

BALL **PICKER**



LIGHT

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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.

The purpose of the Instructions for Use is to make the user familiar with the machine and its use in different situations and for different types of work! The Instructions include all the drawings and diagrams necessary for taking the machine into service and for carrying out maintenance, inspections, function tests and repair as well as any other useful information particularly in regard of safety.

Study the Instructions for Use carefully and make sure you understand them before trying to operate the machine. Not following this advice could result in personal injury or damage to the machine. In many cases, following the instructions is a necessary condition for Range Servants' warranty to be applicable. Every person operating the machine must read these instructions.

Everyone who will be using the machine must read the instructions thoroughly.

No part of this book may be reproduced without the 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 description. **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 furthermore does not apply in cases where the equipment is misused, damaged by negligence/accident or 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[®]

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 to 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 harmonised 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 taken into service 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. in its entirety including the machine referred to in this declaration.

Halmstad on

.....
Date

Elvis Knez
President

.....
Signature

1.3 Description

1.3.1 Ball Picker

The Light' Range Servant Ball Picker is available in five sizes: 2 gang, 3 gang, 4 gang, 5 gang och 6 gang. The Ball Picker can be equipped with two different types of picker discs: one in lightweight plastic, and one in somewhat more robust rubber, called Multiflex.

All ball pickers with the exception of 6 gang can be enlarged by modules with extra picker sections and extension beams resulting in great flexibility for increased capacity demands.

The Light' Range Servant Ball Picker can be used to great advantage with most popular brands of golf buggies, garden vehicles and tractors available on the market.

1.4 Identification

When you contact Range Servant, please have all the information on your machine to hand. 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

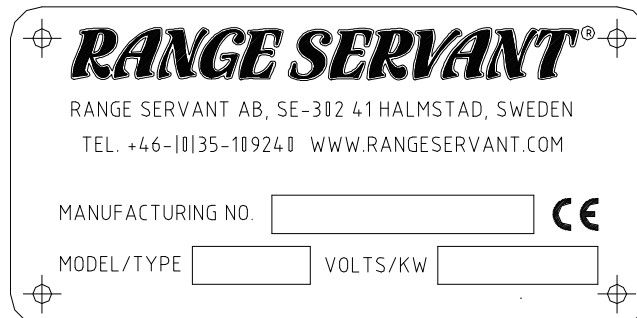


Figure 1: Product identification plaque

1.5 Technical data

General	2 gang	3 gang	4 gang	5 gang	6 gang
No. of sections	2	3	4	5	6
Capacity (balls)	1600	2400	3200	4000	4800
Prescribed picking rate [km/h] /([mph])	10-13 (6-8)	10-13 (6-8)	10-13 (6-8)	10-13 (6-8)	10-13 (6-8)
Dimensions:					
Height [mm] /([in])	445 (17.5)	445 (17.5)	445 (17.5)	445 (17.5)	445 (17.5)
Width [mm] /([in])	1600 (63)	2510 (99)	3380	4230	5081
Length [mm] /([in])	1100 (43.3)	1100 (43.3)	1100 (43.3)	1100 (43.3)	1100 (43.3)
Approx. total weight, with plastic discs, fully loaded, [kg]	162	229	296	362	428
Approx. total weight, with plastic flex discs, empty, [kg]	86	115	144	172	200
Approx. total weight, fully loaded, [kg] Multiflexskivor	168	238	308	377	446
Approx. total weight, with Multiflex discs, empty, [kg]	92	124	156	187	218
Operating Conditions::					
Operating Temperature [°C] /([°F])	-10 - +50 (+14- +122)				

The manufacturer reserves the right to make amendments without prior notification.

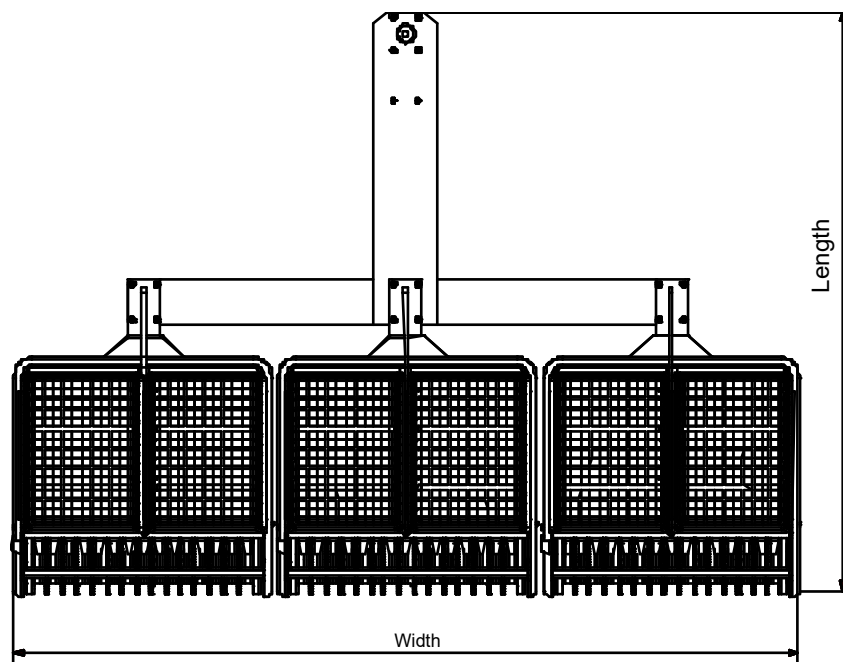


Figure 2: Width of Ball Picker

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 amendments 91/368/EEC, 93/44/EEC and 93/68/EEC, with particular reference to the directive's Annex 1 on essential health and safety requirements in connection with the design and manufacture of machines, as amended 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.



WARNING!

Always make sure that the engine of the vehicle on which the Ball Picker is mounted is switched off. Always use the parking brake when emptying the ball baskets, during servicing or when any other work is being done on the equipment.

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 chapter Technical Data 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 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

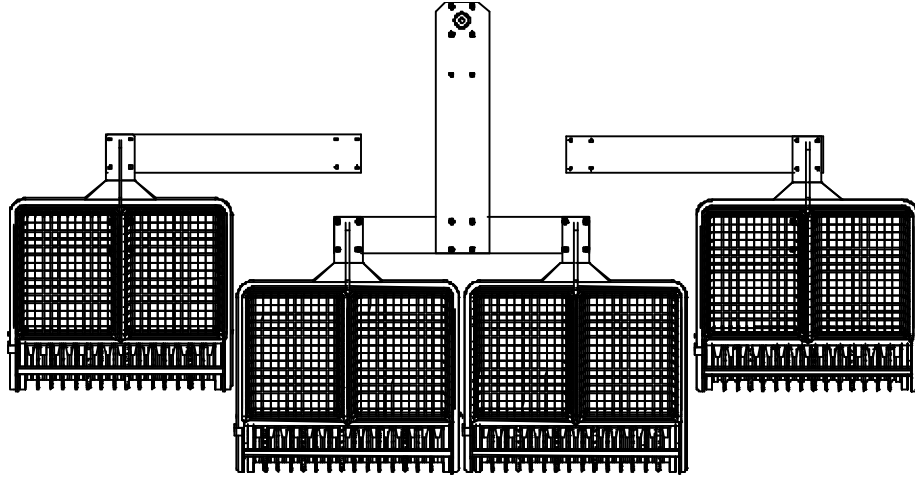


Figure 3: Ball picker Light, 2 gang, 4 gang.

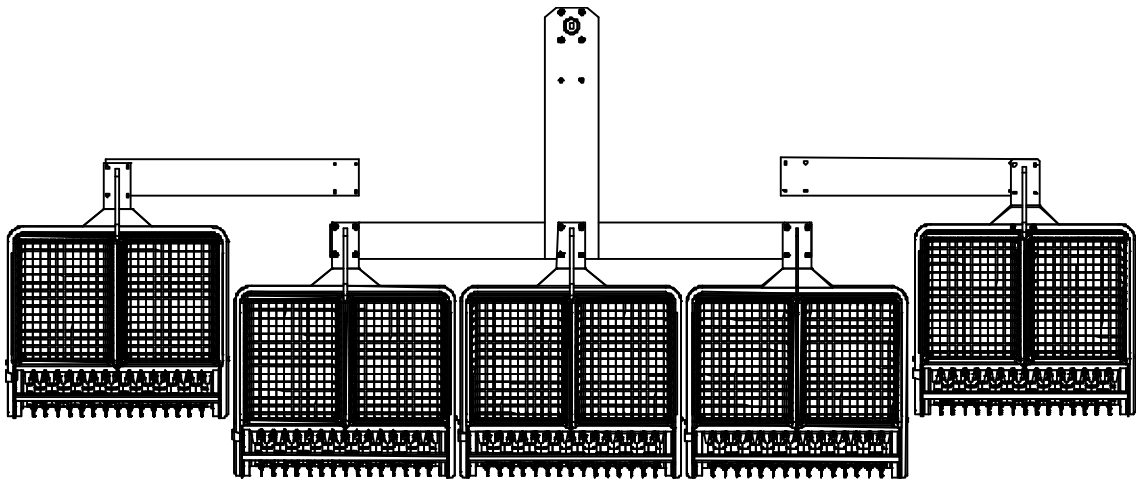


Figure 4: Ball pickers Light, 3 gang, 5 gang.

The 'Light' 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 flexible beam that allows the pick-up sections to follow very uneven terrain, so it very seldom misses any balls on the driving range.

The Ball Picker comprises modules of hot-galvanised steel section on which the picking discs are mounted to form a roller on bearings. These sections are fixed to a resilient aluminium beam. With this module system, the Ball Picker can easily be upgraded to a larger model.

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 is available with two different types of picking discs: one of extremely lightweight plastic, and one a somewhat more robust rubber, called Multiflex. The latter is designed for driving ranges with harsher conditions that subject the picking discs to heavier wear and tear.

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

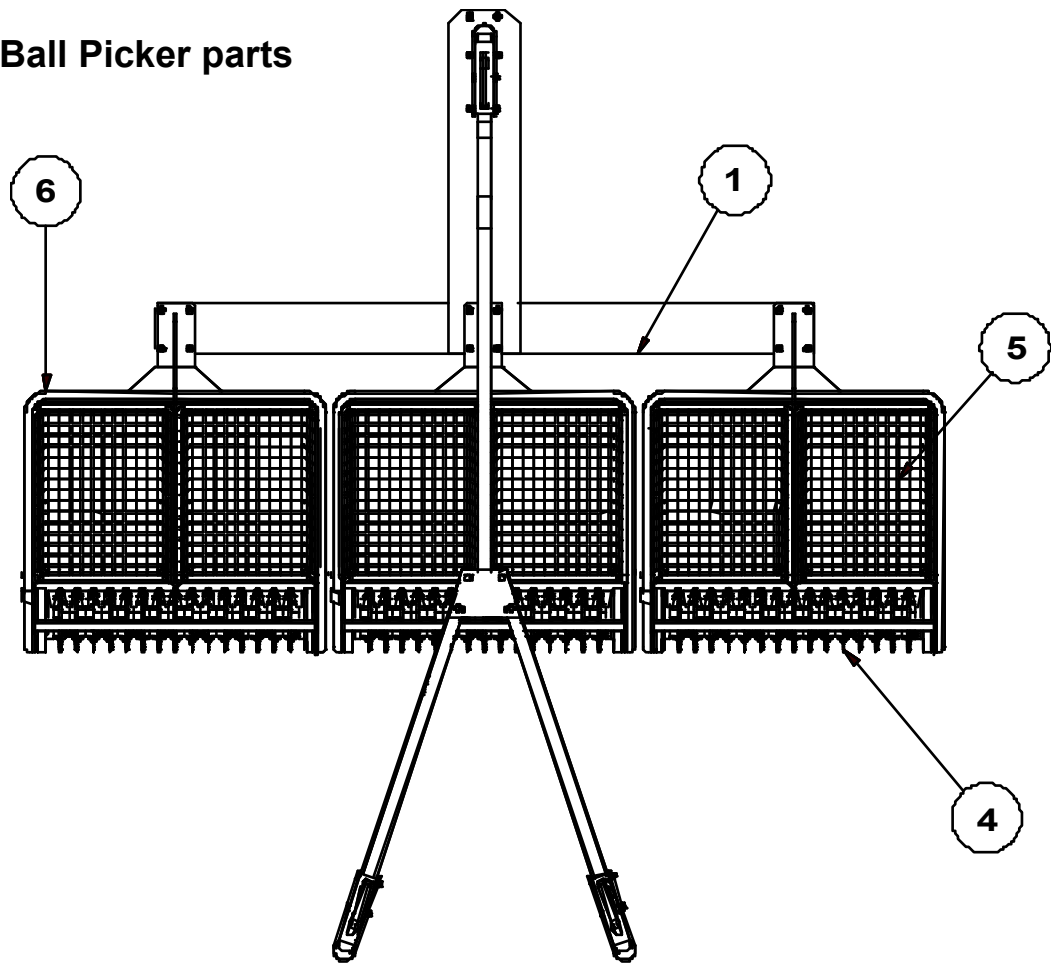


Figure 5: Bollplockare Light, 3 gang viewed from above

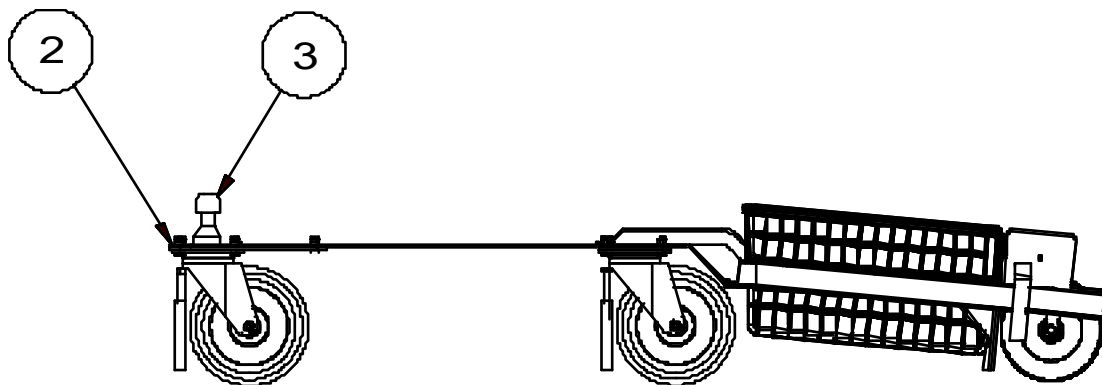


Figure 6: 'Light' Ball Picker viewed from the side

The Ball Picker consists of a horizontal aluminium beam (1) to which the picker sections and a spacer beam (2) with ball fitting (3) are fixed. The smaller Ball Pickers can be upgraded by modules with extra picker sections and extension beams, resulting in great flexibility for increased capacity demands.

Each picker section (6) has rollers (4) fitted with picking discs that collect the balls and place them in the ball baskets (5) while the Ball Picker moves forward over the driving range. A drawbar is attached to the connecting rod by using coupling shoes fitted to the vehicle that operates the Ball Picker.

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
1	2 gang, 3 gang, 4 gang, 5 gang, 6 gang.			
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 picking discs. Any with cracks or other obvious damage should be replaced.			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 stripping beams 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.

5.6 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 instructions - 'Light' Ball Picker

6.1.1 Step 1

Place the picker sections on a firm, horizontal surface. Place the wheels, spacer beam and picker beam close by.

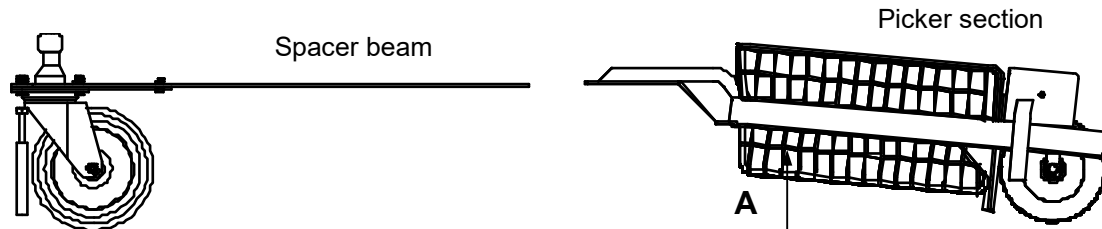


Figure 7: Assembly, step 1

Start off with the centre section.

Raise the front end on the picker section so that it is at the same height as the spacer beam. See Figure 7 at A.

6.1.2 Step 2

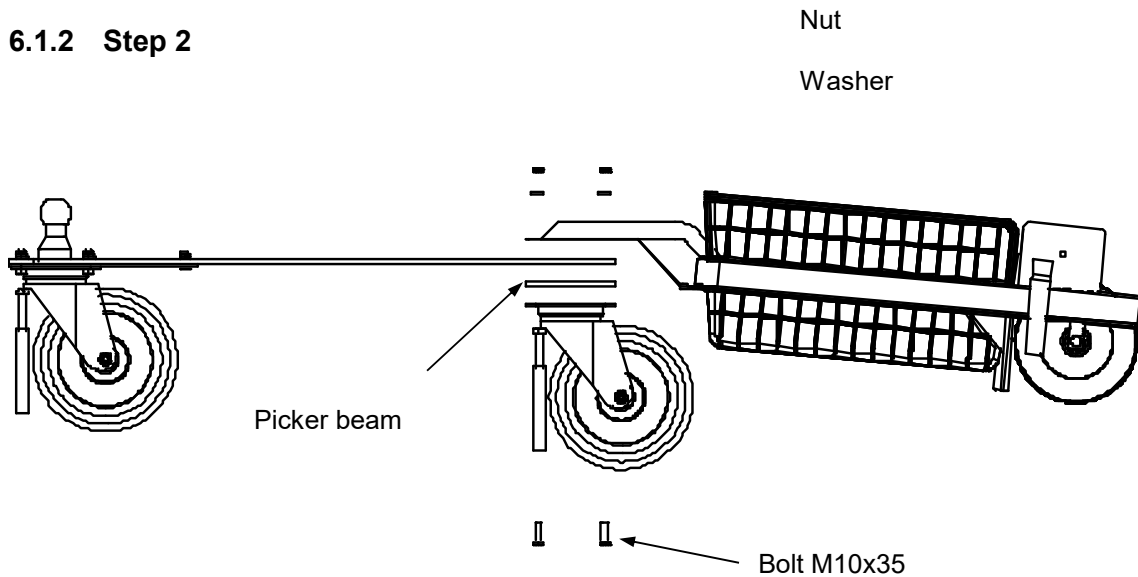


Figure 8: Assembly, step 2

Fit the picker beam, spacer beam and picker section using four M10x35 bolts. Order as shown in Figure 9. Note that the bolts should be fitted from underneath.

6.1.3 Step 3

Nut

Washer

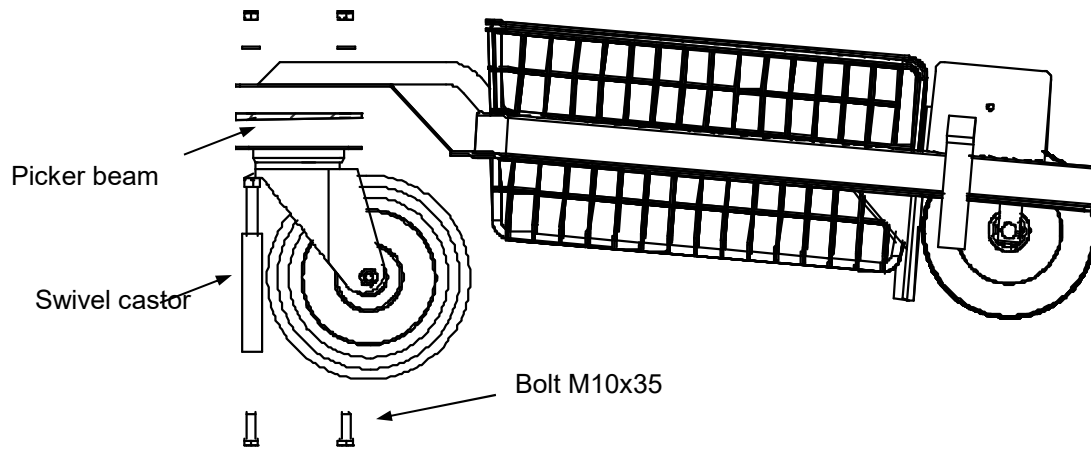


Figure 9: Assembly, step 3

Continue with the rest of the picker sections.

Fit the wheels, picker beam and picker section using four M10x35 bolts. Order as shown in figure 9. Note that the bolts should be fitted from underneath.

6.1.4 Step 4

Place two ball baskets, with the low side facing backwards, in each picker section. Done!

7 Replacement parts

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

7.1 Complete picker, Light, 2 gang, 4 gang.

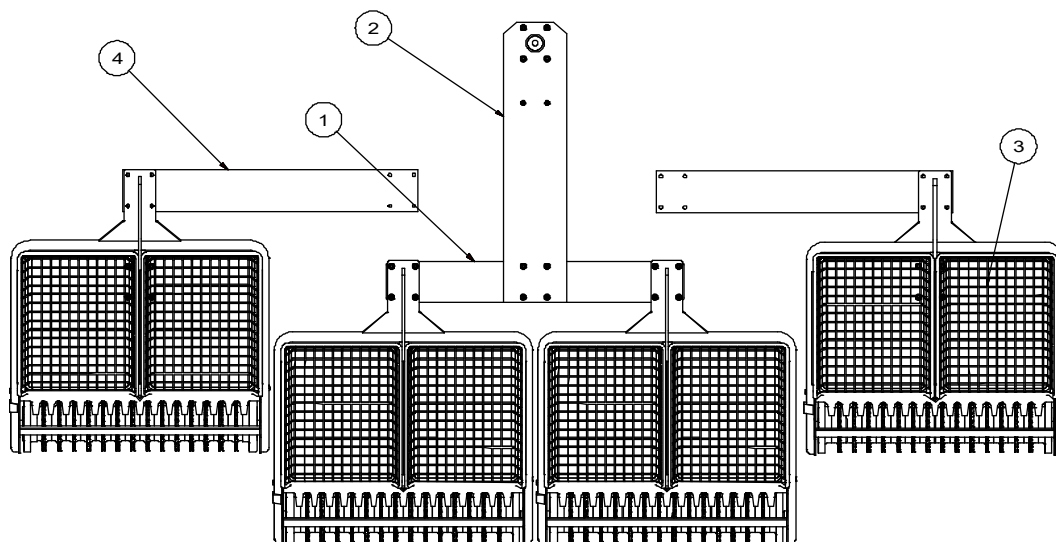


Figure 10: Complete picker, 2 gang, 4 gang.

Pos.	Art. No.	Description	2 gang	4 gang
1	PDM0083	Picker beam	1	1
2	PDM0078	Spacer beam	1	1
3	PDM0003	Picker section, Plastic discs	2	4
3	PDM0004	Picker section, Multiflex discs	2	4
4	PDM0084	Extension beam	-	2

7.2 Complete picker, Light, 3 gang, 5 gang.

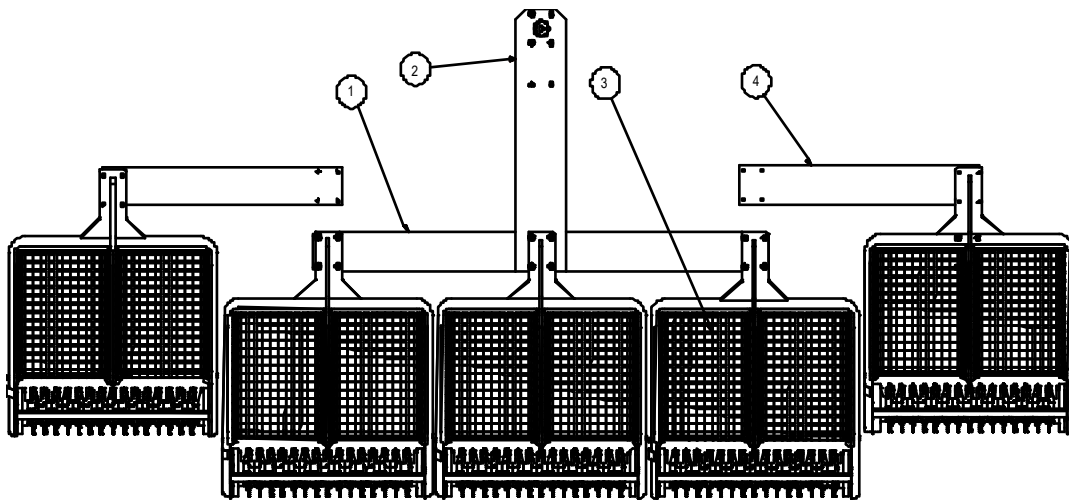
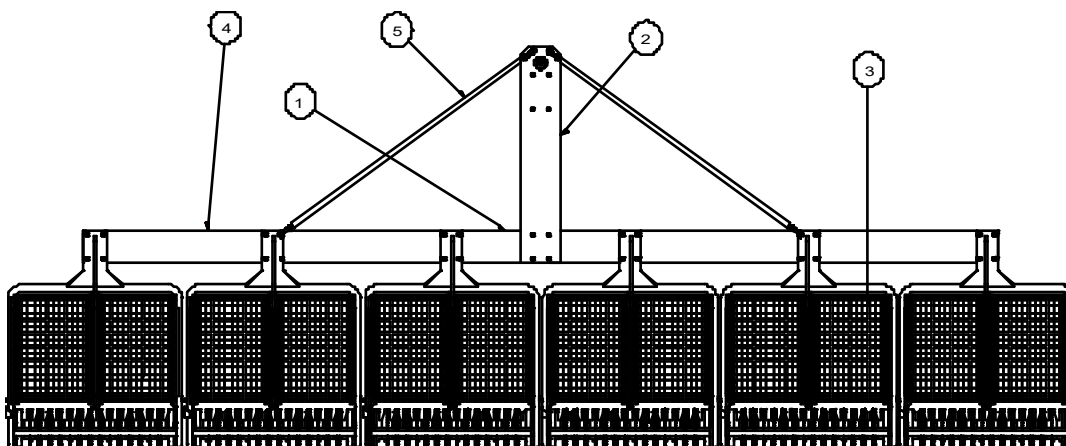


Figure 11: Complete picker Light, 3 gang, 5 gang.

Pos.	Art. No.	Description	3 gang	5 gang
1	PDM0063	Picker beam	1	1
2	PDM0070	Spacer beam	1	1
3	PDM0003	Picker section, Plastic discs	3	5
3	PDM0004	Picker section, Multiflex discs	3	5
4	PDM0084	Extension beam, 5 gang	-	2
2	PDM0078	Spacer beam	1	1

7.3 Complete picker, 6 gang.



Figur 12; Complete picker, 6 gang

Pos.	Art. No.	Description	6 gang
1	PDM0083	Picker beam	1
2	PDM0070	Spacer beam	1
3	PDM0003	Picker section, plastic discs	6
3	PDM0004	Picker section, Multiflexskivor	6
4	PDM0063	Picker beam, 3 gang	2
2	PDM0078	Spacer beam, Light	1
5	PDM0100	Stabilization rod	2

7.4 Spacer beam, complete without wheel

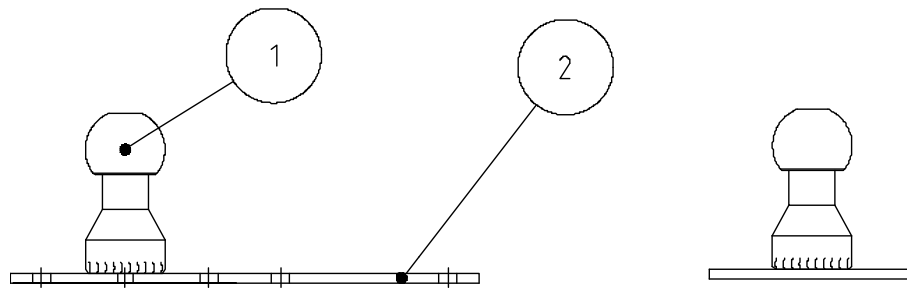
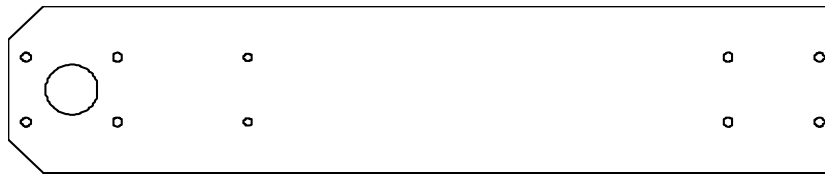


Figure 13: Spacer beam, complete without wheel

Pos.	Art. No.	Description	Spacer beam
-	PDM0070	Spacer beam, complete without wheel	1
1	303 150	Ball fitting	1
2	PDM0056	Spacer beam	1



Pos.	Art. No.	Description	Spacer beam
-	PDM0078	Spacer beam	1

Figur 14: Spacer beam

7.5 Spacer beam, complete with wheel

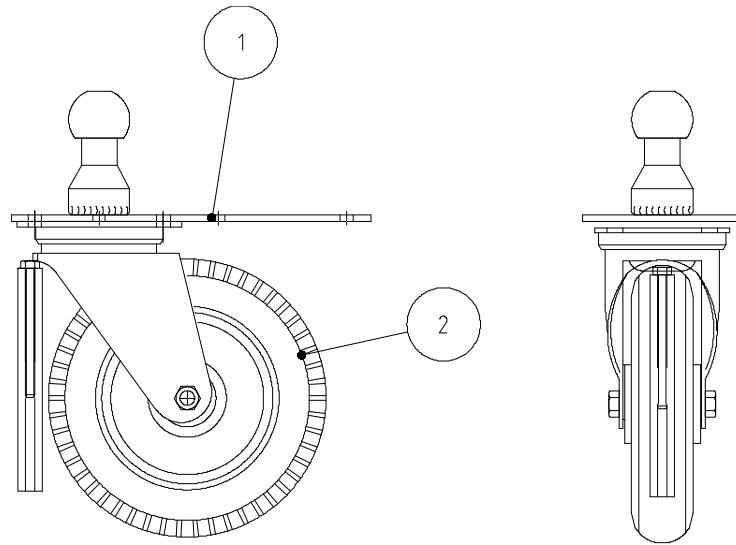


Figure 15: Spacer beam, complete with wheel

Pos.	Art. No.	Description	Spacer beam
-	PDM0055	Spacer beam, complete with wheel	1
1	PDM0070	Spacer beam, without wheel	1
2	PDA0000	Complete swivel castor	1

7.5.1 Swivel castor

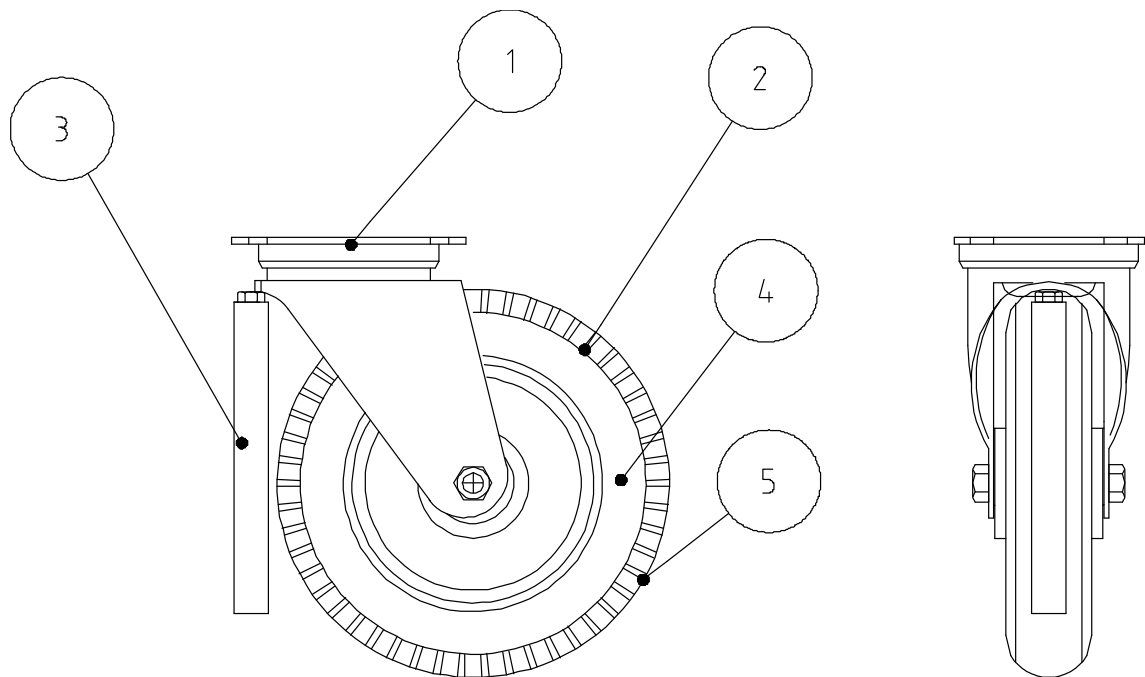


Figure 16: Swivel castor

Pos.	Art. No.	Description	2 gang	3 gang	4 gang	5 gang	6 gang
-	PDA0000	Swivel castor, complete	2	3	4	5	6
1	970 053	Connecting stirrup	2	3	4	5	6
2	PDA0006	Wheel, air (rim and tube and tire)	2	3	4	5	6
3	970 056	Ball guides, rubber casing	2	3	4	5	6
4	PDA0005	Tube for wheel	2	3	4	5	6
5	PDA0004	Tyre / Tire for wheel	2	3	4	5	6

7.6 Picker section, Plastic

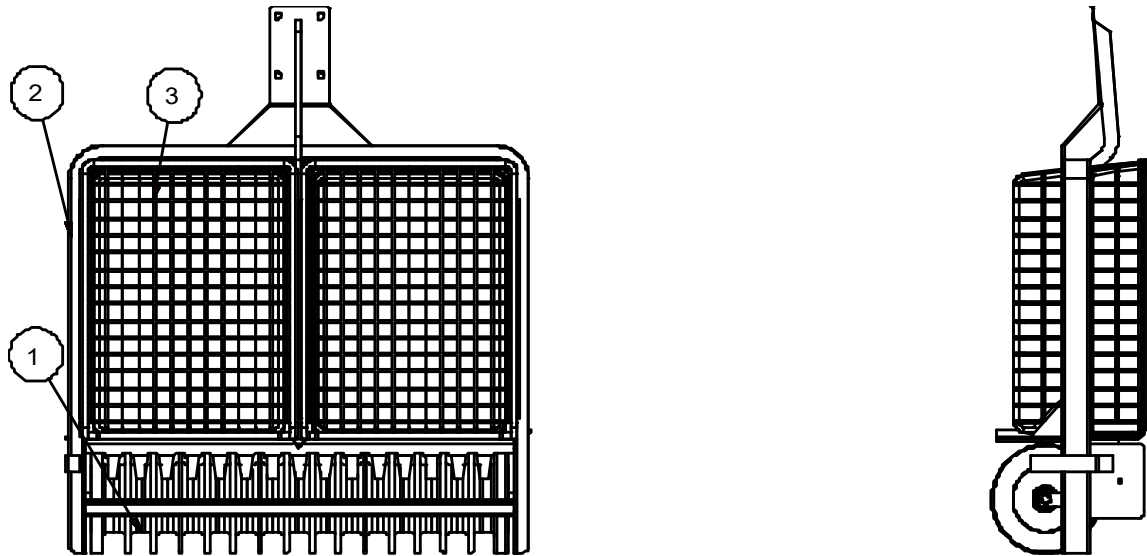


Figure 17: Complete picker section, plastic discs

Pos.	Art. No.	Description	2 gang	3 gang	4 gang	5 gang	6 gang
-	PDM0003	Complete picker section, plastic discs	2	3	4	5	6
1	PDM0005	Picker roller, complete, plastic	2	3	4	5	6
2	PDM0092	Fully welded frame	2	3	4	5	6
3	OFM0012	Ball basket	4	6	8	10	12

7.6.1 Picker roller, Plastic

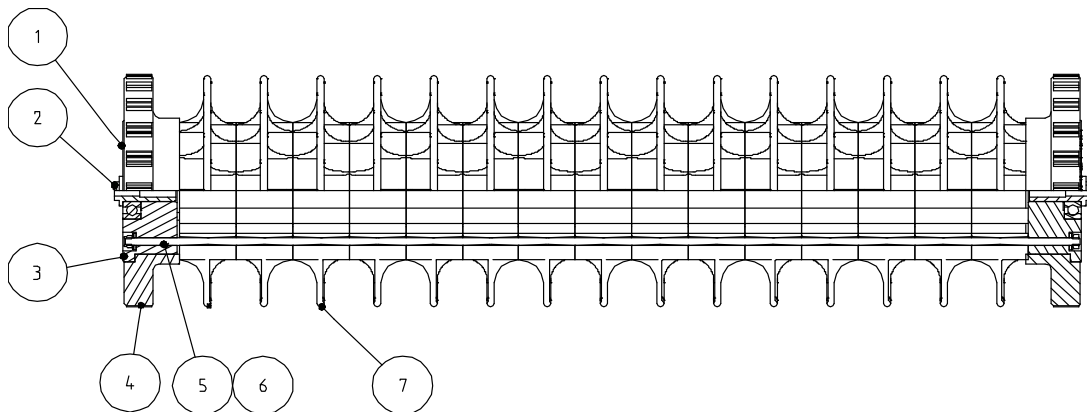


Figure 18: Complete picker roller, plastic

Pos.	Art. No.	Description	2 gang	3 gang	4 gang	5 gang	6 gang
1	PDM0093	Picker roller, complete, plastic	2	3	4	5	6
2	PDM0058	Axle	4	6	8	10	12
3	PDM0095	End lock, including bearing	4	6	8	10	12
4	302 040	Picking ring, Outer	4	6	8	10	12
5	PDM0077	Mounting rod	6	9	12	15	18
6	PDM0097	Mounting rod, threaded	6	9	12	15	18
7	312 050	Picking ring, Plastic	30	45	60	75	90

7.7 Picker section, Multiflex

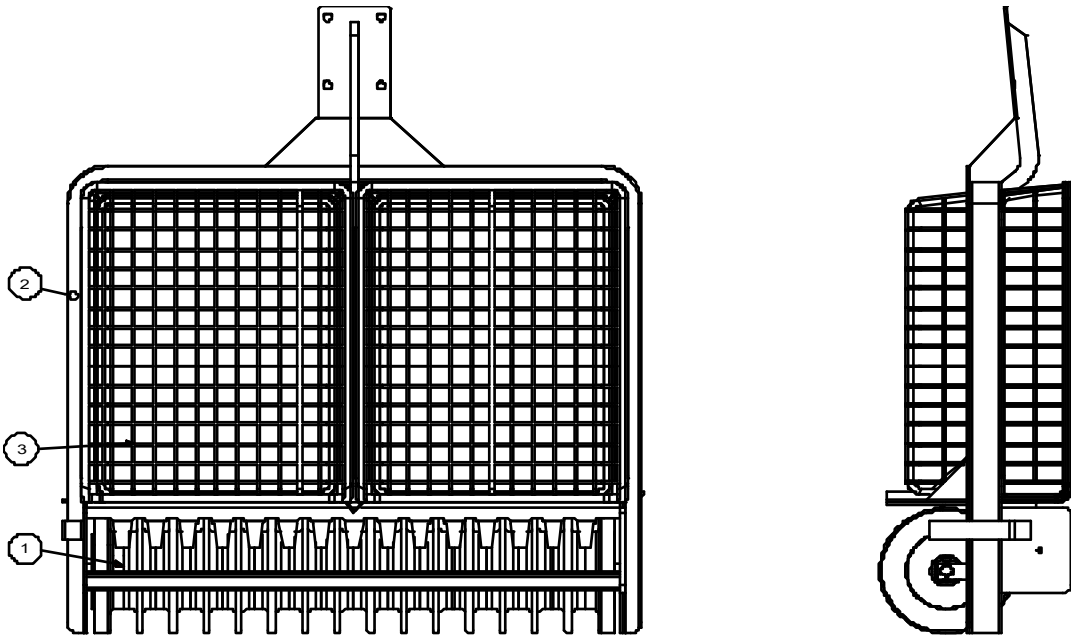


Figure 19: Picker section, Multiflex discs

Pos.	Art. No.	Description	2 gang	3 gang	4 gang	5 gang	6 gang
-	PDM0004	Complete picker section, Multiflex	2	3	4	5	6
1	PDM0006	Picker roller, complete, Multiflex	2	3	4	5	6
2	970 006	Fully welded frame	2	3	4	5	6
3	OFM0012	Ball basket	4	6	8	10	12

7.7.1 Picker roller, Multiflex

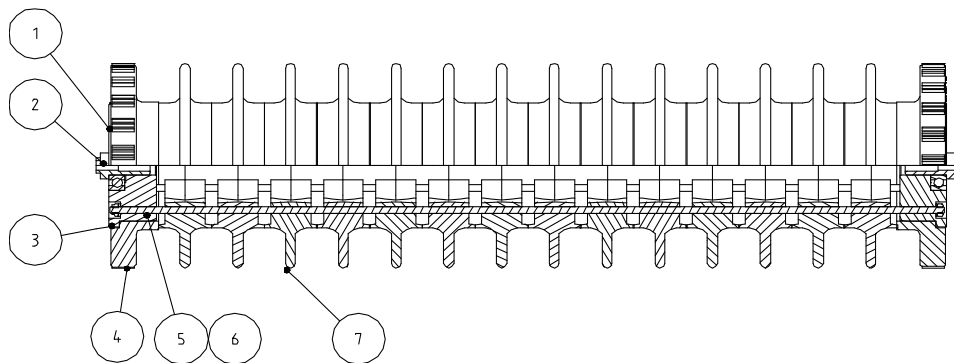


Figure 20: Complete picker roller, Multiflex discs

Pos.	Art. No.	Description	2 gang	3 gang	4 gang	5 gang	6 gang
1	PDM0094	Picker roller, complete, M.flex	2	3	4	5	6
2	PDM0057	Axle	4	6	8	10	12
3	PDM0095	End lock, including bearing	4	6	8	10	12
4	302 040	Picking ring, Outer	4	6	8	10	12
5	PDM0077	Mounting rod	6	9	12	15	18
6	PDM0098	Mounting rod, threaded	6	9	12	15	18
3	PBM0038	Picking ring, Multiflex	28	42	56	70	84

7.8 Connecting rod, 2 gang, 3 gang, 4 gang.

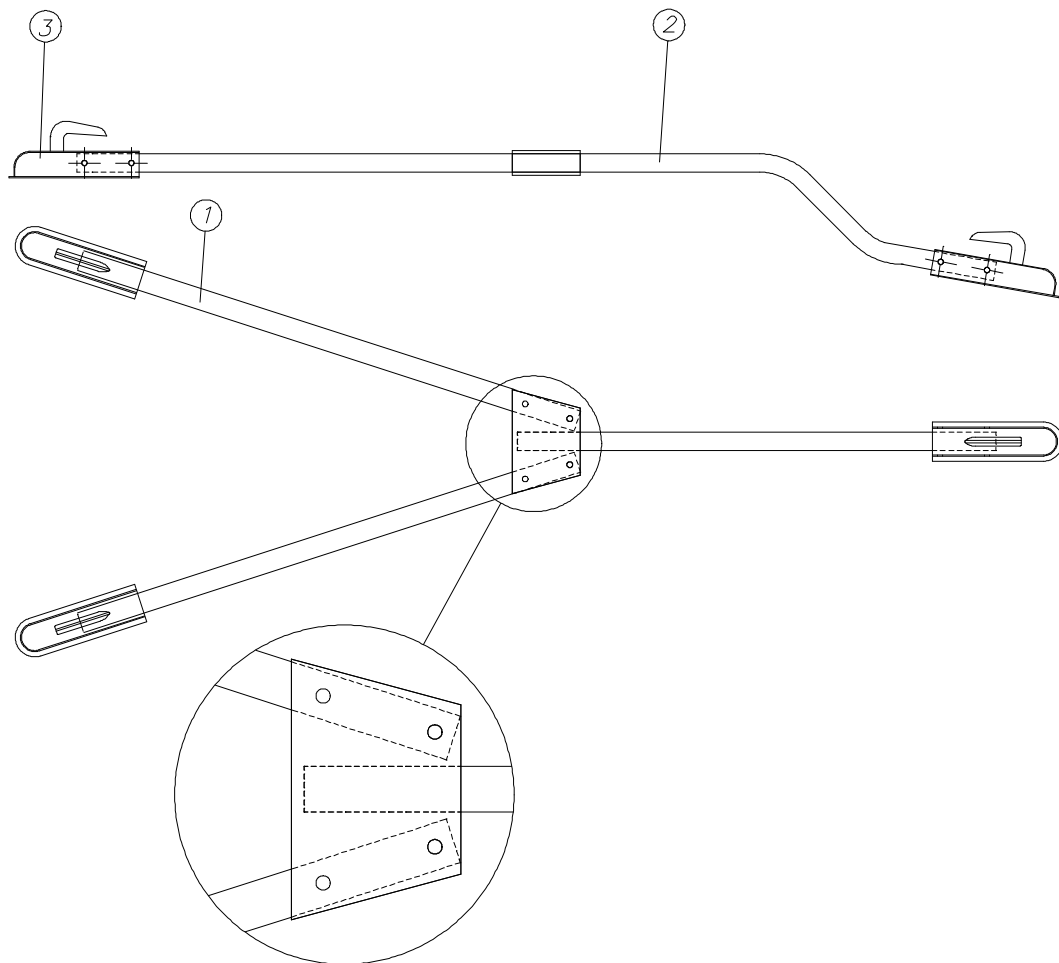


Figure 21: Connecting rod, 2 gang, 3 gang, 4 gang.

Pos.	Art. No.	Description	2 gang	3 gang	4 gang
-	970 009	Connecting rod, complete	1	1	1
1	970 010	Extension beam	2	2	2
2	PDM0010	Connecting rod, front part	1	1	1
3	305 300	Coupling shoe	3	3	3

7.9 Connecting rod, 5 gang, 6 gang.

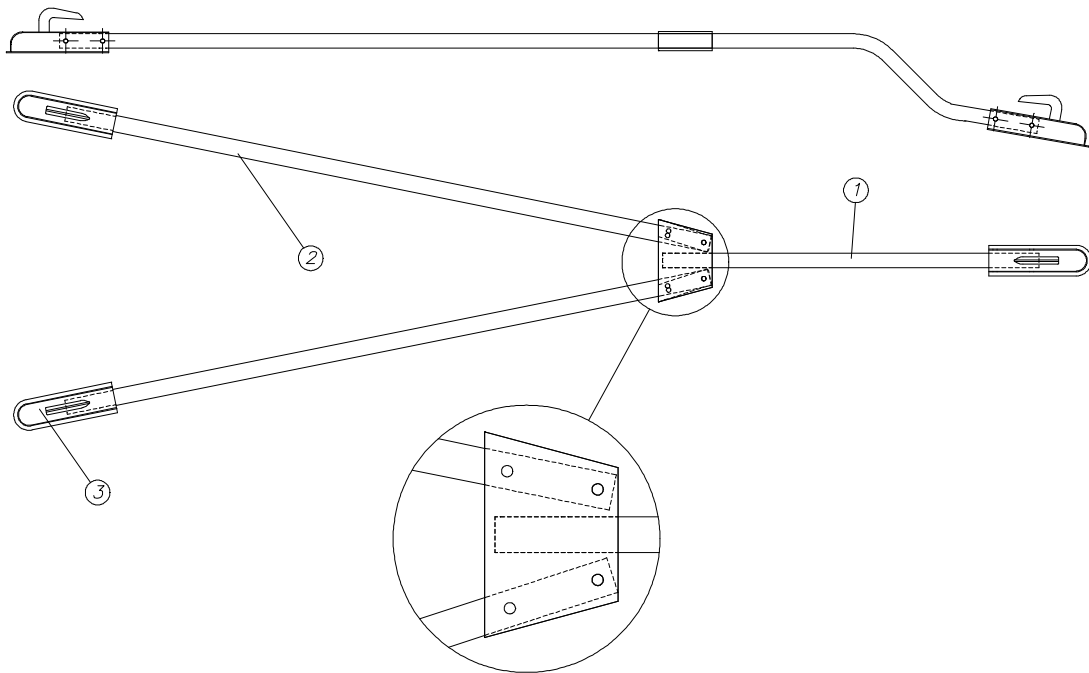


Figure 22: Connecting rod, 5 gang, 6 gang.

Pos.	Art. No.	Description	5 gang	6 gang
-	970 105	Connecting rod, complete, 5 gang, 6 gang	1	1
1	PDM0010	Connecting rod, front part	1	1
2	970 013	Extension beam, 5 gang, 6 gang	2	2
3	305 300	Coupling shoe	3	3

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

8.2 Your Sales Representative

