O.E.C.D. Report No.: 365

GEPRÜFT

PROT. Nr.

BUNDESVERSUCHS - UND PRÜFUNGSANSTALT
für landwirtschaftliche Maschinen und Geräte,
Wieselburg

Diesel-Tractor URSUS C-355 P

Manufactured by: Zakłady mechaniczne »URSUS«, Warszawy, Poland

Serial No: 365

Date of approval: 15th December 1971

Test No: 043/70

Date of Test: 15. 10. 1970

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. Test Code

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 an practical farm work.

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Tractor manufacturer:	ZAKŁADY mechaniczne URSUS, Warszawy, Poland
Submitted for test by:	MOTOIMPORT, Warszawy, Poland
Selected by:	Bundesversuchs- und Prüfungsanstalt für landwirtschaftliche Maschinen und Geräte, Wieselburg, Austria
Place of running-in:	Warszawy
Duration of running-in:	40 hours

SPECIFICATION OF TRACTOR

Tractor:

Make:	ZAKŁADY mechaniczne URSUS, Warszawy, Poland
Model:	URSUS C-355 P
Type:	Wheel tractor
Serial No.:	74766

Engine:

Make:	ZAKŁADY mechaniczne URSUS, Warszawy, Poland
Model:	S-4001
Type:	Water cooled 4-stroke Diesel engine, direct injection, toroidal chamber in the piston
Serial No.:	075051
Cylinders:	4, vertical in line, bore/stroke: 95/110 mm; capacity: 3119 cm^3; compression ratio: 17:1; arrangement of valves: overhead; wet replaceable cylinder liners
Fuel system:	Type of fuel feed: piston feed pump; fuel filter: strainer in the tank; dual chamber filter with felt and paper elements, make: ZAKŁADY sprzetu motoryzacyjnego (ZSM), model FVD-10 RP 1,8; capacity of fuel tank: 70 l; injection pump: FRIEDMANN & MAIER reciprocating pump P24T8-3a 71 BI FVR; handoperated wort pump V2 HF 01 A; manufacturer's production setting: 55 $\pm$ 2 mm^3/stroke at 1600 rev/min; injection timing 18° before TDC; injection nozzle: FRIEDMANN & MAIER multihole injection nozzle D1LMK 150/15, injection pressure: 160 kp/cm^2
Governor:	Make: FRIEDMANN & MAIER, type: centrifugal governor, model R8V20-120/74D; range of speed: 450 - 2200 rev/min, rated engine speed: 2000 rev/min
Air cleaner:	Make: ZAKŁADY sprzetu motoryzacyjnego (ZSM); model: VT-251, type: oil bath centrifugal filter; oil capacity: 1,3 l
Lubrication system:	Forced feed from gear type pump; type of filter: centrifugal full flow filter: oil capacity: app.9 l; change period: 100 hours.

	recommended oil in summer: SAE 30 in winter: SAE 20
Cooling system:	Water circulation by water pump; thermostat for temperature control; cooling water capacity: appr. 11 l; temperature indicator
Starting system:	Electrical; make: ELMOT R 70 12/4 2000, 12 V, 4 hp; aids for cold starting: none

Electrical system:

Voltage:	12 V
Generator:	ELMOT 12/12/2400, 12 V, 13 A, 150 W; direct current
Battery:	ZAP 3SE 190 SE-acid battery, 2 x 6 V, 190 Ah

Transmission:

Clutch:	Make: URSUS; type: dry dual disk type clutch for travelling gear and engine p.t.o.; model: 280/280 FERODO; foot pedal operated
Gearbox:	Make: URSUS, type: change gear, 10 forward speeds and 2 reverse speeds (5 forward and 1 reverse gearbox, plus a reduction gearbox)
Rear axle and final drive:	Make: URSUS, type: central axle, bevel gear drive with Oerlikon cut, acting by planetary gear and intermediate gear on rear wheels; differential lock: lockable bevel differential gear in the rear axle
Oil capacity:	Gearbox and rear axle: appr. 31 l; final drive: appr. 2,5 l each (SAE 80); change period: 800 h

Gear No.	Number of engine revolutions for one revolution of the driving wheel	Nominal travelling speed for 2000 rev/min rated speed of engine
1.	424,70	1,13 km/h
2.	285,50	1,67
3.	204,78	2,34
4.	133,41	3,59
5.	79,78	5,99
6.	99,21	4,82
7.	66,70	7,17
8.	47,83	9,99
9.	31,20	15,34
10.	18,68	25,60
1.R.	325,49	1,47
2.R.	76,04	6,29

Main power take-off:

Location:	At rear of tractor, in median plane of tractor; height above ground: 633 mm
Dimensions:	29 x 34,9 x 8,7 = 1 3/8", DIN 9611 Form A; 6 splines
Type of drive:	Engine p.t.o. and gear p.t.o.

Speed:	Independent on gear 541,6 rev/min at rated engine speed 2000 rev/min, 1994 rev/min at standard p.t.o. speed 540 rev/min; direction of rotation: clockwise viewed from driving end
	Dependent on gear 227,7/338,8/472,1/724,7/1210,5/297,2 rev/min at 2000 rev/min engine speed; direction of rotation: clockwise viewed from driving end except for the reverse gear
Ground speed:	Travelling distance for 1 revolution of ground speed p.t.o. 0,0838 m, gear ratio between driving wheel and p.t.o.: 1 : 48,3; direction of rotation: clockwise viewed from driving end at tractor in forward gear
<u>Belt pulley:</u>	
Location:	At rear of tractor; driving device attached to p.t.o.; manually engaged
Dimensions:	250 mm dia, 150 mm width
Speed:	Measured at change gear: 216/322/449/680/1153/282 rev/min at rated engine speed 2000 rev/min
Belt speed:	1153 rev/min at 2000 rev/min rated engine speed; linear belt speed 905 m/min (15 m/s)
Direction of rotation:	clockwise viewed from driving end
<u>Power lift:</u>	Make: ARCHIMEDES, Wroclaw, Poland; type: hydraulic power lift with internal and external cycle; oil capacity: 31 l (oil volume in the gearbox); kategorie I and II; control for tractive resistance, position control and floating position
	(Acc. to manufacturer's specification: working pressure 120 kp/cm^2; pump delivery at 1200 rev/min = 20 l (at rated engine speed 2000 rev/min))
<u>Pull attachments:</u>	
Drawbar:	Fixed on three point implement linkage; height above ground: max. 805 mm, min.220 mm; method of changing position: adjustable by power lift; distance from rear axle: 880 mm (lower links in horizontal position); distance from p.t.o. in horizontal position: 620 mm; perforation: 15 holes with 40 mm distance, 21,5 mm dia
Inflexible drawbar with swinging drawbar:	Height above ground: 430 mm; distance from rear axle: 410 mm; distance from p.t.o. in horizontal position: 155 mm; perforation: 5 holes with 64 mm distance, 27,5 mm dia

Trailer hitch: Height above ground: 630/705/795 mm, changed by trailer hitch case; distance from rear axle: 480/510/520 mm; distance from p.t.o. in horizontal position: 230/260/260 mm

Towing hitch: Height above ground: 650 mm; distance from front axle: 170 mm

Steering: Make: URSUS; type: worm roller steering; method of operation: by hand wheel; oil capacity: 1,6 l

Brakes: Make: URSUS; type: hydraulic shoe brake intependent acting on both rear wheels; method of operation: by foot pedal; type of parking brake: strap brake acting on rear wheels; method of operation: by hand lever

Wheels:

Steering wheels: Two at front; type of tyres: tractor front wheel tyres; size: 6,00-18; ply rating: 6; maximum permissible weight on each tyre: 510 kp at 2,0 kp/cm^2 pressure; track width: 1350/1750 mm; method of changing: sliding tube-axle

Driving wheels: Two at rear; type of tyres: tractor driving wheel tyres; size: 14,9/13-28; ply rating: 6; maximum permissible weight on each tyre: 1690 kp at 1,3 kp/cm^2 pressure; track width: 1350/1425/1500/1575/1725/1800 mm; changed by reversing wheels and offset lugs on rims; wheel base: 2140 mm

Weights:

Tractor (without driver but with tanks full) with fitted cab

	Front kg	Rear kg	Total kg
Without ballast	736	1465	2201
With ballast	914	2039	2953

Ballast

	No. of weights	Total weight kg	Water kg
Front	2 + 6	178	-
Rear	8	274	300

Seat: Make: URSUS; type: mould seat of pressed plate; suspension: parallelogram; damping: adjustable frictional damping; three adjustments by screwing; axial adjustment: 90 mm

Number of grease points: (whole tractor): 13

Overall dimensions:

	Length m	Width m	Height m
With ballast	3,25	1,80*)	2,23
Without ballast	3,25	1,80*)	2,23

*) at 1425 mm track of the rear wheels

Lighting:

	Height above ground of centre cm	Diameter cm	Distance from outside edge of tractor to centre cm
Head lights	103,5	14	50
Side lights	144	7 x 6	15
Rear lights	115	14 x 5,8	20
Reflectors	111	5	10

Pneumatic brake for trailer:

Compressor: Make: ZAKŁADY mech. Tarnów; model: WS 11; 1 cylinder; bore/stroke: 65/42 mm; capacity at 1000 rev/min: 5,5 - 5,8 m^3/h; nominal pressure: 6 kp/cm^2; engaged by handlever; tyre pump equipment

Air box: Make: MZM; model: 20 b BN-65/3617-05; capacity: 20 l; pressure: 8 kp/cm^2; working pressure for trailer braking: 4,8 - 5,3 kp/cm^2

FUELS AND LUBRICANTS USED IN TESTS

Laboratory and track tests: Fuel: ELAN Diesel fuel, specific gravity at 15°C: 0,840 kp/l, Cetane No. 46,8 (quality corresponds with DIN 51601);
Engine oil: BP Tractor oil UNIVERSAL SAE 30;
Transmission oil: BP Tractor oil UNIVERSAL SAE 30;
Hydraulic oil: BP Tractor oil UNIVERSAL SAE 30

COMPULSORY TESTS

(1) MAIN-POWER-TAKE-OFF PERFORMANCE

Date and location of tests: 21st May 1970, Wieselburg

Type of dynamometer: Siemens-Schuckert pendulum generator G 273/15

Horsepower	Speed		Fuel consumption		
	Engine	p.t.o.	Hour	Specific	Specific
(metric hp)	rev/min	rev/min	l/h	g/metric hph	metric hph/l
MAXIMUM POWER - 2 hours test					
48,05	2000	542	11,58	202	4,15
STANDARD p.t.o. SPEED (540/1000 rev/min)					
48,3	1994	540	11,61	202	4,16
THE SPEED RECOMMENDED BY THE MANUFACTURER FOR DRAWBAR WORK					
48,3	2000	542	11,61	202	4,16
PART LOADS					
(i) 85% of torque at maximum power					
42,25	2050	556	9,91	197	4,26
(ii) unloaded					
0	2190	593	2,74	-	-
(iii) 50% of the load defined in (i)					
25,7	2125	576	6,76	221	3,80
(iv) maximum power					
48,3	2000	542	11,61	202	4,16
(v) 25% of the load defined in (i)					
13,02	2165	587	4,84	312	2,69
(vi) 75% of the load defined in (i)					
37,9	2075	562	9,02	200	4,20

No load maximum engine speed: 2190 rev/min

Torque*) at maximum power: 17,35 kpm

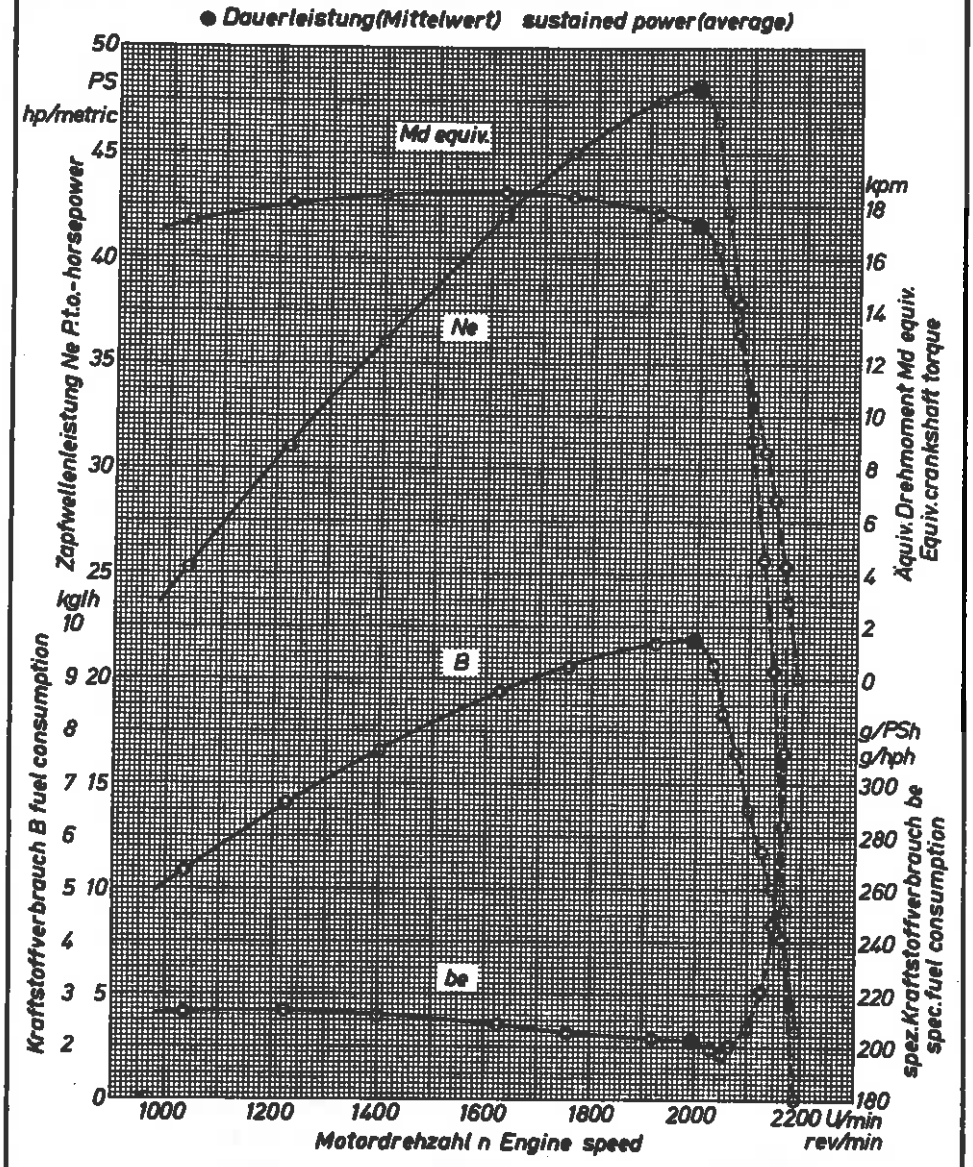
Maximum torque*): 18,51 kpm at 1625 rev/min of the engine

Means atmospheric conditions
- temperature: 24°C (asp.temp. 21°C)
- pressure: 736/738 mm Hg
- relative humidity: 60 %

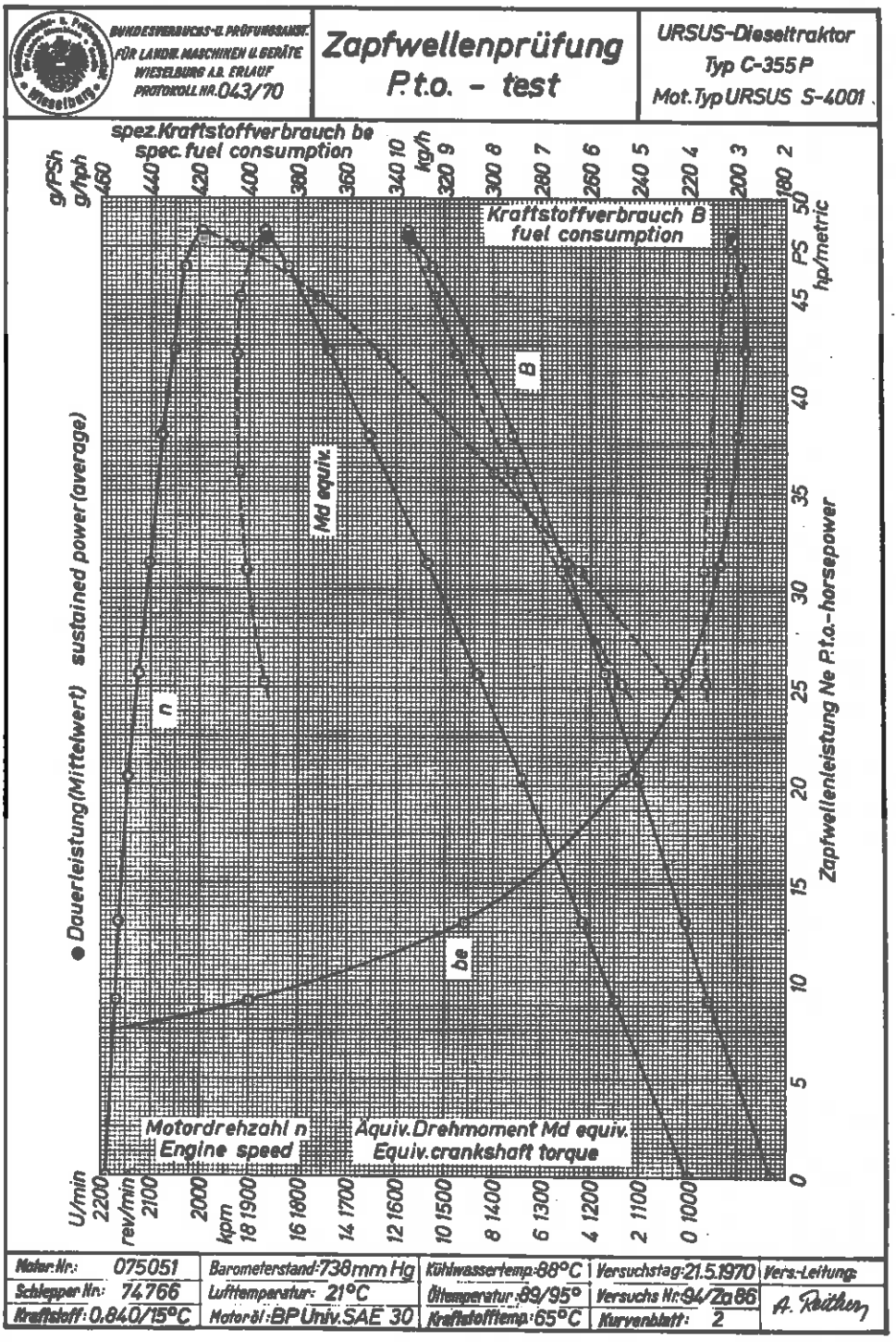
Maximum temperature
- coolant: 89°C
- engine oil: 100°C
- fuel: 67°C

*) The torque reported is the equivalent crankshaft torque

BUNDESVERSUCHS- U. PRÜFWESEN FÜR LANDW. MASCHINEN U. GERÄTE WIESELBURG A.D. ERLAUF PROTOKOLL NR. 043/70	**Zapfwellenprüfung P.t.o. - test**	URSUS-Dieseltraktor Typ C-355P Mot. Typ URSUS S-4001



Mähr. Nr.: 075051	Barometerstand: 738 mm Hg	Kühlwassertemp.: 88°C	Versuchstag: 21.5.1970	Vers.-Leitung:
Schlepper Nr.: 74766	Lufttemperatur: 21°C	Öltemperatur: 89/95°	Versuchs Nr.: 94/Za 86	A. Reitlinger
Kraftstoff: 0,840/15°C	Motoröl: BP Univ. SAE 30	Kraftstofftemp.: 65°C	Kurvenblatt: 1	


BUNDESVERBAUCHS- U. PRÜFUNGSANST. FÜR LANDW. MASCHINEN U. GERÄTE WIESELBURG A.D. ERLAUF
PROTOKOLL NR. 043/70
Zapfwellenprüfung
P.t.o. - test
URSUS-Dieseltraktor
Typ C-355 P
Mot. Typ URSUS S-4001
spez. Kraftstoffverbrauch be
spec. fuel consumption
g/PSh
g/hph
kg/h
Kraftstoffverbrauch B
fuel consumption
PS
hp/metric
Dauerleistung (Mittelwert) sustained power (average)
Zapfwellenleistung Ne P.t.o.-horsepower
Md equiv.
B
n
be
Motordrehzahl n
Engine speed
Äquiv. Drehmoment Md equiv.
Equiv. crankshaft torque
U/min
rev/min
kpm
Motor-Nr.: 075051
Schlepper Nr.: 74.766
Kraftstoff: 0.840/15°C
Barometerstand: 738 mm Hg
Lufttemperatur: 21°C
Motoröl: BP Univ. SAE 30
Kühlwassertemp.: 88°C
Öltemperatur: 89/95°
Kraftstofftemp.: 65°C
Versuchstag: 21.5.1970
Versuchs Nr.: 94/Za 86
Kurvenblatt: 2
Vers.-Leitung:
A. Reither

(2) DRAWBAR PERFORMANCE

Date of tests: 11th to 17th June 1970

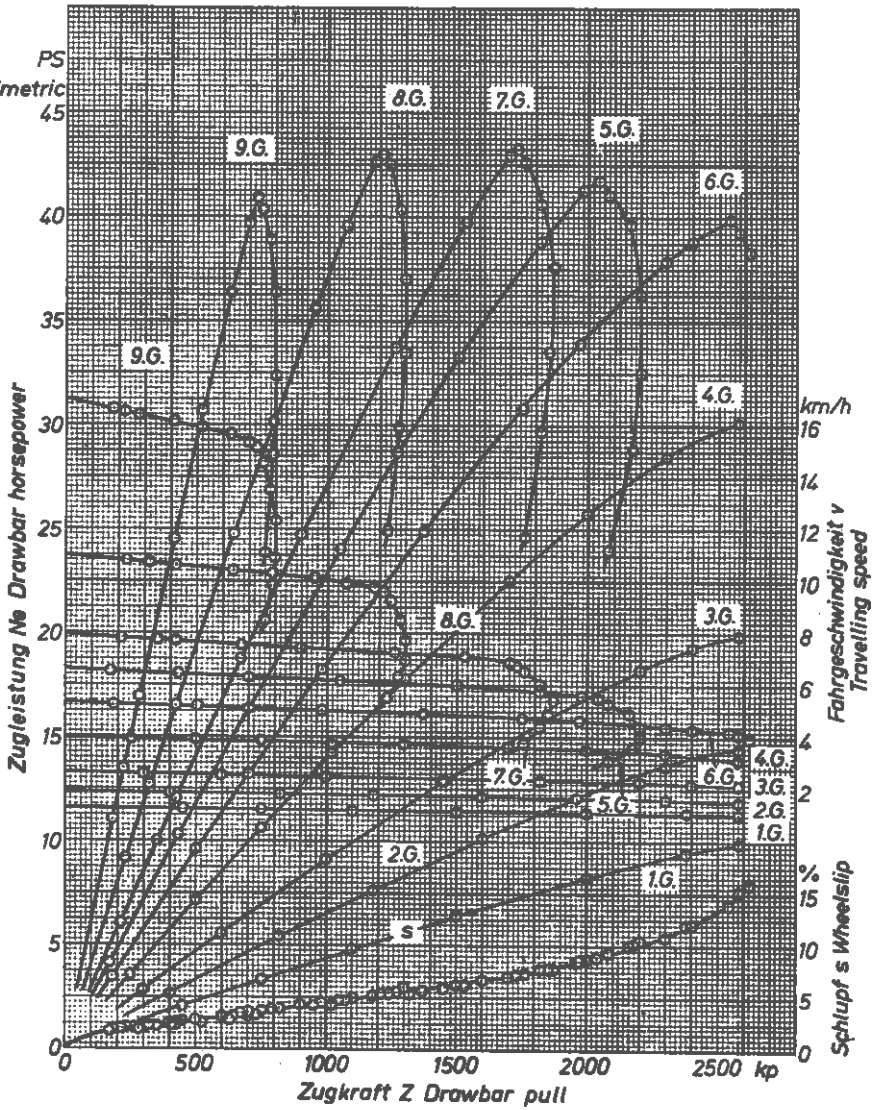
Type of track: concrete

Height of drawbar above ground: 580 mm with ballast, 680 mm without ballast

Gear No. Group	Trav. speed	Horse-power (metric)	Drawbar pull	Engine speed	Slip of wheels	Fuel Consumption		Temperatures			Atmospheric conditions		
						Metric drawbar	Specific	Fuel	Coolant	Engine oil	Tempe-rature	Relative humidity	Pressure
	km/h	hp	kp	rev/min	%	hph/l	g/hph	°C	°C	°C	°C	%	mm Hg
(i) MAXIMUM POWER (ballasted)													
1.	1,03	9,87	2580	2130	15,0	-	-	50	82	80	26	62	738
2.	1,51	14,45	2580	2100	15,1	-	-	50	82	80	26	60	738
3.	2,08	19,9	2580	2070	15,0	-	-	48	80	80	25	65	738
4.	3,15	30,1	2580	2040	15,0	2,63	320	48	80	80	25	65	738
6.	4,23	39,80	2540	2010	13,8	3,345	251	50	80	82	27	64	739
5.	5,52	41,70	2040	1995	8,9	3,505	240	50	80	82	27	64	739
7.	6,75	43,25	1730	2000	7,1	3,640	231	48	79	82	27	65	739
8.	9,60	43,0	1210	2000	5,3	3,620	232	46	78	80	26	65	739
9.	15,11	40,9	730	2010	3,1	3,460	243	46	78	80	26	68	739
(ii) FIVE HOUR TEST at 75% of pull at maximum power													
7.	7,20	34,65	1300	2080	4,8	3,55	237	52	82	86	25	68	738
(iii) FIVE HOUR TEST at pull coerresponding to 15% wheelslip in test (i)													
6.	4,14	39,85	2600	1990	14,9	3,315	253	56	85	92	26	56	739
(v) MAXIMUM POWER (unballasted)													
5.	5,50	37,65	1850	2040	12,3	3,37	249	48	80	82	26	64	740
7.	6,57	41,85	1720	2000	10,5	3,515	239	48	78	80	25	65	740
8.	9,54	42,75	1210	2000	7,0	3,60	233	47	75	80	25	62	740
9.	15,0	41,1	740	2000	4,4	3,454	243	45	72	78	24	60	740

BUNDESVERSUCHS- U. PRÜFUNGSANST. FÜR LANDW. MASCHINEN U. GERÄTE WIESELBURG A.D. ERLAUF PROTOKOLL NR. 043/70	**Zugprüfung Drawbar-test**	URSUS-Dieseltraktor Typ C-355P Mot. Typ URSUS S-4001

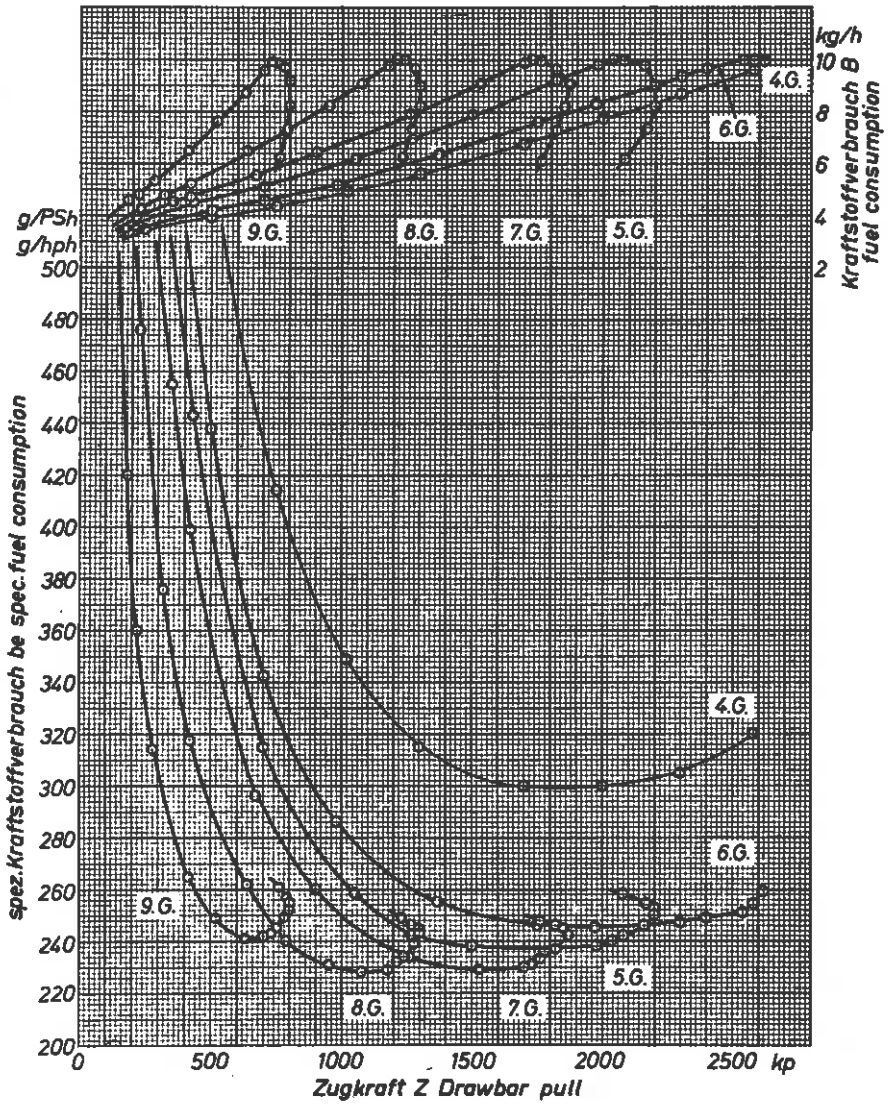
mit Ballast with ballast



Motor-Nr.: 075051	Barometerstand: 739 mm Hg	Kühlwassertemp.: 78-80°	Versuchstag: 17.6.1970	Vers.-Leitung:
Schlepper Nr.: 74766	Lufttemperatur: 26-27°C	Öltemperatur: 80-82°	Versuchs Nr.: 941Zu 462-466	
Kraftstoff: 0.840/15°C	Motoröl: BP Univ. SAE 30	Kraftstofftemp.: 45-50°	Kurvenblatt: 3	A. Reitter

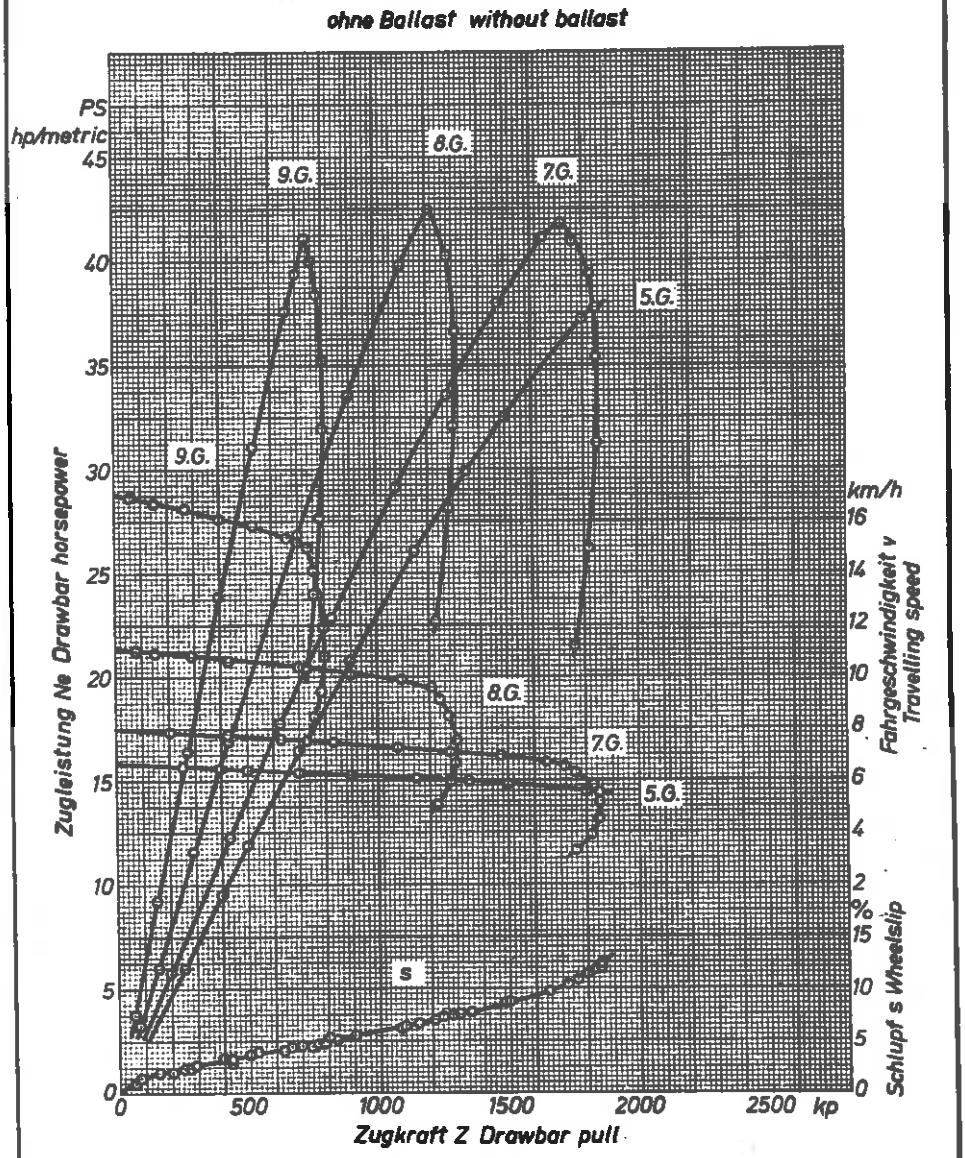
BUNDESVERSUCHS- U. PRÜFUNGSANST. FÜR LANDW. MASCHINEN U. GERÄTE WIESELBURG A.D. ERLAUF PROTOKOLL NR. 043/70	**Zugprüfung Drawbar-test**	URSUS-Dieseltraktor Typ C-355 P Mot. Typ URSUS S-4001

mit Ballast with ballast



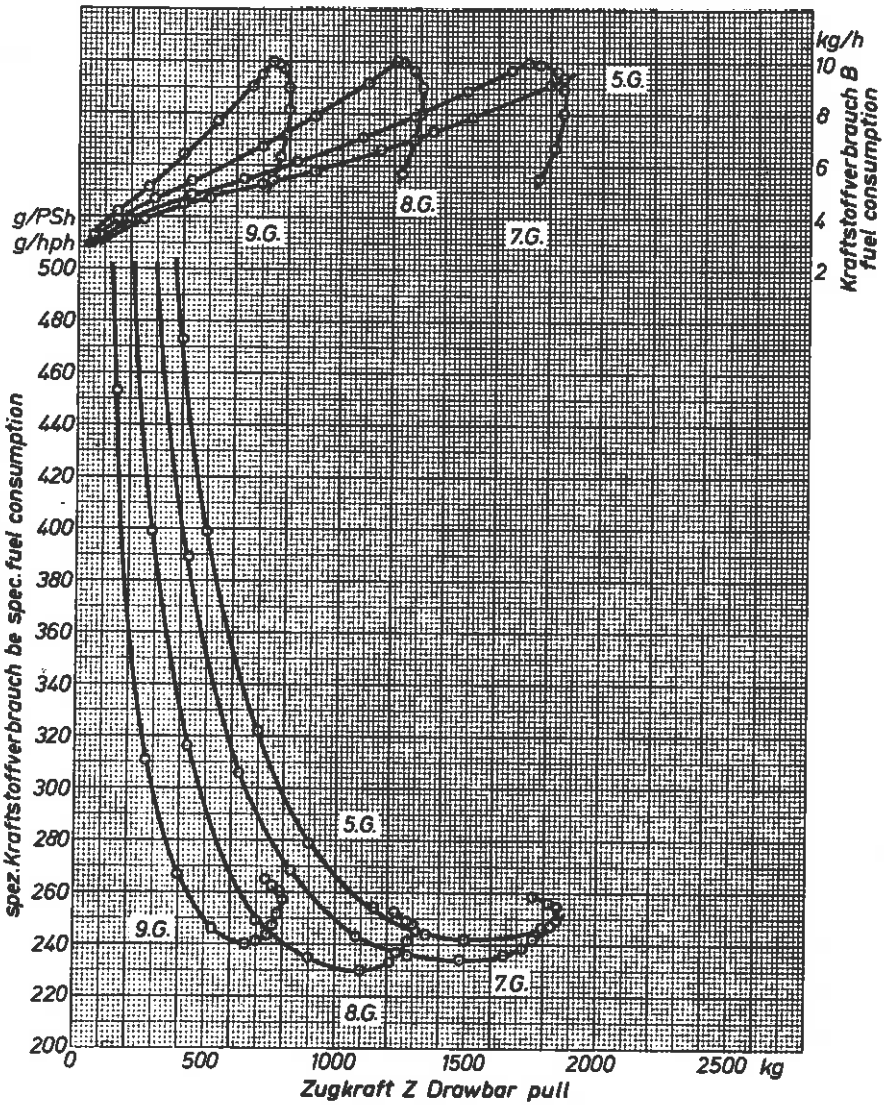
Motor-Nr.: 075051	Barometerstand: 739 mm Hg	Kühlwassertemp.: 78-80°	Versuchstag: 17.6.1970	Vers.-Leitung:
Schlepper-Nr.: 74.766	Lufttemperatur: 26-27°C	Öltemperatur: 80-82°	Versuchs Nr.: 94/Zu 462-466	
Kraftstoff: 0.840/15°C	Motoröl: BP Univ. SAE 30	Kraftstofftemp.: 46-50°	Kurvenblatt: 4	A. Reither

BUNDESVERSUCHS- U. PRÜFUNGSANST. FÜR LANDW. MASCHINEN U. GERÄTE WIESELBURG A.D. ERLAUF PROTOKOLL NR. 043/70	**Zugprüfung Drawbar-test**	URSUS-Dieseltraktor Typ C-355 P Mot. Typ URSUS S-4001



Motor-Nr.: 075051	Barometerstand: 740 mm Hg	Kühlwassertemp: 72-80°	Versuchstag: 15.6.1970	Vers.-Leitung:
Schlepper Nr.: 74766	Lufttemperatur: 24-26° C	Öltemperatur: 78-82° C	Versuchs Nr: 94/Zu 458-461	
Kraftstoff: 0.840/15° C	Motoröl: BP Univ. SAE 30	Kraftstofftemp: 45-48°	Kurvenblatt: 5	A. Reuther

BUNDESVERSUCHS- U. PRÜFUNGSANST. FÜR LANDW. MASCHINEN U. GERÄTE WIESELBURG A.D. ERLAUF PROTOKOLL NR. 043/70	**Zugprüfung Drawbar - test**	URSUS-Dieseltraktor Typ C-355 P Mot. Typ URSUS S-4001



Motor Nr.: 075051	Barometerstand: 740 mm Hg	Kühlwassertemp.: 72-80°	Versuchstag: 15.6.1970	Vers.-Leitung:
Schlepper Nr.: 74766	Lufttemperatur: 24-26°C	Öltemperatur: 78-82°C	Versuchs Nr.: 94/Zu 458-461	
Kraftstoff: 0.840/15°C	Motoröl: BP Univ. SAE 30	Kraftstofftemp.: 45-48°	Kurvenblatt: 6	A. Reither

(3) TURNING SPACE AND TURNING CIRCLE

Details of wheel equipment-front: 6,00-18, 6 ply, without ballast
rear: 14,9/13-28, 6 ply, without ballast

Track of wheels-front: 1350mm rear: 1425mm

Results	With brakes		Without brakes	
	right-hand	left-hand	right-hand	left-hand
	m	m	m	m
Radius of turning space	3,19	3,36	3,91	3,99
Radius of turning circle	3,10	3,27	3,82	3,90

(4) LOCATION OF CENTRE OF GRAVITY

	Without ballast mm
Height above ground	910
Distance forward from the vertical plane containing the axis of the rear wheels	699
Distance from the median plane	0

(5) BRAKING

Date of tests: 16th June 1970

Type of track: concrete

Type of decelerometer: Recorder for deceleration and force on pedal MOTOMETER No. 03382, Tüv-Typ-Prüf.-Nr. 04/ Stuttgart

Weight of ballasted tractor: 2953 kp

COLD BRAKES

	Ballasted	Without ballast
Travelling speed of the tractor	25 km/h	25 km/h
(i) Deceleration (m/s^2)	5,1	5,1
(ii) Stopping distance (m)	7,5	8,4
(iii) Force exerted on the brake pedal (kp)	25	15
(iv) Force exerted on the brake pedal to achieve a deceleration of 2,5 m/s^2 (kp)	13	9

Brake fade characteristics (hot test)

Deceleration:	hot/cold x 100	98 %
Stopping distance:	cold/hot x 100	102 %
Force on pedal:	cold/hot x 100	88 %

Parking brake:

Efficiency of handbrake at 16 % facing up and facing down slope:
pull on handbrake: 25 kp

(6) MEASUREMENT OF AMBIENT NOISE EMITTED BY THE TRACTOR

Date of test: 19th June 1970

Type of sound level meter: Precisions Sound Level Meter Type 2203 Brüel & Kjäer/Copenhagen

Type of track: concrete

Results of tests: Gear: 10th
Travelling speed: 19 km/h
Sound level: 90 dBA (exhaust backwards)
85 dBA (exhaust upwards)

(7) NOISE MEASUREMENT AT THE DRIVER'S EAR LEVEL

Date of tests: 19th June 1970

Type of sound level meter and octave filter: Precisions Sound Level Meter Type 2203, Brüel & Kjäer/Copenhagen

Type of track: concrete

Type of frequency analyser: octave analysator 2203

Sone evolution according to Stevens (tractor with fitted cab)

Results of tests

Gear No.	Travelling speed *)	dbA	Sone
6.	4,60 km/h	103	
5.	5,80 km/h	104	
7.	7,00 km/h	104	190**)
8.	9,90 km/h	103	
9.	15,40 km/h	104	

*) The first gear tested corresponds to the travelling speed nearest to 7,25 km/h

**) 190 sone at exhaust backwards
122 sone at exhaust upwards

(8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

Date and location of tests: 18th June 1970, Wieselburg

Hydraulic fluid:

make and type: BP Tractor Oil UNIVERSAL

viscosity: SAE 30

Type of linkage lock for transport: hydraulic

No external tapping provided

	Height above ground in down position		Vertical movement	Maximum force exerted through full range	Pressure	Lifting force when front of tractor lifts
	hitch point	frame				
	mm	mm	mm	kp	kp/cm^2	kp
Linkage giving maximum mechanical advantage						
At hitch points	220	-	585	1600	—	1800
On the frame	-	165	795	1050	—	1060
Linkage giving minimum mechanical advantage						
At hitch points	-	-	-	-	-	-
On the frame	-	-	-	-	-	-

OPTIONAL TESTS

(9) ENGINE TESTS

Date and location of tests: 11th May 1970, Wieselburg

Type of dynamometer: Siemens-Schuckert pendulum generator G 273/15

Horsepower	Engine speed	Fuel consumption		
		Hour	Specific	Specific
(metric hp)	rev/min	l/h	g/metric hph	metric hph/l
MAXIMUM POWER - 2 hours test				
50,9	2000	11,94	197	4,265
STANDARD p.t.o. SPEED (540/1000 rev/min)				
50,7	1994	11,95	198	4,240
THE SPEED RECOMMENDED BY THE MANUFACTURER FOR DRAWBAR WORK				
50,7	2000	11,95	198	4,240
PART LOADS				
(i) 85% of torque at maximum power				
44,2	2058	10,18	194	4,345
(ii) unloaded				
0	2193	2,69	-	-
(iii) 50% of the load defined in (i)				
26,85	2130	6,86	214	3,915
(iv) maximum power				
50,7	2000	11,95	198	4,240
(v) 25% of the load defined in (i)				
13,66	2170	4,86	299	2,810
(vi) 75% of the load defined in (i)				
39,5	2080	9,12	194	4,330

Optimum fuel consumption: 194 g/hph at 44,2 hp and 2060 rev/min

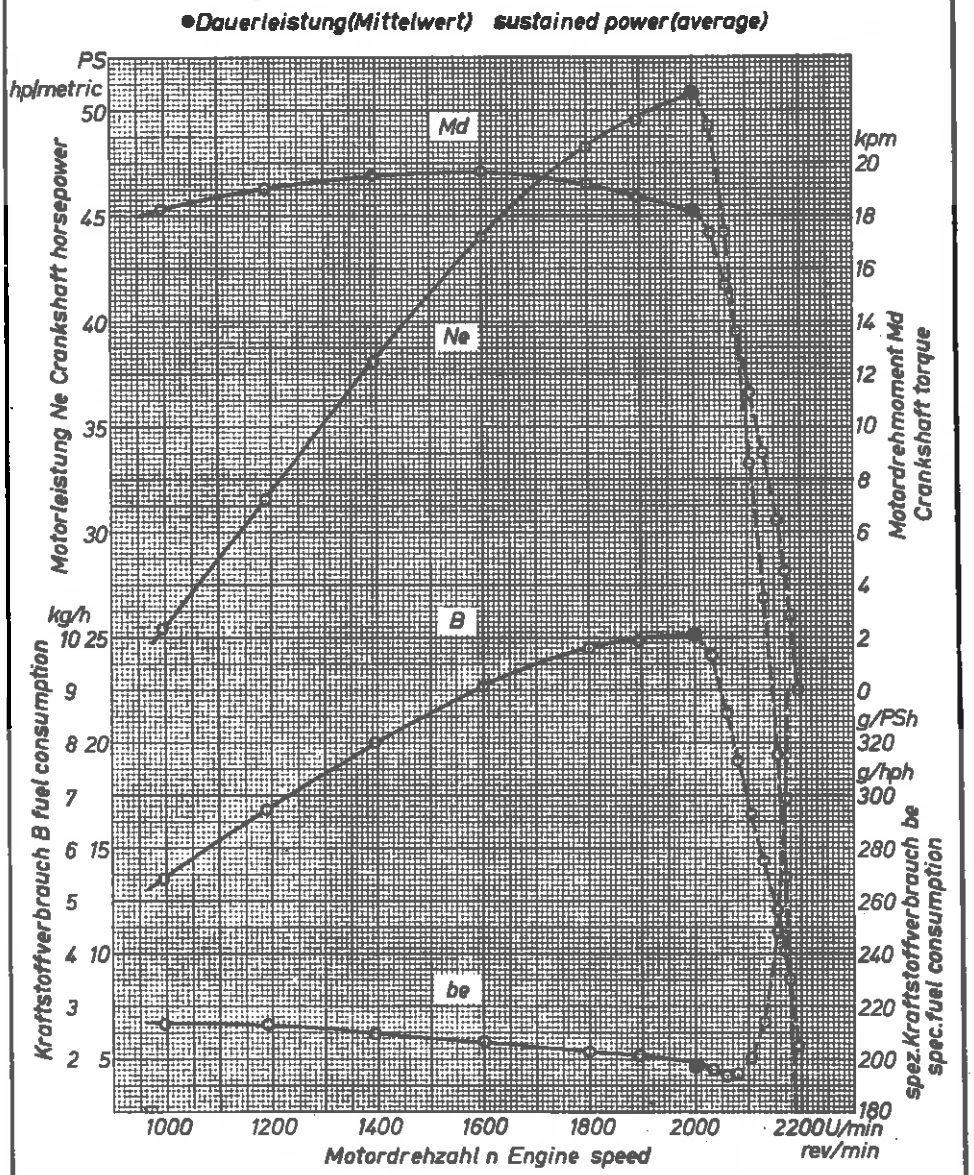
No load maximum engine speed: 2193 rev/min

Torque at maximum power: 18,12 kpm

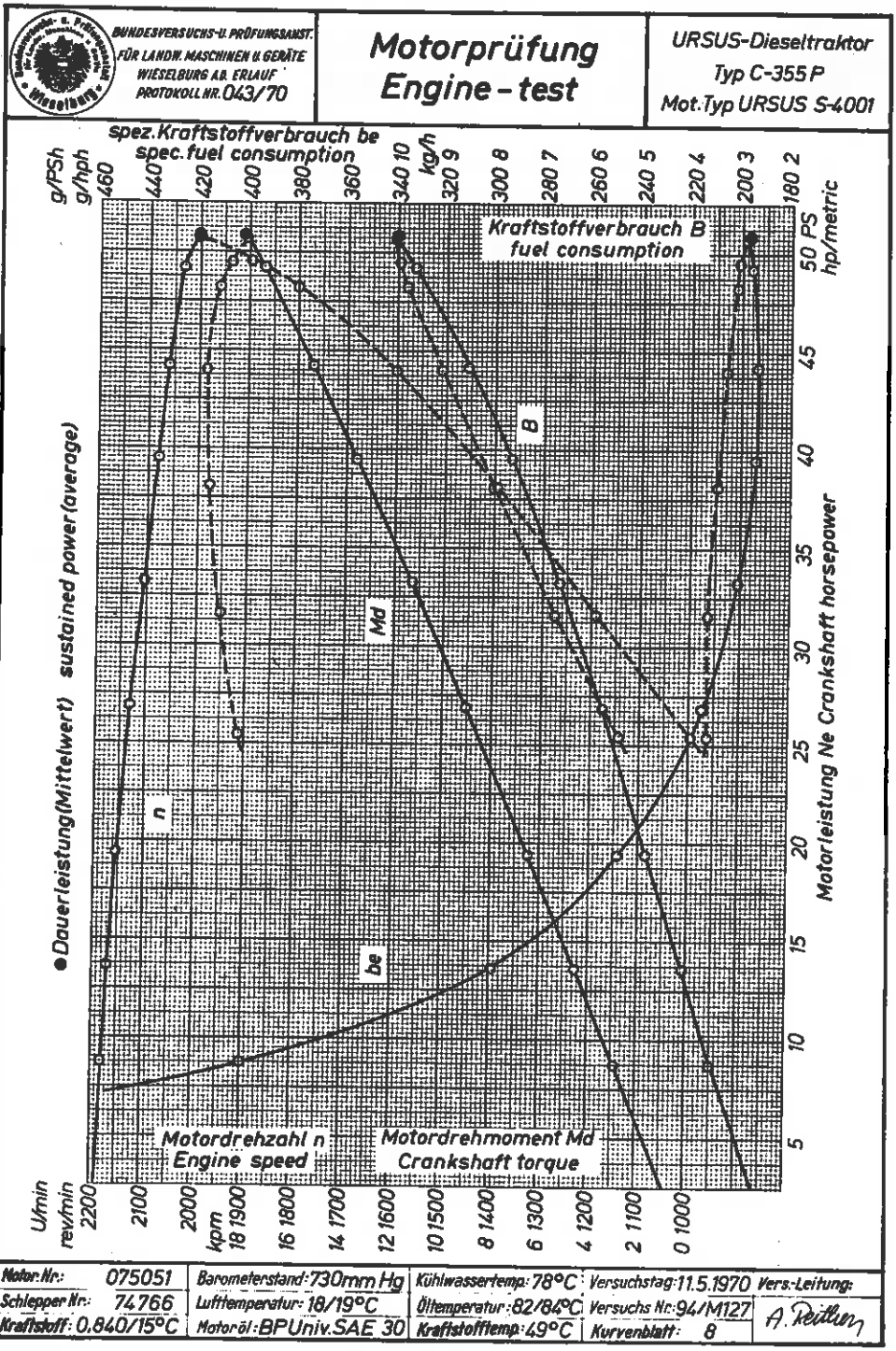
Maximum torque: 19,67 kpm at 1600 rev/min of the engine

Means atmospheric conditions:	temperature:	18°C
	pressure:	730 mm Hg
	relative humidity:	52 %
Maximum temperature:	coolant:	80°C
	engine oil:	85°C
	fuel:	51°C

BUNDESVERSUCHS- U. PRÜFUNGSANST. FÜR LANDW. MASCHINEN U. GERÄTE WIESELBURG A.D. ERLAUF PROTOKOLL NR. 043/70	Motorprüfung Engine - test	URSUS-Dieseltraktor Typ C-355 P Mot. Typ URSUS S-4001



Motor Nr.: 075051	Barometerstand: 730 mm Hg	Kühlwassertemp.: 78°C	Versuchstag: 11.5.1970	Vers.-Leitung:	
Schlepper Nr.: 74766	Lufttemperatur: 18/19°C	Öltemperatur: 82/84°C	Versuchs Nr.: 94/M127	A. Reitter	
Kraftstoff: 0,840/15°C	Motoröl: BP Univ. SAE 30	Kraftstofftemp.: 49°C	Kurvenblatt: 7		


BUNDESVERSUCHS- U. PRÜFUNGSANST. FÜR LANDW. MASCHINEN U. GERÄTE WIESELBURG A.D. ERLAUF PROTOKOLL NR. 043/70
Wieselburg
Motorprüfung
Engine - test
URSUS-Dieseltraktor
Typ C-355 P
Mot. Typ URSUS S-4001
spez. Kraftstoffverbrauch be
spec. fuel consumption
g/PSh
g/hph
460 440 420 400 380 360 340 320 300 280 260 240 220 200 180
kg/h
10 9 8 7 6 5 4 3 2
Kraftstoffverbrauch B
fuel consumption
50 PS
hp/metric
45 40 35 30 25 20 15 10 5
Motorleistung Ne Crankshaft horsepower
● Dauerleistung (Mittelwert) sustained power (average)
n
B
Md
be
Motordrehzahl n
Engine speed
Motordrehmoment Md
Crankshaft torque
U/min
rev/min
2200 2100 2000
kpm
18 1900 16 1800 14 1700 12 1600 10 1500 8 1400 6 1300 4 1200 2 1100 0 1000
Motor-Nr.: 075051
Schlepper Nr.: 74766
Kraftstoff: 0.840/15°C
Barometerstand: 730 mm Hg
Lufttemperatur: 18/19°C
Motoröl: BP Univ. SAE 30
Kühlwassertemp.: 78°C
Öltemperatur: 82/84°C
Kraftstofftemp.: 49°C
Versuchstag: 11.5.1970
Versuchs Nr.: 94/M127
Kurvenblatt: 8
Vers.-Leitung:
A. Reitlen

OPTIONAL TESTS

(10) PERFORMANCE AT THE BELT PULLEY SHAFT

Date and location of tests: 4th June 1970, Wieselburg

Type of dynamometer: Siemens-Schuckert pendulum generator G 273/15

Horsepower	Engine speed	Fuel consumption		
		Hour	Specific	Specific
metric hp	rev/min	l/h	g/metric hph	metric hph/l
MAXIMUM POWER - 2 hours test				
47,50	2000	11,76	208	4,035
STANDARD p.t.o. SPEED (540/1000 rev/min)				
47,80	1994	11,93	210	4,005
STANDARD BELT SPEED				
47,75	1989	11,94	210	4,000
THE SPEED RECOMMENDED BY THE MANUFACTURER FOR DRAWBAR WORK				
47,80	2000	11,93	210	4,005
PART LOADS				
(i) 85% of torque at maximum power				
41,30	2050	10,08	205	4,095
(ii) unloaded				
0	2180	2,80	-	-
(iii) 50% of the load defined in (i)				
25,40	2120	6,99	231	3,635
(iv) maximum power				
47,80	2000	11,93	210	4,005
(v) 25% of the load defined in (i)				
12,95	2160	5,02	326	2,580
(vi) 75% of the load defined in (i)				
37,20	2070	9,17	207	4,055

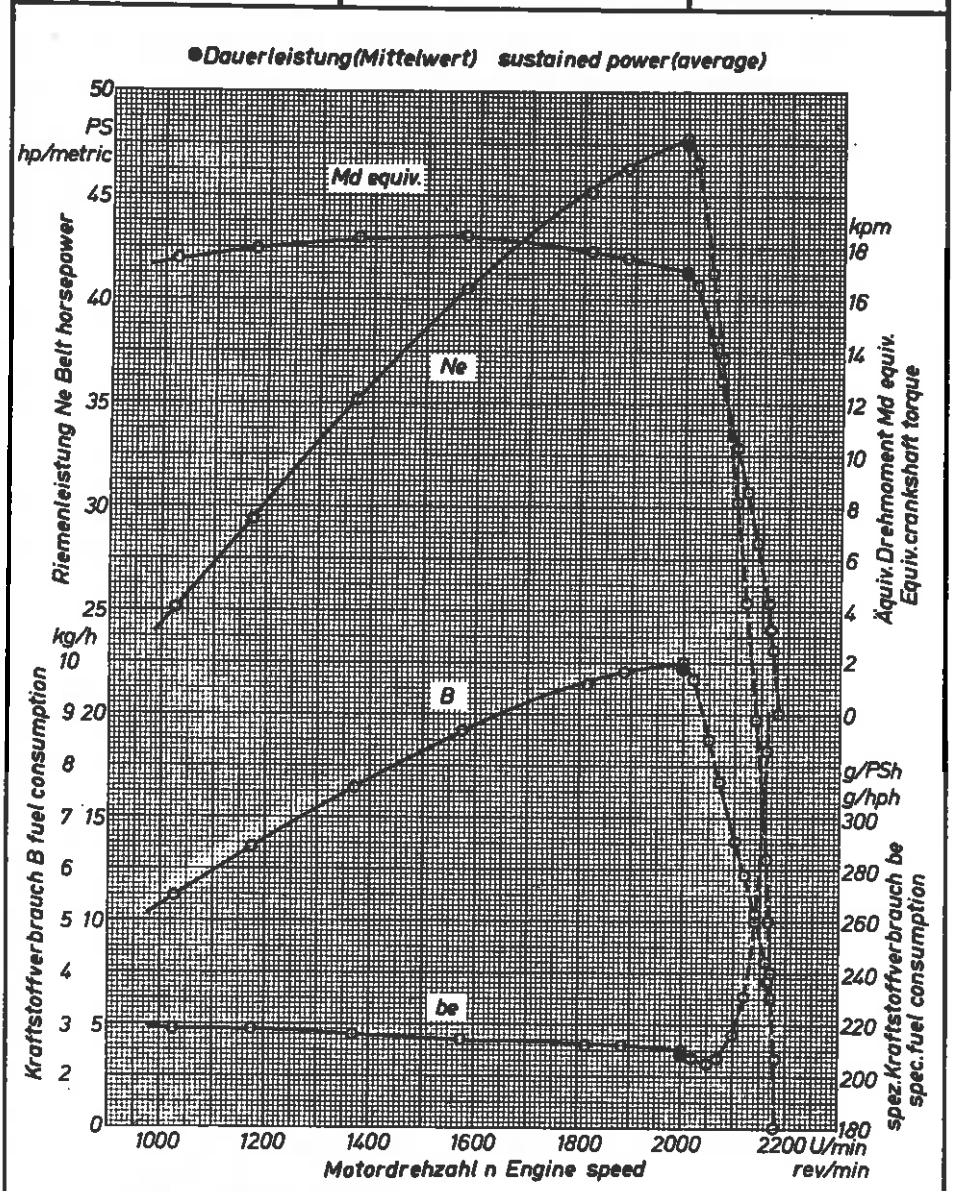
No load maximum engine speed: 2180 rev/min
Torque*) at maximum power: 17,12 kpm
Maximum torque*): 18,42 kpm at 1575 rev/min of the engine

Means atmospheric conditions: temperature: 24°C
pressure: 743 mm Hg
relative humidity: 65 %

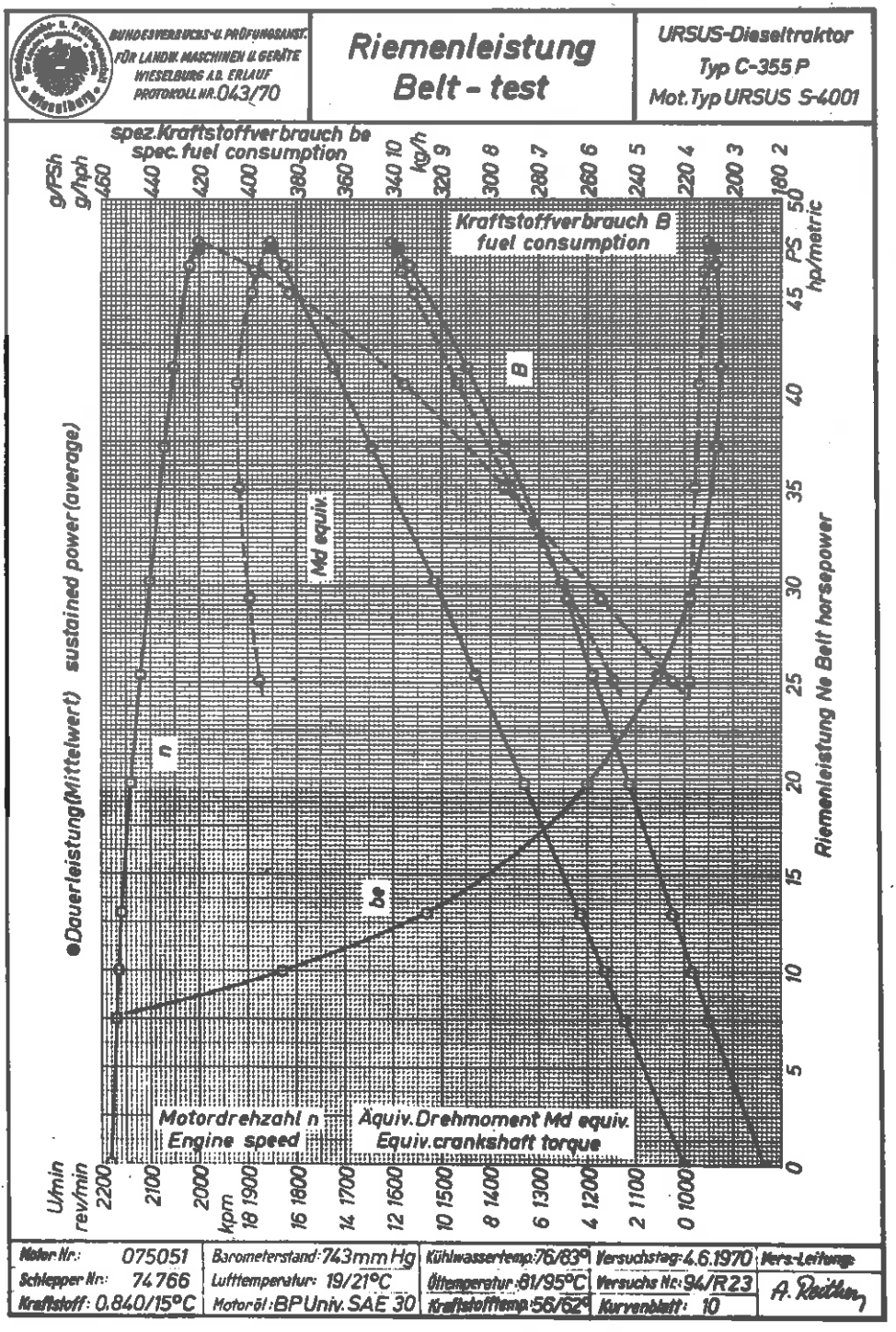
Maximum temperature: coolant: 85°C
engine oil: 99°C
fuel: 65°C

*) The torque reported is the equivalent crankshaft torque

BUNDESVERSUCHS- U. PRÜFUNGSANST. FÜR LANDW. MASCHINEN U. GERÄTE WIESELBURG A.D. ERLAUF PROTOKOLL NR. 043/70	**Riemenleistung Belt - test**	URSUS-Dieseltraktor Typ C-355 P Mot. Typ URSUS S-4001



Motor-Nr.: 075051	Barometerstand: 743 mm Hg	Kühlwassertemp.: 76/83°C	Versuchstag: 4.6.1970	Vers.-Leitung:	
Schlepper-Nr.: 74766	Lufttemperatur: 19/21°C	Öltemperatur: 81/95°C	Versuchs-Nr.: 94/R 23	A. Reitter	
Kraftstoff: 0.840/15°C	Motoröl: BP Univ. SAE 30	Kraftstofftemp.: 56/62°	Kurvenblatt: 9		


BUNDESVERSUCHS- U. PRÜFUNGSANST. FÜR LANDW. MASCHINEN U. GERÄTE WIESELBURG A.D. ERLAUF
PROTOKOLL NR. 043/70
Riemenleistung
Belt - test
URSUS-Dieseltraktor
Typ C-355 P
Mot. Typ URSUS S-4001
spez. Kraftstoffverbrauch be
spec. fuel consumption
g/PSh
g/hph
kg/h
Kraftstoffverbrauch B
fuel consumption
B
Md equiv.
n
be
●Dauerleistung (Mittelwert) sustained power (average)
Riemenleistung Ne Belt horsepower
PS
hp/metric
Motordrehzahl n
Engine speed
Äquiv. Drehmoment Md equiv.
Equiv. crankshaft torque
U/min
rev/min
kpm
Motor Nr.: 075051
Schlepper Nr.: 74 766
Kraftstoff: 0.840/15°C
Barometerstand: 743 mm Hg
Lufttemperatur: 19/21°C
Motoröl: BP Univ. SAE 30
Kühlwassertemp: 76/83°
Öltemperatur: 81/95°C
Kraftstofftemp: 56/62°
Versuchstag: 4.6.1970
Versuchs Nr.: 94/R 23
Kurvenblatt: 10
Vers.-Leitung:
A. Reither