



USER'S MANUAL

Unloading Station BR-III HS

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1 PREFACE

1.1 User's Manual identification

The data on the machine plate can be found in the index of the documentation set. It contains a reference to the document number of this User's Manual.

Check if the User's Manual belongs to the machine.

The index can also contain references to corresponding documentation.

1.2 General information

The User's Manual provides information and instructions for proper and safe use of the machine and applies to the life of it.

All users of the machine must be acquainted with the presence and contents of the User's Manual, which for that reason has to be kept in an accessible place.

Carefully read through the User's Manual before starting to use the machine. Familiarize yourself with the information and follow the instructions.

If you have questions, require explanation of subjects related to the machine or the User's Manual, please contact the manufacturer. You can find the address on the front page.

Replace damaged and missing User's Manuals.

Always mention the data of the machine plate below in correspondence about the machine:

- Machine
- Model / Machine code
- Serial no.

See fig. 1.

1.3 Reading indicator

The User's Manual uses the term machine. By "machine" is meant: the specific module, installation, unit or system with the corresponding equipment.

This User's Manual contains several boxes. They draw your attention to dangerous situations for the user, control panel and/or product and give you tips. They have been subdivided and displayed as follows:

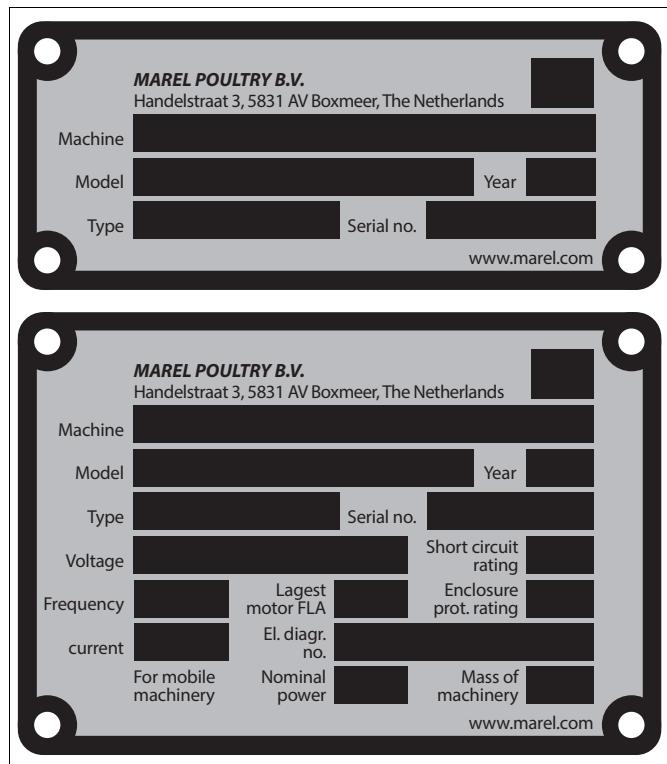
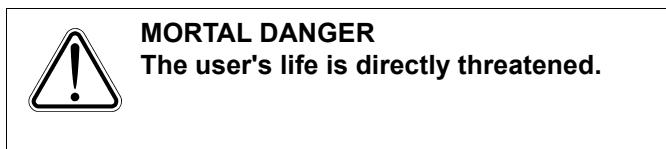


fig. 1 Machine plate example

**WARNING**

The user can be (seriously) injured or seriously damage the machine.

The picture in this box depends on the risk-bearing action that is discussed.

**TAKE CARE**

The user can damage the machine or products when the instructions are not carried out with care.

**NOTE**

Observation containing additional information for the user.

**TIP**

Provides suggestions and advice to the user to carry out certain instructions more skilfully and easier.

Page and document numbers

Each page has a unique identification and consists of:

- The page number with the total number of pages.
Example:
4 / 24
- The document number and the date of issue.
Example:
90952_00_01_ENG / 17-08-2013

Position numbers and letters in text

Bold printed position numbers and letters in the text refer to the specific section in the figure.

Example:

Product guides **40** and **41** stop the legs when

**NOTE**

The pictures in this User's Manual can deviate from your machine. Keep this in mind when reading this User's Manual and carrying out operations on the machine.

Some components can have documentation of their own. Consult the index on this.

1.4 Keeping machine data up to date

We advise you to keep a logbook.

You can enter data regarding production, maintenance, cleaning, inspections, defects, repairs, overhauls, modifications and other operations on the machine. See appendix: LOGBOOK.

We also advise you to keep a registration form for entering the setting data.

See appendix: SETTINGS.

1.5 General terms of delivery

The general terms of delivery of the manufacturer apply to the machine. These can be found in the documentation set.

1.6 Responsibilities of the purchaser

By "purchaser" this User's Manual means every enterprise that uses the machine, regardless if it concerns purchase, rent, lease or another user's right.



MORTAL DANGER

If the machine is not installed in accordance with our layout drawings, or if local regulations or the individual circumstances make this necessary, than additional safety measures are necessary.

The purchaser has a duty to familiarize all users with the information and instructions given in this User's Manual.

The purchaser is obliged to take care of the safety of the users and the machine.

In particular:

- he makes sure that all required information is available to all users.
- he allocates authorities to the users per chapter of the User's Manual.
- only authorized, skilled and instructed users are allowed to carry out the instructions.
- he supervises the users to make sure they meet all regulations and instructions.
- he makes sure that the machine is only used within the limits mentioned in the User's Manual and "Technical Data".
- he makes sure that the original state of the machine must not be changed by modifications, repairs and/or other influences by or on behalf of the purchaser or a third party without prior written permission of the manufacturer.
- he makes sure that settings, maintenance and cleaning of the machine are properly carried out in time.

1.7 Modifications to the machine

The data contained in this User's Manual are based on the latest information.

The manufacturer reserves the right to change the design and/or configuration of its machines at any time, without any obligation on our part to change any previous supplies accordingly.

The original state of the machine must not be changed by modifications, repairs and/or other influences by or

on behalf of the purchaser or a third party without prior written permission of the manufacturer.

If the CE-2A-status is applicable to the machine (see EC-declaration), this can become defunct due to modifications to the machine.

1.8 Use of the machine

- The machine can only be used for industrial ends.
- The machine can only be used within the limits mentioned in the User's Manual and "Technical Data".
- Prior written permission of the manufacturer is required for other use.
- It is not allowed to install parts that have not been supplied, installed and/or released beforehand by the manufacturer.

2 SAFETY

2.1 Safety at work

The manufacturer has made every possible effort to provide you with comprehensive, accurate information as regards any hazards relating to the operation of the machine. The purchaser himself shall be responsible for the implementation and proper observance of these rules of conduct.

You must not let minors of 14 years old or younger work on this machine, even if local legislation of the country where the machine is in operation permits it.

Observe the current state of labour, safety and environmental regulations when carrying out any operations.

MORTAL DANGER

Do not wear:

- loose-fitting and loose articles of clothing.
 - jewellery and suchlike.
- They can come into contact with moving parts.**

Wear footwear that prevents slipping.

2.2 Safety labels

The adjacent safety labels alert the user to possible dangers. You will find them on the machine and in the text of this User's Manual.

2.3 Noise pollution

The manufacturer designs and constructs machines where noise pollution has been reasonably reduced to a minimum.

However it is possible that users, due to local circumstances, will be exposed to noise pollution which may cause hearing impairment.

WARNING

To prevent hearing impairment due to noise pollution, you should always observe the legal standards and regulations relating to noise pollution and take proper measures if required.

The noise pollution of the machine is mentioned in the "Technical Data".

We draw your attention to the fact that wrong settings and overdue maintenance can cause an increase in

noise pollution.

2.4 Hygiene and environment

Uphold the rules of hygiene and environment during (maintenance) operations on the machine.

Make certain that the production process does not absorb any damaging influences from outside, such as detergents and maintenance tools.

Recycling

Offer materials for recycling sorted as much as possible.

Chemical waste

Materials that come under the category of chemical waste should be separated when discharged. This includes, for example, batteries, oil filters, oils and greases.

Waste discharge

Waste should only be offered to recognized waste-disposal companies that meet local legislation, standards and regulations.

Putting machine out of operation

If the machine is not used over a longer period of time or is dismantled, the purchaser must remove all components that can cause danger, such as knives, guides sticking out, batteries.

3 TRANSPORT



MORTAL DANGER
Activities described in this chapter must
be carried out by competent,
professional and trained personnel.

3.1 Transport and storage

- During transport of the machine/control panel follow instructions on the packing. Consult the weight marking on the packing for transport weights.
- Check if the machines or spare parts are correct and available by means of the documents that have also been supplied.
- Check the machine for transport damage.
- In case of incorrect delivery or damage contact the manufacturer.
- Keep the machine dry, clean and safeguarded against humidity, dust and dirt.

4 MACHINE DESCRIPTION

4.1 Field of application

The Unloading Station is one of the machines in the evisceration department. The Unloading Station releases the products from the shackles.

The following models are described in this User's Manual:

- BR-III HS with pins (see fig. 2)
- BR-III HS without pins (see fig. 3)



NOTE

The machine model is shown on the machine plate.

- "BR" stands for Broiler, Round Unloading Station.
- "III" stands for third generation Unloading Station.
- "HS" stands for High Speed; Unloading Station suitable for high speed.

See fig. 2 and fig. 3.

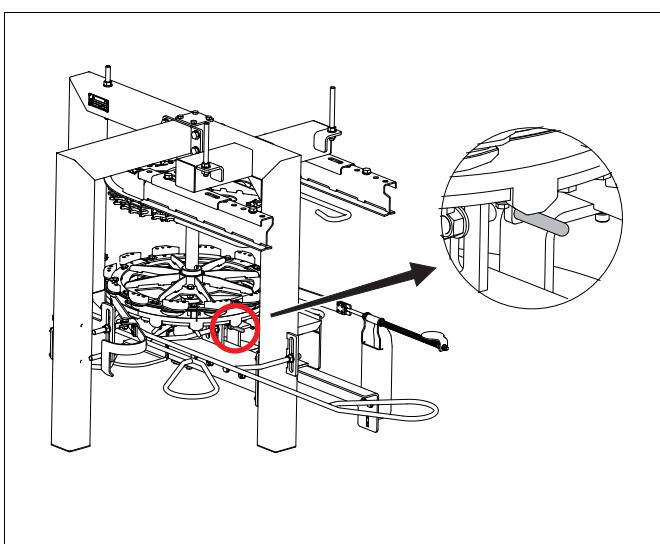


fig. 2 Unloading Station with pins

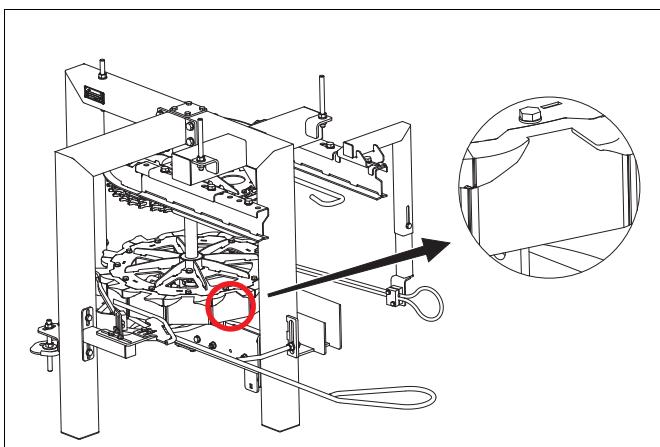


fig. 3 Unloading Station without pins

The machine is available in a:

- right-hand execution **R**.
- left-hand execution **L**.

See fig. 4 and fig. 5.

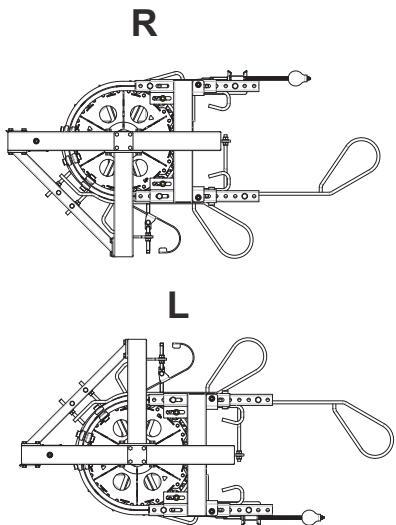


fig. 4 Models with pins - right-hand and left-hand

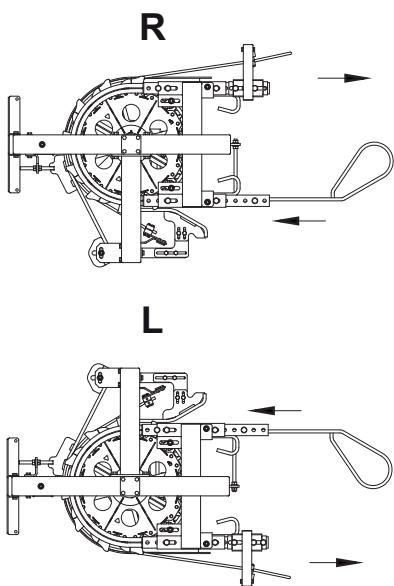


fig. 5 Models without pins - right-hand and left-hand

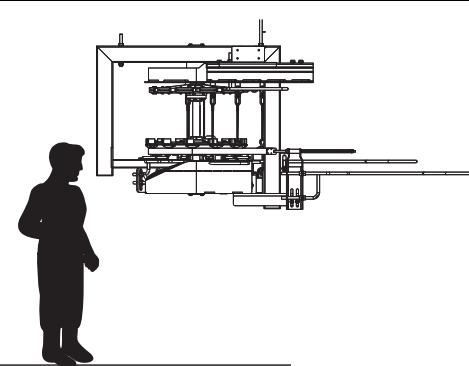


fig. 6 Relative size of the machine

4.2 Machine with pins part names

4.2.1 Main parts

The main components of the machine are as follows:

1. Frame
2. Overhead conveyor
3. Drive wheel
4. Carrier wheel assembly
5. Unloading ramp
6. Shackle guide (incoming, outer)
7. Shackle guide (incoming, inner)
8. Carrier pins
9. Tensioning belt

See fig. 7.

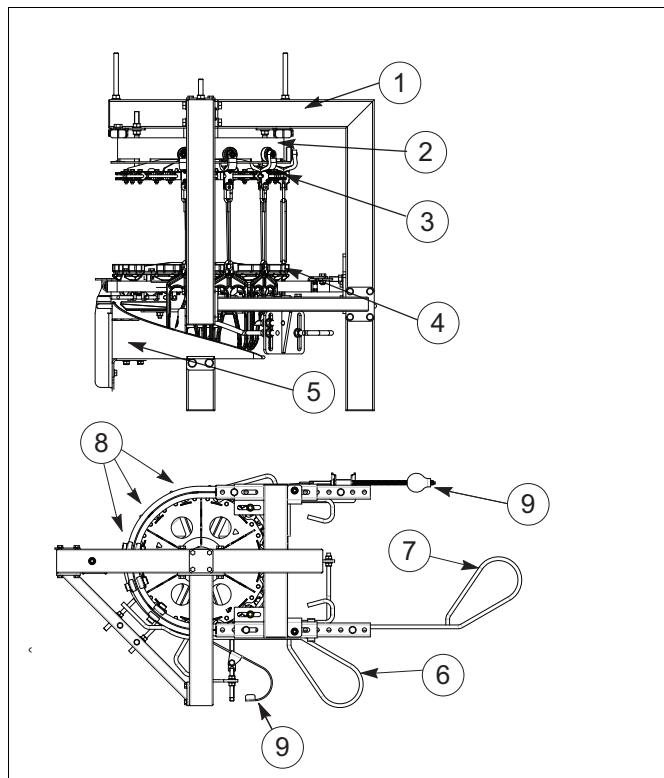


fig. 7 Machine with pins part names

4.2.2 Carrier wheel assembly

The carrier wheel assembly **4** is composed of a drive wheel **11** with layers of adjustable pieces bolted to it. Adjusting these layers is important for proper operation of the module. This is described in detail in paragraph 6 ADJUSTMENT AND SET UP MACHINE WITH PINS.

Carrier wheel components are:

8. Carrier pins
10. Shackle attitude controlling ring segments
11. Drive wheel, lower
12. Carrier pin support ring

The shackle carrier pocket is formed when all the layers of the carrier wheel assembly are bolted together.

See a more detailed view in Appendix 1: CARRIER WHEEL ASSEMBLY WITH PINS.

See fig. 8.

4.3 Machine with pins process description

The eviscerating shackles are transported into the Unloading Station by the overhead conveyor **2**. Shackle guides **6** align the shackles so they smoothly enter the Unloading Station. The shackles are properly aligned in the center of each carrier wheel assembly pocket and then held firmly by the tensioning belt **9**. The carrier pins **8** help keep the shackles stable and help move them through the Unloading Station. The unloading ramp **5** slides the products (whole products, shanks or feet) off the shackles as they pass through the module.

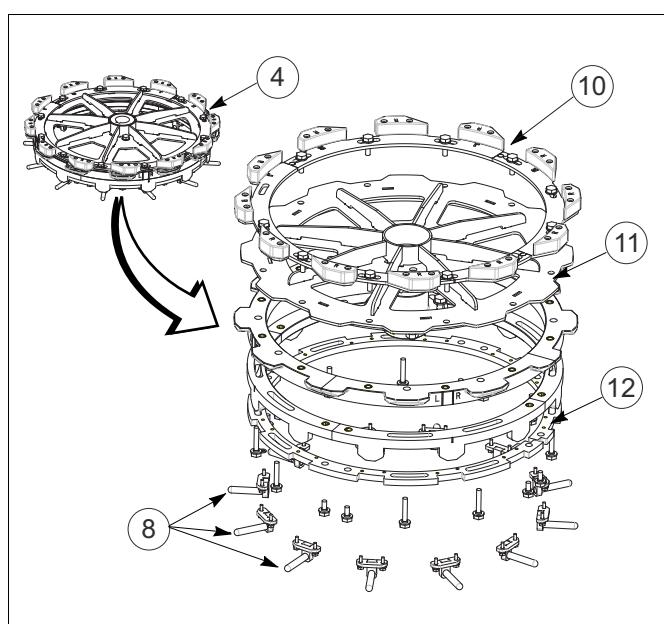


fig. 8 Machine with pins carrier wheel assembly, exploded view

4.4 Machine without pins part names

4.4.1 Main parts

The main components of the machine are as follows:

1. Overhead conveyor
2. Frame
3. Drive wheel
4. Carrier wheel
5. Unloading ramp outside shackle guide
6. Unloading ramp
7. Unloading ramp inside shackle guide
8. Tensioning bands
9. Incoming inside shackle guide
10. Incoming outside shackle guide

See fig. 9.

4.5 Machine without pins process description

The eviscerating shackles are transported into the Unloading Station by overhead conveyor 1. Shackle guides 9 and 10 align the shackles so they smoothly enter the Unloading Station. The shackles are properly aligned in the center of each carrier wheel 4 pocket and then held firmly by tensioning bands 8. The tensioning bands help keep the shackles stable through the Unloading Station. The unloading ramp shackle guides 5 and 7 align the shackle in the center of unloading ramp 6. Unloading ramp 6 slides the products (whole products, shanks or feet) off the shackles as they pass through the module.

See fig. 9.

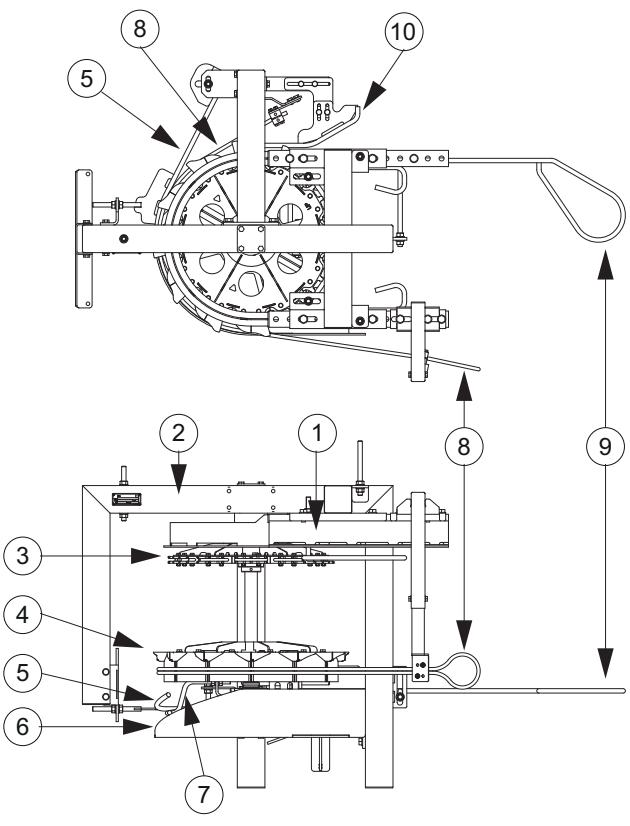
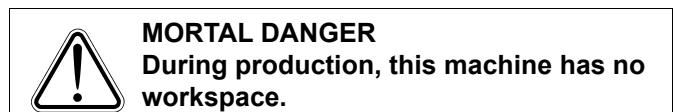


fig. 9 Machine without pins part names

4.6 Workspace



During the production, the machine has no workspace to operate the machine. All the space around the machine is the working area for all other activities.

4.7 Danger zones



MORTAL DANGER
Only competent, professional and
trained personnel are allowed to enter
the danger zone.

The danger zone is indicated in fig. 10 by a broken line.
The dangers inside the shaded areas are screened off
or covered as far as possible.

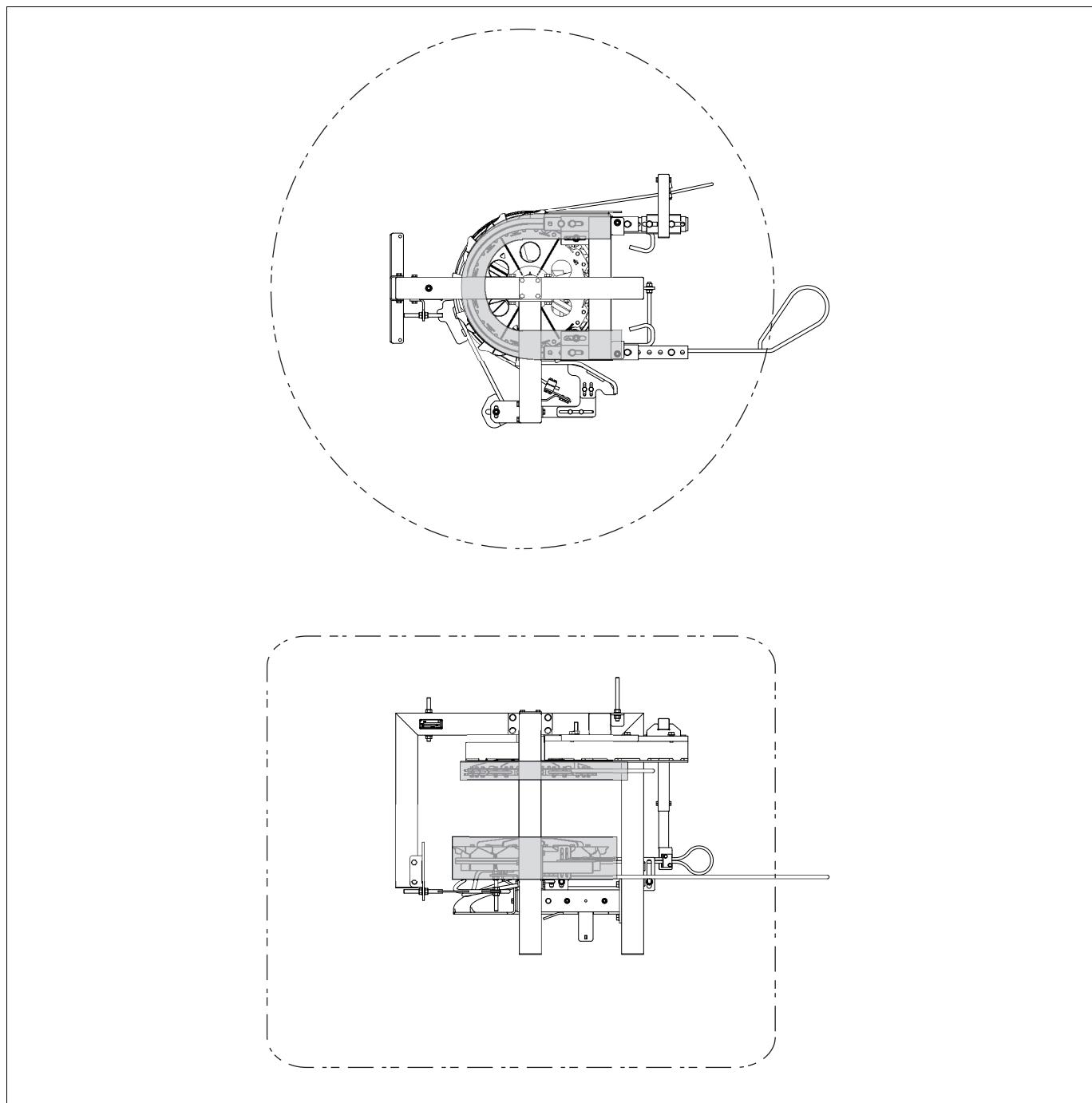


fig. 10 Danger zones

4.8 Specifications

For the machine and product specifications, see the "basic design specifications" in the quotation/order documents.

- Relevant machine specifications are production speed and process times.
- Relevant product specifications are weights and weight distributions.

Use the machine only within these specifications.

Information about any connection, dimensions or requirements can be found in the "Technical Data" and in the User's Manual "Explanation of symbols Technical Data".

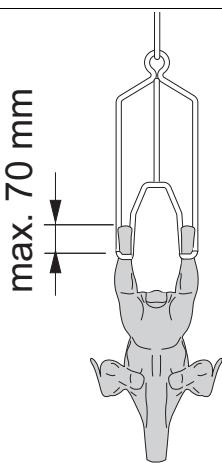


fig. 11 Product specifications

With normal usage the following specifications apply to the machine:

- The product should not be deformed or broken.
- The product must be suspended from the knee joint.
- The stump length of the knee joint should not be longer than 70 mm.

See fig. 11.

Check the shackle conditions:

- Only use shackles and suspension rods approved by the manufacturer.
- Bent or broken shackles can cause serious damage to the product or the machine.
- The standard shackle height is 660 mm and significant differences in height H between the track and bottom of the complete shackle assembly can cause serious damage to the product or the machine.

See fig. 12.

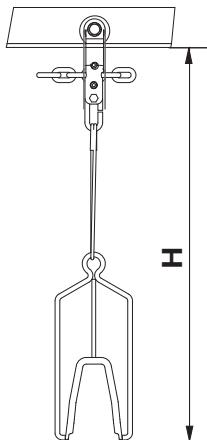


fig. 12 Shackle position

5 INSTALLATION

The machine will be installed by the manufacturer or by others commissioned by the manufacturer.

If the purchaser carries out the installation himself, the following instructions apply.



MORTAL DANGER
Activities described in this chapter must
be carried out by competent,
professional and trained personnel.

5.1 Setting up

Set up the machine as shown on the manufacturer's layout drawings. See also the "Technical Data".



MORTAL DANGER
If necessary, take extra safety measures
when:

- changes are made to the manufacturer's recommendations and instructions during installation of the machine.
- local regulations, legislation or circumstances require this.

Note the following points:

- Make sure there is sufficient space around the machine for carrying out work on the machine.
- Take account of the set-up requirements for the other machines.
- Make sure there is sufficient lighting to work safely on the machine.

Set the machine up as follows:

1. Transport the packaged machine to its location by forklift truck or pallet wagon.
2. Remove the packaging around the machine.
3. Lift the machine up using a hoist or a forklift truck and remove the shipping base.
4. Lift the machine so that it remains level and is at the right height.
5. Connect the machine to the overhead conveyor. See the User's Manual "Overhead Conveyor" (90714 or 90727).

5.2 Cleaning the machine after installation

Clean the machine thoroughly before putting it into operation for the first time.

See paragraph 9.1 Cleaning after production.

6 ADJUSTMENT AND SET UP MACHINE WITH PINS



MORTAL DANGER

Activities described in this chapter must be carried out by competent, professional and trained personnel.



MORTAL DANGER

Activities described in this chapter must only be carried out if the power supply to the machine and/or control panel is switched off.

1. Switch off main switch(es) of the control panel(s)
or
remove all machine plugs from the wall sockets.
2. Lock the main switch(es) with a padlock.
3. Take all measures to prevent unintentional recovery of the power supply.
4. Proceed carefully during carrying out the work.



NOTE

The setting and adjustment data you read in the User's Manual are the basic settings. They may need changing to make the machine work better. Write down the old settings and the corrected settings in the appendix Settings.

6.1 Drive wheel and carrier wheel settings

The distance **A** between the bottom of the overhead conveyor and the middle of the drive wheel is factory-set at 45 mm as a starting point.

The distance **B** between the middle of the drive wheel and the top of the carrier wheel assembly is factory-set as a starting point at 316 mm for a standard 660 mm shackle.

These distances may need to be adjusted.
See fig. 13.

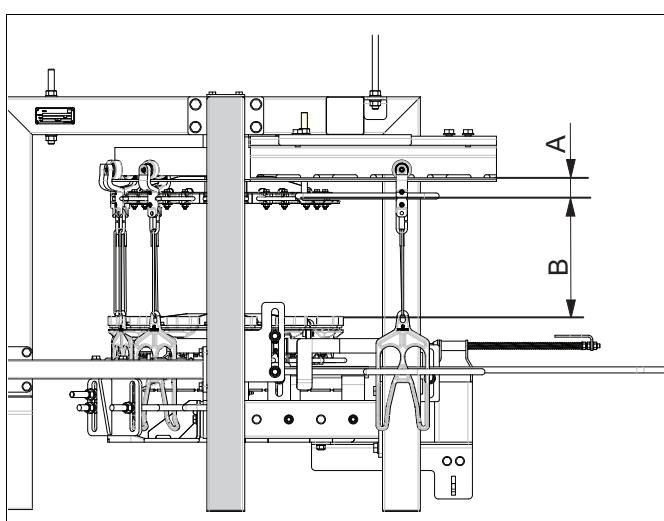


fig. 13 Adjusting the drive and carrier wheel settings



TAKE CARE

The user can damage the machine or products when the following instructions are not carried out with care.

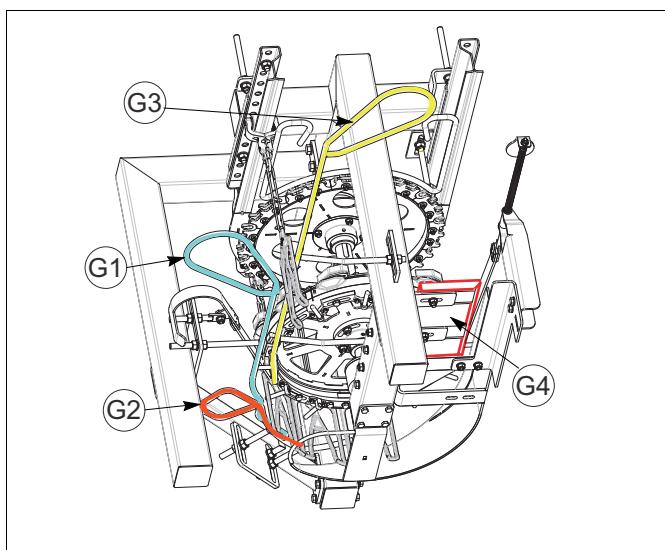


fig. 14 Guides viewed from below the machine

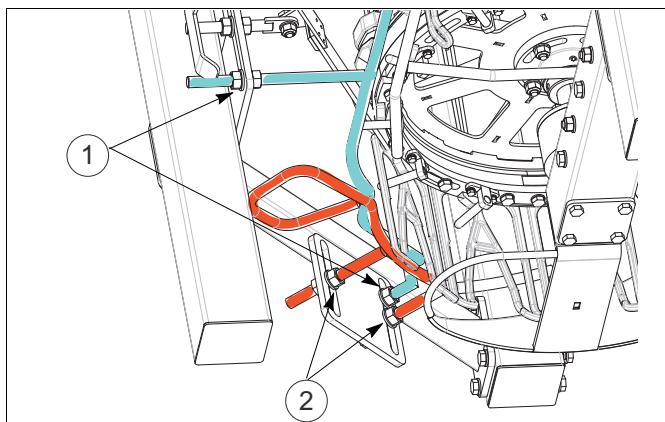


fig. 15 Outer shackle guide adjusting nuts

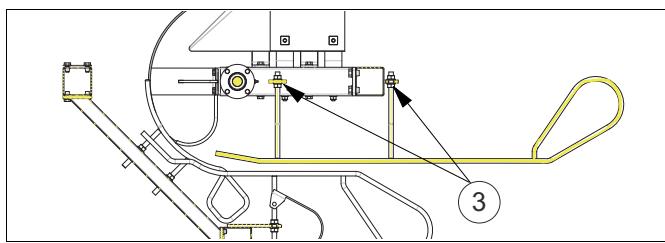


fig. 16 Inner shackle guide adjusting nuts

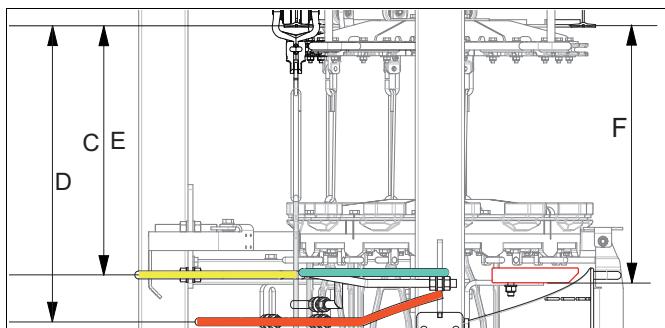


fig. 17 Setting guide heights

6.2 Adjust BR-III HS shackle guides

The shackle guides ensure that each shackle aligns correctly and remains in the correct position as the product is passing through the unloader.



NOTE

Shackle breakage may occur if not adjusted correctly.

There are three sets of incoming guide bars- two outer guide bars (**G1** and **G2**) and one inner guide bar **G3**. There is one guide block **G4** on the exiting side. See fig. 14 and the following paragraphs for more detail.

6.2.1 Adjusting incoming shackle guide bars

Both the height and horizontal distances of the incoming (round) shackle guides can be adjusted by using the designated nuts to move them into position.

For the upper, outer shackle guide **G1**, use nuts **1**. For the lower, outer shackle guide **G2**, use nuts **2**. For inner guide **G3**, use nuts **3**.

See fig. 14, fig. 15 and fig. 16.

To adjust the incoming shackle guides to the proper height:

1. Undo nuts for guide to be adjusted.
2. Confirm the following heights:
 - **C** (middle of guide **G1** to the conveyor track) is 500 mm.
 - **D** (middle of guide **G2** to the conveyor track) is 600 mm.
 - **E** (middle of guide **G3** to the conveyor track) is 500 mm.
3. Tighten nuts.

See fig. 17.

6.2.2 Adjusting the exit shackle guide (plastic block)

Exit guide block **G4** can be adjusted either vertically or horizontally. To adjust its height use bolts **5**. To adjust it horizontally (to set gap) use bolts **4**.

The height **F** is between 510-520 mm.

See fig. 14, fig. 17 and fig. 18.

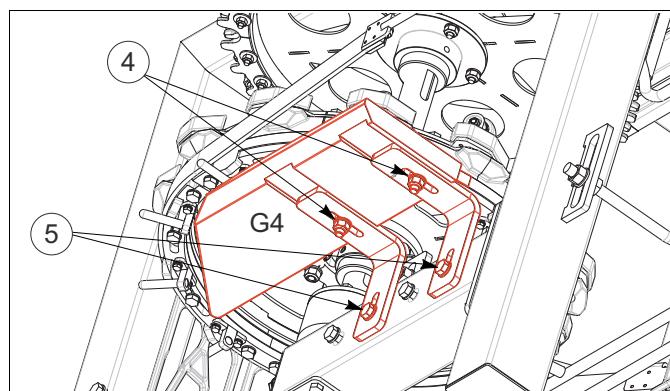


fig. 18 Exit shackle guide (from underneath)

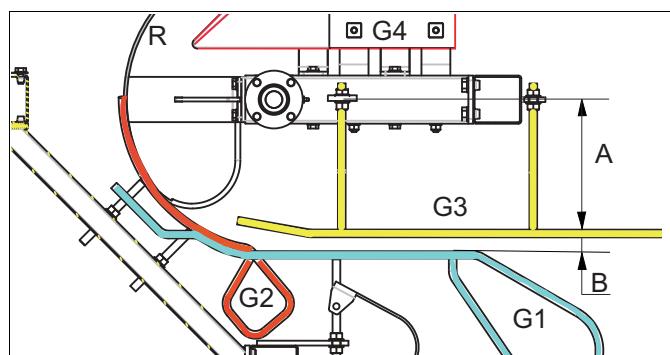


fig. 19 Guide clearances (See below also)

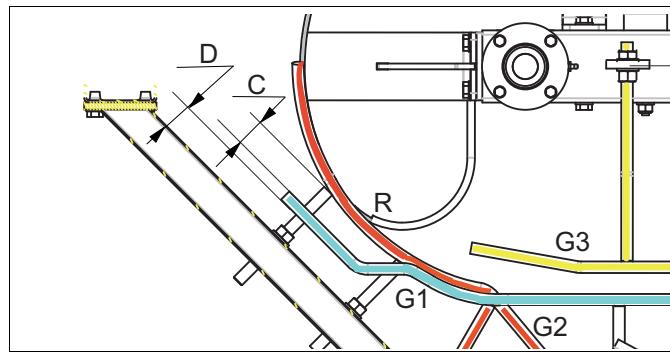


fig. 20 Guide clearances

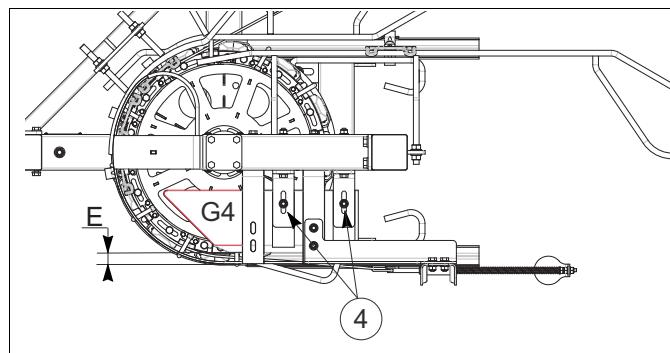


fig. 21 Exit shackle guide clearance

6.2.3 Adjusting the clearance of the shackle guide bars



TAKE CARE

Make sure there is at least 10 mm clearance between the guide bars and any moving parts on the carrier wheel assembly, especially the carrier pins, to avoid damage to the machine parts.

If there is not enough clearance, adjust the individual guides, but be sure to keep the correct height settings as you adjust clearance.

Confirm the following distances for the incoming shackles:

- **A** = 265 mm (between guide **G3** and midframe)
 - **B** = 45 mm (between guides **G1** and **G3**)
 - **C** = 60 mm (between guide **G1** and the unloading ramp **R**)
 - **D** = 40 mm (between guide **G1** and the frame)
- See fig. 19 and fig. 20.

Position the exit guide so the distance **E** between the unloading ramp and the guide is 35 mm.

See fig. 21.



NOTE

If breakage still occurs due to a crossed shackle condition, move guide **G1** setting further out until breakage no longer occurs.

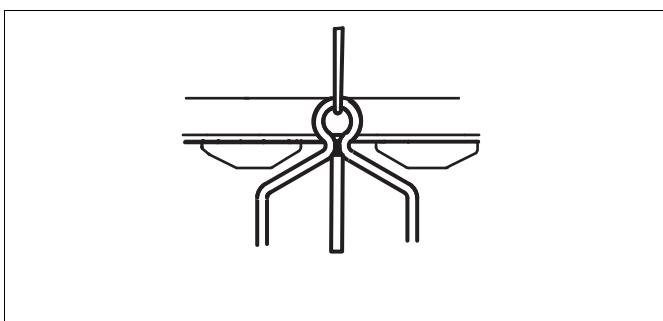


fig. 22 Centered shackle

6.3 Adjust shackle carrier pocket timing/position

At the point of in-feed, hang a shackle on the overhead conveyor. Check that the empty shackle hangs freely centered in the carrier wheel assembly pocket.

See fig. 22.

If the timing (shackle position) is not correct:

1. Undo the four bolts **B** holding the carrier wheel assembly in position on the shaft.
2. Adjust the position of the carrier wheel assembly by slowly turning the assembly until the shackle hangs freely centered.
3. Tighten the bolts.

See fig. 23.

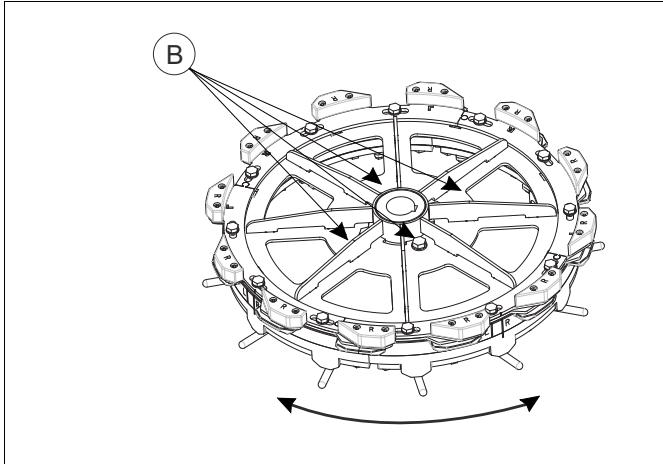


fig. 23 Adjusting the Shackle Carrier Pocket Timing

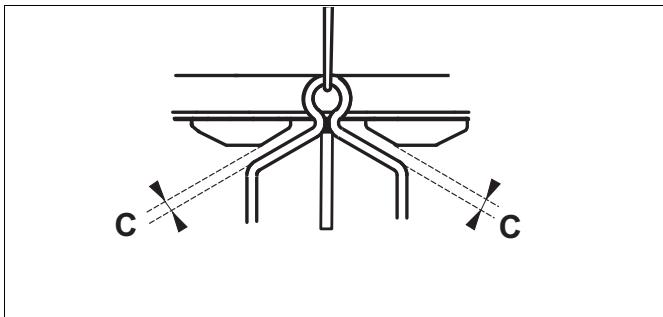


fig. 24 Shackle with proper clearance

6.4 Adjust carrier wheel assembly and drive wheel height

Check that the shackles have the proper clearance **C** between the shackle carrier pocket and the shackle shoulders. If needed adjust heights as described below. See fig. 24.



NOTE

Any curling (so-called potato chip effect) of the carrier wheel assembly will affect this dimension/clearance. Find the lowest pocket on the carrier wheel and use it to make this setting.

tab. 1

Shackle Type	Clearance setting (C)
Stork stainless	1 mm
Stork plastic	2 mm



NOTE

Plastic shackles being lighter need more room to settle in.

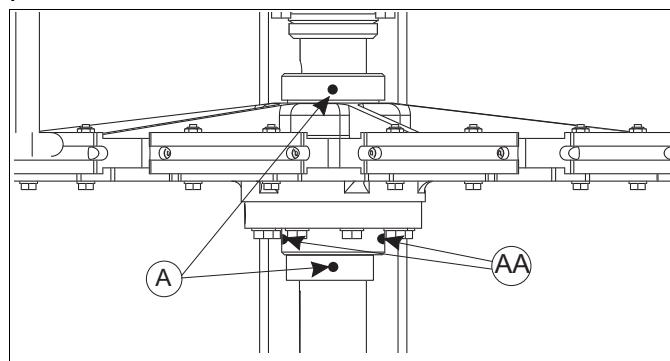


fig. 25 Adjusting drive wheel height

6.4.1 To raise the drive wheel

Carefully follow these steps:

1. Undo the set screw **A** on the upper locking collar holding the drive wheel assembly.
2. Undo the two set screws **AA** on the drive wheel hub.

WARNING
Wheel is heavy.

3. Move the drive wheel to the proper height.
 4. Tighten set screws **AA**.
 5. Undo the set screw **A** on the lower locking collar for the drive wheel assembly.
 6. Move both collars until they are tight against the drive wheel assembly.
 7. Tighten set screws **A** on both locking collars.
- See fig. 25.

6.4.2 To lower the drive wheel

Carefully follow these steps:

1. Undo the set screws **A** on the locking collars holding the drive wheel assembly.
2. Move lower collar down out of the way.
3. Undo the two set screws **AA** on the drive wheel hub.

WARNING
Wheel is heavy.

4. Move the drive wheel to the proper height.
 5. Move both locking collars until they are tight against the drive wheel.
 6. Tighten set screws **A**.
- See fig. 25.

6.4.3 To lower the carrier wheel assembly

On the carrier wheel assembly and collar.

Carefully follow these steps:

1. Undo the set screws **B** on the locking collars holding the carrier wheel assembly.
2. Move lower collar down out of the way.
3. Undo the two set screws **BB** on the carrier wheel hub.

WARNING
Wheel is heavy.

4. Move the carrier wheel to the proper height.

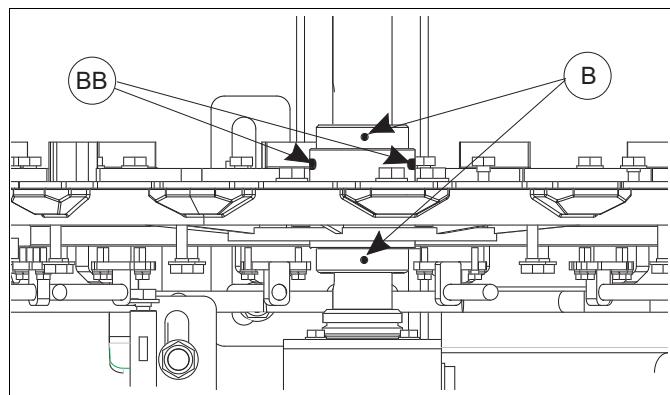


fig. 26 Adjusting carrier wheel assembly height

5. Move both locking collars until they are tight against the drive wheel.
 6. Tighten set screws **B**.
- See fig. 26.

6.4.4 To raise the carrier wheel assembly

Carefully follow these steps:

1. Undo the set screw **B** on the upper locking collar holding the drive wheel assembly.
2. Undo the two set screws **BB** on the drive wheel hub.

WARNING
Wheel is heavy.

3. Move the drive wheel to the proper height.
 4. Tighten set screws **BB**.
 5. Undo the set screw **B** on the lower locking collar for the drive wheel assembly.
 6. Move both collars until they are tight against the drive wheel assembly.
 7. Tighten set screws **B** on both locking collars.
- See fig. 26.

6.5 Adjust carrier pins

Adjust the carrier pins as follows:

1. Loosen all eight bolts **8B** (in the slots of the carrier pin support ring).
 2. Rotate carrier pin ring halves **12** so that the carrier pins **C** pierce the shackle window in the center.
 3. Tighten the eight bolts **8B**.
- See fig. 27 and fig. 28.

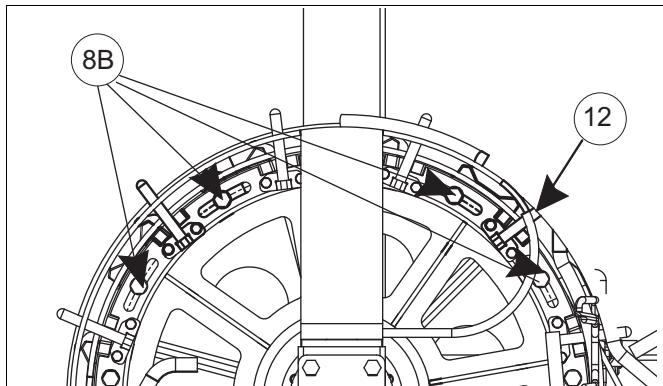


fig. 27 Adjusting carrier pins, view from below

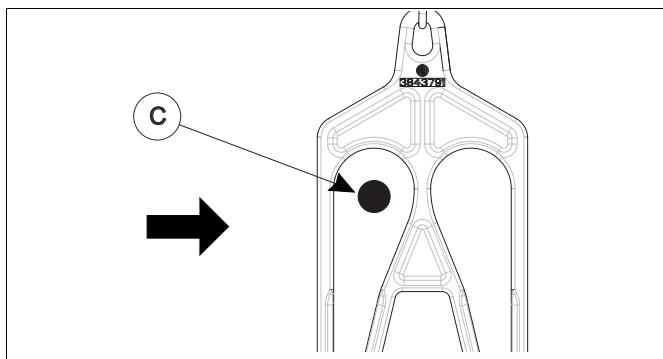


fig. 28 Shackle-carrier pin setting

6.6 Adjust shackle attitude angle

Adjust the shackle attitude angle as follows:

1. Loosen all twelve bolts **B** holding the shackle attitude controlling ring segments **10** in place.
2. Rotate shackle attitude controlling ring segments so that the shackles remain straight up and down while pulling back on the leg loop of the shackle.

 NOTE

This simulates the bird unloading reaction.

3. Tighten all twelve bolts **B**.
See fig. 29.

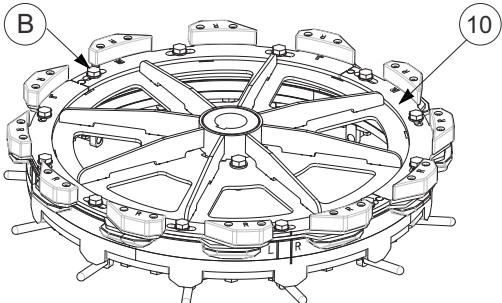


fig. 29 Adjusting shackle attitude, view from above

6.7 Adjust the tensioning belt running position

Adjust both ends of the tensioning belt **TB** so that the running position of the tensioning belt is below the bottom of the carrier wheel pocket lugs **L** and above the carrier wheel drive pins **CP**.

See fig. 30.

 NOTE

The belt should not contact either the drive pins or the pocket lugs.

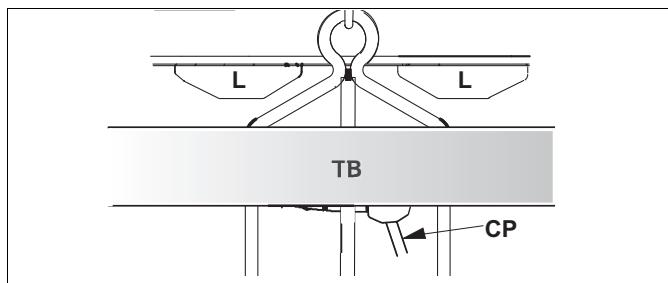


fig. 30 Tensioning belt position

To adjust the tensioning belt;

1. Loosen nuts **HH** on the incoming side and bolts **FF** on the exit side as needed to position the tensioning belt properly.
2. Position each end of the tensioning belt so that the belt is between the carrier wheel pocket lugs and the drive pins, and tangent to the infeed guide **IG**.
3. Tighten bolts **FF** and nuts **HH** as you complete adjusting each end.

See fig. 31, fig. 32, and fig. 33.

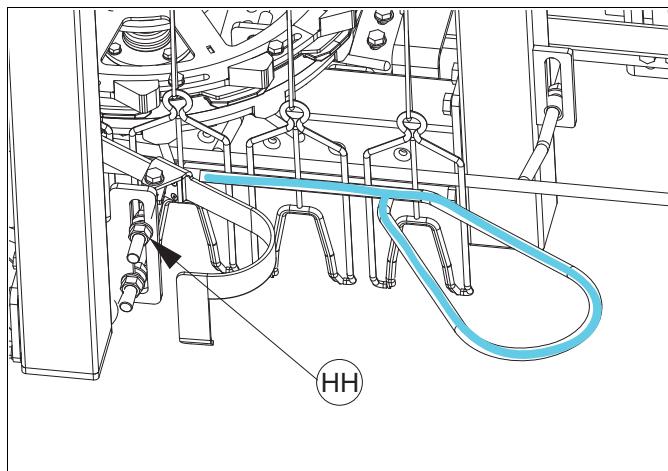


fig. 31 Adjusting tensioning belt, incoming side

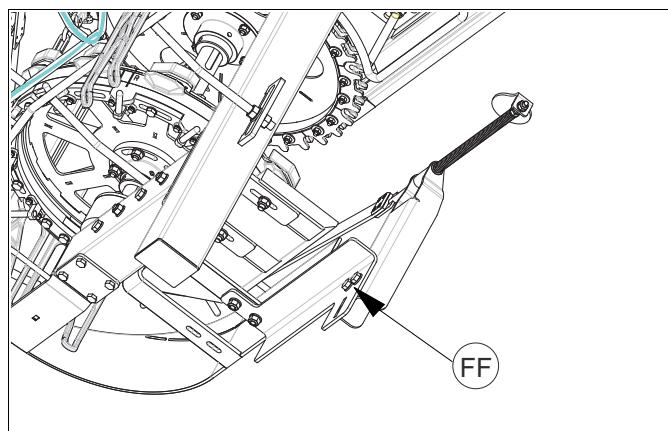


fig. 32 Adjusting tensioning belt, viewed from below

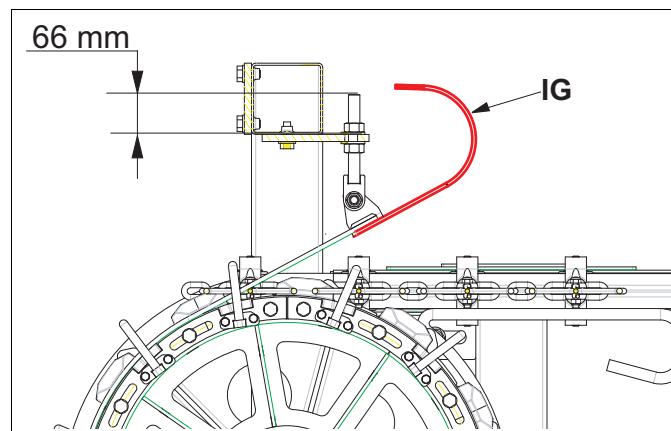


fig. 33 Infeed guide, tangent to the tensioning belt

7 ADJUSTMENT AND SET UP MACHINE WITHOUT PINS



MORTAL DANGER

Activities described in this chapter must be carried out by competent, professional and trained personnel.



MORTAL DANGER

Activities described in this chapter must only be carried out if the power supply to the machine and/or control panel is switched off.

1. Switch off main switch(es) of the control panel(s)
or
remove all machine plugs from the wall sockets.
2. Lock the main switch(es) with a padlock.
3. Take all measures to prevent unintentional recovery of the power supply.
4. Proceed carefully during carrying out the work.



NOTE

The setting and adjustment data you read in the User's Manual are the basic settings. They may need changing to make the machine work better. Write down the old settings and the corrected settings in the appendix Settings.

7.1 Adjust the drive wheel and carrier wheel

The distance **A** between the bottom of the overhead conveyor and the middle of the drive wheel is factory-set at 46 mm as a starting point.

The distance **B** between the bottom of the overhead conveyor and the top of the carrier wheel is factory-set at 380 mm as a starting point for a standard 660 mm shackle.

These distances may need to be adjusted.
See fig. 34.



TAKE CARE

The user can damage the machine or products when the following instructions are not carried out with care.

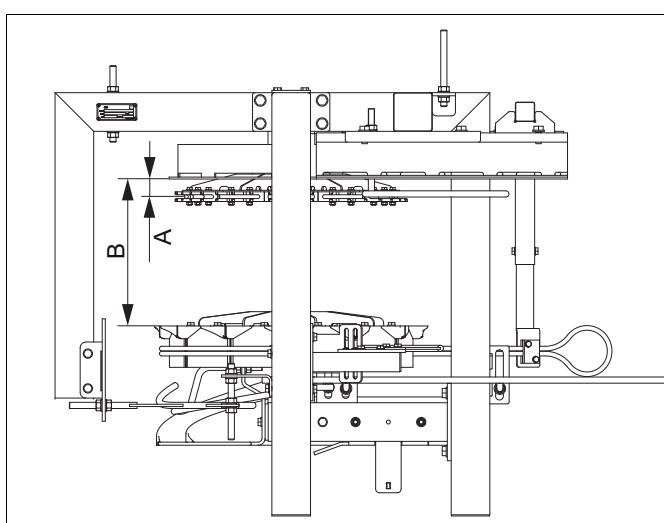


fig. 34 Adjust the drive and carrier wheel settings

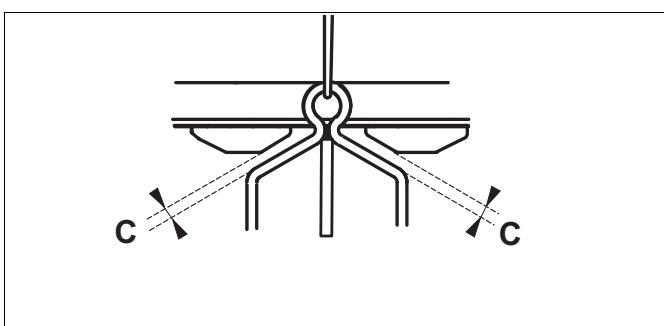


fig. 35 Shackle with proper clearance

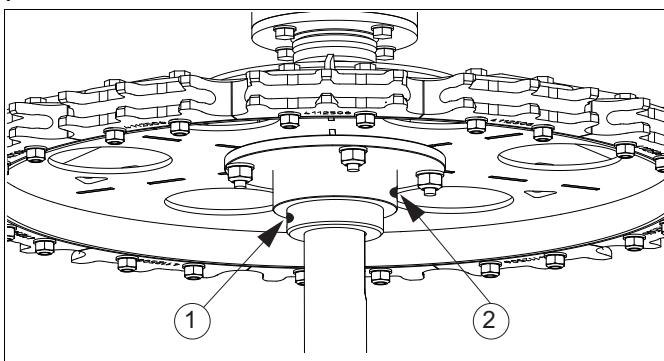


fig. 36 Adjust the drive wheel height

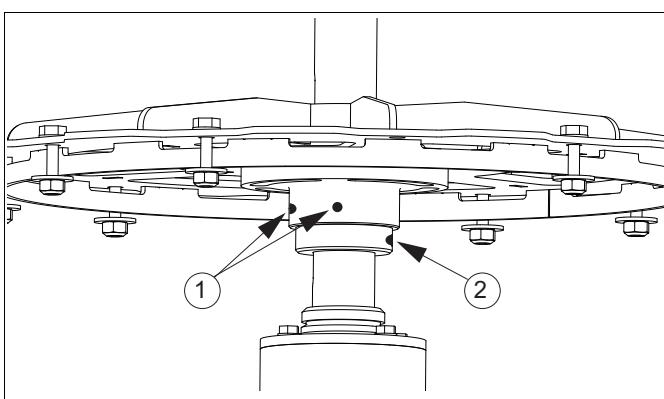


fig. 37 Adjust the carrier wheel height

7.1.1 Adjust drive wheel and carrier wheel height

Check that the shackles have the proper clearance C between the shackle carrier pocket and the shackle shoulders. If needed, adjust the heights. See fig. 35 and tab. 2.

tab. 2

Shackle Type	Clearance setting (C)
Stork stainless	4 mm
Stork plastic	4 mm

7.1.1.1 Adjust the drive wheel

Carefully follow these steps:

WARNING
Wheel is heavy.

1. Undo set screw 1 on the locking collar under the drive wheel hub.
 2. Undo set screw 2 on the drive wheel hub.
 3. Adjust the drive wheel to the proper height.
 4. Tighten set screw 2.
 5. Move the collar until it is tight against the drive wheel hub.
 6. Tighten set screw 1.
- See fig. 36.

7.1.1.2 Adjust the carrier wheel

Carefully follow these steps:

WARNING
Wheel is heavy.

1. Undo set screw 2 on the locking collar under the carrier wheel hub.
 2. Undo the two set screws 1 on the carrier wheel hub.
 3. Adjust the carrier wheel to the proper height.
 4. Tighten the two set screws 1 on the carrier wheel hub.
 5. Move the locking collar until it is tight against the carrier wheel hub.
 6. Tighten set screw 2.
- See fig. 37.

7.2 Adjust shackle carrier timing

At the point of infeed, hang a shackle on the overhead conveyor. Check that the empty shackle hangs freely centered in the carrier wheel assembly pocket. See fig. 38.

If the timing (shackle position) is not correct:

1. Loosen the four bolts **1** holding the carrier wheel assembly in position on the hub.
2. Adjust the position of the carrier wheel assembly by slowly turning the assembly until the shackle hangs freely centered.
3. Tighten bolts **1**.

See fig. 39.

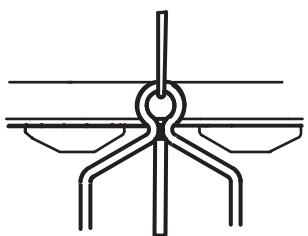


fig. 38 Centered shackle

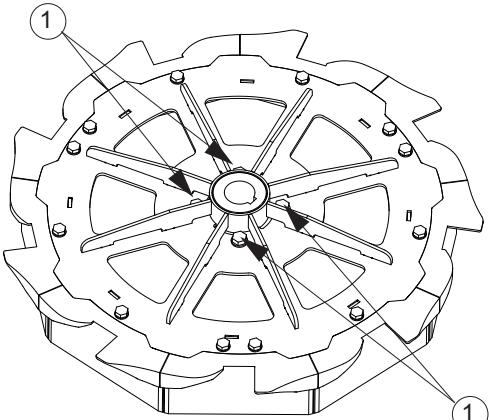


fig. 39 Adjust the shackle carrier timing

7.3 Adjust the tension bands

Do these steps to adjust tension bands **1**:

1. Loosen bolts **2**.
2. Extend adjustable support **4** to 166 mm to top edge of tension band mount **3**.
3. Tighten bolts **2**.
4. edge of slide mount bracket.
5. Loosen bolts **5**. This will cause slack in the tension bands.
6. Pull on tension band loop **6** to increase the tension and tighten bolts **5**.

See fig. 40.

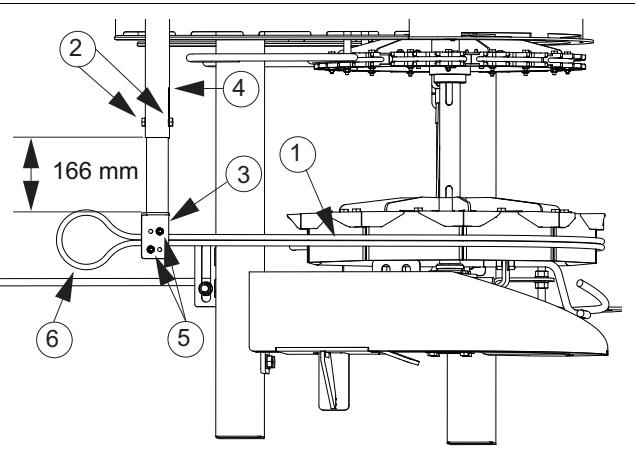


fig. 40 Adjust the tension bands

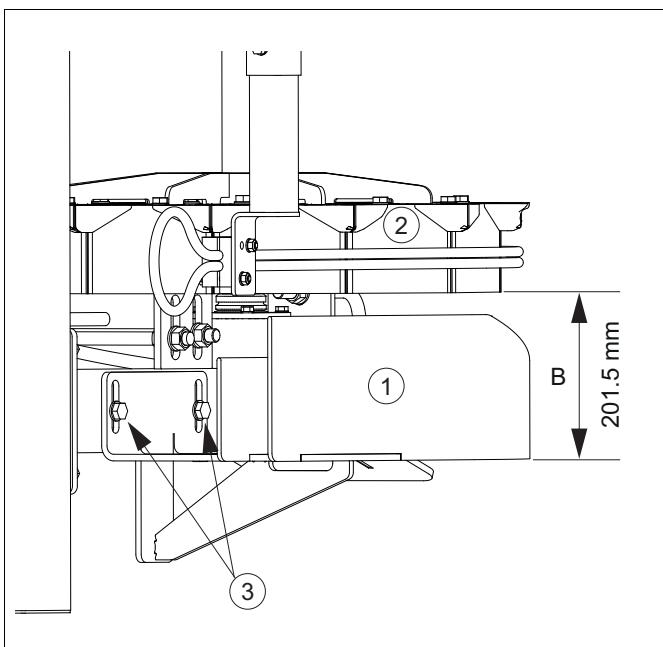


fig. 41 Adjust unloading ramp exit side view

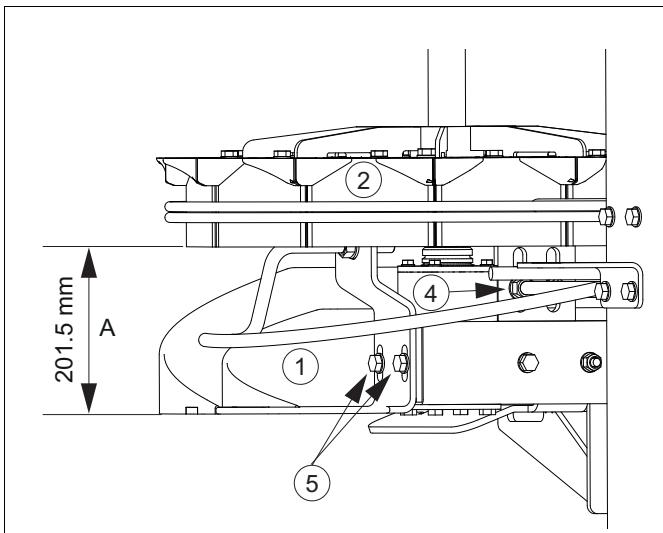


fig. 42 Adjust unloading ramp entry side view

7.4 Adjust the unloading ramp

Do these steps to adjust unloading ramp 1:

1. Loosen bolts 3.
2. Loosen nut 4.
3. Loosen bolts 5.
4. At position A adjust the distance from the bottom of carrier wheel 2 to the bottom of unloading ramp 1 to 201.5 mm.
5. Tighten Bolts 5.
6. Tighten nut 4.
7. At position B adjust the distance from the bottom of carrier wheel 2 to the bottom of unloading ramp 1 to 201.5 mm.
8. Tighten bolts 3.

See fig. 41 and fig. 42.

7.5 Adjust the shackle guides

The shackle guides ensure that each shackle aligns correctly and remains in the correct position as the product is passing through the unloader.



NOTE

Shackle breakage may occur if not adjusted correctly.

There are 4 shackle guides:

- Incoming inside shackle guide **1**.
- Incoming outside shackle guide **2**.
- Unloading ramp inside shackle guide **3**.
- Unloading ramp outside shackle guide **4**.

See fig. 43 and fig. 44.

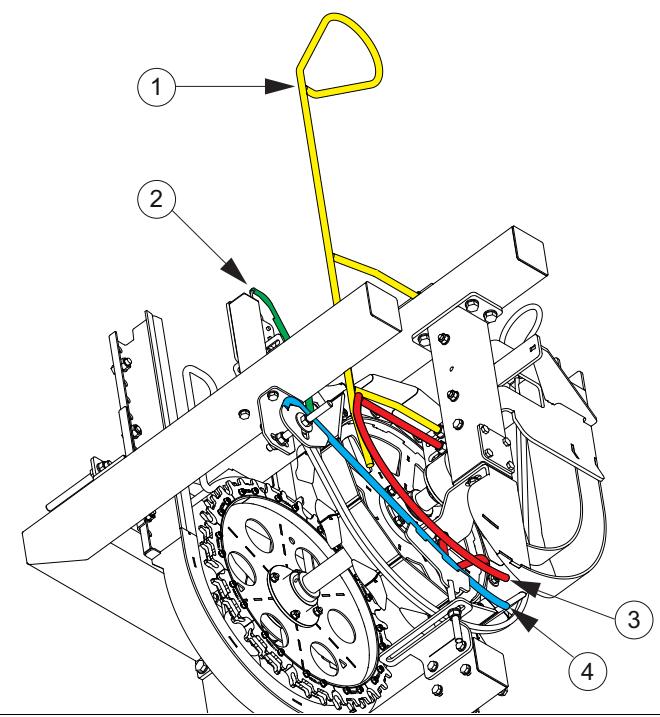


fig. 43 Guides viewed from below the machine

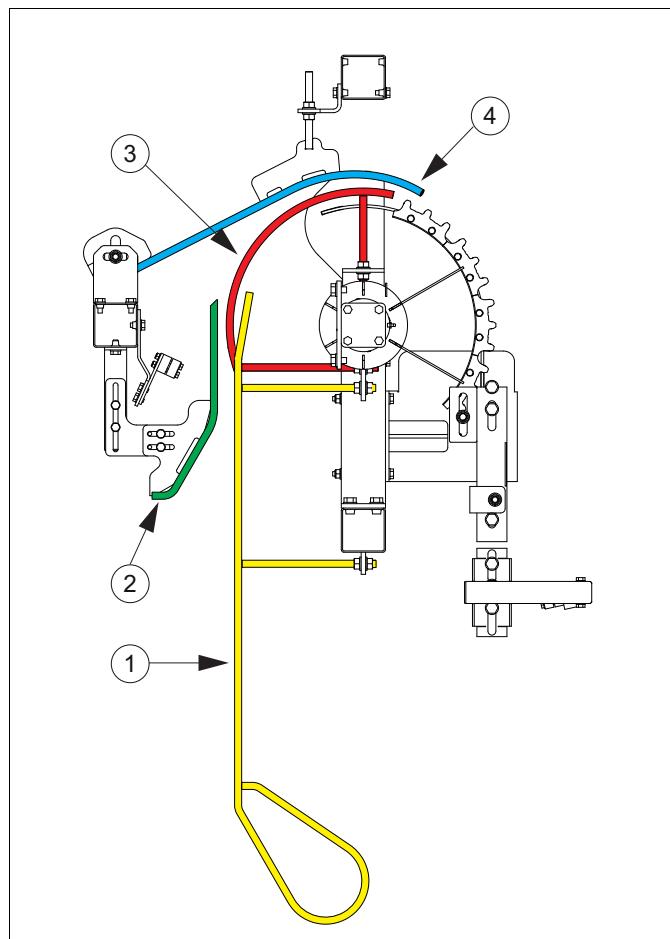


fig. 44 Guides viewed from top

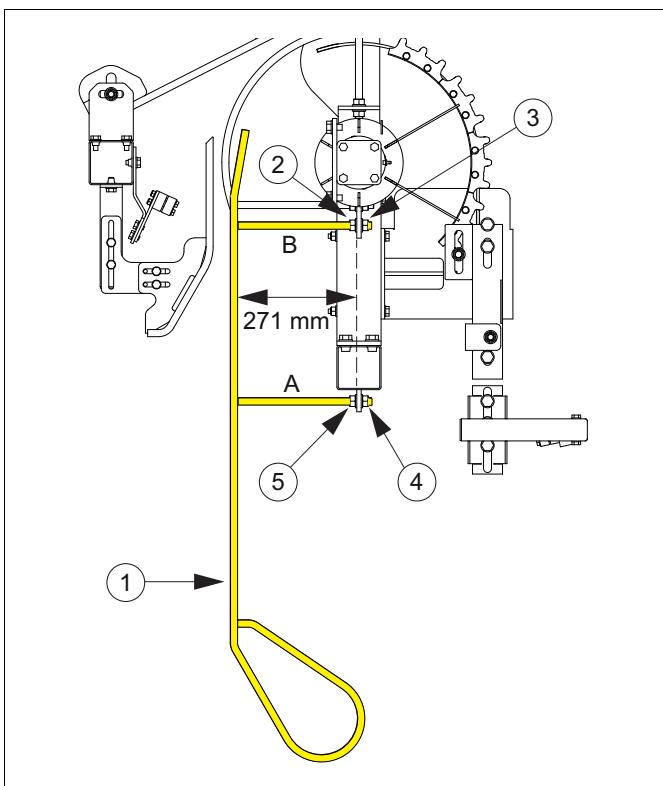


fig. 45 Adjust the incoming inside shackle guide horizontally

7.5.1 Adjust the incoming inside shackle guide

Do these steps to adjust the incoming inside shackle guide 1:

1. Loosen nuts 2 and 3.
2. Loosen nuts 4 and 5.
3. Adjust the guide bar at position **A** to 271 mm from the mounting plate to the guide bar.
4. Tighten nut 5.
5. Adjust the guide bar at position **B** to 271 mm from the mounting plate to the guide bar.
6. Tighten nut 2.
7. Adjust the guide bar at position **A** to 520 mm from the bottom of track **6** to the center of the guide bar.
8. Tighten nut 4.
9. Adjust the guide bar at position **B** to 520 mm from the bottom of track **6** to the center of the guide bar.
10. Tighten nut 2.

See fig. 45 and fig. 46.

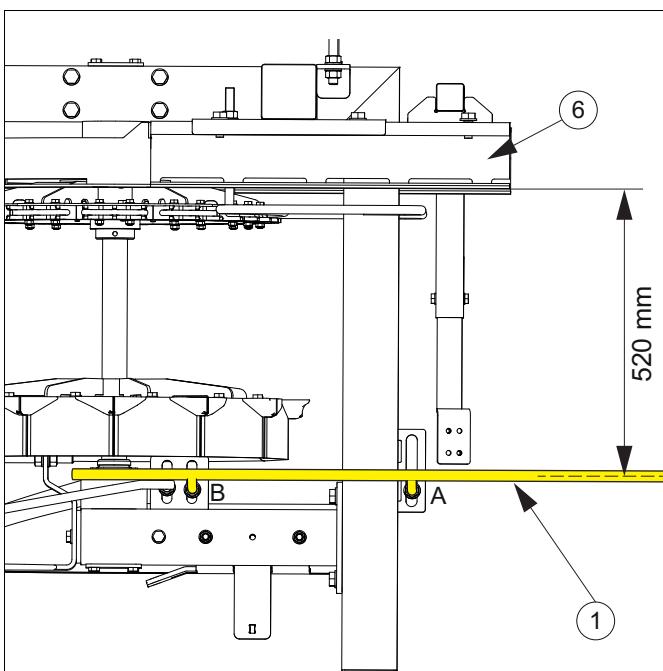


fig. 46 Adjust the incoming inside shackle guide vertically

7.5.2 Adjust the incoming outside shackle guide

Do these steps to adjust the incoming outside shackle guide **2**:

1. Loosen bolts **1**.
2. Adjust edge of slide mount 65mm from mounting plate.
3. Tighten bolts **1**.
4. Loosen bolts **3**.
5. Adjust edge of slide mount 84.5 mm to edge of slide mount bracket.
6. Tighten bolts **3**.
7. Loosen bolts **4**.
8. Adjust the distance to 598 mm from the top of the portal to the top of the mounting bracket.
9. Tighten bolts **4**.

See fig. 47 and fig. 48.

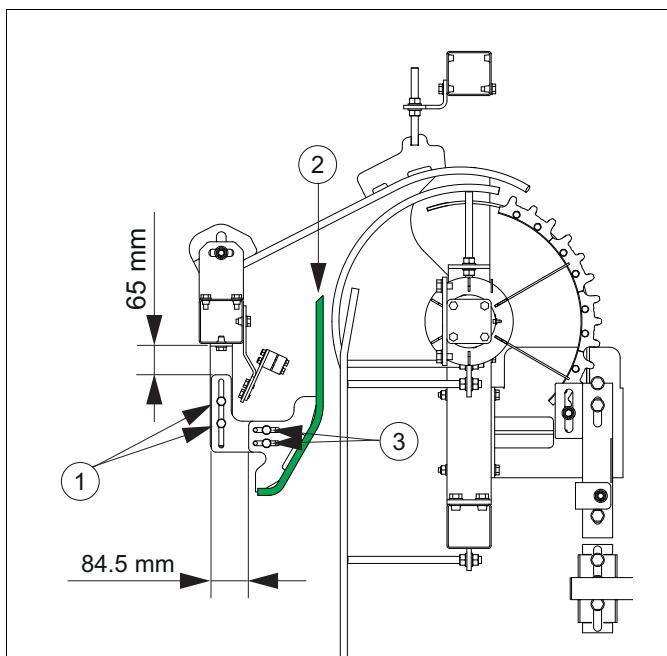


fig. 47 Adjust the incoming outside shackle guide horizontally

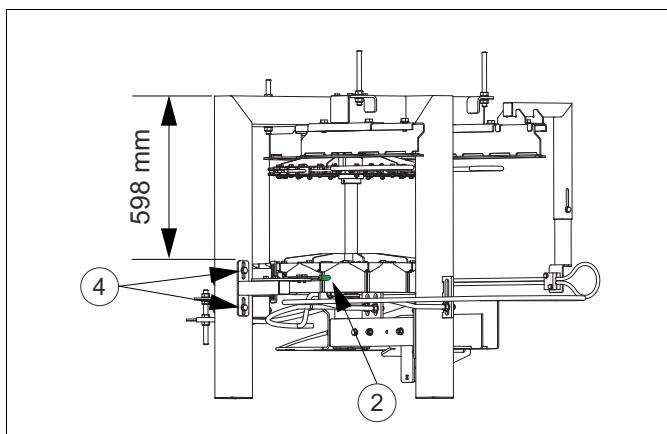


fig. 48 Adjust the incoming outside shackle guide vertically

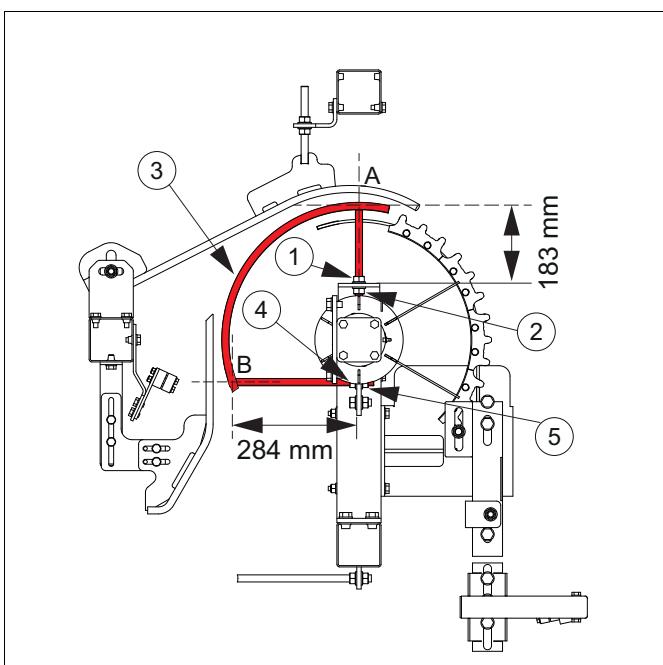


fig. 49 Adjust the unloading ramp inside shackle guide horizontally

7.5.3 Adjust the unloading ramp inside shackle guide

Do these steps to adjust the unloading ramp inside shackle guide 3:

1. Loosen nuts 1 and 2.
2. Loosen nuts 4 and 5.
3. Adjust the guide bar at position **A** to 183 mm from the mounting plate to the center of the guide bar.
4. Tighten nut 1.
5. Adjust the guide bar at position **B** to 284 mm from the mounting plate to the center of the guide bar.
6. Tighten nut 4.
7. Adjust the guide bar at position **A** to 78.5 mm from the bottom of carrier wheel 6 to the center of the guide bar.
8. Tighten nut 5.
9. Adjust the guide bar at position **B** to 114 mm from the bottom of carrier wheel 6 to the center of the guide bar.
10. Tighten nut 2.

See fig. 49 and fig. 50.

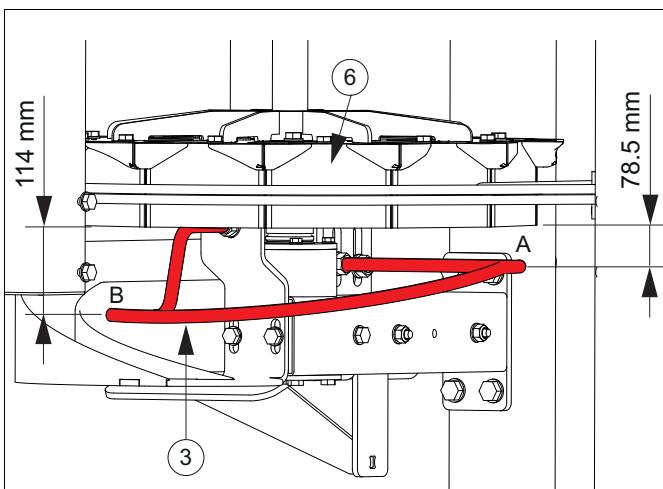


fig. 50 Adjust the unloading ramp inside shackle guide vertically

7.5.4 Adjust the unloading ramp outside shackle guide

Do these steps to adjust the unloading ramp outside shackle guide 4:

1. Loosen nuts 1 and 2.
2. Loosen nuts 5 and 6.
3. Loosen nuts 7 and 8.
4. Adjust end of support rod to 85 mm to mounting plate.
 - To lengthen the rod tighten nut 1.
 - To shorten the rod tighten nut 2.
5. Tighten the other nut (1 or 2).
6. Tighten nut 7 to mounting plate.
7. Tighten nut 8.
8. Loosen nut 2.
9. Adjust **X** = 90.5 mm from the top of the guide bar to the bottom of carrier wheel 9 and tighten nut 2.
10. Level the guide bar.
 - To raise the guide bar tighten nut 5.
 - To lower the guide bar tighten nut 6.
11. Tighten the other nut (5 or 6).

See fig. 51 and fig. 52.

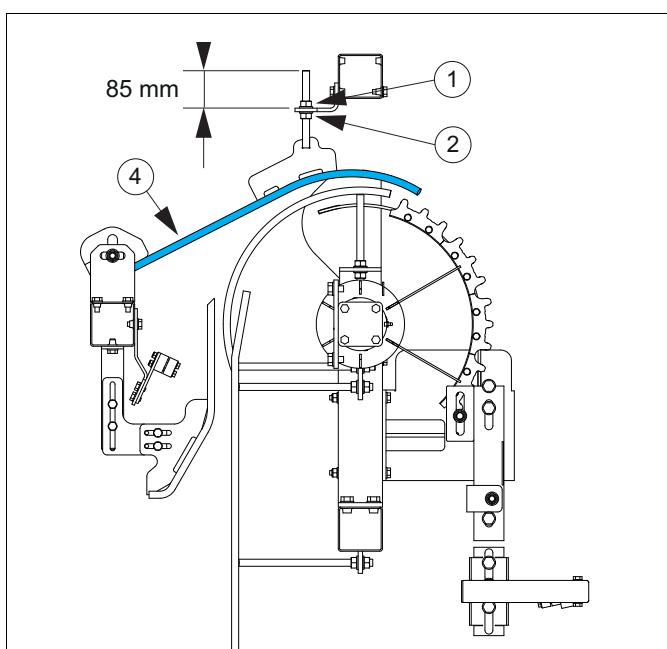


fig. 51 Adjust the unloading ramp outside shackle guide horizontally

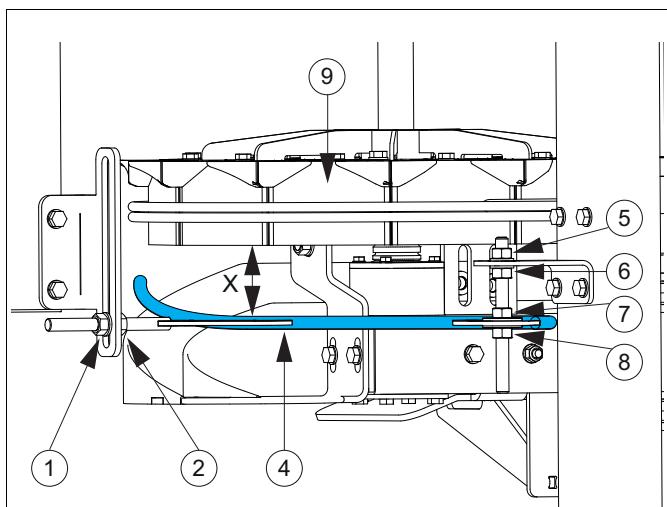


fig. 52 Adjust the unloading ramp outside shackle guide vertically

8 OPERATION

**TAKE CARE**

Make sure that the tensioning belt stays parallel to the infeed guide to prevent binding or improper shackle alignment.

**MORTAL DANGER**

Activities described in this chapter must be carried out by competent, professional and trained personnel.

**MORTAL DANGER**

It is forbidden to approach within the protected or the non-protected zone of a machine which is switched on.

**NOTE**

Before putting the machine in operation:
The machine is driven by an overhead conveyor and is switched on and off at the same time.

9 CLEANING



MORTAL DANGER
Activities described in this chapter must be carried out by competent, professional and trained personnel.



MORTAL DANGER
Activities described in this chapter must only be carried out if the power supply to the machine and/or control panel is switched off.

1. Switch off main switch(es) of the control panel(s)
or
remove all machine plugs from the wall sockets.
2. Lock the main switch(es) with a padlock.
3. Take all measures to prevent unintentional recovery of the power supply.
4. Proceed carefully during carrying out the work.



NOTE
Consult the User's Manual "Cleaning and Disinfection" (90811).



TAKE CARE
Take measures to prevent the machine from being started.

9.1 Cleaning after production

Clean the machine on a daily basis, both inside and out.
Also see the User's Manual "Cleaning and Disinfection" (90811).
See fig. 53.

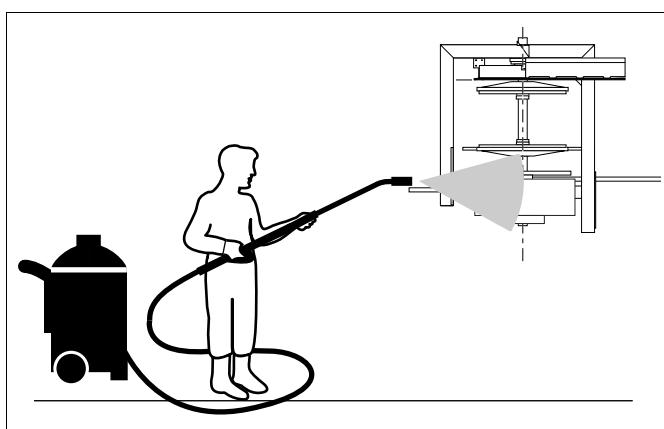


fig. 53 Clean the Unloading Station

10 MAINTENANCE



MORTAL DANGER

Activities described in this chapter must be carried out by competent, professional and trained personnel.



MORTAL DANGER

Activities described in this chapter must only be carried out if the power supply to the machine and/or control panel is switched off.

1. Switch off main switch(es) of the control panel(s)
or
remove all machine plugs from the wall sockets.
2. Lock the main switch(es) with a padlock.
3. Take all measures to prevent unintentional recovery of the power supply.
4. Proceed carefully during carrying out the work.

10.1 Maintenance schedule

The schedule includes a list of all the maintenance activities which must be carried out. Good, regular maintenance increase the life span of the machine, improves safety and decreases the chance of faults.

Cleaning	Checking	Setting or replacing	Lubrication
----------	----------	----------------------	-------------

tab. 3 Maintenance schedule

Frequency	Component	Activity	Maintenance	Para-graph
Monthly	Whole machine		Check for wear, breakage and the free running of moving parts.	-
-	Bearings		Lubrication.	10.2

10.2 Lubrication

Lubricate the following parts:

- Main shaft bearings have 2 lubrication points **L**, top and bottom.

See fig. 54.



TAKE CARE

Never mix lubricants from different manufacturers or different types.

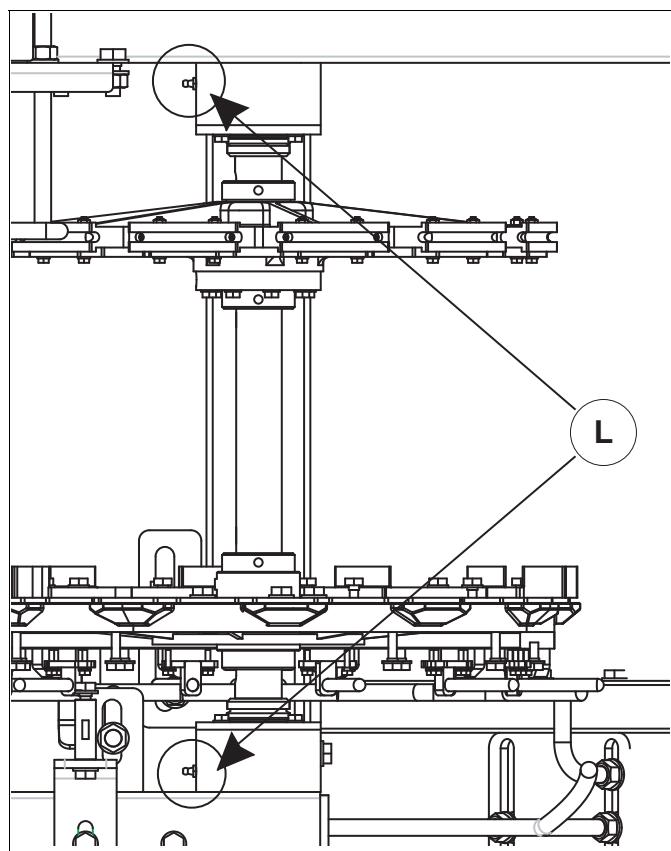


fig. 54 Lubrication of main shaft bearings

tab. 4 Lubricants

	Change every (a) [h / h / yr.]			Content [litres]				
1.	-	-	-	As required.	Carrum 330	Mobil grease FM 102	Cassida RLS 2	Cygnus grease 2

(a) First change [h=hours]/ changing interval [u=hours]/ max. change interval [yr=years]

11 TROUBLESHOOTING



MORTAL DANGER

Activities described in this chapter must be carried out by competent, professional and trained personnel.



MORTAL DANGER

Activities described in this chapter must only be carried out if the power supply to the machine and/or control panel is switched off.

1. Switch off main switch(es) of the control panel(s)
or
remove all machine plugs from the wall sockets.
2. Lock the main switch(es) with a padlock.
3. Take all measures to prevent unintentional recovery of the power supply.
4. Proceed carefully during carrying out the work.

11.1 Troubleshooting list

The following list includes the most common troubleshooting issues, their possible cause and solution. Always fix faults as quickly as possible.

tab. 5 Troubleshooting List

Trouble	Possible cause	Possible solution	Paragraph
Products are not properly unloading.	Incorrect adjustment of the shackle guides.	Adjust the shackle guides.	6.2, 7.5
	Incorrect adjustment of the carrier pins (machine with pins only).	Readjust the carrier pins.	6.5
	Bird is loaded on the wrong side of the shackle.	Employee review.	
High number of breaking shackles.	Shackle guides not aligned correctly.	Adjust the shackle guides.	6.2, 7.5

**Appendix 1: CARRIER WHEEL ASSEMBLY
WITH PINS**

See the following exploded view for more visual detail on the parts of the carrier wheel assembly. Use your spare parts list if parts need to be ordered

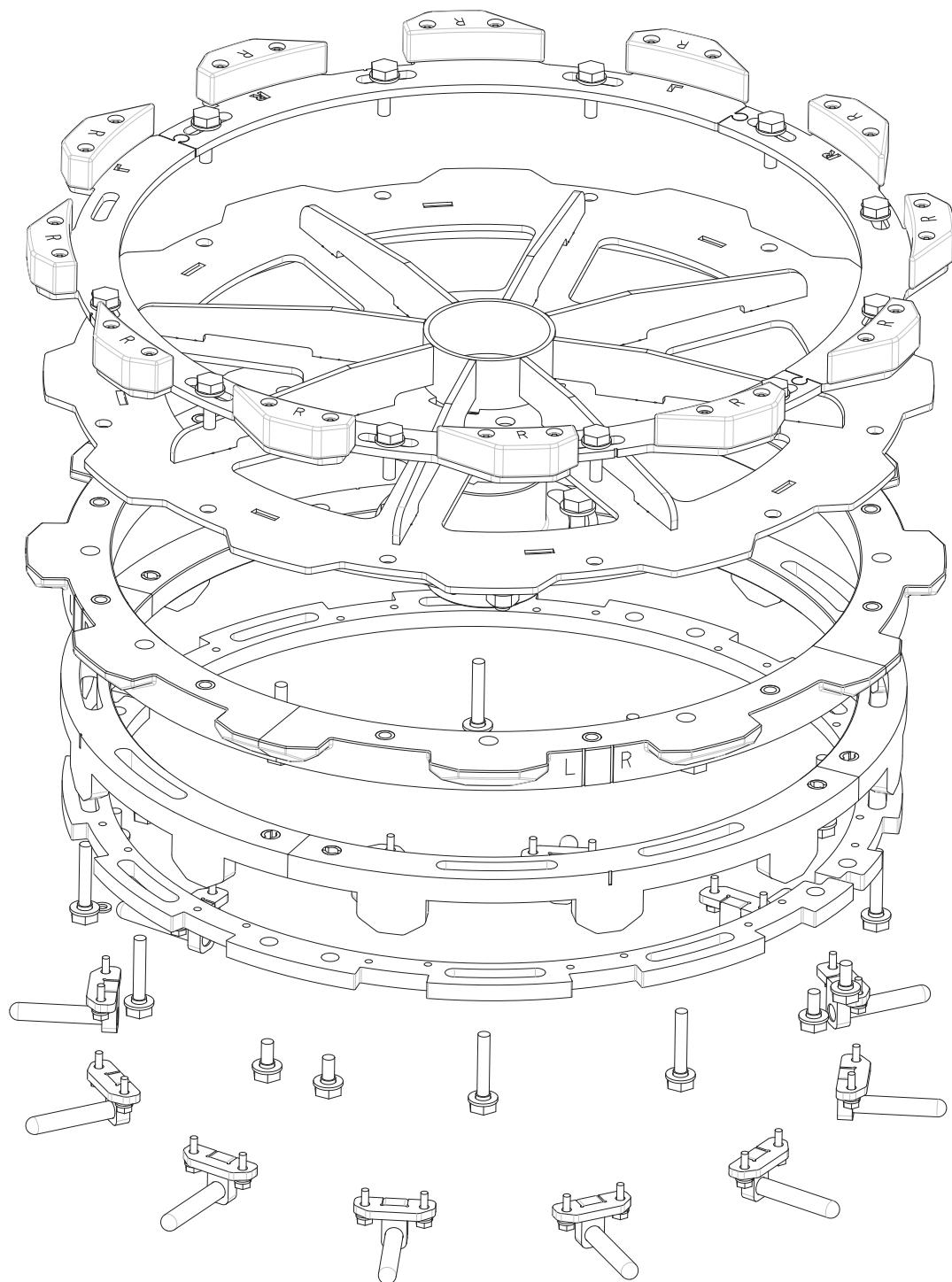


fig. 55 Carrier Wheel Assembly, exploded (complete)

Appendix 2: LOGBOOK

You can use the logbook to maintain a record of production, maintenance, cleaning, checks, faults, repairs, overhauls, modifications and other measures.

Appendix 3: SETTINGS

Note here the settings for the components for various products.