#### OPICO LIMITED

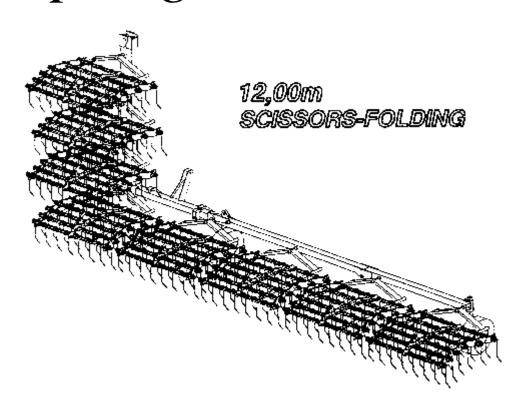
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# Operating Instruction

# Spring tine harrow



# Quality from OPICO

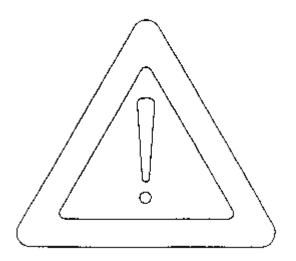
2006

# Contents for

# Spring tine harrow

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# **ATTENTION!!!** very important!!!



# **Safety instructions**

- Do not remain in the working area of the implement
- It is prohibited to remain in the folding area of the implement during the process of folding danger of being crushed
- Put a mechanical support to prevent the implement from lowering, if you do repair or maintenaince work under the implement in the raised position on the tractor
- Riding on the implement is not allowed, either during transport or during work
- Lower the tractor linkage and machine when leaving the tractor seat (either in folded or unfolded position)
- Take extra care when crossing or driving on slopes

#### 3. Harrow assembly instructions

Assembly instructions relate to Fig. 1 below

- A. Fit the support wheels, support beam and parking stand, secure with pins
- B. Attach the tractor lower links and top link to the harrow, adjust the top link until the harrow frame is horizontal, adjust the tractor lower link stabilisers so the machine is held stable and rigid
- C. Fit the hydraulic hose coupling (hydraulic folding models only) into the tractor hydraulic service, remove the safety pin on the auto lock mechanism, pull the auto lock handle, operate the tractor spool valve to unfold wings, lower fully to the ground

NOTE: Single acting hydraulic cylinders are fitted with an accumulator pressurised at 8-10 bar (116-145 psi) when in the working position

- D. Fit the carrier forks for the harrow sections **Ref. Fig. 2**, securing with washer and roll pin.
- E. Hang the harrow beds onto the carrier fork with chains on the outside of the carrier tube using the last chain link and secure with safety pins
- F. Fit the stabiliser bars between adjoining carrier frames, adjust so the carrier frame is horizontal and secure with safety pins. Failure to fit the stabiliser bars will result in poor machine performance and damage to the machine
- G. Raise the tractor lift arms to lift the machine clear of the ground
- H. Lift up the rear support stand and depth wheels, secure with pins
- I. Operate the tractor spool valve to fold the wings to the upright transport position. The auto lock mechanism needs to be operated every time a hydraulic model is unfolded.
- J. Re-tighten all nuts and bolts after initial use

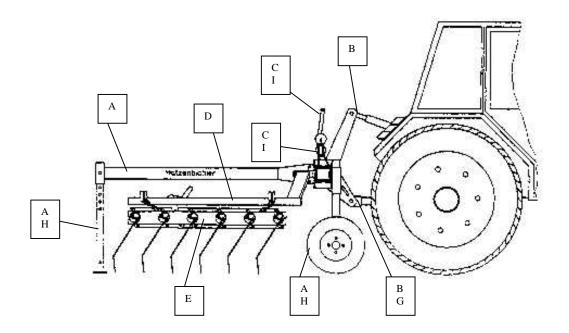


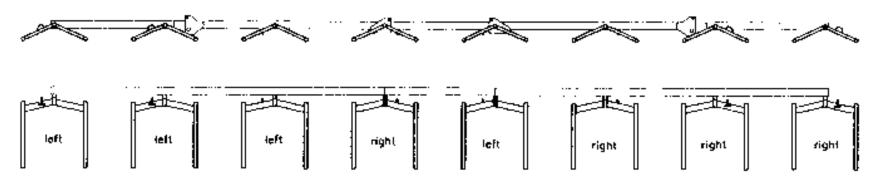
Fig. 1

#### **Placement of carrier forks**

It is important that the carrier frames are fitted in the correct position, with left and right hand forks postioned as shown in Fig. 2

If the carrier forks are incorrectly mounted the stabiliser bars will not fit or operate correctly when the machine is folded into the transport position

#### Harrow - 12m working width

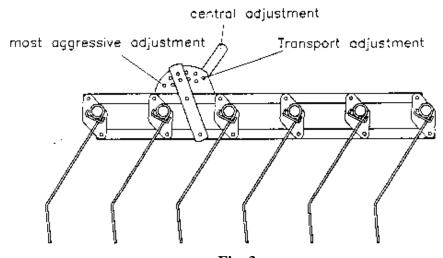


**Fig. 2** 

#### 4. Working Instructions

#### 4.1) Basic harrow adjustments

#### Tine angle



- Fig. 3
- 1. Raise the machine clear of the ground
- 2. Remove the locking pin **Ref. A Fig. 3** at the base of the adjusting handle
- 3. Operate the adjusting handle **Ref. B Fig. 3** to increase / decrease the agressiveness of the tines, there are ten possible settings. The flatter adjustment will produce less vigorous weeding than the steeper adjustment.
- 4. Carry out the above operation on each individual harrow bed section. (Ensure that each section is adjusted to the same setting)

#### **Height setting**

- 1. Park the machine on a flat area
- 2. Lower the machine until tine contact with the ground is made, adjust the top link to ensure the harrow bed is horizontal and tines are in even contact with the ground
- 3. Set the depth wheels using the locking pin to suit the required effect, this will depend on crop, soil type & moisture and operating conditions. The ware pad on the carrier fork transfers pressure onto the harrow bed when working, the harrow bed must always be pressurised.
- 4. The more aggressive tine setting required, the higher the wheels should be set

#### 4.2) Work in the field

Spring tine harrow weeders can be used in a wide range of crops, including grassland, maize, winter and spring cereals, winter and spring pulses, potatoes and some vegetables crops. Different weed control strategies will be needed for different weeds, with the effectiveness of the harrow being dependent on the individual weed species present and their growth stage. Weeding timing, the number of passes and the intensity of weeding needs to be specific to the weed type present, the crop and soil conditions

#### 4.2) Work in the field (cont)

- 1. Use of the spring tine harrow:
  - Mechanical weed control
  - Aerating the soil structure
  - Activates natural nitrogen
  - To maintain optimum soil condition
  - Stimulating crop tillering
  - Scarifying the soil surface

#### 2. Blind Harrowing:

- □ Use to flush the weed bank prior to drilling this will improve crop establishment by reducing weed competition. Use immediately before or after planting to break soil cap and remove germinating weeds
- For breaking soil caps, use the strongest pressure settings

#### 3. Grassland:

- □ For effective grassland management, use to rip out moss and dead thatch, open up the soil surface, improve aeration and encourage new growth. Improve manure dispersal and incorporation
- A medium to strong pressure setting should be used for a single pass in grassland, to loosen weeds, remove dead thatch and scarify the ground surface. A second pass may be required depending on conditions

#### 4. Maize:

- □ Use to germinate weed seed in stale seedbeds and perform weed strikes pre drilling. Harrow pre-emergence to 'blind harrow'. Spring harrowing when maize plants are between 10-30cm
- A less vigorous, flatter setting

#### 5. Winter Cereals:

- □ Use to germinate weed seed in stale seedbeds and perform weed strikes pre drilling. Weed pre-emergence & 6-7 days after sowing. When soil conditions allow, cereal crops should be autumn weeded at the 2-leaf stage (growth stage 13) onwards. Weeding in the spring should take place at the tillering stage (growth stage 22-30).
- A medium to strong pressure setting should be used for a single pass in cereals (to loosen weeds), followed by second pass at a lower pressure setting

#### 6. Spring Cereals:

- Use to germinate seeds in stale seedbeds and perform weed strikes pre drilling. Weed pre-emergence 6-7 days after sowing. Early spring weed at the 2<sup>nd</sup> leaf stage (growth stage 13) followed up with a second weeding at tillering stage (growth stage 22-30)
- A medium to strong pressure setting should be used for a single pass in cereals (to loosen weeds), followed by second pass at a lower pressure setting

#### 7. Field Beans:

- ☐ Use to germinate weed seed in stale seedbeds and perform weed strikes pre drilling. Early autumn or spring weeding at 8-leaf stage
- A light harrow pressure setting to minimise crop damage

#### 8. Vegetables & Root crops:

- □ Pre-drilling, stale seedbed weed strikes (may knock edges of beds). Post emergence in-row weeding. Brassicas pre-emergence to germinate weed seed in stale seedbeds and perform weed strikes, three weeding passes up to 6 weeks after planting, with a maximum of 10 days gap between weeding
- A low to medium setting

#### 4.3) Safe use of the harrow

- 1. Fully lower the machine to the ground, ensure the carrier fork is pressurising the harrow bed via the ware pads. Do not allow the harrow bed to operate loose, this will cause premature ware on the carrier chains and damage the machine
- 2. The harrow is set up correctly when the tines vibrate vigorously from side to side as the harrow moves forward. This produces the most effective weeding & scarifying action.
- 3. Operating speed will vary dependant on the type of work and conditions, the harrow operates best between 6–12 km/h (3.5-7.5 m.p.h)
- 4. The machine should be lifted clear of the ground when turning
- 5. Do not reverse the tractor when the machine is in contact with the ground

#### 5. Maintenance

#### **5.1) Daily**

- 1. Check all frame nuts and bolts are tight
- 2. Check hydraulic hoses for damage
- 3. Check tine condition & tine bolts

#### 5.2) Weekly

- 1. Lubricate all grease points on the machine
- 2. Maintain a maximum tyre pressure of 2.5 bar (35 psi) [16x6.50-8]
- 3. Check wheel nuts are tight

#### 5.3) Storage

- 1. While out of use park on parking stands
- 2. Ensure that the tines are not under any pressure / loading and are free floating
- 3. Clean the machine thoroughly, and paint any bare metal
- 4. Check for any oil leaks on hydraulic hoses and rams
- 5. Grease hydraulic ram piston rod (if left unfolded)
- 6. Oil / grease all pivots
- 7. Check harrow section for ware and/or breakage

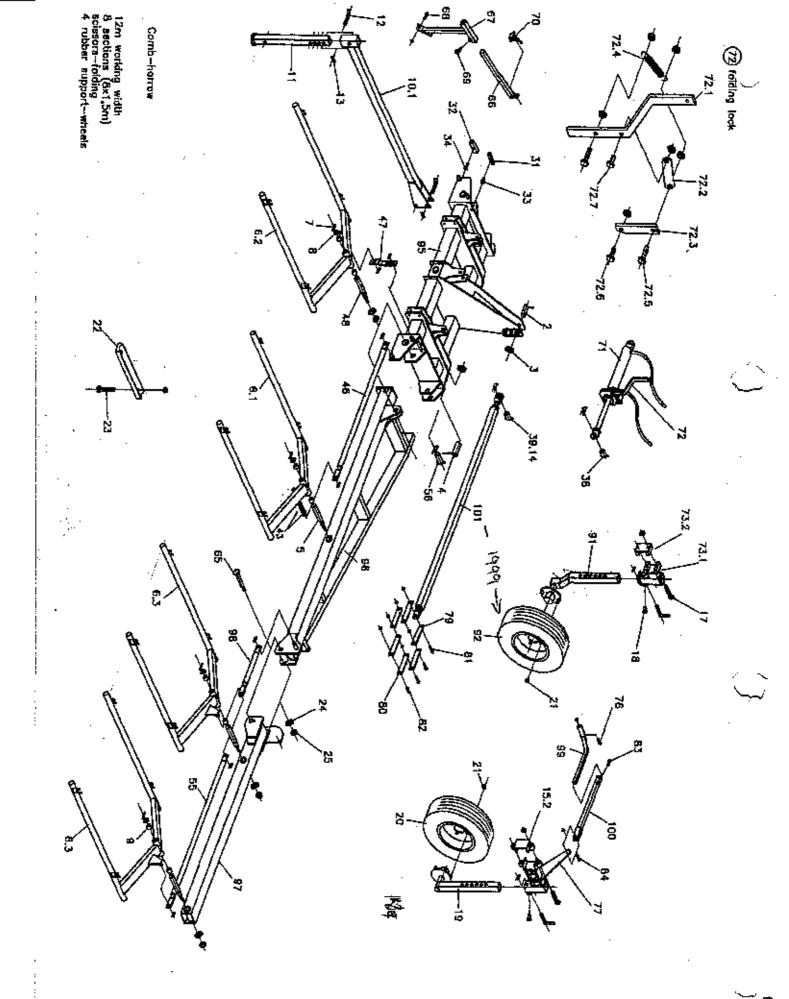
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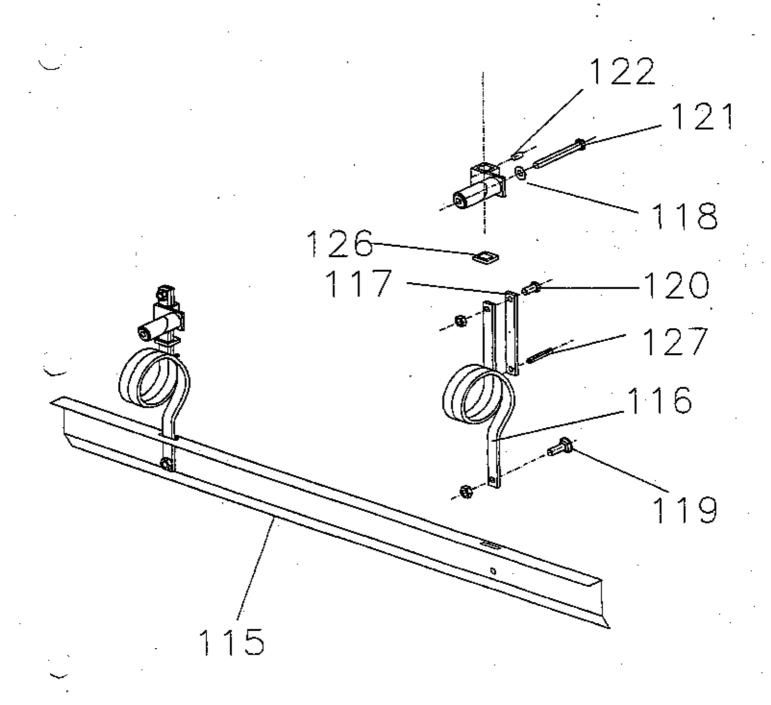


# Spare part list for Harrow



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Page added to Comb Harrow working width 3-13,5m "levelling bars" to be fitted on the carrier for harrow section



Pos. Nr.:	Art. Nr.: Description	
1	93572	centre part for 3,0m
2	9345	top link pin d=25mm w. lynch pin d=10mm
3	930225	lynch pin d=10mm
4	9346	lower link pin d=28mm w. lynch pin
5	9327	threaded pin - short (295mm), M20 w. nut
6		CARRIER FOR HARROW SECTION
6,1	93062	carrier for harrow section with pin - right
6,2	93061	carrier for harrow section with pin - left
6,3	93066	carrier for harrow section with pin - above right
6,4	93065	carrier for harrow section with pin - above left
6,5	93063	carrier for harrow section with pin right, (tree - nurseries) - above left
6,6	93064	carrier for harrow section with pin left, (tree - nurseries) - above right
6,7	93067	carrier for harrow section with stop pin
7	930222	roll pin 8x50
8	930223	washer disc A35
9	9326	glacier - bush 35x39x20
10		CARRIER FOR SUPPORT
10,1	931610	carrier for support - straight
10,2	93161	carrier for support - bent
10,3	931612	carrier for support - long f. 13,5m
11	9316	support
12	93609	pin d= 14x100 w. spring pin
13	930224	spring pin d=4mm
14	9311	flat iron 8x40
15	93202	CLAMP FOR SUPPORT WHEEL COMPLEXTENDED
15,1	93200	Clamp for support wheel
15,2	932001	counter clamp
16	93201	CLAMP FOR SUPPORT WHEEL COMPL.
16,1	9320111	Clamp for support wheel
17	93021	hex. bolt M16x110 w. nut
18	93022	hex. bolt M12x25
19 20	9315	wheel hub with rod f. rubber support wheel
20	0040	RUBBER SUPPORT WHEEL
20,1	9313	rim with tyre 16x6.5-8
20,2	93131	wheel without rim 16x6,5-8
20,3	93132	inner tube 16x6,5-8
. 20,4 21	93125	rim for rubber support wheel 16x6,5-8
22	930226 9340	wheel nut M12
23	9424TOR	PVC wearing part w. nuts
24	930227	cup spuare bolt 8x70 w. nut washer A20
25	930227	
26	93573	hex. nut M20 centre part for 4,5m
27	30070	· · · · · · · · · · · · · · · · · · ·
27,1	941778	SIDE ARM FOR 4,5m WORKING WIDTH
27,2	941779	side arm f. 4,5m working width right side arm f. 4,5m working width left
28	941805	folding rods for 4,5m
29	93222	folding rous for 4,577 folding pin threaded
30	94179	folding rods for 6m and 9m rigid
31	93610	threaded piece (quadratic) 20x20
32	93611	threaded piece (quadratic) 20x20 threaded piece (quadratic) 30x30
33	93024	hex. bolt M12x30
34	93025	hex. bolt M12x40

Pos. I	Nr.: Art. Nr.	: Description	•	
35	93500	hydr. ram w. folding lock 4,5 and 5m		
36	9300	FOLDING LOCK - COMPLETE f. 4,5 a. 5m on the ram		
36.1	93000	lever for folding lock f. 4,5 a. 5m on the ram 25x8x400		
36.2	93001	flat iron f. 4,5 a. 5m on the ram 25x8x115		
36.3	93002	flat iron f. 4,5 a. 5m on the ram 30x6x100		
36.4	93003	spring d=2mm, l=85mm		
36.5	93026	hex. bolt M8x50 w. 2 nuts		
36.6	9318S	hex, bolt M8x25 w. nut		
36.7	93027	hex. bolt M8x35 w. nut		
37	93205	pressure container small		
38	93606			
39.1	935001	pin d=25mm, l=65mm f. hydr. folding w. cotter 6,3x50		
39.2	935011	The state of the state of the offi		
39.3	935002			
39.4	93028	hex. bolt M12x30 w. nut		
39.5	935003			
39.6	935004	3, 10, 10, 11		
39.7	935005	The state of the s		
39.8	935006	9, 2, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,		
39.9	935007			
39.10	935008	alternative and an artifact of the state of		
39.11	93029	adjusting bolt M16x60 w. counter nut		
39.12	930210			¥
39.13	935009	······································		
39.14	93605	pin d=25mm, l=95mm m. cotter 6,3x50		
39.15	935010		ź	•
40	93574	centre part f. 5m working width		
41		SIDE ARM FOR 5m WORKING WIDTH		
41,1	941771			ą.
41,2	941771	G		
42	941806			
43	9302	pin d=16mm with roll pin 5x28		
44	93575	centre part f. 6m		
45		SIDE ARM FOR 6m WORKING WIDTH		
45,1	941771			
45,2	941771			
46	941794			
47	9303	bent flat iron		
48	9328	threaded pin long (330mm) w. nut M20		
49	93501	hydr. ram w. folding lock (6; 7,5; 8; 9 rigid)		
50	93206	pressure container - big		
51	9306	FOLDING LOCK - COMPLETE f. 6m - 9m rigid on the ram		
51.1	93100	lever for folding lock f. 6m - 9m rigid on ram 32x10x400		
51.2	93101	flat iron f. 6m - 9m rigid on ram 32x20x145		
51.3	93102	flat iron round f. 6m - 9m rigid on ram 30x6x135		
51.4	93103	spring f. 6m - 9m rigid on ram d=2mm, I=85mm		
51.5	93026	hex. bolt M8x50 w. 2 nuts		
51.6	9318\$	hex. bolt M8x25 w. nut		
51.7	93027	hex. bolt M8x35 w. nut		
52	93576	centre part for 7,5m and 8m working width		
53		SIDE ARM FOR 7,5m working width		
53,1	941771			
53,2	941777			
54	93300	folding rods short f. 7,5m		
				_

			your order
	Pos. Nr.	: Art. Nr.:	Description
	55	941793	folding rods f. 7,5m to 9m rigid, 10,5m to 13,5m working width
	56	93605	pin d=25mm, I=95mm
	57		SIDE ARM FOR 8m working width
	57,1	9417725	side arm f. 8m working width left
	57,2	9417726	side arm f. 8m working width right
	58	93301	folding rods short f. 8m
	59	93577	centre part f. 9m working width, rigid
	60		SIDE ARM FOR 9m working width, rigid
	60,1	941772	side arm f. 9m working width right, rigid
	60,2	941771	side arm f. 9m working width left, rigid
	61	93578	centre part f. 9m working width, scissors folding
	62	•	SIDE ARM FOR 9m working width, SCISSORS FOLDING, inner part
	62,1	941773	side arm f. 9m working width, sciss. left (inner part)
	62,2	941774	side arm f. 9m working width, sciss, right (inner part)
	63		SIDE ARM FOR 9m working width, SCISSORS FOLDING, outer not
	63,1	941775	side aim it. am working width left, outer part, scissors folding
	63,2	941776	side arm r. 9m working width right, outer part, scissors folding
	64	93400	folding rods - bent f. 9m scissors folding
	65	93607	bolt w. safety device 30x200 w. thread M20
	66	93405	holder for 2 way valve
	67	934051	HOLDER FOR 2 WAY VALVE
	67.1	934052	holder for manometer (single acting ram)
	67.2	934053	holder for manometer (double acting ram)
	68	930212	hex. bolt M12x30 w. nut
	69 70	930214	hex. bolt M12x30
	70 74	934054	2 way valve with lock
	71	005000	HYDR. RAM W. FOLDING LOCK (SCISS.)
	71,1	93502R	hydr. ram w. folding lock (sciss.) right
	71,2 72	93502	hydr. ram w. folding lock (sciss.) left
	72,1	935041	FOLDING LOCK 9-13.5m working width SCISSORS FOLDING COMPLETE
	72,1 72,2	935042	level for folding lock - bent, 9-13,5m sciss, on ram
	72,3	935043 935044	flat iron round 9-13,5m sciss. on ram, 30/6/150
	72,4		flat iron 9-13,5m sciss. on ram 32/10/145
	72,5	93026	5 spring 9-13,5m sciss. on ram d=2mm, l=85mm
	72,6	93027	hex. bolt M8x50 w. 2 nuts
	72,7	93188	hex. bolt M8x35 w. nut
	73	93600	hex. bolt M8x25 w. nut
	73,1	936001	CLAMP FOR SUPPORT WHEEL COMPL SCISSORS FOLDING
	73,2	936002	clamp for support wheel - scissors folding counter clamp - scissors folding
	74	93700	
		93701	rods f. folding the wheels - adjusting piece f. 9m
		930213	rods f. folding the wheels - inner part bent f. 9m hex. bolt M12x40 w. nut
		93706	mounting head f. foldable support wheel
		93800	rods for scissors folding f. 9m
		93801	flat iron piece - bent f. scissors folding
		93802	flat iron piece 40/6/200
		930211	hex. bolt M12x50 w. nut
		930215	hex. bolt M12x40 w. nut
		930214	hex. bolt M12x20
		930216	hex. bolt M12x40 w. nut
		93579	centre part f. 10,5m working width
1	86		SIDE ARM FOR 10,5m working width INNER PART
i	86,1	9417715	side arm f. 10,5m working width left, inner part
			Espaintoillista 4 5 40 5 00100 1

		_
Pos. Nr.:	Art. Nr.:	Description
86,2	9417716	side arm f. 10,5m working width right, inner part
87		SIDE ARM FOR 10,5m working width OUTER PART
87,1	9417717	side arm f. 10,5m working width left, outer part
87,2	9417718	side arm f. 10.5m working width light
88	93803	side arm f. 10,5m working width right, outer part
89		rods for scissors folding f. 10,5m
	93302	folding rods short f. 10,5m
90	93403	folding rods - bent f. 10,5m
91	93151	wheel hub with rod
92		rim with tyre (18 $\times$ 8,5)
92,1	93133	rubber support wheel w. rim 18x8,5-8
92,2	93136	wheel without rim 18x8,5-8
92,3	93137	inner tube 18x8,5-8
92,4	93138	rim f. rubber support wheel 18x8,5-8
93	93702	
94	93703	rods f. folding the wheels - inner part bent f. 10,5m
		rods for folding the wheels, adjustment part 10,5m
95	935710	centre part f.12m working width
96		SIDE ARM FOR 12m working width INNER PART
96,1	9417719	side arm f. 12m working width left, inner part
96,2	9417720	side arm f. 12m working width right, inner part
97		SIDE ARM FOR 12m working width OUTER PART
97,1	9417721	side arm f. 12m working width left, outer part
97,2	9417722	side arm f. 12m working width right, outer part
98	93304	folding rods short f. 12m
99	93704	
100	93705	rods f. folding the wheels - inner part bent f.12m
		rods f. folding the wheels, adjustment part f. 12m
101	93804	rod for scissors folding f. 12m
103	9417732	folding pin, threated with attachment for folding rods
106	93900	bracket for parallelogram behind
107		BRACKET FOR PARALLELOGRAM FRONT
107,1	93901	bracket for parallelogram front with pin right
107,2	93902	bracket for parallelogram front with pin left
107,3	93903	bracket for parallelogram with pin above right
107,4	93904	bracket for parallelogram with pin above left
108		SUPPORT FOR PARALLELOGRAM
108,1	93905	support for parallelogramm short
108,2	939051	support for parallelogramm long
109	000001	HYDRAULIC RAM CYLINDER
109,1	93906	
•		hydraulic ram cylinder short
109,2	939061	hydraulic ram cylinder long
110	93907	glacier bush
111	93908	distance tube
112	930217	hex bolt M12x100 with nut
113	930218	hex bolt M12x80 with nut
114	93909	manometer
115		LEVELLING BAR
115.1	9353	levelling bar 1,5m
115,2	9354	levelling bar 2m
116	93931	levelling bar spring
117	93932	support for spring
118	93933	clamp for spring
119		·
	9424TOR	cup square bolt M8x30 w. nut
120	9316S	hex. bolt M8x30 w. nut
121	930219	hex. bolt M12x30
122	930220	threaded piece

Pos. Nr.: 123 123,1 123,2 124 125 126 127 128	9417723 9417724 93805 93571 93004 930221 93005	Description SIDE ARM FOR 13,5m working width INNER PART side arm f. 13,5m working width left, inner part side arm f. 13,5m working width right, inner part rods for scissors folding f. 13,5m centre part for 1,5m and 2m roll pin roll pin 6x25 flat iron bent
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# Spare parts for harrowfield

Pos. No.: Art. Nr.:  129  129,1  129,1  129,2  933016  130  TINE PROFILE WITHOUT TINE 1,5m WORKING WIDTH tine profile without tine 2,0m working width; 1.1  130  TINE PROFILE WITHOUT TINE 1,5m WORKING WIDTH tine profile without tine 1,5m working width; 1.2  131,1  131  131  131  131  131  131,1  132,2  133,1  132,2  13316  132,2  13316  132,1  1332  1332  134  1353  136  1373  138  138  139  139  130  130  130  130  130  130	t; 1.2 t; 1.3 t; 1.4
tine profile without tine 1,5m working width; 1.1 tine profile without tine 2,0m working width; 1.1 TINE PROFILE WITHOUT TINE 1,5m WORKING WIDTH tine profile without tine 2,0m working width; 1.2 tine profile without tine 2,0m working width; 1.2 TINE PROFILE WITHOUT TINE 1,5m WORKING WIDTH	t; 1.2 t; 1.3 t; 1.4
tine profile without tine 2,0m working width; 1.1  TINE PROFILE WITHOUT TINE 1,5m WORKING WIDTH  130,1 932116 tine profile without tine 1,5m working width; 1.2  131,1 933116 tine profile without tine 2,0m working width; 1.2  TINE PROFILE WITHOUT TINE 1,5m WORKING WIDTH  131,1 932216 tine profile without tine 1,5m working width; 1.3  131,2 933216 tine profile without tine 2,0m working width; 1.3  TINE PROFILE WITHOUT TINE 1,5m WORKING WIDTH  132,1 932316 tine profile without tine 1,5m working width; 1.4  133,2 933316 tine profile without tine 2,0m working width; 1.4  133 TINE PROFILE WITHOUT TINE 1,5m WORKING WIDTH  133,1 932416 tine profile without tine 2,0m working width; 1.4  133,2 933416 tine profile without tine 1,5m working width; 1.4  134 TINE PROFILE WITHOUT TINE 1,5m WORKING WIDTH  134 TINE PROFILE WITHOUT TINE 1,5m WORKING WIDTH	i; 1.3 i; 1.4 i; 1.4
TINE PROFILE WITHOUT TINE 1,5m WORKING WIDTH 130,1 932116 tine profile without tine 1,5m working width; 1.2 131,1 933116 tine profile without tine 2,0m working width; 1.2 131 TINE PROFILE WITHOUT TINE 1,5m WORKING WIDTH 131,1 932216 tine profile without tine 1,5m working width; 1.3 131,2 933216 tine profile without tine 2,0m working width; 1.3 132 TINE PROFILE WITHOUT TINE 1,5m WORKING WIDTH 132,1 932316 tine profile without tine 1,5m working width; 1.4 133 TINE PROFILE WITHOUT TINE 1,5m WORKING WIDTH 133,1 932416 tine profile without tine 2,0m working width; 1.4 133,2 933416 tine profile without tine 1,5m working width; 1.4 134 TINE PROFILE WITHOUT TINE 1,5m WORKING WIDTH 134	i; 1.3 i; 1.4 i; 1.4
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140,4 9312 comb harrow tine 7mm, I=450mm 140,5 93391 comb harrow tine 7mm, I=500mm	
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140,9 9310500 comb harrow tine 8mm, I=500mm	
140,10 9310STROH comb harrow tine 8mm, straight "straw"	
141 93204 washer disc f. harrow field bearings	
142 936011 pin d=10mm, spring pin d=4mm	
143 936012 spring pin d=4mm	
144 930228 hex. bolt M10x35 w. nut	
145 930229 hex. bolt M10x30 w. nut	
146 9309S hex. bolt M8x25 w. disc a. nut	
147 930230 washer disc A8	
148 HARROW FIELD EXTENSION LEFT	
148,1 93081 harrow field extension left without tine	
148,2 930810 harrow field extension left, 6mm tine	
148,3 930812 harrow field extension left, 7mm tine	
148,4 930814 harrow field extension left, 8mm tine	
149 HARROW FIELD EXTENSION RIGHT	
149,1 93082 harrow field extension right without tine	
149,2 930811 harrow field extension right, 6mm tine	
149,3 930813 harrow field extension right, 7mm tine	
149,4 930815 harrow field extension right, 8mm tine	
150 HARROW FIELD COMPLETE	
150,1 93041 harrow field 1,5m without tine	
150,2 9304 harrow field 1,5m, 6mm tine	

# Spare parts for harrowfield

Pos. No.:	: Art. Nr.:	Position
150,3	9336	harrow field 1,5m, 7mm tine
150,4	93361	harrow field 1,5m, Vertikatorzinken
150,5	93051	harrow field 1,5m, 8mm tine
150,6	9305	harrow field 1,5m, 8mm straw tine
150,7	9307	harrow field 2,0m, 6mm tine
150,8	9338	harrow field 2,0m, 7mm tine
150,9	9308	harrow field 2,0m, 8mm tine
151		CHAIN FOR HARROW FIELD
151,1	932020	chain for harrow field 9 chain links
151,2	932021	chain for harrow field 7 chain links

