USER'S MANUAL

Transfer system

Transfer System TRDE-F5 (1:1 & 1:2)

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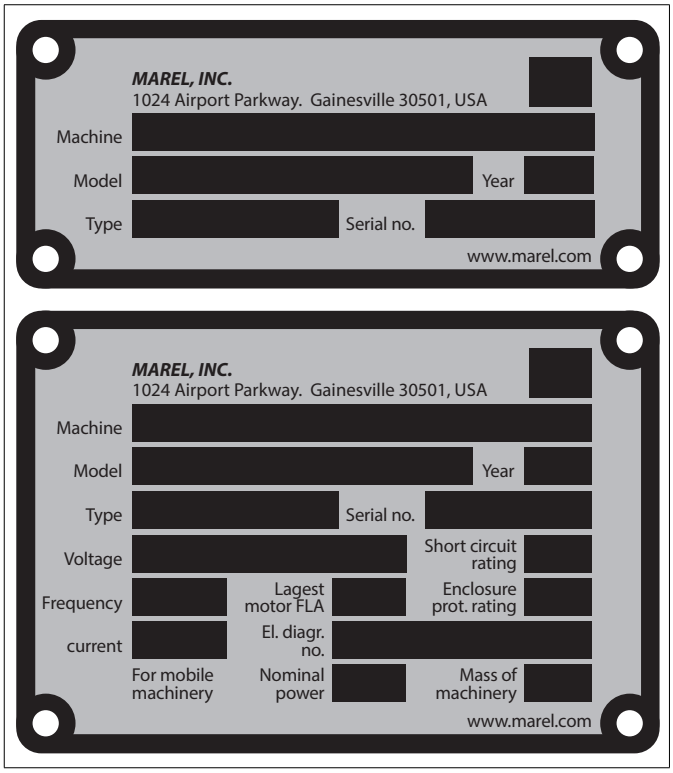


fig. 1 Example machine plate

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

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 aquainted 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 / Machinecode
- Serial nr. (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, switch box and/or product and give you tips.
They have been subdivided and displayed as follows:

MORTAL DANGER
The user's life is directly threatened.

WARNING
The user can be (seriously) injured or seriously damage the machine.
The pictograph 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 / 17-08-2008

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

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 CE-statement), 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 from 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.

Danger of personal injury caused by sharp objects.

Danger of personal injury caused by rotating parts.

Danger of personal injury caused by seizure.

Danger of personal injury caused by electrical power.

Danger of personal injury caused by high temperatures.

Danger of hearing impairment by noise pollution.

Approaching danger zone.

Danger of personal injury caused by inhaling dangerous gases.

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 Pictographs

The adjacent pictographs 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 impairments caused by excessive noise levels, the legal standards and regulations for noise pollution must be observed at all times. If necessary, measures must be taken.

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
Transport must be carried out by competent, professional and trained personnel.

3.1 Transport and storage

- During transport of the machine 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 Implementation

The transfer system TRDE-F5 rehangs the products from the killing line into the eviscerating line. The hocks are cut off during rehanging.

This User´s Manual describes the following models:
- TRDE-F5 (1:1)
- TRDE

> NOTE
> The machine model is shown on the machine plate.

-F5 (1:2)
- TRDE-F5 stands for TRansfer Defeathering (Picking) Eviscerating.
  Transfer = to rehang
  Defeathering = picking line
  Eviscerating = eviscerating line
- "(1:1)" Indicates that products are rehung from one picking line into one eviscerating line
- "(1:2)" Indicates that products are rehung from one picking line into two eviscerating lines, which uses two transfer systems.

> NOTE
> When the model is not mentioned separately, the information for all models applies.

The transfer system is available in a:
- right-hand execution **R**.
- left-hand execution **L**.

See fig. 2.

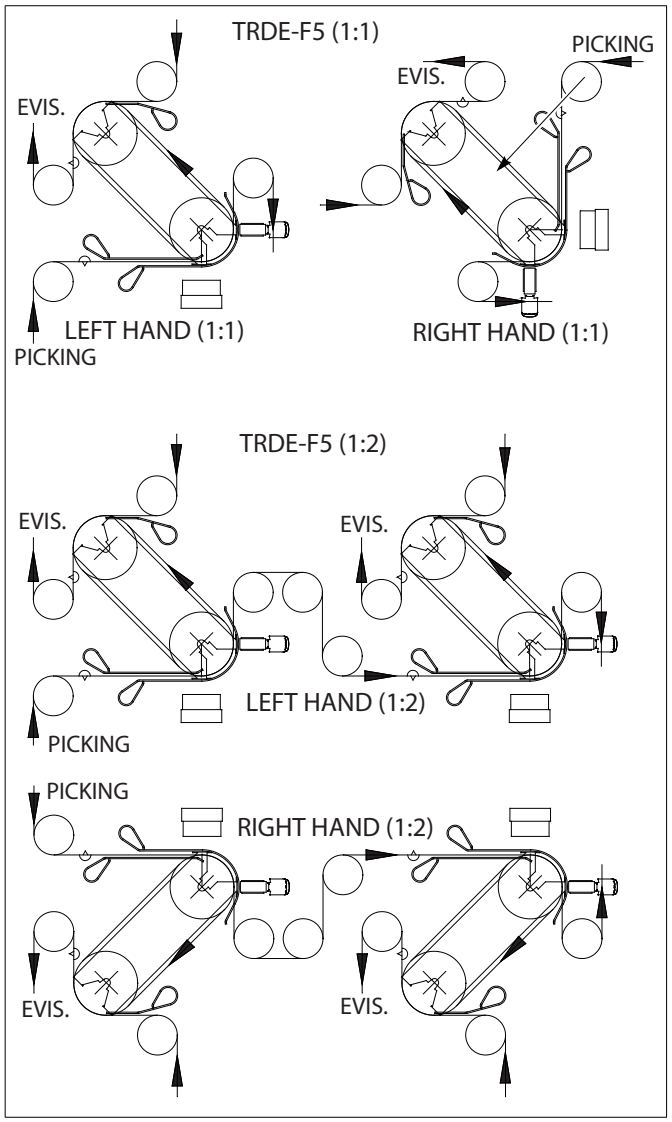
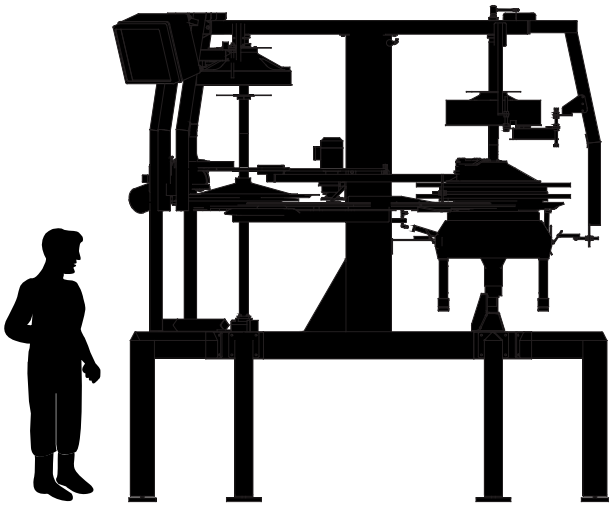


fig. 2 Schematic drawing



4.2 Names used

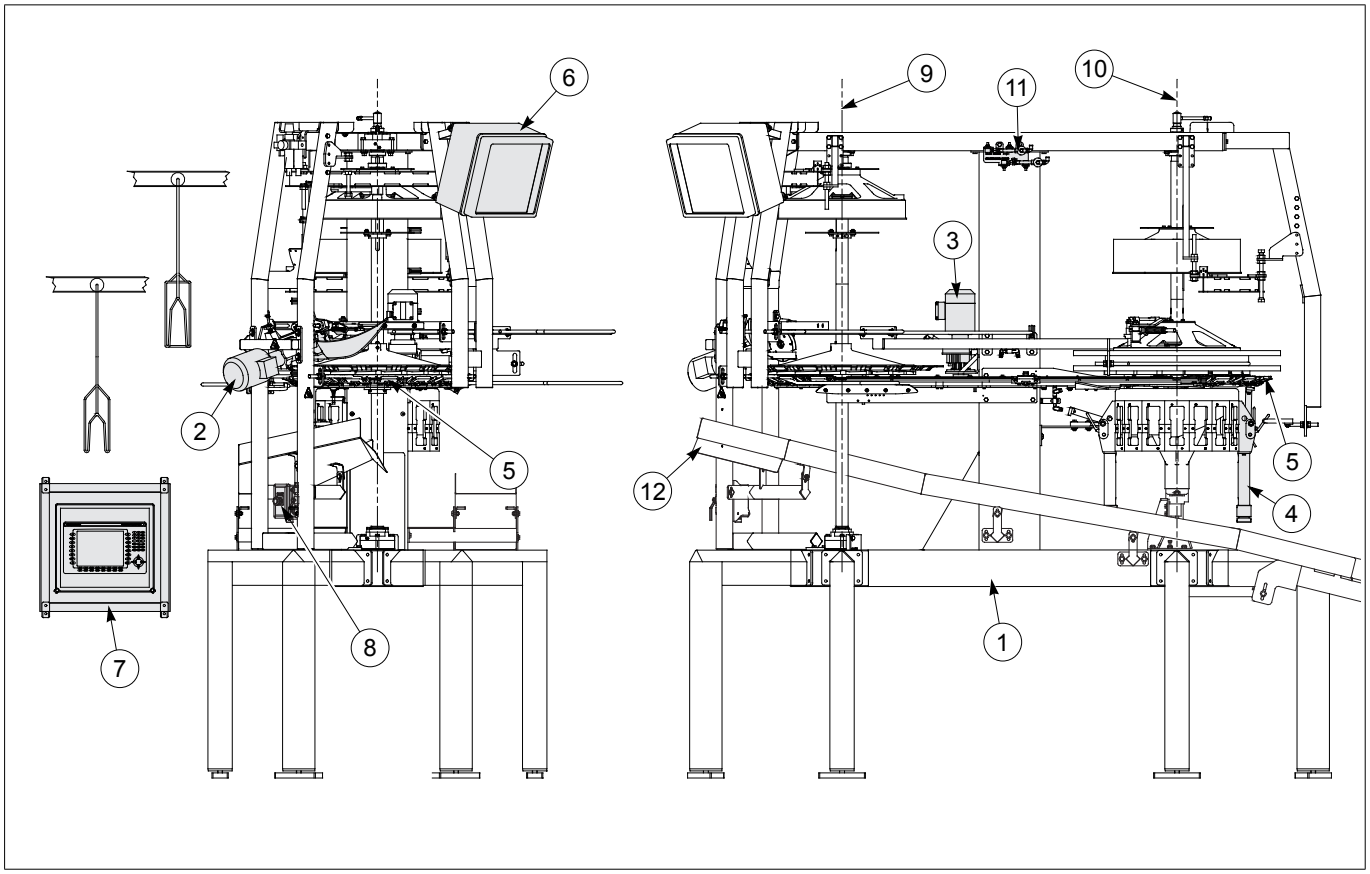


fig. 3 Names used

1. Frame
2. Final Hock cutter motor
3. Chain drive motor
4. Transfer unit (16X)
5. Product carrier
6. Pneumatic & sensor junction box
7. Remote operator panel
8. Emergency stop
9. Picking mainshaft
10. Eviscerating mainshaft
11. Water Solenoids
12. Chute

See fig. 3.

4.3 Process description

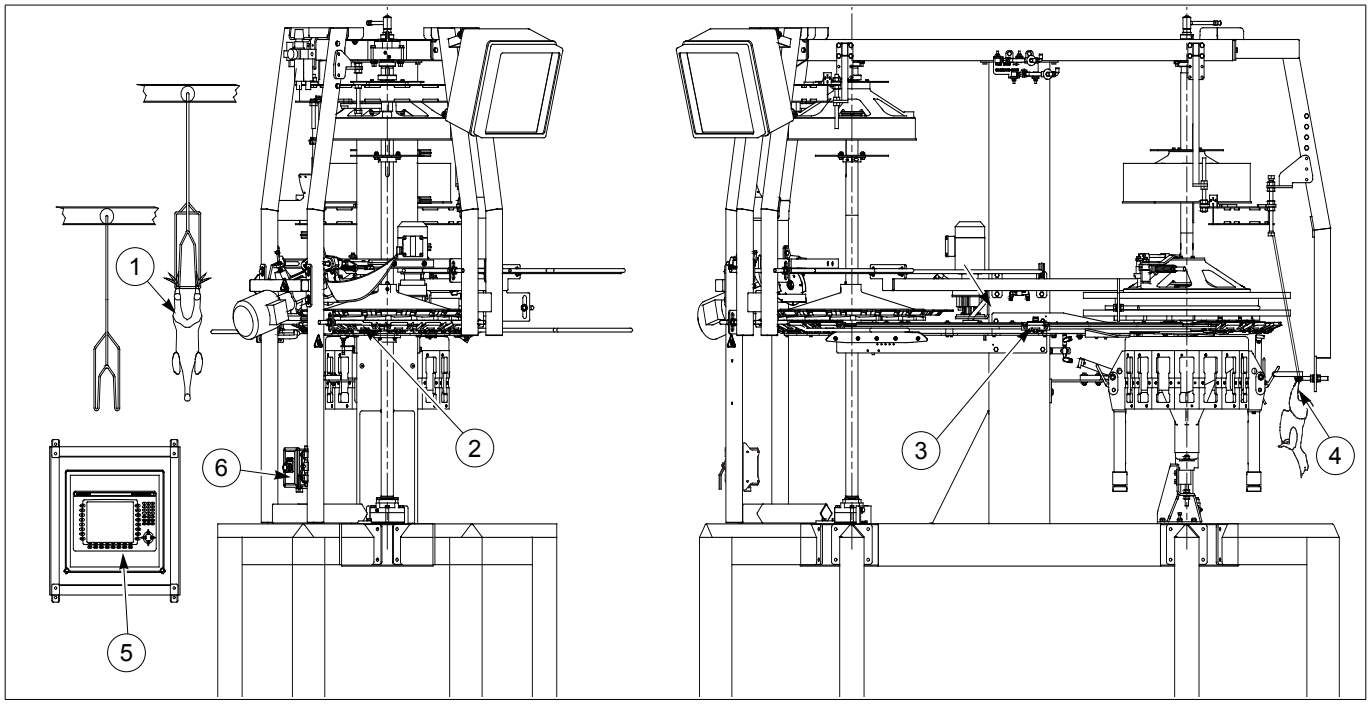


fig. 4 Process description

The bird enters the picking line end of the rehanger with pre-cut hocks, attached by just a few tendons **1**.

The tendons are severed by the hock cutter blade, releasing the bird into the product carrier **2**.

The product carrier transports the bird from the picking end to the evisceration line end of the machine **3**.

A transfer unit then places the birds into eviscerating shackles **4**.

If the evisceration line is stopped, the picking line will still be able to run, and birds will be dropped off onto a rehang conveyor (not shown) for manual rehanging.

A remote operator's panel **5**, supplied by the manufacturer and mounted near the TRDE-F5, allows one to engage or disengage the machine from the picking and eviscerating lines. The current operating mode of the TRDE-F5 is displayed on the panel while the TRDE-F5 is in operation. The operator's panel also has built-in diagnostics to help identify any problem which might come up. An emergency stop **6** is mounted in an easily accessible location.
See fig. 4

4.4 Safety provisions

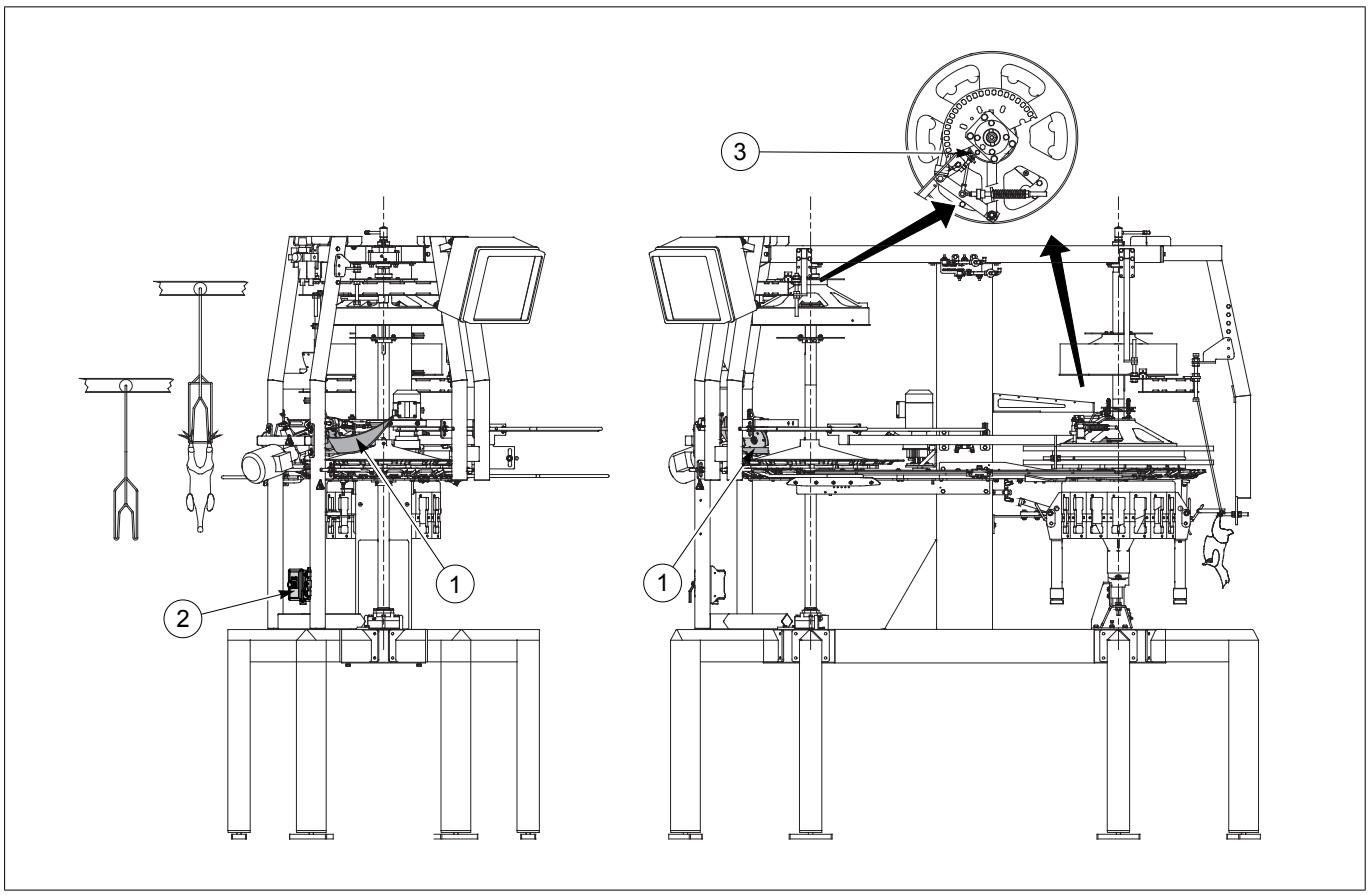


fig. 5 Safety provisions

The machine may have been installed within a safety fence and has the following safety provisions:

MORTAL DANGER
Never remove, bridge or block safety provisions.

Guard **1** around the hock cutter blade.
- Emergency-stop button **2** and/or emergency-stop cord, within range.

Torque limiter proximity switches **3** on picking mainshaft.

See fig. 5.

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.**

On the machine you can see safety signs as indicated in fig. 6.

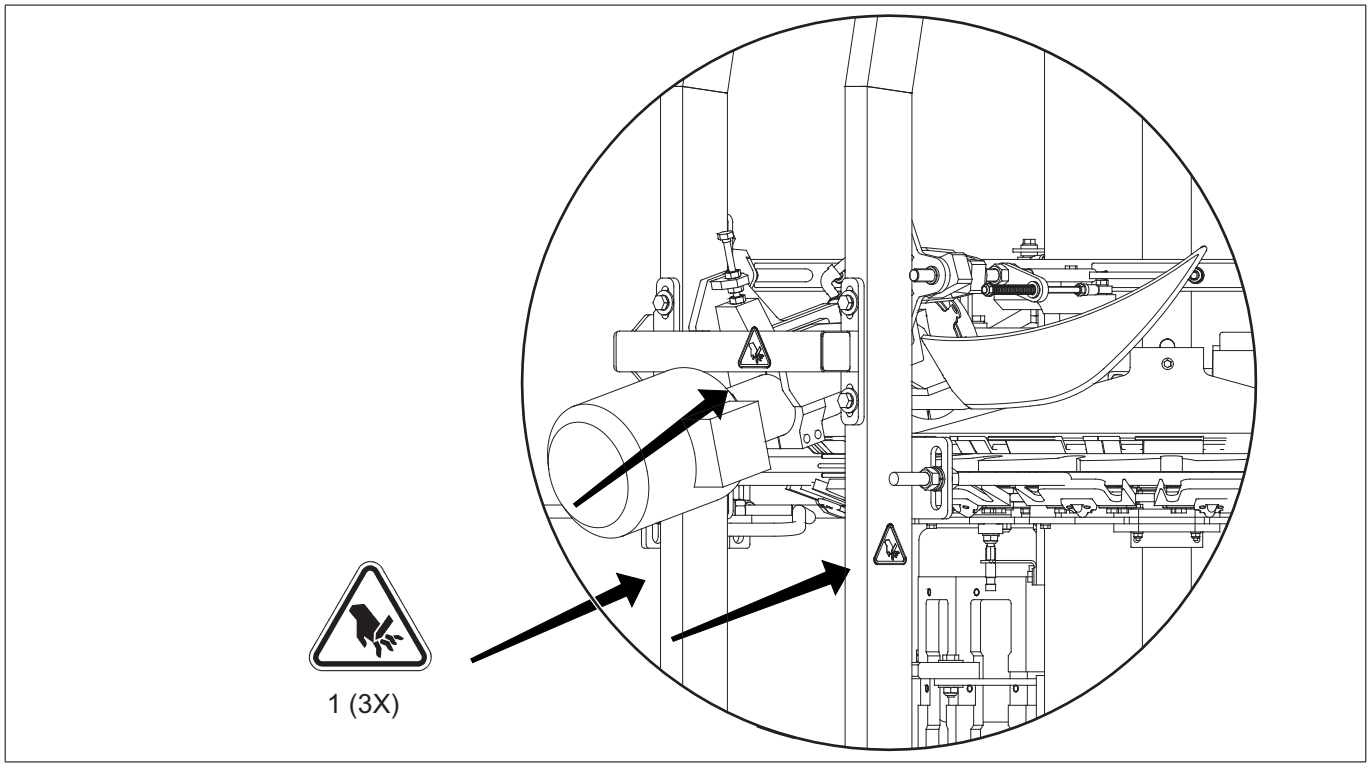


fig. 6 Safety signs

See 2.2 Pictographs for an explanation of the pictographs.

WARNING
Regularly check the safety labels for:
- **Presence**
- **Damage**
- **Recognisability**

If necessary, immediately apply new safety labels.
See the User's Manual "Safety labels" (90840).

Product specifications
With standard use of the machine, the following specifications apply:

Products	Performance range	Max. weight range within a flock
Broilers / layers B2718 / B2719	800 - 3500 gr [1.8 - 7.7 lb] LW	± 500 gr
Broilers / layers B2728 / B2729	3400 - 4300 gr [7.5 - 9.5 lb] LW	± 500 gr

- Breast must face machine center.
- Both legs must be properly hung in one shackle with feet down in stirrups.
- For smooth operation, all shackles must be loaded.
- TRDE-F5 will only work using picking shackles connected with pull chains, or some other type of flexible shackle connection.
- The ambient temperature should be between 45°F and 70°F.

4.5 Machine specifications

Technical details of the machine such as consumption, connection sizes, prints and dimensions are specified in the “Technical Data”.

With standard use of the machine the following specifications apply:

Machine capacity
B2718 Max. 8500 products/hour **(1:1)** 6” pitch
B2719 Max. 12000 products/hour **(1:2)** (max. capacity eviscerating line 8500 products/hr) 6” pitch
B2728 Max. 8500 products/hour **(1:1)** (8” pitch)
B2729 Max. 8500 products/hour **(1:2)** (8” pitch)

5 SET-UP

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 Set-up

The machine must be installed according to the layout drawings provided.
Also consult the "Technical Data".

Install the machine as follows:
1. Move the packed-up machine with a fork-lift truck or pallet carrier to the reserved position.
2. Remove the packing from the machine.
3. Lift the machine with a hoist or fork-lift truck and remove the shipping frame.
4. Hoist the machine level and adjust the height.
5. Use feet **1** to level frame and align machine with the overhead track.
6. Attach base plates **2** to the floor.
7. Connect the machine to the overhead track.

See fig. 7.

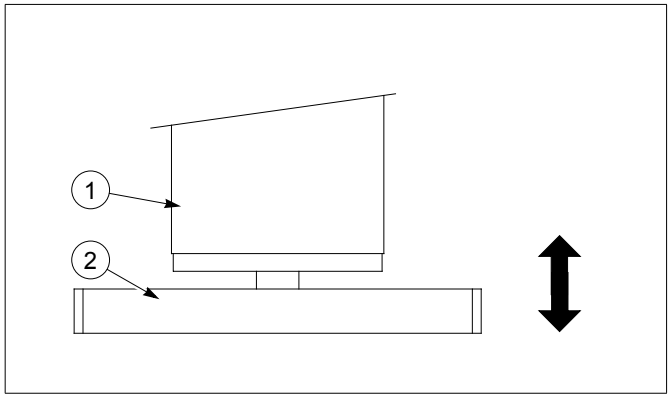


fig. 7 Set-up

Check the following:
- Ensure that the foundation is paved and level and there is enough room to move around the machine to carry out operations.
- Bear in mind the set-up conditions of the other machines.

5.2 Connections

5.2.1 Connecting electricity

MORTAL DANGER
Do the work described in this chapter only if:

1. **the power supply to the machines and/or control panels is switched off.**
2. **all the electrical plugs of the machine have been removed from the wall sockets.**
3. **all the main switches have been fitted with a padlock.**
4. **all measures have been taken to prevent that the electricity is unintendedly switched on.**

Take care when performing the work.

Before connecting, check if the power supply and frequency match the data on the type plate of the main drive. Follow local regulations when connecting the machine.

For data about the connections, see the electric circuit diagrams supplied by the manufacturer.

For connection and consumption details consult the "Technical Data".

6 SETTINGS

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 Setting chain guide

Set chain guide **1** as described below.
1. Loosen bolts **2**
2. Set distance between chain guide **1** and track support **3** to 67 mm using gauge block **4**.
3. Tighten bolts **2**. Remove block.

See fig. 8.

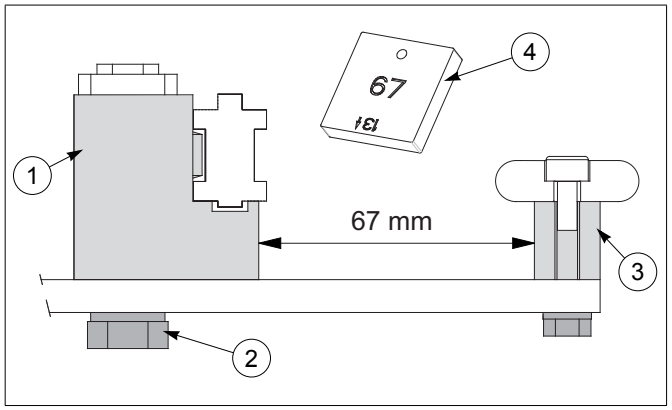


fig. 8 Chain guide

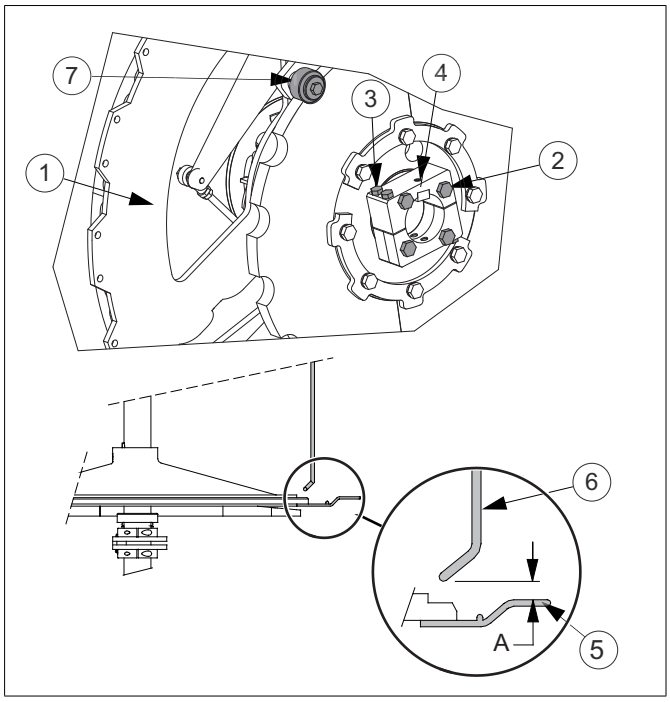


fig. 9 Shackle height

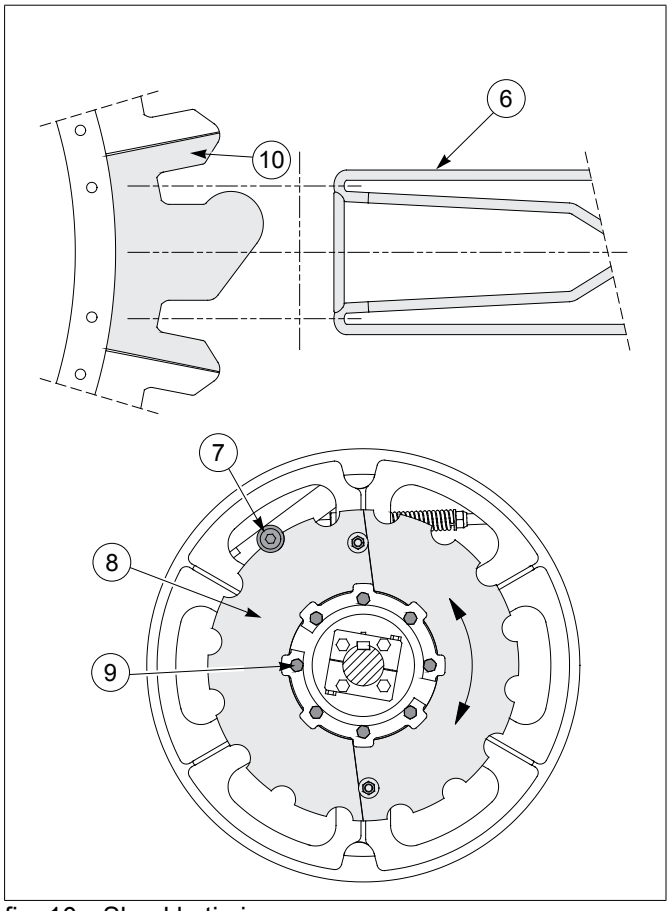


fig. 10 Shackle timing

6.2 Picking shackle height

Set picking shackle height as follows:

NOTE
Make SURE drive wheel assembly **1** is adequately supported before attempting this setting.

1. After making sure drive wheel assembly **1** is adequately supported, loosen four bolts **2**, four bolts **3** and three set screws **4**.
2. Move drive wheel assembly **1** up or down until vertical distance **A** between the top of leg loop **5** and bottom of shackle **6** is 13 mm for 6” pitch processing lines and 21 mm for 8” pitch processing lines.
3. Before removing support, tighten four bolts **3**, four bolts **2** and three set screws **4**.

See fig. 9

WARNING
Danger of injuries caused by unsupported drive wheel.

6.3 Picking shackle timing

NOTE
Make sure shackle is mounted properly on overhead chain before performing this adjustment. Also, make sure cam lever **7** is firmly engaged in drive cam **8**.

Set picking shackle timing as follows:
1. Loosen eight bolts **9**.
2. Rotate drive cam **8** until shackle **6** aligns with leg loop **10** as shown.
3. Tighten eight bolts **9**.

See fig. 10.

6.4 Proximity switch gap

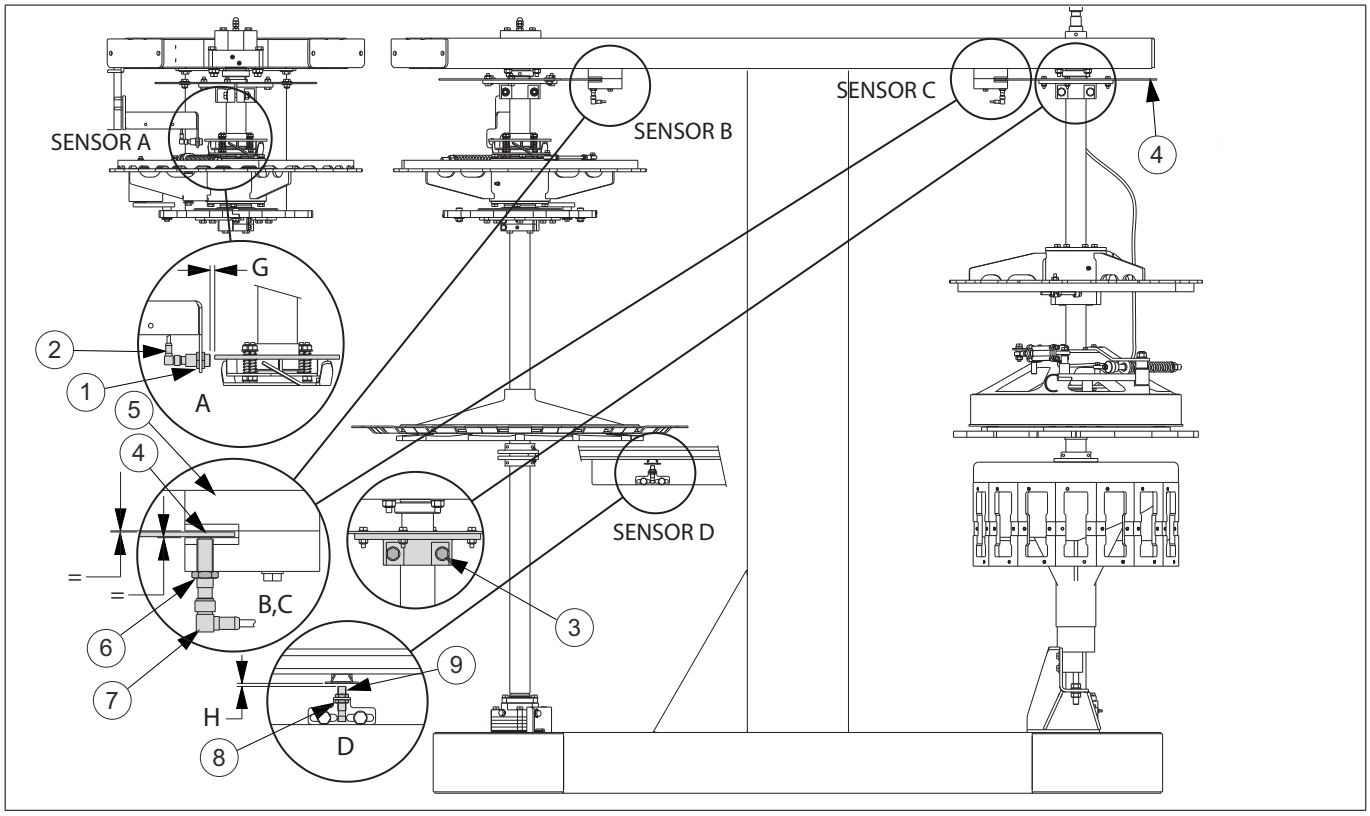


fig. 11 Proximity switch gap

Set proximity switch gaps as shown above:

1. **(Sensor A)** Loosen nuts **1** on sensor **2**.
2. Set gap **G** to 3 mm.
3. Tighten nuts **1**.
4. **(Sensors B, C)** Loosen nut **6**. Set tip of sensor **7** between 0.5 mm and no more than 1 mm below lower inside surface of block **5**.
5. Tighten nut **6**.
6. Center timing disc **4** in opening in block **5** by loosening bolts **3** and moving timing disc **4** up or down as needed.
7. Tighten bolts **3**.
8. **(Sensor D)** Loosen nuts **8**.
9. Set gap **H** for sensor **9** between 1 and 2mm.
10. Tighten nuts **8**.

See fig. 11

6.5 Picking side carrier timing

Set carrier timing as follows:

1. Make sure picking shackle timing is properly set See 6.3 Picking shackle timing.
2. Loosen eight socket head cap screws **1**.
3. Rotate carrier timing wheel **2** until carrier **3** is aligned with leg loop **4** as shown
4. Tighten eight socket head cap screws **1**.

See fig. 12.

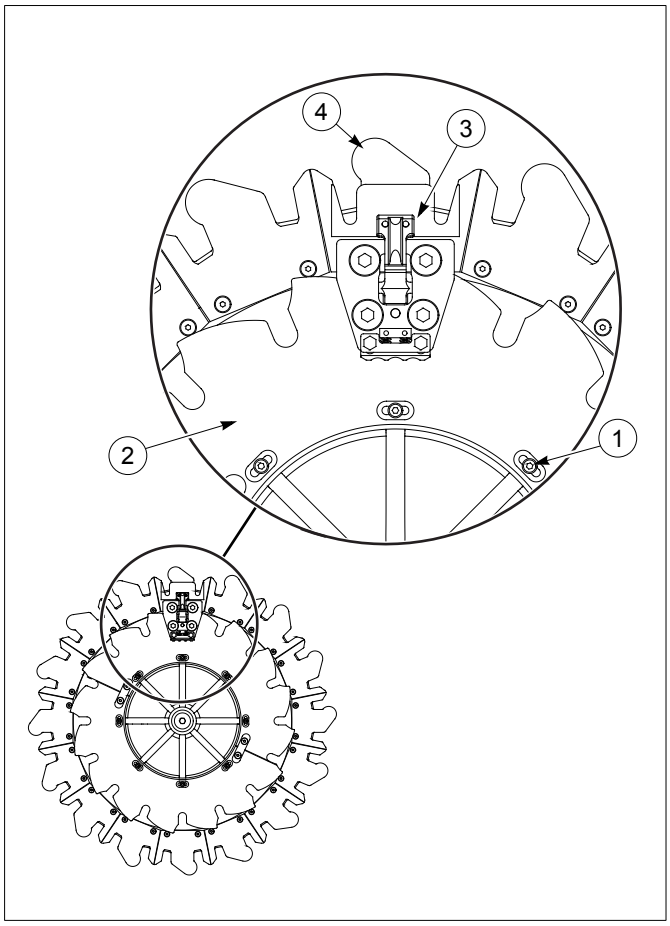


fig. 12 Picking side carrier timing

6.6 Torque arm spring

Set picking side torque arm spring **5** as follows:

1. Rotate nut **6** until dimension **A** is 135 mm.

See fig. 13.

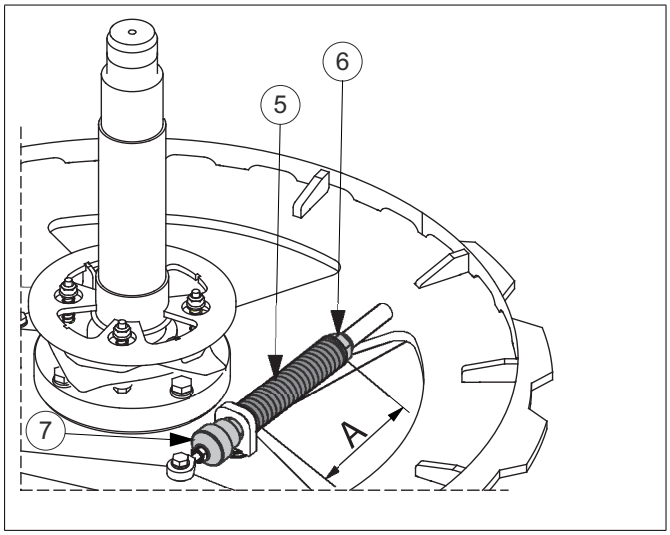


fig. 13 Picking side torque arm spring

NOTE
Never tighten spring further than 125 mm compressed length. Knurled nut **7** may be used to manually disengage the drive wheel. Simply turn knurled nut **7** away from the rod end bearing until the clutch is disengaged. To re-engage, rotate knurled nut **7** until it is near the rod end bearing.

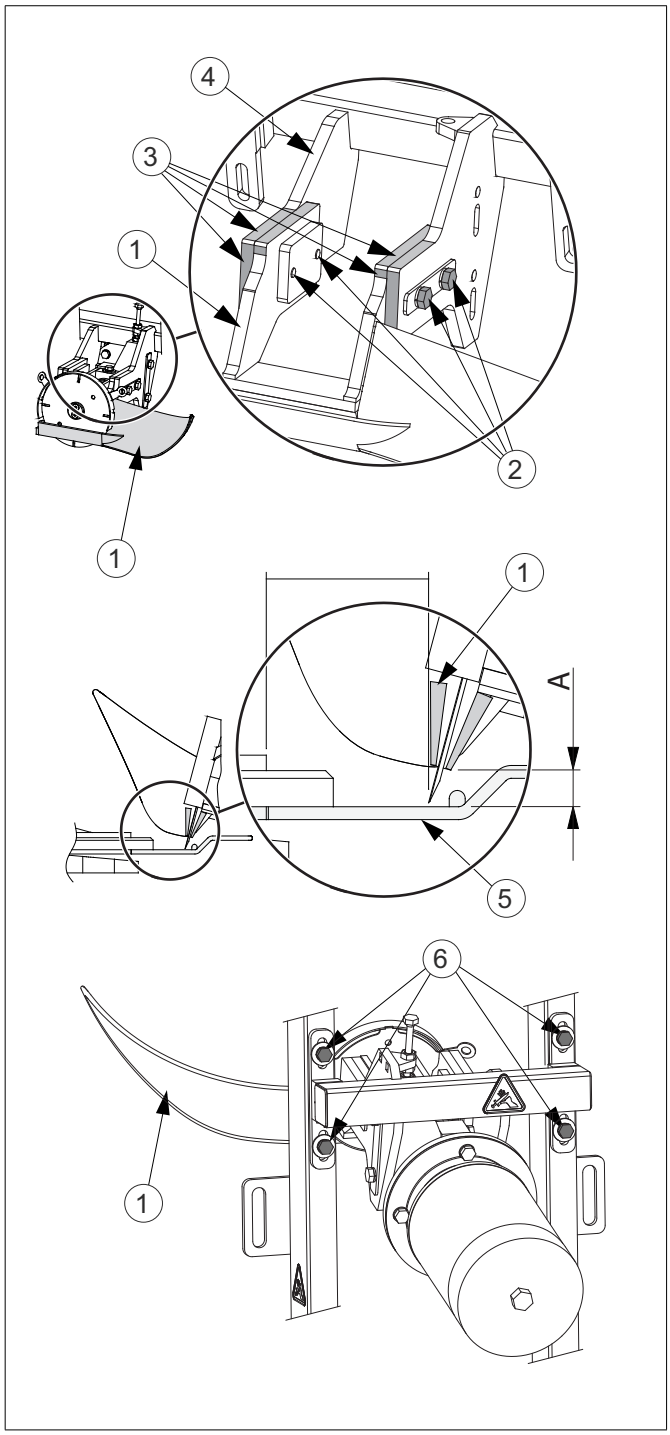


fig. 14 Separator bar

6.7 Separator bar

The separator bar **1** must be aligned as follows:

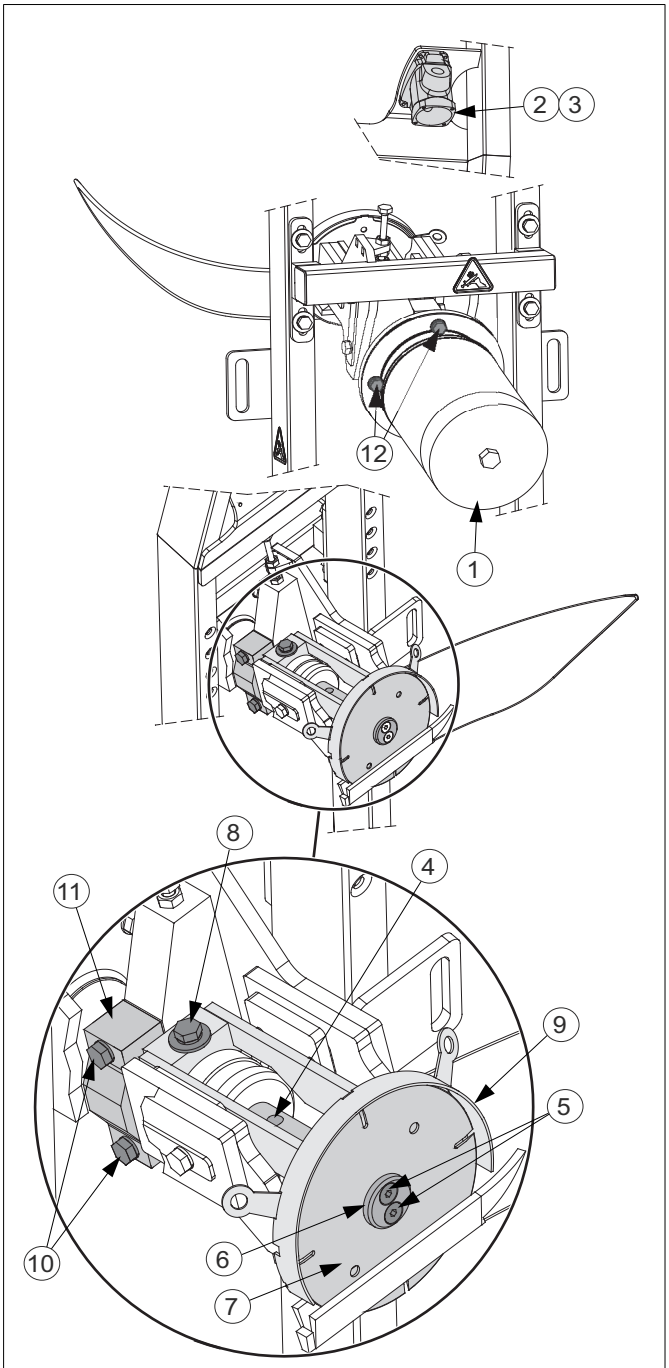
1. Loosen four bolts **2**.
2. Align indicated surfaces **3** on separator bar mount **4** and separator bar **1** until they are even with each other.

NOTE
Although some illustrations picture an installed blade, it is strongly recommended to set the separator bar first without the blade.

3. Tighten four bolts **2**.
4. Make sure dimension **A** between bottom of separator bar **1** and leg loop **5** is 13 mm for 6” pitch processing lines and 21 mm for 8” pitch processing lines.
5. If necessary, loosen four bolts **6**, and set the distance between bottom of separator bar **1** and leg loop **5** to 13 mm for 6” pitch processing lines and 21 mm for 8” pitch processing lines.
6. Tighten bolts **6**.

WARNING
Danger of injuries caused by blade.

See fig. 14.



WIRE CONNECTIONS		
MOTOR WIRE LABEL	CABLE WIRE COLOR	CONNECTOR TERMINAL NUMBER
L1	BLACK	#1 (BLACK)
L2	RED	#2 (RED)
L3	WHITE	#3 (BLUE)
G	GREEN	GROUND (GREEN)

fig. 15 Quick change motor / blade drive assembly

6.8 Quick change hock cutter motor / blade drive assembly

Blade drive assembly **1** is designed to be changed quickly, to minimize potential downtime. Two methods are available:

6.8.1 Motor / blade drive assembly:

1. Remove disconnect plug **2** from socket **3**.
2. Insert screwdriver through hole in blade shaft **4**.
3. Remove two screws **5** and blade retainer **6**.
4. Remove blade **7** and set aside in a safe place.
5. Remove blade guard bolt and washer **8**, and put blade guard **9** in a safe place.
6. While supporting motor / blade drive assembly **1**, remove two clamp bolts **10** and clamp **11**.
7. Remove existing motor / blade drive assembly **1** and replace with new unit.
8. Reinstall in reverse order of disassembly.
9. Insert quick disconnect plug **2** securely in socket **3.**
10. Ensure blade **7** rotates against product flow.

WARNING
Danger of injuries caused by blade.

NOTE
It is recommended to wire electrical connections for TRDE-F5 motors in alphabetical and numerical order (**B**lack goes to position L1, **R**ed - position L2 and **W**hite - position L3).

6.8.2 Motor Only:

If processing line may not be stopped, and blade drive assembly is intact, it is possible to replace the motor.

1. Remove electrical quick disconnect plug **2**
2. Remove four bolt, nut and washer assemblies **12** securing motor to blade drive assembly and set existing motor, nuts, washers and bolts to the side.
3. Make sure Lovejoy coupling is installed on new motor before attaching to blade drive assembly.
4. Reinstall four bolt, nut and washer assemblies **12**.
5. Insert quick disconnect plug **2** securely in socket **3**.
6. Ensure blade **7** rotates against product flow.

WARNING
Danger of injuries from falling motor if not properly supported.

See fig. 15.

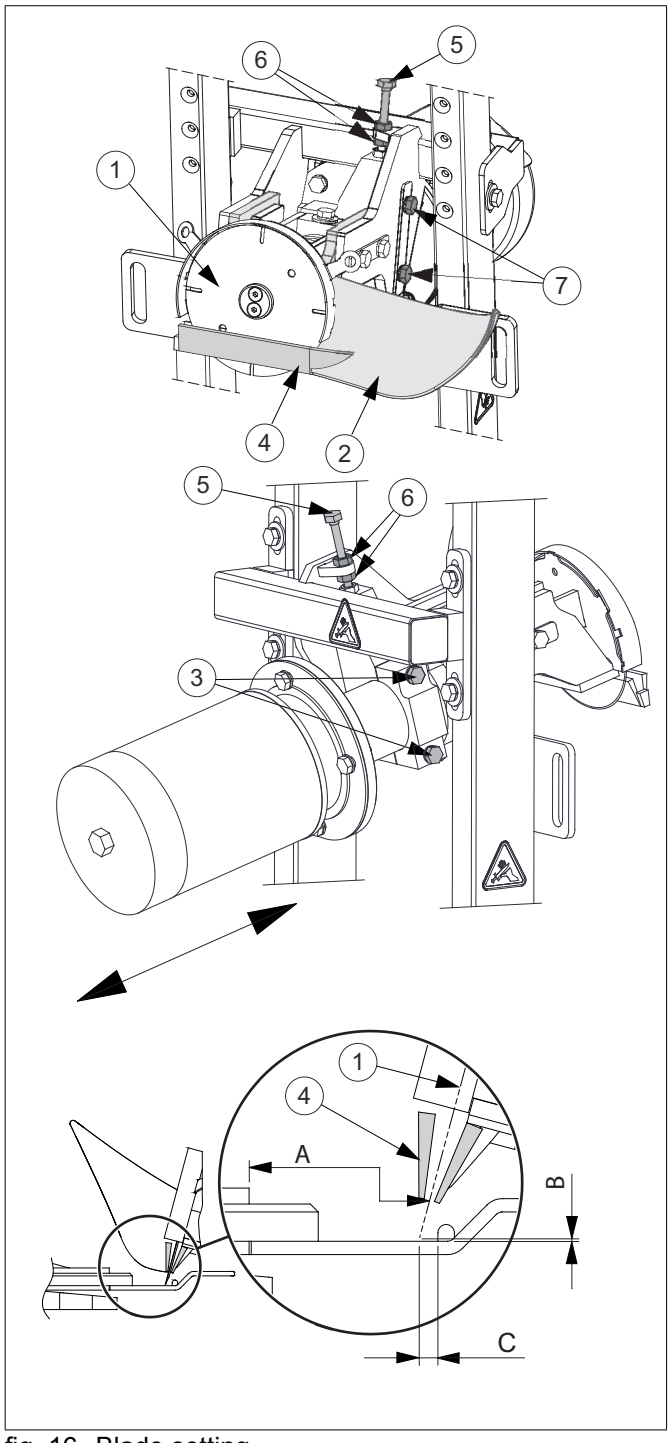


fig. 16 Blade setting

6.9 Blade adjustment

The hock cutter blade **1** must be aligned as follows:

1. To center blade **1** in the separator bar **2**, first loosen two bolts **3**.
2. Position blade / motor assembly to a point where blade is centered between the separator bar blade guards **4**.
3. Tighten two bolts **3**. Before proceeding, make sure blade does not have any contact with the separator blade guards 4.

NOTE
Do NOT attempt to rotate jack bolt **5**. Use only lock nuts **6** to set blade vertical height.

WARNING
Danger of injuries caused by blade.

4. To adjust vertical height, loosen two lock nuts **6** and two bolts **7**. Rotate lock nuts **6** until blade just clears the highest leg loop by slightly less than 0.5 mm (dimension **B**).
5. Tighten bolts **7** and lock nuts **6**. Rotate hock cutter wheel / leg loops assembly 360 degrees to ensure blade does not contact leg loops.

NOTE
When blade is properly set, the horizontal distance (dimension **A**) between the center of the separator bar and the machined face of the hock cutter wheel will be approximately 63 mm (or 2-3 mm from the tip of the blade to the hump on the leg loop - see dimension **C**).

See fig. 16.

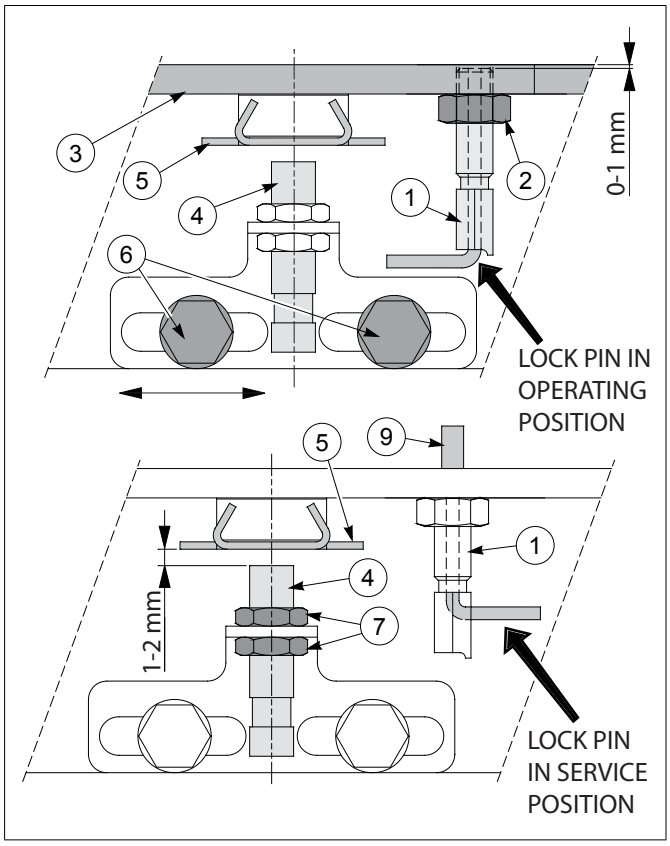


fig. 17 Chain lock pin and sensor position

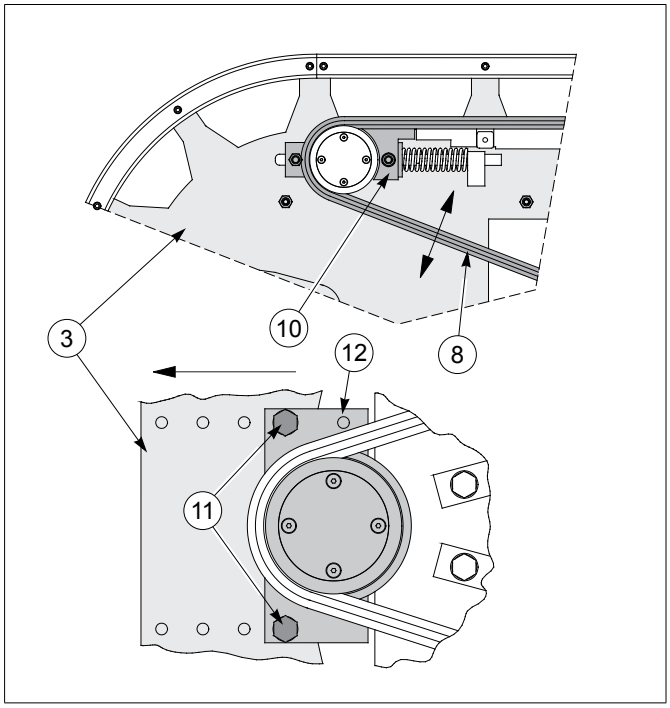


fig. 18 Chain stretch compensation

6.10 Chain lock pin

To set height of chain lock pin assembly **1**:

1. Loosen nut **2**.
2. Rotate chain lock pin assembly **1** until end of housing is 0-1 mm beneath the surface of chain mount plate **3**.
3. Tighten nut **2**.

See fig. 17.

NOTE
During operation, neither the housing or the tip of the lock pin plunger is allowed to protrude above plate.

6.11 Chain stretch sensor position air gap

During operation, the chain stretch / break sensor **4** must be able to detect sensor plate **5**.

1. Loosen bolts **6**.
2. Center chain stretch / break sensor **4** with sensor plate **5**.
3. Tighten bolts **6**.
4. Loosen nuts **7**. Set air gap between sensor **4** and sensor plate **5** to a distance of 1-2 mm.
5. Tighten nuts **7**.

See fig. 17.

6.12 Chain stretch compensation

A series of tapped holes are provided in the chain mount plate **3** to allow for normal chain stretch.

1. Set chain lock pin **1** to its service position.
2. Tug firmly on carrier drive chain **8** until you hear an audible click, which is the chain lock pin plunger **9** extending into the chain takeup assembly **10**.
3. Remove chain idler assembly bolts **11**.
4. Move chain idler assembly **12** to the next set of tapped holes and reinsert bolts **11**.
5. Tighten bolts **11**.
6. Return chain lock pin assembly **1** to its operating position.
7. If necessary, see fig. 17 to readjust chain stretch sensor position.

See fig. 17 and fig. 18.

6.13 Chain drive motor quick change

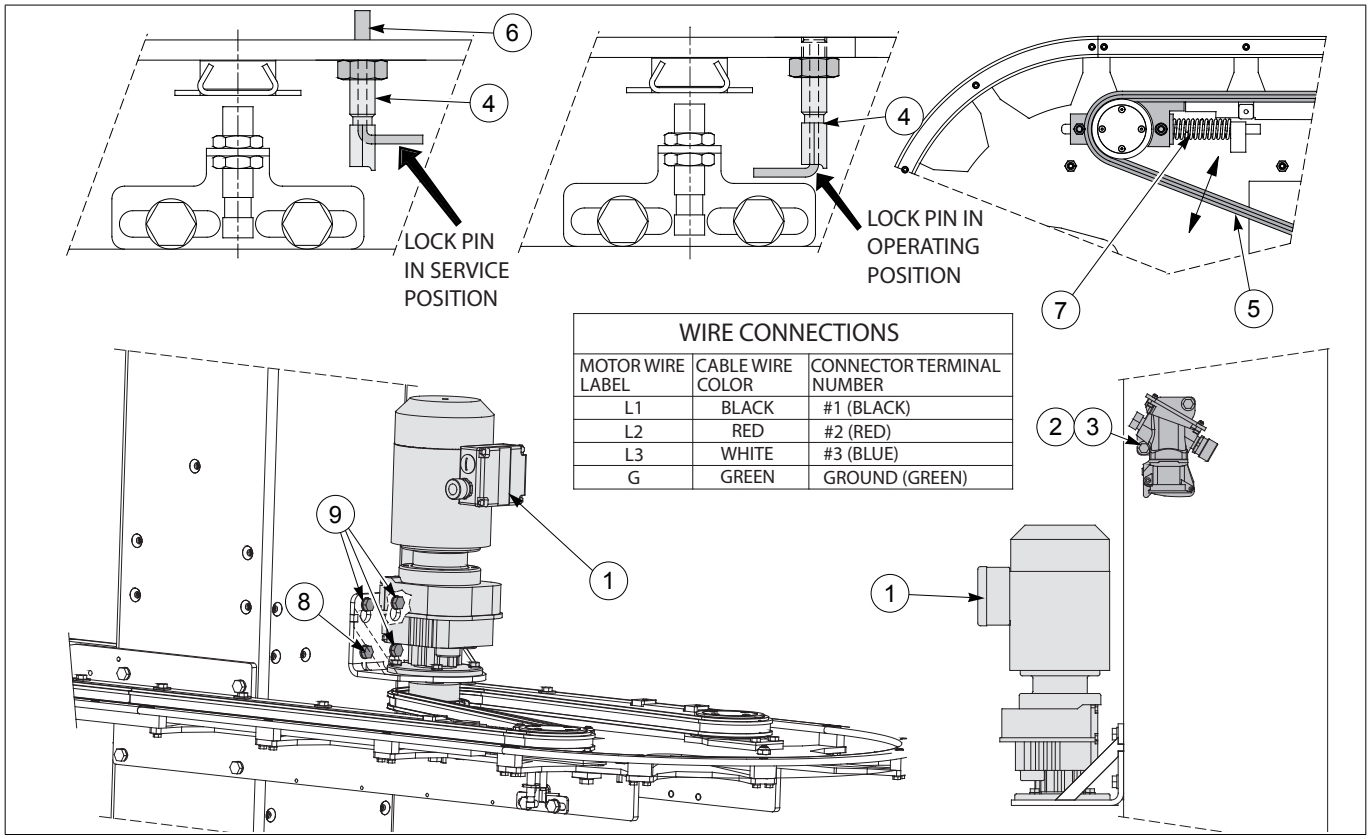


fig. 19 Chain drive motor quick change

The chain drive motor assembly **1** can be changed out quickly if a backup assembly is available. See fig. 19

NOTE
Lift motor straight up to remove. Note location of chain drive motor mounting bolts (**8**, **9**) on mount plate before changing out motor. Make sure the chain is positioned correctly on all idlers and drive sprocket.

1. Remove quick disconnect plug **2** from socket **3**.
2. Set chain lock pin **4** to its service position.
3. Tug firmly on carrier drive chain **5** until you hear an audible click, which is the chain lock pin plunger **6** extending into the chain takeup assembly **7**.
4. Remove bolt **8**.
5. Loosen three remaining bolts **9**.
6. Remove motor and replace with backup unit.
7. Reinstall in reverse order of disassembly.
8. Return chain lock pin **4** to its operating position.

WARNING
Danger of injuries from falling motor.

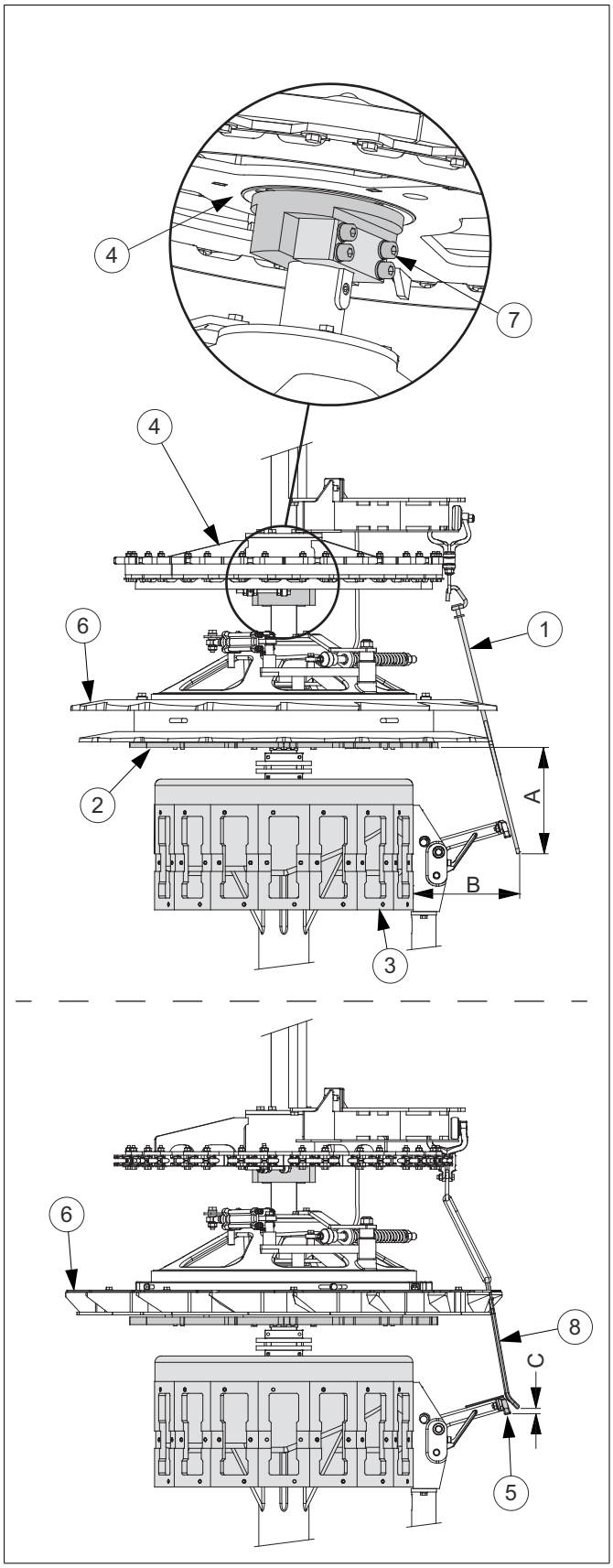


fig. 20 Evis shackle height (one or two-piece shackle)

6.14 Evisceration shackle height

For proper operation, the tip of a rigid eviscerating shackle **1** must be located 248 mm vertically (dimension **A**) below the bottom surface of the carrier timing wheel **2** and 248 mm horizontally (dimension **B**) from the surface of cam drum **3**. The tip of a two-piece shackle **8** is located approximately 13 mm (dimension C) above the bottom tip of the kicker arm plate **5**.

NOTE
Make SURE drive wheel assembly **4** is adequately supported before attempting this setting.

1. After making sure drive wheel assembly **4** is adequately supported, loosen drive wheel assembly height adjustment bolts **7**.

WARNING
Danger of injuries from falling drive wheel.

2. Raise or lower drive wheel assembly **4** until vertical distance (dimension **A**) from the bottom surface of the carrier timing wheel **2** to the tip of a rigid eviscerating shackle **1** is 248 mm. For a two-piece shackle, raise or lower drive wheel until dimension **C** is approximately 13 mm above bottom tip of **5**.
3. Make sure tip of eviscerating shackle **1** is located 248 mm horizontally from face of cam drum **3**.

NOTE
Dimension **B** can be changed slightly by moving shackle timing wheel **6**. However, the shackle timing wheel is set at the factory and should not need to be changed. Contact the manufacturer if shackle timing wheel needs to be set or refer to instructions in 6.17 Evisceration shackle timing.

Also, make sure rigid or two-piece shackles (**1** or **8**) are aligned properly by making sure stem of shackle (**1** or **8**) is seated in the shackle timing wheel **6** and also hanging vertically. If not, shackle timing wheel **6** will have to be moved. This is a factory setting and should not need to be changed. Contact the manufacturer if the shackle timing wheel **6** needs to be set or refer to instructions in 6.17 Evisceration shackle timing.

See fig. 20.

6.15 Evisceration side carrier timing

Align carrier **1** with the transfer unit **2** as shown:

NOTE
Make sure shackle is mounted properly on overhead chain before performing this adjustment. Also, make sure cam lever **3** is firmly engaged in drive cam **4**.

1. Loosen eight bolts **5**.
2. Rotate carrier timing wheel **6** until transfer unit **2** aligns with carrier **1** as shown.
3. Tighten eight bolts **5**.
4. Eviscerating shackle **7** must align with carrier and transfer unit as shown. If shackle is not aligned properly, contact the manufacturer.

See fig. 21.

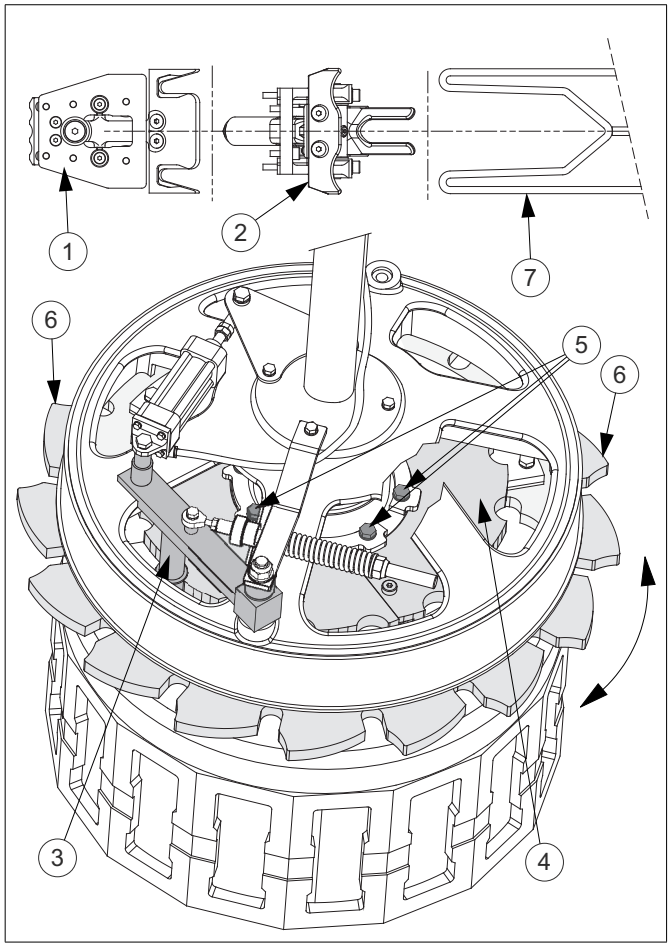


fig. 21 Evis side carrier timing

WARNING
Danger of injuries caused by rotating parts.

The transfer unit is under extreme pressure in the loaded position.

6.16 Guide brace

Guide brace **8** sets breast trigger **9** to allow proper product loading.

1. Loosen bolts **10** and **11**.
2. Set guide brace **8** to allow transfer unit breast trigger **9** to move freely at point A and be completely depressed at point B.
3. Tighten bolts **10** and **11**.

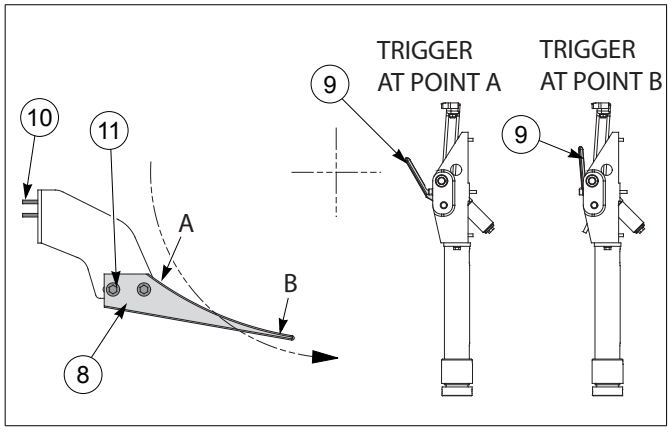


fig. 22 Setting guide brace

WARNING
The transfer unit is under extreme pressure in the loaded position.

Danger of injuries caused by transfer unit.

See fig. 22.

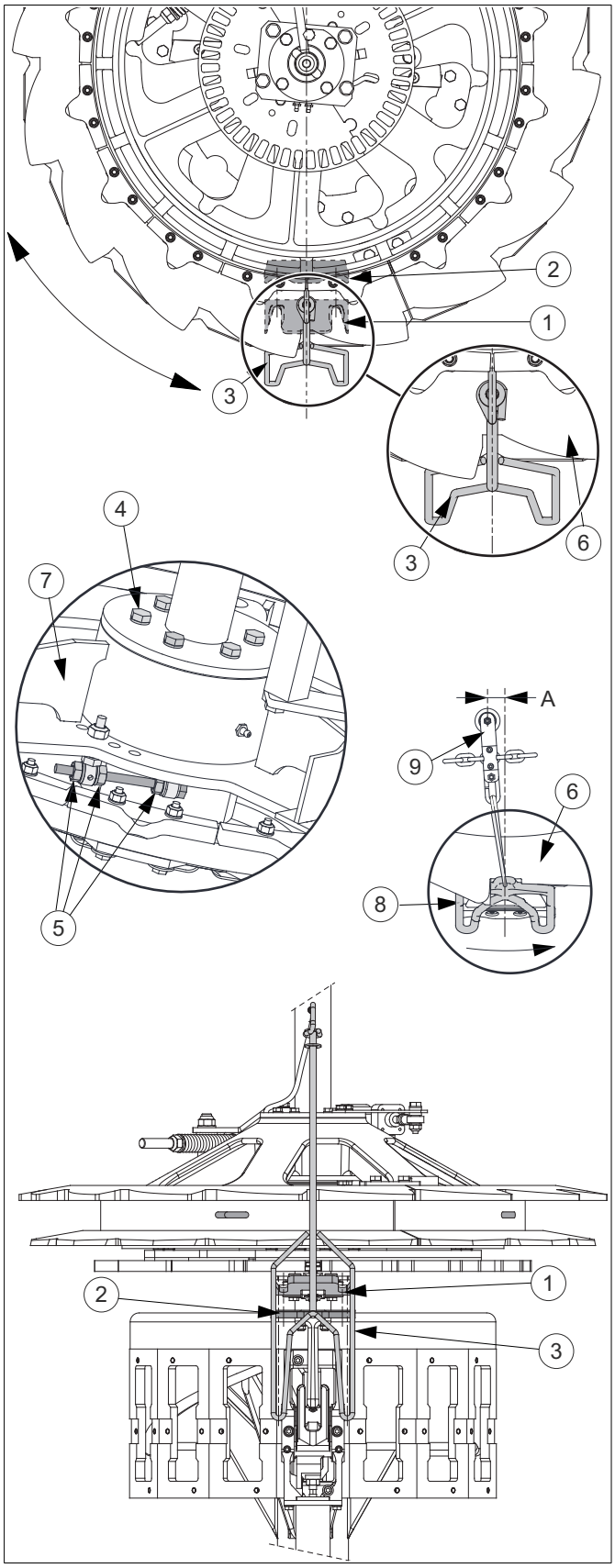


fig. 23 Evis shackle timing

6.17 Evisceration shackle timing

For proper operation, carrier **1**, transfer unit **2** and shackle **3** must be aligned with each other. Make sure evisceration side shackle height and carrier timing steps are done (see 6.14 Evisceration shackle height and 6.15 Evisceration side carrier timing) before attempting to time the shackle with the carrier and transfer unit.

NOTE
Do NOT loosen drive wheel assembly height adjustment bolts (see 6.14 Evisceration shackle height) As a precaution, make sure drive wheel assembly is adequately supported before attempting this setting.

1. Loosen drive wheel assembly retaining bolts **4**.
2. Loosen nuts **5**.
3. For rigid shackles, rotate drive wheel assembly **7** as shown in fig. 23 to align center of shackle **3** with the center of carrier **1** and transfer unit **2**.

WARNING
Possible danger of injuries from falling drive wheel assembly 7.

4. For two-piece shackles, make sure drive wheel assembly **7** timing is retarded by 13mm (dimension A) from centerline of shackle **8** to centerline of trolley **9**.
5. Tighten drive wheel assembly retaining bolts **4**.
6. Tighten nuts **5**.
7. Recheck 6.14 Evisceration shackle height steps to make sure shackle settings have not been changed.

NOTE
For systems using #348 overhead and rigid shackles, make sure 248 mm dimensions shown in step 6.14 Evisceration shackle height are still correct. If not, reset shackle timing wheel **6**.

See fig. 23.

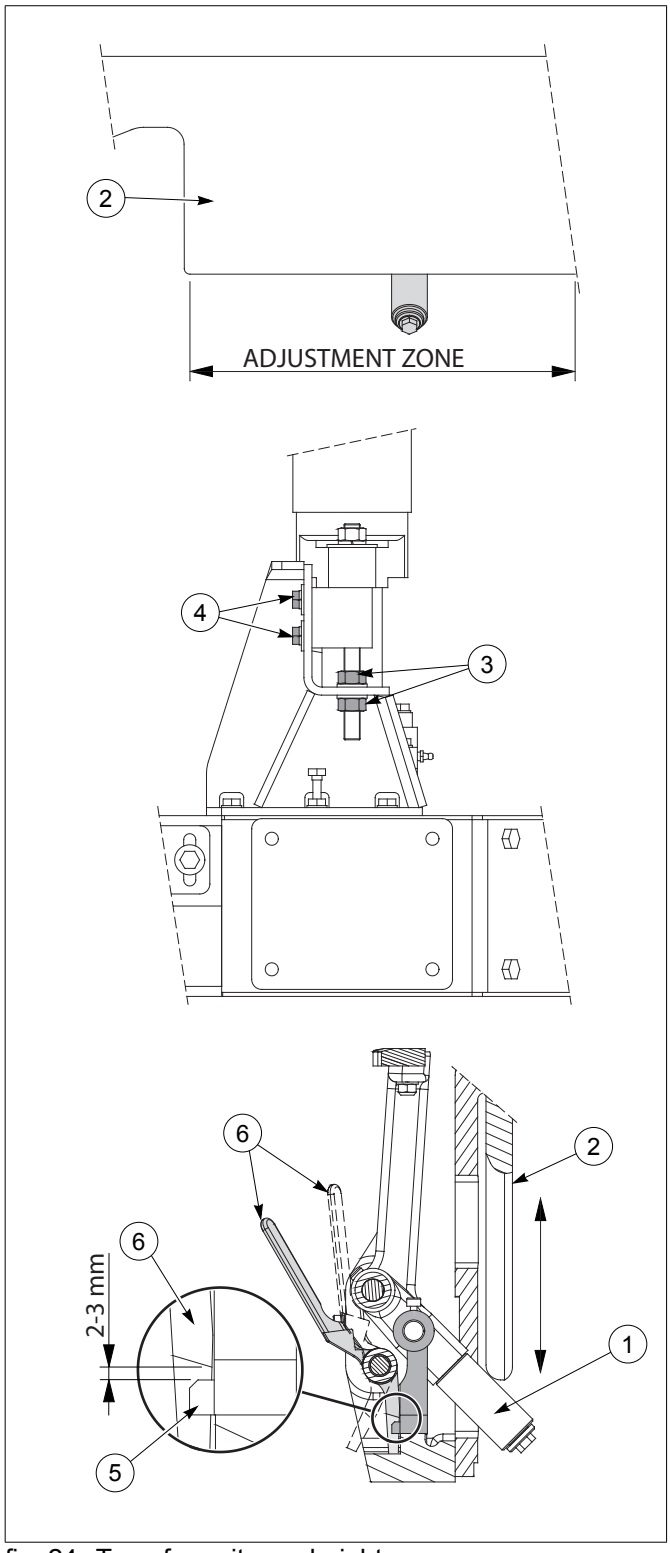


fig. 24 Transfer unit cam height

6.18 Transfer “kicker” unit cam height

Use the following directions to adjust the transfer unit cam height.

1. Rotate eviscerator side mainshaft to position transfer unit roller **1** into the adjustment zone of transfer unit cam **2**.
2. Loosen nuts **3** and bolts **4**.
3. Rotate nuts **3** to raise or lower transfer unit cam **2** until 2-3 mm clearance is obtained between the yoke **5** and the breast trigger **6** on the transfer unit**.**
4. Tighten nuts **3** and bolts **4**.

See fig. 24.

WARNING
Danger of injuries caused by transfer unit “firing”.

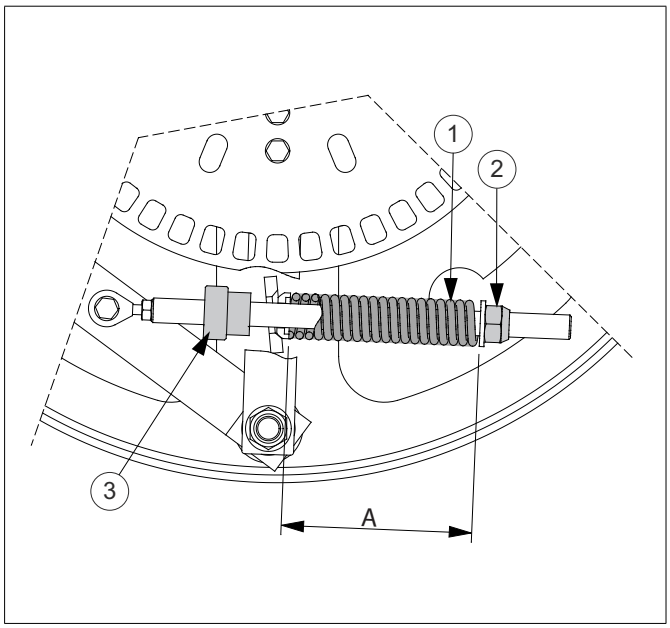


fig. 25 Setting eviscerating torque arm spring

6.19 Evisceration Torque arm spring

Set torque arm spring **1** for eviscerating shaft as follows:

1. Rotate nut **2** until dimension A is 145 mm.

See fig. 25.

NOTE
Engage clutch before setting this dimension. Clutch is dis-engaged when power and air is active. Engage clutch by pressing Emergency Stop button.

NOTE
Never tighten spring further than 125 mm compressed length. Knurled nut **3** may be used to manually disengage the drive wheel. Simply turn knurled nut **3** away from the rod end bearing until the clutch is disengaged. To re-engage, rotate knurled nut **3** until it is near the rod end bearing.

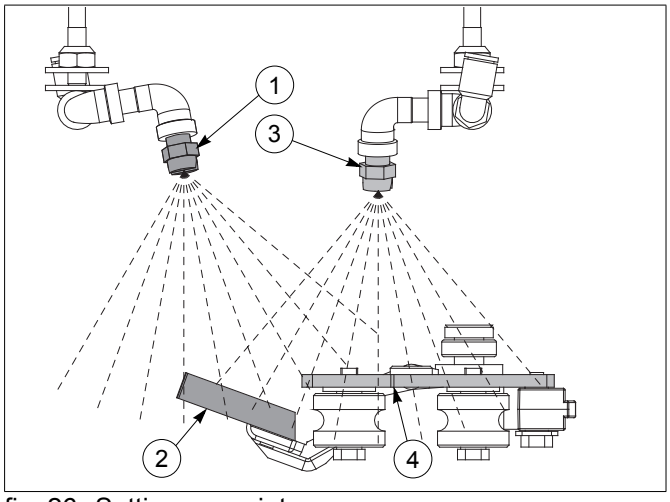


fig. 26 Setting spray jets

6.20 Carrier nozzles

Water spray jets **1** and **3** must be aligned as follows:

1. Align chlorinated spray jet **1** with foot plate of product carrier **2**.
2. Align fresh water spray jet **3** with the slot in center of product carrier plate **4**.

See fig. 26.

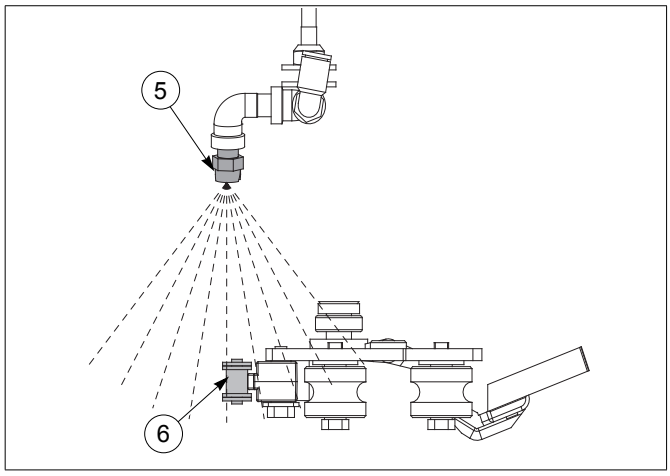


fig. 27 Setting spray jets

6.21 Chain wetter nozzle

The water spray jet **5** must be aligned as follows:

1. Align fresh water spray jet **5** with chain **6** as shown.

See fig. 27.

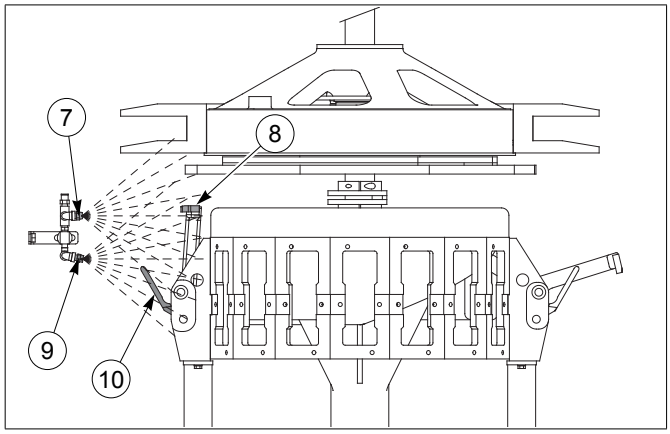


fig. 28 Setting spray jets

6.22 Kicker unit spray nozzles

Water spray jets **7** and **9** must be aligned as follows:

1. Align chlorinated spray jet **7** with foot plate of product carrier **8**.
2. Align chlorinated spray jet **9** with breast trigger **10** of the kicker unit.

See fig. 28.

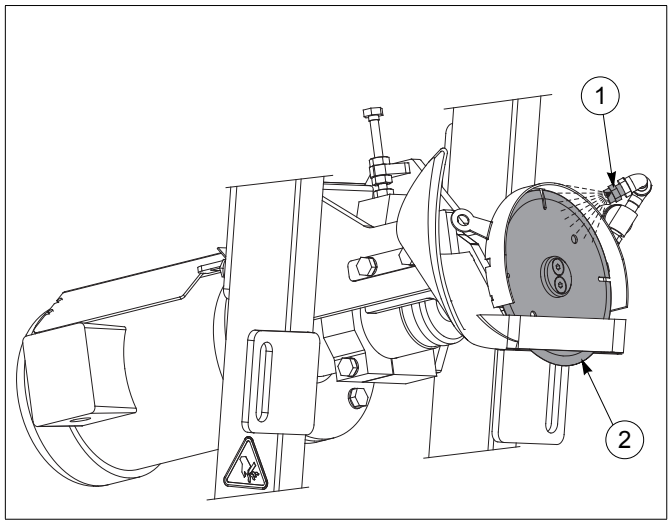


fig. 29 Setting spray jets

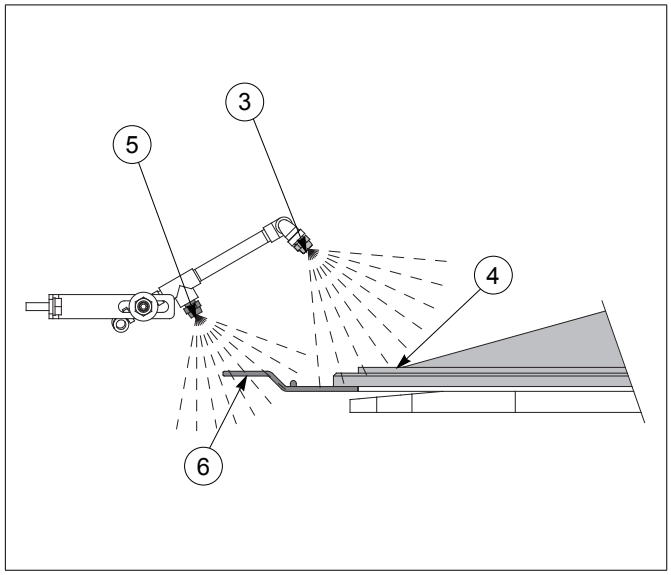


fig. 30 Setting spray jets.

6.23 Hock cutter blade nozzle

Water spray jet **1** must be aligned as follows:

1. Align chlorinated water spray jet **1** with hock cutter blade **2** as shown.

See fig. 29.

6.24 Leg loop and hock cutter wheel nozzles

Water spray jets **3** and **5** must be aligned as follows:

1. Align fresh water spray jet **3** with hock cutter wheel **4**.
2. Align chlorinated water spray jet **5** with leg loop **6** as shown.

See fig. 30.

6.25 Guide bar adjustments

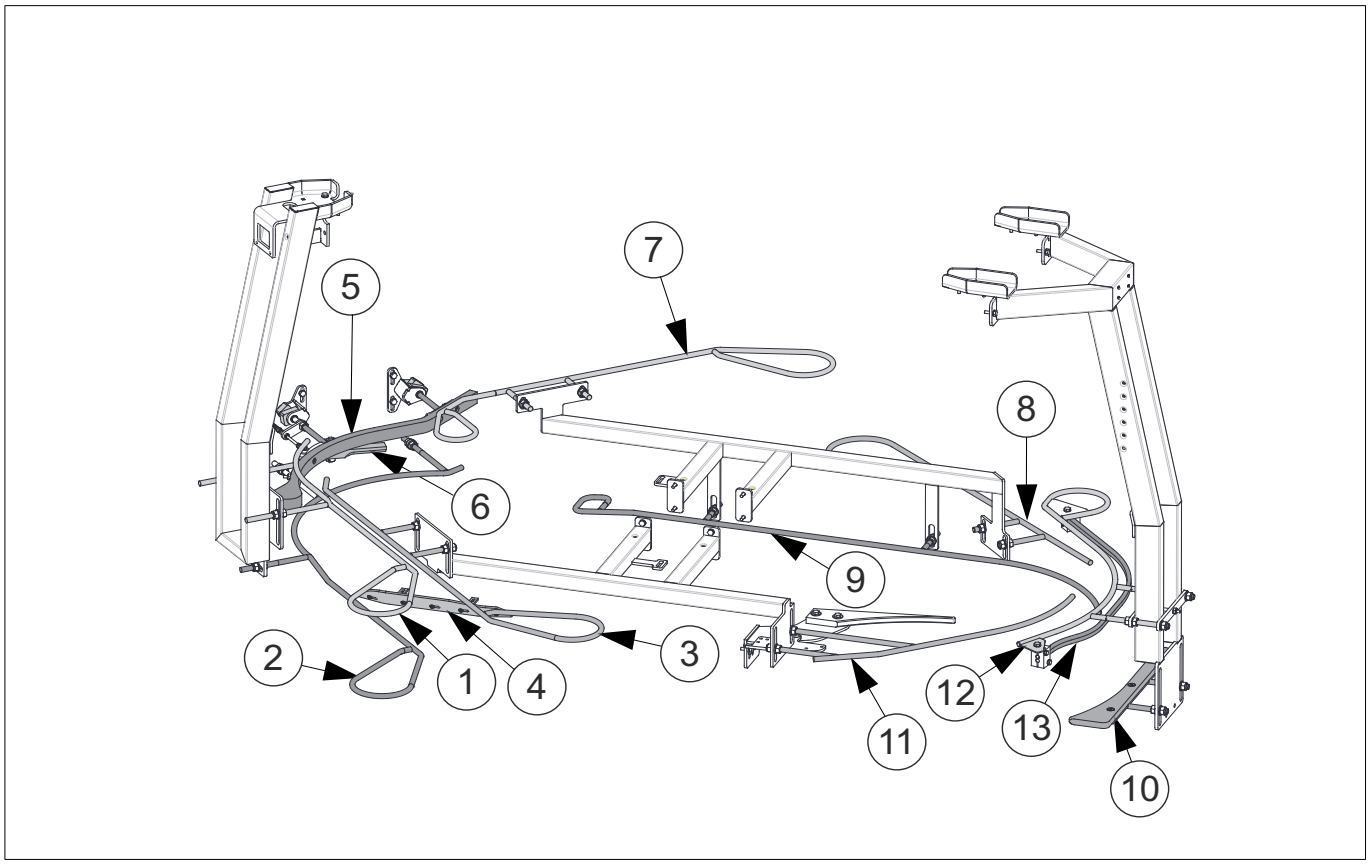


fig. 31 Overall guide bar view

The overall guide bar view includes eleven guide bars. They are defined as follows:

NOTE
Exit picking guide **7** is used only on the second machine of a 1:2 system.

1. Upper outside entry picking guide
2. Lower outside entry picking guide
3. Inside entry picking guide
4. Carrier preload guide
5. Hock cutter guide
6. Tendon stretch guide
7. Exit picking guide
8. Eviscerating entry guide
9. Product carrier guide
10. Shackle guide
11. Eviscerating exit guide
12. Guide brace
13. Guide brace inserts
See fig. 31

6.26 Inside entry picking guide

The inside entry picking guide **1** must be adjusted as follows:

1. Align surface of inside entry picking guide 90 mm from support plate **2**.

See fig. 32.

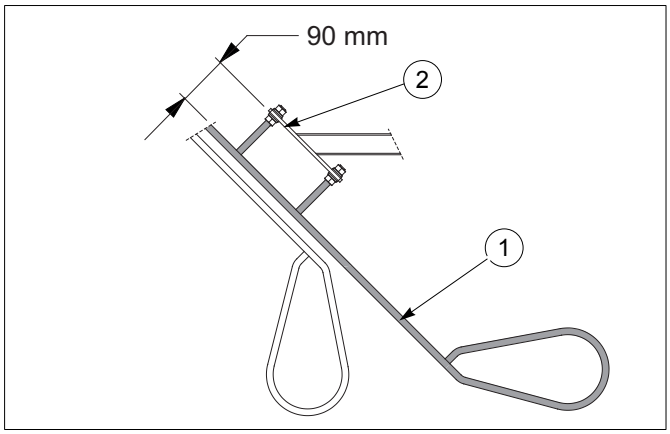


fig. 32 Inside entry for picking guide

6.27 Upper outside entry picking guide

The upper outside entry picking guide **3** must be adjusted as follows:

1. Adjust the upper outside entry picking guide **3** using the inside entry picking guide **1**. The distance must be set to 45 mm.

See fig. 33.

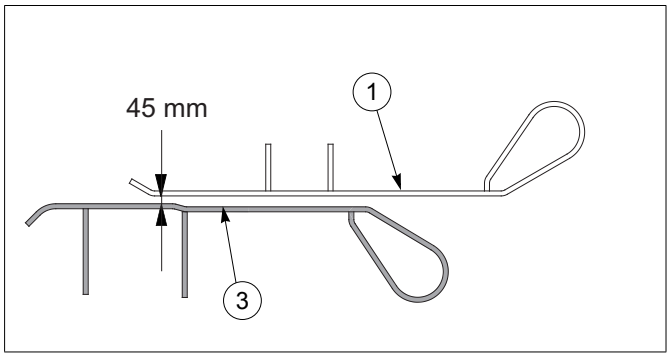


fig. 33 Upper outside entry for picking guide

6.28 Lower outside entry picking guide

The lower outside entry picking guide **4** must be adjusted as follows:

1. Align surface of lower outside entry picking guide **4** using the machined surfaces of the hock cutter wheel **5**. The distances must be 47 mm vertically from the outer wheel surface and 120 mm horizontally from the inner wheel surface as shown.

See fig. 34.

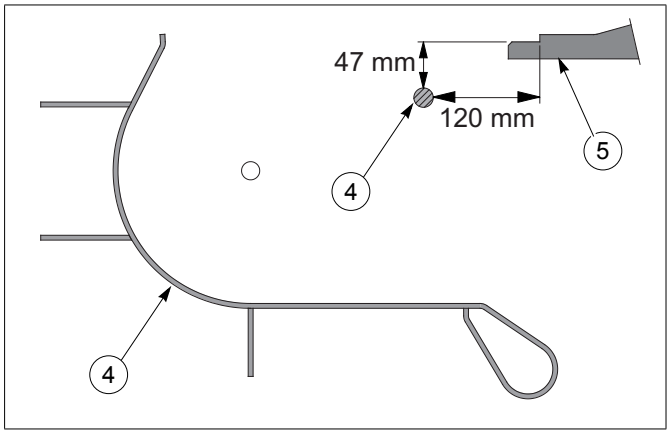


fig. 34 Lower outside picking guide

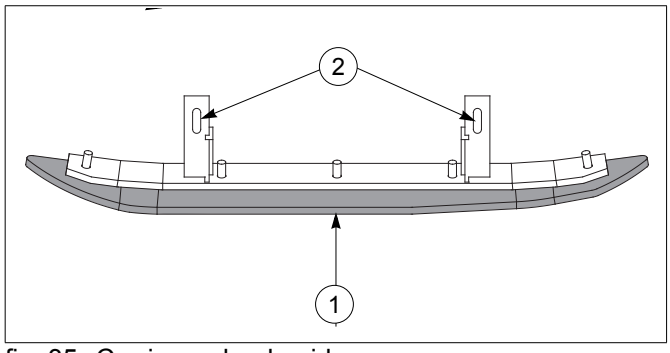


fig. 35 Carrier preload guide

6.29 Carrier preload guide

The carrier preload guide **1** must be adjusted as follows:

1. Adjust the carrier preload guide **1** by centering the fasteners in slots **2** of guide.

See fig. 35.

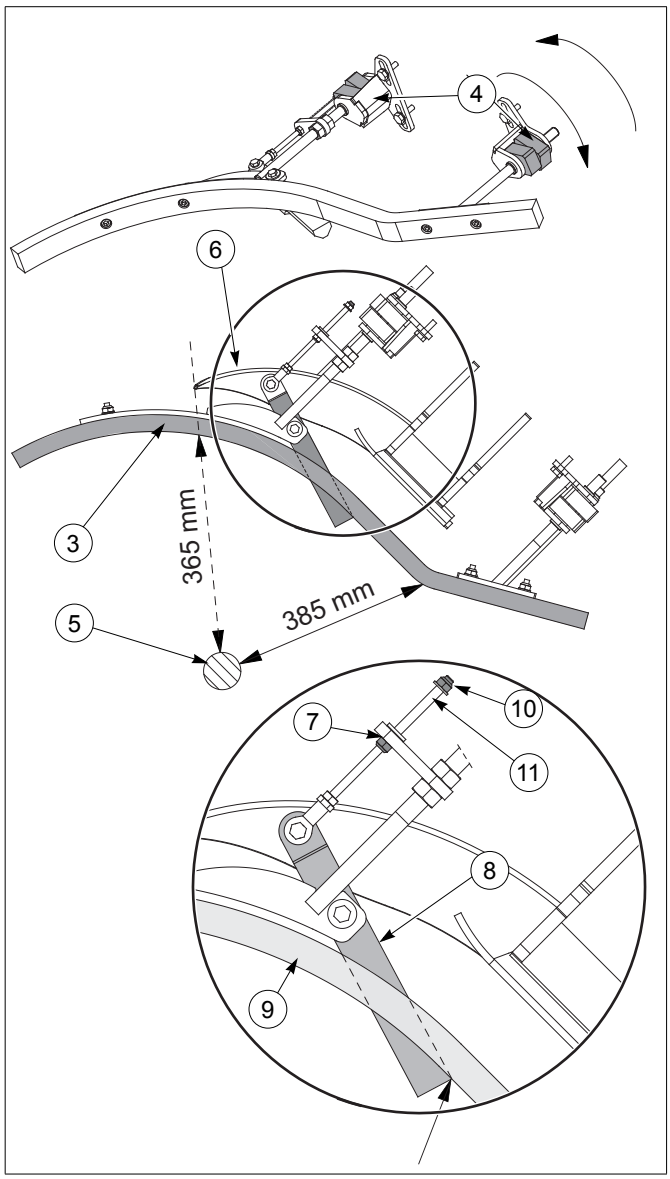


fig. 36 Hock cutter guide

6.30 Hock cutter and tendon stretcher guide

The hock cutter guide **3** must be adjusted as follows:

1. First, rotate blocks **4** together to allow for adjustment.
2. Once locked together, turn blocks as a unit to lengthen or shorten rods to dimensions shown in fig. 36.
3. When dimensions are established, rotate blocks away from each other to lock into place.

NOTE
The 365 mm dimension is measured on an imaginary line from mainshaft **5** to tip of hock cutter guard **6**, but this measurement stops on the inside surface of hock cutter guide **3.** The 385 mm is measured from the mainshaft **5** to the inside surface of bend in the hock cutter guide **3**.

4. Using lock nut **7**, adjust the tendon stretcher **8** so that the outer corner of this guide is positioned flush with the inner surface of the hock cutter guide **9** as indicated with arrow. Rotate lock nut **10** until 2-3 threads of rod **11** are exposed.

See fig. 36.

6.31 Exit picking guide

The exit picking guide **1** must be adjusted as follows:

1. Align the exit for picking guide **1** 70 mm from the support plate **2.**

See fig. 37.

NOTE
This guide is only used for the second machine on a 1:2 system.

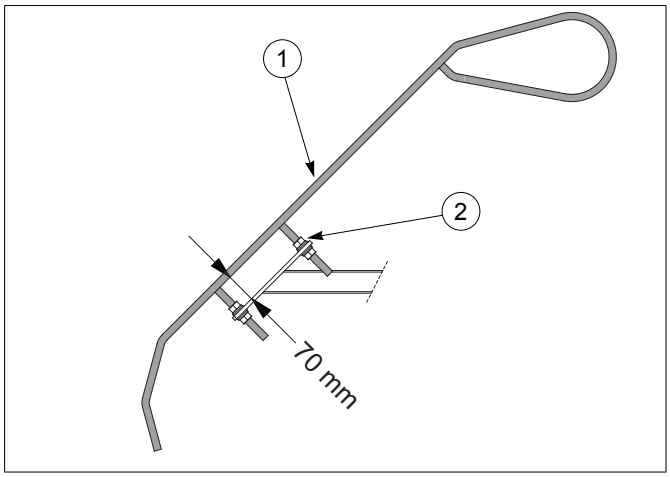


fig. 37 Exit for picking guide

6.32 Eviscerating entry guide (rigid shackle)

The eviscerating entry guide **3** must be adjusted as follows:

1. Align the eviscerating entry guide **3** from the support plate **4** to the inside surface of guide bar **3** to dimensions shown.

See fig. 38.

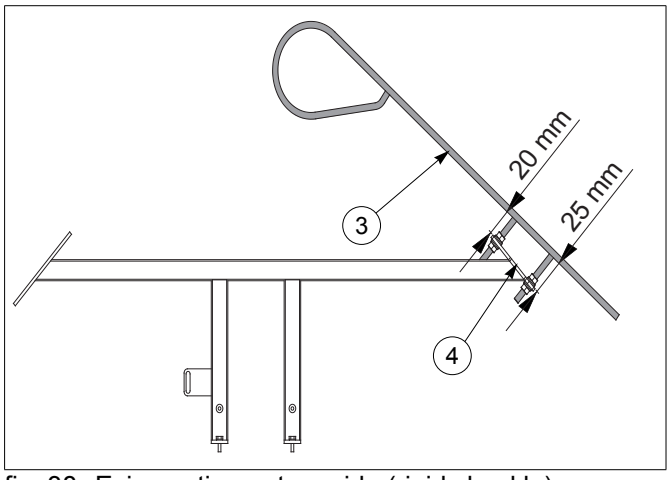


fig. 38 Eviscerating entry guide (rigid shackle)

6.33 Product carrier guide (horizontal)

The product carrier guide **5** must be adjusted as follows:

1. Align inside surface of product carrier guide **5** 85 mm from the inside surface of product carrier track **6**.

See fig. 39.

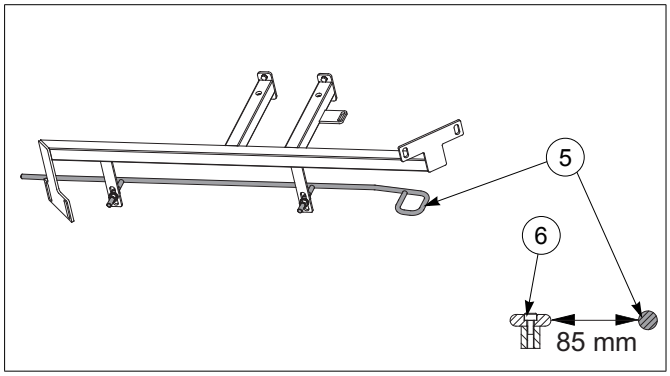


fig. 39 Product carrier guide

6.34 Product carrier guide (vertical)

Product carrier guide must be vertically positioned as follows:

1. The product carrier guide must be aligned so that weight of the bird is supported, which prevents twisting of carriers on the track.

See fig. 40.

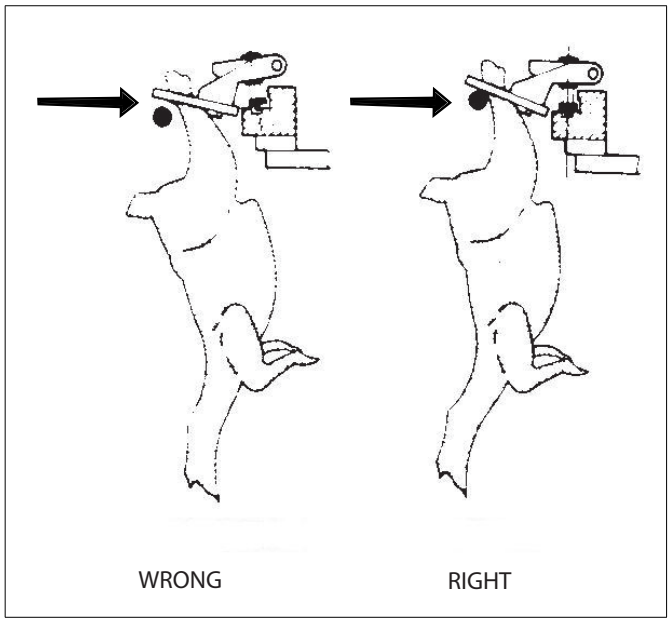


fig. 40 Product carrier guide.

6.35 Eviscerating entry guide (two-piece shackle)

The eviscerating entry guide **3** must be oriented as follows:

1. Orient the eviscerating entry guide **3** as shown so that it ends up just underneath product carrier guide **4**. That will place the eviscerating entry guide **3** approximately in the middle of the slots in guide mount **5**.

See fig. 41.

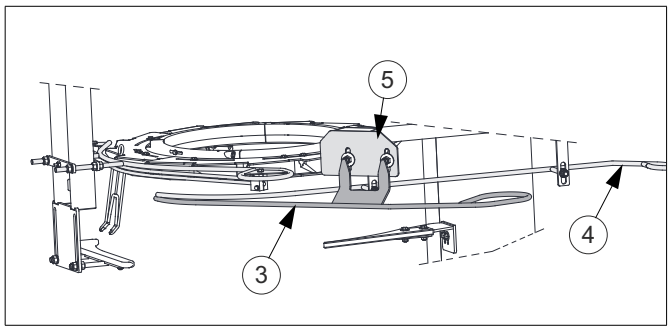


fig. 41 Eviscerating entry guide (two-piece shackle)

6.36 Eviscerating entry guide (two-piece shackle)

The eviscerating entry guide (two-piece shackle) **3** must be adjusted as follows:

1. Align outside edge of eviscerating entry guide **3** to run parallel to the flat on the shackle timing wheel disc **6**. Dimension **B** should be less than 1 mm.
2. Dimension **A** should be approximately 106 mm from inside of guide **3** to inside face of guide mount **5**.

See fig. 41 and fig. 42.

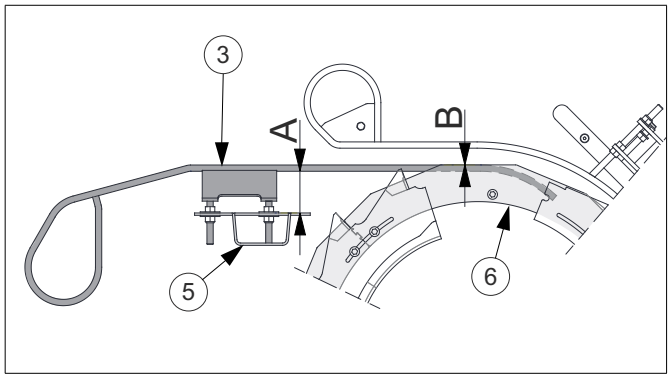


fig. 42 Eviscerating entry guide (two-piece shackle)

6.37 Shackle guide (rigid shackle)

The shackle guide **1** must be aligned as follows:

1. Shackle guide **1** must be aligned so that when the kicker **2** is fully extended, shackle **3** has approximately 0.5 mm clearance as shown.

See fig. 43.

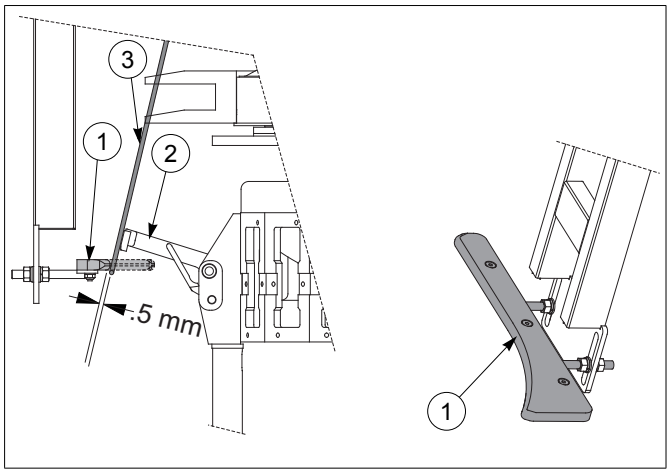


fig. 43 Shackle guide

6.38 Shackle guide (two-piece shackle)

The shackle guide **1** must be aligned as follows:

1. Adjust shackle guide 1 all the way down to bottom of slots in mount **4**.

See fig. 44.

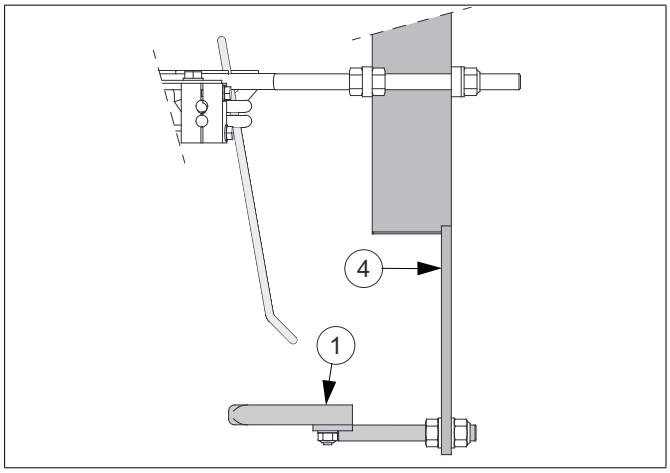


fig. 44 Shackle guide (two-piece

6.39 Eviscerating exit guide (rigid shackle)

Eviscerating guide **5** must be aligned as follows:
Center eviscerating guide **5** vertically in shackle timing wheel **6** and 13 mm from inside surface of the wheel.
See fig. 45.

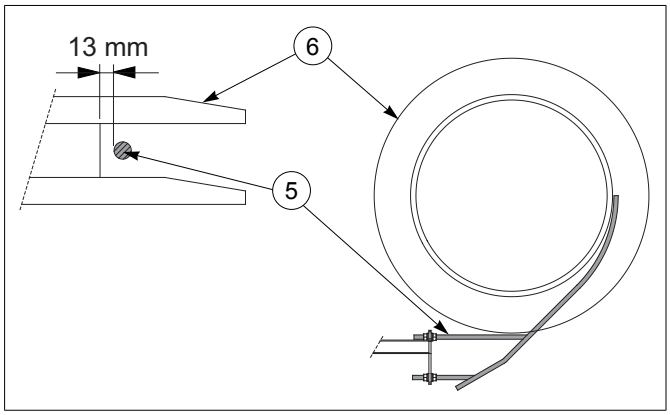


fig. 45 Eviscerating exit guide (rigid)

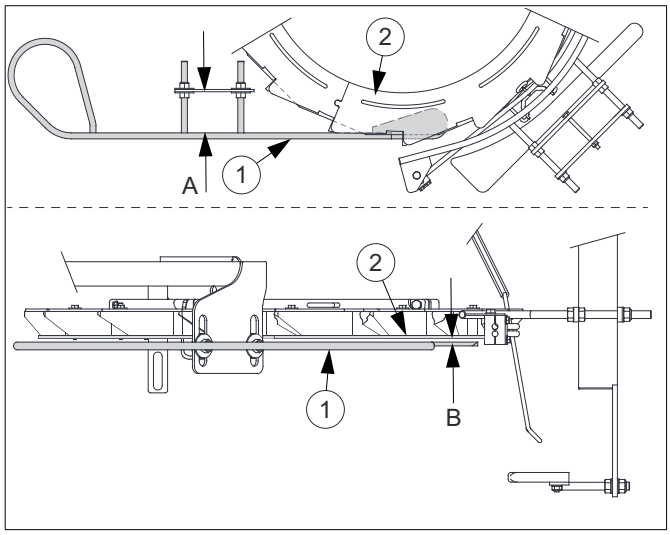


fig. 46 Eviscerating exit guide (two-piece)

6.40 Eviscerating exit guide (two-piece shackle)

The shackle guide **1** must be aligned as follows:

1. Align guide **1** with shackle timing wheel **2** as shown.
2. Dimension **A** is approximately 109 mm.
3. Dimension **B** for rounded plate on guide **1** is 7 mm from bottom face of shackle timing wheel to top face of rounded plate on exit guide **1**.

See fig. 46.

7 OPERATION

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.

7.1 Emergency stop

In case of an emergency:
- pull the emergency-stop cord.
- press the emergency stop.

See fig. 47 and fig. 48.

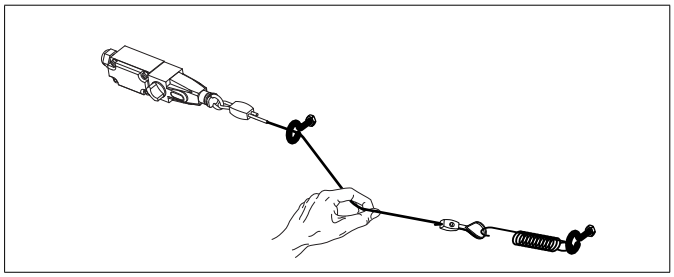


fig. 47 Emergency-stop cord

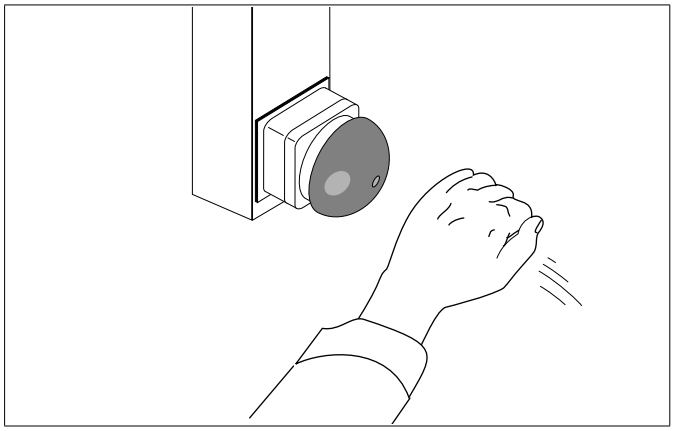


fig. 48 Emergency stop

After activating the emergency stop, the portioning system TRDE-F5 stops. All electrical drivings to the machine are switched off.

Solve the emergency as follows:
Have an authorized person solve the emergency.

MORTAL DANGER
Make sure that nothing is done on the machine until the emergency stop is released.
Warn everybody near the machine before you start the machine again.

1. Reset the emergency stop.

Start the TRDE-F5.

NOTE
Only use the emergency stop in an emergency situation.

2. Hock cutter and tendon stretcher guide

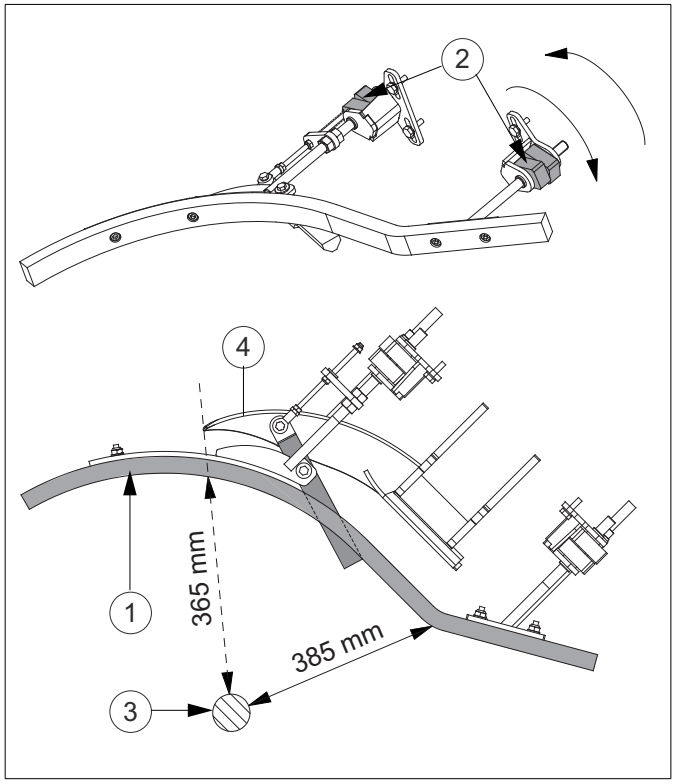


fig. 49 Hock cutter guide

During processing, the hock cutter guide may need re-adjusting due to varying flock size. The hock cutter guide **1** must be adjusted as follows:

1. First, rotate blocks **2** together to allow for adjustment.
2. Once locked together, turn blocks as a unit to lengthen or shorten rods to dimensions shown in fig. 49.
3. When dimensions are established, rotate blocks away from each other to lock into place.

NOTE
The 365 mm dimension is measured on an imaginary line from mainshaft **3** to tip of hock cutter guard **4**, but this measurement stops on the inside surface of hock cutter guide **1.** The 385 mm is measured from the mainshaft **3** to the inside surface of bend in the hock cutter guide **1**.

See fig. 49.

8 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).

8.1 Clean-up procedure

Carry out the cleaning instructions as follows:

1. Press emergency-stop button and/or emergency-stop cord, within range as shown in fig. 50.
2. While the TRDE-F5 is in "automatic" mode, spray debris off of machine, paying special attention to carriers and transfer units.
3. Stop overhead lines, make sure all local and control room electrical switches are "OFF", then "Tag" and "Lock Out" the TRDE-F5. Remove hock cutter blades from machine. See chapter 6.8 Quick change hock cutter motor / blade drive assembly.
4. Because of the height of the TRDE-F5, a stepladder is recommended to aid in cleaning the top surfaces of the machine.
5. Spray the entire machine thoroughly every day with cleaning detergent at a temperature of 60^{o}C (140^{o}F) maximum. Any detergent used should be a weak alkaline (max. ph 9).
6. Rinse entire machine thoroughly after cleaning.
7. After thorough cleaning, place TRDE-F5 in "manual" mode and run overhead lines to allow cleaning of all shackles.

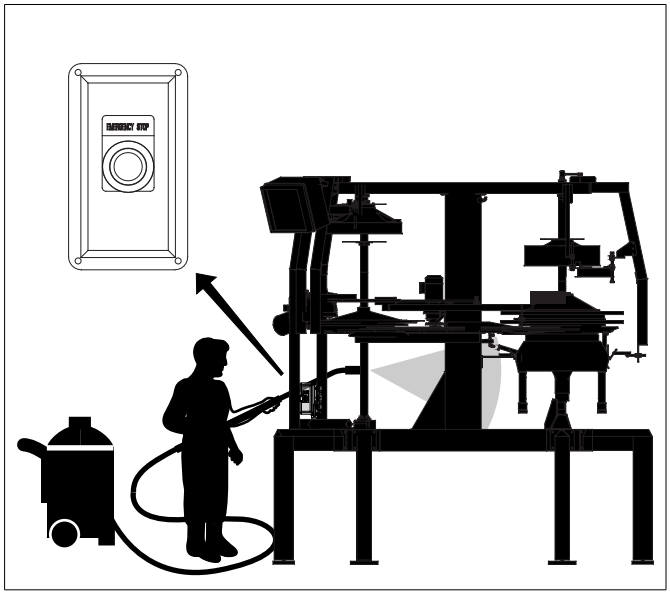


fig. 50 Cleaning the machine

8. See also User's Manual Cleaning and Disinfecting (90811).

NOTE
CAUTION! See Maintenance Section 9.2 **REPLACEMENT OF A TRANSFER UNIT**, for warnings about possible injury when handling transfer units. Apply pressure to top of transfer unit arm with one hand, and use the other hand to depress the breast trigger on each of the three exposed units. This procedure exposes the back of the transfer unit for cleaning. After cleaning these three units, press CLEAR, then "jog" evis line to expose three more transfer units, and place the TRDE-F5 back in "clean-up" mode. Continue this procedure until all 16 units have been cleaned.

9 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.**

9.1 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. 1 Maintenance schedule

Frequency	Component	Activity	Maintenance	Chapter
Daily	Safety provisions		Check safety provisions and presence of safety signs.	4.4
Daily	Shackles		Check picking and eviscerating lines for bent or broken shackles.	-
Daily	Units		Lubricate each transfer unit on the Rehanger side using Chevron #105XFM or equivalent, making sure all bushings are exposed to the lubricant. Check to make sure each unit releases and re-engages properly.	-

tab. 1 Maintenance schedule

Frequency	Component	Activity	Maintenance	Chapter
Daily	Carriers		Visually inspect each carrier to make sure all wheels are intact and turning, and the carrier goes easily around the track.	-
Weekly	Bearings		Grease top and bottom bearings on each mainshaft.	-
Weekly	Entire machine		Check for wear, fractures and smooth running of moving parts.	-
Weekly	Entire machine		Check belts, chains and bearings for wear.	-
Weekly	Hock Cutter		Sharpen or replace rotating blade. Note: Rotating blade should be no smaller than 145 mm diameter.	6.8
Weekly	Carriers		Check each individual carrier, making sure the friction coupling is not significantly worn and springs are not broken. Replace friction coupling accordingly. Check for loose nuts or bolts on each carrier. Note: Any loose nuts or bolts must be replaced. Use loctite #271 on threaded surfaces when replacing any nuts or bolts on the carriers.	-
Weekly	Chain		Check carrier chain for wear. Make sure chain is tight and take-up is functioning properly. **NOTE:** Master link clip must always be installed on top side of chain to avoid guide damage.	6.12
Weekly	Entire machine		Tighten all nuts and bolts on track supports and make sure all carriers travel on track easily without binding. Also, make sure carriers clear the timing wheels on the Hock Cutter and Rehanger shafts.	-
Weekly	FRL Unit		Check air regulator unit on air lines (pressure should be between 4-5 bars); clean filter.	-
Weekly	Entire machine		Check all proximity switches to make sure they are sensing properly.	6.4
Weekly	Entire machine		After all other weekly maintenance has been performed, run the Transfer Machine through its different modes of operation to make sure the machine is running as expected.	-

tab. 1 Maintenance schedule

Frequency	Component	Activity	Maintenance	Chapter
Monthly	Carriers		Check rollers on carriers for wear. Check wheels and block for wear and damage. Use the supplied go / no-go gauge.	9.3
Monthly	Entire machine		Check timing of transfer units, carriers, and shackles to ensure they are all aligned properly.	6.3 6.5 6.15
Monthly	Entire machine		Tighten all nuts and bolts on machine.	-
Yearly	Entire machine		Check entire machine for wear, broken parts, loose nuts and bolts, moving parts, etc. Replace parts as needed.	-
Yearly	Entire machine		Determine if inside bearings of Rehanger or Hock Cutter’s mainshaft are performing properly. If they are questionable, replace all bearings and seals on mainshaft.	-

9.2 Replacement of transfer unit

Use the following directions to replace the transfer units:

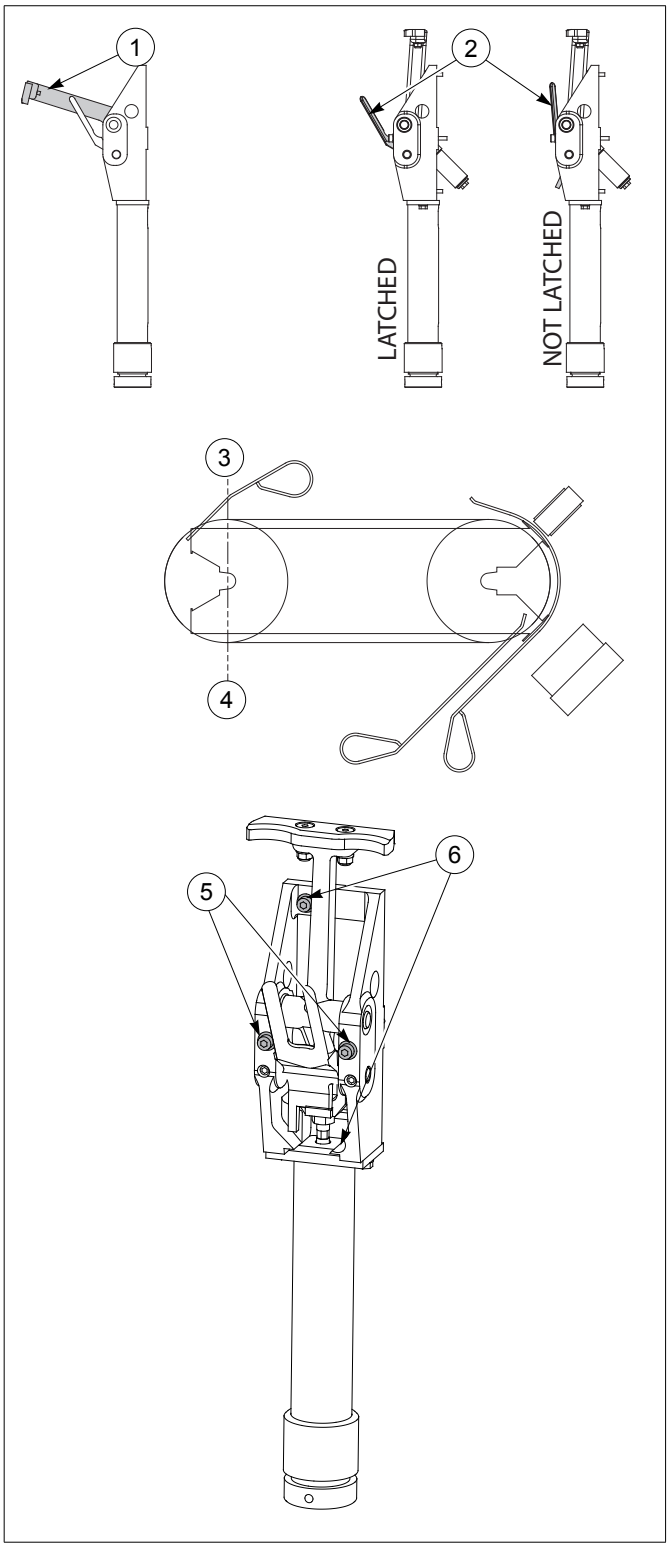


fig. 51 Transfer unit replacement

WARNING
The transfer unit spring is under high compression, and if released accidentally, the resultant force from the transfer arm can cause severe injury. If the arm **1** on the transfer unit is not fully extended, make **SURE** the breast trigger **2** is in the latched position**. DO NOT TOUCH THE BREAST TRIGGER WHILE REMOVING OR REPLACING THE UNIT.**

1. Rotate transfer unit to either position **3** or **4** as shown.
2. Remove four bolts **5** and **6**. Set unit aside.
3. Replace unit.
4. Hand tighten two long bolts **5.**
5. Hand tighten two short bolts **6**.
6. Tighten two long bolts **5**.
7. Tighten two short bolts **6**.

See fig. 51.

9.3 Carrier Maintenance

Carrier maintenance includes the inspection of:
- the block **1**
- the carrier wheels **2**

If the block **1** is worn or damaged, replace the block **1** and springs **3**. See the paragraph 9.3.1 Replace the block and springs.

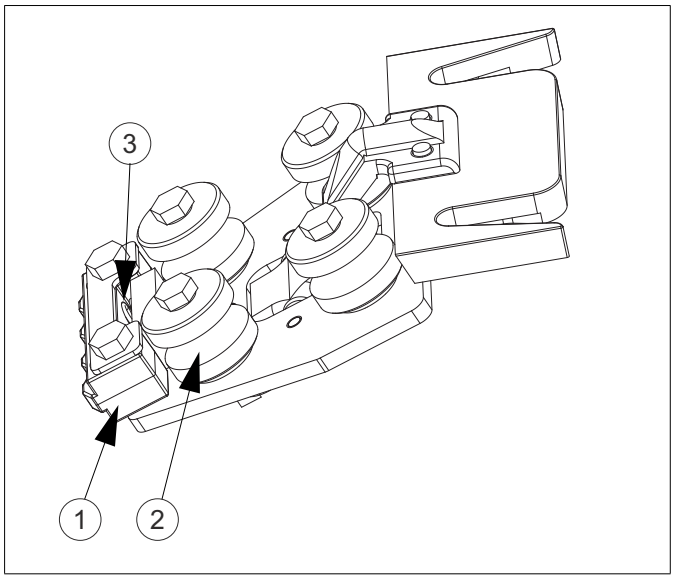


fig. 52 Carrier maintenance

The carrier wheels **2** must be maintained as follows:
1. Using the provided gauge **4** (3822749), attempt to insert the gauge between the wheels **2** as shown.
2. If the gauge does not enter the wheels (**GOOD**), the wheels do not need replacing.
3. If the gauge enters the wheels (**WORN OUT**) the wheels need to be replaced. The bearing **5** (see fig. 54) should be replaced too. See the paragraph 9.3.2 Replace the wheels and bearing.

NOTE
Use loctite #271 when replacing bolts for the wheels.

See fig. 52 and fig. 53.

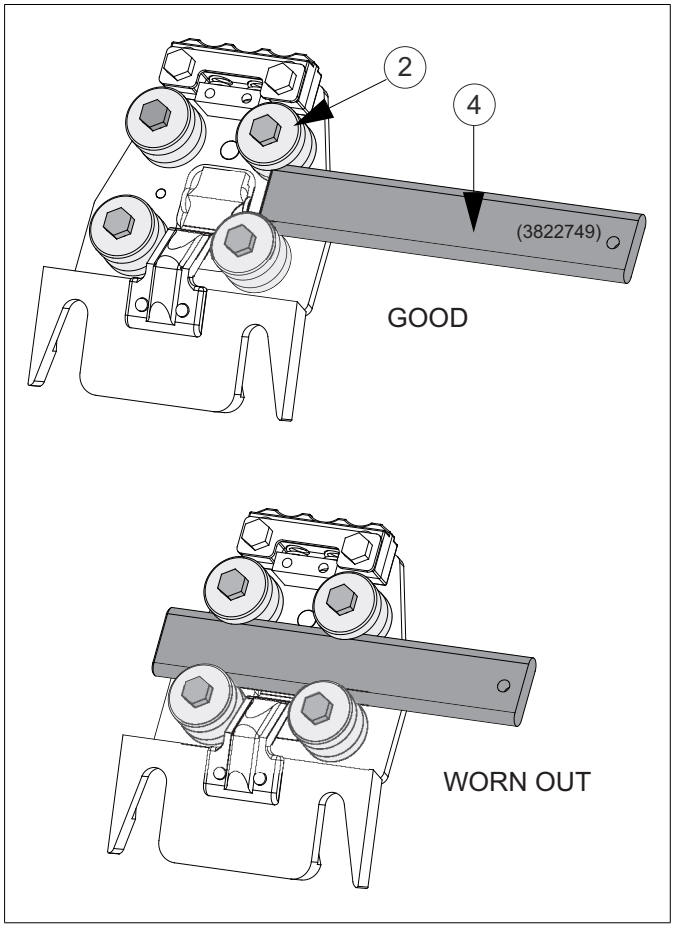


fig. 53 Carrier wheels

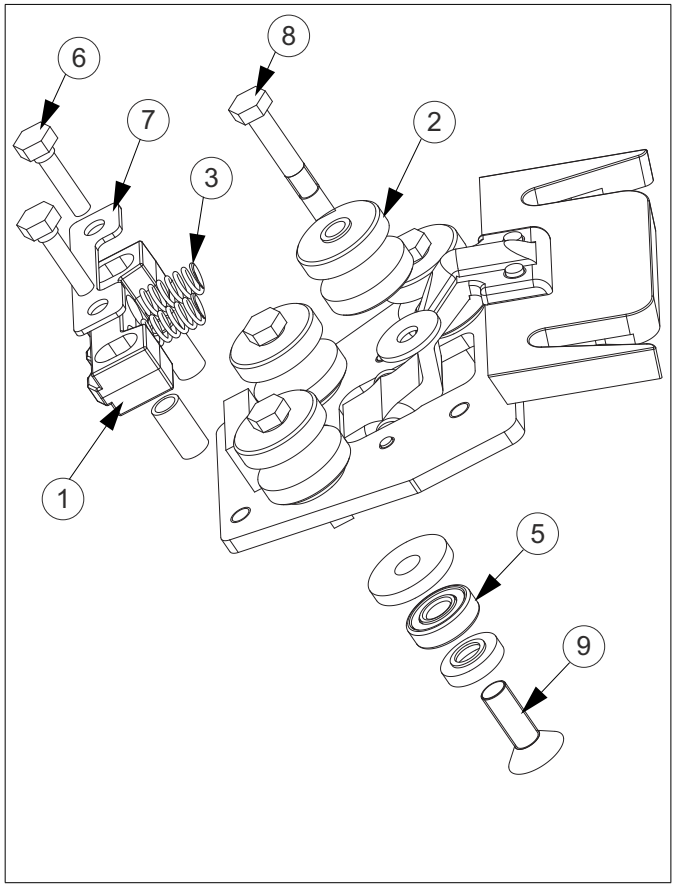


fig. 54 Carrier maintenance exploded view

9.3.1 Replace the block and springs

Replace the block **1** and springs **3** as follows:

1. Remove bolt **6** (2x).
2. Remove plate **7**.
3. Remove block **1**.
4. Remove spring **3** (2x).
5. Install new spring **3** (2x).
6. Install new block **1**.
7. Install plate **7**.
8. Install bolt **6** (2x).
9. Verify the block snaps back when pushed in against the springs.

See fig. 54.

9.3.2 Replace the wheels and bearing

Replace the wheels **2** and bearing **5** as follows:

1. Remove bolt **8** (4x).
2. Remove wheel **2** (4x).
3. Install new wheel **2** (4x).
4. Install bolt **8** (4x).

NOTE
Use loctite #271 when installing bolts for the wheels.

5. Remove screw **9**.
6. Remove bearing **5**.
7. Install new bearing **5**.
8. Install screw **9**.
9. Verify there is no play in the wheels when the carrier is placed on the rail.
10. Verify the carrier moves easily on the rail. Adjust the wheels if necessary.

See fig. 54.

10 TROUBLESHOOTING AND REPAIR

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 Failure list

The following failure list includes the most usual failures, their possible cause and solution. Always fix failures as quickly as possible.

tab. 2 List of problems

Problem	Possible cause	Possible remedy	Chapter
Birds falling off between Hock Cutter and TRDE-F5.	Primary hock cutter set too deep.	Re-adjust primary hock cutter.	-
Wrong product positioning in Hock Cutter and TRDE-F5.	Product not properly hanging from shackle: (hanging by one leg, too high in shackle slot, two legs in same shackle.)	Hang product properly. Check primary hock cutter. Check pickers to see if they are pulling legs from shackles.	-
	Drive cam out of time.	Properly time drive cam to align shackle with leg loop. See Initial Adjustments.	6.3
	Bent shackles.	Straighten shackles to required specifications.	-
	Guide bar out of alignment.	Re-adjust guidebars.	6.25

tab. 2 List of problems

Problem	Possible cause	Possible remedy	Chapter
Leg cut off too short or too long.	Wrong setting of hock cutter guide bars or wrong setting of rotating blade.	Re-adjust separator bar or rotating blade.	6.7 6.9
	Foot unloader not unloading feet from shackles.	Adjust foot unloader.	-
	Separator bar out of adjustment.	Adjust separator bar.	6.7
One leg in carrier.	Primary hock cutter cutting too deep.	Adjust primary hock cutter. See General Description.	-
	Improperly hung bird.	Hang product properly. See remarks.	-
	Carrier and leg loop out of line on hock cutter side.	Reset carrier timing wheel. See Initial Adjustments.	6.5
	Guide bars out of adjustment.	Adjust guide bars.	6.25
Chain not pulling carriers.	Friction block not engaging properly with drive chain.	Check friction block for wear. Check for broken spring on carrier. Check chain guide for proper adjustment.	6.1
Product falls from carrier during transport to rehang side.	Wrong setting of carrier guide bar.	Reset carrier guide bar.	6.35
	Secondary hock cutter not cutting skin.	Adjust secondary hock cutter; replace blade if necessary.	6.7 6.9
Rehanging one leg. (Also check “Wrong product positioning in hock cutter leg loops,” and “One leg in carrier.”)	Bent shackle.	Straighten shackle to required specifications.	-
	Timing off on carrier timing wheel, shackle timing wheel or drive ring.	Reset timing. See Initial Adjustments.	6.3 6.5 6.15
	Improper 348 drive ring height.	Adjust band height. See Initial Adjustments.	6.15
	Guide bars out of alignment.	Adjust guide bars.	6.25
Products are not re-hung.	Control in **DISENGAGE** mode.	Place control in **ENGAGE** mode.	-
	Improper cam height.	Adjust cam. Check air lines and air line solenoids. See initial adjustments.	6.18
	Product not entering transfer unit properly.	Check alignment of carrier and shackle timing wheel. See Initial Adjustments.	6.3 6.5 6.15
	Guide bars out of alignment.	Adjust guide bars.	6.25
Hocks not cut all the way through.	Broken blade.	Replace blade.	6.9
	Blade height off.	Lower blade. See Initial Adjustments.	6.9

tab. 2 List of problems

Problem	Possible cause	Possible remedy	Chapter
Transfer arm moving without product in shackle while in **ENGAGE OR DISENGAGE** mode.	Breast trigger blocked in de-latched position.	Thoroughly clean breast trigger. Oil bearing bushings of breast trigger. See Maintenance.	8.1
	Improper cam height.	Reset cam height. See Initial Adjustments.	6.18
	Broken breast trigger	Replace breast trigger.	-
	Transfer arm not raised enough to lock breast trigger.	Check spring tension and check shaft length of transfer unit.	-
Water spray not operating	Spray nozzle clogged.	Clear obstruction in spray nozzle.	-
	Water solenoids inoperative.	Check connections to solenoid first; then test solenoid.	-
	Water line problem.	Check water lines for proper pressure and for foreign substances.	-
Breakage of transfer arm.	Improper cam height.	Reset cam.	6.18
	Improper transfer arm tension.	Adjust tension nut on transfer arm.	-
	Bent shackle entering machine.	Check and repair shackles.	-
Rehang system trips.	Torque limiter set off by carrier jam.	Ensure proper number of carriers are on each side of machine.	-
	Torque limiter set off by shackle jam.	Clear jam and repair or replace shackle.	-
			-
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10.2 Checklist

The list below contains a list of items of concern.

tab. 3 List of concerns

Problem	Possible cause	Preventive action
Unit “jammed”.	Top bearing could be loose and hanging on star wheel.	Make sure “loctite” on outer rim of bearings is still securing bearing in housing; check bearings daily.
	Turning line on too quickly could “jam” the line.	Train team members on proper restarting of the line.
	Timing wheel could be worn.	Properly train maintenance on component installation procedure; replace timing wheel as needed.
	Kill line shackle could be falling off: shackles loose or bent.	Properly train maintenance on components installation procedure; maintain shackles, both lines (evisceration/kill); train hanger to hang birds correctly.
	Carriers under timing wheel.	Keep carrier chain speed correct; run picking line consistently; maintain 20 bird window between lines; maintain carriers.
	Defective upper/lower main bearings.	Replace bearings on regular maintenance schedule.
Carrier mis-feed.	Carrier chain speed.	Train appropriate team members.
	Incorrect track adjustment.	Inspect on preventive maintenance route..
	Worn wheels.	
	Broken springs.	
	Worn block.	
Rehanger trip.	Spring tension.	Adjust spring tension as needed.
	Water in switch.	Waterproof switch. Inspect switch on preventive maintenance route.
	Picking line hang up.	Train appropriate team members.
	Manual switch in wrong position.	Eliminate “one-leggers” and mis-feeds / shorthocks; maintain consistent bird size.
	Bird hung on evisceration side.	Train Sanitation in proper procedure.
	Damage by sanitation.	Check during “Pre-Setup”.
		Train production personnel to maintain proper ratios.
Rehanger will not kick.	Nut too tight on spring tension.	Train appropriate team members.
	Loss of air pressure.	Inspect air compressor monitoring on preventive maintenance route.

tab. 3 List of concerns

Problem	Possible cause	Preventive action
Rehanger wiil not kick (continued)	Rubber bushings are worn out.	Check rubber bushing on “Regular PM”.
	Clevis worn or broken.	Check clevis on “Regular PM”.
	Broken springs in tubes.	Check springs on “Regular PM”.
Rehanger will not run (no power).	Water in switch.	Train appropriate team members on waterproofing switch.
	Blown fuse. Failure of other electrical parts. Air problems.	Train appropriate team members on waterproofing.
		Inspect switch before startup.
		Inspect electrical parts before startup.
		Maintain air system (compressors, dryers, filters, and hoses) on “Regular PM”.

Appendix 1: LOGBOOK

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

Date	Carried out by	Activity

Appendix 2: SETTINGS

You can enter the settings of the parts for various products here.

Part	Chapter	Product:	Product:	Product:	Product: ....