O.E.C.D. No.: 488
Printed: February 1976

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



AGRICULTURAL TRACTOR 2130

Manufactured by: JOHN DEERE WERKE MANNHEIM
D-6800 Mannheim

Date of Tests: April till October 1975

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 Centre (C.N.E.E.M.A., France) as being in accordance with the O.E.C.D. STANDARD CODE.

Date of Approval: 14th January 1976

Serial No.: 488

This report results in a retest of the JOHN DEERE tractor 2130. It is valid for tractors of this model starting with the serial no. 130. 17 82 30, respectively the engine no. 22 73 10.

This retest was necessary because the combustion of the engine is so improved, that the specific fuel consumption is remarkably reduced. In the rest the tractor is the same as before.

The tractor tested is a preproduction model.

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Printed in Germany

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PRÜFUNGS-ABTEILUNG
John Deere 2130 Test No. 75-108

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 appr. 100 hours Tractor appr. 30 hours

SPECIFICATION OF TRACTOR

Tractor

Make:	John Deere Werke Mannheim
Model:	2130
Type:	4 wheel tractor, unit construction rear wheel driven
Serial No:	165 807 L

Engine

Make:	John Deere France
Model:	4 239 DL-01
Type:	Watercooled, 4 stroke Diesel engine direct injection
Serial No:	210 121 CD
Cylinders:	4 in line; bore 106,5 mm, stroke 110 mm capacity 3920 cm^3; compression ratio 16,2 : 1 wet, replaceable cylinders overhead valves
Fuel system:	ROTO DIESEL fuel feed pump 2 FS ROTO DIESEL distributor injection pump DPA R 3442990 manufacturer's production setting 54 mm^3/ stroke at rated engine speed and full load injection timing 16° before TDL STANADYNE 4 holes injection nozzles AR 73 672; injection pressure 216 kp/cm^2 STANADYNE fuel filter, main and pre-cleaner with replaceable cartridge capacity of fuel tank appr. 90 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

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Air cleaner:	Donaldson dry paper element type with maintenance indicator
Exhaust-silencer:	Eberspächer multichamber muffler with perforated internal pipe oval shaped cylinder, cross section 148 mm to 98 mm, 800 mm length 140 mm to the left hand side of median plane of tractor above the bonnet mouth showing upward
Lubrication system:	Forced feed from gear type pump strainer in sump PUROLATOR oil filter with by-pass valve replaceable filter cartridge oil capacity 5,7 l oil changing period 100 hours recommended oil viscosity below -23°C SAE 5W or SAE 5W/20 below 0°C SAE 10W or SAE 10W/20, SAE 10W/30 over 0°C SAE 30 or SAE 20W/40
Cooling system:	Water cooled, impeller assisted dual flow thermostat fan with 5 blades, 440 mm diameter coolant capacity 11,4 l
Starting system:	Electrically BOSCH starter motor JD 12 V 4 PS
Electrical equipment:	12 Volt, negative earth BOSCH three phase generator G1 - 14V - 28A 2 lead acid batteries 55 Ah at 20 hours rating

Transmission

Clutch:	Fichtel und Sachs AG dry single plate, pedal operated F+S 1864 270 101.95
Gear box:	John Deere Werke Mannheim constant mesh speed change gear, collar-shifted with 4 forward speeds group gear with 2 forward and 1 reverse group Hi-Lo group gear hydraulically under load shiftable total 16 forward and 8 reverse speeds

Rear axle and final drive:	Crown wheel and pinion bevel gear type differential operated by pedal or hand lever self-disengaging planetary final drive
Oil capacity:	36 l JD type 303
Oil changing period:	1000 hours

Total ratios and speeds see page 7

Power take-off

Independent p.t.o.
under load engageable and disengageable
by hydraulically operated multiplate clutch
at rear of tractor
height above ground 645 mm
25,4 mm to the left hand side of tractor median plane
2 interchangeable p.t.o.-shafts for 540 rev/min and 1000 rev/min p.t.o.-speeds
by interchanging p.t.o.-stub shafts correct speed ratio is selected

1) 540 rev/min p.t.o.-speed
29 x 34,9 x 8,7 mm 6 spline shaft = 1 3/8"
(DIN 9611 Form 1; BS 1495; ASAE S 203.5)
652 rev/min at rated engine speed
standard p.t.o.-speed 540 rev/min at
2070 rev/min engine speed
distance of end of p.t.o.-shaft from rear axle centre 422 mm

2) 1000 rev/min p.t.o.-speed
21 spline shaft with involute profile = 1 3/8"
(DIN 9611 Form 2; ASAE S 204.4)
1210 rev/min at rated engine speed
standard p.t.o.-speed 1000 rev/min at
2067 rev/min engine speed
distance of end of p.t.o.-shaft from rear axle centre 412 mm

both standard p.t.o.-speeds may be set by aid of tractormeter

direction of rotation for both p.t.o. speeds clockwise viewed from tractor rear

PRÜFUNGS-ABTEILUNG

John Deere 2130

Test No. 75-108

Total ratios and speeds

Group	Speed change gear No		Total ratio engine to driving wheel	Theoretical travelling speed at rated engine speed of 2500 rev/min km/h	m/s
1 slow	1	low	366,7 : 1	1,84	o,51
		high	288,2 : 1	2,34	o,65
	2	low	256,7 : 1	2,63	o,73
		high	2o1,7 : 1	3,35	o,93
	3	low	173,o : 1	3,9o	1,o8
		high	135,9 : 1	4,96	1,38
	4	low	123,8 : 1	5,45	1,51
		high	97,3 : 1	6,94	1,93
2 fast	5	low	1o4,o : 1	6,49	1,8o
		high	81,8 : 1	8,25	2,29
	6	low	72,8 : 1	9,26	2,57
		high	57,2 : 1	11,79	3,28
	7	low	49,1 : 1	13,75	3,82
		high	38,6 : 1	17,5o	4,86
	8	low	35,1 : 1	19,22	5,34
		high	27,1 : 1	24,46	6,79
reverse	1	low	315,6 : 1	2,14	o,59
		high	248,o : 1	2,72	o,76
	2	low	22o,9 : 1	3,o5	o,85
		high	173,6 : 1	3,89	1,o8
	3	low	148,9 : 1	4,53	1,26
		high	117,o : 1	5,77	1,6o
	4	low	1o6,5 : 1	6,34	1,76
		high	83,7 : 1	8,o6	2,24

The transmission is optional available for a maximum speed of 30 km/h in the 8th high speed

An electronically controlled, hydrostatic front wheel drive is optional available

Power lift	John Deere Werke Mannheim live hydraulic closed centre system power control, position control, variable proportion of power and position control floating position, self regulating 8-piston radial type pump, directly driven by front end of crankshaft gear type feed pump in transmission box; maximum pressure of system 158 kp/cm² working pressure 144 kp/cm² oil circuit is in common for all hydraulically controlled units of the tractor; the power lift assembly is connected to the hydraulic circuit by an oil flow control valve, this valve restricts the oil flow to the power lift at the maximum rate of 23 l/min; overpressure relief valve for ram 280 kp/cm² ; John Deere control valve, single acting incorporated in power lift unit, double acting valves are optional available; oil tappings for 1 single or 1 dual acting remote cylinder or 1 oil motor with only 1 dual acting additional John Deere control valve available hydraulically acting linkage lock oil reservoir and oil changing period common with gear box, 57 l, up to 30,2 l may be taken off through oil tappings for short time
Implement linkage	Three point linkage category II (DIN 9674) lower links with extractable swing out rear ends; lifting rods length adjustable from 566 to 684 mm lifting range above ground with lifting rods short from 434 to 1004 mm lifting rods long from 154 to 794 mm
Drawbar	Fitted on clevis of lower links centre hole and 4 holes at either side 80 mm distance each all holes 33 mm diameter height above ground adjustable in the range between 169 and 1019 mm by power lift with lower links in horizontal position distance of centre hole from: rear axle centre 973 mm end of 540 rev/min p.t.o.-shaft 551 mm end of 1000 rev/min p.t.o.-shaft 561 mm

Pull attachment

Swinging drawbar:	Height above ground 410 or 538 mm changeable by reversing swinging drawbar diameter of hole 33 mm distance of hole from the end of 540 rev/min p.t.o.-shaft 355 mm end of 1000 rev/min p.t.o.-shaft 406 mm adjustable by shifting swinging drawbar
Trailer hitch:	Height above ground 851 mm swingable aside when using upper link coupling hole 33 mm diameter distance from rear axle centre 447 mm permissible supporting force 1000 kp
Towing hitch:	Height above ground 815 mm
Steering	John Deere Werke Mannheim mechanically acting hydraulically assisted central steering hand wheel operated

Brakes

Parking brake:	Mechanically operated wedge band brake acting on a drum on the differential operated by hand lever with ratchet
Foot brake:	Hydraulically operated wet disc brakes acting on discs on final drive shafts pedal operated
Steering brake:	Operated by independent parts of divided foot brake pedals for normal use both parts of pedal are locked together
Safety frame	FRITZMEIER O.E.C.D. tested: CS no. 392 dated from 10th April 1974 (an integrated, air conditioned, soundproof safety cab is optional available O.E.C.D.-tested: CS 1024 from 12th May 1975)

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Wheels

Steering wheels: Two pneumatics at front
7,50-16 AS Front 6 ply (DIN 7808)
maximum permissible weight on each tyre 710 kg at 2,5 kp/cm² inflation pressure;
when transporting mounted implements 885 kg;
track width from 1360 to 1870 mm and after reversing wheels from 1498 to 2008 mm, adjustable in steps of 102 mm by extending front axle,
rims 5.50 F x 16

Driving wheels: Two pneumatics at rear
18,4/15-30 AS 8 ply (DIN 7807)
maximum permissible weight on each tyre 2415 kg at 1,4 kp/cm² inflation pressure,
when transporting mounted implements 2780 kg,
track width from 1550 to 2440 mm stepless adjustable by rack on rear axle shaft and pinion and by offset lugs on rims;
(the rear axle half shafts are optional in flange construction for steel or cast iron track adjustment wheels available;
track widths from 1550 to 1950 mm in steps of 100 mm with steel wheels or 102 mm with cast iron wheels)
rims W 14 L x 30

Wheel base 2178 mm

Weights

Ready for use as tested with safety frame

		without driver	with driver
Weight of tractor without ballast:	Front	920 kg	928 kg
	Rear	2230 kg	2297 kg
	Total	3150 kg	3225 kg
Front ballast:	1 weight		80 kg
	8 front weights 42 kg each		336 kg
Rear ballast:	3 weights per wheel 54 kg each		324 kg
	water in the tyres		710 kg
Weight of tractor with ballast:	Front	1450 kg	1455 kg
	Rear	3150 kg	3220 kg
	Total	4600 kg	4675 kg

PRÜFUNGS-ABTEILUNG
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Seat: Grammer
upholstered mould seat with back and arm rests, model DS 20 L2H
adjustable spring with shock absorber
height above ground from 1285 to 1385 mm
adjustable by shifting seat on inclined guideways and additional independent elevation adjustment
range of for and aft adjustment 101 mm

Number of grease points (whole tractor) 11

Overall dimensions

Overall lenght:	3598 mm with three point linkage
Overall width:	2270 mm at 1550 mm track width
Overall height:	2575 mm to top of safety frame
Ground clearance	470 mm in tractor's median plane

Lighting equipment: Eelctric 12 V
acc. to the regulations of the several countries

Equipment of tractor tested (acc. to the French Code de la Route)

	Dimensions of area mm	Height above ground to centre mm	Distance from outside edge of tractor *) to centre mm
Head lights	105 Ø	990	745
Side lights	75 Ø	1535	285
Rear lights	115 x 49	1405	410
Reflectors	75 Ø	1130	300

*) ends of rear axle shafts

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All available tyres
Track width adjustment possibilities, permissible loads

Dimensions	Track width from (with steel wheels) mm	in steps of +) mm	to *) mm	Permissible load kg
Steering wheels				
7,50-16	1360	102	2008	745
7,50-18	1360	102	2008	810
10,5/80-18	1422	102	1932	810
Treibradreifen				
13,6-38 **)	1450	100	1950	1660
15,5-38	1550	100	1950	1765
16,9-34 **)	1550	100	1950 ++)	2380
18,4-30	1550	100	1950	2415

*) with R+P axle short stepless to 2290 mm
with R+P axle long stepless to 2440 mm
**) no R+P axle possible
+) with cast iron wheels 102 mm
++) with cast iron wheels 1980 mm

All steering wheels may be put together with all driving wheels

FUEL AND LUBRICANTS USED IN TESTS

Fuel:	ARAL-Diesel fuel (DIN 51601) Specific gravity at 15°C: at laboratory tests 0,834 kg/l at drawbar tests 0,841 kg/l
Engine oil:	HD SAE 30
Transmission and hydraulic oil:	JD type 303

PRÜFUNGS-ABTEILUNG
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Test No. 75-108

COMPULSORY TESTS

(1) MAIN POWER TAKE-OFF PERFORMANCE (540 rev/min)

Date of tests: 8th April 1975
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

Maximum power

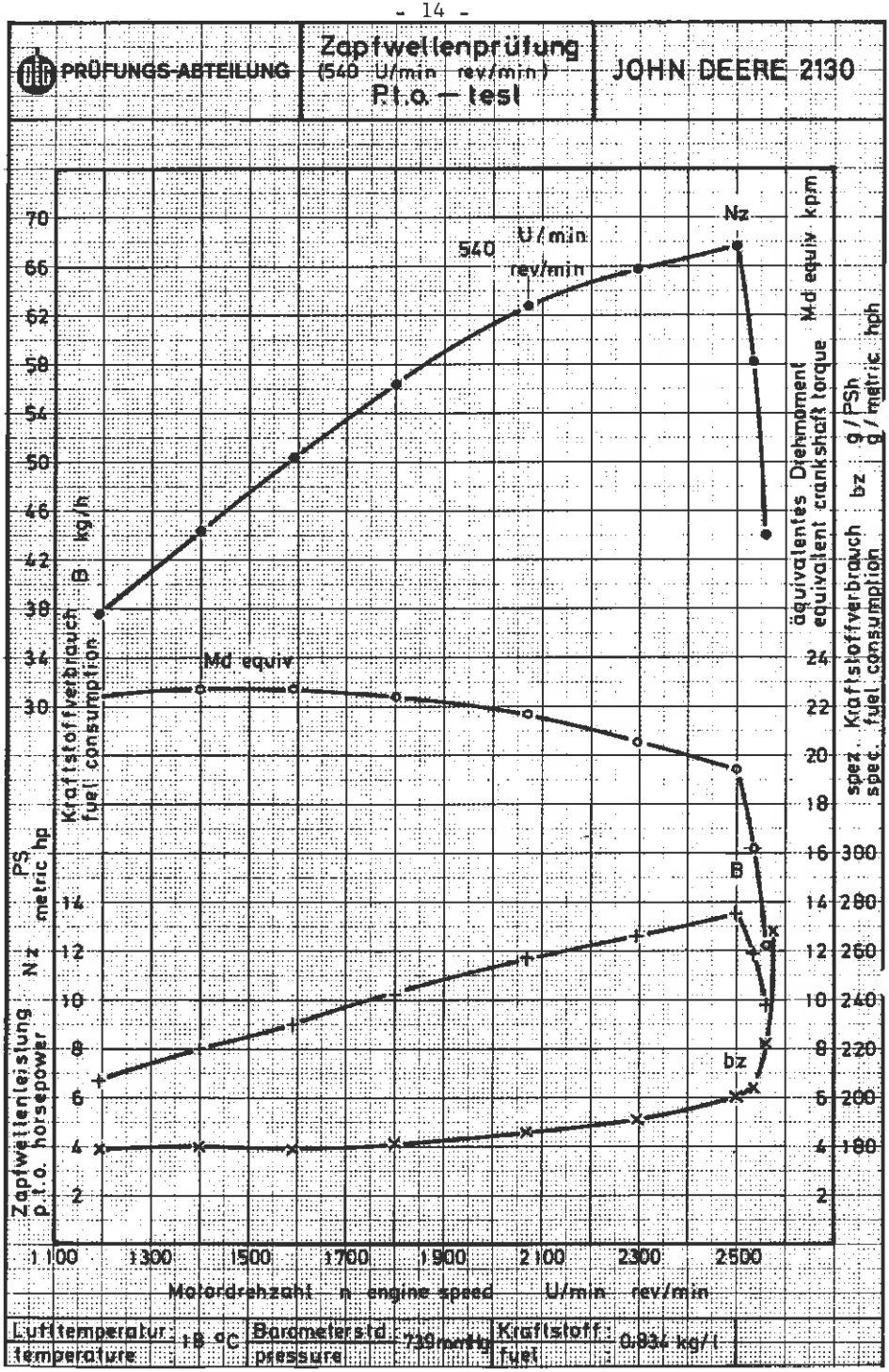
Power PS	Speed engine rev/min	Speed p.t.o. rev/min	Fuel consumption total 1/h	Fuel consumption total kg/h	Fuel consumption specific g/PSh	Specific energy PSh/l
At maximum power 2-hour test						
67,6	2500	652	16,21	13,52	200	4,17
At standard p.t.o. speed (540 rev/min)						
62,7	2072	540	14,00	11,68	186	4,48
At the speed recommended for drawbar work						
67,6	2500	652	16,21	13,52	200	4,17

Part loads

(i) 85% of the torque at maximum power						
58,2	2536	661	14,22	11,86	204	4,09
(ii) unloaded						
-	2605	679	4,86	4,05	-	-
(iii) 50% of the load defined in (i)						
29,5	2575	671	9,46	7,89	268	3,12
(iv) maximum power						
67,6	2500	652	16,21	13,52	200	4,17
(v) 25% of the load defined in (i)						
14,9	2590	675	7,24	6,04	405	2,06
(vi) 75% of the load defined in (i)						
44,0	2559	667	11,71	9,77	222	3,76

No load maximum engine speed: 2605 rev/min
Equivalent crankshaft torque at maximum power: 19,4 kpm
Maximum equivalent crankshaft torque: 22,7 kpm at 1400 rev/min of the engine

Mean atmospheric conditions:	temperature	18°C
	pressure	739 mm Hg
	relative humidity	53%
Maximum temperatures:	coolant	80°C
	engine oil	110°C
	fuel	21°C


PRÜFUNGS-ABTEILUNG
Zapfwellenprüfung
(540 U/min rev/min)
P.t.o. — test
JOHN DEERE 2130
Nz
540 U/min rev/min
Md equiv
B
bz
Zapfwellenleistung p.t.o. horsepower Nz metric hp PS
Kraftstoffverbrauch fuel consumption B kg/h
äquivalentes Drehmoment equivalent crankshaft torque Md equiv kpm
spez. Kraftstoffverbrauch spec. fuel consumption bz g/PSh g/metric hph
Motordrehzahl n engine speed U/min rev/min
1100 1300 1500 1700 1900 2100 2300 2500
Lufttemperatur temperature 18 °C
Barometerstd pressure 739 mmHg
Kraftstoff fuel 0,834 kg/l

PRÜFUNGS-ABTEILUNG
Zapfwellenprüfung
(540 U/min rev/min)
P.t.o. – test
JOHN DEERE 2130
spez. Kraftstoffverbrauch b e q/PSh
spec. fuel consumption g/metric hph
Md equiv
equivalentes Drehmoment
equivalent crankshaft torque
Md equiv kpm
Motordrehzahl
engine speed
U/min
rev / min
Kraftstoffverbrauch B fuel consumption
Zapfwellenleistung Nz p.t.o. horsepower PS metric hp
Lufttemperatur temperature °C
Barometerstd. pressure 739 mm Hg
Kraftstoff fuel 0,834 kg/l

PRÜFUNGS-ABTEILUNG
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(2) DRAWBAR PERFORMANCE

Date of tests: 13th till 20th October 1975
Type of track: Concrete

Gear No. and Group	Speed km/h	Power PS	Drawbar pull kp	Engine speed rev/min	Slip of wheels %	Specific energy PSh/l
(i) MAXIMUM POWER with ballast						
1 slow	1,65	26,3	4300	2583	15,0	2,75
1 fast	2,09	33,3	4300	2574	15,0	3,00
2 slow	2,35	37,4	4300	2569	15,0	3,17
2 fast	2,96	47,1	4300	2559	14,9	3,39
3 slow	3,38	54,0	4310	2500	15,0	3,37
3 fast	4,46	57,3	3470	2501	11,8	3,56
4 slow	4,99	55,6	3010	2499	10,2	3,45
4 fast	6,47	58,7	2450	2500	8,4	3,64
5 slow	6,03	58,5	2620	2500	8,8	3,62
5 fast	7,85	59,0	2030	2500	6,8	3,67
6 slow	8,89	58,6	1780	2499	6,0	3,64
6 fast	11,46	59,0	1390	2500	4,8	3,66
7 slow	13,52	57,1	1140	2500	3,6	3,54
(ii) FIVE-HOUR-TEST at 75% of pull at maximum power in 5th gear of slow group						
5 slow	6,24	45,5	1970	2528	6,6	2,91
(iii) FIVE-HOUR-TEST at pull corresponding to 15% wheel slip in test (i)						
3 slow	-	-	4310	2500	-	-
(v) MAXIMUM POWER without ballast						
2 fast	3,02	39,4	3520	2567	14,9	3,26
3 slow	3,50	45,8	3530	2554	15,0	3,34
3 fast	4,38	56,1	3460	2500	14,5	3,48
4 slow	4,95	55,7	3040	2500	11,9	3,46
4 fast	6,47	59,2	2470	2501	9,3	3,69
5 slow	6,02	58,6	2630	2500	9,9	3,64
5 fast	7,86	59,7	2050	2499	7,4	3,70
6 slow	8,94	58,9	1780	2500	6,6	3,65
6 fast	11,53	59,8	1400	2500	5,1	3,70
7 slow	13,58	58,3	1160	2500	4,2	3,61

Total oil consumption during ten hours duration of tests (ii) and (iii): 39 g/h

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Specific fuel consumpt. g/PSh	Temperatures Fuel °C	Coolant °C	Engine-oil °C	Atmospheric conditions Tempe-ratur °C	Relative humidity %	Pressure mm Hg
height of drawbar above ground 540 mm						
304	18	85	83	15	75	754
279	19	85	79	14	80	753
265	18	85	81	14	80	753
247	18	85	80	14	80	752
250	17	85	82	13	81	751
235	18	85	84	13	82	752
243	18	85	80	13	83	750
230	17	85	78	12	83	750
231	17	85	77	12	85	750
229	16	85	75	12	83	749
230	18	85	75	14	83	749
229	19	85	75	14	78	748
237	18	85	74	14	78	748
288	18	85	80	15	80	750
-	18	85	80	14	82	750
height of drawbar above ground 450 mm						
258	17	85	83	12	90	753
251	17	85	82	12	90	753
242	16	85	79	13	85	755
243	16	85	78	13	80	755
228	16	85	76	13	80	755
230	19	85	76	15	77	752
226	18	85	72	15	75	752
230	18	85	73	14	83	749
226	18	85	75	14	87	749
232	18	85	75	14	80	749

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

PRÜFUNGS-ABTEILUNG
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Test No. 75-108

(3) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 7,50-16 AS Front 6 ply
rear: 18,4/15-30 AS 8 ply

Track of wheels front: 1462 mm
rear: 1550 mm

	With brakes		Without brakes	
	left-hand m	right-hand m	left-hand m	right-hand m
Radius of turning space	3,55	3,35	3,95	3,75
Radius of turning circle	3,40	3,20	3,80	3,60

(4) LOCATION OF CENTRE OF GRAVITY

Height above ground	876 mm
Distance forward from the vertical plane containing the axis of the rear wheels	626 mm
Distance of the median plane of the tractor	0 mm

PRÜFUNGS-ABTEILUNG
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(5) BRAKING PERFORMANCE

A) FOOT BRAKE

Date of tests: 15th October 1975
Type of track: concrete
Type of decelerometer: MOTO-METER-Bremsverzögerungs- und Pedalkraftschreiber

Weight of ballasted tractor: 4675 kp with driver

Cold brakes

		with ballast	without ballast
Travelling speed	km/h	25,0	25,0
Deceleration	m/s^2	4,6	4,5
Stopping distance	m	6,6	6,7
Force on pedal	kp	63	42
Force on pedal to achieve a deceleration of 2,5 m/s^2	kp	30	25

Brake fade characteristics (hot tests)

Deceleration	hot/cold	%	100	110
Stopping distance	cold/hot	%	98	105
Force on pedal	cold/hot	%	100	95

B) PARK BRAKE

tractor facing up slope:
Pull on hand brake 6 kp, tractor does not roll

Tractor facing down slope:
Pull on hand brake 6 kp, tractor does not roll

PRÜFUNGS-ABTEILUNG
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(6) AMBIENT NOISE EMITTED BY THE TRACTOR

Date of test: 18th April 1975
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER type 2203

Results of test

Gear: 8th fast speed
Travelling speed before acceleration: 19,75 km/h
Sound level: 90 dB(A)

(7) NOISE AT THE DRIVER'S EAR LEVEL

Date of tests: 18th April 1975
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER type 2607
Type of frequency analyser: BRÜEL AND KJAER type 1614
(fitted with octave filter)

The tractor was fitted out with a FRITZMEIER safety frame

Results of tests

Gear	Drawbar pull at which the tractor develops the maximum sound level kp	Travelling speed nominal km/h	Travelling speed effective km/h	Sound level dB(A)
1 slow	3090	1,84	1,58	96
1 fast	3040	2,34	1,98	97
2 slow	3030	2,63	2,24	97
2 fast	3000	3,35	2,92	98
3 slow	3020	3,90	3,51	98
3 fast	2990	4,96	4,32	99
4 slow	2040	5,54	5,37	98,5
4 fast *	2310	6,94	6,73	99
5 slow	2150	6,49	6,34	98,5
5 fast	1660	8,25	8,27	99,5
6 slow	1470	9,26	9,31	99
6 fast	1250	11,79	11,91	99
7 slow	960	13,75	14,16	99
7 fast	840	17,50	17,98	99
8 slow	730	19,22	19,75	99,5
8 fast	light load	24,46	26,34	96

* The 4th fast gear corresponds to the travelling speed nearest to 7,5 km/h

(8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

Date of tests: 24th October 1975

HYDRAULIC PUMP

The tractor contains one oil 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 23 l/min.

Circuit of power lift

(1)	Sustained pressure with pump stalled	158	kp/cm²
(2)	Delivery rate at minimum pressure and maximum engine speed	20,3	l/min
(3)	Delivery rate	24,0	l/min
	Delivery pressure	131	kp/cm²
	Hydraulic power, power lift circuit only	7,0	PS

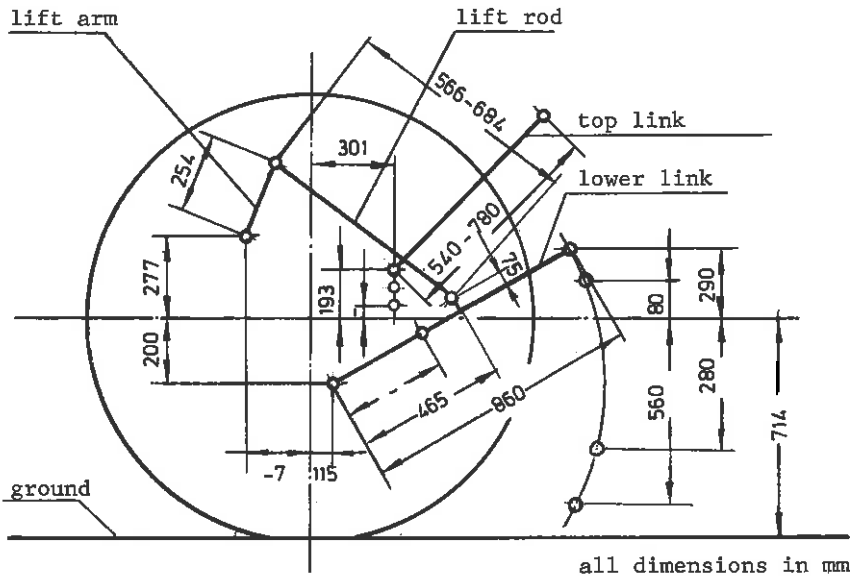
Main circuit through oil tapping

(1)	Sustained pressure with pump stalled	158	kp/cm²
(2)	Delivery rate at minimum pressure and maximum engine speed	50,0	l/min
(3)	Delivery rate	47,6	l/min
	Delivery pressure	141	kp/cm²
	Total hydraulic power power lift circuit included	14,9	PS

PRÜFUNGS-ABTEILUNG
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Test No. 75-108

Dimensions of implement linkage for the table on page 23



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	860 mm	860 mm
Lift arms	254 mm	254 mm
Lift rods	684 mm	566 mm
Top link	675 mm	675 mm
Distance of lift rod connection point from pivot point of lower link	465 mm	465 mm
The following dimensions are given relative to rear axle centre line 714 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, 193 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	80 mm above, 560 mm below	290 mm above, 280 mm below
Height of lower link hitch points above ground when locked in highest transport position	794 mm	1004 mm

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LIFTING FORCES

Lifting heights relative to horizontal lower links

mm	-360	-346	-300	-200	-100	-85	-80	0	+100
at hitch points	maximum mechanical advantage								
kp							1395	1590	1740
	minimum mechanical advantage								
kp	1230		1350	1520	1655			1760	1810

Max. force exerted throughout the whole range 1395 kp

Force at which front of tractor lifts with maximum allowable front ballast - kp

at test frame	maximum mechanical advantage								
kp		1325	1390	1500	1590			1635	1610
	minimum mechanical advantage								
kp						1315		1500	1590

Max. force exerted throughout the whole range 1325 kp

Force at which front of tractor lifts with maximum allowable front ballast - kp

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+200	+280	+300	+327	+400	+490	+500	+600	+620
lift rods 566 mm long								
1855		1965		2050	2090			
lift rods 684 mm long								
1845	1845							

lift rods 684 mm long

1570		1540	1540					
lift rods 566 mm long								
1600		1590		1535		1475	1400	1385

All values of forces for pressure at max. hydraulic power 131 kp/cm², see page 21; calculated from measurements at max. oil pressure 158 kp/cm²

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OPTIONAL TESTS

(1) ENGINE PERFORMANCE

Date of tests: 2nd and 3rd April 1975
Type of dynamometer: SCHENCK hydraulic dynamometer U1-30

Maximum power

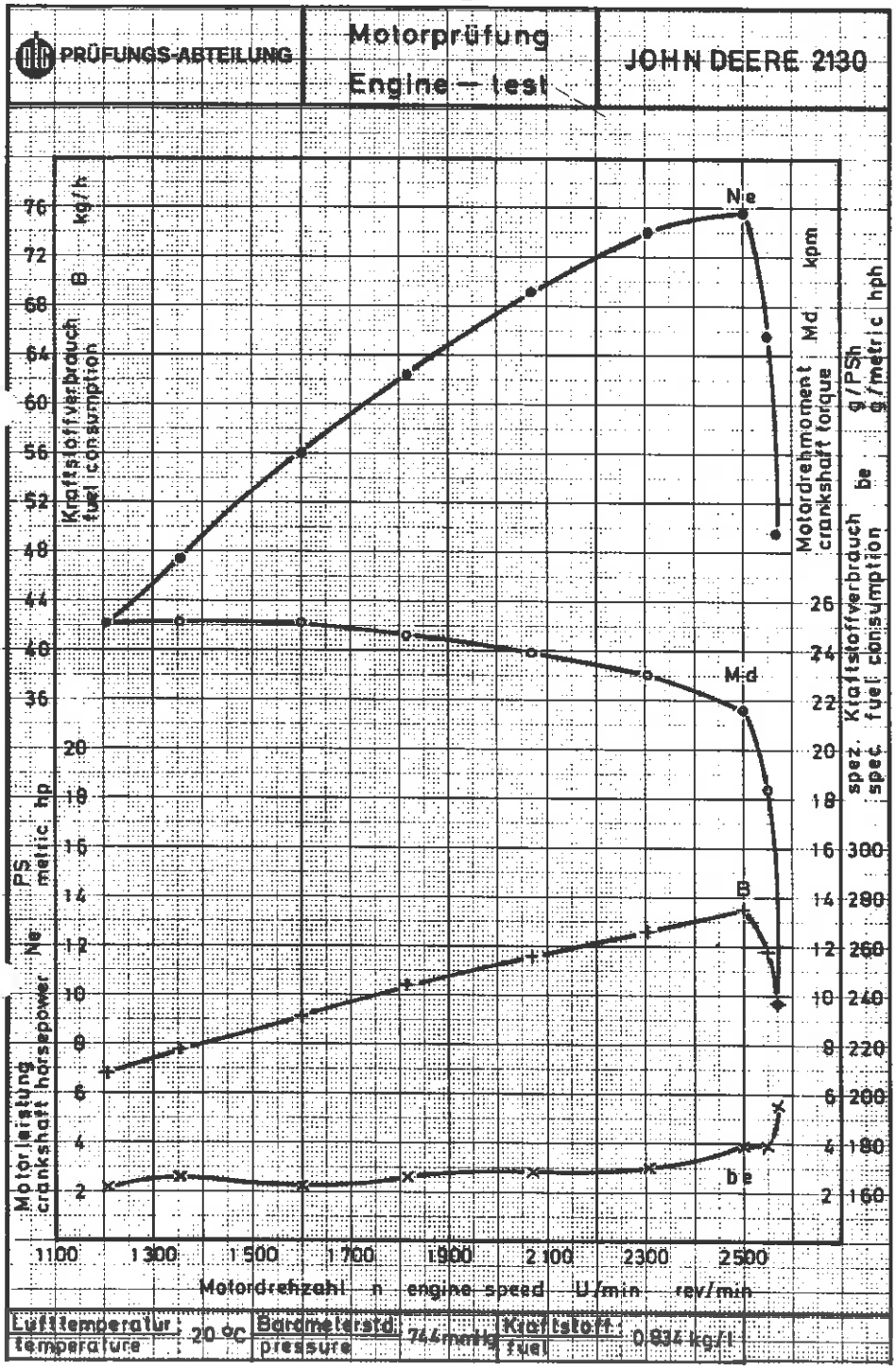
Power PS	Engine speed rev/min	Fuel consumption total 1/h	Fuel consumption total kg/h	Fuel consumption specific g/PSh	Specific energy PSh/l
At maximum power 2-hour test					
75,7	2500	16,24	13,54	179	4,65
At standard p.t.o. speed (540 rev/min)					
69,1	2070	13,90	11,59	168	4,97
At the speed recommended for drawbar work					
75,7	2500	16,24	13,54	179	4,65

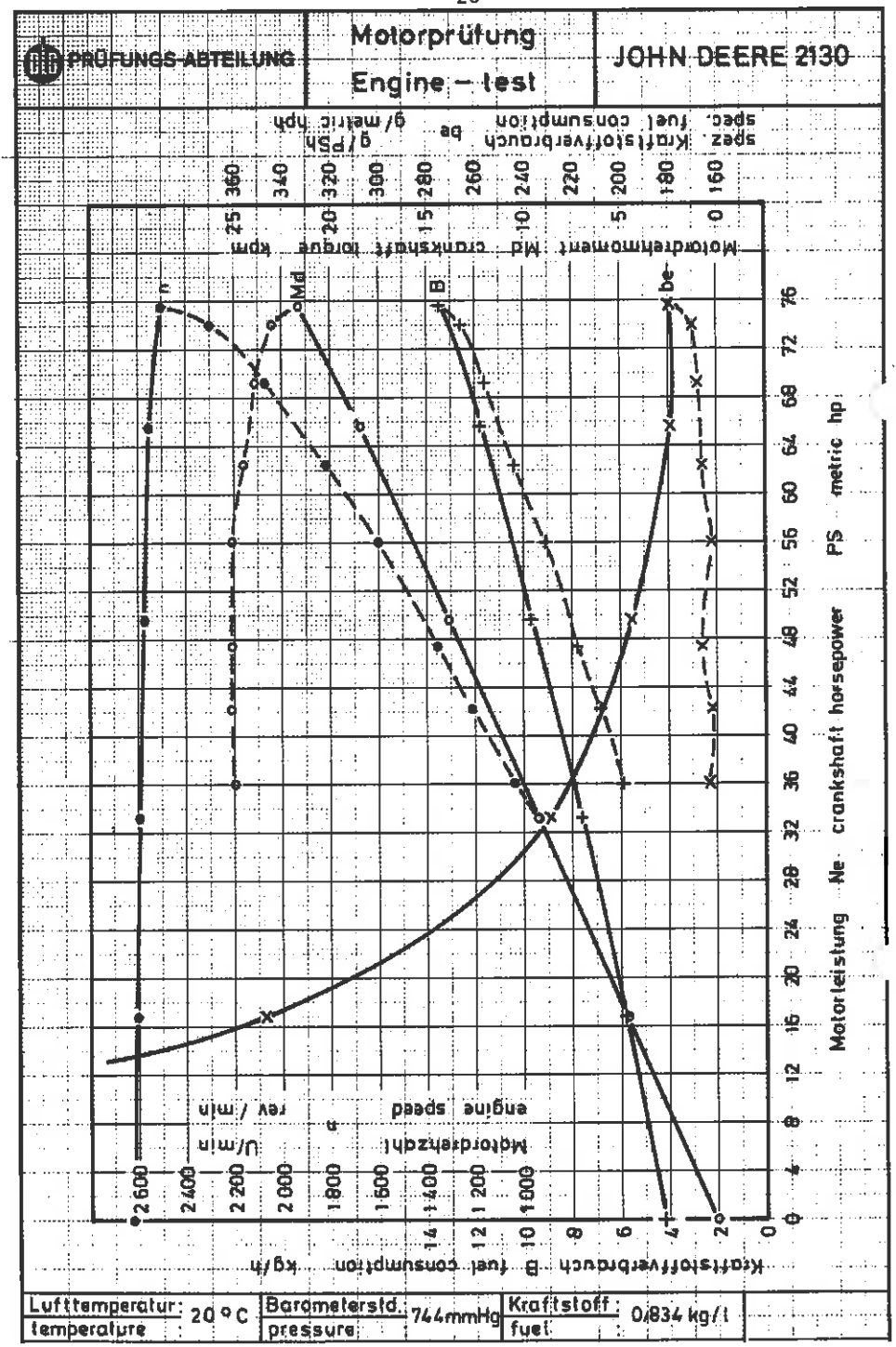
Part loads

(i) 85% of torque at maximum power					
65,6	2551	14,09	11,75	179	4,66
(ii) unloaded					
-	2621	4,98	4,15	-	-
(iii) 50% of the load defined in (i)					
33,1	2586	9,09	7,58	229	3,64
(iv) maximum power					
75,7	2500	16,24	13,54	179	4,65
(v) 25% of the load defined in (i)					
16,7	2603	6,95	5,80	347	2,40
(vi) 75% of the load defined in (i)					
49,6	2571	11,62	9,69	195	4,27

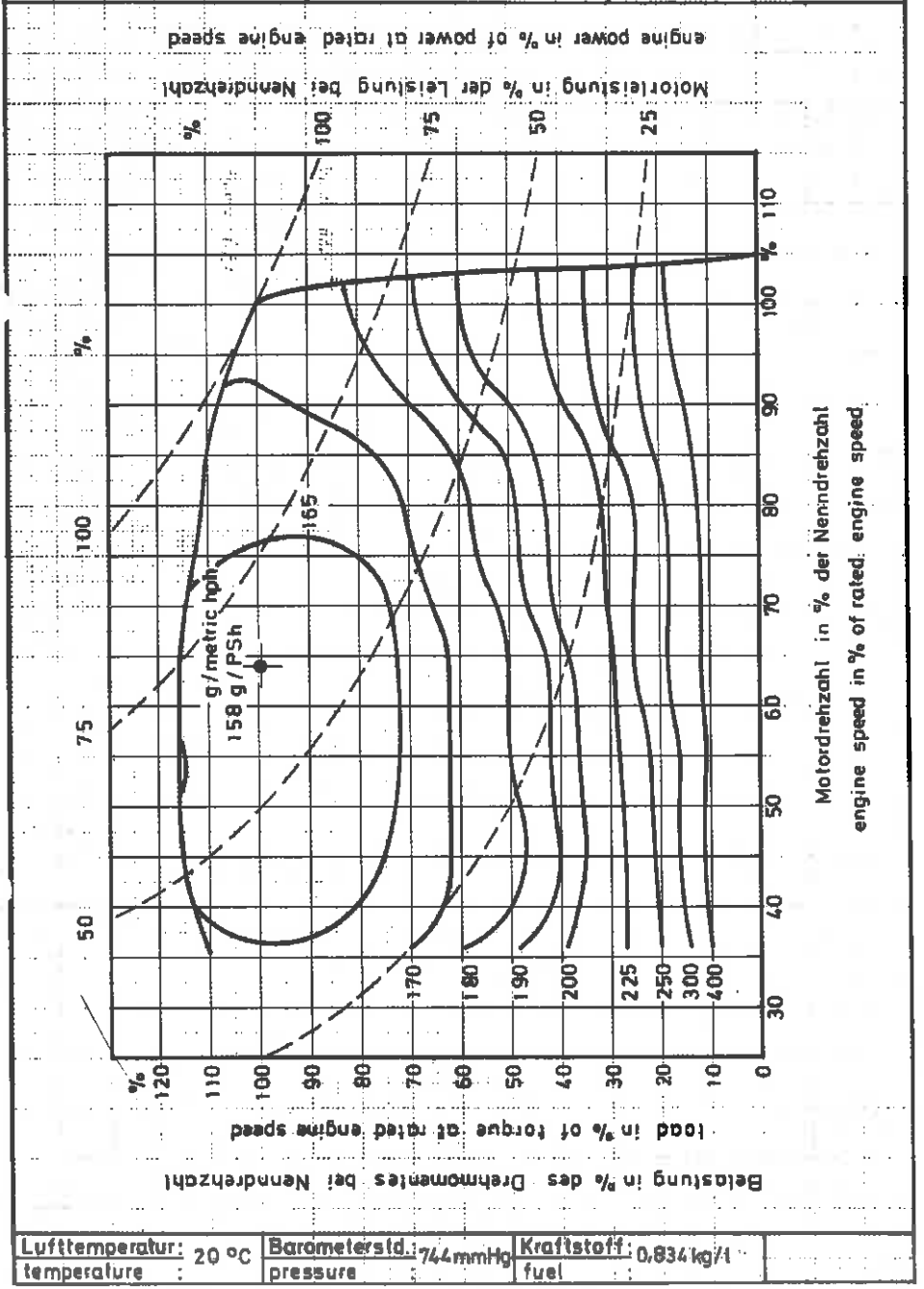
Optimum fuel consumption: 157 g/PSh at 56,0 PS and 1600 rev/min
Standard fuel consumption 1/2 (DIN 9606): 6,79/13,51 l/h
No load maximum engine speed: 2661 rev/min
Torque at maximum power: 21,6 kpm
Maximum torque: 25,6 kpm at 1355 rev/min of the engine

Mean atmospheric conditions:	temperature	20°C
	pressure	744 mm Hg
	relative humidity	50%
Maximum temperatures:	coolant	80°C
	engine oil	113°C
	fuel	26°C


PRÜFUNGS-ABTEILUNG
Motorprüfung
Engine — test
JOHN DEERE 2130
Ne
Md
B
be
Kraftstoffverbrauch B kg/h
fuel consumption
Motordrehmoment Md kpm
crankshaft torque
Motorleistung Ne PS metric hp
crankshaft horsepower
spez. Kraftstoffverbrauch be g/PSh
spec. fuel consumption g/metric hph
Motordrehzahl n engine speed U/min rev/min
1100 1300 1500 1700 1900 2100 2300 2500
Lufttemperatur temperature 20 °C
Barometerstd. pressure 744 mmHg
Kraftstoff fuel 0,832 kg/l


PRÜFUNGS-ABTEILUNG
Motorprüfung
Engine – test
JOHN DEERE 2130
spez. Kraftstoffverbrauch be g/PSh
spec. fuel consumption g/metric hph
Motordrehmoment Md kpm
crankshaft torque
Motorleistung Ne crankshaft horsepower PS metric hp
Kraftstoffverbrauch B fuel consumption kg/h
Motordrehzahl n
engine speed rev/min U/min
Lufttemperatur: 20 °C
temperature
Barometerstd. 744mmHg
pressure
Kraftstoff: 0,834 kg/l
fuel

PRÜFUNGS-ABTEILUNG	Motorprüfung Engine – test	JOHN DEERE 2130



Lufttemperatur: temperature :	20 °C	Barometerstd.: pressure :	744 mmHg	Kraftstoff: fuel :	0,834 kg/l

PRÜFUNGS-ABTEILUNG
John Deere 2130 Test No. 75-108

(2) MAIN POWER TAKE-OFF PERFORMANCE (1000 rev/min)

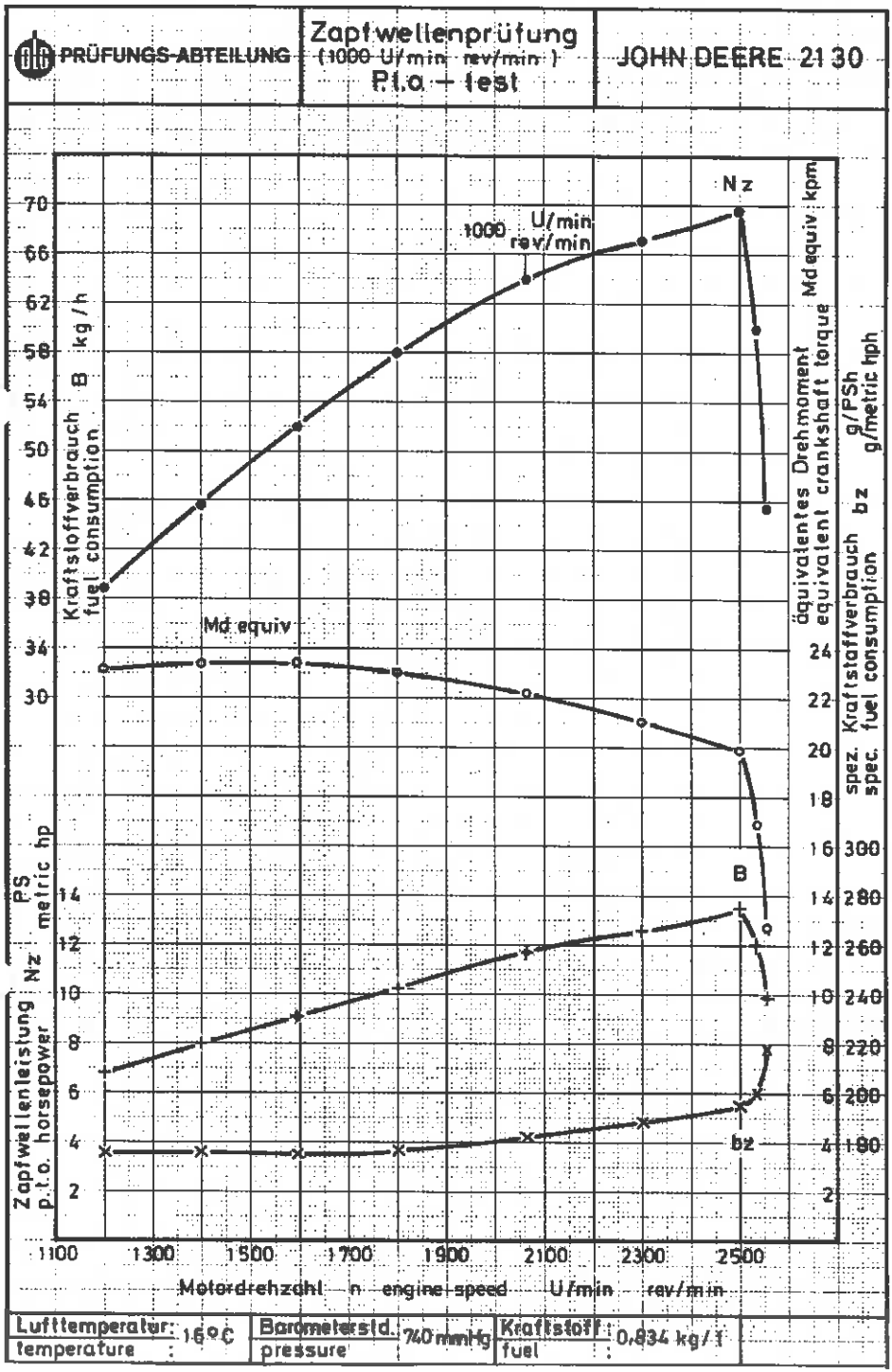
Date of tests: 8th April 1975
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

Maximum power

Power PS	Speed engine rev/min	Speed p.t.o. rev/min	Fuel consumption total l/h	Fuel consumption total kg/h	Fuel consumption specific g/PSh	Specific energy PSh/l
At maximum power 2-hour test						
69,6	2500	1210	16,24	13,48	194	4,04
At standard p.t.o. speed (1000 rev/min)						
64,0	2067	1000	13,97	11,65	182	4,58
At the speed recommended for drawbar work						
69,6	2500	1210	16,24	13,48	194	4,04
Part loads						
(i) 85% of the torque at maximum power						
60,0	2535	1226	14,38	11,99	200	4,17
(ii) unloaded						
-	2612	1264	5,34	4,45	-	-
(iii) 50% of the load defined in (i)						
30,4	2575	1246	9,48	7,91	260	3,21
(iv) maximum power						
69,6	2500	1210	16,24	13,48	194	4,04
(v) 25% of the load defined in (i)						
15,3	2594	1255	7,35	6,13	401	2,08
(vi) 75% of the load defined in (i)						
45,4	2555	1236	11,87	9,90	218	3,82

No load maximum engine speed: 2612 rev/min
Equvalent crankshaft torque at maximum power: 19,9 kpm
Maximum equivalent crankshaft torque: 23,4 kpm at 1400 rev/min of the engine

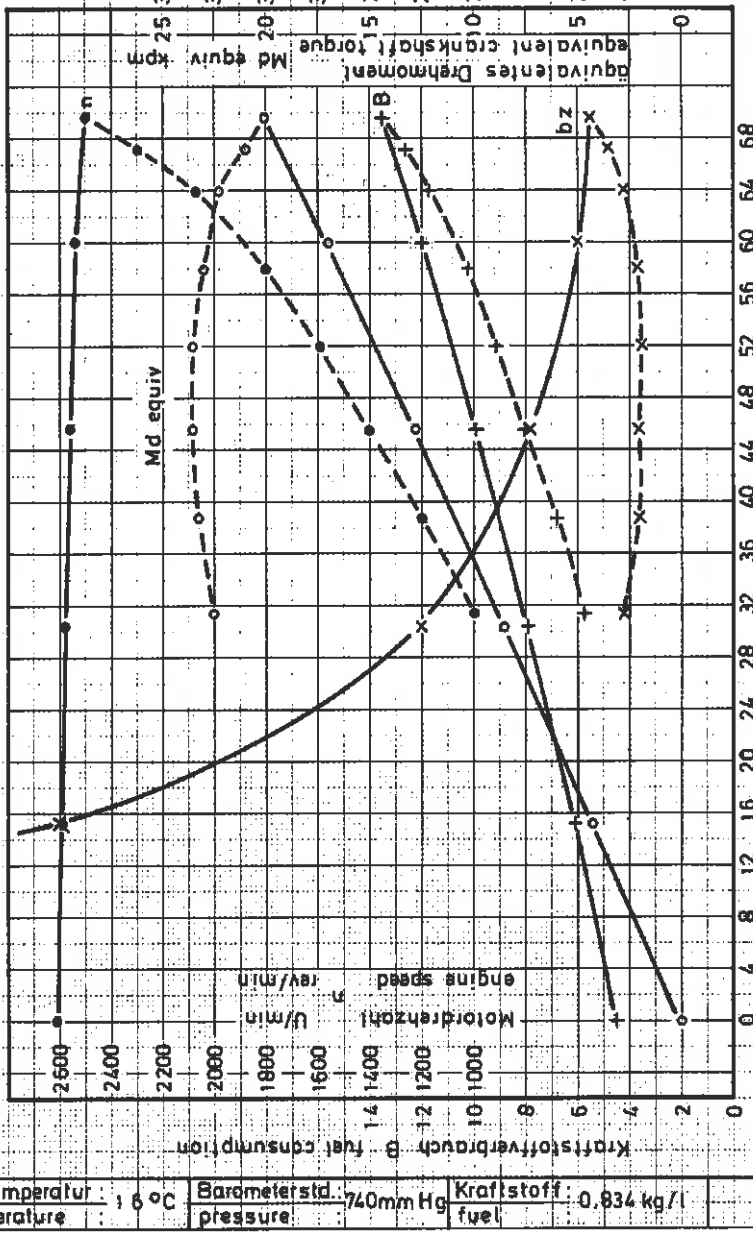
Mean atmospheric conditions:	temperature	16°C
	pressure	740 mm Hg
	relative humidity	66%
Maximum temperatures:	coolant	80°C
	engine oil	110°C
	fuel	22°C


PRÜFUNGS-ABTEILUNG
Zapfwellenprüfung
(1000 U/min rev/min)
P.t.o. – test
JOHN DEERE 2130
Nz
1000 U/min rev/min
Md equiv
B
bz
Kraftstoffverbrauch B kg/h
fuel consumption
Zapfwellenleistung Nz PS metric hp
p.t.o. horsepower
äquivalentes Drehmoment Md equiv kpm
equivalent crankshaft torque
spez. Kraftstaffverbrauch bz g/PSh
spec. fuel consumption g/metric hph
Motordrehzahl n engine speed U/min rev/min
1100 1300 1500 1700 1900 2100 2300 2500
Lufttemperatur: 16°C
temperature
Barometerstd. 740 mmHg
pressure
Kraftstoff: 0,834 kg/l
fuel

PRÜFUNGS-ABTEILUNG

Zapfwellenprüfung
(1000 U/min rev/min)
P.t.o. – test

JOHN DEERE 2130



Lufttemperatur / temperature : 16 °C	Barometerstd. / pressure : 740 mm Hg	Kraftstoff / fuel : 0,834 kg/l	