

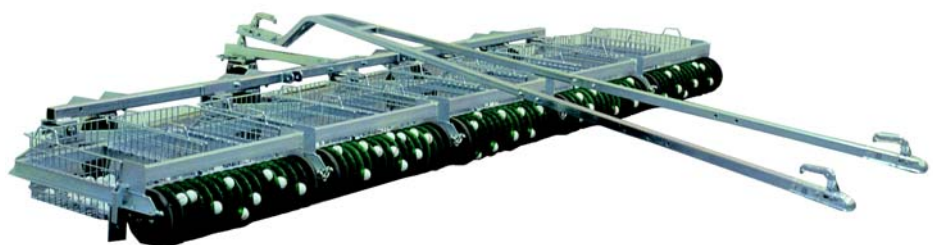


ENGLISH

# ***RANGE SERVANT®***

<http://www.rangeservant.com>

## **INSTRUCTIONS FOR USE BALL PICKER**



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# 1 General information

## 1.1 Foreword

Congratulations on your new Range Servant product. You have made a good choice! You have not just decided on an exceptional Ball Picker featuring modern technology that requires little maintenance, but you have also chosen quality. The type of quality we guarantee through modern production technology, careful selection of materials and the dedicated work of all our employees.

This instruction book contains all the information you need to fully understand how to use and care for the equipment.

**Read through it and make sure you understand the Instructions for Use before trying to operate the machine.** Not following this advice could result in personal injury or damage to the machine. In many cases it is also a condition for being able to claim against the Range servant's guarantees. Everyone who will be using the machine must read the instructions thoroughly.

No part of this book may be reproduced without written permission from Range Servant.

The machine carries a one-year warranty. Read the warranty conditions carefully and keep them in a safe place. If you have any questions, or if any problems occur, contact your retailer.

### ONE-YEAR WARRANTY

Range Servant AB hereby warrants the materials and function of the RANGE SERVANT product specified in these Instructions for Use for a period of one year after delivery from the factory. This engagement applies to repaired or replaced components for a period of three months. This warranty only applies to the original purchaser. It also only covers parts which the manufacturer, after inspection, finds to be faulty. Repair or replacement of parts is to be carried out by an authorised representative of the manufacturer. The manufacturer further warrants that the equipment supplied conforms to the accompanying product . **THE WARRANTIES SPECIFIED IN THIS AGREEMENT CONSTITUTE THE MANUFACTURER'S ONLY LIABILITY TO THE BUYER. THE MANUFACTURER DISCLAIMS LIABILITY FOR ANY COMMITMENTS BEYOND THE LIMITATIONS OF THE WARRANTY CERTIFICATE.** The manufacturer further disclaims all liability for any commitment that may be given by any unauthorised person in connection with the sale of the equipment. The warranty does not apply to equipment that has been repaired or had parts replaced by any person/company not specifically authorised to do so by the manufacturer. The manufacturer's warranty liability also does not apply in cases where the equipment is misused, is damaged by negligence/accident or is handled contrary to the accompanying Instructions for Use. Finally, the manufacturer is under no circumstances financially liable for damage that may arise in connection with the sale or repair of the equipment, or injury to a third party in connection with its use.

## 1.2 Manufacturer's declaration

In accordance with Directive 89/392/EEC, article 4.2 and Appendix 2B

**Manufacturer:**

***RANGE SERVANT***<sup>®</sup>

Range Servant AB  
Skallebackavägen 11  
SE-302 41 HALMSTAD  
Sweden

**Representative:**

*(To be filled in by a representative established in the EU.)*

.....  
*Company*

.....  
*Address*

.....  
*Telephone*

**Hereby declares that:**

.....  
*Machine*

.....  
*Type*

.....  
*Serial number, manufacturing number etc.*

- Is intended for installation in a larger machine or can be combined with another machine, which will jointly constitute a machine covered by Directive 89/392/EEC, including amendments.
  - Therefore does not conform in all respects with the conditions in this directive,
- and
- That the harmonising standards 292-1, 292-2 and 292-2A (or parts thereof) have been applied.
  - That the following national technical standards and specifications (or sections thereof), have been applied

.....  
*(Only where applicable)*

and in addition declare that the machine may not be put to use before the machine in which it is to be installed or constitute part of, has been found to be and so declared in conformity with Directive 89/392/EEC and with corresponding national legislation, i.e. as a whole, including the machine referred to in this declaration.

Halmstad on

.....  
*Date*

Elvis Knez  
President

.....  
*Signature*

## 1.3

### 1.3.1 Ball Picker

The Range Servant Ball Picker is available in three sizes: Midi, Maxi and Jumbo. The two smaller Ball Pickers can be enlarged by modules with extra picking sections and extension beams, resulting in great flexibility for increased capacity demands. The Range Servant Ball Picker can be used to great advantage with most popular brands of golf buggies, garden vehicles and tractors on the market.

## 1.4 Identification

Please contact Range Servant for more information on your machine. You will find the details on the conveniently located Product Identification plaque on the machine, which is clearly visible, easy to read, durable, and displays the following details:

- Manufacturer's name and address
- CE marking
- Serial or type designation
- Any serial numbers
- Year of manufacture

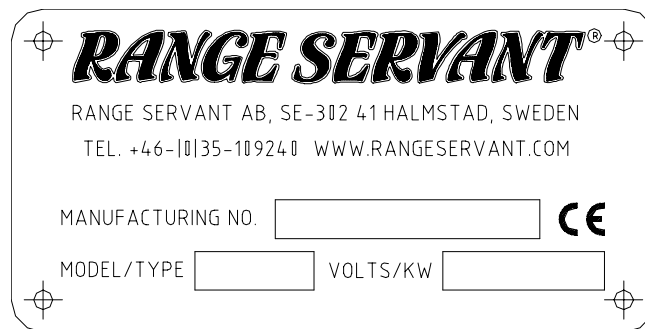


Figure 1: Product identification plaque

## 1.5 Technical data

General	Midi	Maxi	Jumbo
No. of sections	3	5	7
Capacity [balls]	2400	4000	5600
Prescribed picking rate (approx.) [mph]	6-8	6-8	6-8
<b>Dimensions:</b>			
Height (approx.) [mm] /([in])	440 (17)	440 (17)	440 (17)
Width (approx.) [mm] /([in])	2600 (102.4)	4300 (169.3)	6000 (236.2)
Length (approx.) [mm] /([in])	1350 (53)	1350 (53)	1350 (53)
Approx. total weight with Multiflex discs, empty [kg]	165	265	490
Approx. total weight, with Multiflex discs, fully loaded [kg]	275	449	747
Approx. total weight with Rubber discs, empty [kg]	203	337	-
Approx. total weight, with Rubber discs, fully loaded [kg]	313	521	-
<b>Operating Conditions:</b>			
Operating Temperature [°C] /([°F])	-10 - +50 (+14- +122)		

The manufacturer reserves the right to make amendments without prior notification.  
Patented: SE 9700192-9

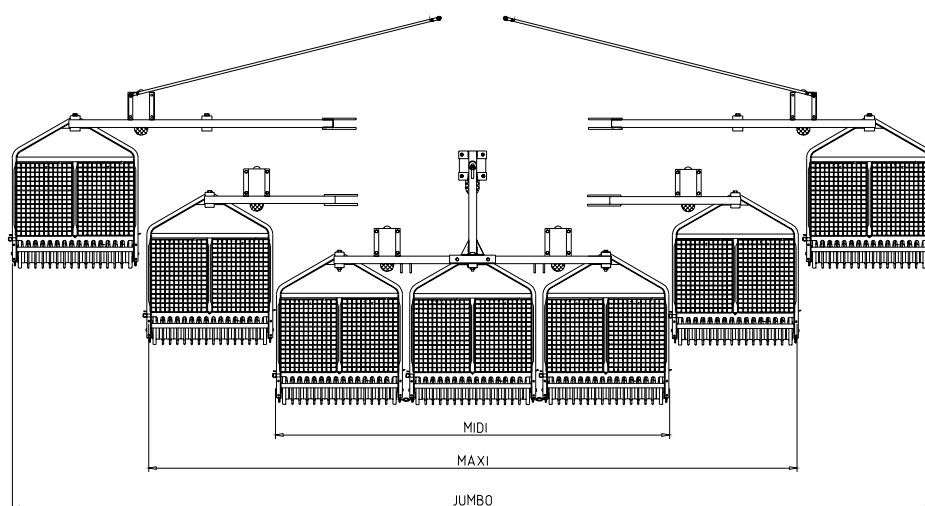


Figure 2: Width of Ball Picker

## **2 Safety Instructions**

### **2.1 General**

Safety precautions are a combination of the measures implemented during the design stage and those that must be taken by the user.

The machine is designed to function as intended as far as possible. It is also designed to be adjusted and maintained without causing danger to anyone, when such tasks are carried out under the conditions described in these Instructions for Use.

The purpose of these safety precautions is to prevent all risk of accidents during the expected service life of the machine, including assembly and dismantling, even if such risks do arise as a result of predictable abnormal situations.

Accessories and spare parts not approved by us could lead to personal injury and/or damage to the machine and reduce the reliability of the machine. For safety reasons, use only Range Servant recommended accessories and original spare parts. These accessories and parts are made especially for the machine and also carry our stamp of approval with regard to safety.

Range Servant accessories and original parts, with accompanying expert advice, are available from all Range Servant retailers. Their qualified staff carry out installation and are also kept up-to-date on all technical modifications permitted.

Under no circumstances are we liable for any damage or injury caused by accessories or parts not approved by us or for damage or injury resulting from prohibited technical modifications.

### **2.2 Compliance with requirements**

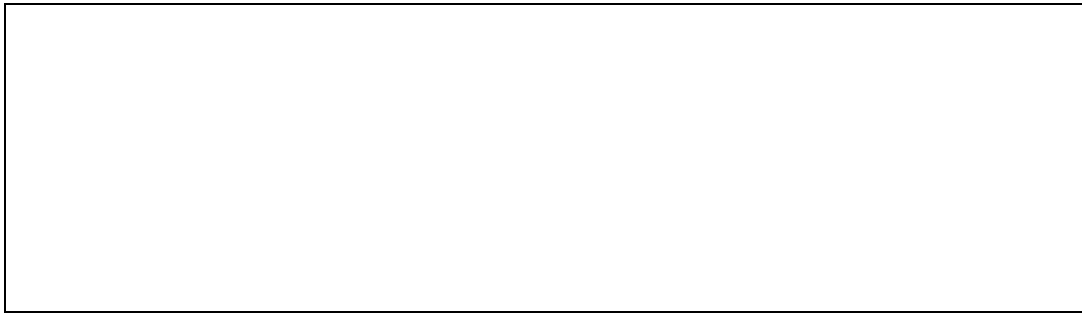
Range Servant machines comply with the personal safety requirements for ball handling stipulated in the EU 89/392/EEC Machine Directive, including supplements 91/368/EEC, 93/44/EEC and 93/68/EEC, with particular reference to the directive's Annex 1 on significant health and safety requirements in connection with the design and manufacture of machines, complemented by 91/368/EEC. The harmonised standards 292-1, 292-2 and 292-2A (or sections thereof) have also been applied.

### **2.3 Remaining risks**

These warning labels inform and warn the user about remaining risks, i.e. those which could not be eliminated or sufficiently reduced by design and against which technical safety precautions are not - or are not completely - effective. The labels are printed in the language of the country in which the machine is to be used, and on request, in the language understood by the operators.

The labels are yellow with a black text, and are designed to be read from a distance of up to three metres.





Whenever applicable:

- When servicing, cleaning or repairing the ball picker, make sure you don't hurt yourself on the sharp ball guiding devices.
- Never step on the hydraulic hoses when wearing spiked shoes. The spikes may damage the hose and cause the pressure to drop.

## **2.4 Permitted use**

The machine may only be used for picking up balls on a driving range.

It may only be used when it is assembled and mounted according to these Instructions for Use.

## **2.5 Prohibited use**

- Never overload the Ball Picker by filling it with more balls than the capacity listed for the ball baskets in the Technical data chapter of these Instructions for Use.
- Never transport persons or goods on the Ball Picker! This could result in personal injury, and damage to the Ball Picker and goods.
- Never use the Ball Picker for long-distance transportation or for transporting anything other than balls picked up on the driving range.
- Should components not recommended by us, or unsuitable spare parts, be used on the machine, this could lead to personal injury and/or machine damage and reduced reliability. From a safety aspect, always choose Range Servant recommended accessories and original spare parts. These accessories and parts are intended for your Ball Picker and are also safety-approved by us.
- Modifications to the mechanical function of the machine may only be carried out after consultation with Range Servant.
- We accept no liability whatsoever for damage or injury caused by accessories and parts not approved by us, or damage or injury resulting from technical modifications.

## **2.6 Operational reliability**

For increased operational reliability and service life, we recommend the following:

- Park the Ball Picker under cover when it is not in use.
- Never overload the machine by filling it with more balls than the recommended capacity for your machine, which is listed in the Technical data chapter of these Instructions for Use.

## **3 Machine management**

### **3.1 Conditions**

Because of the machine's technical design and function, certain requirements apply to the person who is to service and maintain the machine.

Documented proof is required that the person has undergone training by studying and understanding these Instructions for Use.

If this person has been absent for a period of more than three months, the training must be repeated.

## 4 Design and function

### 4.1 General

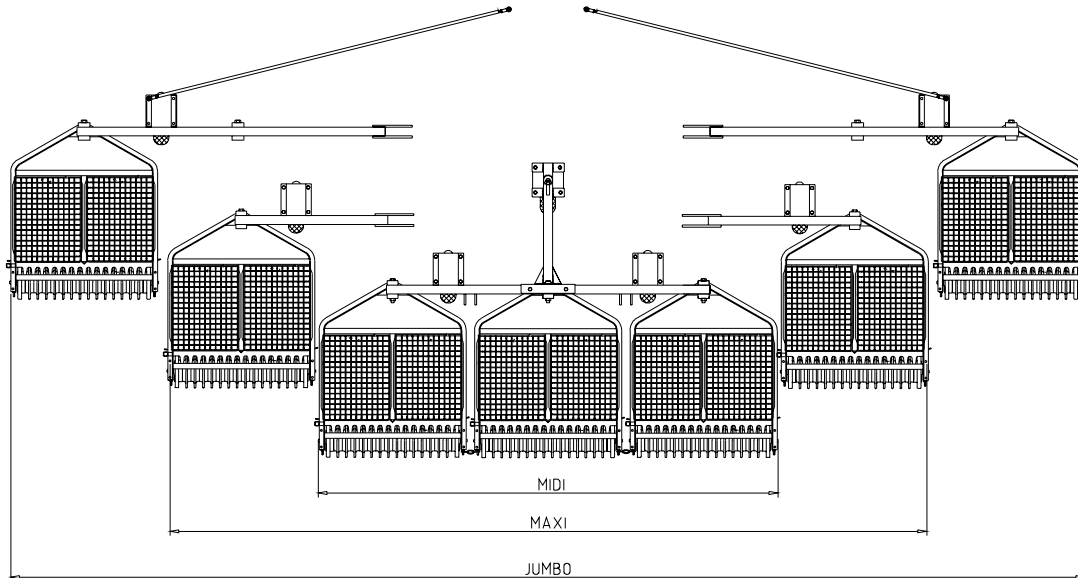


Figure 3: Ball Pickers, Midi/Maxi/Jumbo

The Range Servant Ball Picker is designed to provide the customer with many years of functional, rational and economical handling of golf balls on the driving range.

The efficiency of the Ball Picker is achieved by a beam that allows the pick-up sections to follow uneven terrain, so it seldom misses any balls on the driving range.

The Ball Picker is available with two different types of picking discs. One is called Multiflex and is made of non-rigid plastic and the other, more robust, is made of rubber. The latter is particularly suitable for Driving Ranges on uneven ground which is harder on the discs.

The Ball Picker comprises modules of hot-galvanised steel section on which the picking discs are mounted to form a roller on bearings. These moveable sections are fixed to a beam and to one another with flexible couplings. With this module system, the Ball Picker can easily be upgraded from a Midi to a Maxi. Ball Pickers with Multiflex discs can also be upgraded from a Maxi to a Jumbo.

When the Ball Picker is driven forward over the grass, the balls are collected between the discs in the picking roller and passed directly down into the ball baskets. When the pick-up job is finished, the baskets can easily be lifted out and emptied by hand.

The Ball Picker rolls easily and can be operated with most golf buggies, mini-tractors etc. after attaching ball fittings to the front of the vehicle.

## 4.2 Ball Picker parts

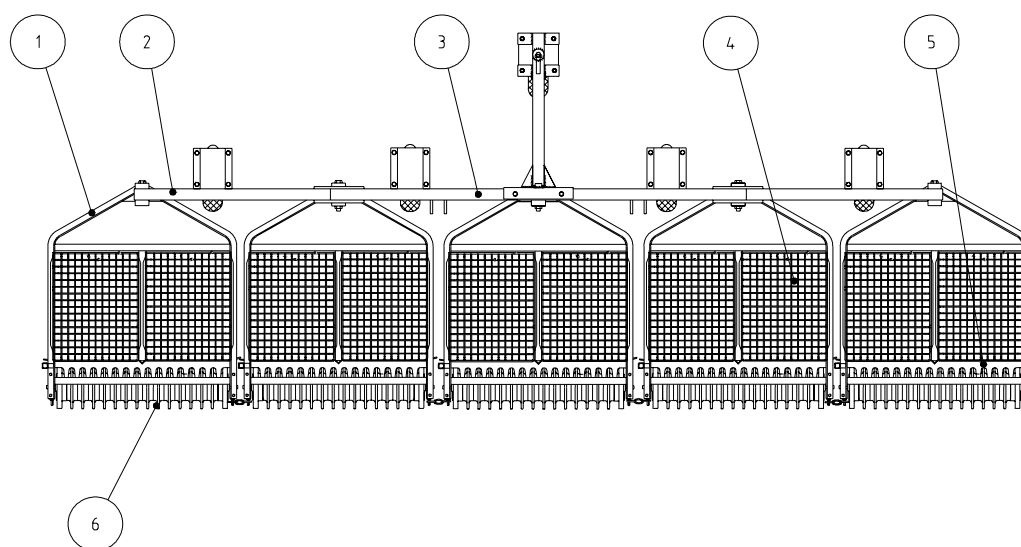


Figure 4: Maxi Ball Picker seen from above

Pos.	Description
1	Welded frame
2	Extention beam
3	Picker beam
4	Ball basket
5	Connecting rods
6	Picker roller

## 5 Maintenance

### 5.1 General

Taking proper care of the machine contributes to longer service life and safer operation. Any malfunctions can be discovered at an early stage and will be easier to correct.

If it is checked regularly, malfunctions and breakdowns can be minimised. The tips below only apply to the most common malfunctions and the causes of these.

### 5.2 Regular maintenance

### 5.3 Maintenance intervals and instructions

Maintenance intervals:

1. Every pick-up run
2. Every month
3. Every season

Maintenance intervals and instructions:		1	2	3
<b>1</b>	<b>Midi, Maxi and Jumbo:</b>			
1.1	Any objects that could have become lodged between the picking discs should be removed after every pick-up run. These could be broken balls, stones, pine cones etc., which can damage the discs and/or shorten their service life considerably.	X		
1.2	Hose down the ball baskets and pick-up rollers to remove any gravel or sand that could accumulate and cause corrosion of the metal parts and unnecessary wear and tear on the bearings and picking discs.		X	
1.3	If artificial fertiliser is used on the driving range, we recommend that the machine be thoroughly cleaned at least once a month.		X	
1.4	Check that all locking nuts are secure and there are no broken discs.		X	
1.5	Lubricate the ball fitting on the drawbar.		X	
1.6	The Ball Picker must be thoroughly cleaned and washed prior to winter storage. The storage area must be frost-free.			X
1.7	Check and lubricate nuts and bolts, and replace any that are damaged or rusty.			X
1.8	Check the vibration damper and picking discs. Any with cracks or other obvious damage should be replaced.			X
1.9	The picker's front tyre is inflated to max. 2.5 bar or 36 psi pressure		X	
2.0	Lubricate also the joint between the extension beam and the intermediate beam			X

## **5.4 Troubleshooting and repairs**

The machine performs most reliably, but it could malfunction for different reasons. Most malfunctions can be pinpointed by noting any changes in movement, caused by wear and tear or damage.

## **5.5 Possible malfunctions and what to do**

### **5.5.1 The Ball Picker does not pick up the balls**

Check that:

- ◆ all sections are undamaged and properly secured to the beam.
- ◆ all ball baskets are correctly placed in all sections.
- ◆ the picking discs in the rollers are undamaged and securely fastened.
- ◆ the connecting rods are not damaged or bent.
- ◆ the driver of the vehicle maintains the prescribed speed for best performance.
- ◆ the grass on the driving range is not too long so that it covers the balls.

### **5.5.2 The Ball Picker does not roll properly**

Check that:

- ◆ the wheels are undamaged.
- ◆ the roller bearings are undamaged.
- ◆ the ball baskets are undamaged.
- ◆ nothing has become lodged in the picker roller or on the wheels.
- ◆ the Ball Picker is not damaged, resulting in any of its parts scraping on the ground.

### **5.5.3 The Balls does not fall into the basket**

Check that:

- ◆ the connecting rods are not broken.

## **5.6 Function tests**

After repairs or maintenance have been carried out, check that the machine is functioning properly by test-driving it without balls in the baskets.

## 6 Assembly

### 6.1 Ball picker with an automatic emptying function

When assembling ball pickers equipped with an automatic emptying function, make sure the emptying control device is always located next to the driver's seat. The driver operating the ball picker must be able to ascertain that there are no persons around that might get hurt when the emptying function is activated.

### 6.2 Assembly instructions step by step

#### 6.2.1 Step 1

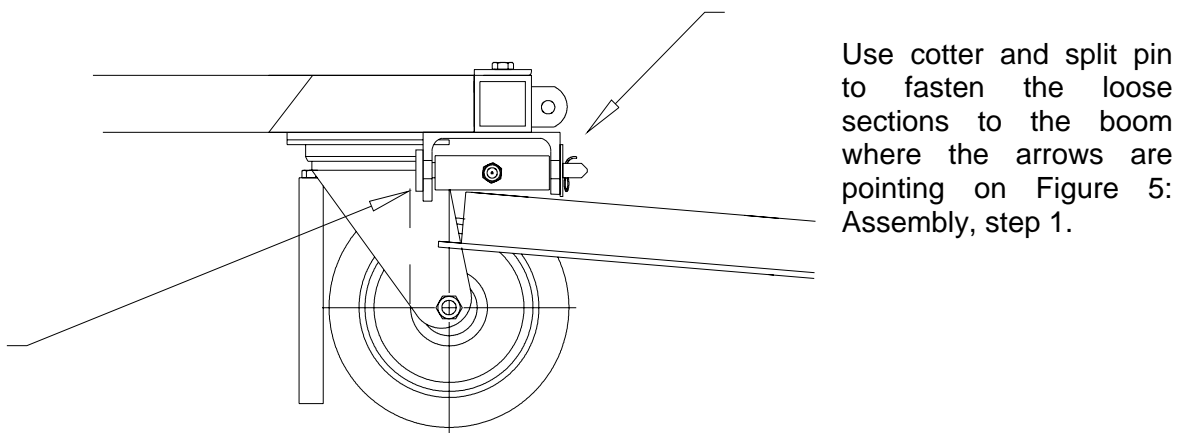


Figure 5: Assembly, step1

#### 6.2.2 Step 2

Fasten a chain link between each section.  
Do not tighten so much  
that the nut impedes the  
movement of the chain

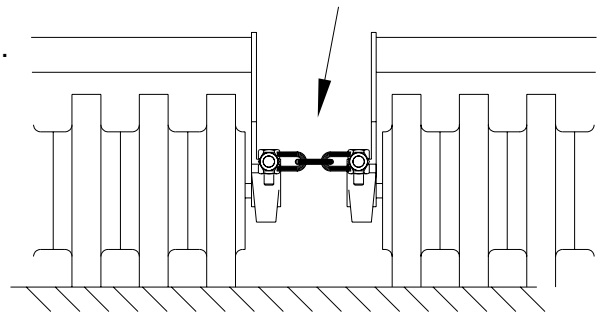


Figure 6: Assembly, step 2A

#### 6.2.3 Step 3

Place two ball baskets in each section..

#### 6.2.4 Step 4

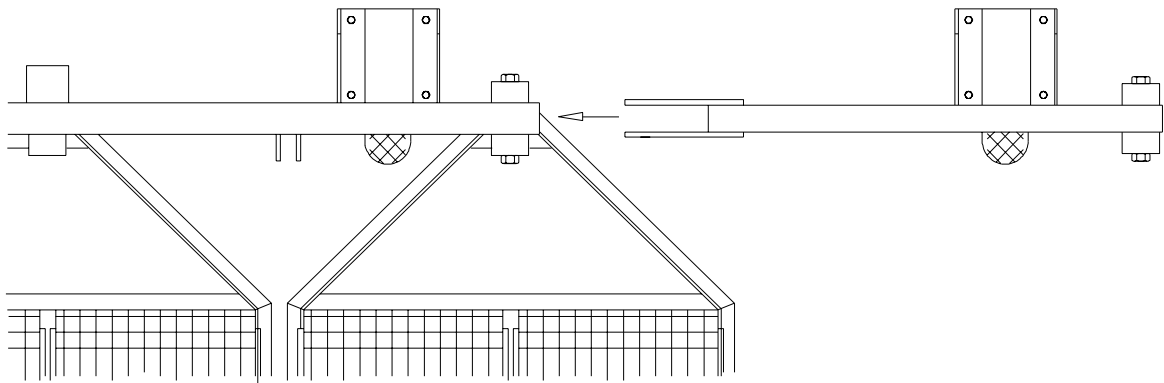


Figure 7: Assembly, step 4a.

For the MAXI model push the extension beam into the main boom until the two holes meet. Lock the construction into position by passing a bolt through both holes and fixing it with a nut.

For the JUMBO model replace the short extension beam with a longer version.

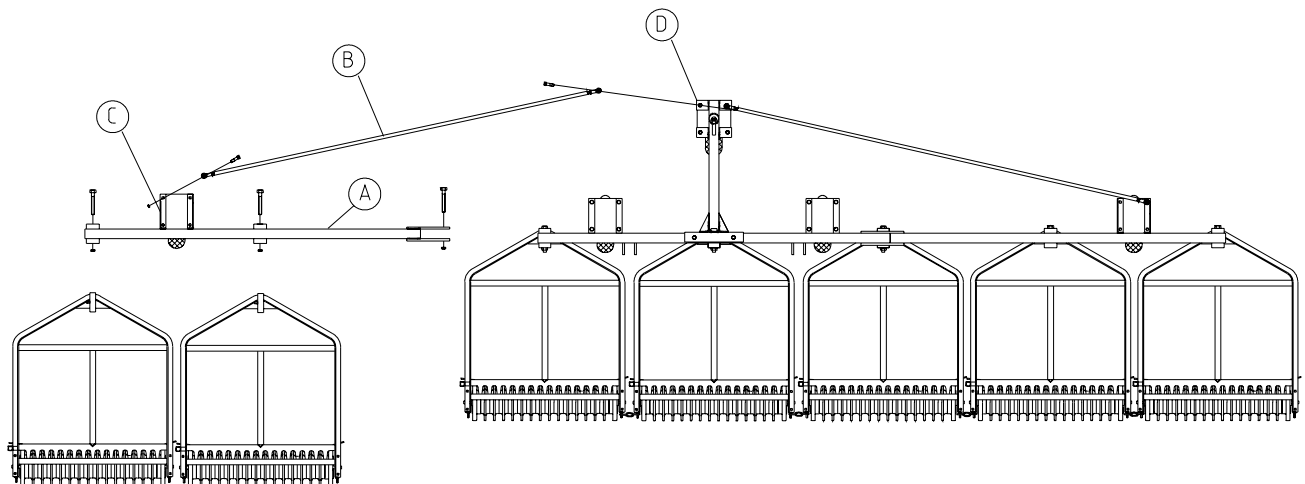


Figure 8: Assembly, step 4b.

1. Bolt the extension beam (see the figure at A) in the middle with an M12x80 bolt and a nut.
2. Finally, the brace (see the figure at B) is attached between the spacer beam (see the figure at D) and wheel mount on the extension beam (see the figure at C). Use an M12x40 socket head cap bolt on the spacer beam and replace the existing bolt on the wheel mount with an M12x40.
3. Attach the extra sections in the extension parts and lock them in place as previously with a chain. Place the baskets in the sections.



## 7 Replaceable parts

This chapter contains diagrams in accordance with the set-up below. These diagrams detail the names and location of the replaceable parts.

### 7.1 Complete picker

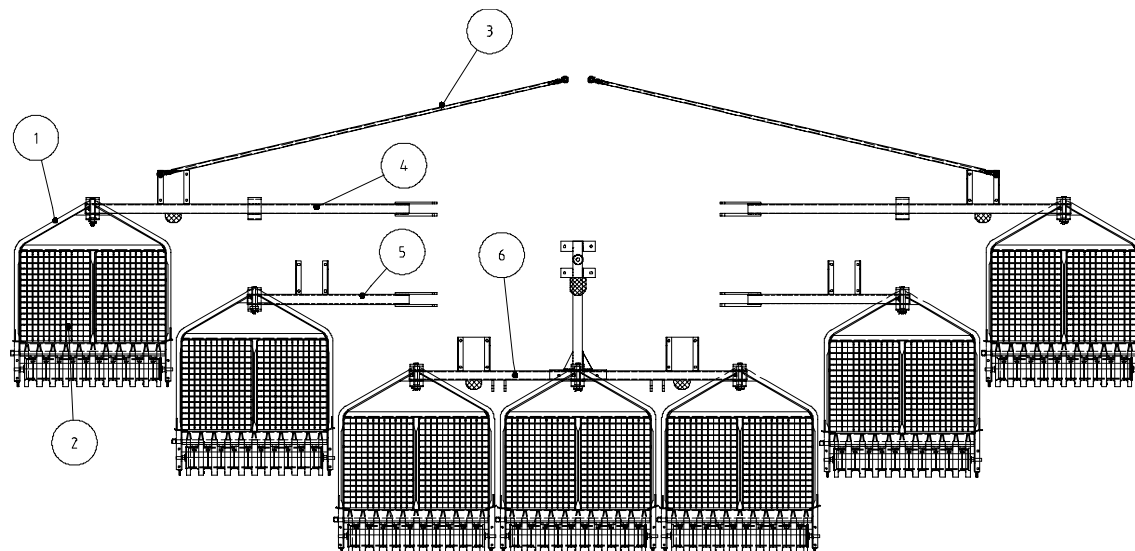


Figure 9: Complete picker, Midi/Maxi/Jumbo

Pos.	Art. Nr.	Description	Midi	Maxi	Jumbo
1	31 00 60	Picker section, Rubber discs	3	5	-
1	30 00 50	Picker section, Multiflex discs	3	5	7
2	30 04 00	Ball basket	6	10	14
3	30 44 01	Strut	-	-	2
4	31 43 50	Extension beam, Jumbo	-	-	2
5	31 41 00	Extension beam, Maxi	-	2	-
6	31 31 00	Picker beam	1	1	1

## 7.2 Picker section, Multiflex

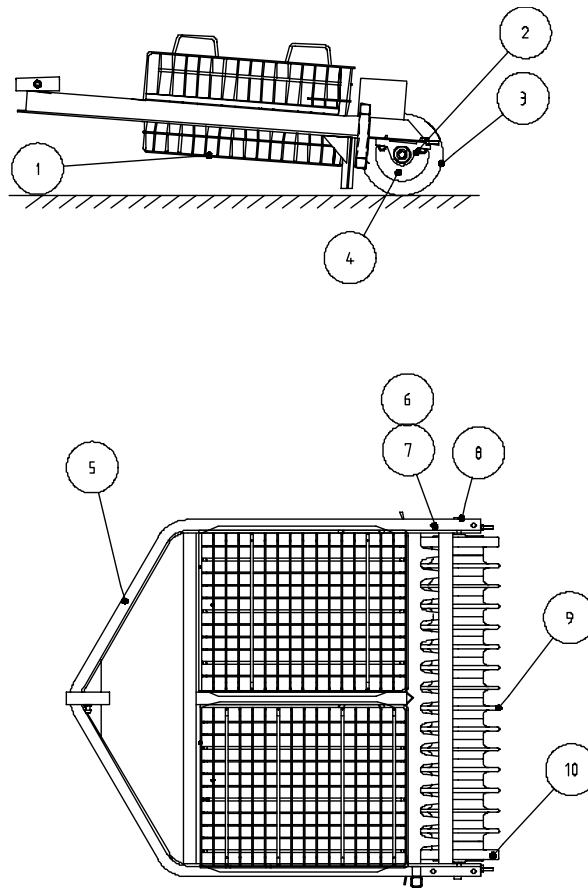
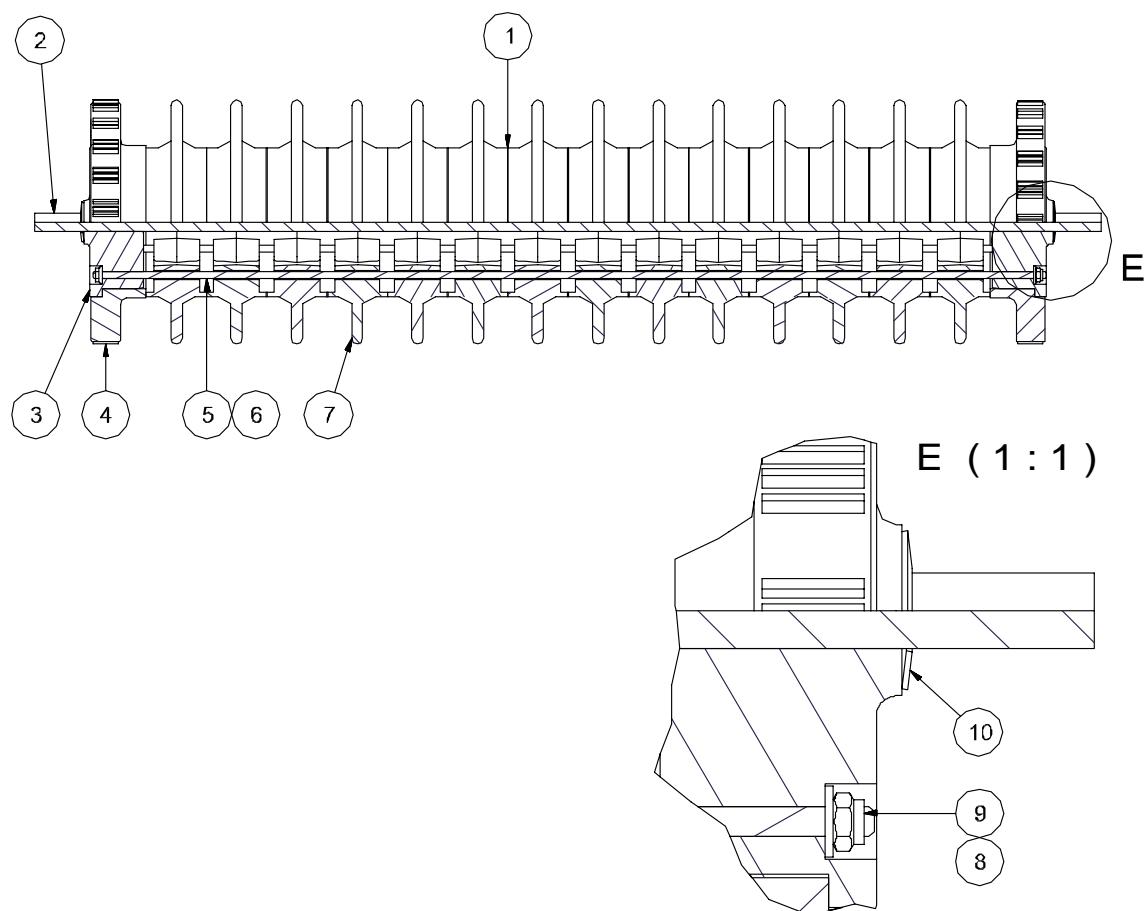


Figure 10: Complete picker section, multiflex discs

Pos.	Art. Nr.	Description	Quantity
-	31 00 60	Complete picker section	
1	30 04 00	Ball basket	2
2	30 21 00	Bearings for pick-up roller	2
3	PBM0002	complete pick-up roller, multiflex	1
4	31 20 30	Flange to pick-up roller	2
5	31 02 01	Welded frame	1
6	01 410	Bolt M10 x25	4
7	02 102	Locknut M10	4
8	30 20 20	Shaft for pick-up roller	1
9	31 20 51	Disc for pick-up roller	14
10	30 20 40	Rubber end-disc for pick-up roller	2

### 7.2.1 Complete pick-up roller, multiflex



Figur 20: Complete pick-up roller, multiflex

Pos.	Art. Nr.	Description	Quantity
1	PBM0002	Complete pick-up roller, multiflex	1
2	302 020	Axle	1
3	312 030	End lock	2
4	302 040	Picking ring, Outer	2
5	PDM0077	Mounting rod	3
6	PDM0098	Mounting rod, threaded	3
7	312 051	Picking ring, Multiflex	14
8	-	Locking nut, M6 stainless	3
9	-	Washer, M6, stainless	3
10	312 110	Cup spring	2

### 7.3 Picker section, Rubber

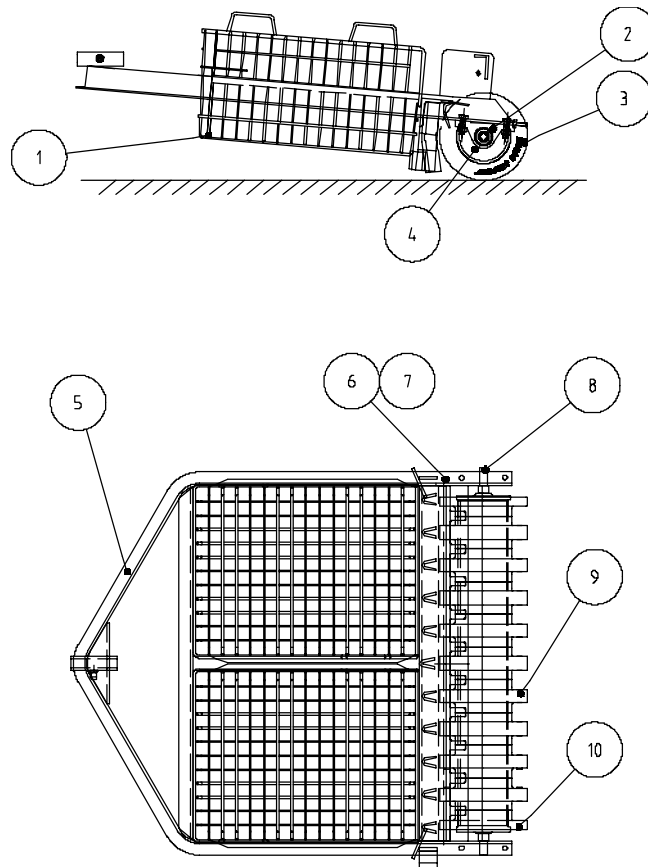


Figure 11: Picker Section, Rubber

Pos.	Art. Nr.	Description	Quantity
-	30 00 50	Complete picker section, rubber discs	
1	30 04 00	Ball Basket	2
2	30 21 00	Bearing	2
3	30 20 00	Pick-up roller, complete, rubber	1
4	30 20 30	Flange to pick-up roller	2
5	30 02 00	Fully welded frame	1
6	01 410	Bolt M10 x25	4
7	02 102	Locknut M10	4
8	30 20 20	Shaft for pick-up roller	1
9	30 20 50	Disc for pick-up roller	9
10	30 20 40	Rubber end-disc for pick-up roller	2

## 7.4 Main boom and extension beam, MAXI

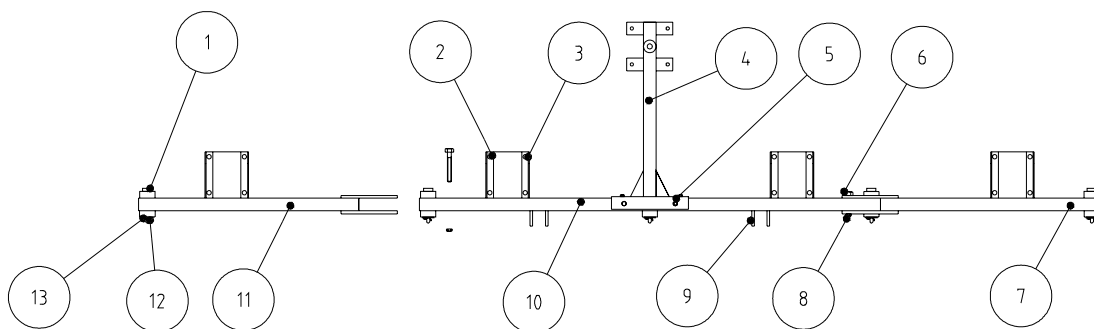
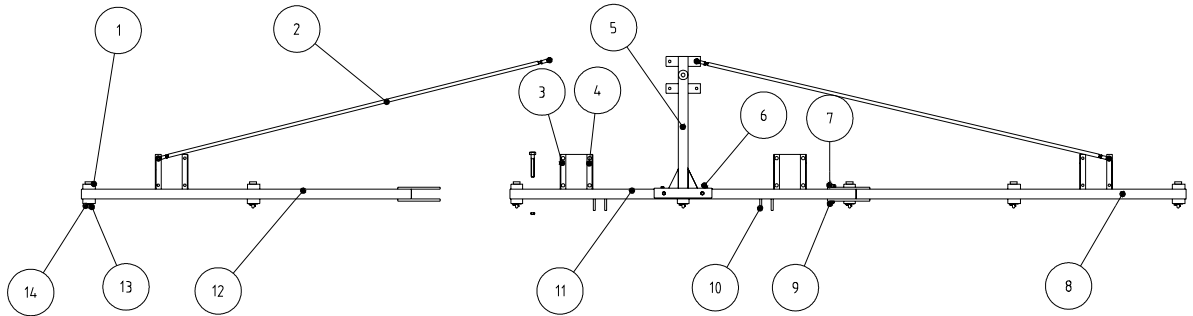


Figure 12: Main boom and extension beam, Maxi

Pos.	Art. Nr.	Description	Quantity
1	52 310	Cotter	5
2	31 31 70	Left-hand wheel attachment	2
3	31 31 80	Right-hand wheel attachment	2
4	30 31 41	Spacer beam	1
5	11 350	Bolt	4
6	01 23 00	Bolt to extension beam	2
7	31 41 00	Right hand extension beam, complete	1
8	02 20 20	Nut to no. 01 23 00	2
9	30 31 60	Attachment for vehicle	4
10	31 31 00	Main boom	1
11	31 41 10	Left hand extension beam, complete	1
12	OEA0009	Split pin 5x50	5
13	52 320	Washer to cotter	5

## 7.5 Main boom and extension beam , JUMBO



Figur 13: Main boom and extension beam , JUMBO

Pos.	Art. Nr.	Description	Quantity
1	52 310	Cotter	7
2	30 44 01	Brace	2
3	31 31 70	Left-hand wheel attachment	2
4	31 31 80	Right-hand wheel attachment	2
5	30 31 41	Spacer beam	1
6	11 350	Bolt	4
7	01 23 00	Bolt to extension beam	2
8	31 41 60	Right hand extension beam, complete	1
9	02 20 20	Nut to no. 01 23 00	2
10	30 31 60	Attachment for vehicle	4
11	31 31 00	Main boom	1
12	31 43 50	Left hand extension beam, complete	1
13	OEA0009	Split pin 5x50	7
14	52 320	Washer to cotter	7

## 7.6 Handles with extension pieces

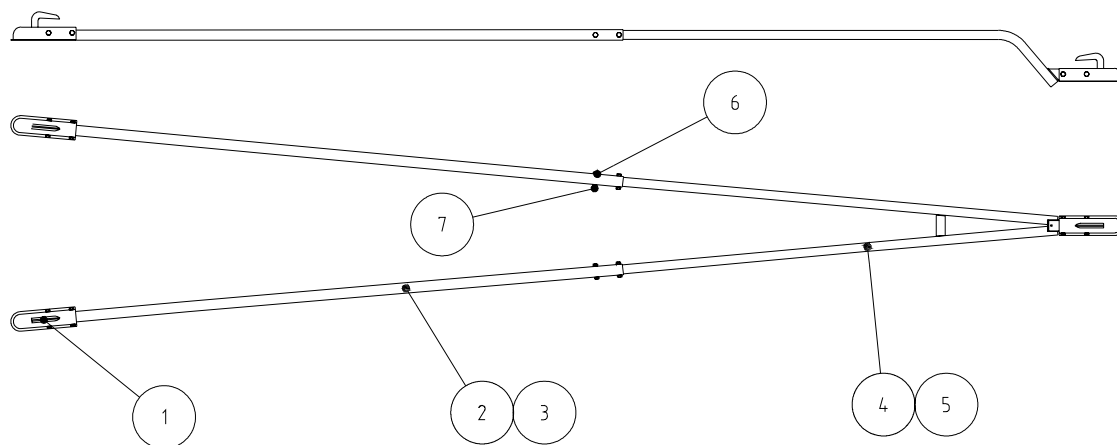


Figure 14: Handles with extension pieces

Pos.	Art. Nr.	Description	Quantity
-	30 50 01	handles, complete, MIDI/MAXI	
-	30 50 10	handles, complete. JUMBO	
1	30 53 00	socket fitting for ball joint	2
2	30 52 00	extension pieces, MIDI/MAXI	2
3	30 52 10	extension pieces, JUMBO	2
4	30 51 01	handles, MIDI/MAXI	1
5	30 54 01	handles, JUMBO	1
6	01 130	bolt, M10 x60	10
7	02 102	locknut, M10	10

## 7.7 Ball picker with an automatic emptying function

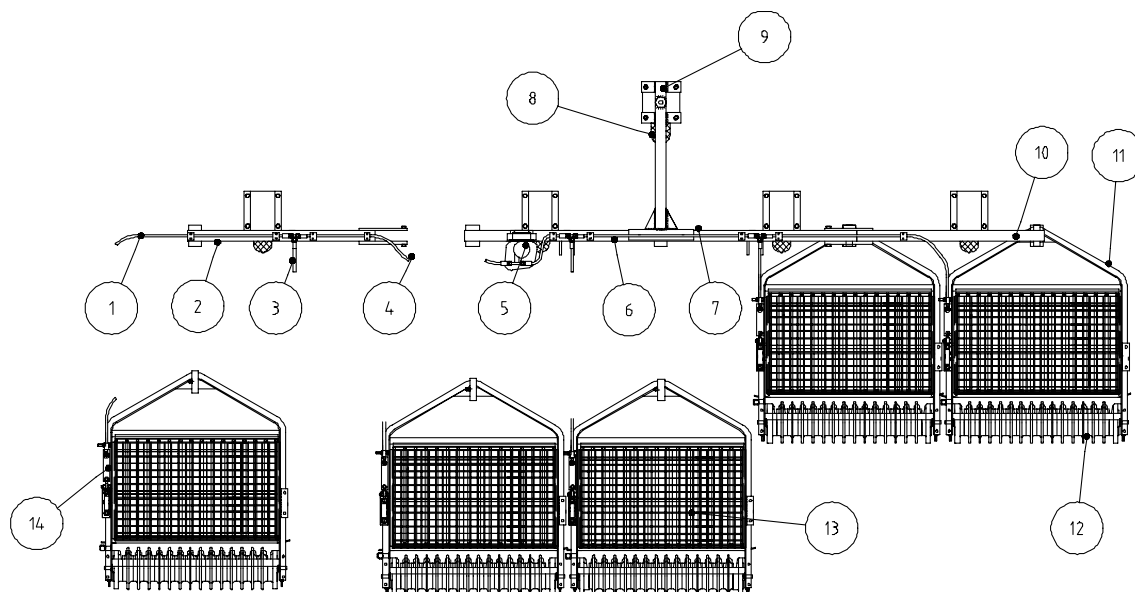


Figure 15: Ball picker with an automatic emptying function

Pos.	Art. Nr.	Description	Quantity
-	30 61 05	MAXI, hydraulic emptying system	
1	L=1050	Hydraulic hose, straight +45	1
2	31 41 10	Left-hand extension beam	1
3	L=320	Hydraulic hose, straight +45	1
4	L=650	Hydraulic hose, straight +straight	1
5	30 62 10	Motor EI/Hydr	1
6	L=840	Hydraulic hose, straight +straight	1
7	31 31 00	Complete welded beam	1
8	30 32 00	Wheel	5
9	30 31 41	Distance beam	1
10	31 41 00	Right-hand extension beam	1
11	31 02 02	Complete welded frame	5
12	PBM0002	Pick-up roller, Multiflex	5
13	30 11 00	Complete manual emptying ball basket	5
14	30 62 00	Hydraulic piston	5



## 7.8 Wheel

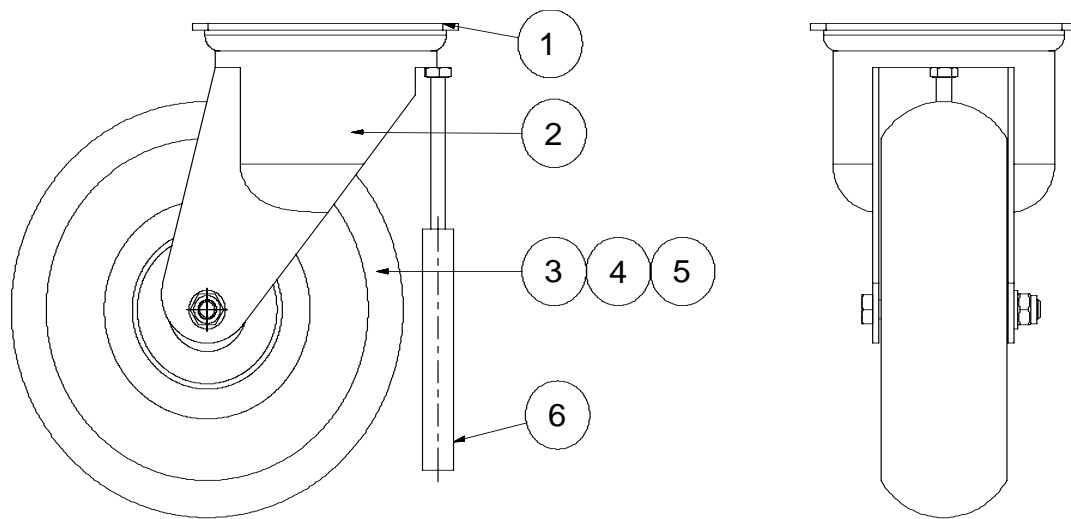


Figure 16: Wheel

Pos.	Art. Nr.	Description	Quantity
1	303200	Swivel castor, complete with wheel	1
2	303210	Swivel castor, U-part	1
3	303220	Swivel castor wheel (tire/tube/hub)	1
4	303240	Swivel castor tire	1
5	303250	Swivel castor tube	1
6	970056	Ball guide	1

## 8 Retailers and representatives

The following list contains all the necessary information concerning the Range Servant representative closest to where you live.

The list is continuously updated on our home page <http://www.rangeservant.com>

### 8.1 Head Office

#### Sweden

##### Range Servant AB

Skallebackavägen 11

302 41 HALMSTAD

Telephone: +46 35 10 92 40

Fax: +46 35 10 82 20

E-Mail: [sales@rangeservant.com](mailto:sales@rangeservant.com)

### 8.2 Your Sales Representative

