

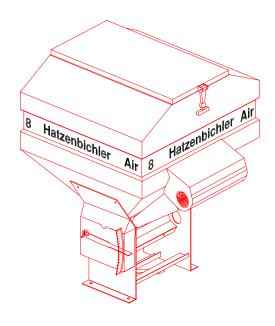
South Road, Bourne, Lincs, PE10 9LG

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Operating Instruction

Preumatic seed box AIR 8



Quality from OPIGO
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2006



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Pneumatic seed box AIR 8

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- 2. Declaration about seed germination
- 3. Safety instructions
- 4. Fitting instructions for Grass Harrow
 - 4.1 Seed Hopper
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EU-Declaration of Gonformity

We, Thomas Hatzenbichler & Sohn Fischering 2 A-9433 St. Andrä Austria

Make model: Pneumatic Seed box "Air 8"

Declare that the new machine described hereafter

1 4 1	anc, model.	
Se	rial number:	
		to the relevant essential health and safety requirements of the 39/392/EEC.
>	DIN EN 292-1,	Safety of machines, tools and equipment
>	DIN EN 292-2,	Safety of machines, tools and equipment
>	DIN EN 294,	Safety of machines, tools and equipment
>	DIN EN 708,	Safety of agricultural machinery and soil tillage equipment
>	ÖNORM V 522	3, Safety of agricultural trailers
>		
>		
Da	nte	Thomas HATZENBICHLER Director



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Hints to the pneumatic Seeders "AIR8"for the germination of the seed:

The company Hatzenbichler does not take any responsibility for the



of seed.

Reason:

We do not know-

- 1. The condition of the seed
- 2. the depth which the seed is planted
- 3. the treatment of the ground before planting
- 4. on which implement the seeder is mounted

Hints for the work and the sowing for the pneumatic seeders "AIR-Control", "AIR8" and "AIR16":

- 1. The calibration test has to be done by the costumer on the field.
- 2. With the pneumatic seeder "AIR Control" with **8 outlets**, oversowing work can be done up to a <u>working width of 7,50m</u>. **Sowing of ploughed land** can be done up to **3,00m**
- 3. With the pneumatic seeder "AIR8" with **8 outlets**, oversowing work can be done up to a <u>working width of 7,50m</u>. **Sowing of ploughed land** can be done up to **3,00m**
- 4. With the pneumatic seeder "AIR16" with **16 outlets**, oversowing work can be done up to a <u>working width of 12m</u>. **Sowing of ploughed land** can be done up to **6m**.

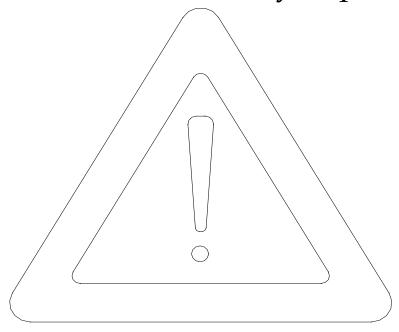


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ATTENTION!!! Very important!!!



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 maintenance 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



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4. Air 8 Fitting Instructions for Grass Harrow

(6mtr model)

4.1) Seed box

1. The pneumatic seed box should be fitted onto the rear support arm of the Grass Harrow approx. 750mm from the headstock, using mounting bracket and bolts supplied. Position so that the electric fans and seed metering mechanism is located at the back of the harrow, the seed pipes will run forward to the distributor outlets

NOTE: 4.5m & 5m models require an additional mounting bracket (934825) to allow the seed box to be mounted in the centre of the machine

- 2. The Grass Harrow rear support arm must be bolted with two M14 x 90 bolts supplied, removing the two pins previously used. This is to prevent vibration and wear which may occur with the added weight of seed box mounted
- 3. The optional operator platform should be mounted behind the seed box on the harrow rear support arm, positioned to suit the operator



4.2) Drive wheel

- 1. Mount the land drive wheel onto the rear parking stand bottom hole with locating pin supplied, the flexible drive cable should be pointing to the right hand side. On older Grass Harrows you will have to drill a Ø12mm hole 130mm from the base of the parking stand
- 2. Fit the flexible drive cable support onto the rear support arm r/h side
- 3. Fit the flexible drive cable between drive wheel and transmission gearbox using the clamps fitted



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4.3) <u>Distributor outlets</u>

- 1. Remove the plastic end caps from the front of each harrow bed carrier and fit the expand clamp into the tube and tighten clamp bolt
- 2. Fit the C-section distributor carrier (1.5m section 39101) or (2m section 39102) into the clamp holder and set between 20-40cm above ground level
- 3. Place the distributor outlet onto the C-section carrier bar using bolt supplied, and space evenly to suit the working width e.g. 6m harrow requires 75cm spacing between distributor plates
- 4. Cut and fit the flexible pipe between seed box outlet and distributor plate, route the pipe allowing for folding wings



Working width	Distributor spacing
3m 4.5m 5m 6m 6.5m	37.5cm 56.25cm 62.5cm 75cm 81.25cm

4.4) Stabiliser bars (6mtr model only)

- 1. Remove the existing stabiliser bar on both left & right wings and discard.
- 2. Mount the new stabilising bracket on the wing box section close to the outer section pivot point, the stabiliser will be on the underside of the wing box section.
- 3. Fit the short stabilising bar and position so that the bed is in the horizontal position.



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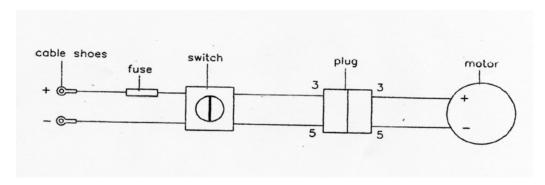
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4.5) Fan power supply

The air fan units require a 12v 30amp electric supply direct from the tractor battery. The two fans are wired separately to the battery, when connected ensure the fans are running in the correct direction, fan blades turning clockwise as you look at it

- 1. Connect the power cable supplied Ref. Fig. 1, directly to the tractor battery and locate the on/off switch and male 7-pin plug in the tractor cab
- 2. The seeders unit power cable is supplied with a female 7-pin socket which connects into the tractor fitted power lead
- 3. The power cable supplied has two in-line fuses (16amp) on the positive lead at the battery



Blue = positive (+)
Green/yellow = positive (+)

Black = negative (-) Brown = negative (-)

Fig. 1



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5. Working instructions - AIR 8

5.1) Basic adjustments

Before filling the hopper, please observe the following points:

1. Is the correct metering roller fitted?

Attention: Choosing the metering roller according to the size of the seed and the quantity to

broadcast

Seeds, where the rough-toothed metering roller is used:

Grass-seed mixtures, rye, barley, wheat, oats, etc. (normally for large seed rates; 10kg/ha ->)

Seeds, where the fine-toothed metering roller is used:

Pure clover seeds, rape seed, phacelia, granules etc. (normally for small seed rates; < 15kg/ha)

2. Seed retaining brush adjustment:

The distance of the retaining brush from the metering roller can be adjusted by a lever on the right hand side of the hopper. The brush can be adjusted from 1-7mm

The following rules must be observed:

The distance between brush and metering roller is approx. half the seed size

i.e. Oil seed rape, clover 0-1mmGrass-mixtures 1-2mmGame cover mixtures 2-3mm

- The gap on the lower side of the roller should never be more than 1mm (Factory set)

5.2) Changing the seed metering roller

Ensure the seed hopper is completely empty of seed. To change the metering roller, remove the end cap bearing holder on the right hand side of the machine. Slide out the roller, by turning anti-clockwise and pulling at the same time



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When fitting another roller, observe the following:

- 1. Slide the replacement roller onto the drive axle
- 2. Replace the bearing holder
- 3. Ensure the spring loaded discs on the ends of the metering roller take up any gap when the bearing holder has been fitted, the discs should not be tight
- 4. Rotate drive wheel and check that the metering roller turns easily

5.3) Seed roller protection shield

This is mounted inside the hopper to carry the weight of seed in the hopper. It is designed mainly for heavier seeds ie Oil seed rape, slug pellets, etc. When working with lighter seeds ie grass seed be careful to ensure the plate does not encourage bridging in the hopper. If seed bridging is a problem remove the thumb screws and shield from the hopper and work without it fitted.

5.4) Seed rate adjustment

Seed output is changed through an infinitely variable gearbox; the adjustment lever on the left hand side of the seed box has 38 settings. Important – check seed retaining brush is set for correct seed type. The seed rate ranges from 0-40 kg/ha each setting equates to approximately 1 kg/ha - this depends on the seed type

- Moving the lever upwards will increase seed output
- Moving the lever downwards will decrease seed output

Refer to calibration guide – page 15 & 16

5.5) Drive mechanism

Drive wheel

Release the drive wheel from transport position onto the ground. Allowing for constant drive wheel contact over undulations, pin under the drive wheel arm to clear ground when harrow is raised out of work

Drive cable

The flexi-drive cable must be routed using the support arm, ensure sharp bends are avoided and cable is clear of harrow bed. NOTE; Do not reverse the drive wheel rotation



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5.6) Calibration

Steps during calibration:

- 1. Remove the seed metering roller cover
- 2. Slide the calibration tray into the roller compartment
- 3. Turn the land drive wheel 50 turns clockwise (Important: do not turn wheel faster than experienced in field work)
- 4. Weigh the seed quantity discharged
- 5. Put this weight into the calibration formula below

6. Calibration formula:

$$\frac{10\ 000\ m^2}{\text{(Wheel circumference x turns x working width)}}\ x\ \text{seed weight}\ =\ Quantity\ kg/ha}$$

Example:

Wheel circumference = 1.35m

Drive wheel turns = 50 turns

Working width = 6m

Collected seed = 0.6kg

$$\frac{10\ 000\ m^2}{(1.35\ x\ 50\ x\ 6)} \qquad x\ 0.6\ kg = 14.8\ kg/ha$$

- 7. By changing the seed output lever upwards or downwards, you will alter the Seed output per ha.
- 8. Repeat the calibration procedure, until the required output is reached.

5.7) Work in the field

Overseeding:

It is possible to upgrade existing pasture by adding new seed. Harrowing old grass pasture to open up the soil surface before broadcasting new seed is cost effective. The combination of grass harrow and pneumatic seed box will help you get the most from your overseeding programme as it improves weed control, airs the soil and improves conditions for grass seed germination.

Reseeding:

The benefits of increased yield and improved forage quality from reseeding are undoubted. Reseeding into cultivated ground is possible with the harrow and pneumatic seed box, cross drilling in a diamond pattern will ensure good ground cover, but there are several points worth considering to ensure success.



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- 1. Always check pH, phosphate and potash levels prior to sowing (aim for pH 6.5, P2, K2)
- Make certain the seed bed is fine and firm
- 3. Roll before as well as after sowing
- 4. Ensure depth of seed is no more than 15mm
- 5. Control weeds after establishment
- 6. Use pesticide control when sowing grass after grass

Before field work check the following:

- Check both fans are working & direction of motion is correct. Run the fan to dry any
 moisture in the distributor pipes before starting work, this will minimise risk of seed
 blockage in the pipes
- There should be a minimum of 10kg of seed in the hopper
- The lid of the seed hopper must close air tight
- Set the distributor outlet between 20-40 cm above ground. Harrow tine setting, crop foliage height and seed type will determine the height required to ensure an even spread pattern
- Check all outlets to ensure even seed coverage across the working width

5.8) Emptying the seed hopper

- 1. Place the calibration tray into the output roller compartment
- 2. Set the seed output lever and retaining brush lever at maximum and turn the ground drive wheel clockwise until the hopper is empty.
- 3. To empty completely, remove the metering roller (Ref. to **5.2**)



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5.9) Maintenance

Daily

1. Clean the elec fan with compressed air, particularly when working in dusty conditions

- 2. Check electric cables and connections for damage
- 3. Check mounting nuts and bolts are tight
- 4. Check the flexible drive for damage
- 5. Check the seed agitator is clean and working

Weekly

- 1. Lubricate and re-tension the transmission drive chain. The chain and tensioner are located on the l/h side of the seed-box, undo the two thumb nuts and remove cover to access the chain and tensioner
- 2. Lubricate the land drive wheel
- 3. Lubricate the flexible drive cable
- 4. Lubricate the metering roller end cap bearing
- 5. Check all nuts and bolts are tight

NOTE: The transmission gearbox requires no maintenance

5.10) Storage

- 1. Empty seed hopper completely
- 2. Clean the unit thoroughly and paint any bare metal
- 3. Check for any ware or damage and repair as necessary
- 4. Store the pneumatic seed box under cover to prevent any build-up of moisture in the distributor pipes, seed hopper and metering mechanism.

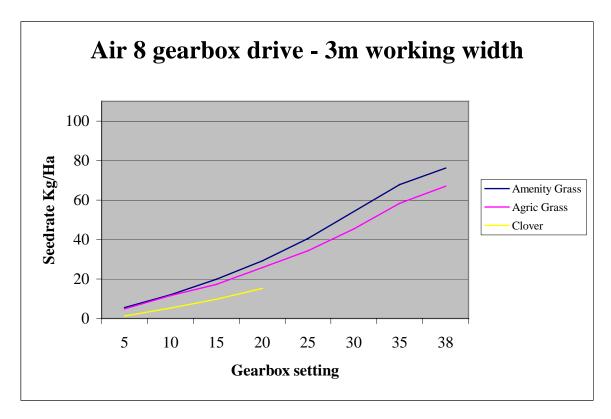


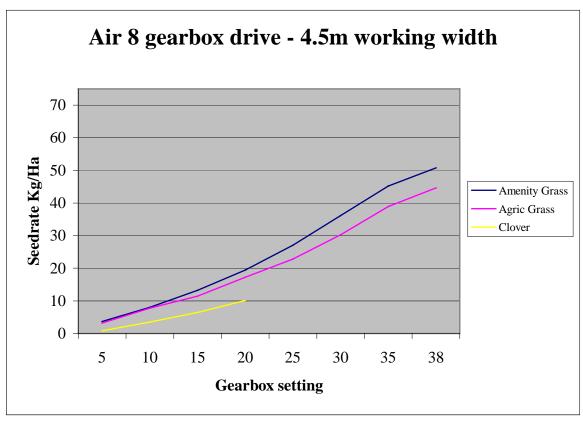
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6. Calibration Guide





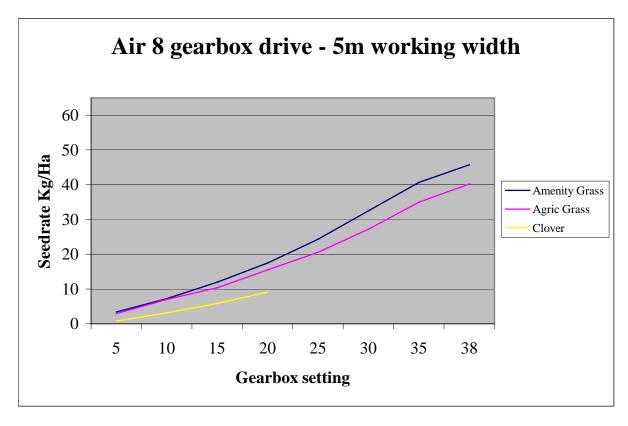


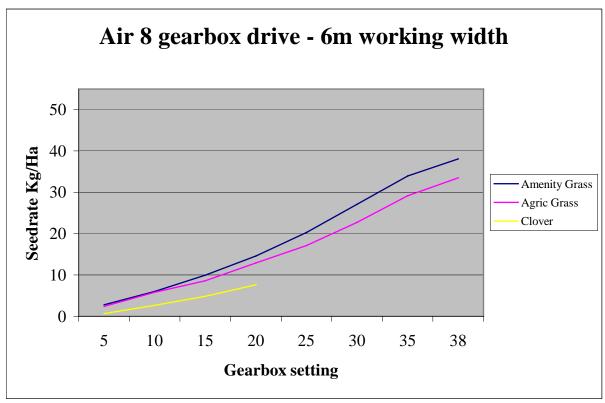
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Calibration Guide







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7. Conversion chart

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Spare part list

Sor

Pneumatic seeder





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website: http://www.opico.co.uk

Spare parts list for pneumatic seeder "AIR 8" with toothed-belt drive

Pos.no.:	Order nr.:	
1	930001	seeder base "Air 8"
2	930002	transmission gearbox
3	9300142	toothed-belt roller, Z=20, Drilling hole 15mm
4	930004	transmission protection guard
4.1	9300041	rubber gasket f. transm. protection, straight 700mm
5	930005	output regulation
6	930006	lever long for seed rate
8	9300143	toothed-belt roller, Z=30, Drilling hole 15mm
9	9300238	hexagon socket screw, M10x55
10	9300101	tensioner pulley
11	930011	hex. Axle
11.1	930090	fitting key 5x5x20
12	930012	bearing
13	9300131	extension shaft for transmission
13.1	930096	fitting key 4x4x20
14	9300141	toothed-belt roller, Z=36, Drilling hole 12mm
15	9300081	toothed belt AT5-500
16	931202	adapter plate
16.1	930236	socket screw M10x20
17	930017	agitator
18	930018	seed pipe manifold, PVC piece with 8 holes
19	930019	hose clamp
21	930021	cleaner rubber seal (5x20x300mm)
21.1	9300211	cover plate rubber seal, 90° 300mm long
22	930022	brush "Air 8"
23	930023	rod for brush adjustment
24	94984	divider plate "Air 8"
25	930025	dosage roller rough "Air 8"
25.1	934822	dosage roller fine "Air 8"
26	39475	calibration tray "Air 8"
27	930027	cover
27.1	9300271	rubber seal for cover, straight 160mm long
28	930028	mounting plate "Air 8"
29	94937	mounting clamp
30	930030	seed hopper, "Air 8" 150lt.
30.1	9300301	plexiglas screen and seal
31	39005	hopper lid "Air 8"
32	930032	blower protection guard
32.1	9300320	lever short for brush "Air 8"



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Pos.no.:	Order nr.:	
33	930033	adjusting notches small
34	930034	lock complete for cover (bolt with handle) M8x50
35	94985	fan blower
37	930037	plastic clamp 1, size 3
38	930038	plastic clamp 2, size 3
39	930039	socket screw, M8x40
40	930040	tappet
41	930041	threaded pin
42	930042	hex bolt M6x20
43	930043	washer M6
44	930044	stop nut M6
45	930045	coiled spring pin 5x22
46	930046	connection
47	930047	threaded shaft M8x40
48	9316	hex bolt M5x10
48.1	930043	washer M6
48.2	930230	washer M8
48.3	930237	big washer M8
49	70012	stop nut M8
50	930050	hex bolt M8x16
51	930051	hex bolt M12x30
52	70013	stop nut M12
53	930053	nut M6
54	930054	bearing
55	930055	end cap assembly complete with bearing zinc coated
55.1	9300551	plastic disc for bearing zinc coated
56	9300561	lid lock galvanised
57	9300570	bold M5x10
57.1	9300571	nut M5
57.2	9300572	hex bolt M12x130
58	934821	drive shaft
59	930059	seed hose
60	949832	distributer
61	9300611	cable part 1 (from battery, with switch to the plug)
62	930062	cable part 2 (from the plug to the electric motor)
63	930063	clamp for tube 80
64	930064	holder for drive shaft "Air 8"
65	930065	hole plate
66	930066	holder for drive wheel
67	930067	drive wheel
68	9348	bearing
69	930069	distance ring



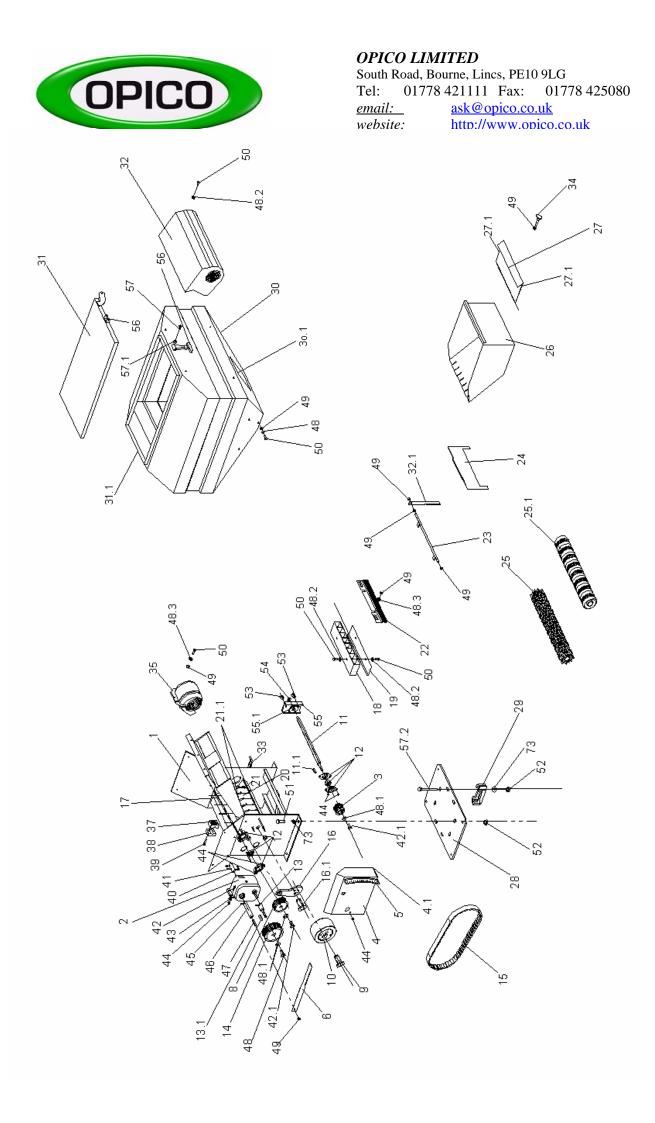
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Pos.no.: Order nr.:

70	95128	pin 8x40
71	930224	spring locking pin d=4mm
72	9414	bush 23/20/15
73	412124	washer M12
74	930074	pin d=14
75	930075	pin d=10
76	930076	distance tube l=46
77	93225	hex bolt M12x70
78	930078	hex bolt M16x90
79	80044	washer M16
80	9311ST	stop nut M16
81	949831	bracket 25x70x6
82	39111	c-profile / m
82.1	391011	c-profile l=1,50m
82.2	391022	c-profile 1=2,00m
83	80272	holder for c-profile;V6
84	930214	hex bolt M12x20
87	93935	expand bracket 1
88	93934	expand bracket 2
89	930220	allen screw M12x20
90	930219	hex bolt M12x130
91	9316S	hex bolt M8x30 with nut
92	949833	bracket 90x25x6
93	949834	bracket to fit distributor in bed, part 1
94	949835	bracket for distributor in bed
95	70017	stop nut M10
96	930230	washer M8
97	912011	platform grill for "Air 8"
98	912012	platform grill for "Air 8" with 400lt. hopper

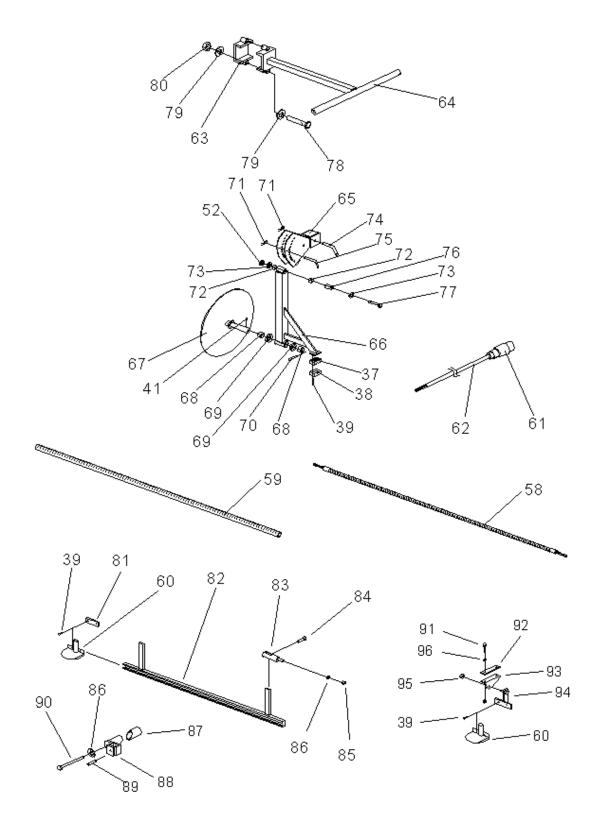




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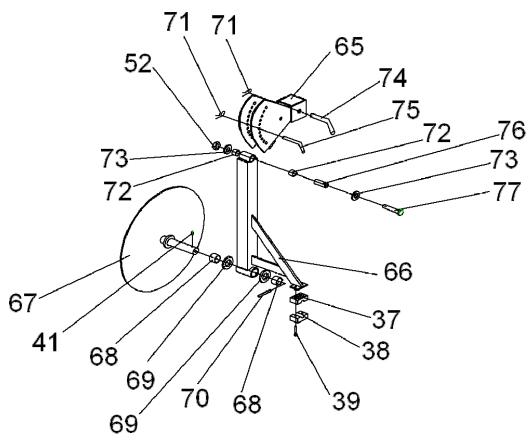
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year of manufacture before 2004

Pos.no.:	Order no.:	
37	930037	pipe clamp part 1
38	930038	pipe clamp part 2
39	930039	allen bolt M6x25 plated
41	930041	threaded shaft M8x10
52	70013	nut M12
65	930065	hole plate for ground wheel
66	930066	holder for drive wheel
67	930067	drive wheel
68	9348	glacier bush 32/28/20
69	930069	distance ring
70	95128	roll pin 8x40
71	930224	spring pin d=4mm
72	9414	glacier bush 23/20/15
73	412124	washer A12
74	930074	pin d=14
75	930075	pin d=10
76	930076	distance tube l=46
77	93225	screw M12x70





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Spare part list for electric drive "Air 8"

Pos.no.:	Order nr.:	
1	931186	board computer
2	931187	electric motor
2.1	930193	cylinder head screw M5x16
3	9300141	toothed belt roller 36z, drilling hole d=15mm
4	9300031	toothed belt roller 18z, drilling hole d=12mm
5	931199	adapter for electric-motor
5.1	930041	grub-screw M8x10
6	930062	cable harness
7	930194	motor plate with welded pipe
7.1	930042	hex bolt M6x20
7.2	930044	nut M6
8	930195	adapter plate for e-motor
9	9300081	toothed belt AT5-500
10	930168	holder for boardcomputer
11	931190	printer for boardcomputer
12	9300101	tensioner pulley



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Pos.no.: Order nr.:

930092 2 x L-part f. seed roller protection shield, 4 x toggle screws

M8