	Report on test in accordance with O.E.C.D. STANDARD CODE	O.E.C.D. No. 581



Agricultural Tractor Eicher 3353

Manufacturer

Gebr. Eicher GmbH, D-8330 Landau/Isar

This bulletin is based on engineering tests in accordance with the O.E.C.D. STANDARD CODE for the Official Testing of Agricultural Tractor Performance. It does not contain an evaluation of the tractor performance on practical work.

Performance of tests: July till November, 1977
DLG-Testing-Station for Agricultural Machinery, Max-Eyth-Weg 1,
D-6114 Groß Umstadt

This report has been approved by the O.E.C.D. Coordinating Centre (C.N.E.E.M.A., France) as being in accordance with the O.E.C.D. STANDARD CODE.

Date of Approval: 27th January 1978 O.E.C.D. No. 581

In this report all performance characteristics are given corresponding to the International System of Units.

The reference to the former used Technical System of Units is given by the following relations:

Forces	1 N = 0,102 kp	or 1 kp = 9,81 N
Powers	1 kW = 1,36 PS	or 1 PS = 0,736 kW
Pressures	1 bar = 1,02 kp/cm²	or 1 kp/cm² = 0,981 bar
	1000 mbar = 750,1 mm Hg	

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PRÜFUNGS-ABTEILUNG
EICHER 3353

Test No. 77-48

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PRÜFUNGS-ABTEILUNG
EICHER 3353

Test No. 77-48

Tractor manufacturer:	GEBR. EICHER GMBH D-8330 Landau/Isar
Submitted for test by:	Manufacturer
Selected by:	Manufacturer with agreement by DLG
Place of running-in:	Landau
Duration of running-in:	Engine and tractor appr. 30 hours

SPECIFICATION OF TRACTOR

Tractor

Make:	GEBR. EICHER GMBH
Model:	3353
Type:	Wheeled tractor, unit construction, rear wheel driven
Serial no:	140515

Engine

Make:	PERKINS Engines Company
Model:	A 4.203
Type:	4-stroke DIESEL engine, with direct injection; water cooled
Serial no:	137282 DL
Cylinders:	4, in-line; bore 91,4 mm, stroke 127 mm; displacement 3334 cm^3; compression ratio 16,4:1; replaceable dry cylinder liners
Valves:	Overhead
Fuel system:	AC fuel feed pump CAV-distributor injection pump DPA R 34 40/20 MOD manufacturer's production setting 49 mm^3/stroke at rated engine speed; injection timing 26° before TDC; CAV-multihole injection nozzles BDLL 150 S 6372; injection pressure 170 bar; 2 CAV-fuel filters with replaceable cartridges; capacity of fuel tank 68 l
Governor:	Mechanically acting centrifugal variable speed governor, incorporated in injection pump; governed range of engine speed 500 to 2150 rev/min; rated engine speed 2000 rev/min

Air cleaner:	MASSEY-FERGUSON S.A. dry paper element filter with precleaner; replaceable cartridge; service indicator
Exhaust silencer:	EBERSPÄCHER multi-chamber-reflection type silencer; 213 x 118 mm oval, 500 mm long; at tractor's right hand side; mouth showing rearwards under 45° ; mouth 460 mm above ground
Lubrication system:	Forced feed from gear type pump; strainer in sump; PERKINS oil filter in full flow with by-pass valve; replaceable cartridge; filter cartridge changing interval at all oil changes; oil capacity 8 l; oil changing interval 150 hours; recommended oil quality: MIL-L-2104 B recommended oil viscosities: winter HD SAE 10W summer HD SAE 20W/20 tropics HD SAE 30
Cooling system:	Pressurized water cooling system with pump; overpressure set at 0,5 bar; thermostat without by-pass; fan with 4 blades, 394 mm diameter; cooling water capacity 11,3 l
Starting system:	Electrical LUCAS-screw-push starter motor: M 50 G - 12V, 3,5 kW; CAV flame glow plug 4BN in intake pipe
Electrical equipment:	12 V, negative earth; LUCAS generator C 40A 12V; 1 lead acid battery 90 Ah at 20 hours rating

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Transmission

Clutch:	FICHTEL UND SACHS AG. dry dual disc clutch DT 250/250; two independent pedals with pressure point each for travel drive and p.t.o. drive; the first stage of the main pedal actuates the drive clutch and the first stage of the secondary pedal actuates the p.t.o. clutch
Gear box:	MASSEY-FERGUSON S.A. speed change gear with 4 forward speeds and 1 reverse speed; reverse, 1st and 2nd speed sliding gear shifted; 3rd and 4th gear synchronized; group gear with 2 groups, sliding gear shifted; totally 8 forward and 2 reverse speeds; optionally a supplementary creep speed group is available, not fitted on tractor tested
Rear axle and final drive:	MASSEY-FERGUSON S.A. bevel gear drive with crown wheel and pinion; bevel gear differential with lock; pedal operated, self disengaging; planetary final drives
Oil capacity and recommended oil qualities:	Speed change gear and rear axle drive in common with hydraulic system: 30 l transmission oil MIL-L-2105 B SAE 80 final drives: 1 l transmission oil MIL-L-2105 B EP SAE 90
Oil changing interval:	Final drives — 300 hours speed change gear and rear axle drive — 600 hours or once a year

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Total ratios and speeds

Forward speeds

Group	Gear	Total ratio engine : driving wheel	Nominal travelling speed *) at rated engine speed km/h	Nominal travelling speed *) at standard p.t.o. speed 540 rev/min km/h
slow	1	238,86	2,10	1,77
	2	162,86	3,08	2,59
	3	119,24	4,20	3,54
	4	88,83	5,64	4,75
fast	1	59,71	8,40	7,07
	2	40,71	12,32	10,37
	3	29,81	16,82	14,16
	4	22,21	22,58	19,01

Reverse speeds

slow	R	175,39	2,86	2,41
fast	R	44,85	11,18	9,41

*) calculated with the INDEX-RADIUS 665 mm as per WdK 154

Power take-off

Independent p.t.o.
at rear of tractor;
driven through the second disc of the dual disc clutch;
operation of clutch see page 6;
535 mm above ground, in median plane of tractor;
29 x 34,9 x 8,9 mm = 1 3/8", 6 splines
DIN 9611 Form 1; BS 1495; ASAE S 203.7
641 rev/min at rated engine speed;
standard p.t.o.-speed 540 rev/min at 1684 rev/min engine speed;
p.t.o.-speeds may be set by aid of tractormeter;
direction of rotation clockwise, viewed from tractor rear

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Power lift

Hydraulic system:	MASSEY-FERGUSON S.A. hydraulic power lift, unit construction, open system; MF axial type pump with 30 cm³/rev delivery; in gear box, driven through the second disc of the dual disc clutch, MF control valve for lifting, sinking, floating position, power control and position control,maximum oil pressure 245 bar; single acting ram; bore 79 mm, stroke 120 mm; no overpressure relief valve for ram; up to 3 oil tappings for double acting or single acting additional control valves available; hydraulic oil tank in common with gear box, s. page 6, max. 8 l may be taken off through oil tappings when tractor is travelling, 10 l when tractor is stationary
Implement linkage:	Three-point linkage, category II (DIN 9674); optional category I; lift rods adjustable from 580 to 640 mm; lifting range above ground with short lift rods from 406 to 1008 mm long lift rods from 213 to 878 mm
Holed drawbar:	Long bar, fitted on the clevis of lower links; total length 1500 mm; length between the ball joints 825 mm; thickness of the bar 30 mm, width 80 mm; 4 holes between the clevis with 160 mm distance each; no centre hole; with 320 mm distance right and left from this hole range further 2 holes with 160 mm distance each; totally 8 holes; all holes 33 mm diameter; height above ground adjustable by power lift from 288 to 1083 mm, depending on lifting rods length, measured at the surface of the bar

Holed drawbar: (Continuation)	Height above ground mechanically lockable from 288 to 740 mm; with lower links in horizontal position distance of holes centre line: to rear axle centre 930 mm to p.t.o. shaft end 630 mm

Pull attachment

Trailer hitch:	CRAMER model KU 806 S-C; not automatically acting; height above ground adjustable to 740 or 850 mm; diameter of clevis hole 33 mm; distance of clevis hole to rear axle centre 488 mm; permissible vertical load 1000 kg
Towing hitch:	At front of tractor; height above ground 710 mm

Steering	CAM GEARS LTD mechanically acting central steering; optional hydraulically assisted, not fitted on tractor tested

Brakes

Parking brake:	Mechanically acting internal shoe type brake; acting on 2 brake drums with 140 mm diameter at the rear wheels; operated by hand lever with ratchet
Service brake:	GIRLING LTD mechanically operated dry disc brake acting on 2 discs with 187 mm diameter on either differential half shaft; pedal operated
Steering brakes:	Two additional hand levers situated at the left hand side of driver's seat; acting on service brakes

Wheels

Steered wheels:	Two pneumatics at front 7,50-16 AS Front, 6 ply maximum permissible load per tyre 856 kg at 2,25 bar inflation pressure and 25 km/h; track width from 1250 to 1750 mm, adjustable by extending telescopic half axles in steps of 100 mm; rims 5,50 F x 16
Driving wheels:	Two pneumatics at rear 14,9-30 AS, 6 ply; diagonal type tyre casing; maximum permissible load per tyre 1783 kg at 1,4 bar inflation pressure and 25 km/h; track width adjustable from 1400 to 2150 mm by turning wheels and offset lug type rims; rims W 12 x 30
Wheel base:	2165 mm

Weights

Ready for use, as tested

		without driver	with driver
Without ballast:	front	830 kg	845 kg
	rear	1550 kg	1610 kg
	total	2380 kg	2455 kg
Front ballast:	2 front weights	57 kg each	114 kg
Rear ballast:	1 weight per wheel	175 kg each	350 kg
	water in the tyres		421 kg
With ballast:	front	960 kg	975 kg
	rear	2305 kg	2365 kg
	total	3265 kg	3340 kg

Seat

BRENDEL
SV/H-160
upholstered seat with back rest;
adjustable spring with shock absorber;
parallel guidance;
height of seat platform above ground 840 mm;
height of unloaded seat above platform
adjustable from 530 to 605 mm in 4 steps;
for and aft adjustable about 140 mm

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Safety frame — Own make in cooperation with PEKO
OECD-tested;
approval no. CS 210
from 13th April 1972

Number of grease points 20

Dimensions

Total length:	3595 mm	with 3 point linkage without ballast
	3616 mm	with 3 point linkage with ballast
Total width:	1848 mm	at smallest track width
	2048 mm	at largest track width on public roads
Total height:	2371 mm	to top of safety frame
Ground clearance:	388 mm	below gear box

Permissible total weights and axle loads

for all available wheel equipment

Tyres front	Tyres rear	Permissible total weight kg	Permissible front axle load kg	Permissible rear axle load kg
7,50-16	14,9-30	4000	1490	2880
6,50-20	21,5-36			
7,50-20	16,9-30 12,4-32			

All tyres 6 ply

All fron wheels can be put together with all rear wheels

All rear tyres are available as diagonal or radial type

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Lighting equipment — Electrical, 12 Volt
in accordance with German legislation

	Dimensions mm	Height above ground of centre mm	Distance from outside edge of tractor to centre mm
Head lights	130 Ø	1095	590
Side lights *)	160 x 65	1430	275
Rear lights **)	160 x 65	1415	240
Reflectors			
1st pair	125 x 35	1190	265
2nd pair	60 Ø	605	600

*) in combination with direction indicator
**) in combination with direction indicator and stop light

FUELS AND LUBRICANTS USED IN TESTS

Fuel: ARAL-DIESEL fuel (DIN 51601)

specific gravity at 15°C

during engine tests 0,829 kg/l

during p.t.o. tests 0,829 kg/l

during drawbar tests 0,830 kg/l

Engine oil: ESSO SAE 20W/20 MIL-L-2104 B

Transmission oil: ESSO transmission oil MIL-L-2105

speed change gear, group gear, rear axle and hydraulic system SAE 80

final drives SAE 90 EP

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COMPULSORY TESTS

(1) MAIN POWER TAKE-OFF PERFORMANCE

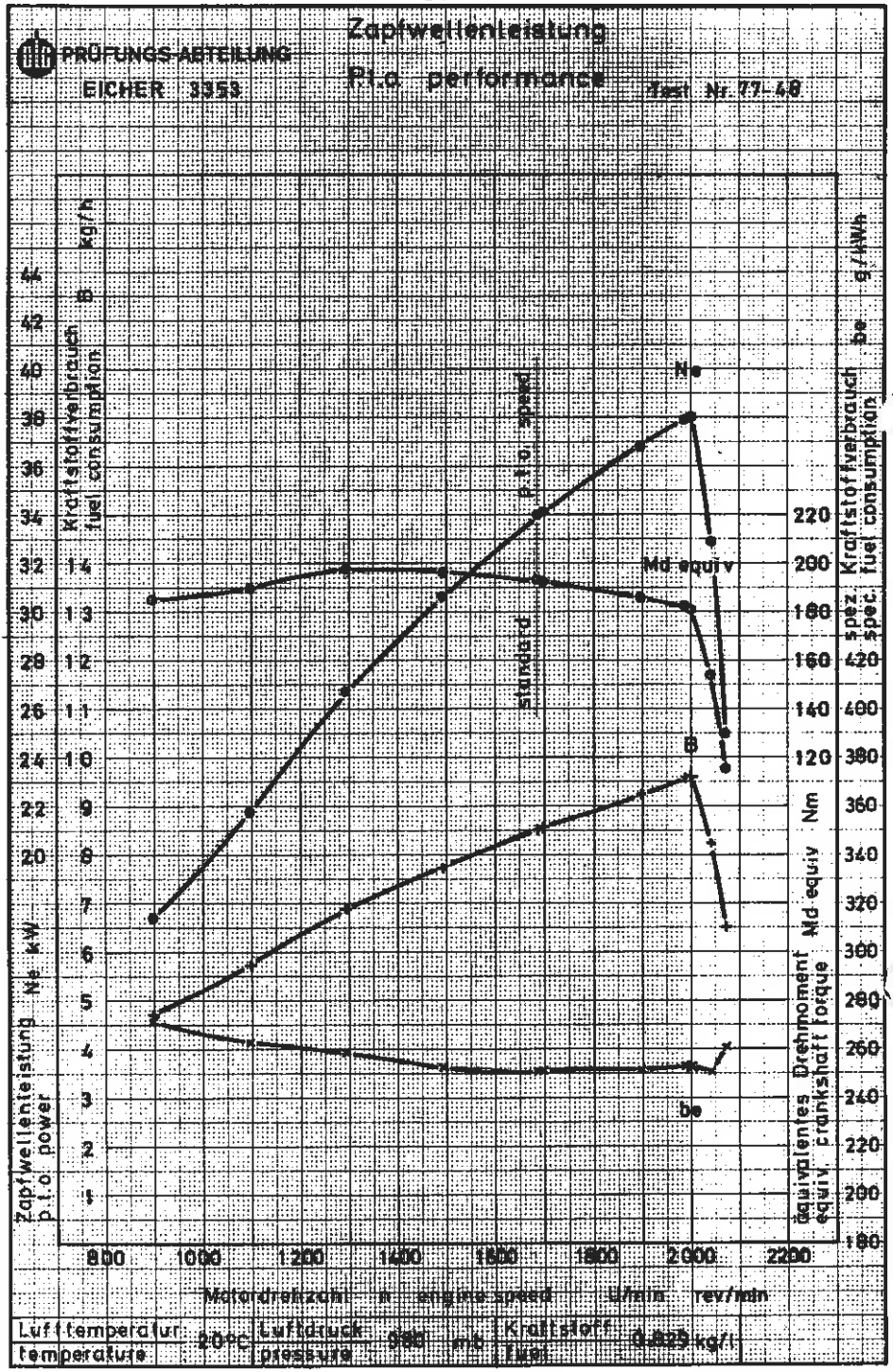
Date of tests: 25th July 1977
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

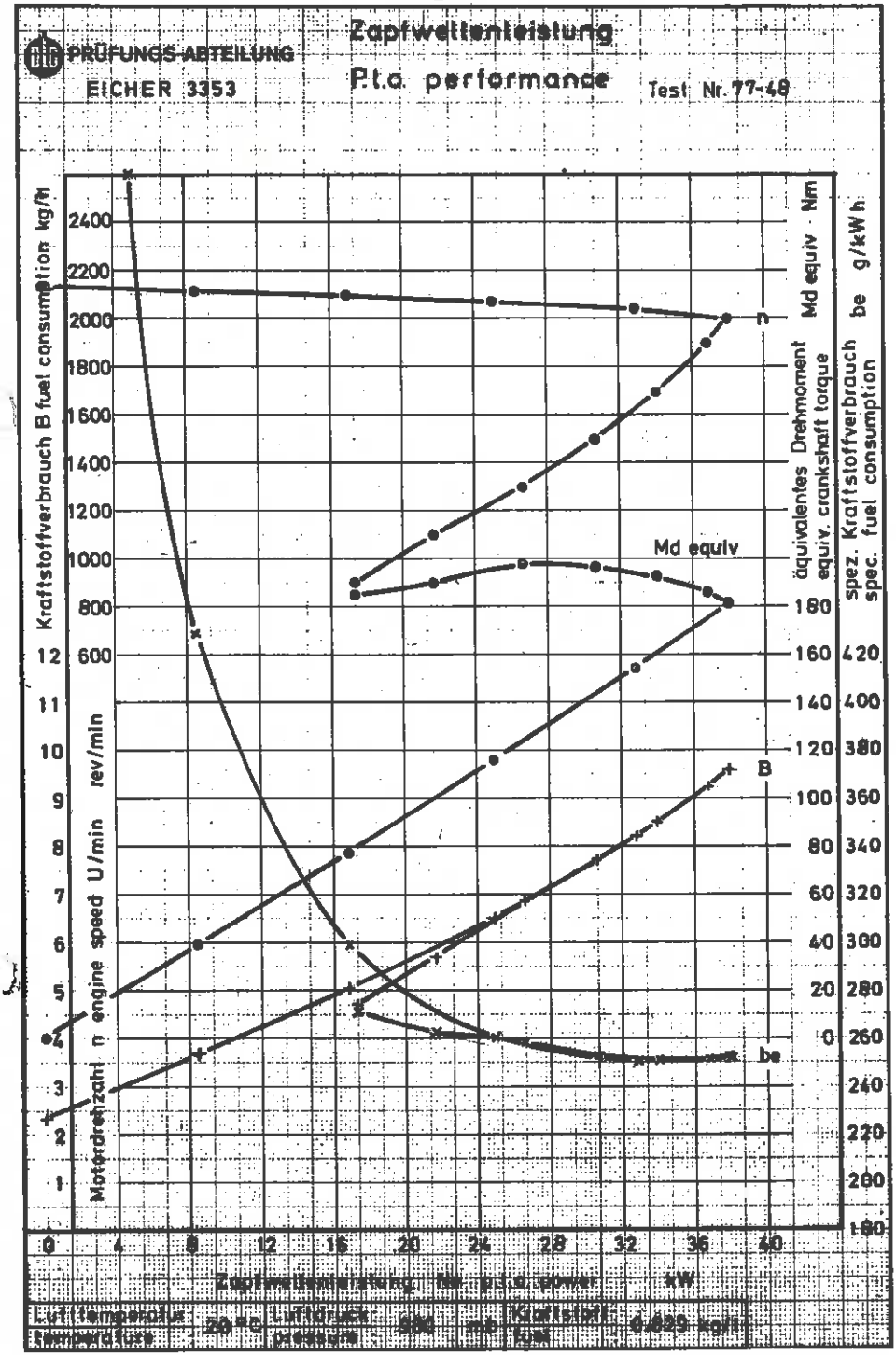
Power kW	Speed engine rev/min	Speed p.t.o. rev/min	Fuel consumption total l/h	Fuel consumption total kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
Maximum power						
At 2-hour test						
38.0	2000	641	11.56	9.58	253	3.28
At standard p.t.o. speed (540 rev/min)						
34.0	1684	540	10.27	8.51	251	3.31
At the speed recommended for drawbar work						
38.0	2000	641	11.56	9.58	253	3.28
Part loads						
(i) 85% of the torque at maximum power at 2-hour test						
32.9	2037	653	9.93	8.23	251	3.31
(ii) unloaded						
-	2126	682	2.77	2.30	-	-
(iii) 50% of the load defined in (i)						
16.9	2093	671	6.09	5.05	299	2.77
(iv) maximum power						
38.0	2000	641	11.56	9.58	253	3.28
(v) 25% of the load defined in (i)						
8.5	2108	676	4.39	3.64	428	1.94
(vi) 75% of the load defined in (i)						
25.0	2067	663	7.86	6.51	260	3.18

No load maximum engine speed: 2126 rev/min
Equivalent crankshaft torque at maximum power (2 hours): 181 Nm
Maximum equivalent crankshaft torque: 197 Nm at 1293 rev/min of the engine

Mean atmospheric conditions:
- temperature 20 °C
- pressure 980 mbar
- relative humidity 93 %

Maximum temperatures:
- coolant 79 °C
- engine oil 87 °C
- fuel 25 °C
- engine air intake 23 °C


PRÜFUNGS-ABTEILUNG
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Zapfwellenleistung
P.t.o. performance
Test Nr. 77-48
Zapfwellenleistung Ne kW
p.t.o. power
Kraftstoffverbrauch B kg/h
fuel consumption
Ne
p.t.o. speed
Md equiv
standard
B
be
äquivalentes Drehmoment Md equiv Nm
equiv. crankshaft torque
spez. Kraftstoffverbrauch be g/kWh
spec. fuel consumption
Motordrehzahl n engine speed U/min rev/min
Lufttemperatur 20°C Luftdruck 980 mb Kraftstoff 0,825 kg/l
temperature pressure fuel


PRÜFUNGS-ABTEILUNG
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Zapfwellenleistung
P.t.o. performance
Test Nr. 77-48
Kraftstoffverbrauch B fuel consumption kg/h
Motordrehzahl n engine speed U/min rev/min
äquivalentes Drehmoment Md equiv Nm
equiv. crankshaft torque
spez. Kraftstoffverbrauch be g/kWh
spec. fuel consumption
n
Md equiv
B
be
Zapfwellenleistung P.t.o. power kW
Lufttemperatur 20 °C Luftdruck 980 mb Kraftstoff 0,829 kg/l
temperature pressure fuel

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(2) DRAWBAR PERFORMANCE

Date of tests: 31st August till 13th September 1977
Type of track: Concrete

Gear No. and Group	Speed km/h	Power kW	Drawbar pull N	Engine speed rev/min	Slip of wheels %	Specific energy kWh/l
(i) MAXIMUM POWER with ballast height of drawbar above ground 580 mm						
1 slow	1,89	14,7	28070	2088	14,8	2,30
2 slow	2,72	21,2	28060	2062	15,0	2,55
3 slow	3,66	28,5	28020	2028	15,0	2,63
4 slow	5,07	32,0	22690	2000	10,9	2,74
1 fast	7,86	33,4	15300	2000	6,8	2,86
2 fast	11,83	33,2	10100	2000	4,3	2,85
3 fast	16,40	32,8	7190	2000	2,9	2,80
(ii) FIVE-HOUR-TEST at 75% of pull at maximum power in 4th gear of slow group						
4 slow	5,40	25,5	17020	2054	7,5	2,82
(iii) FIVE-HOUR-TEST at pull corresponding to 15% wheel slip in test (i)						
3 slow	-	-	28070	-	-	-
(iv) MAXIMUM POWER without ballast height of drawbar above ground 620 mm						
3 slow	3,74	22,8	21970	2059	15,0	2,58
4 slow	4,91	29,9	21930	2017	15,0	2,57
1 fast	7,72	33,1	15450	2000	9,0	2,84
2 fast	11,74	33,0	10130	2000	5,7	2,84
3 fast	16,32	32,8	7240	2000	4,0	2,81

Total oil consumption during ten hours duration of tests (ii) and (iii): 73 g/h

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Tyres make and size: front: METZELER 7,50-16 AS 6 ply
rear: METZELER 14,9-30 AS 6 ply

Tread bar height at the beginning of drawbar tests: 94% of the value when new

Specific fuel consumpt. g/kWh	Temperatures: Fuel °C	Coolant °C	Engine-oil °C	Atmospheric conditions: Tempe-rature °C	Relative humidity %	Pressure mbar
tyre inflation pressure 1,1 bar rolling radius of tyres under static load 670 mm						
362	25	85	78	24	96	1003
326	22	85	75	23	79	1003
315	22	85	76	23	82	1003
303	24	85	76	24	77	1003
290	26	85	76	24	76	1003
290	26	85	80	24	74	1003
296	27	85	78	25	75	1002
295	24	85	79	25	80	1004
-	24	85	80	24	78	1004
tyre inflation pressure 1,1 bar rolling radius of tyres under static load 670 mm						
320	25	85	78	24	96	997
321	24	85	78	23	96	997
291	24	85	76	21	98	998
290	27	85	81	26	86	996
292	27	85	80	26	87	996

Test (iii) was carried out with additional ballast, the figures not quoted are therefore irrelevant

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(3) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 7,50-16 AS Front 6 ply
rear: 14,9-30 AS 6 ply

Track of wheels front: 1380 mm
rear: 1440 mm

	With brakes		Without brakes	
	left-hand m	right-hand m	left-hand m	right-hand m
Radius of turning space	3,33	3,33	3,46	3,46
Radius of turning circle	3,13	3,13	3,25	3,25

(4) LOCATION OF CENTRE OF GRAVITY

Height above ground	774 mm
Distance forward from rear axle centre	745 mm
Distance left from tractor's median plane	4 mm

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(5) BRAKING PERFORMANCE

A) SERVICE BRAKE

Date of tests: 8th and 9th September 1977
Type of track: Concrete
Type of decelerometer: MOTO-METER-Bremsverzögerungs- und Pedalkraftschreiber

Weight of ballasted tractor: 3340 kg with driver

Cold brakes

		With ballast	Without ballast
Travelling speed	km/h	24,0	24,0
Deceleration	m/s^2	5,0	4,8
Stopping distance	m	6,2	6,6
Force on pedal	N	520	460
Force on pedal to achieve a deceleration of 2,5 m/s^2	N	215	210

Brake fade characteristics (hot tests)

Deceleration	hot/cold	%	90	96
Stopping distance	cold/hot	%	110	103
Force on pedal	cold/hot	%	97	100

B) PARKING BRAKE

Tractor facing up 16% slope:
Pull on hand brake 200 N, tractor does not roll

Tractor facing down 16% slope:
Pull on hand brake 200 N, tractor does not roll

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(6) AMBIENT NOISE EMITTED BY THE TRACTOR

Date of test:	7th September 1977
Type of track:	Concrete
Type of sound level meter:	BRÜEL UND KJAER model 2203

Results of test

Gear:	4th fast
Travelling speed before acceleration:	18,0 km/h
Sound level:	83,5 dB(A)

(7) NOISE AT THE DRIVER'S EAR LEVEL

Date of tests:	7th September 1977
Type of track:	Concrete
Type of sound level meter:	BRÜEL UND KJAER model 2607
Type of frequency analyser: (fitted with octave filter)	BRÜEL UND KJAER model 1614

A safety frame was fitted on tractor
OECD tested, approval no. CS 210

Results of tests

Gear	Drawbar pull at which the tractor develops the maximum sound level	Travelling speed nominal	Travelling speed effective	Sound level
	N	km/h	km/h	dB(A)
1 slow	21900	2,10	1,83	91,5
2 slow	21850	3,08	2,59	91,5
3 slow	21700	4,20	3,56	92
4 slow	21380	5,64	4,56	92,5
1 fast *)	15000	8,40	7,71	92,5
2 fast	10190	12,32	11,73	92
3 fast	7180	16,82	16,26	92
4 fast	light load	22,58	24,00	92

*) The 1st fast gear corresponds to the travelling speed nearest to 7,5 km/h

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(8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

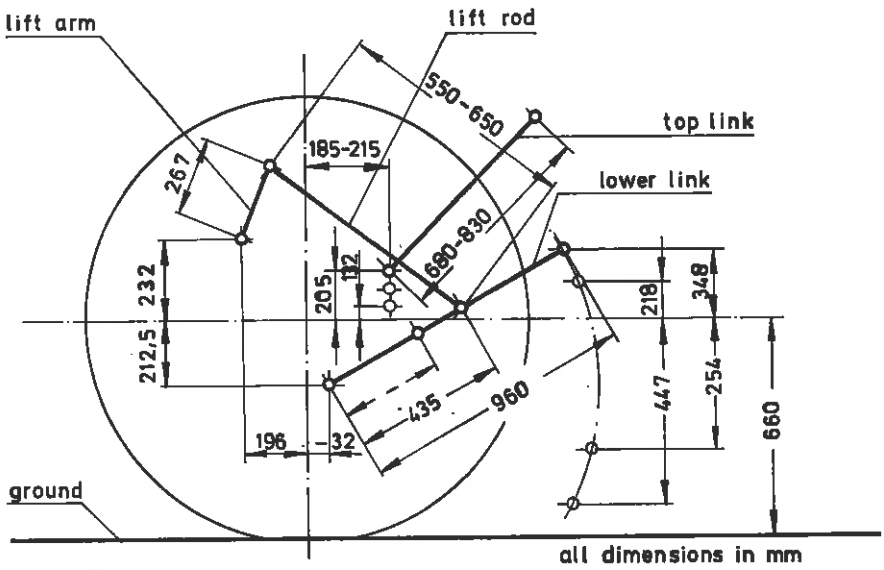
Date of tests: 10th and 11th November 1977

HYDRAULIC PUMP

(1) Opening pressure of relief valve in remote circuit	192 bar
Sustained pressure by open relief valve	245 bar
(2) Pump delivery rate at minimum pressure and maximum engine speed	19,7 l/min
(3) Pump delivery rate	17,1 l/min
Delivery pressure	191 bar
Hydraulic power	5,45 kW

POWER LIFT

Dimensions of linkage geometry for the table on page 24



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LIFTING FORCES

Lifting heights relative to horizontal lower links

mm	-246	-235	-200	-100	-65	-42	0	+100	+200
at hitch points maximum mechanical advantage									
N						14250	14550	15300	15900
minimum mechanical advantage									
N		12700	12980	13790			14430	14950	15290

Max. force exerted throughout the whole range 14250 N

Front of tractor does not lift

at test frame maximum mechanical advantage									
N	12820		12940				13170	13170	12820
minimum mechanical advantage									
N					11480		11680	11750	11680

Max. force exerted throughout the whole range 11680 N

Front of tractor does not lift with maximum allowable front ballast

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+300	+400	+430	+486	+500	+560	+600	+700	+767
lift rods 580 mm long								
16480	16930			17300	17500			
lift rods 640 mm long								
15700	16080	16240						

lift rods 640 mm long								
12520	12150		11680					
lift rods 580 mm long								
11480	11100			10520		9920	9560	9380

All values of forces for pressure at max. hydraulic power 191 bar, see page 21; calculated from measurements at max. oil pressure 245 bar

LINKAGE GEOMETRY when connected to the standard frame	Maximum mechanical advantage	Minimum mechanical advantage
Projected length in side view:		
Lower links	960 mm	960 mm
Lift arms	267 mm	267 mm
Lift rods	640 mm	580 mm
Top link	752 mm	730 mm
Distance of lift rod connection point from pivot point of lower link	435 mm	435 mm
The following dimensions are given relative to rear axle centre line 660 mm above ground		
Lower link pivot point	32 mm forward, 212,5 mm below	32 mm forward, 212,5 mm below
Top link pivot point	185 mm behind, 205 mm above	215 mm behind, 132 mm above
Lift arm pivot point	196 mm forward, 232 mm above	196 mm forward, 232 mm above
Maximum and minimum height of lower link hitch points	348 mm above, 254 mm below	218 mm above, 447 mm below
Height of lower link hitch points above ground when locked in highest transport position	1008 mm	878 mm

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OPTIONAL TESTS

(1) ENGINE PERFORMANCE

Date of tests: 19th July 1977
Type of dynamometer: SCHENCK eddy-current dynamometer W 150

Power kW	Engine speed rev/min	Fuel consumption total l/h	Fuel consumption total kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
Maximum power					
At 2-hour test					
40.6	2000	11.71	9.71	239	3.47
At standard p.t.o. speed (540 rev/min)					
36.6	1684	10.34	8.57	234	3.54
At the speed recommended for drawbar work					
40.6	2000	11.71	9.71	239	3.47
Part loads					
(i) 85% of the torque at maximum power at 2-hour test					
35.2	2039	10.11	8.38	238	3.48
(ii) unloaded					
-	2117	2.73	2.26	-	-
(iii) 50% of the load defined in (i)					
18.0	2089	6.20	5.14	285	2.91
(iv) maximum power					
40.6	2000	11.71	9.71	239	3.47
(v) 25% of the load defined in (i)					
9.1	2107	4.39	3.64	400	2.07
(vi) 75% of the load defined in (i)					
26.7	2062	8.04	6.67	250	3.32

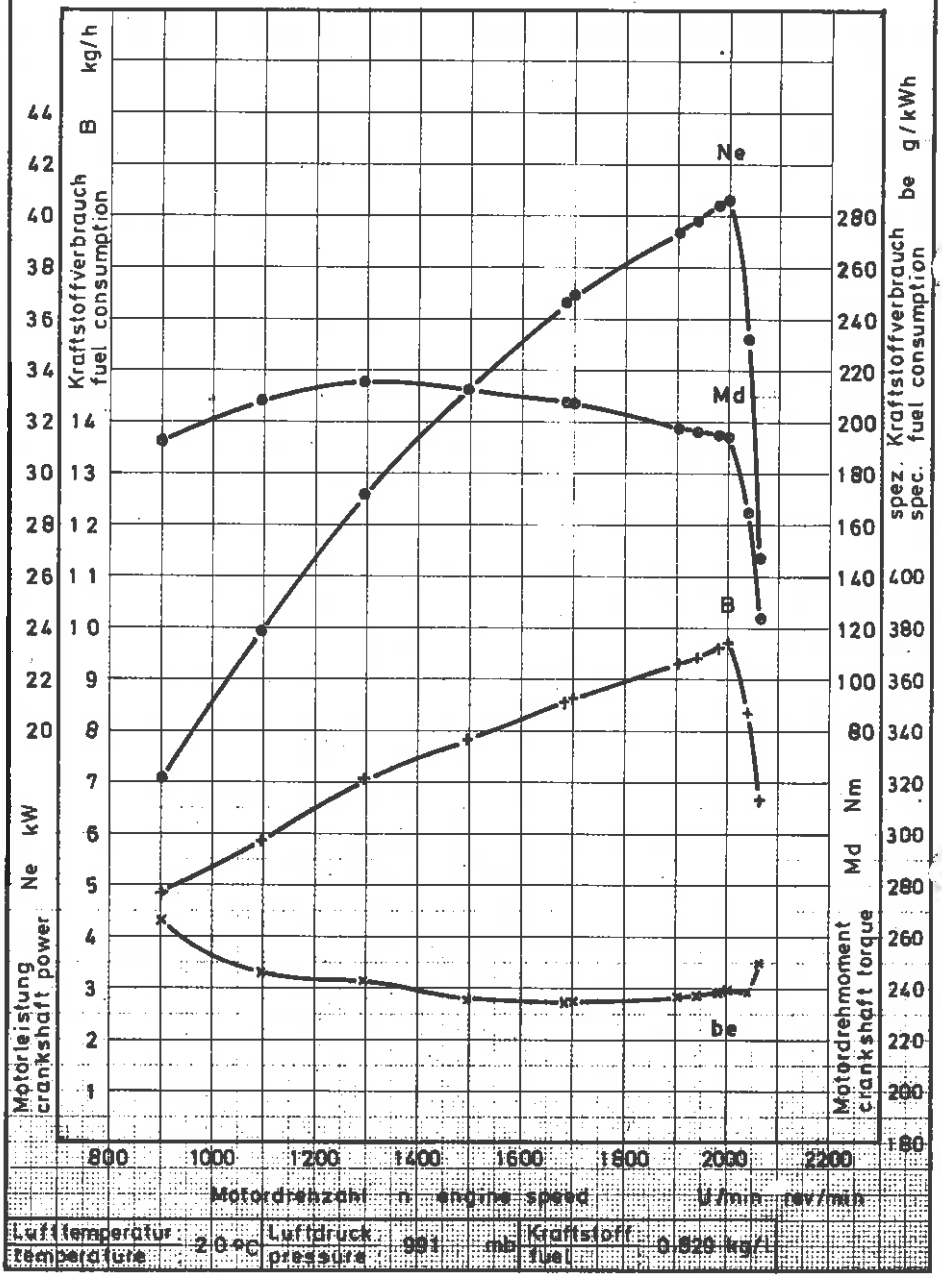
Optimum fuel consumption: 223 g/kWh at 24,7 kW and 1398 rev/min
No load maximum engine speed: 2117 rev/min
Torque at maximum power (2 hours): 194 Nm
Maximum torque: 215 Nm at 1296 rev/min of the engine

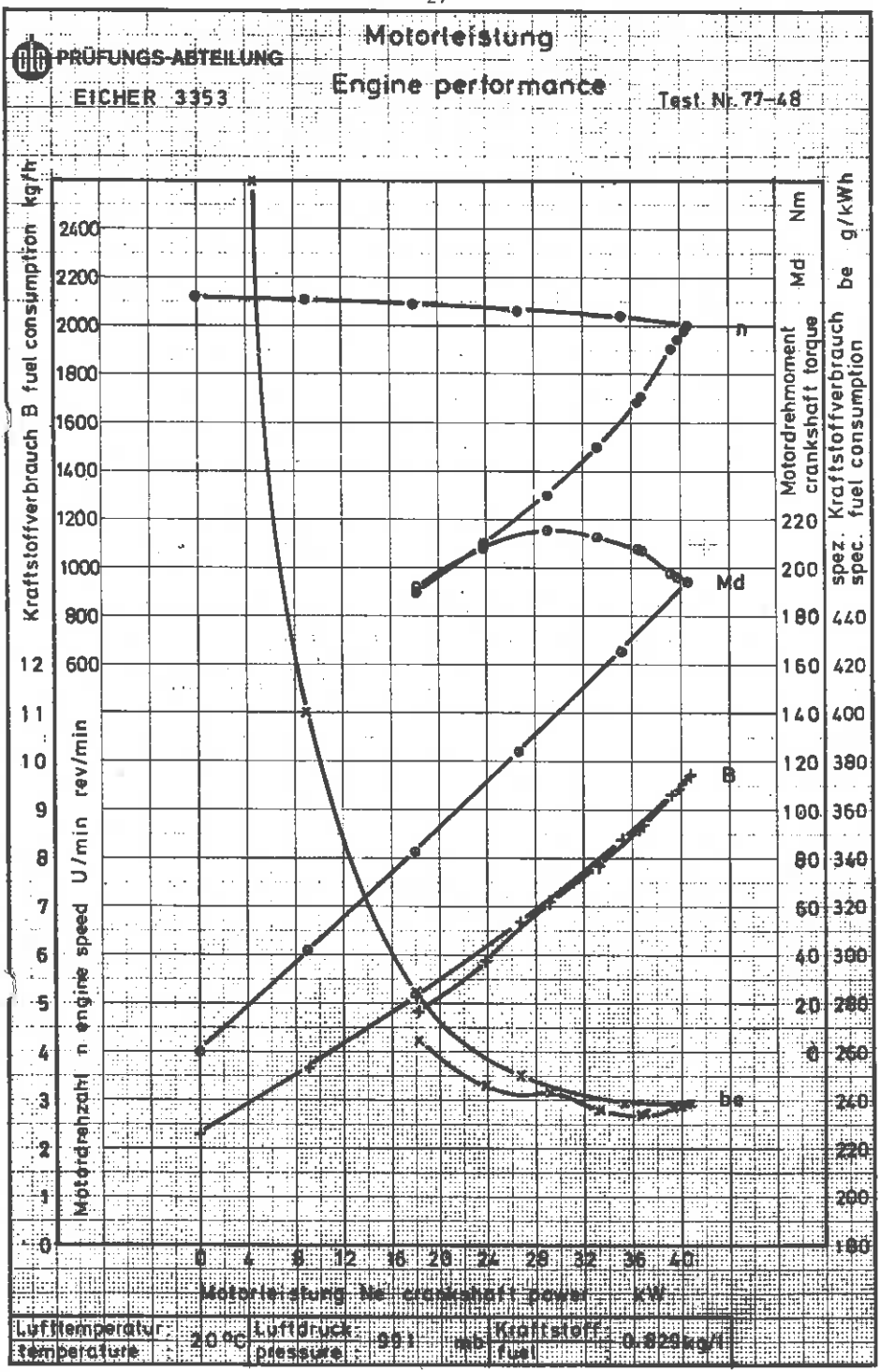
Mean atmospheric conditions:	temperature	20 °C
	pressure	991 mbar
	relative humidity	70 %
Maximum temperatures:	coolant	79 °C
	engine oil	84 °C
	fuel	23 °C
	engine air intake	22 °C

PRÜFUNGS-ABTEILUNG
EICHER 3353

Motorleistung
Engine performance

Test Nr. 77-48




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Motorleistung
Engine performance
Test. Nr. 77-48
Kraftstoffverbrauch B fuel consumption kg/h
Motordrehzahl n engine speed U/min rev/min
Motordrehmoment crankshaft torque Md Nm
spez. Kraftstoffverbrauch spec. fuel consumption be g/kWh
n
Md
B
be
Motorleistung Nc crankshaft power kW
Lufttemperatur temperature 20 °C
Luftdruck pressure 991 mb
Kraftstoff fuel 0.828 kg/l

PRÜFUNGS-ABTEILUNG
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Motorleistung
Engine performance

Test Nr. 77-48

Motorleistung in % der Leistung bei Nenndrehzahl
engine power in % of power at rated engine speed

%

100 80 60 40 20

Motordrehzahl in % der Nenndrehzahl engine speed in % of rated engine speed

%

110 100 90 80 70 60 50 40

%

100 80 60

223 g/kWh

230 235 240 240 250 275 300 350 450

Belastung in % des Drehmomentes bei Nenndrehzahl
load in % of torque at rated engine speed

%

130 120 110 100 90 80 70 60 50 40 30 20 10 0

Lufttemperatur / temperature	20 °C	Luftdruck / pressure	991 mb	Kraftstoff / fuel	0,829 kg/l

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