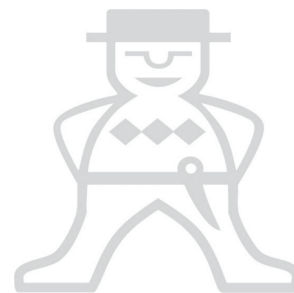


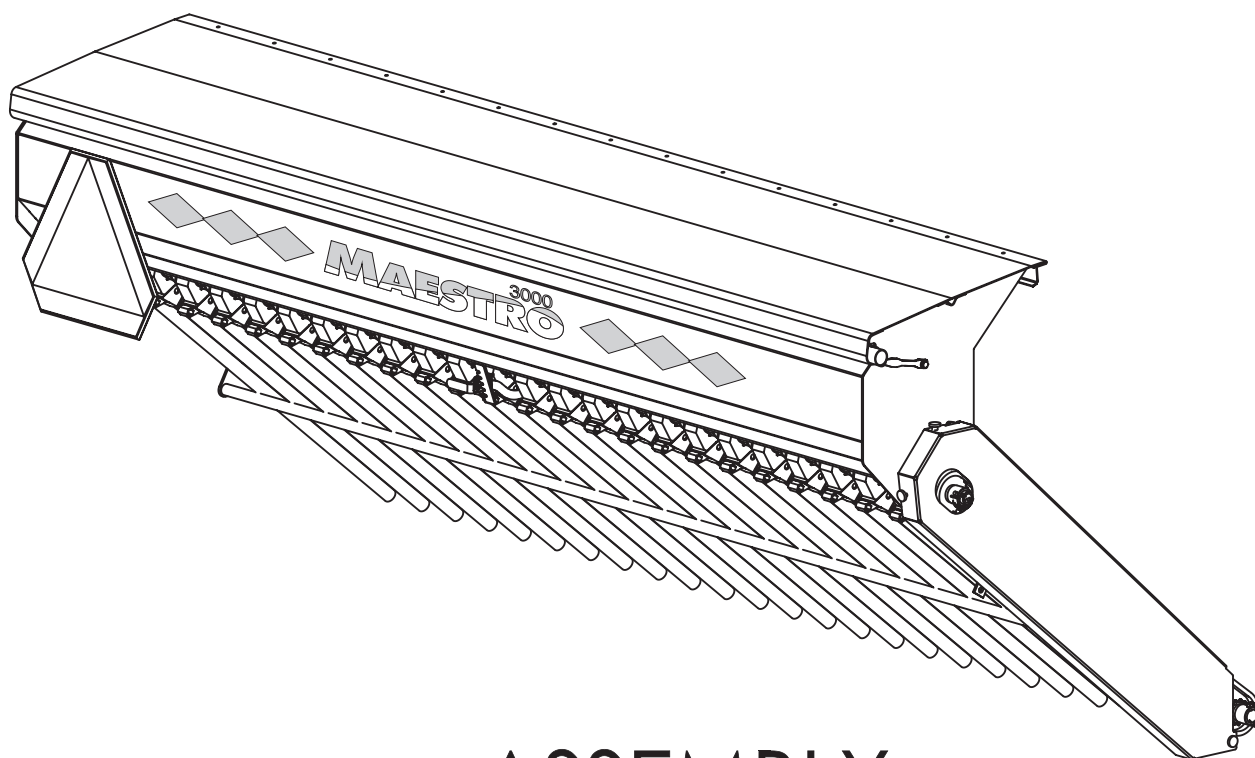
Junkkari



3000
MAESTRO

4000
MAESTRO

SMALL SEED BOX



ASSEMBLY AND SPARE PART MANUAL

MAPSL08_EN



Junkkari

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ENGLISH

DEAR CUSTOMER

We thank you for your trust and wish you the best success in your work. We ask you to familiarize yourself with this user guide, because complete understanding of the machine, correct adjustments and careful maintenance guarantee user safety and the continued operation of the machine on busy work days.

It is important to understand every section in this guide and to follow the instructions. In unclear cases you should contact the seller of the machine. We hope that after you have read the user guide you will return the signed warranty card to the factory.



Warning!

This user guide is meant as an appendix to Junkkari Maestro user guide. Sections:

- 4. SAFETY INSTRUCTIONS
- 6.3 USE LIMITATIONS AND PROHIBITED USES
- 8. MACHINE TRANSPORTATION, HANDLING AND STORAGE
- 9.1 PREPARING FOR USE
- 9.5 DISPOSING OF PACKAGING MATERIAL
- 13 MAINTENANCE
- 16 CLEANING AND STORAGE
- 17 TROUBLESHOOTING CHART
- 17.1 FAULTS
- 18 REMOVING THE PRODUCT FROM USE
- 19 TERMS OF WARRANTY
- 20 RESPONSIBILITY AREAS

as such pertain also to the small seed seed box. Before installation and use familiarize yourself with the corresponding instructions of the sowing fertilizer.

TECHNICAL SPECIFICATIONS

PRODUCT NUMBER	3000	4000
WEIGHT/kg	177990	182880
VOLUME/l	125	165
	302	414

GENERAL

PURPOSE OF USE

The small seed sowing device is meant for sowing all kinds of small seeds and mixtures of small seeds as well as for starter fertilizing.

When the device has been connected to the Junkkari Maestro sowing fertilizer, the small seeds or starter fertilizer can be sowed at the same time with the fertilizer and grain seeds. The device is suitable for the Maestro sowing fertilizers.

APPLICATIONS

In connection with other applications, you should consult experts.

FUNCTIONING PRINCIPLE

The Maestro small seed sowing device gets its power from the sowing machine drive mechanism through a chain. The device includes the same precise feeding mechanism as in the Maestro sowing fertilizer on the fertilization side. The feed amount is adjusted from the regulation wheel on the left end of the device. The mixer in the device container mixes seeds to prevent seed segregation. The mixer must be turned off when sowing starter fertilizer. There are guiding cones on the bottom of the container so that the container is fully emptied. Inconvenient seed transfer caused by the sowing fertilizers in quick turns is also reduced. With the change tag in the Maestro seed side feeding container you can guide the seed or fertilizer from the device either to coulters, calibration troughs or directly to the surface of the field.

TAKING INTO USE

PACKAGE:

-Small seed sowing device	1 pcs	
-Feeding tubes	24(3000)	32(4000)l
-Attachment supplies	1pcs	
-Screw M8*20+nut	10pcs	
-Chain 227 rolls		
-Connector	2pcs	
-Limiter	1pcs	
-Chain protector		
+knurled-head screws		
-Back protector for chain		
-Attachment plate		
-Carrier tube		
-Chain tightener assembled + sprin	1pcs	
-Hexagonal screw M5*25+2 nuts		
-Hexagonal screw M12*35+3 nuts	1pcs	
-Bed-plate M12	2pcs	

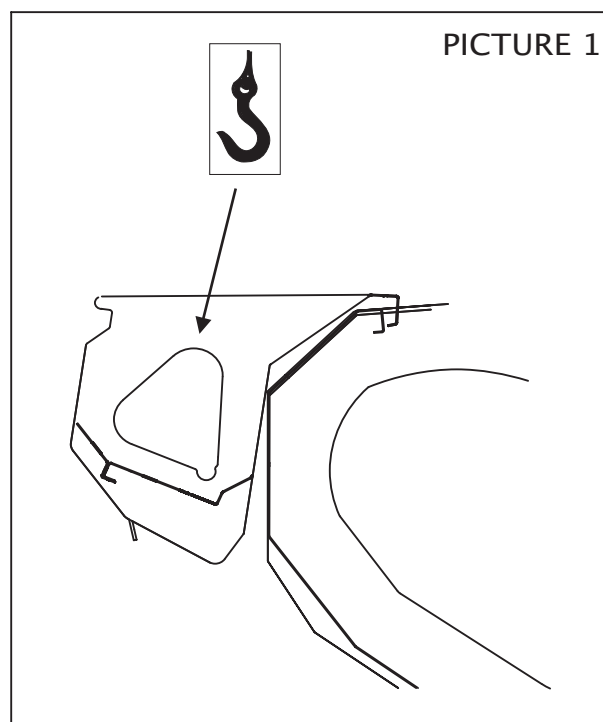
-Label sowing table starter	1pcs
-Label sowing table small seed	1pcs
-Chain wheel Z1 3	1pcs
-Cotter cut	1pcs
-Attachment plate for rake spring	2pcs
-Plastic plug	1pcs
-User guide	1pcs

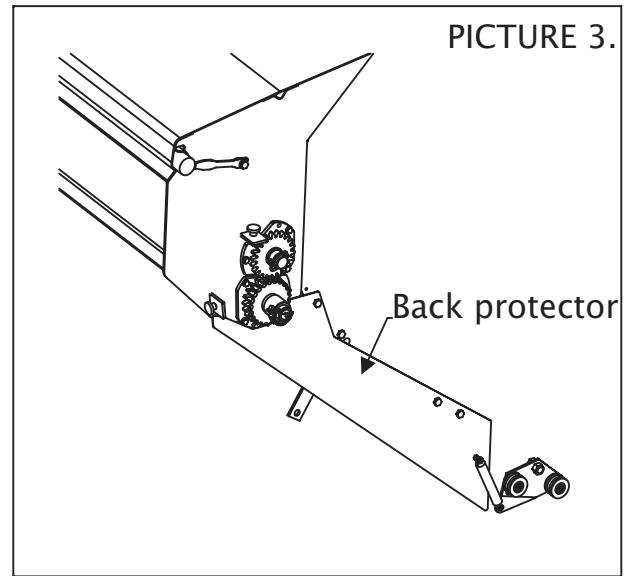
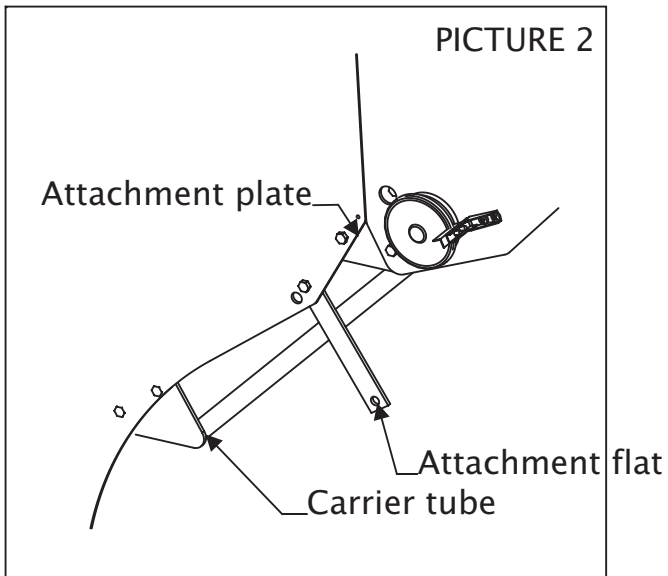
INSTALLATION

Use a suitable lifting device in the installation. Before installing the device, remove the tarp attachment knob from the sowing fertilizer back wall and the triangle indicating the vehicle is a slow vehicle. Install the plastic plug included in the delivery to the hole left by the attachment knob. Remove the smaller protective plate from the machine protection. The plate is attached in the back with screws. Install the device in place in such a way that the device is lifted in a suitable position and hanged to the back wall of the sowing fertilizer from the hook formed by the front wall. After this, lock the device from the right side with the chain back protection and from the left side with an attachment plate. Next install in place the supportive tube carrying the feed tubes and the attachment plates for the springs of the latter rake. Attach the chain tightener to the end of the container, and then install the lower end chain wheel and chain. After this you still need to install the feeding tubes with the cones and the chain protection, which is attached with three knurled-head screws. The cut cotter used in the rotation test is kept in the bushing protected by the machinery.

ATTACHING TO THE MACHINE

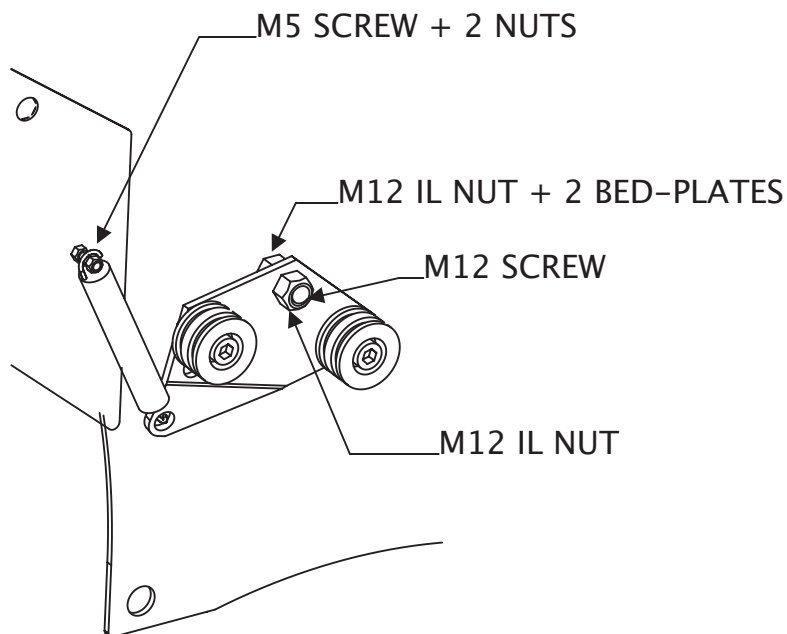
Install the device by lifting it to the position indicated in picture 1, and you can hang it from its front edge to the back wall of the sowing fertilizer. After this, lock the device from the right side with the chain back protection and from the left side with an attachment plate using screws and nuts M8 (pictures 2 and 3). Attach the feeding tube carrier tube (picture 2) from its both ends with two M8 screws and nuts to the position indicated in the picture, in other words, keep the attachment plate bottom side horizontal. Attach the attachment plates for the rake springs on the inside of the container end plate according to picture 2 with M8 screws and nuts.





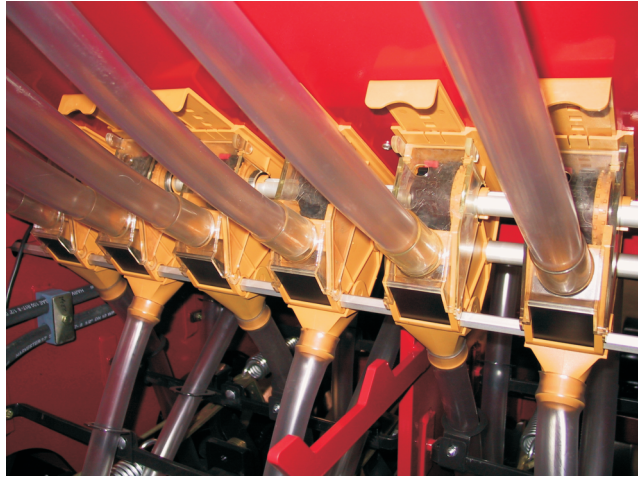
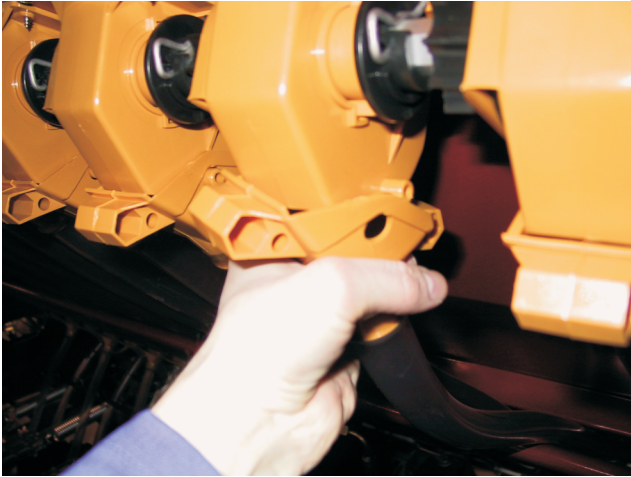
INSTALLING THE CHAIN TIGHTENER

Install the chain tightener to the hole on the end wall of the sowing fertilizer. Attach the tightening part with M12*35 screw and three nuts as well as with two bed-plates. There must be a small slit between the last nut and the plate so that the tightener can move. For the spring, also install the M5 screw with nuts according to the picture.



INSTALLING THE FEEDING TUBE

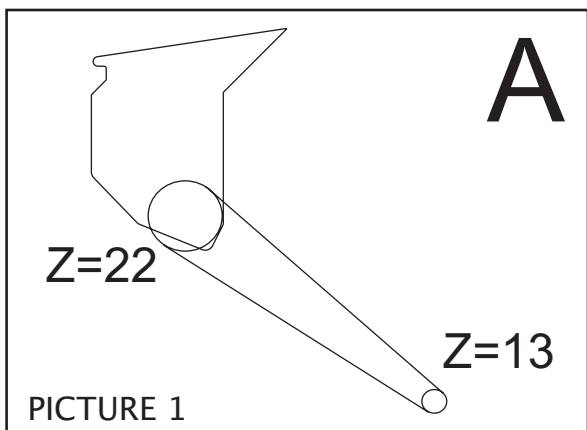
Install the feeding tubes and cones in such a way that the tube lower end is pushed above the carrier tube and first place one of the pegs in the feeding container into the hole in the cone. After this you can insert the other peg into the hole by turning the cone according to the picture. Finally push the lower end of the tube to the connector in the lid of the seed side feeder container.



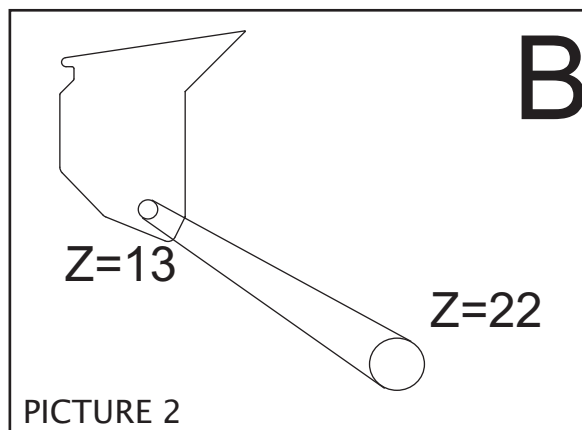
SELECTING SEED RATE AND ROTATION TEST

POSITION OF THE CHAIN CARTRIDGE

The small seed device includes a turning chain cartridge. In a normal situation, that is, in position A, the small seed box has chain wheel Z22 above and below in the sowing fertilizer chain wheel Z13. Since the chain wheel is located in the sowing fertilizer on the seed side feeding axle, which has a varying rotation speed when planting different amounts of seeds, thanks to a gearbox, it is necessary in certain situations to turn the cartridge around. When planting small seeds from the sowing fertilizer container, such as turnip rapes, the position of the gearbox is usually so small that the axle rotates very slowly. If in this case you want to sow starter fertilizer at the same time, the device rotation must be fastened by turning the cartridge to position B, in which case the chain wheel Z13 is above and Z22 is below. When sowing small seeds with a small seed device, the chain cartridge is always in position A.



NORMAL POSITION



STARTER FERTILIZATION OF SMALL

MAESTRO GROUND WHEEL CHAIN GEAR

In the Maestro ground wheel it is possible to install the chain to two different chain wheel pairs. By default the installation is always according to picture 3, in which case you use normal tables on pages 10 and 11. However, if the chain is according to picture 4, you must use the tables on pages 12 and 13.

STANDARD GEAR 1:1.7	
 PICT. 3	MAESTRO ³⁰⁰⁰ 15.75 r / 100m ²
	MAESTRO ⁴⁰⁰⁰ 11.80 r / 100m ²

LARGER GEAR 1:2.8	
 PICT. 4	MAESTRO ³⁰⁰⁰ 25.75 r / 100m ²
	MAESTRO ⁴⁰⁰⁰ 19.30 r / 100m ²

Adjusting the sowing amounts can be done by turning the regulation wheel on the left end plate of the machine (picture 5). The scales where you select the values are the main scale located in the adjustment wheel locking device and the circular scale located in the adjustment wheel. The position of the adjustment wheel to main scale is indicated by the groove around the wheel. The sowing tables give a reference value to adjusting the feeding devices. In the sowing tables the vertical column gives the amount of sowing per hectare, whereas the horizontal scale shows the setting of the feeding devices. The lower larger numbers indicate main scale values and the upper smaller number circular scale values. The numbers at the right edge of the table indicate the position of the gearbox lever, since it affects also to the rotation speed of the small seed box. The sowing tables are included both in the labels delivered with the machine and in this user guide.

You select the correct sowing table according to the material to be sowed. In the starter fertilizer table there are two choices, depending on the chain cartridge position. In the table you first find the required seed/starter fertilizer amount on the left side. From there you go horizontally until you reach the line indicating the correct gearbox position. From the intersection point you go directly down and read the correct adjustment wheel position. If the position line for the gearbox in question has not been drawn, the intersection point must be read between the lines. For example, when sowing starter fertilizer 50kg/ha with the gearbox position 18, the adjustment wheel setting is 5.2. The adjustment wheel must be turned so that the groove around the adjustment wheel is pointed at 5 in the scale. Continue turning the adjustment wheel until the groove no. 2 in the circular scale is at the main scale locking device.

You should always do a rotation test before final selection of the feed amounts. For example, with small seeds, the cleanness of the seed, specific weight and e.g. seed dressing will affect how easily the seed will flow in the feeding mechanism.

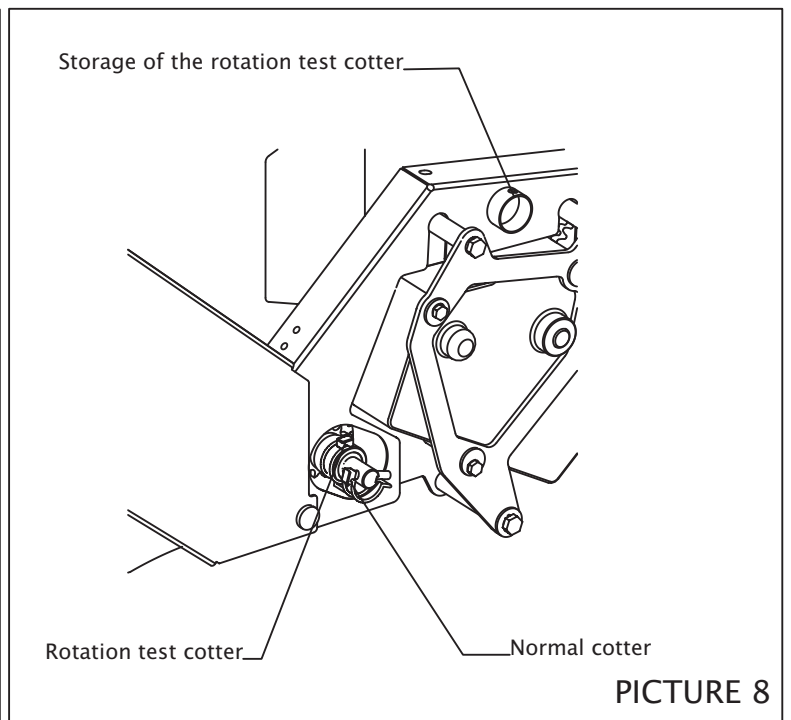
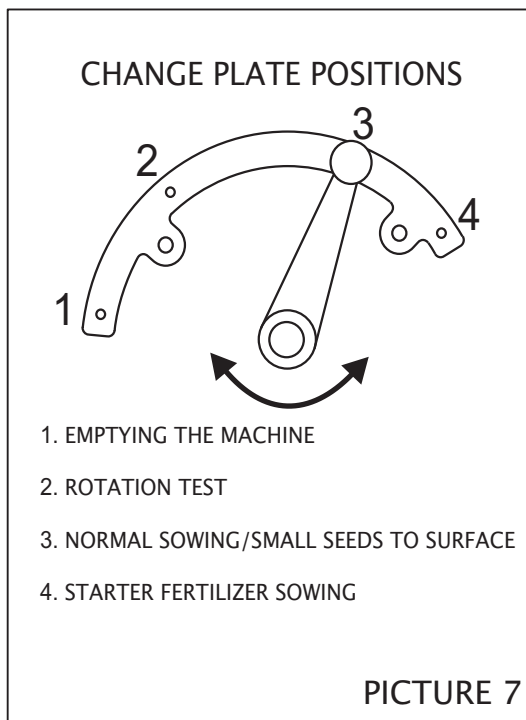
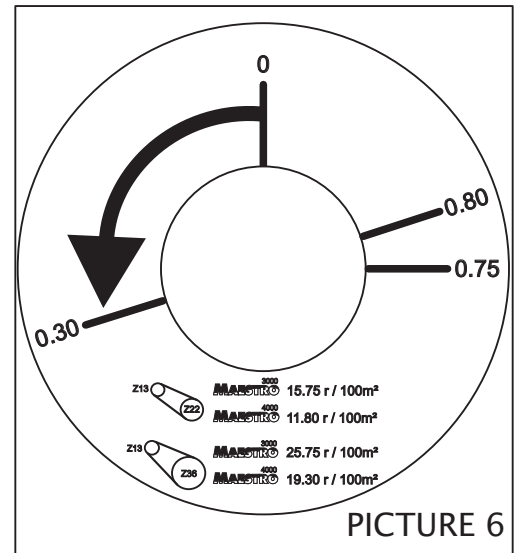
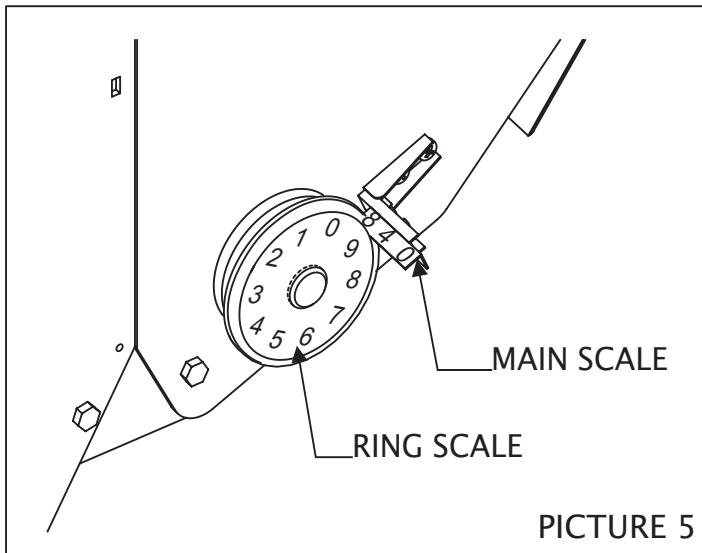
The rotation test is done in the same way from the top of the ground wheel by turning, just like in the Maestro rotation tests.

Rotation amounts corresponding to areas (100m²) can be seen in the label at the rotation point (picture 6). Before starting rotation tests, the rotation test troughs are put in place under the seed side feeding containers and the change plate is turned to rotation test position (picture 7) just like when doing a Maestro seed side rotation test.

If the Maestro containers are not empty, the fertilizer and seed axle rotation must be stopped. The fertilizer side can be stopped by moving the cotter at the end of the axle to the outermost hole. With the seed axle, the cotter on the axle normally going through is removed and replaced by a shorter rotation test cotter. The purpose of the short cotter is to lock the chain wheel to the tooth wheel terminal rotating it, but since it does not reach the feeding axle, the axle will not rotate in this case. The longer cotter can be placed into the free hole at the end of the axle for the duration of the rotation test (picture 8).

The rotation test is performed for 100m², so the obtained weighing results must be multiplied by one hundred to reach 10 000m², in other words, the sowing amount corresponding to 1 hectare.

If the obtained result does not correspond to the reference value given in the rotation test table, you can make a possible correction by turning the adjustment wheel. Adjustments must always be made from smaller values to larger ones. In this case the possible adjustment gap in the adjustment wheel screw will be eliminated.

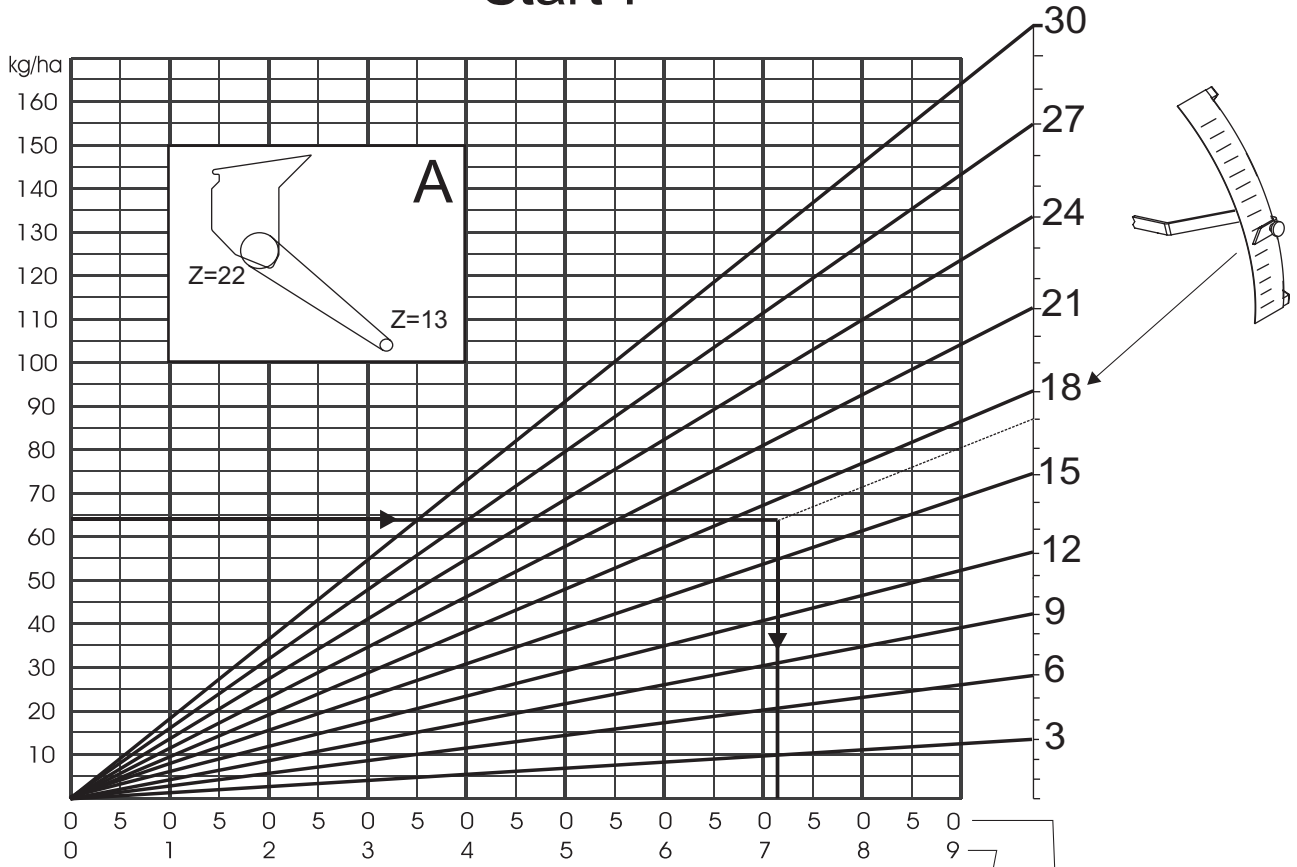


MIXER AXLE

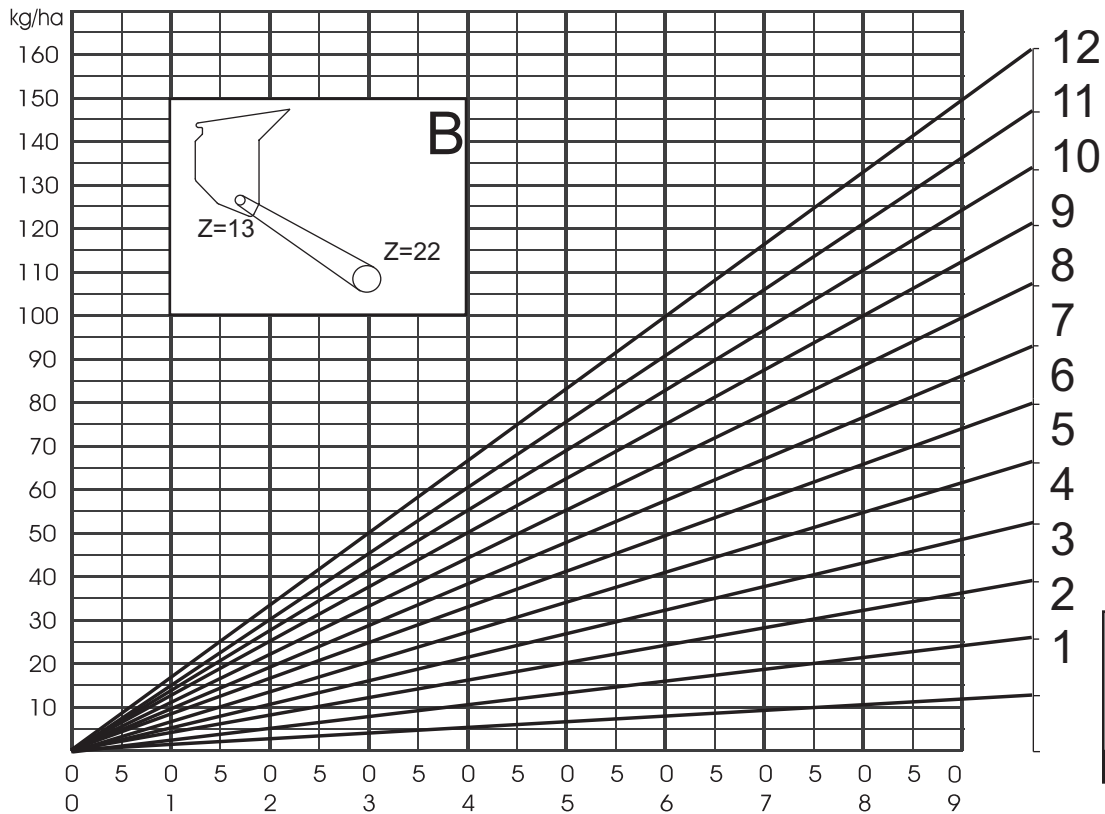
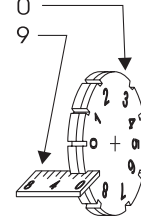
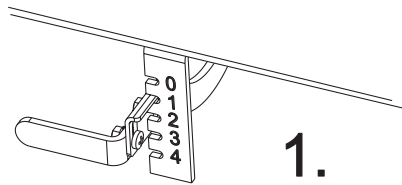
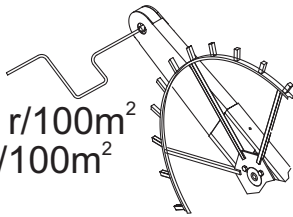
When using starter fertilizer, the mixer axle should be turned off so that it does not grind the fertilizer. This takes place by temporarily moving the toothed wheel cotter at the end of the axle to the outer hole. In longer use it is better to remove the whole toothed wheel to prevent wearing in vain.

SOWING TABLE OF STARTER FERTILIZER FOR GROUND WHEEL NORMAL GEAR
Z13/22

Start-P



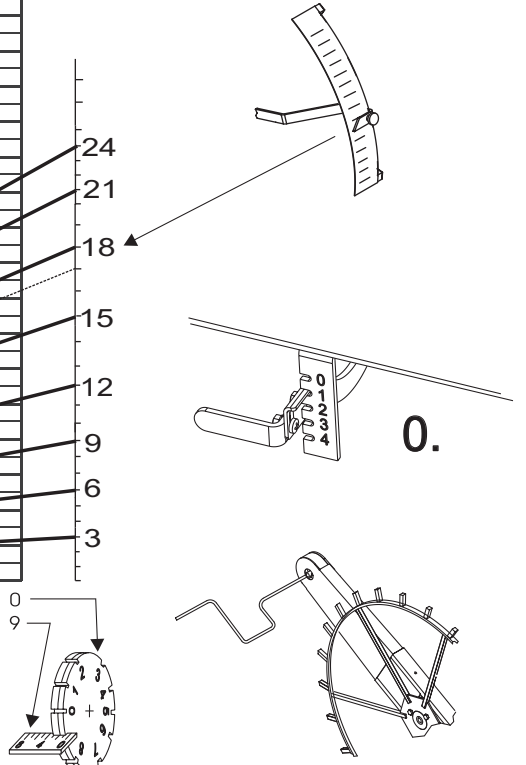
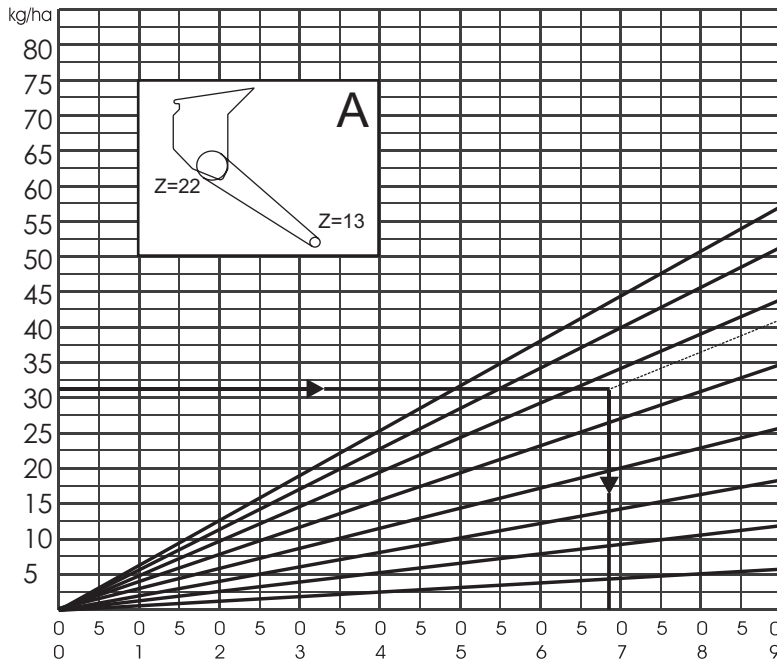
3m 15,75 r/100m²
4m 11,8 r/100m²



3-18295

SMALL SEED SOWING TABLE FOR GROUND WHEEL NORMAL GEAR Z1 3/2

1

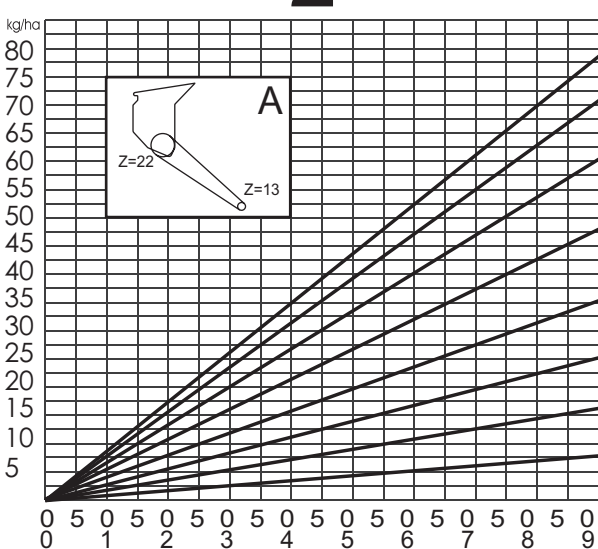


1. Timotei/Timotej/Timothy/Timotheegrass
2. Puna-apila/Rödklöver/Red clover/Rotklee
3. Raiheinä/Rai-gräs/Ryegrass/Raigras
4. Nurminata/Ängssvinge/Meadow fescne/Wiesenschwingel

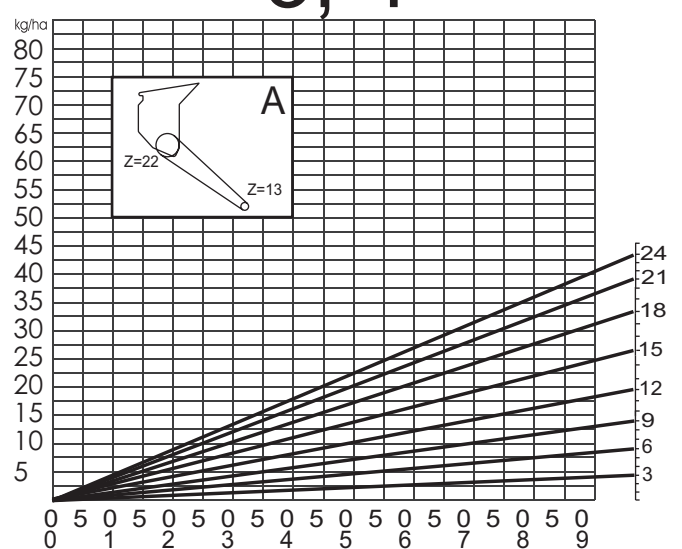
3m 15,75 r/100m²
4m 11,8 r/100m²



2

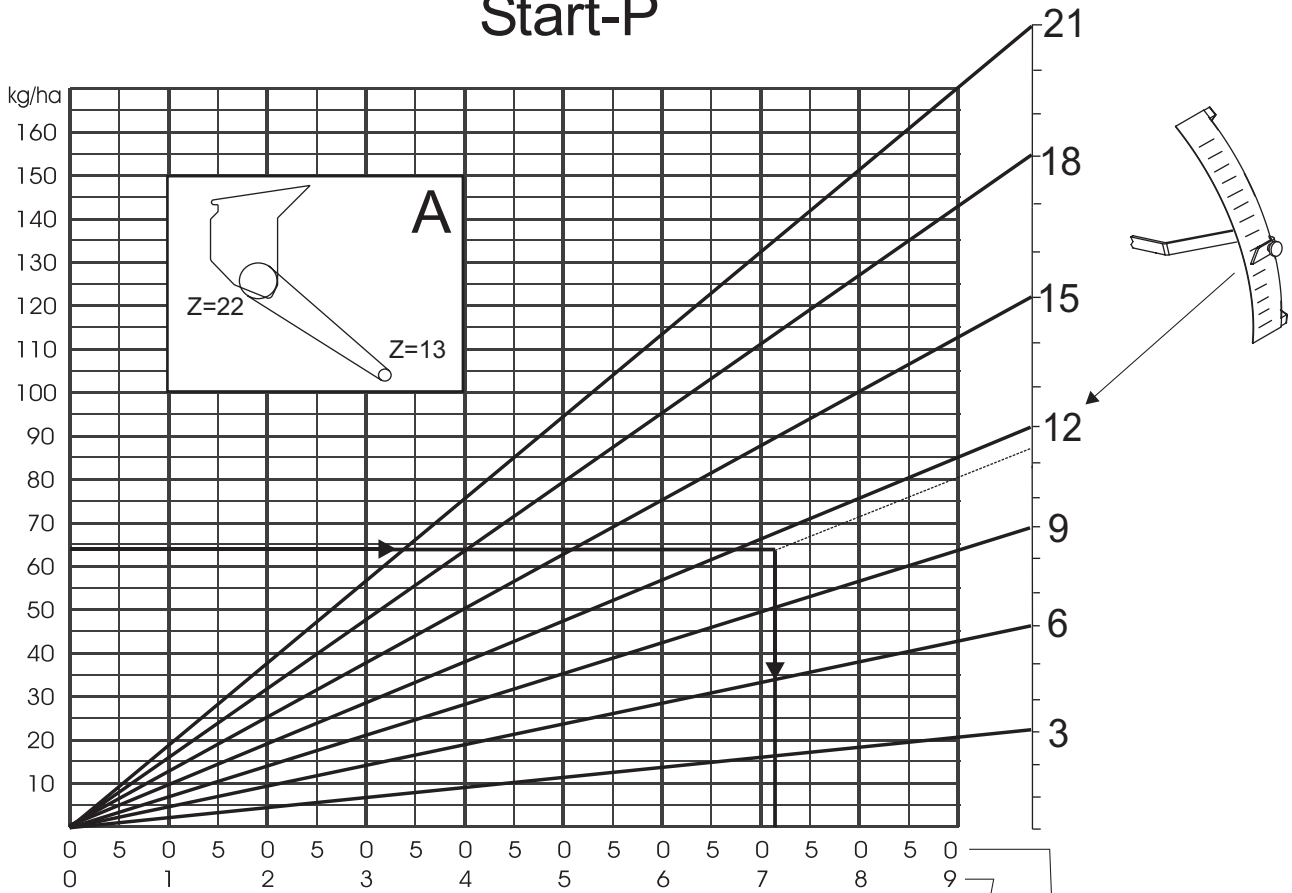


3, 4

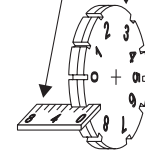
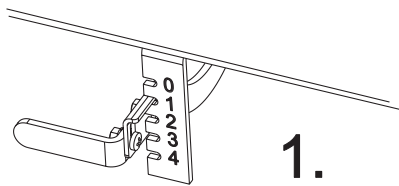
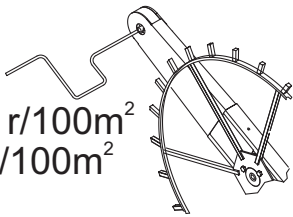


SOWING TABLE FOR STARTER FERTILIZER FOR FAST GROUND WHEEL GEAR Z13/36
(Norway)

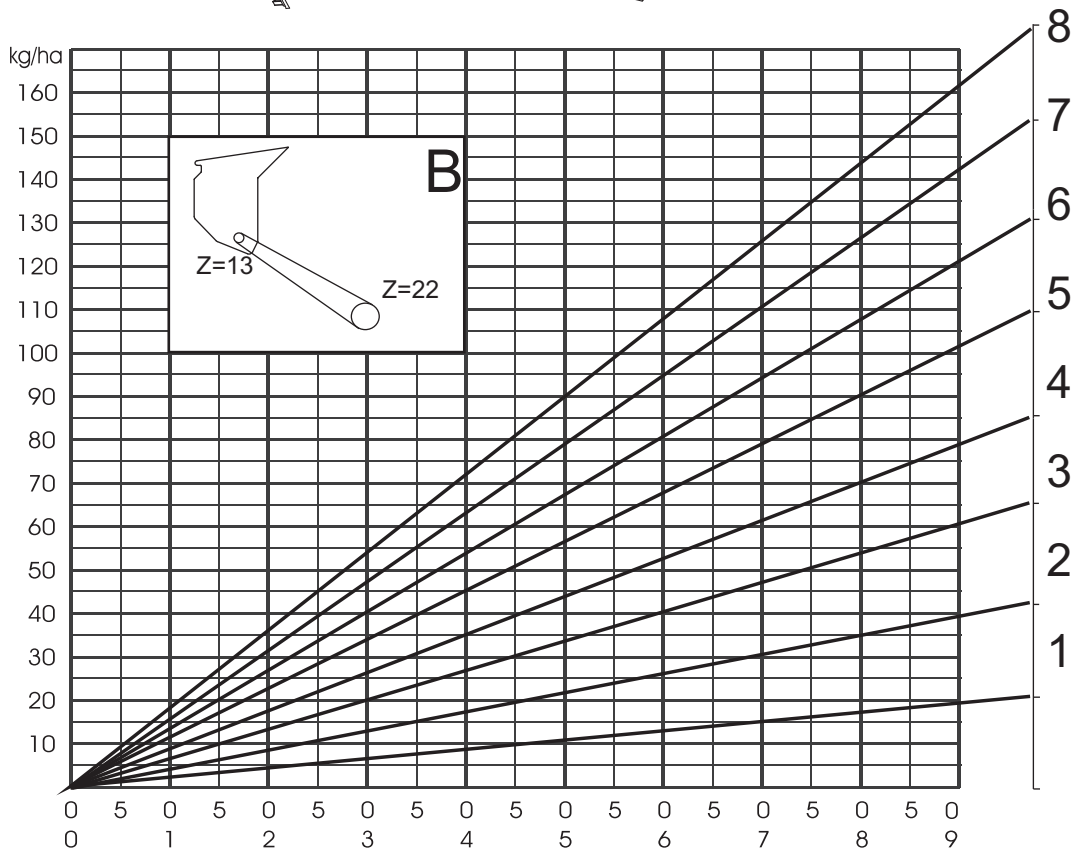
Start-P



3m 25,75 r/100m²
4m 19,3 r/100m²

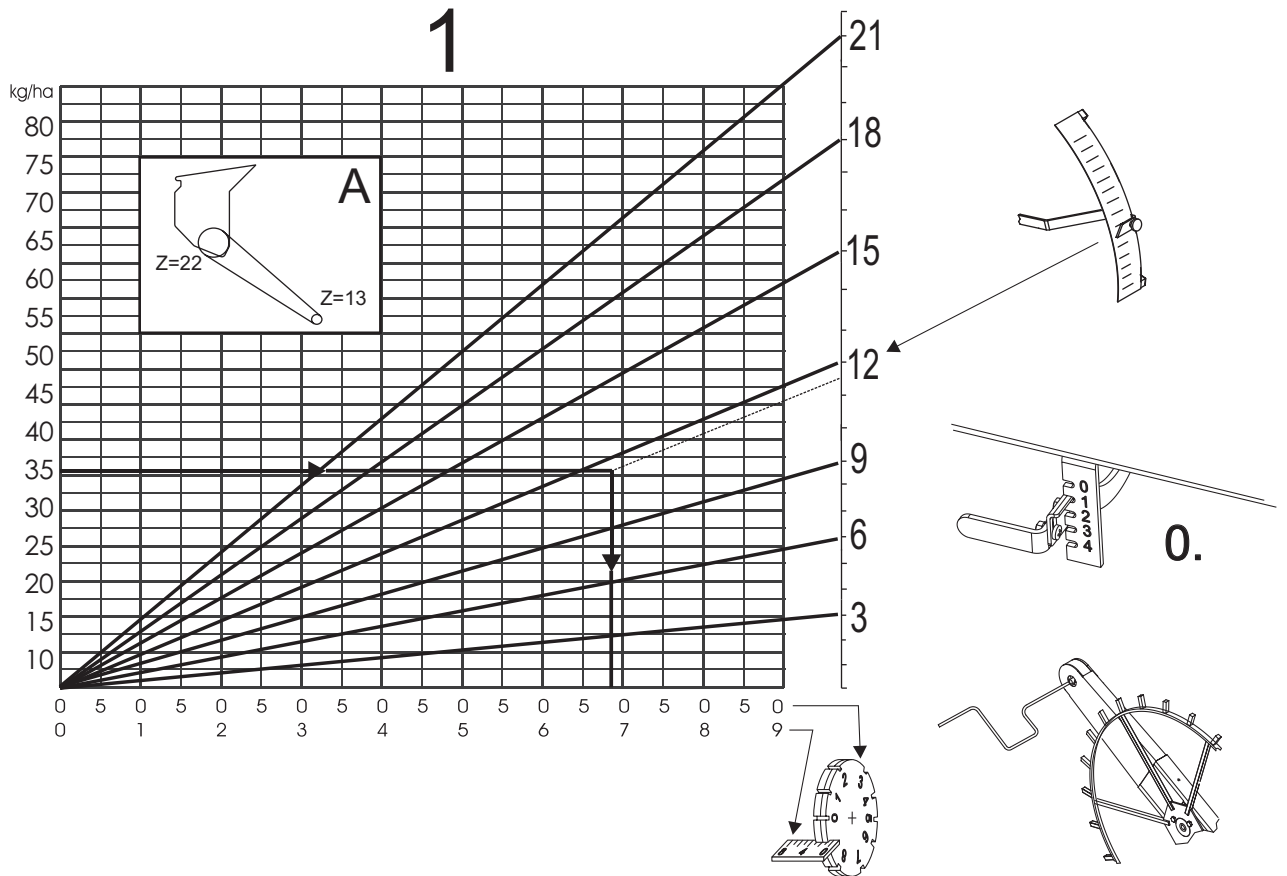


1.



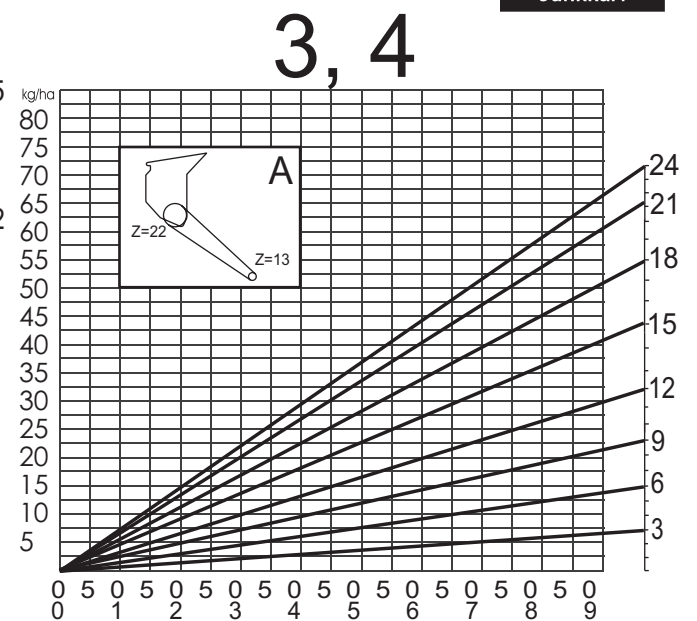
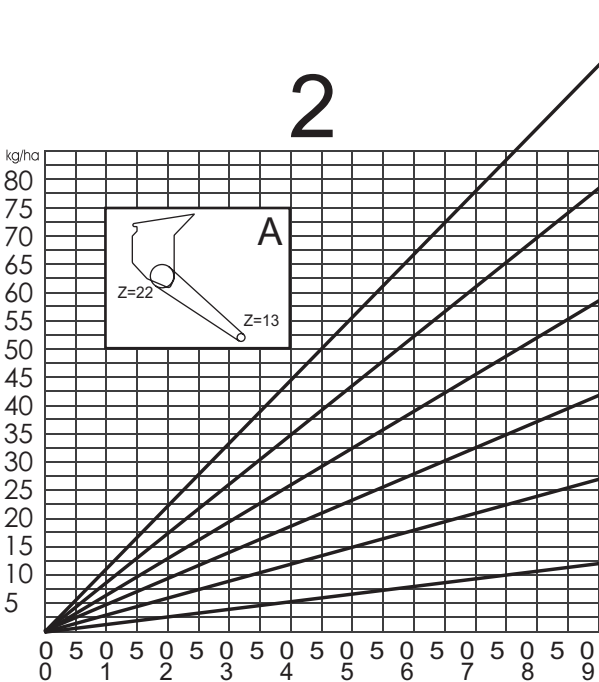
3-18361

SMALL SEED SOWING TABLE FOR FAST GROUND WHEEL GEAR Z13/36 (Norway)



1. Timotei/Timotej/Timothy/Timotheegrass
2. Puna-apila/Rödklöver/Red clover/Rotklee
3. Raiheinä/Rai-gräs/Ryegrass/Raigras
4. Nurminata/Ängssvinge/Meadow fescne/Wiesenschwingel

3m 25,75 r/100m²
4m 19,3 r/100m²



Example:

You want to sow timothy 32kg/ha as the gearbox is in position 17 (180kg of barley).

1. Fill the container with a minimum of 10cm of seeds.
2. Remove the locking cotter from the fertilizer side chain wheel and move it to the hole of the same axle. Change a shorter rotation test cotter on the seed side axle.
3. Check the sowing table for the timothy feeding amount 32kg/ha and the corresponding position of the gearbox, which is 6.8.
4. Adjust the adjustment wheel on the left side of the feeding machine so that the scale value is 6, which is read from the middle of the adjustment wheel. Turn the adjustment wheel for 8 notches more, in which case the circular scale value is 8. The adjustment is always made from a smaller value to a larger one.
5. Replace the rotation test troughs.
6. Turn the change plate lever to the rotation test position.
7. Turn the rotation test crank a few times. The crank must be placed in the rotation test position. Ensure that all the feeding containers are feeding. The seeds entering the trough are poured back into the container and the troughs are replaced.
8. Turn the crank at speed 1 turn/1 sec. for rotation test turns (see table).
9. Weigh the seeds gathered in the troughs.
10. If the weighed result was noticeably different from the sowing table result, adjust the machine again and perform the rotation test again.

NOTE THAT THE VALUES IN THE SOWING TABLE ARE INTENDED AS A GUIDE DUE TO THE DIFFERENT COMPOSITION, SEED DRESSING ETC. OF THE MATERIAL TO BE SOWED.

Junkkari



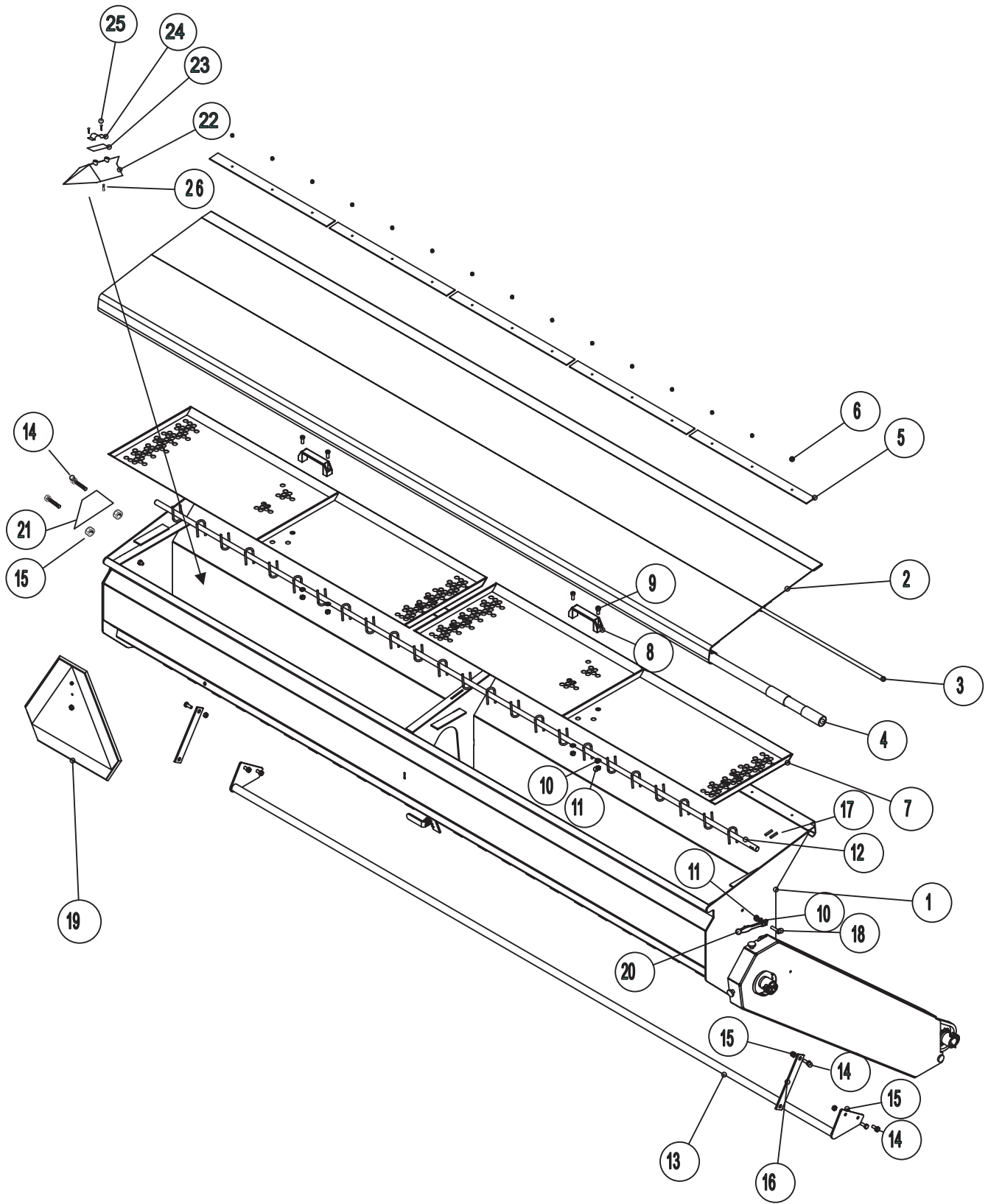
SMALL SEED BOX

SPARE PART PICTURES

MAPSL08_SU

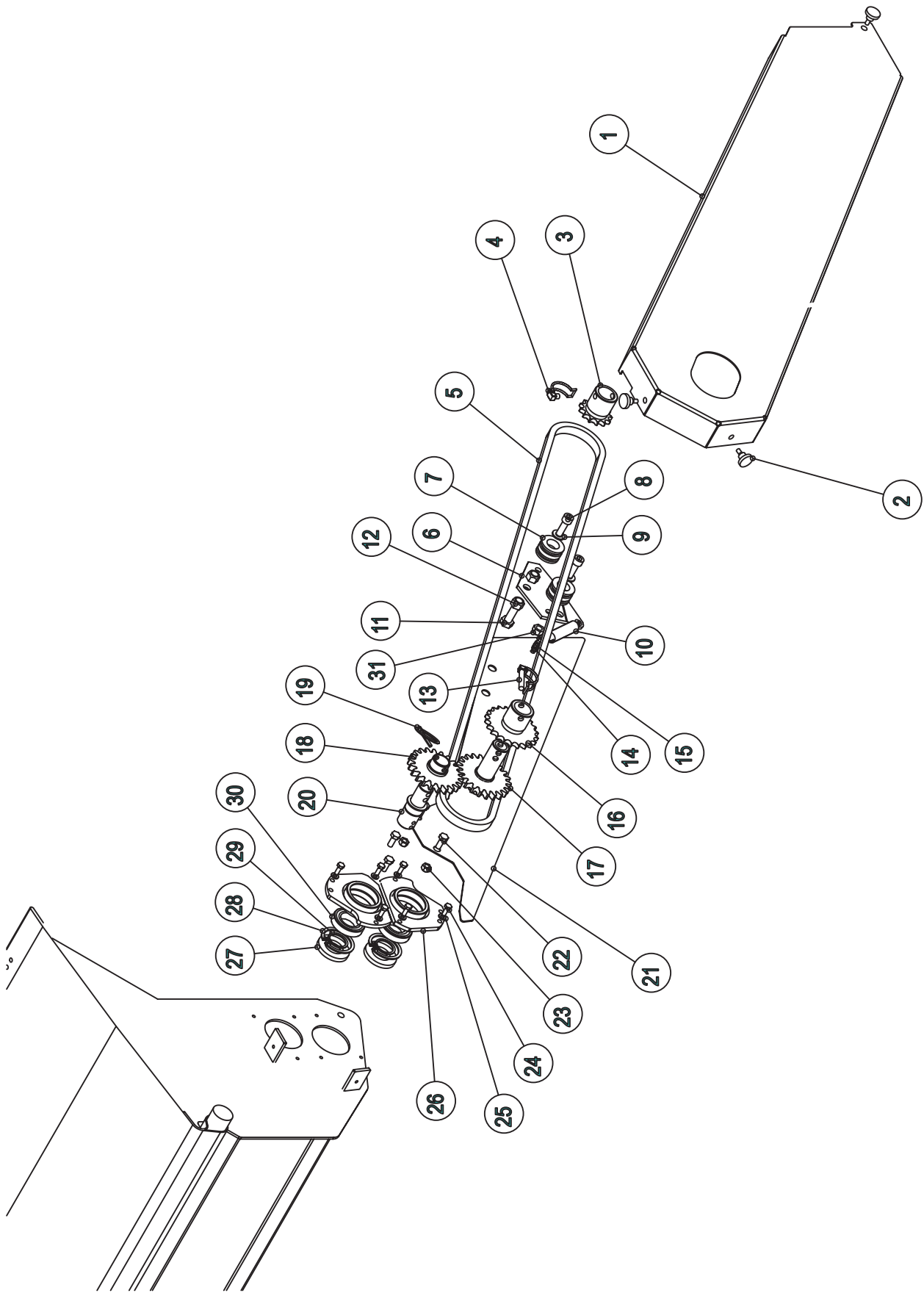
FINLAND CE

CONTAINER



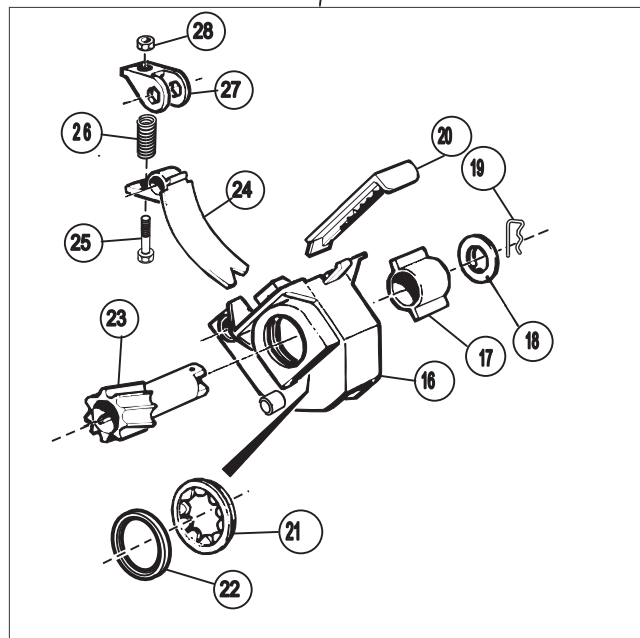
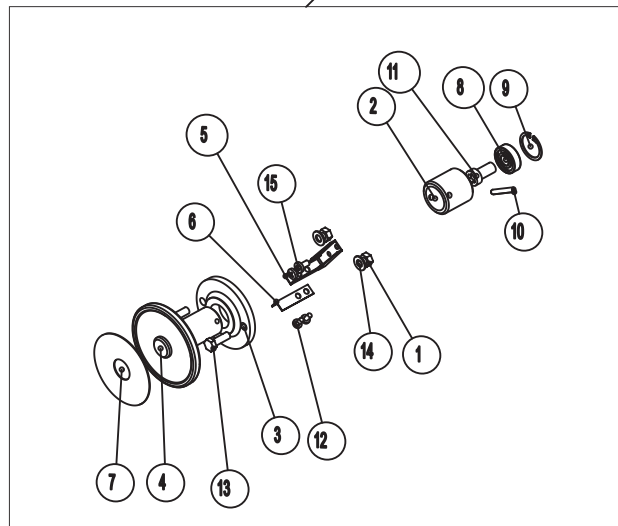
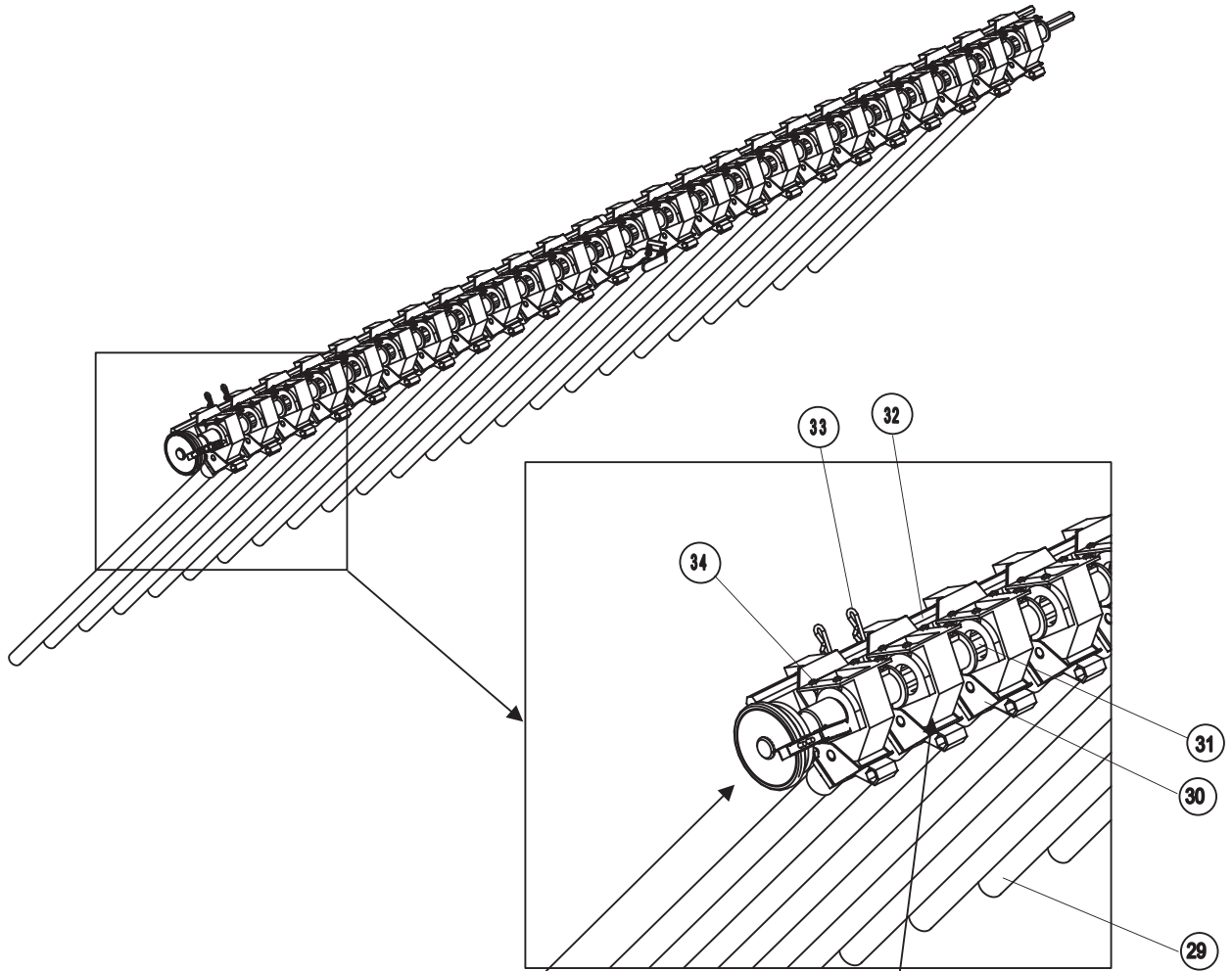
PART	CODE	LABEL	PCS 3000	PCS 4000
1	17805	CONTAINER WELDED	1	
	18280	CONTAINER WELDED		1
2	D17869	LID COVER SSB. 3000	1	
	D18318	LID COVER SSB. 4000		1
3	17872	STIFFENER BAR 3000	1	
	18319	STIFFENER BAR 4000		1
4	17873	LID PIPE FOR COVER 3000	1	
	18297	LID PIPE FOR COVER 4000		1
5	18005	ATTACHMENT MOULDING	5	7
6	D40002210	POP RIVET DOME 4.8X10 AL/ST	10	14
7	17812	SIEVE SMALL SEED BOX 3000	2	
	18322	SIEVE SMALL SEED BOX 4000		2
8	D30100	LID HANDLE PLASTIC SIMULTAT	2	2
9	A04610	HEX SCREW M8X20 A2 DIN 91 2 AISI	4	4
10	B60649	BED-PLATE M 8 DIN125A A2 AISI	6	6
11	A50652	HEX NUT M8 A2 DIN934 AISI	6	6
12	17830	MIXER AXLE WELDED SSB. 3000	1	
	18285	MIXER AXLE WELDED SSB. 4000		1
13	18807	FEED TUBE CARRIER 3000	1	
	18324	FEED TUBE CARRIER 4000		1
14	A080L1514	HEX SCREW M8X20 8.8 DIN 933 ZN	8	8
15	A50710	HEX NUT IL M8 A2 DIN985 AISI	8	8
16	18811	ATTACHMENT PLATE	2	2
17	B85160001	SPRING COTTER 5X36 DIN1 481 ZNC	2	2
18	A04930	HEX SCREW M8X30 A2-80 DIN 933 A	2	2
19	18406	WARNING TRIANGLE ASSEMBLY	1	1
20	E74337	RUBBER LATCH ROSENLEW CATCH	2	2
21	18809	ATTACHMENT PLATE	1	1
22	D30115	TRIANGLE PIECE M JAPAN 3-12999	22	30
23	12810	BEARING LOWER HALF	3	3
24	160828	BEARING UPPER HALF	3	3
25	160832	BEARING UPPER HALF ATTACHMENT	3	3
26	A670A9824	X PLATE R.4.8X1 3 A2 DIN7981 C POZ	22	30

MACHINERY AND PROTECTIONS



PART	CODE	LABEL	PCS 3000	PCS 4000
1	17960	CHAIN PROTECTION	1	1
2	A01560	KNURLED-HEAD SCREW M*6X26 341 76400 MS	3	3
3	18116	CHAIN WHEEL Z13. WELDED.	1	1
4	18269	COTTER SHORTENED	1	1
5	17827	CHAIN FOR SMALL SEED BOX	1	1
6	13431	TIGHTENING TRIANGLE	1	1
7	137224	ROLL FOR CHAIN TIGHTENER	2	2
8	A0A104524	HEX SCREW M1 0*30	2	2
9	B5A0MB024	BED-PLATE M10	2	2
10	D14105	DRAW-SPRING 2.25*1 8*90 4-920	1	1
11	A0C151514	HEX SCREW M1 2X35 8.8 DIN933 Z	1	1
12	AGC113014	HEX NUT IL M1 2 DIN985-8 Z	2	2
13	BEC000003	RING COTTER 5080451	1	1
14	A01150	HEX SCREW M5X25 8.8 DIN 933 Z	1	1
15	Ag5113014	HEX NUT IL M 5 DIN985-8 ZN	2	2
16	17822	CHAIN WHEEL Z22 WELDED	1	1
17	17820	GW. WELDED. SMALL SEED BOX	1	1
18	18288	GW. WELDED FOR MIXER AXLE	1	1
19	Be6000002	RING COTTER 6X40 L=40 ZN	1	1
20	18286	GW TERMINAL MIXER AXLE	1	1
21	18810	BACK PROTECTION FOR CHAIN	1	1
22	A080L1514	HEX SCREW M8X20 8.8 DIN 933 Z	2	2
23	A50710	HEX NUT IL M8 A2 DIN985 AISI	2	2
24	A02195	HEX SCREW M6X1 6 A2 DIN 933 A	6	6
25	B560E1524	BED-PLATE M 6 DIN 1 25A ZN	6	6
26	17185	BEARING HOUSING FACETED	2	2
27	D49009	STEFA 30*55*7 CRW1 R	2	2
28	BH1S1S0J1	SEGER RING PERF. 55X2 DI N472	2	2
29	BH1011L11	SEGER RING AXLE 30X1 .5 DIN4	2	2
30	CE60062RS	BALL BEARING 6006 2 RS	2	2
31	AGA113014	HEX NUT IL M10	2	2

FEEDING DEVICES



PART	CODE	LABEL	PCS 3000	PCS 4000
1	Ag8111014	HEX NUTM 8 DIN934-8	2	2
2	17418	BEARING HOUSING FOR ADJUSTMENT SCREW	1	1
3	D160304	FEEDING CONTROL BODY MECH SINK4-7738	1	1
4	160302	FEEDING ADJUSTMENT SCREW HANDLE ASSEMBLED	1	1
5	160301	SCALE CARRIER ASSEMBLED	1	1
6	13944	ADJUSTMENT SCALE FERTILIZER SIDE	1	1
7	135210000	FEEDING ADJUSTMENT SCALE FERTILIZER SIDE	1	1
8	CE62012RS	BALL BEARING 6201 2 RS	1	1
9	BH1210L11	SEGER RING PERF. 32X1 .2 DIN472	1	1
10	B851A0001	SPRING COTTER 5X40 DIN1 481 ZNC	1	1
11	A0C0S4524	HEX SCREW M1 2X25 8.8 DIN91 2 ZN	1	1
12	A00750	GROOVE SCREW M5X1 0 A2 DIN 7985 POZ	2	2
13	53060140	HEX SCREW M8 X25 8.8 DIN 933 ZN	2	2
14	B580H1624	BED-PLATE M 8 DIN 1 25A ZN	2	2
15	A060A9024	GROOVE SCREW M6X1 0 4.8 DIN7985 ZN POZ	2	2
16	125058	FEEDING CHAMBER	24	32
17	125059	CLOSING PART	24	32
18	125060	END PLATE	24	32
19	125055	BUN COTTER	24	32
20	125057	CLOSING HATCH	24	32
21	125062	SEALING RING	24	32
22	125063	LOCKING RING	24	32
23	125054	FEEDING ROLLER	24	32
24	125070	BOTTOM FLAP	24	32
25		HEX SCREW M5*35	24	32
26	125073	SPRING FOR BOTTOM FLAP	24	32
27	125072	ADJUSTMENT PART	24	32
28	Ag5111811	HEX NUT M5 A2 DIN934 AISI	24	32
29	17790	FEEDING TUBE W=905	24	32
30	D30119	CONE FOR FERTILIZER SIDE 3-1 3294	24	32
31	17829	FEEDING AXLE FS. SSB. 3000	1	
	18283	FEEDING AXLE FS. SSB. 4000		1
32	17561	BOTTOM FLAP AXLE 3000	1	
	18142	BOTTOM FLAP AXLE 4000		1
33	D32100000	BUN COTTER STAINLESS STEEL 4-5934	2	2
34	A670A9824	XX PLATE RING 4.8*1 3 A2 DIN7981 C POZ AISI	96	128