Institut za mehanizaciju poljoprivrede - Zemun

O.E.C.D. Report N° 696
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Report on Test in Accordance with O.E.C.D. STANDARD CODE for the Official Testing of Agricultural Tractors



Agricultural tractor TORPEDO TD 75 06 A

Manufactured by: „TORPEDO"
Rijeka – Yugoslavia

Date of test: October – November 1979

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

Date of Approval: November 21st 1980

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Tractor manufacturer's name and address:	"TORPEDO" . 51ooo Rijeka, Yugoslavia
Submited for test by:	The manufacturer
Selected by:	Representatives of IMP
Place of running-in:	Laboratory of IMP
Duration of running-in:	cca 5o hours

SPECIFICATION OF TRACTOR

TRACTOR

Make:	"TORPEDO"
Model:	TD 75 o6 A
Type:	Standard - unit construction, four wheels, all wheel drive
Serial N°:	o4177

ENGINE

Make:	"TORPEDO"
Model:	F 4 L 912
Type:	Four-stroke, diesel, direct injection, air cooled
Serial N°:	63641

Cylinders

Number:	4
Disposition:	Vertical in-line
Bore/stroKe:	loo/12o mm
Capacity:	3768 cm^3
Compression ratio:	17 : 1
Arrangement of valves:	Overhead
Cylinder liners:	Replaceable liners with cooling ribs

Fuel system

Fuel feed system:	Feed pump "Rikard Benčić" BV HF o8, with hand primer
Make, type and model of fuel filters:	"POBJEDA"-Tešanj, with replaceable cartridges

Capacity of fuel tank:	92 l
Make, type and model of injection pump:	"Rikard Benčić" - Rijeka, in-line, BP24T8-12a, 47 B II RVF
Serial N°:	78.1o.125
Manufacturer's production setting:	56 mm^3 per stroke at 24oo engine rev/min. at full load. Injection timing 28° before TDC
Make, type and model of injectors:	"FD" four holes injectors, ALLA 149 S 394
Manufacturer's production setting:	172^{-5} bar

Governor

Make:	BOSCH, EP/RSV 325...12oo A8B 492DL
Type:	Mechanical, all range
Range of speed:	65o - 255o engine rev/min
Nominal speed:	24oo engine rev/min

Air cleaners

Main air cleaner

Make:	"POBJEDA" - Tešanj,
Type:	Dry, with replaceable cartridge

Precleaner

Type:	Felt tube cartridge

Lubrication system

Type:	Forced feed, gear pump
Oil filter	"POBJEDA" (lic.MAN), full flow, with replaceable cartridge; seave in the engine sump; filter change interval 2oo h
Recommended type of lubricant:	Oil quality acc. MIL-L-21o4 C Oil viscosities: Winter SAE 1o W Summer SAE 2o W/2o Tropics SAE 3o
Oil capacity:	11 l
Changing period:	1oo to 2oo hours

Cooling system	
Type:	Air cooling system, axial air fan, belt driven
Starting system	
Make:	"ISKRA" - Kranj,
Type:	Electrical, solenoid - engaged starter motor AZ3 35o5, 12 V, 3 kW
Aids for cold starting:	Heating plug in intake manifold
Eshaust:	Horizontal exhaust silencer on the left hand side of the tractor
Electrical system	
Voltage:	12 V
Alternator	
Make:	"ISKRA" - Kranj,
Type:	AAG o6o2 14 V 28 A
Battery:	One, lead- acid, with 1ho Ah capacity at 2o hours rating

TRANSMISSION

Clutch	
Make:	Fichtel und Sachs A.G.
Type:	Dry, dual friction disc type double clutch operated by pedal; DUT 295H - 25o/295; tractor drive disc dia 295 mm p.t.o. shaft disc dia 25o mm
Gear box	
Make:	"TORPEDO"
Type:	TW 56.1o A
N° of speeds	Main gear box: 4 gear ratios Group gear: 3 forwards and 1 reverce gear Total: 12 forwards and 4 reverce speeds Not synchronized

Rear axle and final drive:	Own make, crown wheel and pinion with final reduction gear; Bewgl gear differential gear; differential lock pedal actuated, self disangaging
Front axle:	ZAHNRADFABRIK FRIEDRICHSHAFEN A.G. Crown wheel and pinion with final reduction gear. Bewel gear differential gear
Oil capacities	
Gear box and rear axle:	36,5 l
Front axle:	5,5 l in differential gear box and 2 x o,75 l in final gear boxes
Oil changing period:	Every 15oo working hours for all gears
Recommended oil qualities:	According to MIL - L - 21o5 Viscosity for all seasons: Hypoid oil SAE 9o for all gears

Total ratios and speeds

Group	Gear N°	Total ratio eng.speed:driving wheel rev.	Nominal travelling speed at rated engine speed km/h	m/s
Low	1	344,7o : 1	1.82	o,51
	2	222,27 : 1	2,83	o,78
	3	159,2o : 1	3,94	1,1o
	4	112,62 : 1	5,58	1,55
Inbetween	1	143,9o : 1	4,36	1,21
	2	92,78 : 1	6,77	1,88
	3	66,46 : 1	9,45	2,62
	4	47,oo : 1	13,36	3,71
High	1	78,8o : 1	7,97	2,21
	2	5o,8o : 1	12,36	3,43
	3	36,39 : 1	17,26	4,79
	4	25,68 : 1	24,45	6,79
Reverse	1	1o4,5o : 1	6,o1	1,67
	2	67,38 : 1	9,32	2,59
	3	49,26 : 1	12,75	3,54
	4	34,14 : 1	18,39	5,11

Calculated with the rolling radius 694 mm, given in the tyre manufacturer`s specification

Power take - off

Main:

Location	Independant p.t.o. shaft located rear, in the median plane of the tractor. Hand lever operated disc of dual clutch driving p.t.o. Height above ground 675 mm
Dimensions	29 x 34,9 x 8,7 mm (1 3/8"); 6 splines, acc. DIN 9611 Form A; BS 1495; JUS.M L 1.601
Proportional p.t.o. speed at rated engine speed:	540 and 1000 r.p.m. at 2025 and 2166 r.p.m. engine speeds
Direction of rotation:	Clockwise facing driving end

Belt pulley: Not tested

Power lift and hydraulic system

Make:	K.H.DEUTZ
Type:	K 45.1 Deutz Transfermatik System. Block type hydraulic power lift. Position and draught control, free floating. One way acting power lift cylinder; safety valve on power lift cylinder set by the manufacturer to 250 ±30 bar of hydraulic pressure. Hydraulic gear pump BOSCH type HY/ZFR 11/16 L (212/1) directlly engine driven. DEUTZ power lift setting controls. Max.working pressure 200 bar. Two or four external oil tappings, single or double acting, at rear of tractor, available optinually
Oil capacity:	cca 14 l
Oil quality:	acc. to MIL-L-2104 (Engine oil) Viscosity SAE 20 Oil changing period every 1500 hours

Oil filter:	One, with the replaceable cartridge; cartridge's changing interval every 5oo working hours or yearly Through the external tappings may be taken off 7 l of oil, or when tractor is fitted with an additional tank 21 l of oil
Implement linkage:	Three point linkage category II, power lift operated. Lifting rods adjustable from 61o to 74o mm. Lifting height above ground: 47o - 11oo mm with short lift rods 21o - 895 mm With long lift rods
Holed Bar:	Not tested
Hitch	
Height above ground:	78o mm 845 mm 91o mm 68o mm 745 mm 81o mm
Hitch hole diameter:	33 mm
Steering	
Make:	ZAHNRADFABRIK FRIEDRICHSHAFEN A.G.
Type:	Hydrostatic steering; model SERVOSTAT 8441 open circuit with 96 cm^3 per revolution capacity; pressure oil supply from power lift pump; constant delivery valve (steering circuit priority valve) 9,2 l/min; double acting ram propped on the front axle with 5o mm bore and 25o mm stroke

Brakes

Parking brake:	Mechanical, drum and shoe; Two separate drums on differential axles, hand lever actuatwd
Service brake:	Mechanical, drum and shoe; Two separate drums on differential axles, pedal operated
Steering brakes:	Operated trough disconnected service brake pedals for braking L.H. or R.H. driving wheel

Wheels

Front wheels: (steering and driving)	9,5-24 AS, 6PR, diagonal type casing, (alternative 11,2-24 AS) Track width 1425 - 1925 mm Rim W 8x24
Rear wheels:	12,4-36 AS, 6PR, diagonal type casing, (alternative 18,4-3o AS) Track width: 1514; 1614; 1729; 1829; 1923; 2o23 mm, adjustable by turning rims and plates Rim W 11x36
Wheelbase:	2415 mm

Weights (kg)		Without driver	With driver
Without ballast:	Front	1385	139o
	Rear	172o	179o
	Total	31o5	318o

Remark: The stage "without ballast" is, as recommended by the manufacturer, with iron ballast (two weights-cca 15o kg) in the front axle bed.

With ballast:	Front	169o	1695
	Rear	246o	253o
	Total	415o	4225

Front ballast: 11 weights in front of the front axle, 22 kg each, weights carrier 33 kg, total 275 kg

Rear ballast:	6 weights per wheel, 27,5 kg each, total 33o kg; Water in tyres 445 kg
Number of grease points	14
Seat	Grammer D5 2o/D3H, adjustable spring with shock absorber; adjustments ranges: horizontal 15o mm, vertical 95 mm (in 9 steps)
Dimensions	
Lenght:	3965 mm with linkage and without front ballast 4235 mm with linkage and with front ballast
Width:	min 196o mm without rear wheel weights max 247o mm with rear wheel weights (with 12,4-36 AS rear tyres)
Height:	185o mm to the top of steering wheel
Ground clearance:	48o mm in the meadle of the tractor,
Lighting equipment	Electric, 12 V

	Dimensions of area mm	Height above ground to centre mm	Distance from outside edge of tractor to centre mm 1)
Head lights 2)	13o Ø	1o9o	765
Side lights 3)	15o x 55	1675	255
Rear lights 4)	15o x 55	149o	265

(1) at 1514 mm track width
(2) unrestricted beam angle in plan view 32°
(3) in combination with the direction indicator
(4) in combination with the direction indicator and stop light

Track widths set for the test

Front 1475 mm
Rear 1515 mm

Fuels and lubricants used in tests

In all tests are used:

Fuel:

Type	INA diesel fuel D2
Specific gravity at 15°C	o,824 g/cm^3
Cetane number	56
Engine oil:	INA Super S_1 SAE 3o
Transmission oil:	INA Hipol SAE 9o
Hydraulic oil:	INA Super S_1 SAE 2o

COMPULSORY TESTS

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

Date and location of test: 11. October 1979. Institut za mehanizaciju poljoprivrede - Zemun

Type of dynamometer: Hydraulic brake SCHENCK U1-3o

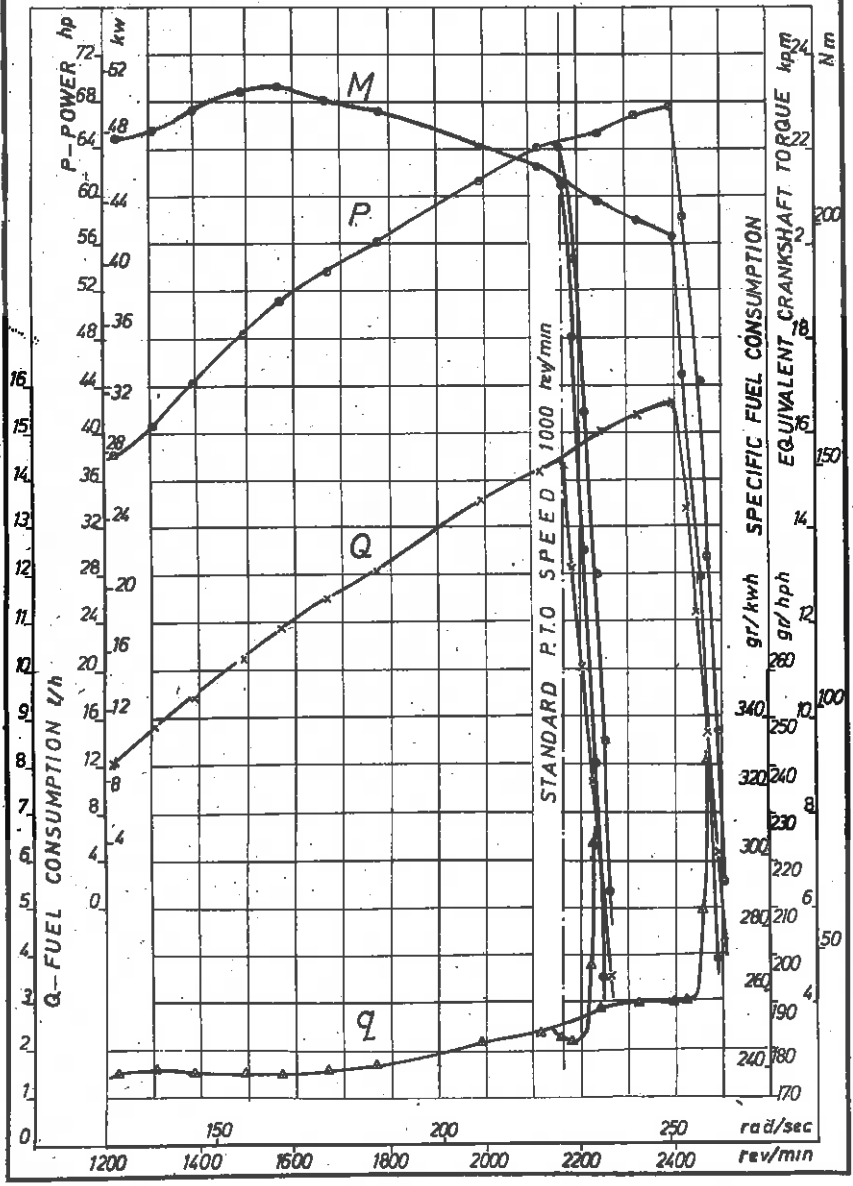
Power kW (met.hp)	Speed engine r.p.m.	Speed p.t.o. r.p.m.	Fuel consumption total l/h	Fuel consumption total kg/h	Fuel consumption specific g/kWh (g/hph)	Specofoc energy kWh/l (hph/l)
MAXIMUM POWER - 2 hour test						
49,98 (67,9o)	24oo	11o8	15,68	12,92	258 (19o)	3,19 (4,33)
THE SPEED RECOMENDED BY THE MANUFACTURER FOR DRAWBAR WORK						
49,98 (67,9o)	24oo	11o8	15,68	12,92	258 (19o)	3,19 (4,33)
PART LOADS AT MAXIMUM POWER						
(i) 85 % of the forque at maximum power at 2-hour test						
42,88 (58,27)	2422	1118	13,45	11,o8	258 (19o)	3,19 (4,33)
(ii) unloaded						
1,53 (2,o8)	25o2	1155	4,37	3,6o	-	-
(iii) 5o % of the load defined in (i)						
21,88 (29,73)	2471	1141	8,7o	7,17	328 (241)	2,52 (3,42)
(iv) maximum power						
49,98 (67,9o)	24oo	11o8	15,68	12,92	258 (19o)	3,19 (4,33)
(v) 25 % of the load defined in (i)						
11,o3 (14,99)	2491	115o	6,21	5,12	464 (342)	1,78 (2,41)
(vi) 75 % of the load defined in (1)						
32,57 (44,25)	2452	1132	11,27	9,29	285 (21o)	2,89 (3,93)

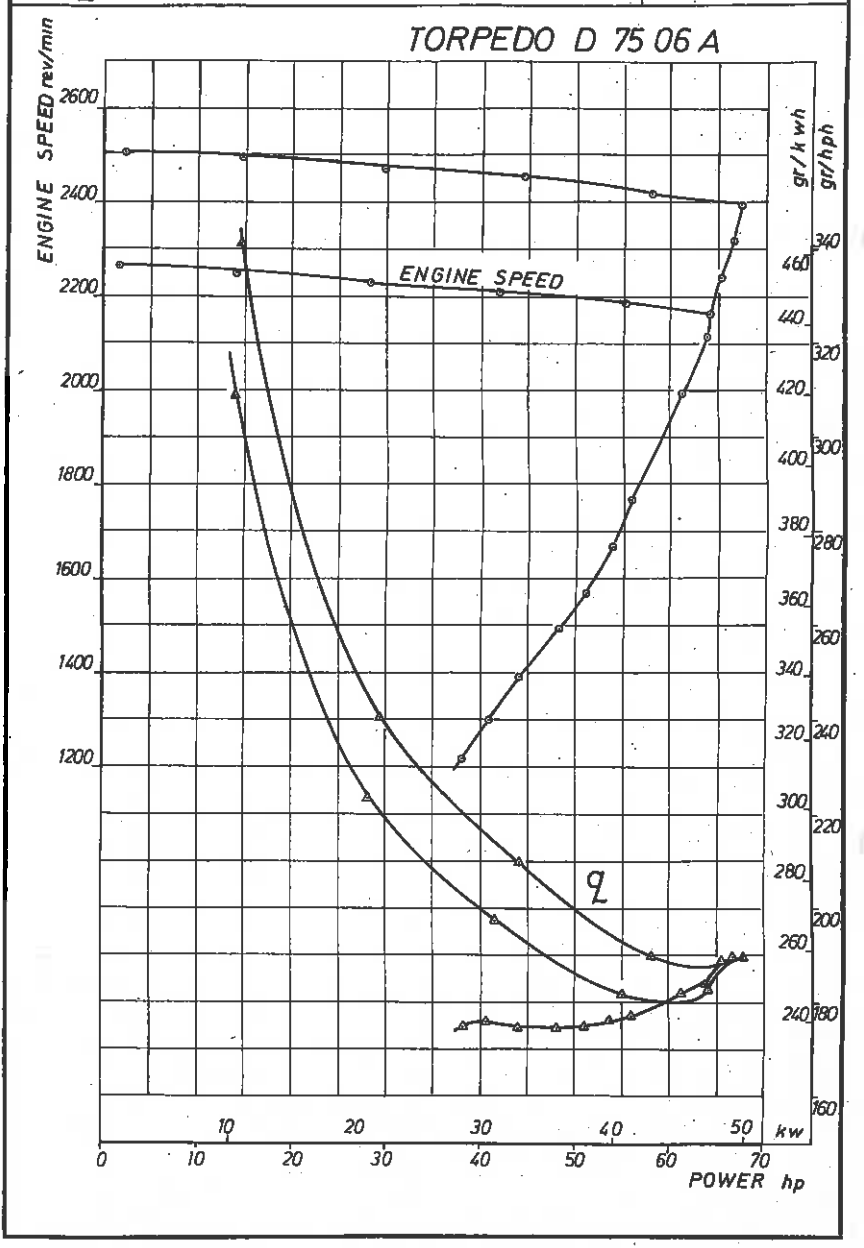
Power kW (met.hp)	Speed engine rev/min	Speed p.t.o. rev/min	Fuel consumption total l/h	Fuel consumption total kg/h	Fuel consumption specific g/kWh (g/hph)	Specific energy kWh/l (hph/l)
PART LOADS AT STANDARD P.T.O. SPEED (1000 rev/min)						
(i) 85 % of the torque at full load						
40,54 (55,09)	2188	1010	12,14	10,00	247 (182)	3,34 (4,54)
(ii) unloaded						
1,31 (1,78)	2266	1046	3,59	2,96	-	-
(iii) 50 % of the load defined in (i)						
20,71 (28,14)	2235	1032	7,65	6,30	304 (224)	2,71 (3,68)
(iv) maximum load						
47,28 (64,24)	2166	1000	14,30	11,78	249 (183)	3,31 (4,49)
(v) 25 % of the load defined in (i)						
10,43 (14,17)	2250	1039	5,32	4,38	420 (309)	1,96 (2,66)
(vi) 75 % of the load defined in (i)						
30,74 (41,76)	2211	1021	10,04	8,28	269 (198)	3,06 (4,16)

Standard specific fuel consumption g/kWh (g/hph)

258 (190); 328 (241); 247 (182):, 304 (224)

No load, maximum engine speed	2512 o/min
Equvivalent crankshaft tarque at maximum power (2 hour test)	198,8 Nm (20,26 Kpm)
Maximum equivalent crankshaft torque	229,4 Nm (23,39 Kpm) at 1570 o/min
Mean atmospheric conditions:	
temperature	19°C
pressure	1005 m bar (754,2 mmHg)
relative humidity	53 %
Maximum temperatures:	
coolant	not measured
engine oil	91°C
fuel	20°C


TORPEDO D 75 06 A
P-POWER hp
kw
M
P
Q
q
Q-FUEL CONSUMPTION l/h
STANDARD P.T.O SPEED 1000 rev/min
SPECIFIC FUEL CONSUMPTION
gr/kwh
gr/hph
EQUIVALENT CRANKSHAFT TORQUE
kgm
N m
rad/sec
rev/min


TORPEDO D 75 06 A
ENGINE SPEED rev/min
2600
2400
2200
2000
1800
1600
1400
1200
ENGINE SPEED
gr/k wh
gr/hph
460
440
420
400
380
360
340
320
300
280
340
320
300
280
260
240
220
200
180
160
q
10
20
30
40
50
kw
0
10
20
30
40
50
60
70
POWER hp

(2) DRAWBAR PERFORMANCE

Date of test: 12 - 14 November 1979
Type of track: asphalt
Height of drawbar above ground: 800 mm ballasted and unballasted

Gear No.	Speed km/h	Power kW (met.hp)	Drawbar pull daN (kp)	Engine speed rev/min	Wheel slip %	Fuel consumpt. kWh/l (hph/l)	Fuel consumpt. Specific g/kWh (g/hph)	Temperature Fuel °C	Temperature Engine °C	Atmospheric conditions Temperature °C	Atmospheric conditions Relative humidity %	Atmospheric conditions Pressure mmHG
1	2	3	4	5	6	7	8	9	10	11	12	13
		(1)	MAXIMUM POWER - ballasted (total ballast 1050 kg)						front tyres pressure 1,8 bar rear tyres pressure 1,5 bar			
1 S	1,62	17,0 (23,2)	3787 (3860)	2475	15,0	1,91 (2,60)	430 (317)	16	80	14	74	1006
2 S	2,46	25,9 (35,2)	3787 (3860)	2450	15,0	2,20 (2,99)	374 (276)	17	81	14	74	1006
3 S	3,40	35,8 (48,6)	3787 (3860)	2415	15,0	2,39 (3,25)	344 (253)	17	87	14	74	1006
1 I	3,78	39,8 (53,3)	3738 (3810)	2400	14,6	2,50 (3,39)	330 (243)	17	86	14	74	1006
4 S	5,10	40,7 (55,3)	2875 (2930)	2400	9,5	2,59 (3,53)	318 (234)	17	86	15	70	1006

continued.....

DRAWBAR PERFORMANCE - continuation

1	2	3	4	5	6	7	8	9	1o	11	12	13
2 I	6,33	41,1 (56,8)	2335 (238o)	24oo	7,1	3,61 (3,55)	316 (232)	17	86	15	7o	1oo6
1 F	7,96	31,4 (56,3)	1972 (2olo)	24oo	6,o	2,64 (3,58)	313 (23o)	17	85	15	7o	1oo6
3 I	9,o8	42,2 (57,3)	1673 (17o5)	24oo	4,7	2,68 (3,64)	3o7 (226)	17	85	15	7o	1oo6
3 F	12,oo	4o,8 (55,5)	1217 (124o)	24oo	4,o	2,59 (3,53)	318 (234)	17	85	15	7o	1oo6
4 I	13,o5	5o,2 (54,6)	11o9 (113o)	24oo	3,1	2,54 (3,46)	323 (238)	17	84	15	7o	1oo6
			(ii) REV. HOUR TEST at 75 % of pull at maximum power									
2 I	6,56	31,7 (43,o)	1737 (177o)	243o	5,1	2,53 (3,44)	325 (239)	15	84	13	67	1oo3
			(iii) FIVE HOUR TEST at pull corresponding to 15 % wheel slip									
3 8	-	-	3780 (385o)	241o	-	-	-	15	85	14	65	1oo3

The five hour test was carried out with the 3780 daN (385o kp) drawbar pull

1	2	3	4	5	6	7	8	9	10	11	12	13
			(iv)	MAXIMUM POWER - unballasted				front tyres inflation pressure 1,3 b				
								rear tyres inflation pressure				0,9 b
3 S	3,39	26,7	2835	2445	15,0	2,18	378	16	81	13	56	1008
		(36,3)	(2890)			(2,96)	(278)					
1 I	3,76	29,6	2835	2430	15,0	2,33	354	16	81	13	56	1008
		(40,2)	(2890)			(3,17)	(260)					
4 S	4,80	37,7	2826	2403	15,0	2,44	338	16	86	14	53	1008
		(51,2)	(2880)			(3,31)	(249)					
2 I	6,09	40,5	2394	2400	10,8	2,58	320	16	85	14	53	1008
		(55,0)	(2440)			(3,50)	(235)					
1 F	7,36	41,0	2006	2400	8,5	2,60	316	17	85	15	51	1008
		(55,7)	(2045)			(3,53)	(233)					
3 I	8,84	41,3	1683	2400	7,5	2,62	314	17	84	15	51	1008
		(56,2)	(1715)			(3,56)	(231)					
2 F	11,96	42,4	1276	2400	4,6	2,69	305	16	84	15	51	1008
		(57,6)	(1300)			(3,66)	(225)					
4 I	13,00	42,5	1177	2400	4,1	2,71	304	16	84	15	51	1008
		(57,8)	(1200)			(3,68)	(224)					
3 F	17,05	41,5	878	2400	3,0	2,63	312	15	83	15	51	1008
		(56,5)	(895)			(3,57)	(230)					

Remark: - Five hour test at pull corresponding to 15 % wheelslip (iii) was carried out with additional ballast. Therefore results of test for power, wheelslip, speed and fuel consumption would not have any practical importance.

- The temperature of engine coolant (air) was not measured during the tests of drawbar performance.

Total oil consumption during ten hours duration of tests (ii) and (iii) was 41 g/h.

(3) TURNING SPACE AND TURNING CIRCLE

Details of wheel equipment	front 9,5 - 24 rear 12,4 - 36 AS
Track of wheels	front 1475 mm rear 1515 mm

	With brakes		Without brakes	
	right-hand m	left-hand m	right-hand m	left-hand m
Radius of turning space	4,25	4,28	6,oo	6,o5
Radius of turning circle	4,1o	4,12	5,85	5,88

(4) LOCATION OF CENTRE OF GRAVITY

Height above ground	775 mm
Distance forward from the vertical plane containing the axis of the rear wheels	1o55 mm
Distance from the median plane	9 mm to the left

(5) BRAKING

Date of test	16. October 1979
Type of track	Asphalt
Type of decelerometer	SIEMENS B1
Weight of tractor ballasted for road work (with driver)	3785 kg
Weight of unballasted tractor (with driver)	318o kg

+The brake test was done with the front wheel drive engaged

The manufacturer does not recommend water ballast for the road work

Cold brakes

Travelling speed km/h	25,o	25,o
Deceleration m/s^2	5,6	6,3
Stopping distance m	5,85	5,o5
Force exerted on the brake pedal N (kp)	69o (7o)	51o (52)
Force exerted on the brake pedal to achive a deceleration of 2,5 m/s^2 N (kp)	43o (44)	315 (32)

Brake fade characteristics (hot test)

Deceleration, hot/deceleration, cold	97	99
Stopping distance, cold/stopping distance, hot	98	98
Force on pedal, cold/force on pedal, hot	1o2	1oo

Parking brake

Efficacy of handbrake

facing up slope	satisfactory
down slope	satisfactory
Pull on handbrake	295 N (3o kp)

(6) MEASUREMENT OF AMBIENT NOISE

Date of test	18. October 1979
Type of sound level meter	Set of instruments BRUEL & KJAER Type 22o9
Type of track	Asphalt

Results of test

Gear	4 high
Travelling speed before acceleration	2o km/h
Sound level	9o,9 dB(A)

(7) NOISE AT THE DRIVER'S EAR LEVEL

Date of test: 18th October 1979

Type of track: asphalt

Type of sound level meter: BRUEL &.KJAER mod.22o9

Note:

The tractor was without cab and with horizontal exhaust pipe

Results of test

Gear	Drawbar pull at which the tractor delevops the maximum sound level N	(kg)	Travelling speed nominal km/h	effective km/h	Sound level dB(A)
1 low	2492o	(254o)	1,82	1,61	93,1
2 low	24525	(25oo)	2,83	2,53	94,o
3 low	24o3o	(245o)	3,94	3,56	94,6
1 inbet.	2355o	(24oo)	4,36	4,o2	95,o
4 low	22o7o	(225o)	5,58	4,9o	95,4
2 inbet.+)	1982o	(2o2o)	6,77	6,35	95,2
1 high	1815o	(185o)	7,97	7,45	94,4
3 inbet.	14215	(145o)	9,45	9,25	93,8
2 high	11575	(118o)	12,36	11,9o	93,8
4 inbet.	981o	(1ooo)	13,36	13,1o	93,6
3 high	8o5o	(82o)	17,26	17,25	93,4
4 high	light load		24,45	25,oo	92,8

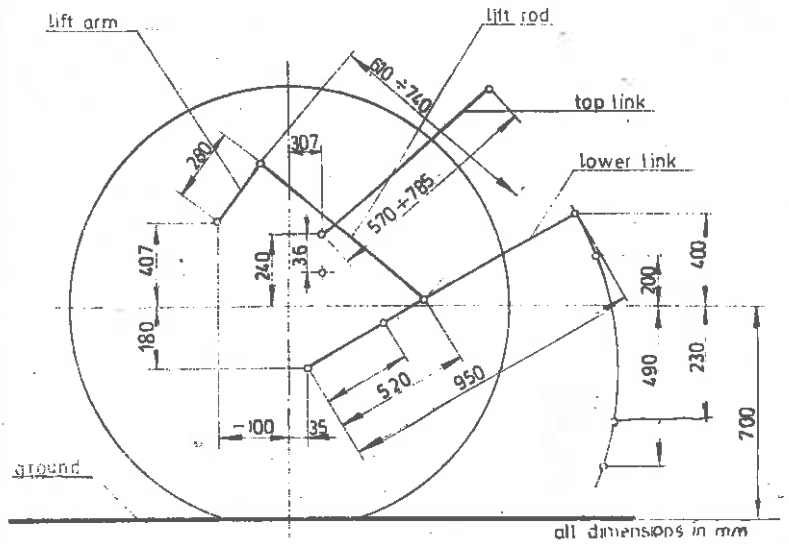
+) The 2nd inbetween gear corresponds to the travelling speed nearest to 7,25 km/h

(8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

Date of test:	31st October 1979
HYDRAULIC PUMP	
Opening pressure of relief valve	2o4 bar (2o8 kg/cm^2)
Sustained pressure by open relief valve	193 bar (197 kg/cm^2)
Pump delivery rate at minimum pressure and rated engine speed	38,4 l/min
Pump delivery rate at maximum hydraulic power	32,7 l/min
corresponding delivery pressure	185 bar (189 kg/cm^2)
hydraulic power	lo,1 kW (13,7 hp)

POWER LIFT

Dimensions of linkage geometry for the table on page 23



LIFTING FORCES

Lifting heights relative to horizontal lower links

mm	-310	-290	-200	-120	-100	-80	0	-100
at hitch points					maximum mechanical advantage			
N							23055	23740	24525
(kg)							(2350)	(2420)	(2500)
					minimum mechanical advantage			
N	21680		22365		22660		22955	23150
(kg)	(2210)		(2280)		(2310)		(2340)	(2360)

Max. force exerted throughout the whole range 23055 N(2350 kg)
Front of tractor does not lift

at test frame				maximum mechanical advantage			
N	24525	23545		22565		21630	20800
(kg)	(2500)	(2400)		(2300)		(2205)	(2120)
				minimim mechanical advantage			
N			20405	20405		20305	20060
(kg)			(2080)	(2080)		(2070)	(2045)

Max. force exerted throughout the whole range 19230 N (1960 kg)

Front of tractor does not lift when fitted with maximum front ballast

+2oo	+3oo	+38o	+41o	+5oo	+58o	+6oo	+7oo	+775
lift rods 61o mm long								
25o15 (255o)	2536o (2585)		257oo (262o)	26585 (271o)	27665 (282o)			
lift rods 74o mm long								
23445 (239o)	23935 (244o)	24965 (2545)						
lift rods 74o mm long								
2o11o (2o5o)	1962o (2ooo)		1923o (196o)					
lift rods 61o mm long								
1952o (199o)	1854o (189o)		1746o (178o)	16675 (17oo)		16185 (165o)	1589o (162o)	15795 (161o)

All values of forces are given for pressure at max.hydraulic power (185 bar - 189 kg/cm^2), see page 2o., calculated from measured forces at max. oil pressure (193 bar - 197 kg/cm^2).

LINKAGE GEOMETRY

when connected to the standard frame	Maximum mechanical advantage	Minimum mechanical advantage
Projected length in side view:		
Lower links	950 mm	950 mm
Lift arms	280 mm	280 mm
Lift rods	740 mm	610 mm
Top link	675 mm	680 mm
Distance of lift rod connection point from pivot point of lower link	520 mm	520 mm
The following dimensions are given relative to rear axle centre line 700 mm above ground		
Lower link pivot point	35 mm behind, 180 mm below	35 mm behind, 180 mm below
Top link pivot point	307 mm behind, 240 mm above	307 mm behind, 205 mm above
Lift arm pivot point	100 mm behind, 407 mm above	100 mm behind, 407 mm above
Maximum and minimum height of lower link hitch points	200 mm above, 490 mm below	400 mm above, 230 mm below
Height of lower link hitch points when locked in the highest transport position	895 mm above ground	1100 mm above ground