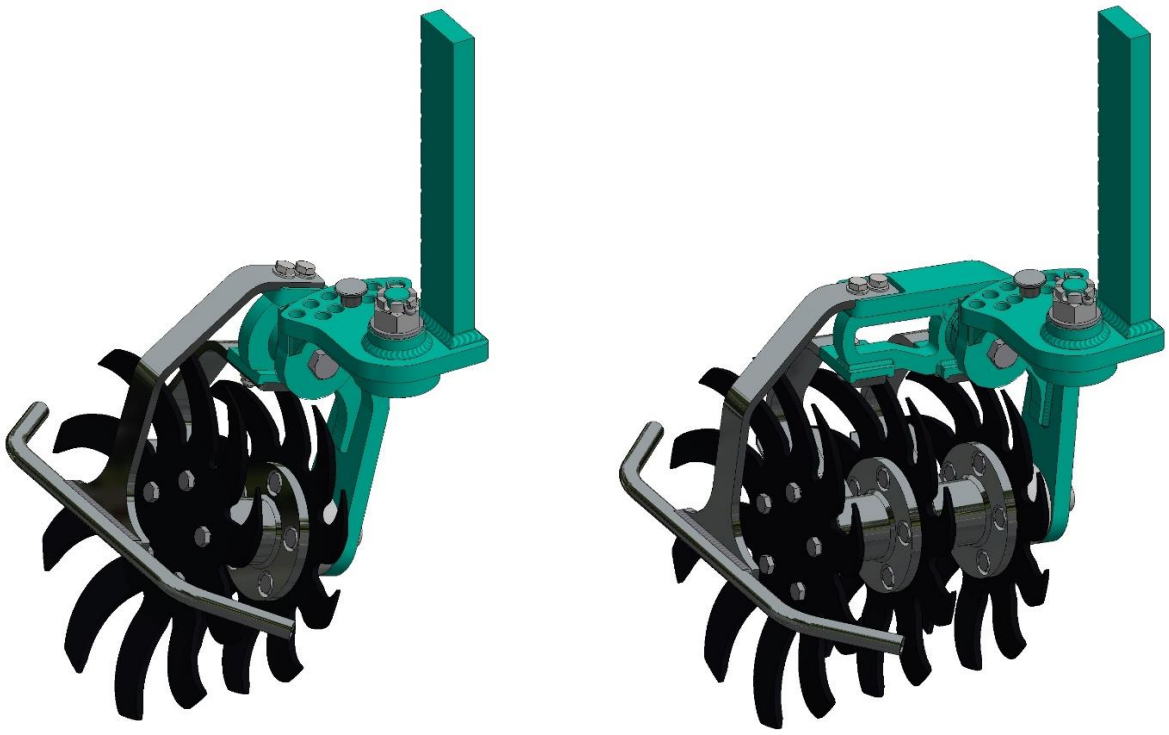
Product Information

Setting description

Finger Roller

2 or 3 disks right / left side

Item no.: CL927.700000 (right) / CL927.800000 (right), 2 disks from November 2016
CL927.900000 (right) / CL927.910000 (right), 3 disks



Manufacturer:
CLEMENS GmbH & Co. KG
Maschinenfabrik
Rudolf-Diesel-Straße 8
D-54516 Wittlich/Germany

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Note:

In case of failure to comply with the operating manual and the setting description or the use of unacceptable spare parts, the manufacturer cannot be held responsible.
In addition, no changes of or attachments to the device which might affect safety may be carried out without the manufacturer’s consent.

Subject to technical alterations!

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1 Application range Finger Roller

Figure 1 Finger roller in operation

The Finger Roller has been designed and developed for the soil treatment in the undervine area for mechanical weed control.
Due to the disturbance of the growth in the working area of the Finger Roller, the nutrient uptake of weeds which are in competition with the crop (vine, etc.) is minimized.
The working principle or the work sequence consists of the following points:

Grooving » Lifting » Shifting (and tilting) » Depositing

In addition, the middle dam is broken and the ground is crumbled and loosened. The loosening of the floor ensures better water absorption and good ventilation. In combination with the shaping of the discs, an irregular tear-off edge is created, which also reduces the risk of erosion in slopes.

Other advantages:

- Integrated angle adjustment as with the Serrated Disk Plow GSP.
- Outer angle can be changed without any problem by repositioning the locking bolt.
- Good distribution of forces due to different wheel sizes with outer and inner sprockets.
- As a result, both disks operate at an oblique working angle on the same level.
- Compared to the Serrated Disc Plow we avoid a straight edge, which can become a water channel in steep slopes.

Depending on the soil conditions, the working depth of the Finger Roller is approx. 5 - 10 cm (2–4”) at a speed of approx. 4 - 10 km / h (2.5 – 6.25 mph).

2 Structure of the Finger Roller (2 or 3 disks)

The Finger Roller (2-or 3 disks) essentially consists of:

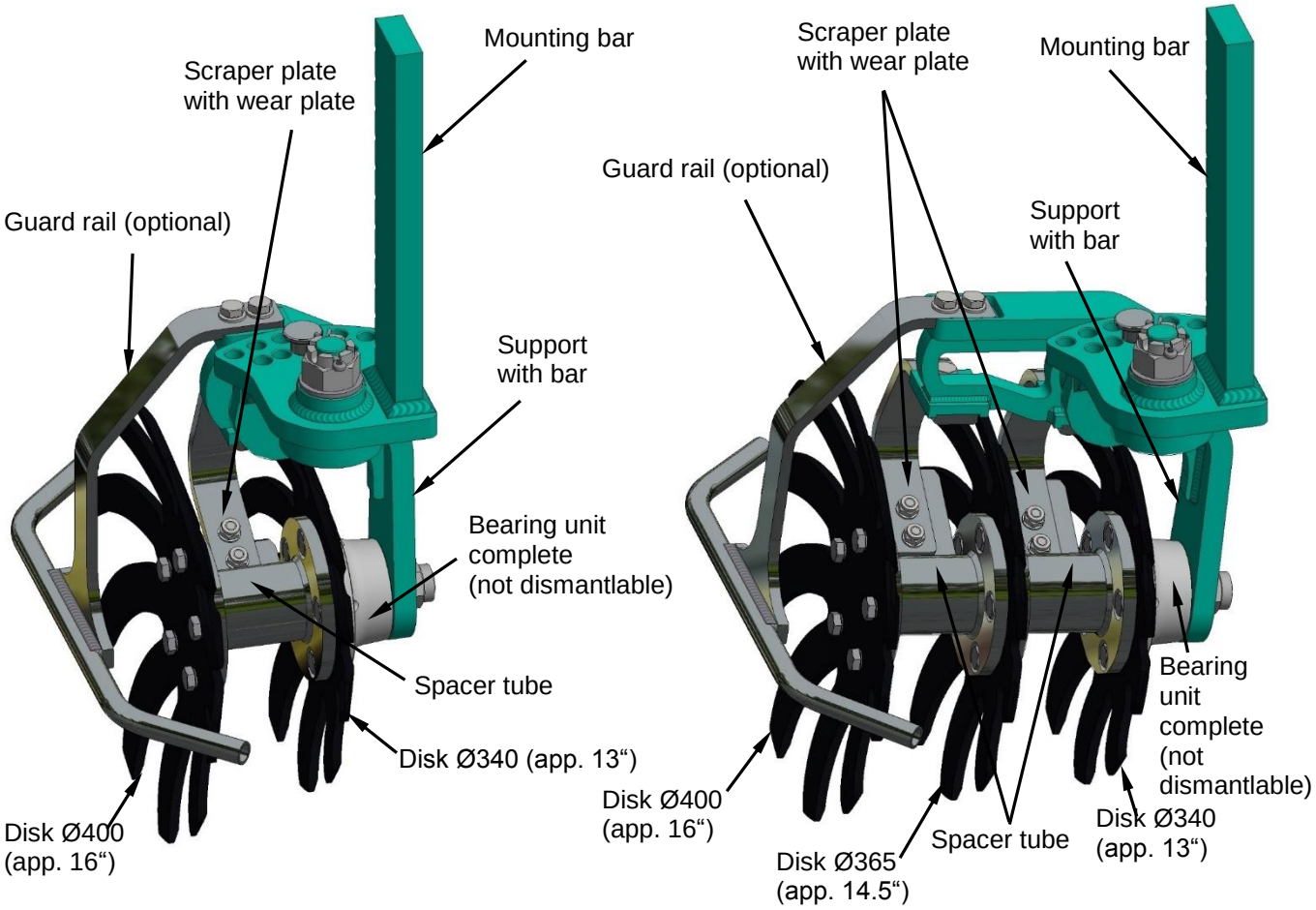


Figure 2 Overall view Finger Roller 2 and 3 disks

The right variant of the Finger Roller is shown, the left variant accordingly.

2.1 Guard rail

In order to avoid injuries to the cultivated plants by the discs during processing (mainly with narrow working widths), we optionally offer a guard rail (CL927.530000), which can be installed on the right or left side.

Figure 3 Guard rail

2.2 Technical data

	Finger roller (with 2 disks)	Finger roller (with 2 disks)
Weight (incl. mounting bar)	approx. 40 kg (88 lb.)	approx. 50 kg (110 lb.)
Length (incl. mounting bar)	approx. 890 mm (2‘11“)	approx. 890 mm (2‘11“)
Width	approx. 540 mm (1‘9“)	approx. 540 mm (1‘9“)
Depth	approx. 330 mm (1‘1“)	approx. 460 mm (1‘6“)
Mounting dimensions Mounting bar	70x25 mm (2‘4“x10“)	70x25 mm (2‘4“x10“)
Working width Depending on the position	approx. 200 mm (8“)	approx. 300 mm (1‘)

3 Notes on safety

Attention:

- Pay attention to the pointed edges of the Finger Roller!
- There is a risk of cuts. Wear safety gloves during all work on the device.
- Pay particular attention to the risk of crushing when adjusting!
- Observe the generally valid safety regulations of the employer’s liability insurance!
- Under no circumstances may the Finger Roller be gripped while driving!
- Always carry out all work with the drive and motor switched off!
- Remove ignition key!
- Secure the tractor and the machine against unwanted movements (for example, rolling, lowering, etc.).

4 Mounting

Depth adjustment:

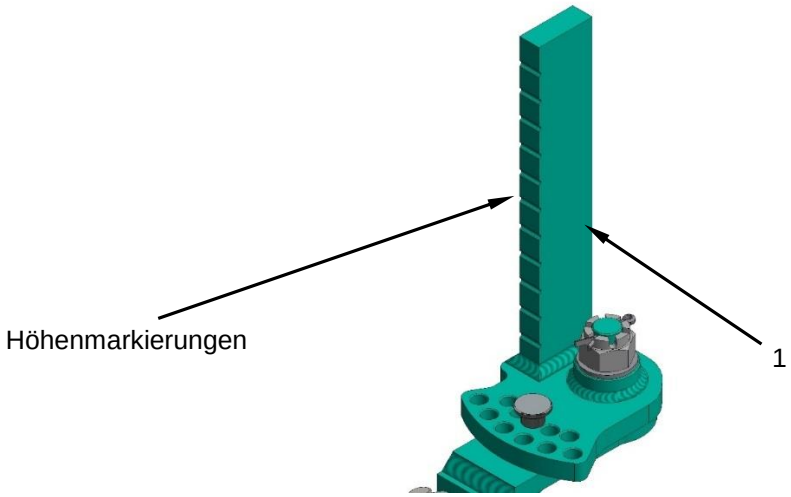


Figure 4 Depth adjustment

The mounting bar (1) is attached to the frame (SB-family, HEXAGON, HERKULES) or to the lifters (Column lifter S5, COMPACT Lifter), which is e.g. by means of supporting wheels or a land roller guided in the depth, thus adapting the working depth of the Finger Roller to the ground contours.
The height markings are used for better control when mounting on both sides, in order to ensure the same height of the devices.

5 Basic setting

Note:

The basic setting of the lateral inclination and of the angle of attack (shown in the following sections) is used as an orientation aid when adjustments are made to the Finger Roller.

This setting must be made before the first start-up.

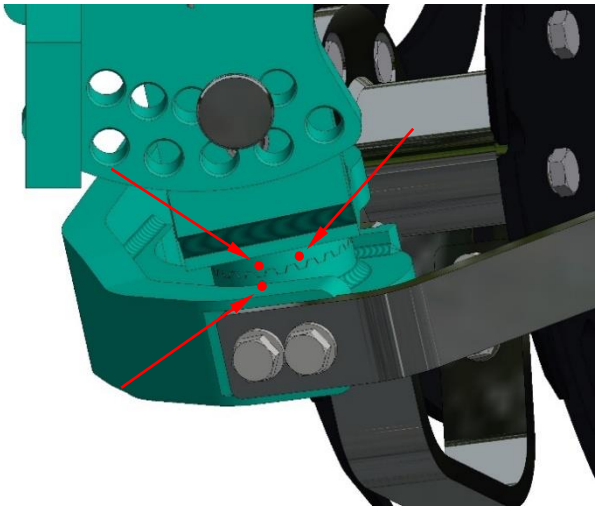


Figure 5 Basic setting Lateral inclination Finger Roller 2 disks right

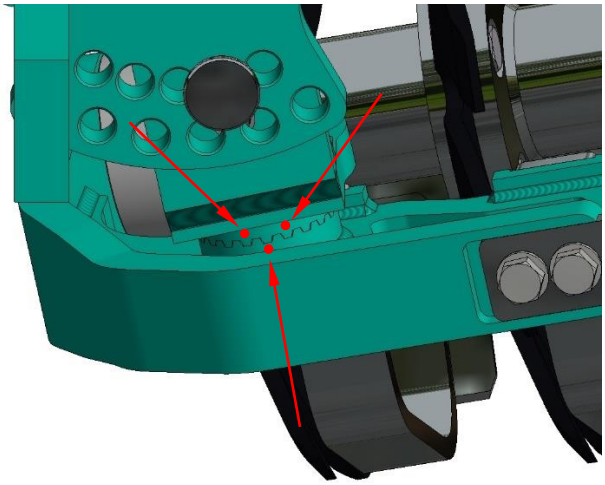


Figure 6 Basic setting Lateral inclination Finger Roller 3 disks right / left

The basic setting of the lateral inclination is indicated by marking points (see Figure 5and Figure 6) on the outside of the respective serrated discs. The setting is mirror-inverted for 2 discs right/left and identical for 3 discs right/left.

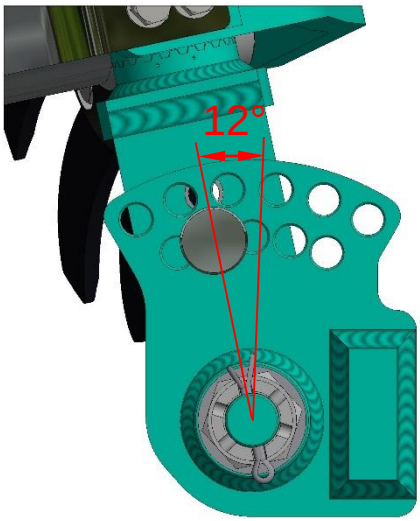


Figure 7 Basic setting Angle of attack Finger Roller right

In general, the plow should be adapted to the respective soil conditions or the desired earth transport (sandy soil, loamy soil, etc.).

The desired basic setting of the angle of attack is 12° and is set in the first hole. The setting is identical for the Finger rollers 2 and 3 discs and must be made mirror-inverted for the left side.

The right variant of the Finger Roller is shown, the left variant accordingly.

5.1 Quick adjustment and angle of attack

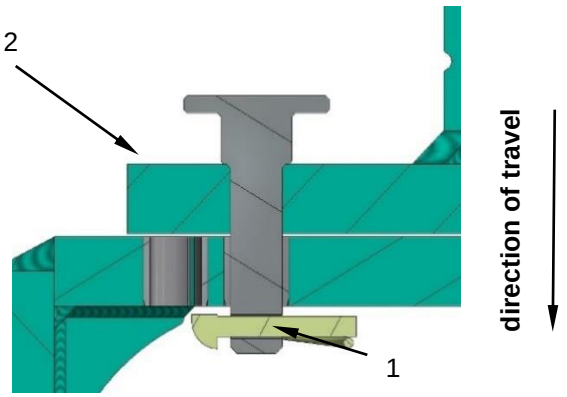


Figure 8 Quick adjustment

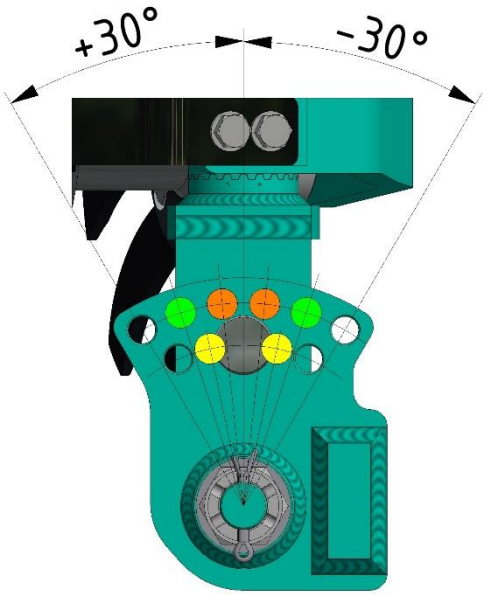


Figure 9 Adjustment Angle of attack

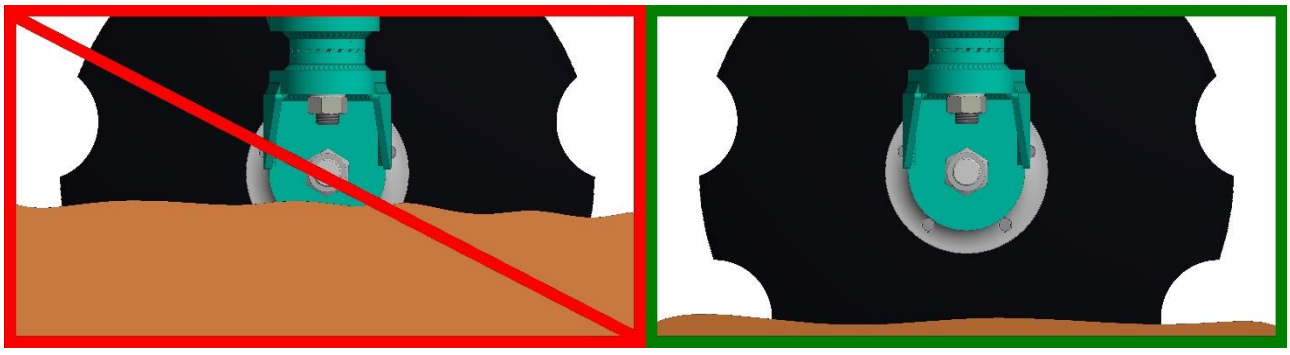
The quick adjustment enables a quick setting of the angle of attack of the Finger Roller to the direction of travel, without the need to change the angle of inclination.

To do this, remove the cotter pin (1) and remove the locking bolt (2). This can then be positioned in the respective bore, depending on working conditions and soil conditions (see Figure 8).

In general, the working angle can be adjusted from +30° to -30°.

According to our experience, the best results are achieved in the range of +6° to +18°.

● = +6° or -6°
● = +12° or -12°
● = +18° or -18°



The bearing area of the disc/Finger Roller may not be immersed in the soil!

5.2 Processing width

The following theoretical processing widths are possible for the angles specified in section 5.1 as shown in Figure 10 and Figure 11.

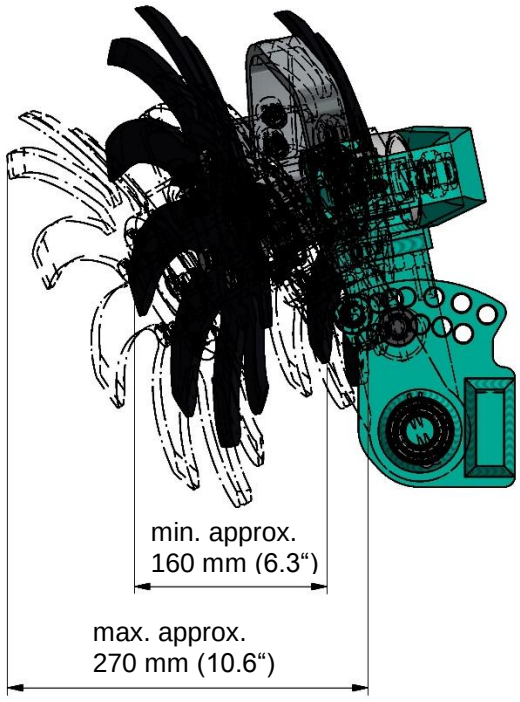


Figure 10 Processing width 2 disks

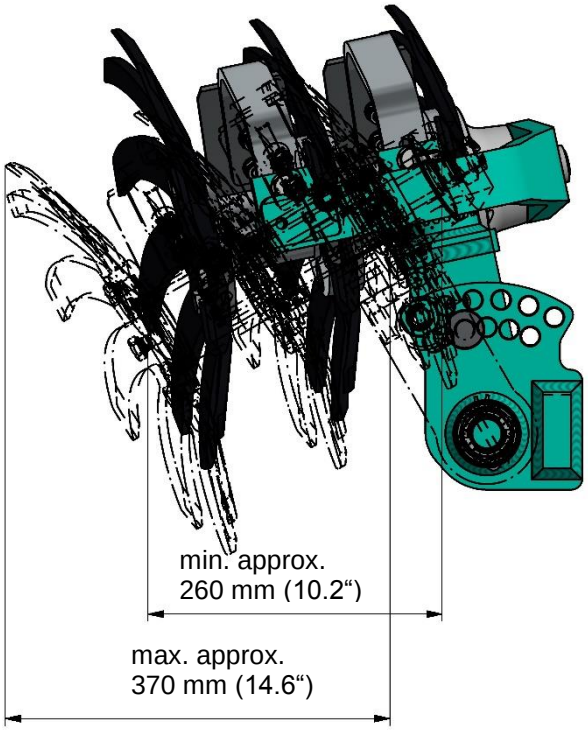


Figure 11 Processing width 3 disks

5.3 Readjustment of the extension arm

Note:

The play of the extension arm (pos. 1) to the spar (pos. 2) is already set at the factory.

If it should change during assembly or maintenance work or due to wear and tear and the extension arm is too stiff, readjust it.

The bearing clearance of the extension arm should be adjusted so that it can still be adjusted manually and without great effort. If the force required is too great or too small, first loosen the split pin (pos. 3) and pull it out of the castle nut (pos. 4).

Now you can tighten or loosen the crown nut in 60° increments to reduce or increase the play of the extension arm accordingly. After adjustment, the split pin must be reattached.

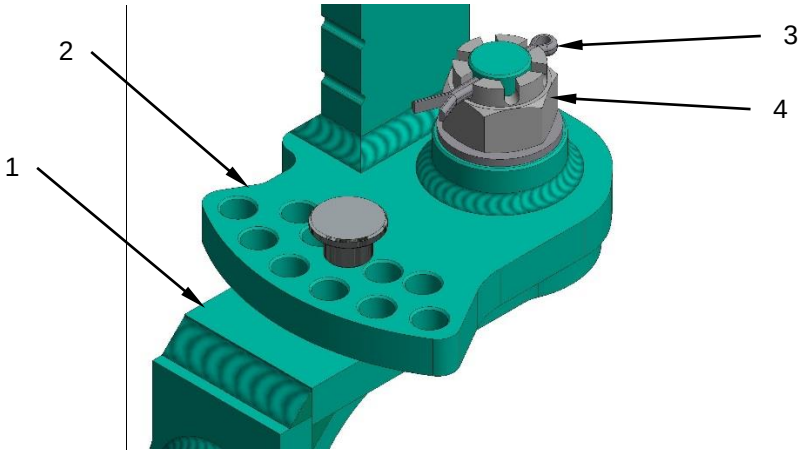


Figure 12 Readjustment of the extension arm

5.4 Conversion instructions for the narrow 2-disc version

In order to achieve an even narrower processing width, it is possible to reduce the Finger Roller by 20 mm (0.8”). To do this, you need the CL927.540000 Finger Roller conversion kit. Proceed as described below for the conversion.

Unscrew the two hexagon head screws M12 (pos. 1) with the lock washers (pos. 2) and the washers (pos. 3). Now remove the guard rail (pos. 4) and do not mount it again on the Finger Roller. The guard rail is no longer used due to the narrower working width.

In the next step, remove the scraper (pos. 5) by unscrewing the screw (pos. 6) with washer (pos. 7) and nut (pos. 8). Unscrew the round-head screws (pos. 9) with the washers (pos. 10) and the nuts (pos. 11). Now replace the wear plate (pos. 12) by the narrow version and mount it on the scraper (pos.5). Now dismount the disk Ø400 (pos. 13) after having unscrewed the 5 screws (pos. 14) with lock washers (pos. 15). In the next step remove the spacer tube (pos. 16) after having unscrewed the 5 screws (pos. 17) and lock washers (pos. 18). Replace the spacer tube (pos. 16) with the narrow version. For assembly, proceed in reverse order.

The specified torques are given in the tightening torque table in section Figure 15.

Figure 13 Finger Roller with holder and guard rail

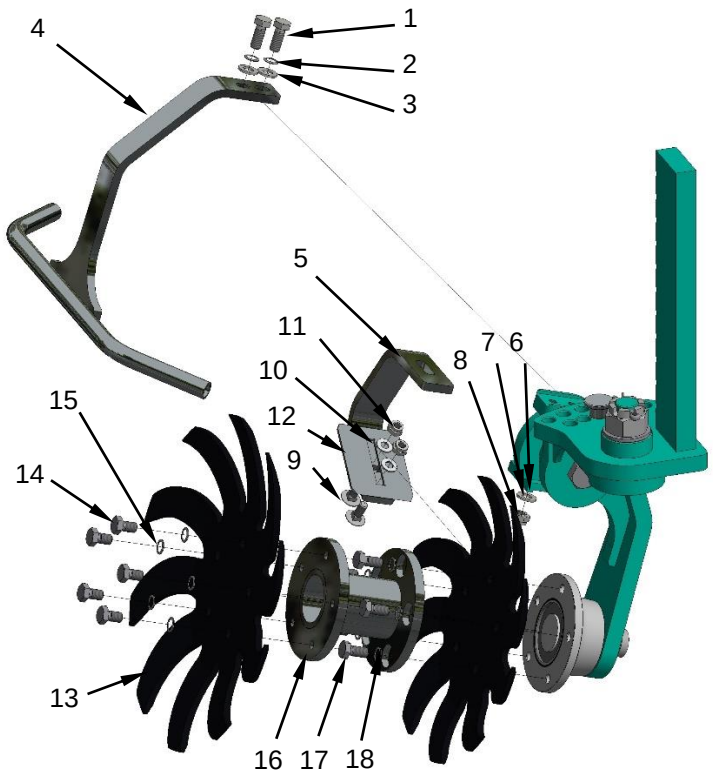


Figure 14 Conversion to narrow version

5.5 Tightening torques

The following values serve as a mounting aid. This information is without guarantee.
Tightening torques for steel screws DIN 912 / 931 / 933 / 934 strength classes 8.8 and 10.9

Red marked = fine thread

Dimension	Gradient	Tightening torque (Nm)	
		Strength class 8.8	Strength class 10.9
M4	0,7	3,0	4,4
M5	0,8	5,9	8,7
M6	1,0	10	15
M8	1,25	25	36
M10	1,5	49	72
M12	1,75	85	125
M12	1,5	51	/
M14	2,0	135	200
M16	2,0	210	310
M18	2,5	300	430
M20	2,5	425	610

Figure 15 Tightening torque table

Additional lubrication of the threads considerably changes the coefficient of friction and leads to indefinite tightening ratios!

6 Spare parts list

Address for customer service:

CLEMENS GmbH & Co. KG
Maschinenfabrik
Rudolf-Diesel-Straße 8
D-54516 Wittlich (Germany)

Phone: ++49-6571 / 929 – 00
Fax: ++49-6571 / 929 – 192
e-mail: info@clemens-online.com
Web: www.clemens-online.com

Address for customer service in the USA:

Clemens Vineyard Equipment, Inc.

224 N. East Street
Woodland, CA 95776

Phone: (530) 406-0577
Fax: (530) 661-0451
e-mail: thomas@clemens-america.com

The spare parts lists are valid for the right and left version.

Shown in the illustration is only the right version, *blue (+ italics)* marked items are to be used for the *left* version.

6.1 Mounting bar up to July 2018

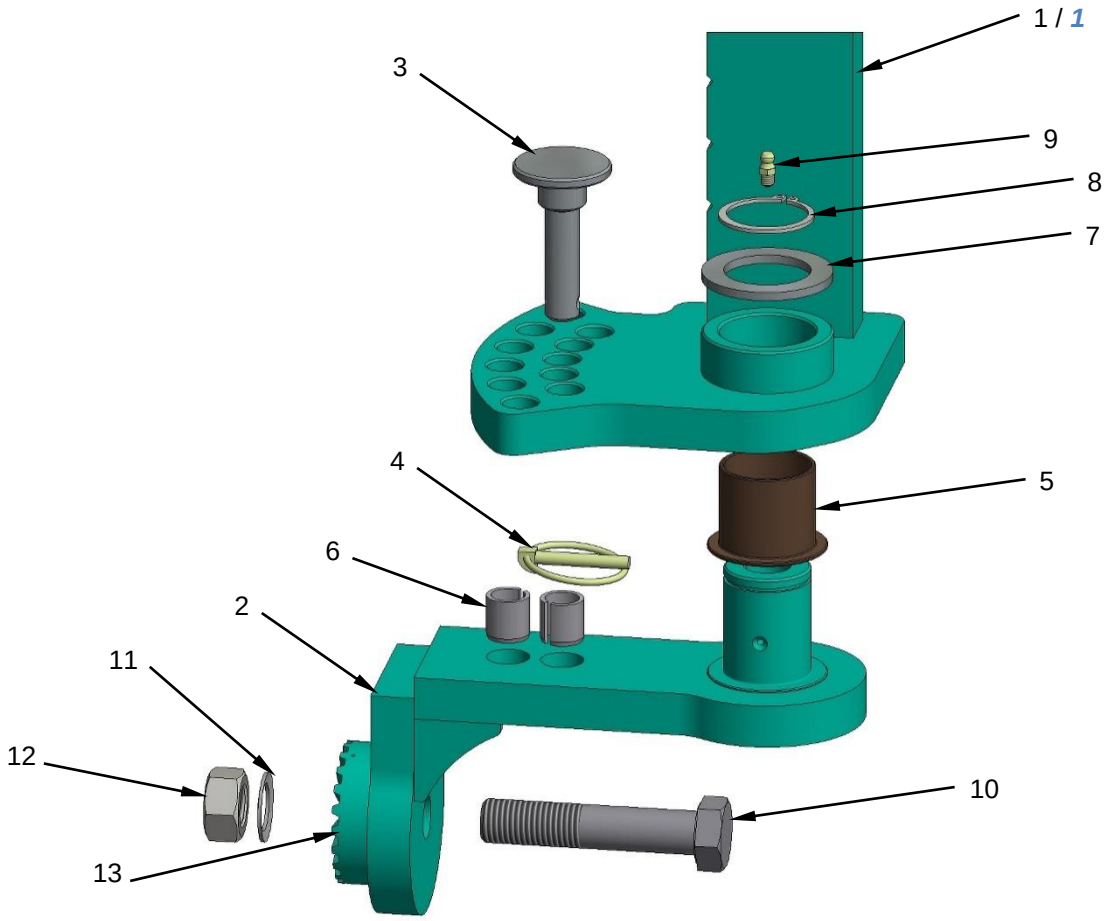


Figure 16 Spare parts Mounting bar (up to July 2018)

Item no.	Specification	Remark	Quantity	Order no.
	Mounting bar complete rhs			**CB927.310000**
	Mounting bar complete lhs			***CB927.410000***
1	Spar rhs		1	CB927.311000
1	***Spar lhs***		***1***	***CB927.411000***
2	Extension arm	incl. item no. 13	1	CB927.312000
3	Locking pin		1	CB927.310001
4	Cotter pin		1	CW520.000700
5	Collar bushing		1	CW550.014500
6	Clamping bush		2	149820020
7	Spacer disk		1	CB927.310002
8	Retaining ring		1	047140
9	Conical grease nipple		1	CW570.000200
10	Hexagon screw		1	093120100
11	Lock washer		1	CW520.003300
12	Hexagon nut		1	093420
13	Serrated disk, loose	Bottom and boring must be adjusted if necessary		CW902.002000

The spare parts lists are valid for the right and left version.

Shown in the illustration is only the right version, *blue (+ italics)* marked items are to be used for the *left* version.

6.2 Mounting bar from July 2018

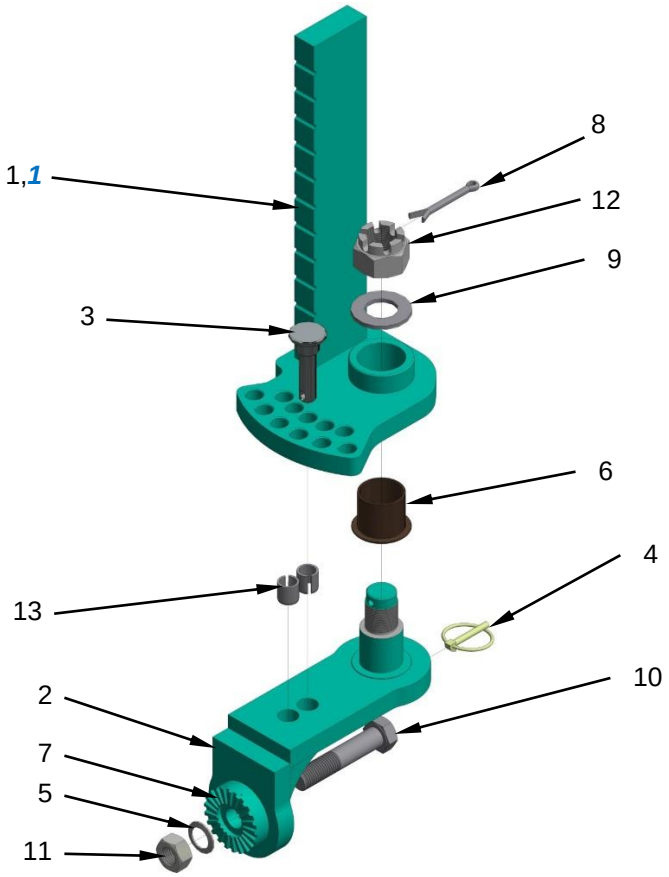


Figure 17 Spare parts mounting bar (from July 2018)

Item no.	Specification	Remark	Quantity	Order no.
	Mounting bar rhs	**complete**		**CB927.310000**
	Mounting bar lhs	***complete***		***CB927.410000***
1	Spar rhs		1	CB927.311000
1	***Spar lhs***		***1***	***CB927.411000***
2	Extension arm	incl. item no. 7, see note	1	CB927.312000
3	Locking pin		1	CB927.310001
4	Cotter pin		1	CW520.000700
5	Screw locking disc		1	CW520.010300
6	Collar bushing		1	CW550.014500
7	Serrated disk, loose	Bottom and boring must be adjusted if necessary		CW902.002000
8	Split pin		1	009463050
9	Washer		1	012531
10	Hexagon head screw		1	093120100
11	Hexagon nut		1	098520
12	Castellated nut		1	093530015
13	Clamping sleeve		2	149820020

Note:

The extension arm CB927.312000 will be delivered from July 2018 including split pin, washer and castellated nut (items no. 8, 9 and 12).

6.3 Disks, support, bearing (2 disks)

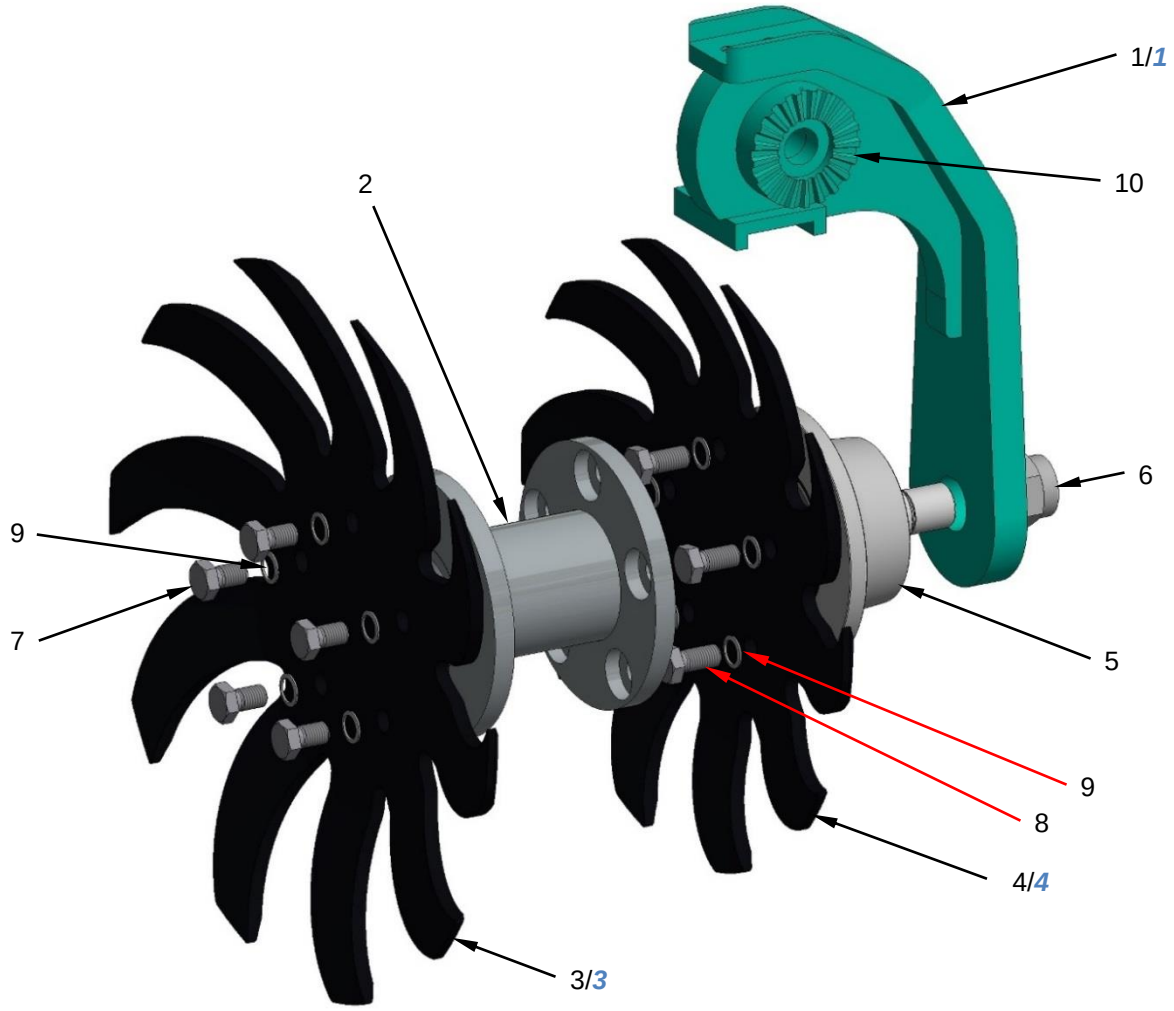


Figure 18 Spare parts Disks, support, bearing (2 disks)

Item no.	Specification	Remark	Quantity	Order no.
	Finger roller - Lower part 2 disks rhs	**complete**		**CL927.700000**
	Finger roller - Lower part 2 disks lhs	***complete***		***CL927.800000***
1	Support rhs	incl. item no. 10	1	CL927.510000
1	***Support lhs***	*incl. item no. 10*	*1*	*CL927.610000*
2	Spacer tube		1	CL927.520000
3	Finger disk rhs	Ø400 (16“)	1	CW650.016800
3	***Finger disk lhs***	*Ø400 (16“)*	*1*	*CW650.016900*
4	Finger disk rhs	Ø340 (13.4“)	1	CW650.016600
4	***Finger disk lhs***	*Ø340 (13.4“)*	*1*	*CW650.016700*
5	Bearing unit		1	CW540.047900
6	Hexagon nut		1	098524020
7	Hexagon screw		5	096112020
8	Hexagon screw		5	096112025
9	Lock washer		10	CW520.002900
10	Serrated disk, loose	Bottom and boring must be adjusted if necessary		CW902.002000

The spare parts lists are valid for the right and left version.

Shown in the illustration is only the right version, *blue (+ italics)* marked items are to be used for the *left* version.

6.4 Disks, support, bearing (3 disks)

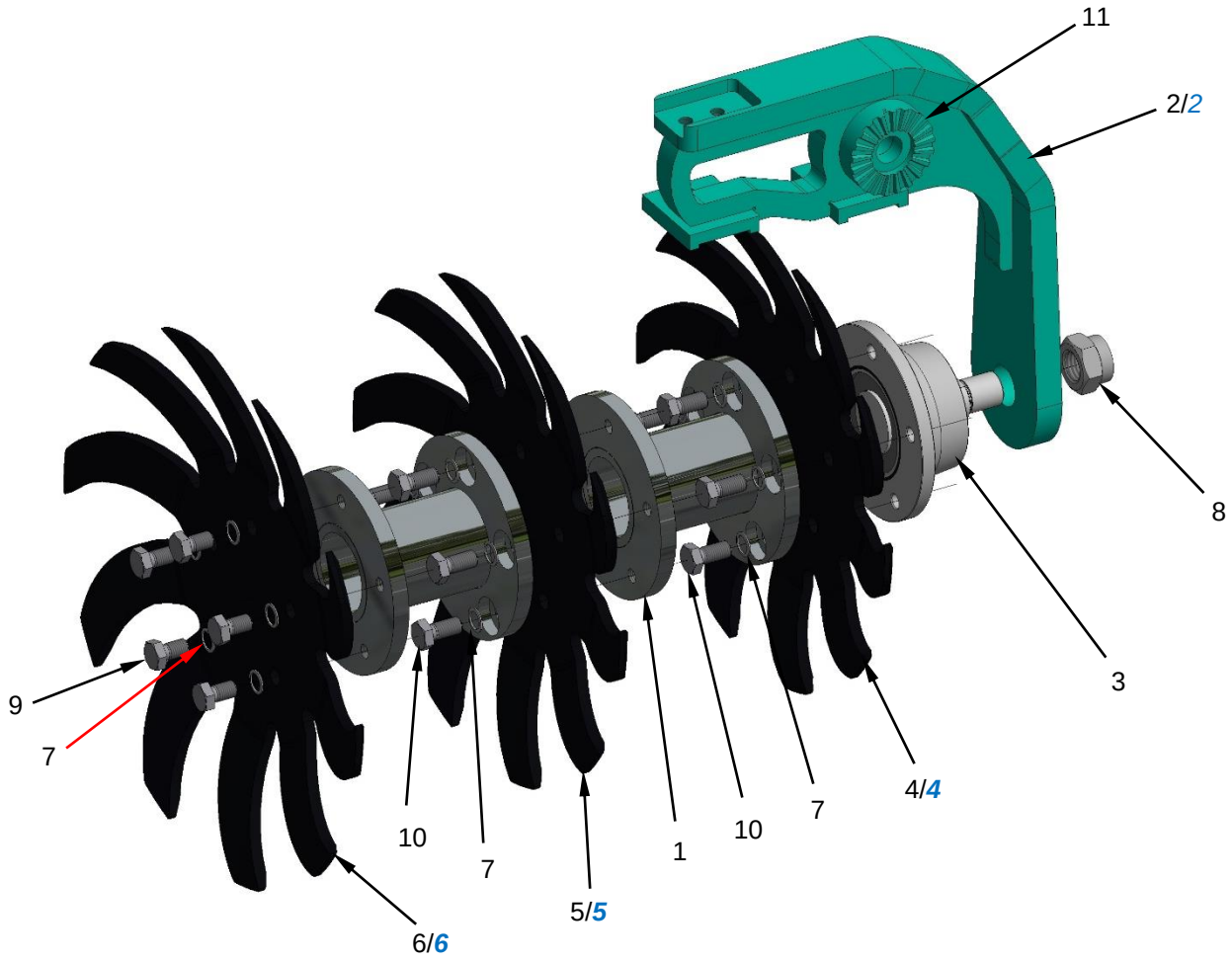


Figure 19 Spare parts Disks, support, bearing (3 disks)

Item no.	Specification	Remark	Quantity	Order no.
	Finger roller - Lower part 3 disks rhs	**complete**		**CL927.900000**
	Finger roller - Lower part 3 disks lhs	***complete***		***CL927.910000***
1	Spacer tube		2	CL927.520000
2	Support rhs	incl. item no. 11	1	CL927.900100
2	***Support lhs***	*incl. item no. 11*	*1*	*CL927.910100*
3	Bearing unit		1	CW540.047900
4	Finger disk rhs	Ø340 (13.4“)	1	CW650.016600
4	***Finger disk lhs***	*Ø340 (13.4“)*	*1*	*CW650.016700*
5	Finger disk rhs	Ø365 (14.4“)	1	CW650.019600
5	***Finger disk lhs***	*Ø365 (14.4“*	*1*	*CW650.019700*
6	Finger disk rhs	Ø400 (16“)	1	CW650.016800
6	***Finger disk lhs***	*Ø400 (16“)*	*1*	*CW650.016900*
7	Lock washer		15	CW520.002900
8	Hexagon nut		1	098524020
9	Hexagon screw		5	096112020
10	Hexagon screw		10	096112025
11	Serrated disk, loose	Bottom and boring must be adjusted if necessary		CW902.002000

The spare parts lists are valid for the right and left version.

Shown in the illustration is only the right version, *blue (+ italics)* marked items are to be used for the *left* version.

6.5 Scraper, Guard rail

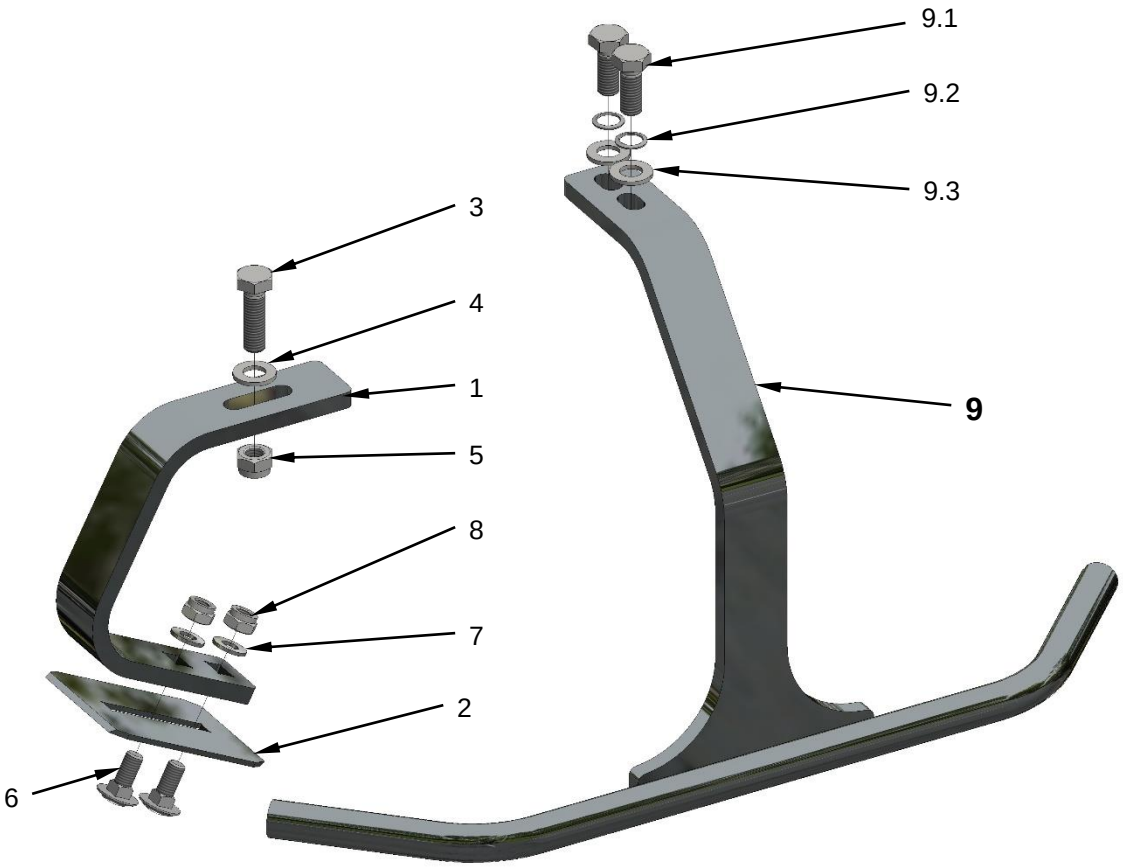


Figure 20 Spare parts Scraper, guard rail

Item no.	Specification	Remark	Quantity	Order no.
1	Scraper plate		1 / 2	CL927.500001
2	Wear plate		1 / 2	CL927.500002
3	Hexagon screw		1 / 2	093312040
4	Washer		2 / 4	012513
5	Hexagon nut		1 / 2	098512
6	Round-head screw		2 / 4	060310025
7	Washer		2 / 4	012510
8	Hexagon nut		2 / 4	098010
9	**Guard rail complete**	**optional**	**1**	**CL927.530000**
9.1	Hexagon screw	optional	2	093312030
9.2	Lock washer	optional	2	CW520.002900
9.3	Washer	optional	2	012513

Note:

The scraper (items no. 1 to 8) is used 1x with the Finger Roller 2 discs, 2x with the Finger Roller 3 discs.

6.6 Finger Roller conversion kit 90 mm (3.5“)

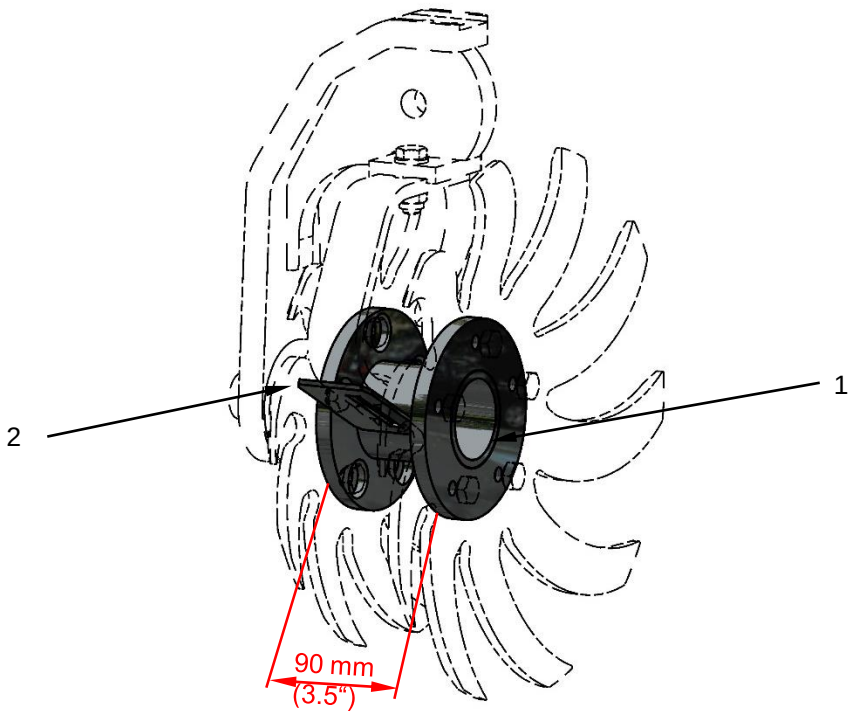


Figure 21 Spare parts Finger Roller conversion kit 90 mm (3.5“)

Item no.	Specification	Remark	Quantity	Order no.
	Finger Roller conversion kit 90 mm (3.5")			**CL927.540000**
1	Spacer tube 90 mm (3.5")		1	CL927.540100
2	Wear plate		1	CL927.540001

7 List of illustrations

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