O.E.C.D. No.: 524
Printed: August 1976

Report on test in accordance with
O.E.C.D. STANDARD CODE for the Official Testing
of Agricultural Tractors



Agricultural Tractor JOHN DEERE 1030

Manufactured by: JOHN DEERE WERKE MANNHEIM
D-6800 Mannheim

Date of Tests: November 1975 till March 1976

DLG-Testing Station for Agricultural Machinery
D-6114 Groß-Umstadt

DEUTSCHE LANDWIRTSCHAFTS-GESELLSCHAFT e.V.
Prüfungsabteilung für Landmaschinen
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This bulletin is based on engineering tests in accordance with the O.E.C.D. STANDARD CODE for the Official Testing of Agricultural Tractors. It does not contain an evaluation of the performance of the tractor on practical work.

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

Date of Approval: 29th July 1976

Serial No.: 524

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

The relation with the former used Technical System of Units is given by the following formulas:

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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Printed in Germany

PRÜFUNGS-ABTEILUNG
JOHN DEERE 1030

Test No. 75-244

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PRÜFUNGS-ABTEILUNG
JOHN DEERE 1030

Test No. 75-244

Tractor manufacturer:	JOHN DEERE WERKE MANNHEIM D-6800 Mannheim
Submitted for test by:	Manufacturer
Selected by:	Manufacturer with agreement by DLG
Place of running-in:	Mannheim and Groß-Umstadt
Duration of running-in:	Engine and tractor appr. 100 hours

SPECIFICATION OF TRACTOR

Tractor

Make:	JOHN DEERE WERKE MANNHEIM
Model:	1030
Type:	Wheeled agricultural tractor, rear wheel driven, unit construction
Serial No.:	183 259

Engine

Make:	COMPAGNIE FRANCAISE JOHN DEERE
Model:	3164 DL 04
Type:	4-stroke DIESEL engine, direct injection, watercooled
Serial No.:	228 982 CD
Cylinders:	3, in-line; bore 102 mm, stroke 110 mm; displacement 2695 cm³; compression ratio 16,7:1
Valves:	Overhead
Fuel system:	ROTO DIESEL fuel feed pump 2 FS; ROTO DIESEL distributor injection pump: R 343 2500; manufacturer's production setting 46,5 mm³/stroke at rated engine speed and full load; injection timing 17° before TDC; ROOSA MASTER injection nozzles 20631; injection pressure 215 bar; ROOSA MASTER fuel filter with replaceable cartridge model Box type master filter; water separator optionally; capacity of fuel tank 62,5 l
Governor:	Mechanically acting variable speed governor incorporated in injection pump; governed range of engine speed 660 to 2675 rev/min; rated engine speed 2500 rev/min

Air cleaner:	DONALDSON; dry paper element filter with replaceable cartridge and service indicator; precleaner optionally
Exhaust silencer:	EBERSPÄCHER; multi chamber silencer; 213 x 118 mm oval, 483 mm long; at the left hand side of tractor above the bonnet; mouth showing upwards; mouth 2531 mm above ground; optional, at the left hand side beside the gear box with mouth showing rearwards
Lubrication system:	Forced feed from gear type pump; strainer in sump; oil filter in full flow with by-pass valve and replaceable cartridge; oil capacity 5,7 l; oil changing interval 100 hours; recommended oil viscosities: below -23°C SAE 5W or SAE 5W/20 below 0°C SAE 10W or SAE 10W/20 SAE 10W/30 above 0°C SAE 30
Cooling system:	Pressurized water cooling system with pump; overpressure set at 0,4 to 0,5 bar; thermostat with by-pass; fan with 4 blades, 413 mm diameter; cooling water capacity 10,4 l
Starting system:	Electrical; BOSCH screw push starter motor 2,9 kW; CAV flame glow plug in intake pipe or ether starting aid
Electrical equipment:	12 V, negative ground; BOSCH 3-phase alternator: GL 14 V - 28 A; 2 lead acid batteries 55 Ah at 20 hours rating

Transmission

Clutch:	FICHTEL UND SACHS; dry single disc clutch, for tractor drive only, pedal operated, disc diameter 280 mm
Gear box:	Own make; speed change gear with 4 speeds, collar shifted; group gear with 2 forward and 1 reverse group, collar shifted; HI-LO torque converter under load shiftable; totally 16 forward and 8 reverse speeds
Rear axle and final drive:	Bevel gear drive with crown wheel and pinion; bevel gear differential with lock, operated by hand lever and pedal, self disengaging; planetary final drive
Lubrication:	Oil capacity 36 l, maximum 40 l; recommended oil quality: JOHN DEERE Hy-GARD transmission and hydraulic oil or other comparable oils; oil changing interval 1000 hours

Power take-off

Independent p.t.o.;
at rear of tractor;
driven through a wet multiplate clutch,
hydraulically operated;
under load engageable and disengageable;
564 mm above ground, 25,4 mm left from
tractor's median plane;
29 x 34,9 x 8,7 mm = 1 3/8", 6 splines;
DIN 9611 Form 1; BS 1495; ASAE S. 203.7;
651 rev/min at rated engine speed;
standard p.t.o. speed 540 rev/min at
2075 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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Total ratios and speeds

Group	Gear	Total ratio engine: driving wheel	Nominal travelling speed *) at rated engine speed km/h	Nominal travelling speed *) at p.t.o. standard speed 540 rev/min km/h
Forward speeds				
slow	1.LO	364,7	1,65	1,37
	1.HI	286,5	2,10	1,75
	2.LO	255,3	2,36	1,96
	2.HI	200,6	3,00	2,49
	3.LO	172,0	3,50	2,91
	3.HI	135,2	4,46	3,70
	4.LO	123,1	4,90	4,07
	4.HI	96,7	6,23	5,17
fast	5.LO	92,9	6,49	5,38
	5.HI	73,0	8,26	6,85
	6.LO	65,1	9,27	7,69
	6.HI	51,1	11,80	9,79
	7.LO	43,8	13,75	11,41
	7.HI	34,4	17,50	14,53
	8.LO	31,4	19,22	15,95
	8.HI	24,6	24,46	20,30
Reverse speeds				
reverse	1.LO	313,8	1,92	1,59
	1.HI	246,6	2,45	2,03
	2.LO	219,7	2,74	2,28
	2.HI	172,6	3,50	2,90
	3.LO	149,0	4,07	3,38
	3.HI	116,3	5,18	4,30
	4.LO	105,9	5,69	4,72
	4.HI	83,2	7,24	6,01

*) Calculated with the INDEX-RADIUS 614 mm as per WdK 154

The transmission is optionally available for a maximum speed of 30 km/h in the 4th HI gear of the fast group

A mechanical front wheel drive is optionally available

Belt pully	Optional, not fitted on tractor tested; pulley drive attached on p.t.o. shaft; operated by p.t.o. hand lever; 305 mm diameter, 216 mm width; 1169 rev/min at rated engine speed; 18,7 m/s linear belt speed; direction of rotation clockwise, viewed from the left hand side of tractor; oil capacity 1,2 l, JD Hy-GARD or comparable oils
Power lift	Own make; hydraulic power lift, unit construction; closed centre system, system pressure 155 bar; draft control, position control and mixing load and depth control, floating position; self regulating 8-piston radial type pump, directly driven by front end of crankshaft; gear type feed pump in transmission box; the power lift assembly is connected to the hydraulic circuit by an oil flow control valve which restricts the oil flow to the power lift at the maximum rate of 20,3 l/min at minimum pressure (see page 23); overpressure relief valve for ram set to 240 to 310 bar overpressure; JOHN DEERE control valve, single acting, incorporated in power lift unit; up to 2 double acting selective control valves with 2 oil tappings each in front and in the rear or only in the rear at the right or the left hand side available; oil reservoir and oil changing interval common with gear box, see page 6; up to 14 l (18 l at 40 l oil capacity) may be taken off through oil tappings for short time; the oil circuit is in common for all hydraulically controlled units of tractor
Implement linkage	Three point linkage category II DIN 9674; category I is possible by turning lower links; lift rods adjustable from 565 to 670 mm; lifting range above ground with short lift rods from 290 to 890 mm long lift rods from 60 to 710 mm

Implement crossbar

Short crossbar, (long crossbar optionally);
category II (category I optionally);
fitted on clevis of lower links;
length between the ball joints 825 mm,
thickness of the bar 25 mm;
centre hole and 4 holes at either side with
80 mm distance each;
all holes 33 mm diameter;
height above ground adjustable by power lift
from 75 to 905 mm depending on lift rods
length, measured at the surface of the bar;
within the lifting range steplessly-hydraulically
fixable by sink throttle;
with lower links in horizontal position
distance of centre hole from
rear axle centre 928 mm
p.t.o. shaft end 506 mm

Pull attachments

Swinging drawbar:
Height above ground 371 mm;
hole diameter 33 mm;
distance of hole from
end of p.t.o. shaft 117, 356. 397 mm
rear axle centre 539, 778, 819 mm
adjustable by shifting drawbar;
235 mm swingable to either side;
distance of pivot point to rear axle centre
51 mm

Trailer hitch:
Own make;
not automatical;
swingable aside when top link is used;
height above ground 779 mm;
coupling hole 33 mm diameter;
distance of coupling hole from rear axle
centre 451 mm;
permissible vertical load 1200 kg

Towing hitch:
837 mm above ground

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Steering	Own make; mechanically acting on front wheels; (optional: hydraulically assisted steering; oil supply from the hydraulic system of power lift with flow control valve)
Brakes	
Parking brake:	Mechanically acting wet wedge band brake; acting on a drum with 238 mm diameter on the differential housing, operated by hand lever with ratchet
Service brake:	Hydraulically operated wet disc brake; acting on discs with 279 mm diameter on the final drive shafts; pedal operated
Steering brakes:	Divided pedal of service brake; for normal use locked together
Wheels	
Steering wheels:	Two pneumatics at front 7,50-16 AS 6 ply; maximum permissible load per tyre 857 kg at 2,25 bar inflation pressure and 25 km/h; track width from 1260 to 1923 mm in steps of 51 mm each, changeable by extending telescopic front axle; rims 5,50 F x 16
Driving wheels:	Two pneumatics at rear 14,9-28 AS 6 ply; maximum permissible load per tyre 1720 kg at 1,4 bar inflation pressure and 25 km/h; track width from 1450 to 1950 mm in steps of 100 mm each by turning wheels and offset lug type rims; rims W 12 x 28
Wheelbase:	2050 mm

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Weights

Ready for use as tested with safety frame

			without driver	with driver
Without ballast:	front		790 kg	800 kg
	rear		1635 kg	1700 kg
	total		2425 kg	2500 kg
Front ballast:	1 basic weight			80 kg
	6 front weights	40 kg each		240 kg
Rear ballast:	3 weights per wheel	35 kg each		210 kg
	water in the tyres			330 kg
With ballast:	front		1180 kg	1185 kg
	rear		2105 kg	2175 kg
	total		3285 kg	3360 kg

Seat

GRAMMER;
DS 20 L 2 H;
upholstered seat with back and arm rests;
adjustable spring with shock absorber;
height of seat platform above ground 650 mm;
height of seat above platform 600 mm with seat not compressed in downmost position;
adjustable fore and aft 101 mm;
adjustable up and down 101 mm steplessly

Dimensions

Total length:	3430 mm with 3 point linkage without ballast 3680 mm with 3 point linkage with ballast
Total width:	1815 mm at smallest track width 2315 mm at largest track width
Total height:	2411 mm to top of frame 2531 mm to top of exhaust pipe
Ground clearence:	355 mm below swinging drawbar

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Safety frame FRITZMEIER;
M 901;
O.E.C.D. tested;
approval no. CS 1139b or CS 1140e or CS 1142a
date of approval 10th May 1976

Number of grease points 8

Lighting equipment Electric
12 V
in accordance with the regulations of the various countries

	Dimensions mm	Height above ground of centre mm	Distance from outside edge of tractor to centre mm *)
Head lights	125 Ø	967	640
Additional head lights	130 Ø	1395	395
Side lights	70 x 70	1445	105
Rear lights	66 x 163	1385	237
Reflectors	78 Ø	1149	114

*) at smallest track width

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All available tyres

Track width adjustment possibilities, permissible loads

Dimensions	Track width from mm	Track width in steps of mm	Track width to mm	Permissible load kg
Steering wheels *)				
6,00-16	1260	51	1923	1120
6,50-16	1260	51	1923	1230
7,50-16	1260	51	1923	1490
27/9,5-15 +)	1180 or 1320	48 48	1610 1944	1540
Driving wheels *)				
9,5-36 **)	1350	100	1950	2200
12,4-28	1350	100	1950	2550
12,4-32	1350	100	1950	2710
12,4-36	1350	100	1950	2880
13,6-28	1350	100	1950	2720
14,9-28	1450	100	1950	3220
16,9-24 +)	1350	100	1950	3448
21,5L-16,1 +)	1535	-	1666	2870

*) All tyres 6 ply

**) Released from the German TÜV, but not available ex factory

+) For Canada only

All steering wheels may be put together with all driving wheels, but 7,50-16 cannot be put together with 12,4-28 and 27/9,5-15 can be put together with 16,9-24 and 21,5L-16,1 only

FUELS AND LUBRICANTS USED IN TESTS

Fuel	ARAL DIESEL fuel (DIN 51 601)
	specific gravitiy at 15°C
	at engine tests 0,834 kg/l
	at p.t.o. tests 0,834 kg/l
	at drawbar tests 0,832 kg/l
Engine oil:	SHELL ROTELLA TX 30
Transmission oil:	JOHN DEERE Hy-GARD
Hydraulic oil:	JOHN DEERE Hy-GARD

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COMPULSORY TESTS

(1) MAIN POWER TAKE-OFF PERFORMANCE

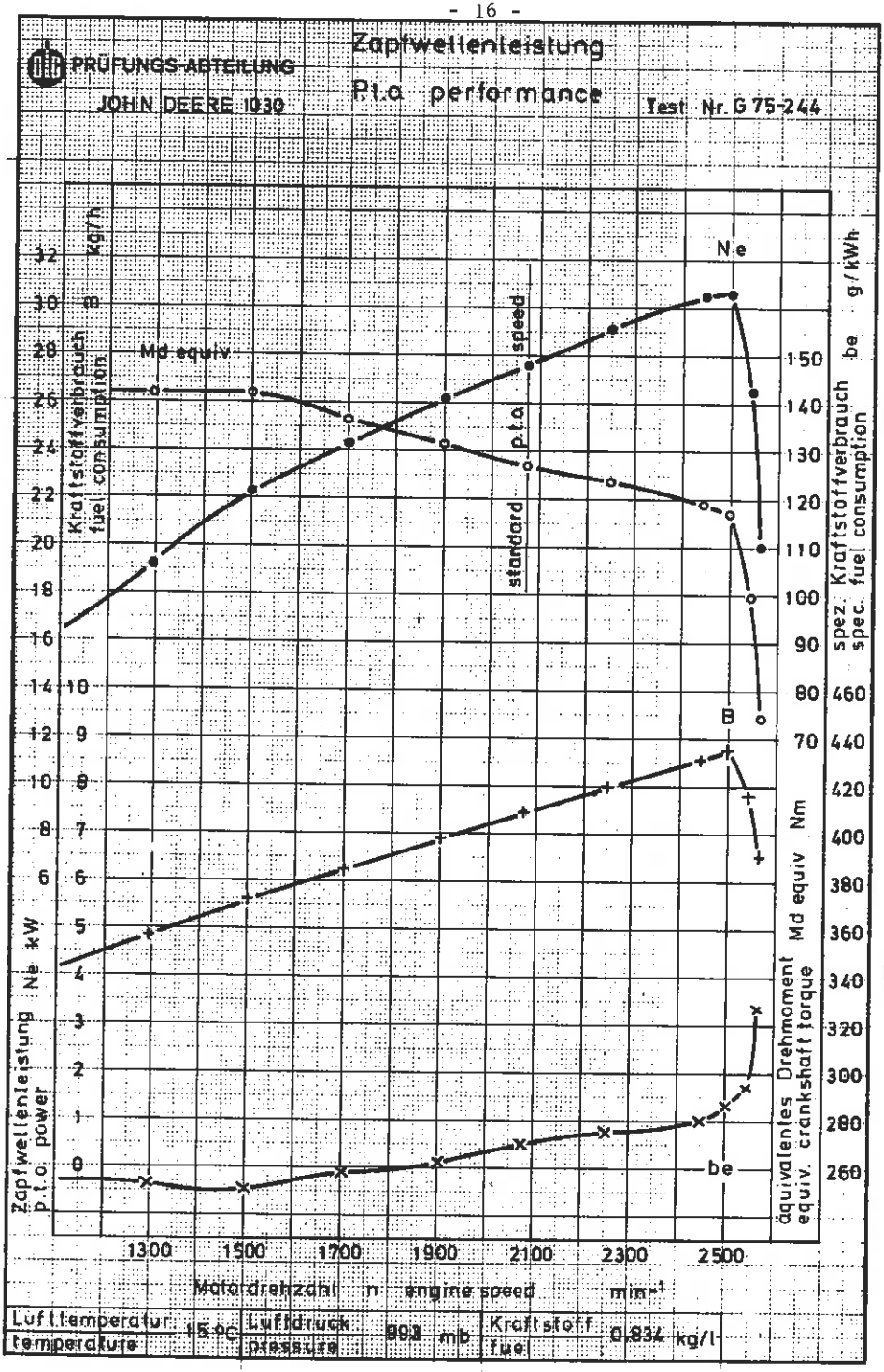
Date of tests: 21st January, 1976
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

Maximum power

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
At maximum power 2-hour test						
30,6	2500	651	10,45	8,74	286	2,93
At standard p.t.o. speed (540 rev/min)						
27,6	2075	540	8,94	7,46	270	3,09
At the speed recommended for drawbar work						
30,6	2500	651	10,45	8,74	286	2,93
Part loads						
(i) 85% of the torque at maximum power						
26,5	2547	663	9,33	7,78	294	2,84
(ii) unloaded						
-	2623	683	3,78	3,15	-	-
(iii) 50% of the load defined in (i)						
13,5	2585	673	6,39	5,33	395	2,11
(iv) maximum power						
30,6	2500	651	10,45	8,74	286	2,93
(v) 25% of the load defined in (i)						
6,8	2605	678	5,11	4,26	626	1,33
(vi) 75% of the load defined in (i)						
20,0	2566	668	7,48	6,54	327	2,67

No load maximum engine speed: 2623 rev/min
Equivalent crankshaft torque at maximum power: 117 Nm
Maximum equivalent crankshaft torque: 142 Nm at 1500 rev/min of the engine

Mean atmospheric conditions:	temperature	15°C
	pressure	993 mbar
	relative humidity	80%
Maximum temperatures:	coolant	78°C
	engine oil	120°C
	fuel	16°C

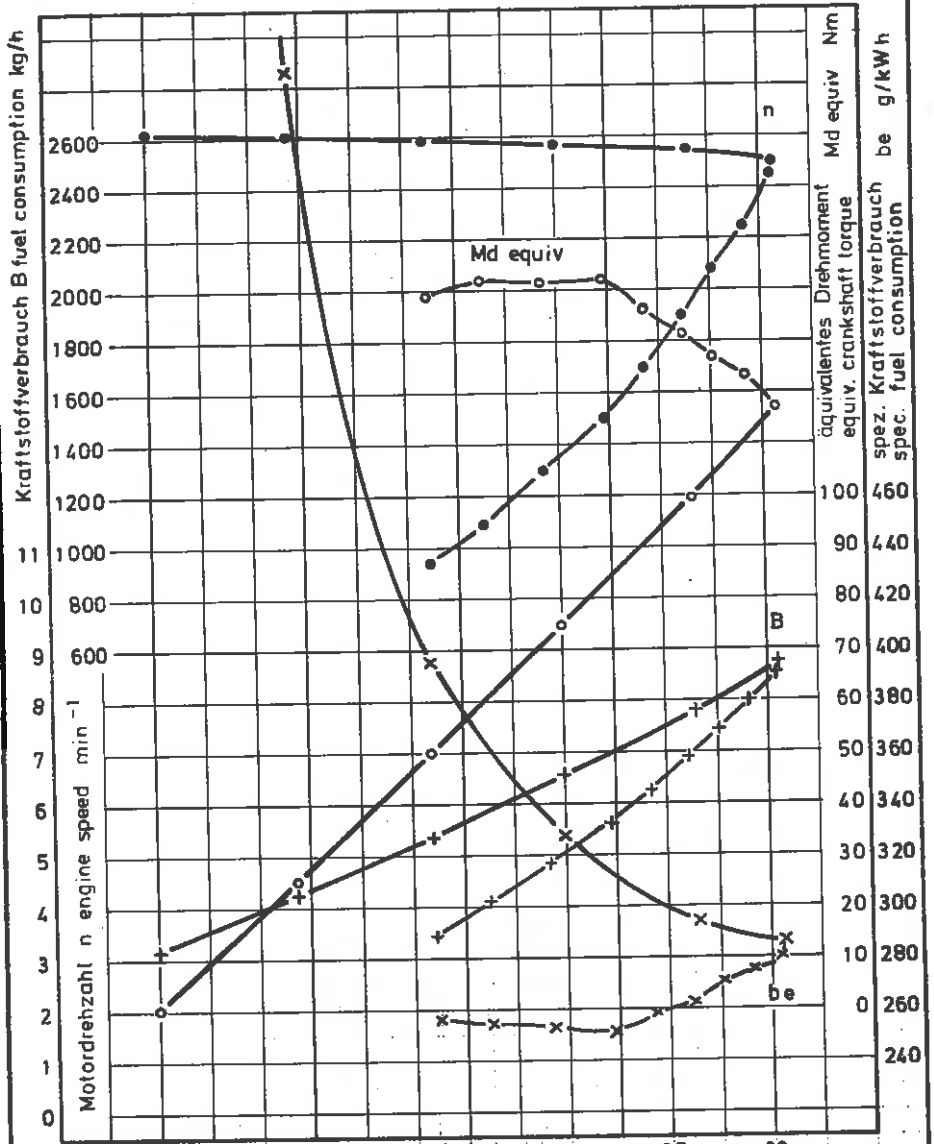

PRÜFUNGS-ABTEILUNG
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Zapfwellenleistung
P.t.o. performance
Test Nr. G 75-244
Kraftstoffverbrauch fuel consumption kg/h
Md equiv
standard
p.t.o. speed
Ne
B
be
Zapfwellenleistung P.t.o. power Ne kW
äquivalentes Drehmoment equiv. crankshaft torque Md equiv Nm
spez. Kraftstoffverbrauch spec. fuel consumption be g/kWh
Motordrehzahl n engine speed min-1
1300 1500 1700 1900 2100 2300 2500
Lufttemperatur temperature 15 °C
Luftdruck pressure 993 mb
Kraftstoff fuel 0,834 kg/l

PRÜFUNGS-ABTEILUNG

Zapfwellenleistung

P.t.o. performance

JOHN DEERE 1030 Test. Nr. G 75-244



Lufttemperatur temperature	15 °C	Luftdruck pressure	993	mb	Kraftstoff fuel	0,834	kg/l

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(2) DRAWBAR PERFORMANCE

Date of tests: 12th February till 10th March, 1976
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 600 mm						
1 LO	1,48	13,0	31690	2618	15,0	1,81
1 HI	1,88	16,5	31680	2606	14,9	2,03
2 LO	2,10	18,5	31690	2597	15,0	2,11
2 HI	2,66	23,4	31690	2570	15,0	2,24
3 LO	3,09	24,6	28660	2502	12,6	2,34
3 HI	4,08	25,6	22630	2500	9,3	2,42
4 LO	4,52	25,6	20390	2501	8,4	2,43
4 HI	5,87	26,0	15950	2499	6,4	2,47
5 LO	6,15	26,1	15290	2500	5,6	2,47
5 HI	7,92	25,9	11770	2500	4,7	2,44
6 LO	8,92	25,8	10400	2500	4,0	2,43
6 HI	11,48	25,4	7950	2502	3,0	2,41
(ii) FIVE-HOUR-TEST at 75% of pull at maximum power in 5th LO gear						
5 LO	6,45	20,6	11480	2590	4,4	2,30
(iii) FIVE-HOUR-TEST at pull corosponding to 15% wheel slip in test (i)						
2 HI	-	-	31690	-	-	-
(v) MAXIMUM POWER without ballast height of drawbar above ground 510 mm						
2 HI	2,67	18,4	24780	2586	15,0	2,08
3 LO	3,10	21,2	24580	2573	15,0	2,15
3 HI	3,95	24,7	22470	2500	12,1	2,33
4 LO	4,42	24,6	20010	2500	10,0	2,34
4 HI	5,80	25,6	15880	2500	7,4	2,43
5 LO	6,06	25,6	15180	2500	7,0	2,43
5 HI	7,81	25,9	11920	2500	5,6	2,45
6 LO	8,83	26,0	10590	2501	5,4	2,46
6 HI	11,39	25,2	7980	2500	3,6	2,39

Total oil consumption during ten hours duration of tests (ii) and (iii): 70 g/h

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Tyres make and size — front: VEITH-PIRELLI 7,50-16 6 ply
rear: VEITH-PIRELLI 14,9-28 6 ply

Tread bar height at the beginning of drawbar tests:
87% of the value when new

Specific fuel consumpt. g/kWh	Temperatures Fuel °C	Coolant °C	Engine-oil °C	Atmospheric conditions Temperature °C	Relative humidity %	Pressure mbar
tyre inflation pressure 1,4 bar rolling radius of tyres under static load 642 mm						
462	6	78	100	4	85	1004
410	5	78	100	2	90	1004
395	5	78	100	0	90	1003
370	14	79	100	11	54	1020
356	13	80	105	11	55	1020
344	12	80	105	10	62	1020
342	12	80	105	11	65	1020
337	12	80	105	7	69	1020
336	12	80	105	6	72	1020
339	17	80	104	12	66	1019
340	17	80	104	12	64	1019
345	16	80	100	4	72	1020
363	12	80	100	3	70	1004
-	11	80	100	4	72	1004
tyre inflation pressure 1,1 bar rolling radius of tyres under static load 644 mm						
398	16	80	104	12	88	1009
387	16	79	97	11	88	1009
356	14	79	104	10	89	1009
356	13	79	105	8	94	1008
342	12	79	106	8	97	1008
342	12	80	107	7	98	1008
339	13	80	108	6	97	1008
338	15	80	110	6	97	1008
348	15	80	108	6	98	1008

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

(3) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 7,50-16 AS Front 6 ply
rear: 14,9-28 AS 6 ply

Track of wheels front: 1464 mm
rear: 1450 mm

	With brakes		Without brakes	
	left-hand m	right-hand m	left-hand m	right-hand m
Radius of turning space	3,16	3,10	3,51	3,45
Radius of turning circle	2,99	2,93	3,34	3,28

(4) LOCATION OF CENTRE OF GRAVITY

Height above ground	781 mm
Distance forward from the vertical plane containing the axis of the rear wheels	656 mm
Distance of the median plane of the tractor to the left	6 mm

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(5) BRAKING PERFORMANCE

A) FOOT BRAKE

Date of tests: 2nd and 3rd March, 1976
Type of track: Concrete
Type of decelerometer: MOTO METER-Bremsverzögerungs- und Pedalkraftschreiber

Weight of ballasted tractor: 3360 kg with driver

Cold brakes

		With ballast	Without ballast
Travelling speed	km/h	25,0	25,0
Deceleration	m/s^2	4,7	4,9
Stopping distance	m	6,0	5,6
Force on pedal	N	390	390
Force on pedal to achieve a deceleration of 2,5 m/s^2	N	195	145

Brake fade characteristics (hot tests)

Deceleration	hot/cold	%	100	100
Stopping distance	cold/hot	%	97	100
Force on pedal	cold/hot	%	102	100

B) PARK BRAKE

Tractor facing up slope:
Pull on hand brake 80 N, tractor does not roll

Tractor facing down slope:
Pull on hand brake 60 N, tractor does not roll

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(6) AMBIENT NOISE EMITTED BY THE TRACTOR

Date of test:	2nd March, 1976
Type of track:	Concrete
Type of sound level meter:	BRÜEL AND KJAER model 2203

Results of test

Gear:	8th HI gear
Travelling speed before acceleration:	20,5 km/h
Sound level:	90 dB(A)

(7) NOISE AT THE DRIVER'S EAR LEVEL

Date of tests:	20th February, 1976
Type of track:	Concrete
Type of sound level meter:	BRÜEL AND KJAER model 2607
Type of frequency analyser: (fitted with octave filter)	BRÜEL AND KJAER model 1614

A safety frame was fitted on tractor tested O.E.C.D. tested, approval no. CS 1139b or 1140e or CS 1142a

Results of tests

Gear	Drawbar pull at which the tractor develops the maximum sound level N	Travelling speed nominal km/h	Travelling speed effective km/h	Sound level dB(A)
1 LO	24770	1,65	1,48	96
1 HI	24680	2,10	1,91	97
2 LO	24680	2,36	2,13	98
2 HI	24800	3,00	2,71	98,5
3 LO	24600	3,50	3,12	99
3 HI	22140	4,46	4,02	99,5
4 LO	19790	4,90	4,48	99,5
4 HI	14010	6,23	6,01	99,5
5 LO	13450	6,49	6,26	99,5
5 HI*	11690	8,26	7,86	99
6 LO	10380	9,27	8,91	99
6 HI	7870	11,80	11,48	99,5
7 LO	6630	13,75	13,40	99
7 HI	4890	17,50	17,17	99,5
8 LO	4290	19,22	19,17	99
8 HI	light load	24,46	27,34	97

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

(8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

Date of tests: 3rd November, 1975

HYDRAULIC PUMP

The tractor contains one circuit for all hydraulically operated tractor units. Power lift assembly is connected to the hydraulic supply circuit by an oil flow control valve. This restricts the oil flow to the power lift cylinder at the maximum rate of 20,3 l/min at minimum pressure

Circuit of power lift

(1) Sustained pressure with pump stalled	155 bar
(2) Delivery rate at minimum pressure and maximum engine speed	20,3 l/min
(3) Delivery rate	24,0 l/min
Delivery pressure	125 bar
Hydraulic power (power lift circuit only)	5,0 kW

Main circuit through oil tapping

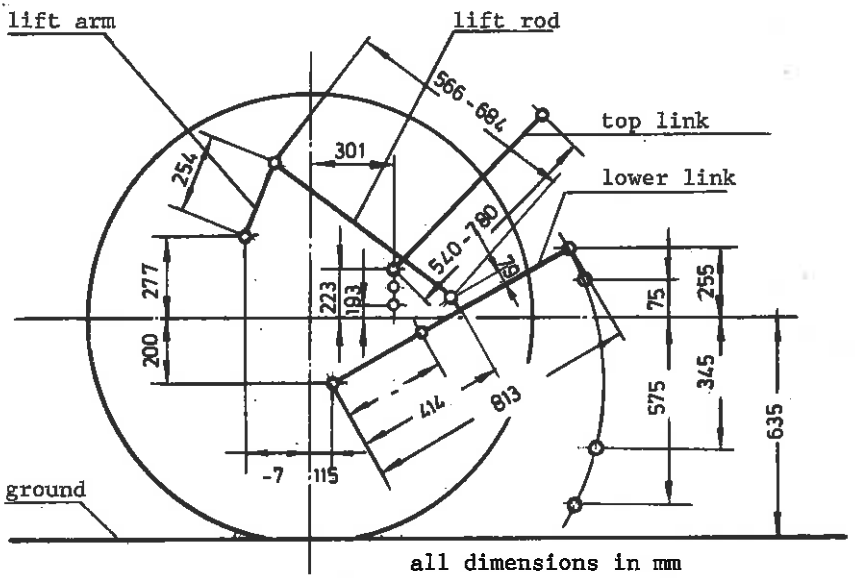
(1) Sustained pressure with pump stalled	155 bar
(2) Delivery rate at minimum pressure and maximum engine speed	52,5 l/min
(3) Delivery rate	49,5 l/min
Delivery pressure	141 bar
Total hydraulic power power lift circuit included	11,6 kW

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POWER LIFT

Dimensions of implement linkage for the table on page 25



all dimensions in mm

LINKAGE GEOMETRY when connected to the standard frame	Maximum mechanical advantage	Minimum mechanical advantage
Projected length in side view:		
Lower links	813 mm	813 mm
Lift arms	254 mm	254 mm
Lift rods	670 mm	565 mm
Top link	625 mm	625 mm
Distance of lift rod connection point from pivot point of lower link	414 mm	414 mm
The following dimensions are given relative to rear axle centre line 635 mm above ground		
Lower link pivot point	115 mm behind, 200 mm below	115 mm behind, 200 mm below
Top link pivot point	301 mm behind, 223 mm above	301 mm behind, 193 mm above
Lift arm pivot point	7 mm behind, 277 mm above	7 mm behind, 277 mm above
Maximum and minimum height of lower link hitch points	75 mm above, 575 mm below	255 mm above, 345 mm below
Height of lower link hitch points above ground when locked in highest transport position	710 mm	890 mm

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LIFTING FORCES
Category II measured

Lifting heights relative to horizontal lower links

mm	-375	-373	-300	-200	-163	-145	-100	0
at hitch points	maximum mechanical advantage							
N						9020	10110	11700
	minimum mechanical advantage							
N	9050		10100	11110			11900	12640

Max. force exerted throughout the whole range 9050 N

Front of tractor does not lift with maximum allowable front ballast

at test frame	maximum mechanical advantage							
N		10500	10780	11250			11650	11650
	minimum mechanical advantage							
N					8090		9080	9840

Max. force exerted throughout the whole range 10500 N

Front of tractor does not lift with maximum allowable front ballast

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+100	+200	+275	+300	+313	+400	+455	+500	+600
lift rods 565 mm long								
12900	13690		14310		15070	15650		
lift rods 670 mm long								
13290	13840	14400						

lift rods 670 mm long

11450	11300		11250	11180				
lift rods 565 mm long								
10270	10460		10270		9870		9470	9160

All values of forces for pressure at max. hydraulic power 125 bar, see page 23; calculated from measurements at max. oil pressure 155 bar

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OPTIONAL TESTS

(9) ENGINE PERFORMANCE

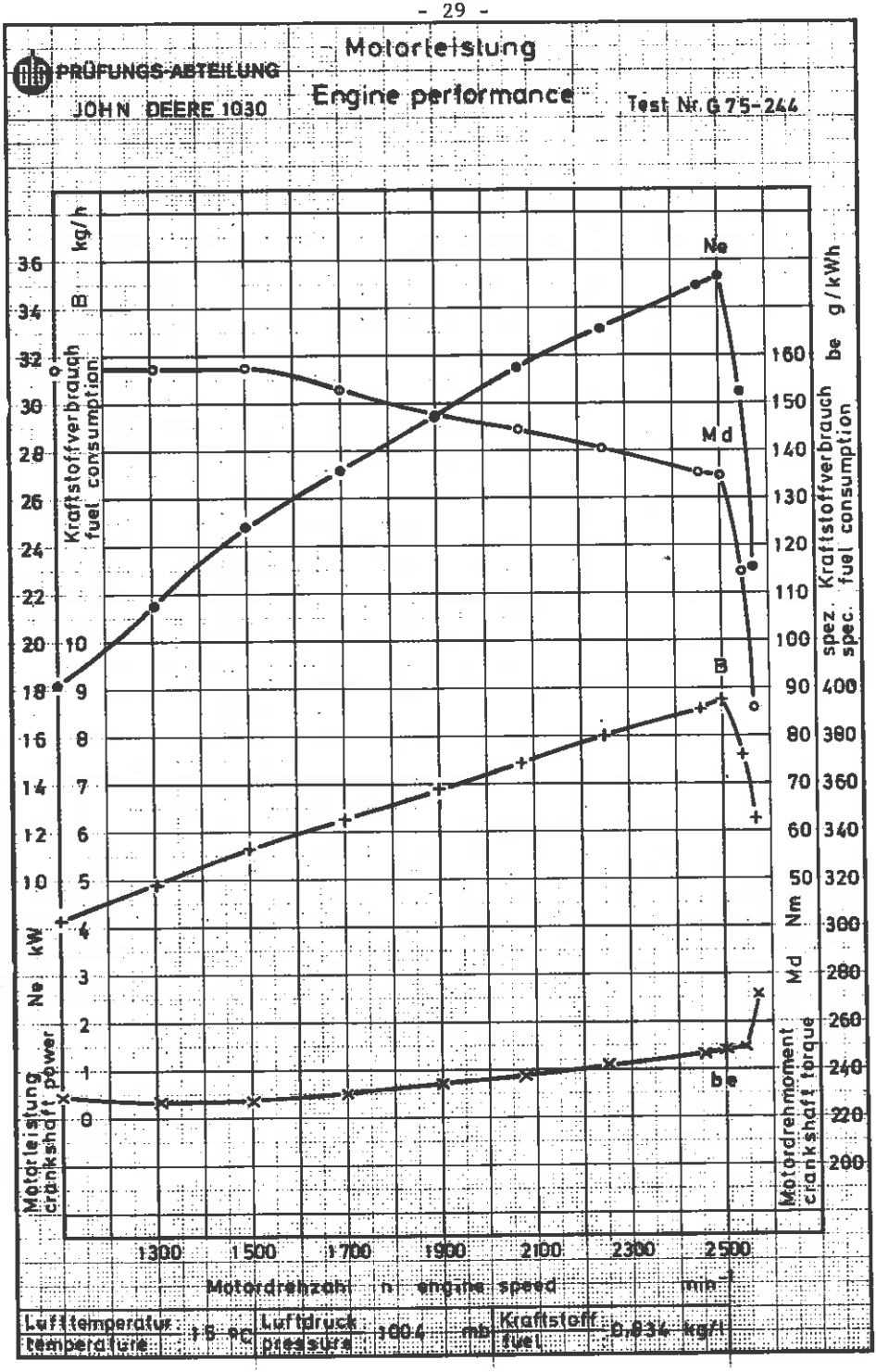
Date of tests: 15th and 16th January 1976
Type of dynamometer: SCHENCK eddy current dynamometer W 150

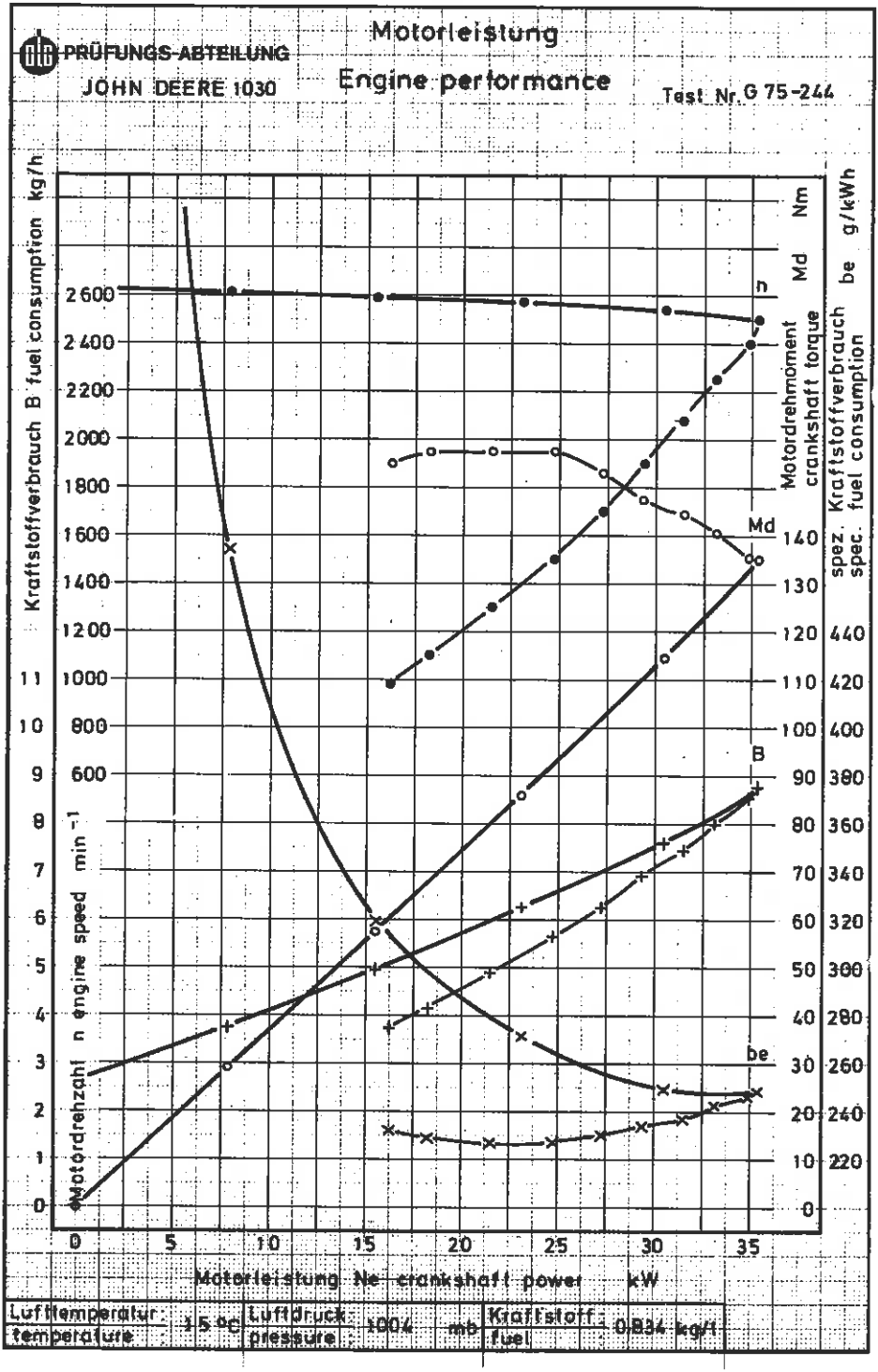
Maximum power

Power kW	Engine speed rev/min	Fuel concumption total 1/h	Fuel concumption total kg/h	Fuel concumption specific g/kWh	Specific energy kWh/l
At maximum power 2-hour test					
35,3	2500	10,46	8,72	247	3,37
At standard p.t.o. speed (540 rev/min)					
31,5	2076	8,94	7,46	237	3,52
At the speed recommended for drawbar work					
35,3	2500	10,46	8,72	247	3,37
Part loads					
(i) 85% of torque at maximum power					
30,5	2544	9,11	7,60	249	3,35
(ii) unloaded					
-	2633	3,15	2,63	-	-
(iii) 50% of the load defined in (i)					
15,5	2589	5,94	4,95	319	2,61
(iv) maximum power					
35,3	2500	10,46	8,72	247	3,37
(v) 25% of the load defined in (i)					
7,9	2608	4,50	3,75	474	1,76
(vi) 75% of the load defined in (i)					
23,1	2568	7,49	6,25	271	3,08

Optimum fuel consumption: 227 g/kWh at 24,7 kW and 1500 rev/min
Standard fuel consumption 1/2 (DIN 9606): 4,56/8,67 1/h
No load maximum engine speed: 2633 rev/min
Torque at maximum power: 135 Nm
Maximum torque: 157 Nm at 1500 rev/min of the engine

Mean atmospheric conditions:	temperature	15°C
	pressure	1004 mbar
	relative humidity	77%
Maximum temperatures:	coolant	76°C
	engine oil	115°C
	fuel	19°C


Motorleistung
Engine performance
PRÜFUNGS-ABTEILUNG
JOHN DEERE 1030
Test Nr. G 75-244
Ne
Md
B
be
Motorleistung Kurbelwellenleistung Ne kW
Kraftstoffverbrauch B kg/h
Motordrehmoment Md Nm
spez. Kraftstoffverbrauch be g/kWh
Motordrehzahl n engine speed min⁻¹
1300
1500
1700
1900
2100
2300
2500
Lufttemperatur temperature +8 °C
Luftdruck pressure 1004 mb
Kraftstoff fuel 0,834 kg/l


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Motorleistung
Engine performance
Test Nr. G 75-244
Kraftstoffverbrauch B fuel consumption kg/h
Motordrehzahl n engine speed min -1
Motordrehmoment crankshaft torque Md Nm
spez. Kraftstoffverbrauch spec. fuel consumption be g/kWh
n
Md
B
be
Motorleistung Ne crankshaft power kW
Lufttemperatur temperature 15 °C
Luftdruck pressure 1004 mb
Kraftstoff fuel 0,834 kg/l

PRÜFUNGS-ABTEILUNG

JOHN DEERE 1030

Motorleistung

Engine performance

Test Nr. G75-244

Motorleistung in % der Leistung bei Nenndrehzahl

engine power in % of power at rated engine speed

Belastung in % des Drehmomentes bei Nenndrehzahl

load in % of torque at rated engine speed

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

227 g/kWh

Lufttemperatur: temperature	15 °C	Luftdruck: pressure	1004 mb	Kraftstoff: fuel	0.824 kg/l

PRÜFUNGS-ABTEILUNG
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Test No. 75-244

ADDITIONAL TEST

out of the O.E.C.D. Code under the responsibility of the DLG Testing Station

(10) MAIN POWER TAKE-OFF PERFORMANCE
at the engine speed corresponding to the standard p.t.o. speed (540 rev/min)

Date of tests: **22nd January, 1976**
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

Power	Speed		Fuel consumption			Specific
	engine	p.t.o.	total		specific	energy
kW	rev/min	rev/min	l/h	kg/h	g/kWh	kWh/l
Maximum power at standard p.t.o. speed						
27,6	2075	540	8,94	7,46	270	3,09
Part loads at standard p.t.o. speed						
(i) 85% of the torque at maximum power						
24,2	2135	557	8,15	6,80	281	2,97
(ii) unloaded						
-	2250	586	3,13	2,61	-	-
(iii) 50% of the load defined in (i)						
12,4	2195	571	5,35	4,46	360	2,32
(iv) maximum power						
27,6	2075	540	8,94	7,46	270	3,09
(v) 25% of the load defined in (i)						
6,3	2223	579	4,17	3,48	552	1,51
(vi) 75% of the load defined in (i)						
18,4	2169	564	6,73	5,61	305	2,73

Mean atmospheric conditions:
- temperature 15°C
- pressure 993 mbar
- relative humidity 80%

Maximum temperatures:
- coolant 78°C
- engine oil 120°C
- fuel 16°C