O.E.C.D. Report N° 670

Test Bulletin
Tractor

ZETOR 10011

Manufactured by : ZETOR - Brno - Czechoslovakia



Durchf Date of tests : October 1978 - July 1979 ' 1979
Date of approval : 17th June 1980

Ministere de l'Agriculture
Station de Genie Rural
146, chaussée de Namur
Gembloux - Belgique

STATION DE GENIE RURAL - GEMBLOUX	Tractor ZETOR 10011	O.E.C .D. Report N° 670

TABLE OF CONTENTS

	Page
Specification of tractor	3
Main power take-off performance	11
Drawbar performance tests on a concrete track	15
Turning space and turning circle	17
Location of centre of gravity	17
Braking performance	18
Measuring of ambient noise, emitted by the tractor	19
Measuring of the noise at the driver's ear level	19
Power-lift and hydraulic pump performance	20
Additionnal test	24

STATION DE GENIE RURAL - GEMBLOUX	Tractor ZETOR 10011	O.E.C.D. Report N° 670

Tractor manufacturer : ZETOR - BRNO - CSECHOSLOVAKIA
Submitted for test by : Manufacturer
Selected by : Manufacturer with the agreement of the testing station
Place of running-in : Manufacturer
Duration of running-in : appr. 20 hours

SPECIFICATION OF TRACTOR

Tractor :

Make : ZETOR
Model : Four wheel, rear wheel driven, unit construction with cab
Type 10011
Serial n° : 1001

Engine :

Make : ZETOR
Model : 4 stroke Diesel engine, direct injection, turbocharged
Type : Z 8002 Turbo
Serial n° : 003

Cylinders : Number : 4 - Vertical in line - Bore, stroke : 110-120 mm - Capacity : 4561 cm^3 - Compression ratio : 17/1
Overhead valves : Wet cylinders liners

Fuel system :
Injection pump : MOTORPAL PP 4 M 85 K1d - 2480, in-line
Injection pump + fuel feed pump
Fuel filter : FD 10 RP 2,4 - dual filter with cartridges in paper - recommanded change period : 600 hours
Injector nozzles : DOP 150 S 535 - 4360 - Multihole injection nozzles
Injector pressure : 160 + 3 bar
Injection timing : 24° + 2° before T.D.C.
Manufacturer's production setting = 75 mm^3/stroke at rated engine speed and full load
Fuel tank capacity : 125 litres

Governor : Make : PAL RV1M 225/1100-2501
Type : mechanically operating variable speed type governor incorporated in injection pump
Governed range of engine speed : 550/2420 rev/min
Rated engine speed : 2200 rev/min

Turbo charger :
HOLSET - 3LD - 12/1,41
Exhaust driven

STATION DE GENIE RURAL - GEMBLOUX	Tractor ZETOR 10011	O.E.C.D. Report N° 670

Air cleaner :
Make : IFE MANN 500 - Oil bath - Oil capacity : 2,1 litres
Centrifugal precleaner PC 500

Exhaust silencer :
Own make
Chambre-expansion type silencer
On the left size of the bonnet, month upwards
100 x 160 mm oval, 560 mm long
Month 2355 mm above ground

Lubrication system :
Type : forced feed from gear type pump - Heat exchanger before the centrifugal filter
Type of oil filter : RDP 3 A centrifugal
Recommended cleaning period : 200 hours
Oil capacity : 10 litres
Recommended oil change period : 200 hours
Recommended oil : in summer : SAE 20W/30
in winter : SAE 10W/30
the whole year : SAE 10W/40
Quality : MIL-L 45199 B
A.P.I. : CD

Cooling system :
Water cooling, pressurized - belt driven fan with 4 blades, Ø 460 mm
Pump : centrifugal
Temperature control : thermostat and thermometer on the instrument panel
Cooling water capacity : 21 litres (23 litres with heating)
Pression : 0,4 $\pm$ 1 bar

Starting system :
Electrical - Type : 12 V - 2,9 kW
Solenoid engaged type

Electrical equipment :
Voltage : 12 V
Alternator : PAL Magneton : 14 V - 35 A
Battery : 2 batteries 6 N 100 of 12 V and 90 Ah at 20 hours rating

Transmission

Clutch : Make : ZETOR
Type : dry disc single type clutch for travel drive
External diameter : 325 mm
Foot-pedal operated

Gear box : Make : ZETOR
Type : 4 gear box, group gear with 2 forward and 1 reverse group, torque amplifier, all handlever operated
Number of speeds : 16 forward and 8 reverse speeds

Rear axle and final drive :
Make : ZETOR
Type : crown wheel and pinion, bevel gear and differentiel, planetary reduction final drive
Differential lock, foot-pedal operated, self-disengaging

STATION DE GENIE RURAL - GEMBLOUX	Tractor ZETOR 10011	O.E.C.D. Report N° 670

Oil capacity :

Gearbox, rear axle and power lift : 50 litres
Oil changing period : 1200 hours
Recommended oil : SAE 80 - Quality : A.P.I. : **GL 4**

Total ratios and speeds :

Gear n°	Number if engine revolutions for one revolution of the driving wheel	Nominal travelling speed at rated engine speed and with 18,4/15-34 tyres °) km/h
Forward		
1B-A °°)	348,35	1,81
1B	260,40	2,42
2B-A	221,05	2,85
2B	165,22	3,82
3B-A	139,10	4,53
1H-A	119,42	5,28
3B	103,98	6,06
4B-A	97,72	6,45
1H	89,26	7,06
2H-A	75,76	8,32
4B	73,03	8,63
2H	56,63	11,13
3H-A	47,57	13,25
3H	35,65	17,68
4H-A	33,50	18,82
4H	25,04	27,17
Reverse		
1-A	254,75	2,47
1	190,43	3,31
2-A	161,64	3,90
2	120,83	5,22
3-A	101,72	6,20
3	76,04	8,29
4-A	71,45	8,82
4	53,40	11,80

°) Calculated with tyre rolling radius of 760 mm

°°) Torque amplifier in power position

STATION DE GENIE RURAL - GEMBLOUX	Tractor ZETOR 10011	O.E.C.D. Report N° 670

Power take-off

Independent p.t.o. :
At rear of tractor in median plane
Driven through a hand lever hydraulically operated multiplate clutch
624 mm above ground (with 18,4/15 - 34 tyres)
Distance of p.t.o.-end to rear axle centre : 510 mm

Power take-off - 1000 rev/min :
Replaceable p.t.o.-end
34,9 x 31,8 x 2,5 mm, 21 splines (ISO R 500)
1012 rev/min at rated engine speed (2200 rev/min)
Standard p.t.o. speed 1000 rev/min at 2174 rev/min engine speed
Direction of rotation : clockwise viewed from tractor rear

Power take-off - 540 rev/min :
Replaceable p.t.o.-end
29 x 34,9 x 8,7 mm = 1 3/8", 6 splines (ISO R 500)
629 rev/min at rated engine speed (2200 rev/min)
Standard p.t.o. speed 540 rev/min at 1890 rev/min engine speed
Direction of rotation : clockwise viewed from tractor rear
Maximum permissible torque at 540 rev/min : 680 Nm
Maximum permissible power at : 540 rev/min : 38 kW
629 rev/min : 44,3 kW

Proportional ground speed power take-off :
Travelling distance for one revolution of the p.t.o. shaft : 0,174 m
27,4 revolutions of the p.t.o. shaft for one revolution of the driving wheel
Direction of rotation : clockwise viewed from tractor rear when travelling forward

Power lift :

Make : ZETORMATIC
Type : single acting ram
Position control, draft control by lower links and mixing control
Gear type pump driven by transmission in the clutch housing in amount of p.t.o. clutch - disconnecting drive
Auxiliary acting ram : bore : 50 mm - stroke : 287 mm
Auxiliary power lift pump : driven by an eccentric on the p.t.o. shaft
Recommended oil : SAE 80 - Quality : A.P.I. : GL 4
Type of filter : strainer and paper element filter - Recommended change period : 600 hours
Recommended oil change period : 1200 hours
Oil capacity : 50 litres (transmission oil), 15 l may be taken off through oil tappings
External tappings : 2

STATION DE GENIE RURAL - GEMBLOUX	Tractor ZETOR 10011	O.E.C.D. Report N° 670

Implement linkage :

Three point implement linkage, ISO R 730, category 2, operated by power lift
Lifting rods length adjustable from 525 mm to 630 mm
Lifting range above ground with :
lifting rods short : from 270 to 1020 mm
lifting rods long : from 80 to 830 mm

Holed drawbar :

Type : double bar with 5 holes of 32 mm diameter, 80 mm distance each
Tickness of the bar : 16 mm - width: 80 mm
Length between the joint balls : 870 mm
Height above ground adjustable by power lift from 112 mm to 1052 mm measured at the surface of the drawbar
With lower links in horizontal position :
horizontal distance of centre hole to rear axle centre : 1040 mm
horizontal distance of centre hole to p.t.o. shaft end : 530 mm

Pull attachment :

1) Trailer hitch
At rear of tractor
Height above ground adjustable in two positions : 726 mm and 833 mm
Diameter of coupling pin : 38 mm
Horizontal distance of hole from rear axle centre : 722 and 727 mm
Distance of hole from p.t.o. shaft end : 212/215 mm behind
98/103 mm above
Maximum static downbar load : not specified

2) Towing hitch :
At front of tractor
Height above ground : 795 mm
Diameter of coupling : 30 mm

Hook :

At rear of tractor
Height above ground : 415 mm
Operated by power lift
Distance from centre to rear axle : 640 mm
Position relative to p.t.o. : 120 mm behind
209 mm below
Pivot position relative to rear wheel centre : 310 mm

Steering :

Make : PILMET WROCLAW - Recirculating ball type
Steering wheel operated
Type : with universal joint shaft
Hydraulically power assisted - Number of cylinders : 1
Pump delivery : 10 l/min at 1200 rev/min of the engine - Max. pressure : 82,8 + 8 bar

Brakes :

a) Foot brake :
Make : ZETOR
Type : dry discs brakes on differential shafts
Diameter of discs : 227 mm
Hydraulically acting
Operated by the single parts of the divided pedal of foot brake; for normal use both parts are connected together

b) Parking brake :
Type : mechanically acting on discs of service brakes
Operated by a handlever with locking ratch

Wheels :

Steering wheels : Number : 2 - Location : at front
Type of tyres : 7,50-20; 6 ply, diagonal carcass
Maximum permissible load on each tyre : 850 kg at 2,5 bar inflation pressure and 30 km/h velocity
Track width : 1350, 1500, 1650 and 1800 mm - Changeable by extending front axle
Rims : 5,50 F x 20

Driving wheels : Number : 2 - Location : in the rear
Type of tyres : 18,4/15-34; 8 ply, radial carcass
Maximum permissible load on each tyre : 2565 kg at 1,4 bar inflation pressure and 30 km/h velocity
Track width : 1500 and 1725 mm
Changed by turning wheels
Rims : W 15 x 34

Wheel base : 2385 mm

Lighting :

Unrestricted beam angle of headlights in plan view : 21 mm/m

	Height above ground of centre	Size	Distance from outside edge of tractor to centre at 1500 mm track
	mm	mm	mm
Headlights	1096	Ø 140	493
Side lights	1732	43x55	55
Rear lights	1410	106x72	255
Reflectors	1215	Ø 75	134

STATION DE GENIE RURAL - GEMBLOUX	Tractor ZETOR 10011	O.E.C.D. Report N° 670

Number of grease points :

Whole tractor : 12

CONDITIONS DURING TEST

Masses :

Tractor without driver but with tanks full and cab

	Front	Rear	Total
	kg	kg	kg
Without ballast	1311	2482	3793
With ballast	1630	3464	5094

Ballast :

	Number of weights	Total mass	Water
		kg	kg
Front end	12	337	-
Rear wheels	6	254	710

Track setting during tests :

Front : 1500 mm
Rear : 1500 mm

Overall dimensions :

Length : 4140 mm, with or without ballast (lower links - front of bonnet)

Width : 1950 mm, with or without ballast and at 1500 mm track

Height : 2365 mm, to top of exhaust pipe
2470 mm, to top of cab

Ground clearance : 315 mm (pivot of hook)

Seat :

Make : ZETOR
Type : upholstered seat with back rest
Type of suspension : parallelogram linkage
Type of shock absorber : hydraulic and pneumatic shock absorber
Adjustment : in length direction : 250 mm
in heigth : none

FUEL AND LUBRICANTS USED IN TESTS

Laboratory tests :

Fuel : type : SHELL diesel-fuel - Density : 0,830 kg/l at 15°C
Engine oil : type : SHELL Rimula CT - Viscosity : SAE 20W/30
Transmission oil : OA-PP 80 - Viscosity : SAE 80

Drawbar tests :

Fuel : type : SHELL diesel-fuel - Density : 0,840 kg/l at 15°C
Engine oil : type : SHELL Rimula CT - Viscosity : SAE 20W/30
Transmission oil : OA-PP 80 - Viscosity : SAE 80

STATION DE GENIE RURAL - GEMBLOUX	Tractor ZETOR 10011	O.E.C.D. Report N° 670

COMPULSORY TESTS

I. MAIN POWER TAKE-OFF PERFORMANCE

Date and location of tests : 19.10.1978 - GEMBLOUX
Type of dynamometer : electrical SCHENCK W 780

Power	Speed		Fuel consumption		
	Engine	P.t.o.	Total	Specific	Specific energy
kW	rev/min	rev/min	l/h	g/kW h	kW h/l
At maximum power - 2 hours test					
66,8	2200	1012	19,336	240	3,45
At standard p.t.o. speed (1000 rev/min)					
66,3	2174	1000	18,973	237	3,49
At the speed recommended by the manufacturer for drawbar work					
66,8	2200	1012	19,336	240	3,45
Fuel consumption at part loads					
I) 85% of torque at maximum power					
58,1	2252	1036	17,042	243	3,41
II) Unloaded					
-	2413	1110	5,478	-	-
III) 50% of the load defined in (I)					
30,3	2344	1078	11,027	302	2,75
IV) Maximum power					
66,8	2200	1012	19,336	240	3,45
V) 25% of the load defined in (I)					
15,4	2381	1095	8,241	444	1,87
VI) 75% of the load defined in (I)					
44,6	2302	1059	13,818	257	3,23

STATION DE GENIE RURAL - GEMBLOUX	Tractor ZETOR 10011	O.E.C.D. Report N° 670

No load maximum engine speed : 2413 rev/min

Torque °) at maximum power : 290 Nm

Maximum torque °) : 310 Nm at 1650 rev/min of the engine

Mean atmospheric conditions
- temperature : 21°C
- atmospheric pressure : 1008 m bar
- relative humidity : 92%

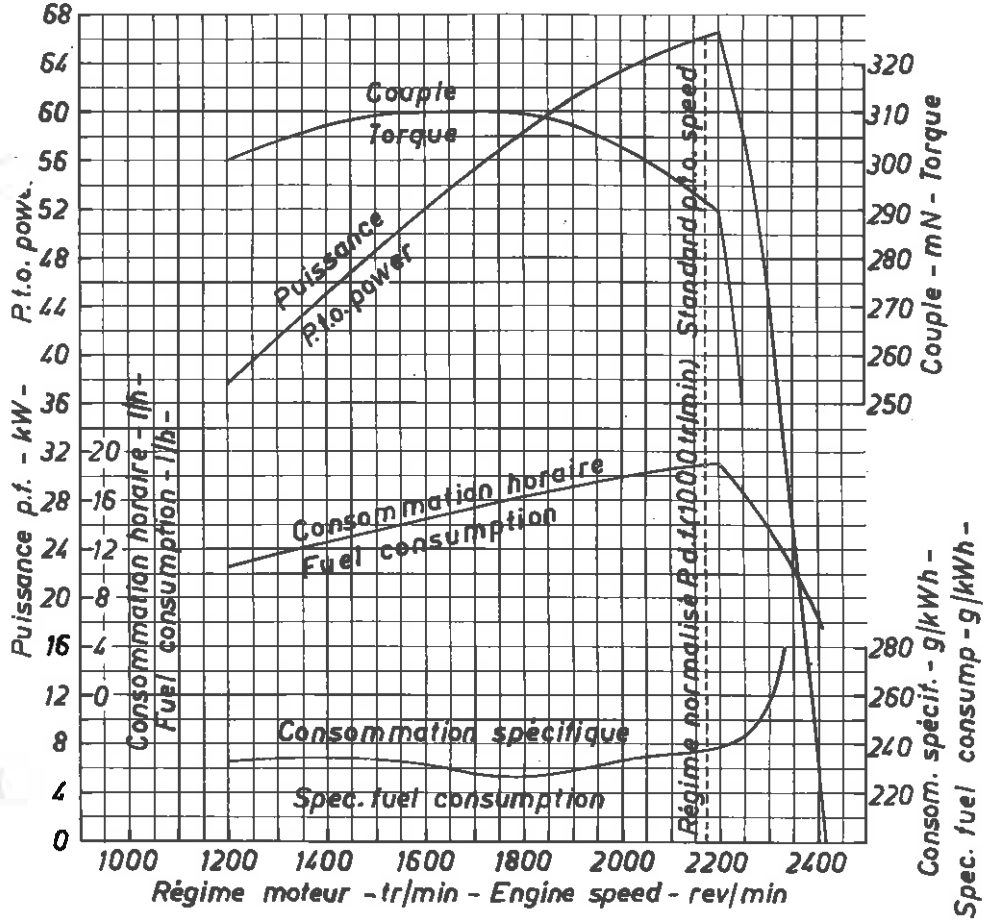
Maximum temperatures :
- coolant : 83°C
- engine oil : 95°C
- fuel : 24°C

°) The torque is the equivalent crankshaft torque

STATION DE GENIE RURAL - GEMBLOUX	Tractor ZETOR 10011	O.E.C.D. Report N° 670

Essais au banc à la prise de force

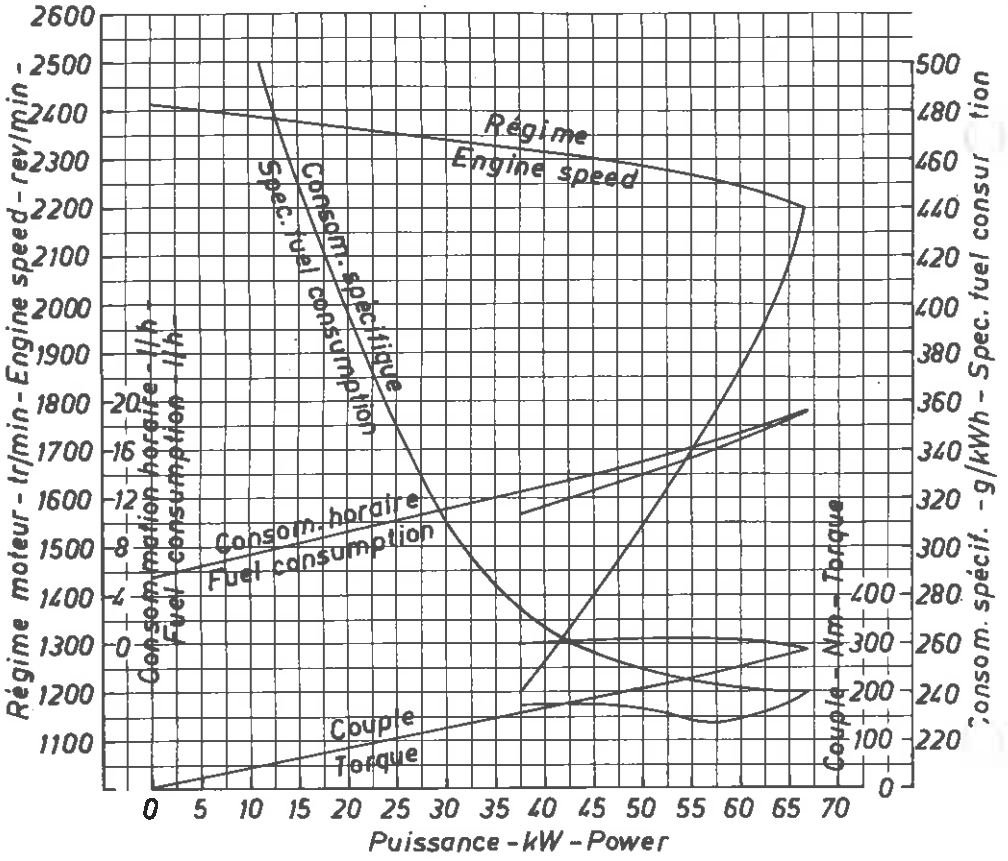
Power take - off test



Tracteur : *ZETOR 10011*	*Accouplement :* *prise de force*	*Date épreuve :* *19 - 10 - 1978*
Moteur: n° 0003	*T° de l'air : 21°C*	*STATION DE GENIE RURAL C.E.M.A.G. - Gembloux*
Combustible : dens.: 0,830 à 15°C	*Pression barom.: 1008 mbar*	

STATION DE GENIE RURAL - GEMBLOUX	Tractor ZETOR 10011	O.E.C.D. Report N° 670

Essais au banc à la prise de force
Power take-off test



Tracteur : *ZETOR 10011*	*Accouplement :* *prise de force*	*Date épreuve :* *19 - 10 - 1978*
Moteur : n° 0003	*T° de l'air : 21°C*	*STATION DE GENIE RURAL C.E.M.A.G. - Gembloux*
Combustible : dens.: 0,830 à 15°C	*Pression barom. : 1008 mbar*	

II. DRAWBAR PERFORMANCE ON A CONCRETE TRACK

Date of tests : June and July 1979
Type of track : concrete
Height of drawbar above ground : tractor with ballast : 683 mm
tractor without ballast : 736 mm
Tyres size : front : 7,50-20/, 6 ply - inflation pressure : 2,0 bar
rear : 18,4/15-34, 8 ply - inflation pressure : 1,2 bar
for all tests

Gear n° and group	Speed	Power	Drawbar pull	Engine speed	Slip of wheels	Consumption		Temperatures			Atmospheric conditions		
						Specific energy	Specific fuel consumption	Fuel	Coolant	Engine oil	Temperature	Relative humidity	Atmospheric pressure
	km/h	KW	N	rev/min	%	kW h/l	g/kW h	°C	°C	°C	°C	%	m bar
I) MAXIMUM POWER (tractor with ballast)													
1B-A	1,70	19,8	41990	2376	15,0	-	-	14	82	90	11	88	998
1B	2,16	25,2	41990	2370	15,0	-	-	15	82	90	11	88	998
2B-A	2,56	29,9	41990	2357	15,0	2,24	375	15	83	90	11	88	998
2B	3,34	38,9	41990	2286	15,0	2,50	336	16	84	90	11	88	998
3B-A	3,94	45,6	41890	2252	15,0	2,57	325	16	84	90	11	88	998
1H-A	4,62	53,8	41890	2231	15,0	2,74	307	16	84	90	11	88	998
3B	5,18	56,2	39040	2208	12,1	2,83	296	25	85	92	21	67	1014
4B-A	5,72	58,5	36790	2204	10,7	2,96	283	16	84	90	11	88	998
1H	6,61	61,3	33350	2200	8,5	3,15	267	26	85	92	21	67	1014
2H-A	7,55	61,8	29430	2200	7,4	3,12	270	16	84	90	11	88	998
4B	7,86	62,0	28450	2198	7,2	3,16	266	26	85	92	21	67	1014
2H	10,52	64,4	22070	2198	5,1	3,25	259	26	85	92	21	67	1014
3H-A	12,71	64,3	18230	2196	3,9	3,24	259	16	84	90	11	88	998
II) FIVE HOURS TEST at 75% of pull at maximum power													
4B-A	6,35	48,6	27590	2280	6,9	2,90	289	27	85	93	22	76	994

Gear n° and group	Speed	Power	Drawbar pull	Engine speed	Slip of wheels	Consumption		Temperatures			Atmospheric conditions		
						Specific energy	Specific fuel consumption	Fuel	Coolant	Engine oil	Temperature	Relative humidity	Atmospheric pressure
	km/h	kW	N	rev/min	%	kW h/l	g/kW h	°C	°C	°C	°C	%	m bar
III) FIVE HOURS TEST at pull corresponding to 15% wheelslip in test (I)													
1H-A	-	-	41890	2230	-	-	-	27	85	94	23	67	993
IV) MAXIMUM POWER (tractor without ballast)													
1B-A	1,81	14,9	31980	2398	15,0	-	-	17	80	86	13	68	1006
1B	2,24	19,9	31980	2377	15,0	-	-	17	80	86	13	68	1006
2B-A	2,62	23,2	31980	2352	15,0	-	-	17	81	86	13	68	1006
2B	3,54	31,4	31980	2334	15,0	-	-	17	81	86	13	67	1006
3B-A	4,03	35,8	31980	2303	15,0	-	-	17	81	86	13	67	1006
1H-A	4,68	41,5	31980	2272	15,0	-	-	18	82	87	13	67	1006
3B	5,39	47,9	31980	2251	15,0	-	-	18	82	87	13	66	1006
4B-A	5,77	51,1	31880	2237	15,0	-	-	18	82	87	13	66	1006
1H	6,30	55,7	31880	2230	15,0	-	-	18	83	88	13	66	1006
2H-A	7,49	56,1	26980	2202	9,1	-	-	18	83	88	14	66	1006
4B	7,74	56,3	26190	2200	8,4	-	-	18	83	88	14	66	1006
2H	10,44	59,1	20400	2196	4,8	-	-	18	84	88	14	66	1006
3H-A	12,38	58,7	17070	2198	3,7	-	-	18	84	88	14	66	1006

Total oil consumption during ten hours duration of tests (II) and (III) : 15 g'/h

STATION DE GENIE RURAL - GEMBLOUX

Tractor ZETOR 10011

O.E.C.D. Report N° 670

STATION DE GENIE RURAL - GEMBLOUX	Tractor ZETOR 10011	O.E.C.D. Report N° 670

III. TURNING SPACE AND TURNING CIRCLE

Wheel equipment : front : 7,50-20, 6 ply
rear : 18,4/15-34, 8 ply

Track of wheels : front : 1500 mm
rear : 1500 mm

	With brakes		Without brakes	
	Right hand	Left hand	Right hand	Left hand
	m		m	
Radius of turning space	3,62	3,58	4,12	4,18
Radius of turning circle	3,51	3,47	4,01	4,07

IV. LOCATION OF CENTRE OF GRAVITY

Height above ground	862 mm
Distance forward from the vertical plane containing the axis of the rear wheels	774 mm
Distance of the medium plane of the tractor	6 mm to the right

V. BRAKE TESTS

Date of tests : 19.4.79 and 18.6.79
Type of track : concrete
Type of decelerometer : MOTO-METER, recording type
Mass of ballasted tractor : 5094 kg without driver

COLD BRAKES

	With ballast	Without ballast
Travelling speed - km/h	25	25
Deceleration - m/s^2	5,5	4,0
Stopping distance - m	5,4	7,8
Force on pedal - N	451	324
Force on pedal to achieve a deceleration of 2,5 m/s^2 - N	216	186

BRAKE FADE CHARACTERISTICS (hot tests)

	With ballast	Without ballast
Deceleration : hot/cold x 100 - %	111	106
Stopping distance : cold/hot x 100 - %	117	105
Force on pedal : cold/hot x 100 - %	110	87

PARKING BRAKE

Tractor facing up slope (16%) :
Pull on hand brake : 206 N, tractor does not roll

Tractor facing down slope (16%) :
Pull on hand brake : 186 N, tractor does not roll

STATION DE GENIE RURAL - GEMBLOUX	Tractor ZETOR 10011	O.E.C.D. Report N° 670

VI. MEASUREMENT OF AMBIANT NOISE EMITTED BY THE TRACTOR

Date of test : 1.12.78
Type of track : concrete
Type of sound level meter : BRÜEL & KJAER, type 2203

Results of test :
Gear : 4H
Travelling speed before acceleration : 20,85 km/h
Sound level : 86,5 dB(A)

VII. NOISE MEASUREMENT AT THE DRIVER'S EAR

Date of tests : 1.12.78
Type of track : concrete
Type of sound level meter : BRÜEL & KJAER, type 2203
Type of octave filter : BRÜEL & KJAER, type 1613
A cab was fitted on the tractor

Results of tests :

Gear n°	Travelling speed km/h	dB(A)	Sones
1B-A	1,89	85,5	53,8
1B	2,49	84,5	49,4
2B-A	2,96	84,5	50,9
2B	3,86	84	46,8
3B-A	4,61	83	43,5
1H-A	5,25	83,5	42,2
3B	6,02	84	43,8
4B-A	6,23	83,5	41,4
1H	6,93	83,5	44,5
2H-A °)	7,67	83,0	43,1
4B	8,60	83,0	42,2
2H	10,97	83,5	45,0
3H-A	13,40	85,5	51,1
3H	18,20	85	49,8
4H-A	19,30	85	49,4
4H °°)	27,20	85	51,9

°) The 2H-A gear corresponds to the travelling speed nearest to 7,5 km/h
°°) With light load

VIII. POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

Date and location of tests : 26 and 27.7.79 - Gembloux
Hydraulic fluid - viscosity : SAE 80
Type of linkage lock for transport : hydraulically acting linkage lock

HYDRAULIC PUMP

A. Principal circuit of power lift :

1) Opening pressure of relief valve : 134 bar
Sustained pressure by open relief valve : 169 bar

2) Pump delivery rate at minimum pressure and maximum engine speed : 35 l/min

3) Pump delivery rate : 34,0 l/min
Delivery pressure : 154 bar
Hydraulic power : 8,7 kW

B. Remote circuit :

Same characteristics as principal circuit

C. Auxiliary delivery pump :

1) At 1000 rev/min of p.t.o. :

Pump delivery rate : 3,8 l/min
Delivery pressure : 176 bar
Hydraulic power : 1,1 kW

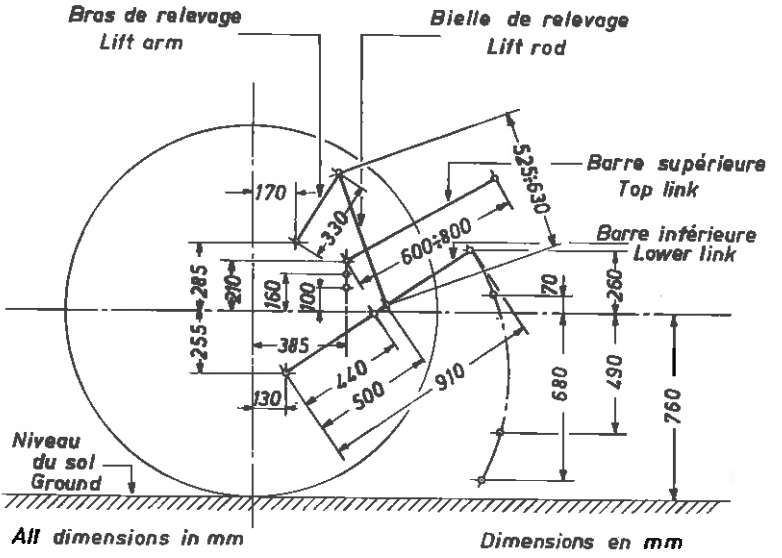
2) At 540 rev/min of p.t.o. :

Pump delivery rate : 2,1 l/min
Delivery pressure : 176 bar
Hydraulic power : 0,6 kW

STATION DE GENIE RURAL - GEMBLOUX	Tractor ZETOR 10011	O.E.C.D. Report N° 670

POWER LIFT

Dimensions of linkage geometry for the table on page 23.



LIFTING FORCES

Lifting heights relative to horizontal lower links :

mm	-425	-400	-300	-235	-200	-100	0	+100	+200	+300	+325	+400	+500	+515
At hitch points °)														
Maximum mechanical advantage														
N				38750	38850	39140	39630	40520	41590	42380		42480	42480	42480
Minimum mechanical advantage														
N	32570	32670	33350		34240	35220	35710	35900	36300	36790	37180			
Max. Force exerted throughout the whole range : 38650 N/32570 N Force at which front of tractor is calculated to lift with maximum allowable front ballast : 38240 N Oil pressure : 169 bar														

mm	-289	-200	-171	-100	0	+100	+200	+300	+315	+400	+500	+597		
At test frame °)														
Maximum mechanical advantage														
N	48560	45130		41790	39340	37340	36000	35120	35020					
Minimum mechanical advantage														
N			39040	38060	36400	34630	32860	30900		29140	27470	25900		
Max. Force exerted throughout the whole range : 35020 N/25900 N Force at which front of tractor is calculated to lift with maximum allowable front ballast : 24110 N Oil pressure : 169 bar														

°) All values of forces for pressure at max. hydraulic power calculated from measurements at maximum oil pressure.

LINKAGE GEOMETRY WHEN CONNECTED TO THE STANDARD FRAME

	Maximum mechanical advantage	Minimum mechanical advantage
Projected length in side view :		
Lower links	910 mm	910 mm
Lift arms	330 mm	330 mm
Lift rods	630 mm	525 mm
Top link	652 mm	652 mm
Distance of lift rod connection point from pivot point of lower link	500 mm	440 mm
The following dimensions are given relative to rear axle centre line 760 mm above ground		
Lower link pivot point	130 mm behind, 255 mm below	130 mm behind, 255 mm below
Top link pivot	385 mm behind, 210 mm above	385 mm behind, 210 mm above
Lift arm pivot point	170 mm behind, 285 mm above	170 mm behind, 285 mm above
Maximum and minimum height of lower link hitch points	70 mm above, 680 mm below	215 mm above, 541 mm below
Height of lower link hitch points when locked in transport position	No definite transport position	No definite transport position

STATION DE GENIE RURAL - GEMBLOUX	Tractor ZETOR 10011	O.E.C.D. Report N° 670

ADDITIONAL TEST

Out of the O.E.C.D. CODE under the responsability of the "Station de Génie Rural de l'Etat".

NOISE AT THE DRIVER'S EAR LEVEL

Date of test : 1.12.78
Test track : concrete
Type of sound level meter : BRÜEL & KJAER, type 2203
Type of frequency analyser : BRÜEL & KJAER, type 1613

The tractor was fitted with a safety cab

Results of test :

Octave analysis in the 2H-A of which the travelling speed is nearest to 7,5 km/h reported in the diagram of the noise rating curvers.

Gear	Travelling speed	Sound level	
	km/h	dB(A)	Noise rating
2H-A	7,67	83	83

STATION DE GENIE RURAL - GEMBLOUX	Tractor ZETOR 10011	O.E.C.D. Report N° 670

Area limited by the maximum and minimum values of the octave analysis by all speeds.

