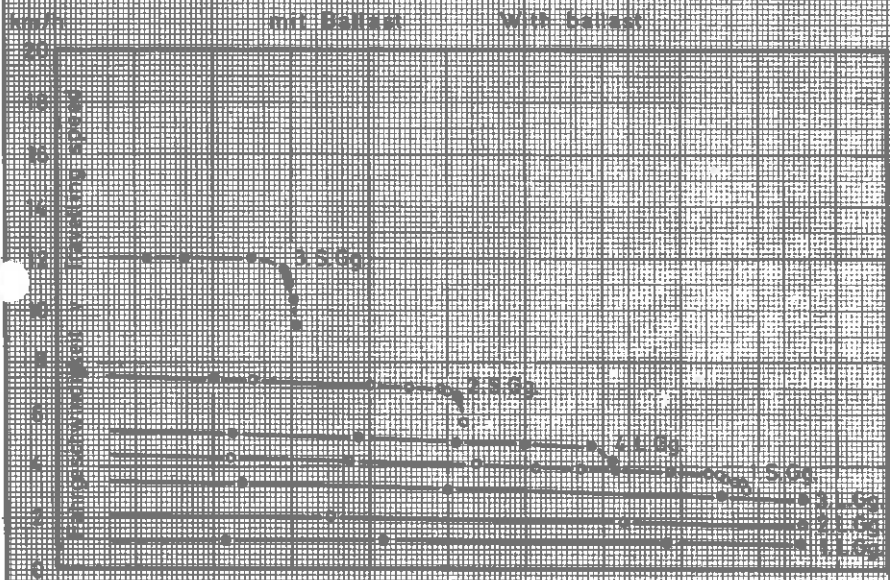


PRÜFUNGS-ABTEILUNG

# Zugprüfung Drawbar-test

Holder Dieselschlepper  
A-G-35  
Holder Dieselmotor HD-5

Test-Nr. 69 - 68



|                       |                          |                           |              |
|-----------------------|--------------------------|---------------------------|--------------|
| Motor-Nr. D 3 18271   | Motortöl Shell Rot HD 10 | Versuchs-Nr. 1 / 2 7 1965 | Versuchs-tg. |
| Schlepper-Nr. 10 428  | Lufttemp. 20 / 27 °C     | Versuchs-Nr. 68 / 69 / 70 |              |
| Gründstoff DKO 827/75 | Baromet. 761 mm Hg       | Kurvenblatt 4             |              |

PRÜFUNGS-ABTEILUNG

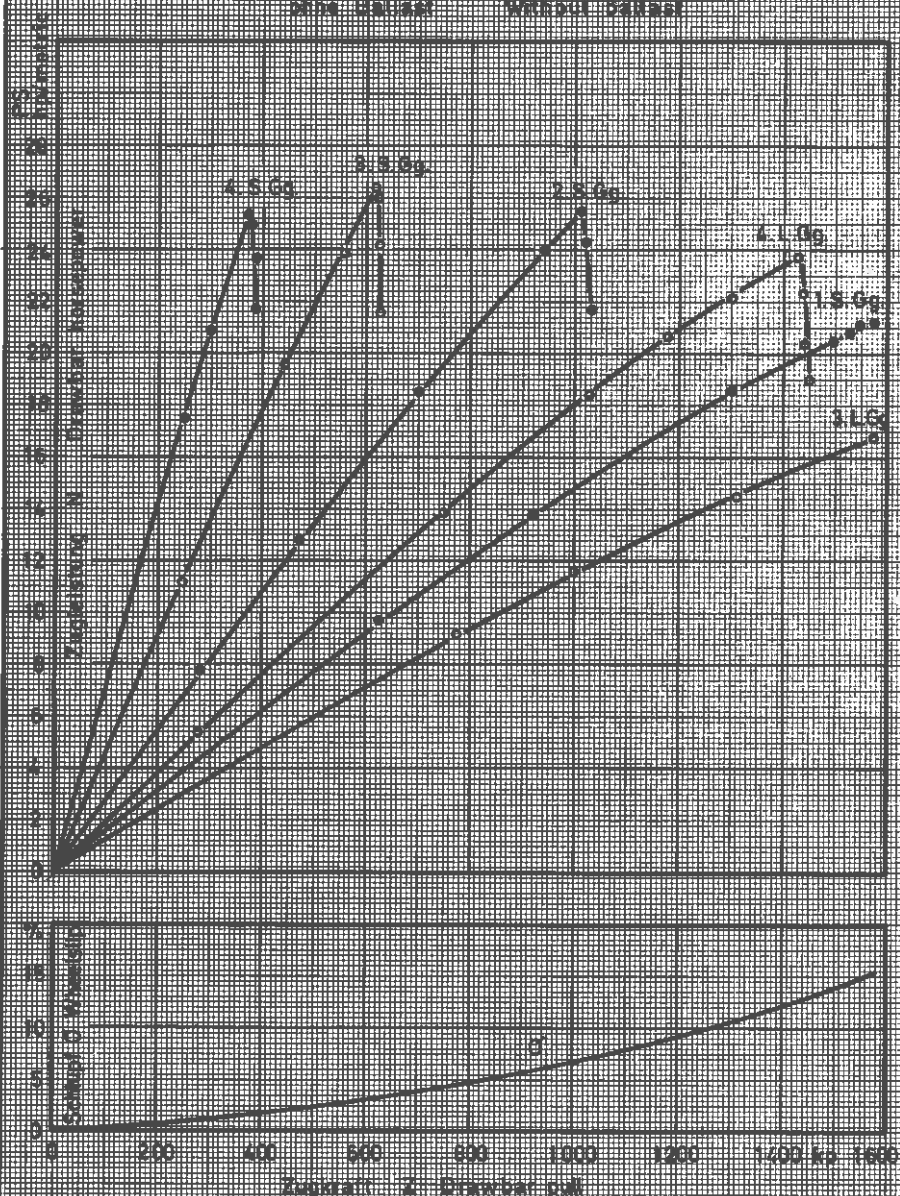
# Zugprüfung Drawbar - test

Holder Dieselschlepper  
A-6-35  
Holder Dieselmotor HD 3

Test-Nr. 60-58

ohne Ballast

Without ballast



|                       |                          |                       |                    |
|-----------------------|--------------------------|-----------------------|--------------------|
| Motor-Nr. 13 13221    | Material Shell Rot HD 3  | Versuchs-tag 26.10.58 | Versuchs-Nr. 60-58 |
| Schlepper-Nr. 10 426  | Lufttemperatur 16/20°C   | Versuchs-Nr. 60-58    | Versuchs-Nr. 60-58 |
| Kraftstoff DK 327/5°C | Ballastgewicht 750 mm QS | Kurvenblatt 5         |                    |

(3 and 4) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 8,3/8-24 AS, 4 ply, without ballast

rear: 8,3/8-24 AS, 4 ply, without ballast

Track of wheels front: 1250 mm

rear: 1250 mm

|                             | Without brakes |                 |
|-----------------------------|----------------|-----------------|
|                             | left-hand<br>m | right-hand<br>m |
| Radius of turning<br>space  | 3,41           | 3,50            |
| Radius of turning<br>circle | 3,27           | 3,36            |

(5) LOCATION OF CENTRE OF GRAVITY

|                                                                                       | Without ballast<br>mm |
|---------------------------------------------------------------------------------------|-----------------------|
| Height above ground                                                                   | 622                   |
| Distance forward from the vertical<br>plane containing the axis of the<br>rear wheels | 840                   |
| Distance from the median plane<br>of the tractor                                      | 0                     |



Holder AG 35

(6) BRAKE TESTSA) FOOT BRAKE

Date of test: 5.5.1969

Type of track: concrete

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

Travelling speed of tractor: 19,9 km/h

With cold brakes

|                                               | Tractor<br>without ballast | Tractor<br>with ballast |
|-----------------------------------------------|----------------------------|-------------------------|
| Maximum<br>deceleration      m/s <sup>2</sup> | 6,3                        | 8,4                     |
| Stopping distance   m                         | 2,8                        | 2,4                     |
| Force on pedal      kp                        | 24                         | 47                      |

Brake fade characteristics, hot test, tractor without ballast

|                    |          |      |
|--------------------|----------|------|
| Deceleration:      | hot/cold | 101% |
| Stopping distance: | cold/hot | 93%  |
| Force on pedal:    | cold/hot | 73%  |

B) PARKING BRAKE

Force applied on the brake lever, cold brake 64 kp.  
No rotation of the rear-wheels of tractor occurred when the tractor has been towed.

**(7) MEASUREMENT OF AMBIENT NOISE EMITTED BY THE TRACTOR**

Date of test: 16.6.1969 and 3.9.1969  
Type of track: concrete  
Type of decelerometer: Brüel & Kjær type 2203

Results of tests

Speed: 4.S. (19,9 km/h)  
Travelling speed before acceleration: 14,9 km/h  
Sound level  
Exhaust pipe shows upwards: 83 dBA  
Exhaust pipe shows downwards to the left: 84 dBA

**(8) NOISE MEASUREMENT AT THE DRIVER'S EAR**

Date of test: 8.7.1969 and 3.9.1969  
Type of track: concrete  
Type of sound level meter: EZGN, Rohde & Schwarz, 8 München  
Type of octavefilter: PBO, Rohde & Schwarz, 8 München  
No cab fitted on tractor

Results of tests

| Gear | Travelling speed *) |              | Some                     |                                        |
|------|---------------------|--------------|--------------------------|----------------------------------------|
|      | nominal<br>km/h     | real<br>km/h | exhaust shows<br>upwards | exhaust shows<br>downwards to the left |
| 2.S. | 7,68                | 7,05         | 90                       | 82                                     |
| 1.S. | 4,45                | 3,90         | 105                      | 88                                     |

\*) 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: 2.9.1969, Gross-Umstadt

Hydraulic fluid: Engine oil Aral HD SAE 20W/20

POWER LIFT

| Height above ground<br>in down position<br>hitch point<br>mm             | test<br>frame<br>mm | Total verti-<br>cal move-<br>ment<br>mm | Maximum force<br>exerted through<br>full lift range<br>kp | Pressure<br>of hydr.<br>oil<br>kp/cm <sup>2</sup> | Linkage load at<br>which unballasted<br>front end of<br>tractor lifts<br>off the ground<br>kp |
|--------------------------------------------------------------------------|---------------------|-----------------------------------------|-----------------------------------------------------------|---------------------------------------------------|-----------------------------------------------------------------------------------------------|
| <u>Measured on the hitch points of lower links</u>                       |                     |                                         |                                                           |                                                   |                                                                                               |
| 227                                                                      | -                   | 560                                     | 930                                                       | 175                                               | *)                                                                                            |
| <u>Measured on the test frame 610 mm to the rear of the hitch points</u> |                     |                                         |                                                           |                                                   |                                                                                               |
| 227                                                                      | 222                 | 670                                     | 555                                                       | 175                                               | 970                                                                                           |

\*) greater than max.  
lifting force

Type of linkage lock for transport: Hydraulically

OPTIONAL TESTS(10) ENGINE TESTS

Date and location of tests: 3.6.1969, Gross-Umstadt

Type of dynamometer: Schenck hydraulic dynamometer U1-20

Maximum power

| Horsepower<br>(metric)<br>hp                                         | Engine<br>speed<br>rev/min | Fuel consumption |                   | hph/l |
|----------------------------------------------------------------------|----------------------------|------------------|-------------------|-------|
|                                                                      |                            | total<br>l/h     | specific<br>g/hph |       |
| <u>At maximum power - 2-hour test</u>                                |                            |                  |                   |       |
| 31,0                                                                 | 2315                       | 7,72             | 205               | 4,02  |
| <u>At standard p.t.o. speed (540 rev/min)</u>                        |                            |                  |                   |       |
| 28,6                                                                 | 2103                       | 7,15             | 207               | 4,0   |
| <u>At the speed recommended by the manufacturer for drawbar work</u> |                            |                  |                   |       |
| 30,7                                                                 | 2300                       | 7,72             | 208               | 3,97  |

Fuel consumption at part loads

|                                              |      |      |     |      |
|----------------------------------------------|------|------|-----|------|
| <u>(i) 85 % of torque at maximum power</u>   |      |      |     |      |
| 26,7                                         | 2345 | 6,37 | 197 | 4,19 |
| <u>(ii) unloaded</u>                         |      |      |     |      |
| -                                            | 2445 | 1,79 | -   | -    |
| <u>(iii) 50 % of the load defined in (i)</u> |      |      |     |      |
| 13,5                                         | 2375 | 3,61 | 221 | 3,74 |
| <u>(iv) maximum power</u>                    |      |      |     |      |
| 31,0                                         | 2315 | 7,72 | 205 | 4,02 |
| <u>(v) 25 % of the load defined in (i)</u>   |      |      |     |      |
| 6,9                                          | 2413 | 2,56 | 307 | 2,69 |
| <u>(vi) 75 % of the load defined in (i)</u>  |      |      |     |      |
| 20,1                                         | 2355 | 4,82 | 198 | 4,17 |

Optimum fuel consumption: 195 g/hph at 18,7 hp and 2076 rev/min

Standard fuel consumption 1/2 (acc.to DIN 9606): 3,1/ 5,9 l/h

No load maximum engine speed: 2445 rev/min

Torque at maximum power: 9,6 kpm

Maximum torque: 9,7 kpm at 1890 rev/min of the engine

Mean atmospheric conditions:

 temperature: 15°C  
 pressure: 747 mm Hg  
 relative humidity: 90 %

Maximum temperatures:

 coolant: 85°C  
 engine oil: 29°C  
 fuel: 15°C

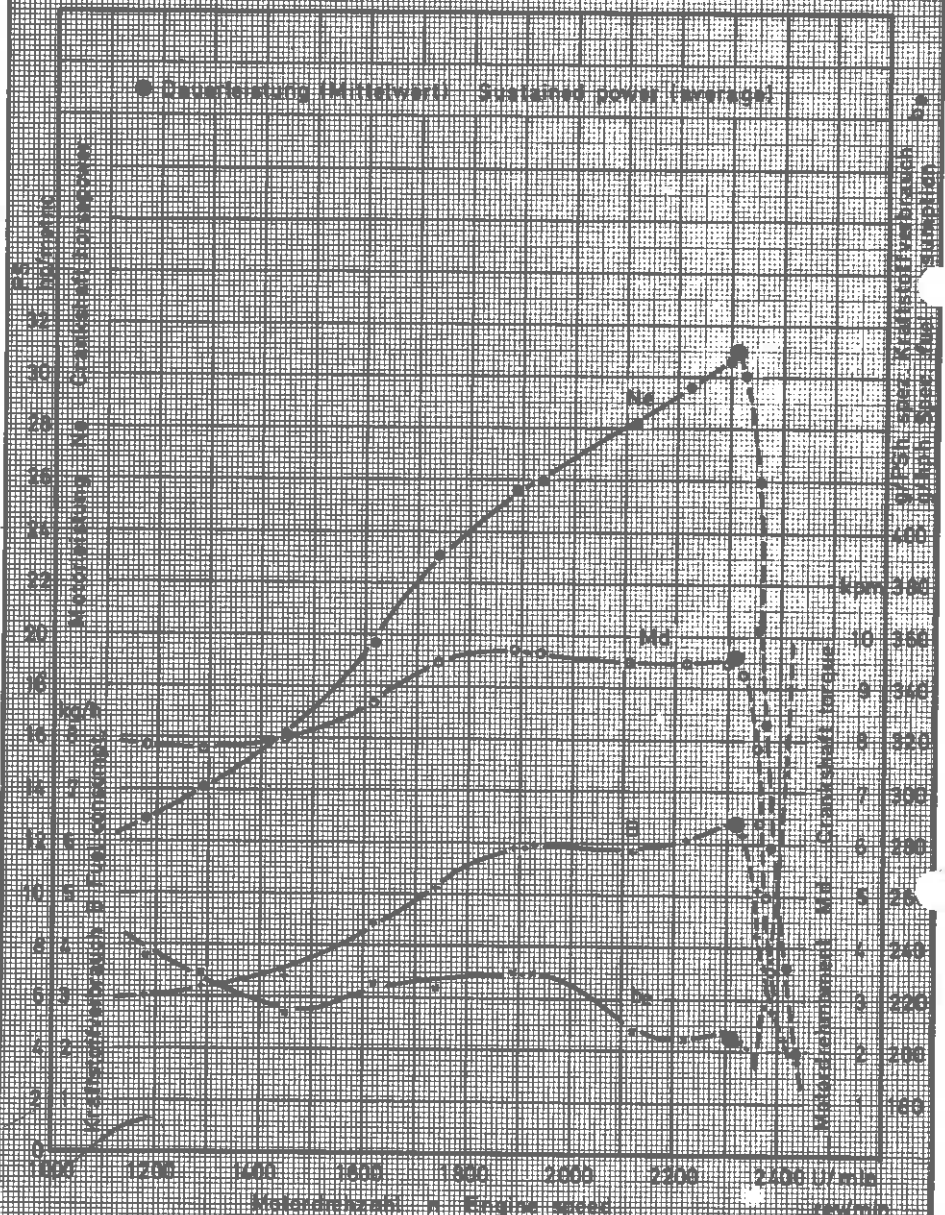


PRÜFUNGS-ABTEILUNG

# Motorleistung Engine - test

Holder Dieselschlepper  
A. G. 35  
Holder Dieselmotor MD 3

Test-Nr. 69-69



|                      |                             |                       |                       |
|----------------------|-----------------------------|-----------------------|-----------------------|
| Motor-Nr. 03 13221   | Motor-Id. Skell. Rot. MD 21 | Versuchs-Nr. 3.8.1985 | Versuchs-Nr. 69/69/11 |
| Schlepper-Nr. 10426  | Lufttemperatur 12°C         | Versuchs-Nr. 69/69/11 |                       |
| Kraftstoff DKD 47/50 | Brandstoff-Wert 48          | Kunden-Nr. 6          |                       |

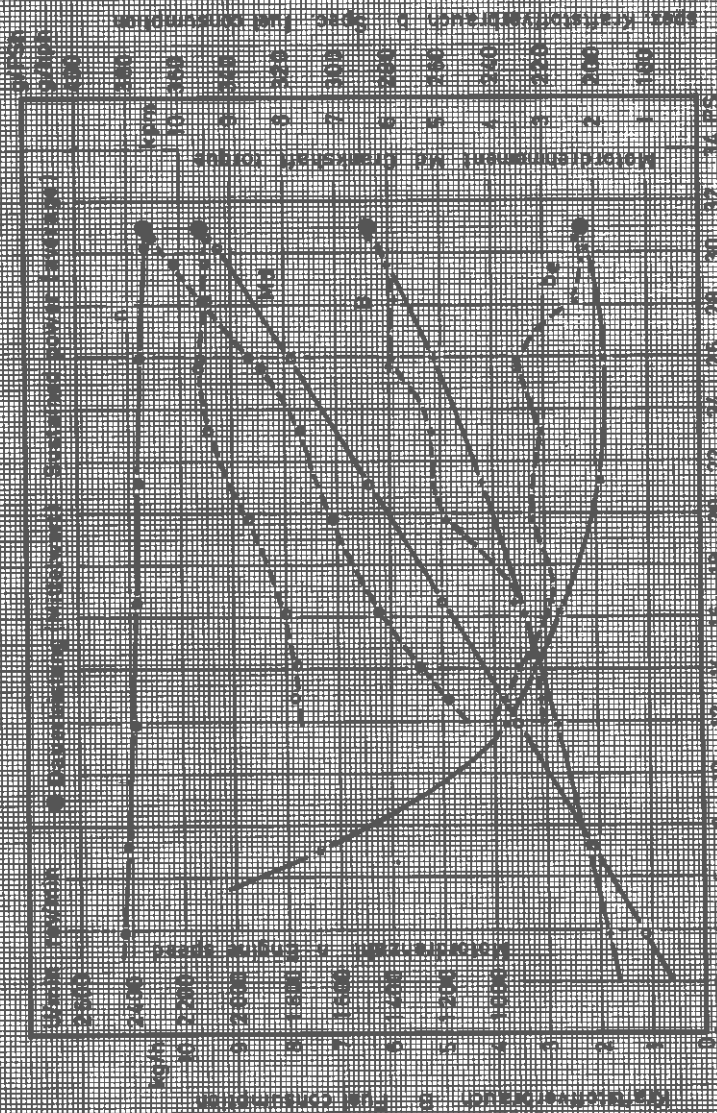


100% Satisfaction Guarantee

**◆ 中国书画函授大学肇庆分校建校二十周年纪念册**

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PROBENANLEITUNG

Motorlebensfeld

Engine characteristic field

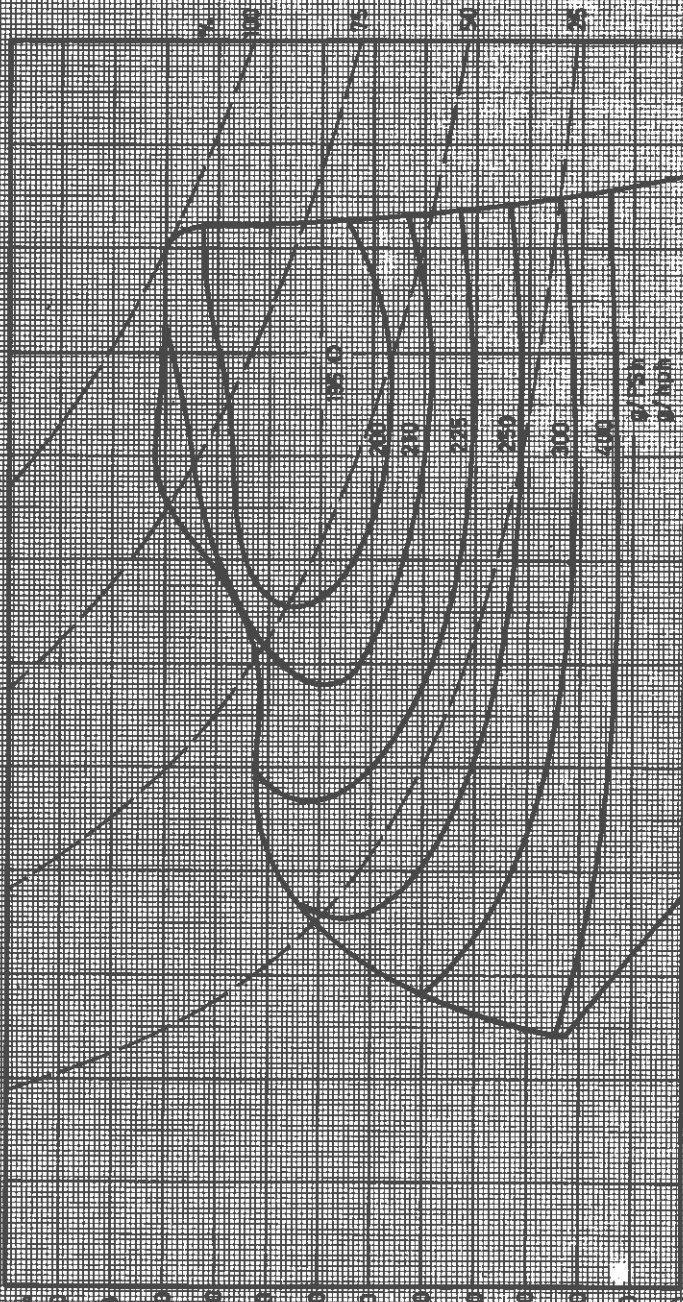
Motorlebensfeld

A-6-35

Motorlebensfeld

Motorlebensfeld

Druck 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

Motorleistung in % der Leistung bei Nenndrehzahl Engine speed in % of engine rated speed

Motorleistung in % der Leistung bei Nenndrehzahl Engine speed in % of engine rated speed

Motorleistung in % der Leistung bei Nenndrehzahl Engine speed in % of engine rated speed

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