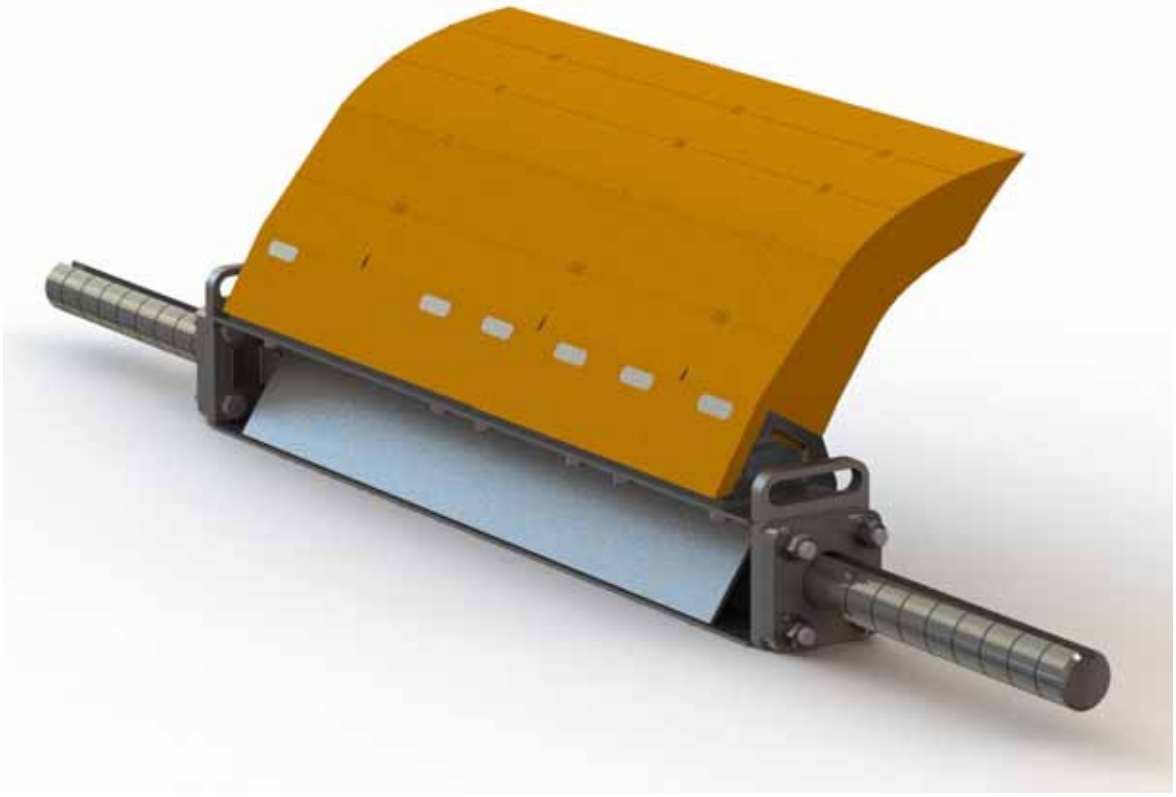
Martin® SHD Cleaner



Operators Manual
M3427UK

1 Table of contents

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2 Introduction

2.1 About this installation manual

Non-compliance to this installation manual can lead to the loss of any liability claim and/or guarantee.

2.1.1 Scope

This installation manual is exclusively for the product that is described herein, and is aimed at those people, that install the product, take the product into operation, and monitor its use.

2.1.2 Copyright

The technical standard at the time of delivery of the product and technical documentation is decisive, as long as no other information is given. We reserved the right to make technical changes without any announcement. Earlier documents will no longer be valid. Martin Engineering General Conditions of Sale and Delivery apply.

2.1.3 Disclaimer

Martin Engineering guarantees the faultless operation of the product according to the advertising, edited product information, and technical documentation. Martin Engineering does not accept any liability for the efficiency and proper operation, if this product is used for any other purpose, other than as described in the section "Appropriate Use"; or for any damage caused by the use of accessories and/or spare parts, that were not delivered and/or certified by Martin Engineering.

The products from Martin Engineering are designed for a long service life. They correspond to state-of-the-art scientific and technology standards and were thoroughly inspected before delivery. Additionally, Martin Engineering carries out continuous product and market research for the further development of products.

In the event of faults and/or technical problems Martin Engineering offers professional support. Appropriate steps will be taken immediately. Martin Engineering's warranty conditions apply, which can be sent if required.

2.1.4 Reference to additional documentation

The following documents are referred to in this installation manual:

- Operating instructions for the MARTIN® inspection door, publication number M3127.

The following standards and guidelines were applied when composing this operating manual:

- EU Machinery Directive (2006 / 42 / EG)
- ISO / IEC Guide 37 "Instructions for use of products of customer interest“, edition 1995
- DIN EN ISO 14121-1 "Safety of machinery - Risk assessment - Part 1: Concepts“, edition 2007-12
- DIN 1421 "Structure and numbering in texts", edition 1983-01
- DIN EN ISO 12100-1 "Safety of machinery - Basic concepts, general concepts for design", edition 2004-04.
- DIN / ISO 16016 "Technical product documentation - Protection notices for restricting the use of documents and products", edition 2002-05

2.1.5 Classification of hazards

DANGER!

This indicates an imminent danger that can lead to serious bodily injury or death, if not avoided.

WARNING!

This indicates a possible dangerous situation that could lead to serious bodily injury or death, if not avoided.

CAUTION!

This indicates a possible dangerous situation that could lead to slight bodily injury and/or property damage, if not avoided.

NOTE

Contains information to the installation or use of the product and points to situations, that cause neither injuries nor property damage, but is nevertheless important information.

2.2 Appropriate Use

The MARTIN® SHD Cleaner is used to clean material sticking to conveyor belts. They can be used on conveyor belts with a width of up to 3000 mm and a belt speed of up to 10.5 m/s. Installing the position of the blade just after the head drum ensures that removed material is again added to the material flow.

2.2.1 Conveyor belt systems with open transfer systems

This installation manual describes the installation on a conveyor belt system with an encapsulated delivery system. For the installation on an open delivery systems different MARTIN® installation consoles can be used.

If installation conditions prove to be difficult, as is the case with impassable static components, or using the head drum as the tension point; Martin Engineering or a representative can help with the positioning or find customized solutions.

2.2.2 Use in EX-protection areas

Under certain circumstance the MARTIN® SHD Cleaner can also be used in potentially explosive areas.

Martin Engineering can provide considerable information for use in potentially explosive areas.

2.2.3 Operating limits of this product

The use of this named product is only allowed within the specified specifications. Using in a higher than specified equipment category as known or under different operational conditions other than those known and named by Martin Engineering, is considered to be inappropriate use and can only be carried out if approved by Martin Engineering.

If the MARTIN® SHD Cleaner is to be used for a different purpose, then Martin Engineering or a representative can help with the product specification.

2.3 Safety at work

2.3.1 Safety instructions, safety at work

This installation manual should be read through completely before beginning work on the product or the customer's conveyor belt system.

The operator has to make sure that all installation, inspections, and maintenance tasks are carried out exclusively by authorised experts.

Basically, all work on conveyor belt systems and their accessories has to be done when the system is at a standstill. The instructions in the relevant installation manual, which describes how to shut-down the conveyor belt, must be adhered to.

Upon completion of work, all safety equipment and protective guards should be reinstalled and put back into operation.

Before commissioning the installation should be completed. Before the conveyor belt system can be used again, the flawless execution of all steps should be checked. All notes on installation and commissioning of the product should be observed.

2.3.2 Obligations of the operator

The operator of the product should ensure that only those personnel install, maintain, and use this product, that

- know the rules for safety and accident prevention,
- are instructed in the products use, and have read and understood this installation manual.

2.3.3 Authorised personnel

Personnel are considered to be authorised, that have necessary training, technical experience, knowledge on the relevant standards and guidelines, and are also in a position to assess any task in order to recognise critical situation at an early phase.

Operating, maintenance, and installation personnel

Personnel are considered to be authorised, that have been instructed in the use of the product and have completely read and understood this installation manual.

3 Description of this product

3.1 Construction and function

The MARTIN® SHD Cleaner is installed directly at the head drum and can be installed with head drums that have a minimum diameter of 600 mm, whereby the SHD 600 can be used on head drums with a minimum diameter of 600 mm to 1,200 mm and the SHD 1200 on head drums with a maximum diameter of 2,000 mm.

The Super Heavy Duty MARTIN® SHD Cleaner was designed for constant belt cleaning with a minimum on maintenance and a long service life and is especially suitable for extreme circumstances and high belt speeds or material loads.

With the patented CARP™ - design of the cleaner blades, a consistent cleaning performance over the entire life of the cleaner blade is guaranteed.

By using with the MARTIN® SHD Spring tensioning device a re-tensioning or adjustment is no necessary.

NOTE

A poorly or incorrectly installed product can disturb the conveyor process or to contamination of the conveyed bulk material.
The operator is therefore responsible for implementing necessary countermeasures.
When using with contaminants Martin Engineering or a representative can help with the positioning or customized solutions.

4 Installation preparation

4.1 Before installation

4.1.1 Required tools and material

For installation and service of the MARTIN® SHD Cleaner only standard tools are needed.

4.1.2 Preparatory measures

NOTE

Pay attention to the following checks and carry them out completely.
The freight forwarder is responsible for any transport damage!
For any damage claims, please contact the freight forwarder.

1. At delivery, check the following points:
   - Is the delivery complete? Is the number of palettes / cases / containers the same as the number on the delivery note?
   - Does all the transport packaging appear to be undamaged? Is there damage which may indicate that the contained products may be damaged?
2. If the delivery is not complete or there appears to be some transport damage, document it and have the freight forwarder confirm this. All damaged products should be saved for inspection.
3. The delivery should contain, depending on the scope of the order, the following parts:
   - MARTIN® SHD Cleaner.
   - MARTIN® SHD Spring tensioning device.
   - Mounting brackets (flange or bearing variant).
   - Installation manual
   - Safety labels
4. Missing or damaged parts should be reported to Martin Engineering or the authorised dealer.

5 Installation

5.1 Safety instructions

NOTE

Read this section thoroughly before beginning any work!

WARNING! DANGER OF INJURY!

Body parts and/or clothing can be caught by rotating parts or moving conveyor belt.
Before any installation or maintenance work is carried out; ensure that all power sources to the conveyor belt system and its accessories are switched off and secured against inadvertent reactivation. Use warning signs!

WARNING! EXPLOSION HAZARD!

In enclosed areas there is an increased risk of explosion when using a cutting torch or welding equipment!
Before use, check the level of gas and dust in the air.

NOTE

The SHD Cleaner is always assembled with a spring tensioner on both sides.
It is easier to install a dual spring tensioner on the side known as the "operator side".

NOTE

If there is already an assembly opening and support for the conveyor belt blade in the chute wall, then skip steps 1 to 3.
Before installation, draw measurement lines on the chute wall of the head drum.
When installing on a non-enclosed head drum, use local resources to ensure that the correct and necessary dimensions are maintained.

5.2 Installation of MARTIN® SHD Cleaner

5.2.1 Determining the installation position

Determining the position of the blade shaft and the spring tensioner should be done on both sides of the chute wall. The position is determined where the shaft of the MARTIN® SHD Cleaner passes through the chute wall or where the spring tensioner is installed on the chute wall.

The MARTIN® SHD Cleaner is delivered along with a spring tensioner. This is disassembled at the factory before delivery and is reassembled during the installation along with the MARTIN® SHD Cleaner.

Part of the installation instructions is described in this installation manual. The remaining steps for the installation of the spring tensioner are in the spring tensioner installation manual.

The MARTIN® SHD Cleaner can only be used with a spring tensioner. Both products are installed at the same time.

Following is an overview of the installation steps:

No.	Installation step	Instruction
1	Determining the installation position	M3427
2	Installation of the installation plate	M3762
3	Installation of the SHD Cleaner	M3427
4	Installation of the spring tensioner	M3762
5	Installation of the cleaner blades	M3427

Table 1: Installation steps

It is possible to have different local conditions; these require different working steps, which are shown below:

- Installation on an encapsulated delivery system.
  Carry out the instructions according to 4.2.2 page 14.
- Installation on an encapsulated delivery system with installation opening and support for the conveyor belt blade is already present.
  Carry out the instructions in 4.2.3 on page 15.
- Installation on an open delivery system.
  Use the local resources to ensure that the dimensions for the installation are correctly maintained.

1. Determine the position for the centre shaft of the MARTIN® SHD Cleaner on both sides of the chute wall. The positions are determined where the shaft of the Cleaner feeds through the chute wall.
2. Mark a horizontal line from the midpoint of the drum shaft. Mark the distance, "drum radius + 150 mm".

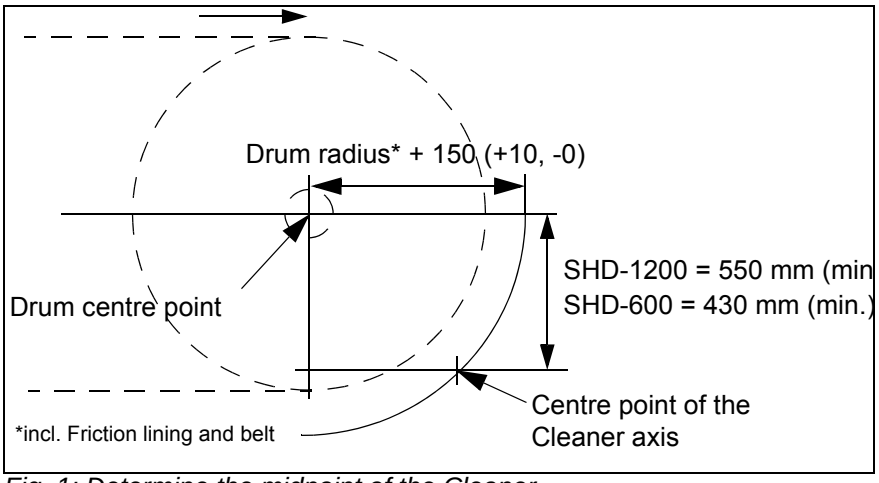

Fig. 1: Determine the midpoint of the Cleaner.

3. Mark a vertical line from the midpoint of the drum shaft.
4. Draw an arc from the midpoint of the drum axis "drum diameter + 150 (+10, -0) mm“.
5. Make a mark on the vertical line at least (SHD 1200) or 430 mm (SHD 600) from the end.
6. From this mark, draw a horizontal line through the arc.
7. The intersection of the line trough the arc is the midpoint of the Cleaner axis.
8. Repeat steps 2 to 7 on the opposite side.

NOTE

Martin Engineering recommends for improved maintenance and repair access the installation of a MARTIN® inspection door.

5.2.2 Installation of the installation plate

Instructions on installing the installation plate are to be found in the spring tensioner installation manual.

5.2.3 Installation of MARTIN® SHD Cleaner

WARNING! DANGER OF INJURY!

The MARTIN® SHD Cleaner is very heavy and can cause serious injury if it falls when being lifted or moved.
Only lift the Cleaner using suitable lifting equipment or with several persons. Do not stand under suspended loads.

NOTE

Observe the notes on installing the spring tensioner in the installation manual of the spring tensioner used.
The Cleaner can only be used with a spring tensioner. Both products are installed at the same time.

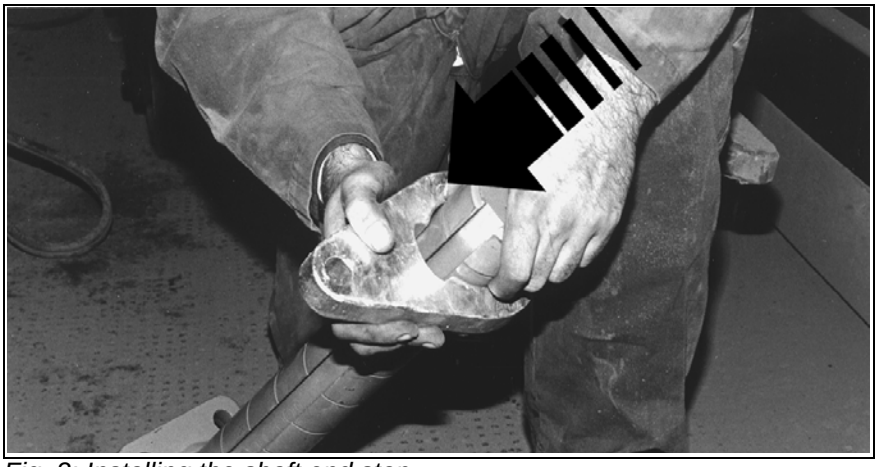

Fig. 2: Installing the shaft end stop

1. Installing the shaft end stop on to the shaft stub end. Feed the shaft stub end through from the inside of the chute wall.

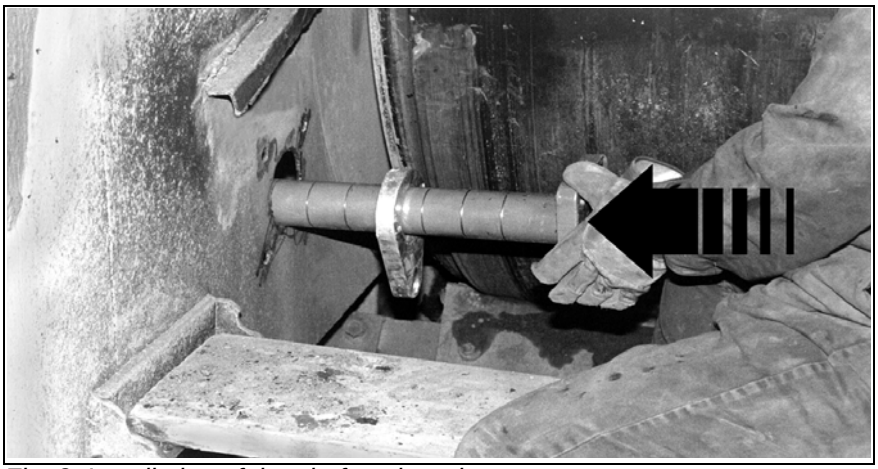

Fig. 3: Installation of the shaft stub end

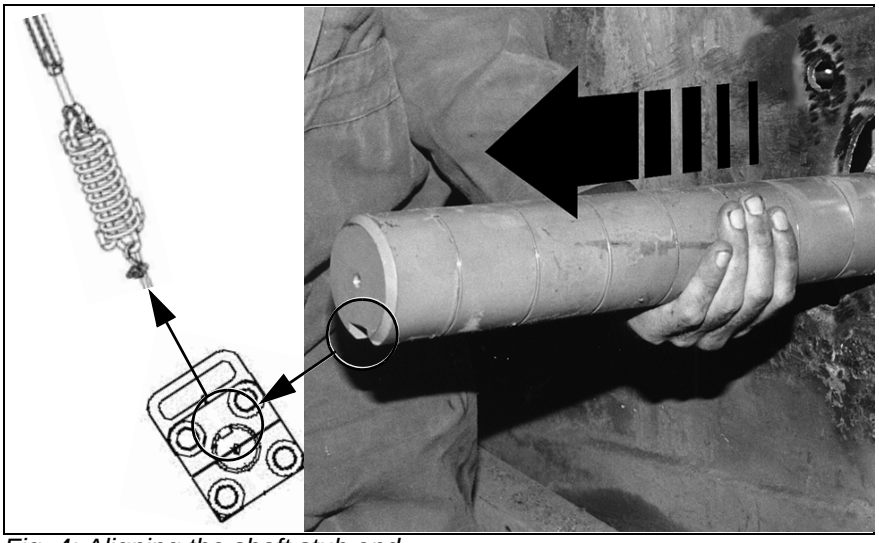

Fig. 4: Aligning the shaft stub end

2. Observe during installation that the notch in the shaft stub end is in the tensioning direction (Fig. 5).

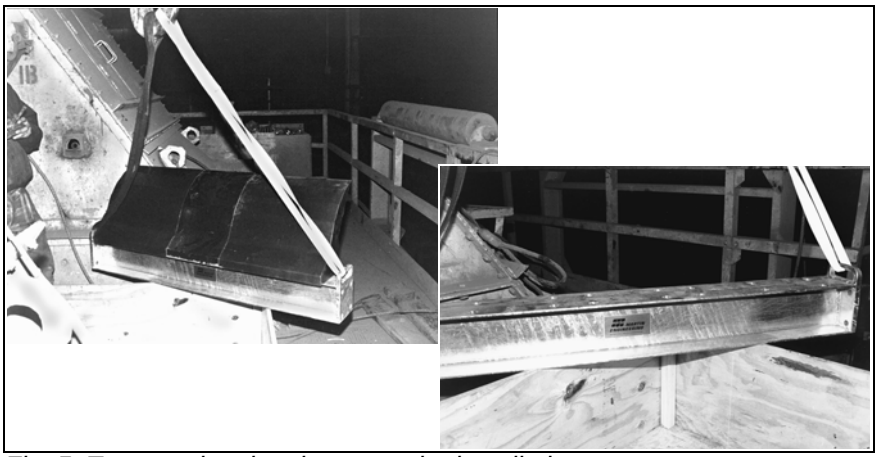

Fig. 5: Transporting the cleaner to the installation

CAUTION!

Only lift the Cleaner using adequate lifting equipment or with several persons.
It may cause injury.

NOTE

If at all possible, install the cleaner blades onto the blade shaft (refer point 4.2.5) before lifting the cleaner shaft up into the chute. If it is not possible to install the cleaner blades before lifting up, then lift the cleaner shaft into the chute. Then install the cleaner blades.

3. Align the blade shaft to the operator side.

Fig. 6: Alignment of the cleaner shaft (1)

4. Insert the screws with the washers from the flange side through the shaft stub end and the blade shaft.

Fig. 7: Alignment of the cleaner shaft (2)

5. Tighten the screws with the spring washers and washers diagonally with a torque wrench to 350 Nm.
6. Repeat steps 3 - 5 for the opposite side.

5.2.4 Installation of the spring tensioner

Observe the instructions in the spring tensioner operating manual.

5.2.5 Installation of the screwed cleaner blades

1. Place the cleaner blades and cleaner shaft together and screw from below.

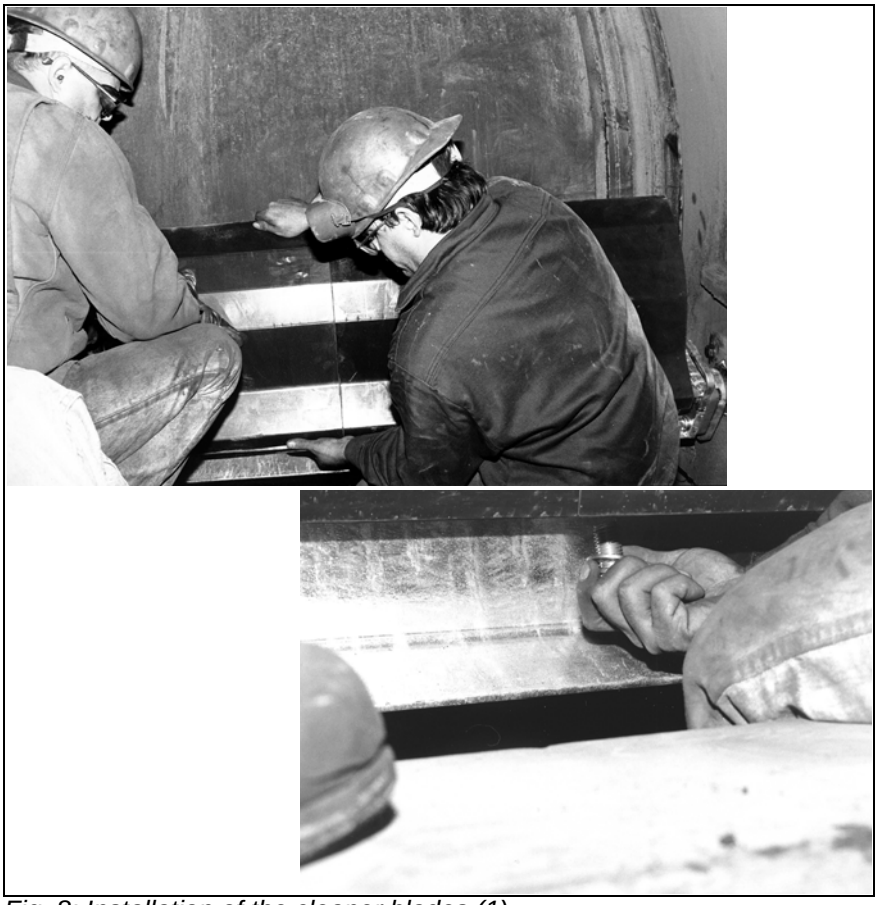

Fig. 8: Installation of the cleaner blades (1)

NOTE

Note that the wiping edge of the cleaner blades is to be adjusted against the head drum.

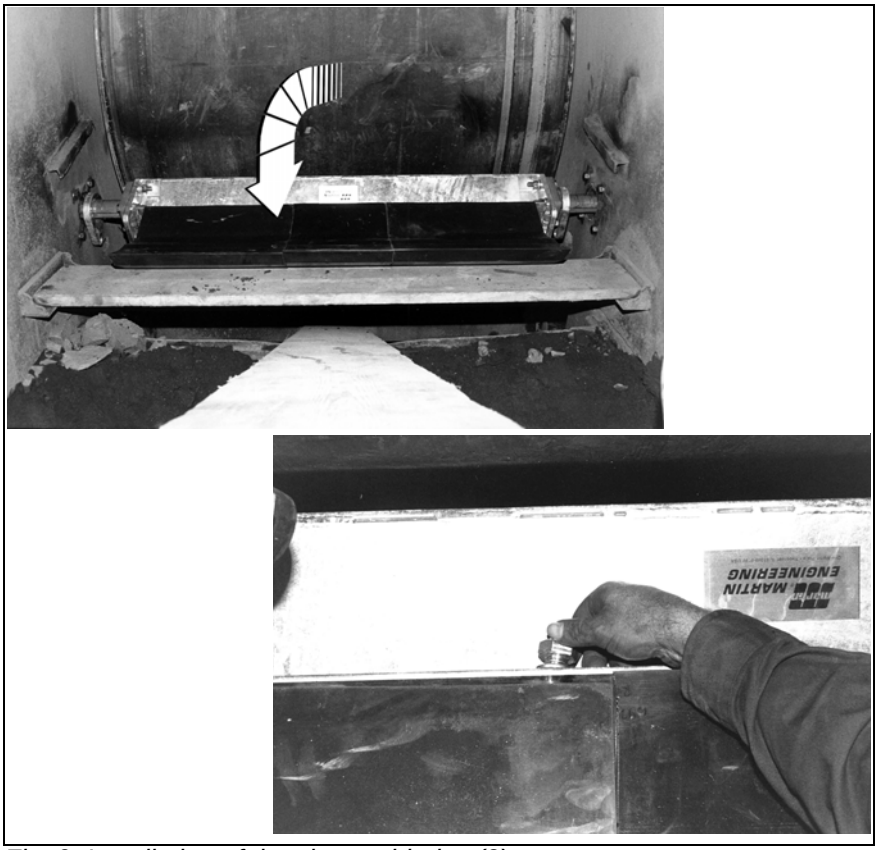

Fig. 9: Installation of the cleaner blades (2)

2. To screw the cleaner blades on to the inner side of the cleaner, tilt and lay onto a stable surface, e.g. board.
3. Tighten the screws with the spring washers and washers diagonally with a torque wrench to 440 Nm.
4. The installation of the MARTIN®SHD Cleaner is completed.

NOTE

Before adjusting the MARTIN®SHD Cleaner carry on with the installation of the MARTIN® SHD spring tensioner.

5. For additional instructions on adjusting the MARTIN®SHD Cleaner refer to point 4.2.7 page 24.

NOTE

To complete the installation, the notes in the MARTIN® SHD spring tensioner operating manual should also be observed.

5.2.6 Installation of the plugged (RT) cleaner blades

Fig. 10: Installation of the blade grip

NOTE

Note, that the wiping edge of the cleaner blade is to be adjusted against the head drum.

NOTE

Ideally the blade grip is pre-assembled at the factory and normally should not need to be disassembled locally.
Skip step 1 if the blade grip is pre-assembled onto the blade shaft.

1. Set the blade grip and blade shaft together and screw from below.

Fig. 11: Inserting the cleaner blade

2. Insert the cleaner blade into the blade grip until the cleaner blade is level to the blade grip.

NOTE

Careful installation can help to prevent the ingress of dirt into the blade grip.

Fig. 12: Fixing the plastic pin

3. Insert the plastic pins with the flattened sides into the recesses provided and tap into place carefully using a hammer, until each plastic pin is level with the cleaner blade.

Fig. 13: Final assembly of the blade grip with the cleaner blades

4. To screw the blade shaft with the blade grip onto the inner side of the cleaner, tilt and lay onto a stable surface, e.g. board.
5. Tighten the screws with the spring washers and washers diagonally with a torque wrench to 440 Nm.

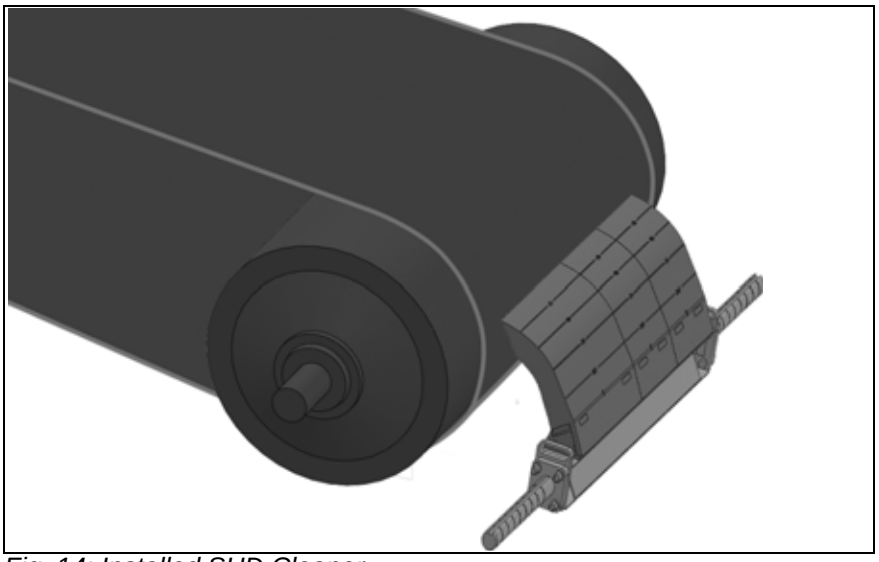

Fig. 14: Installed SHD Cleaner

6. The installation of the Cleaner is completed. For additional instructions on adjusting the Cleaner refer to point 4.2.7 page 24.

5.2.7 Centering the cleaner shaft on to the head drum

Measure on both sides the distance A to B between the edge of the cleaner blades and the conveyor belt edge in order to make sure that the conveyor belt cleaner is adjusted in the middle of the conveyor.

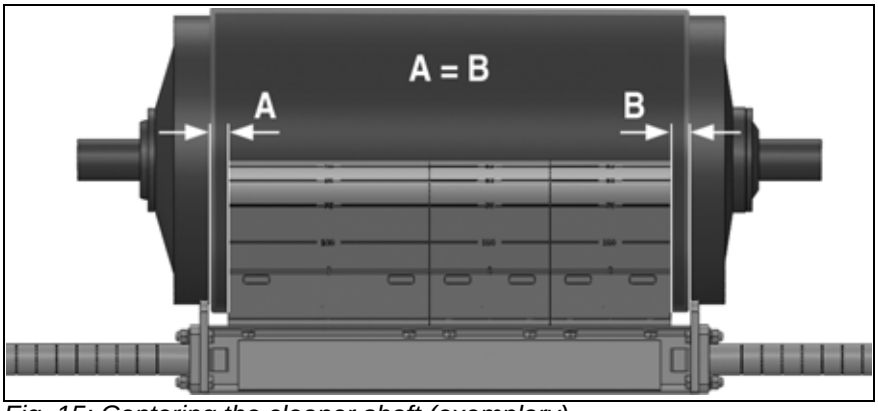

Fig. 15: Centering the cleaner shaft (exemplary)

Slide the cleaner shaft until the distance A is equal to distance B The conveyor belt should protrude about 50 to 100 mm on both the left and the right sides. The cleaner blades should be positioned in the middle under the conveyor belt.

If necessary re-centralise the blade shaft.

5.2.8 Adjust the cleaner shaft parallel to the conveyor belt

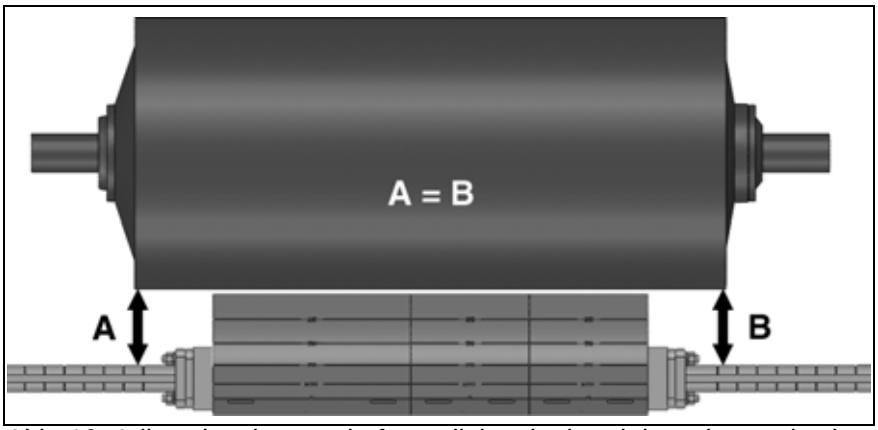

Abb. 16: Adjust the cleaner shaft parallel to the head drum (exemplary)

Measure the distance A and B between the cleaner shaft midpoint and the head drum. To do this, engage the cleaner blades with the conveyor belt. The values measured, A and B, should be equal.

5.2.9 Levelling the cleaner shaft

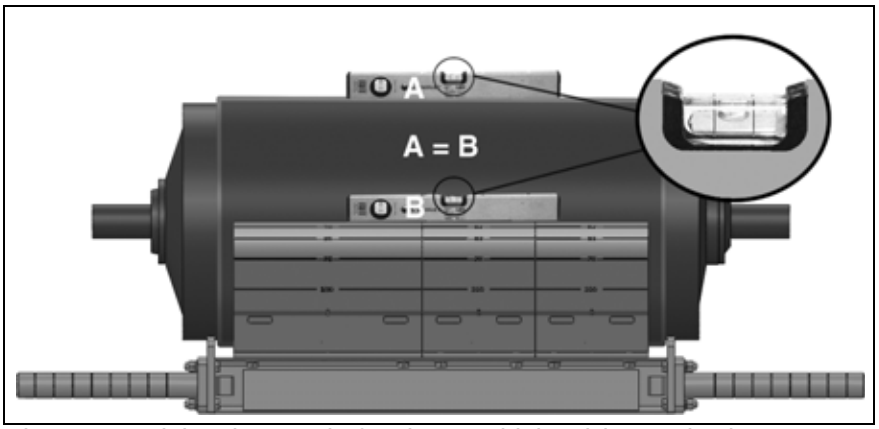

Fig. 17: Level the cleaner shaft using a spirit level (exemplary)

Level the cleaner shaft to the head drum or check that the cleaner blades are positioned in the centre of the conveyor belt.

Once all the dimensions are correct and the cleaner is adjusted it can then be fixed into position. If not, it should be reinstalled or re-positioned.

NOTE

Attach the warning label (part no. 23395G) to both sides above the spring tensioner, well visible for the system operator. Also refer to Fig. 17.

5.2.10 Tensioning the blade

CAUTION! DANGER OF DAMAGE!

Damage can occur if the tension of conveyor belt blade on the conveyor belt is too high or uneven.
Only tension the conveyor belt blade according to the guidelines and with dual spring tensioners ensure even tension.

Follow the notes on tensioning of the conveyor belt blade in the installation manual of the MARTIN® spring tensioner.

5.3 Test run

5.3.1 Inspect the installation of the MARTIN® SHD Cleaner

NOTE

Read through this section thoroughly before starting work on the MARTIN® SHD Cleaner or the customer's conveyor belt system.

CAUTION! FLYING PIECES!

Tools or installation parts that are left behind can fall from a moving conveyor belt and cause slight injuries and property damage.
After the installation first remove tools and installation parts from the conveyor belt before applying power.

WARNING! DANGER OF INJURY!

Body parts and/or clothing can be caught by rotating parts or the moving conveyor belt.
Before any installation or maintenance work is carried out, ensure that all power sources to the conveyor belt system and its accessories are switched off and secured against inadvertent reactivation.
Use warning signs!

1. Remove all tools and fire protection covers from the installation area and conveyor belt.
2. Carry a one hour test run of the conveyor belt system.
3. After the test run, switch off the conveyor belt system, switch off the power and secured against inadvertent reactivation.
4. Make sure that all securing parts are tightened. Tighten any looses connections.
5. Check the following points with the MARTIN® SHD Cleaner:
   - **Wear and tear**: A little wear and tear is normal. As soon as the cleaner blades have adjusted to the contour of the conveyor belt, this phenomenon will stop happening.
   - **Bulk material accumulation**: No bulk material is allowed to accumulate between the cleaner blades and the conveyor belt.
6. If the wear and tear or bulk material accumulation is excessive or other problems occur refer to the information in section 4.4 page 27.

5.4 Installation - Check-list

If the test run of the Cleaner was not as expected, then the following table "Installation Check-list" could help to find and solve the problem. If there are still problems, refer to chapter 6 "Troubleshooting":

Installation - Check-list
The MARTIN® SHD Cleaner should be installed according to the dimensions in section 4.2.1 page 14.
The MARTIN® SHD Cleaner is tensioned according to the operating manual of the spring tensioner.
The MARTIN® SHD Cleaner is centred on the conveyor belt.

Table 2: Installation - Check-list

5.5 Placing the warning label or the warning pendant

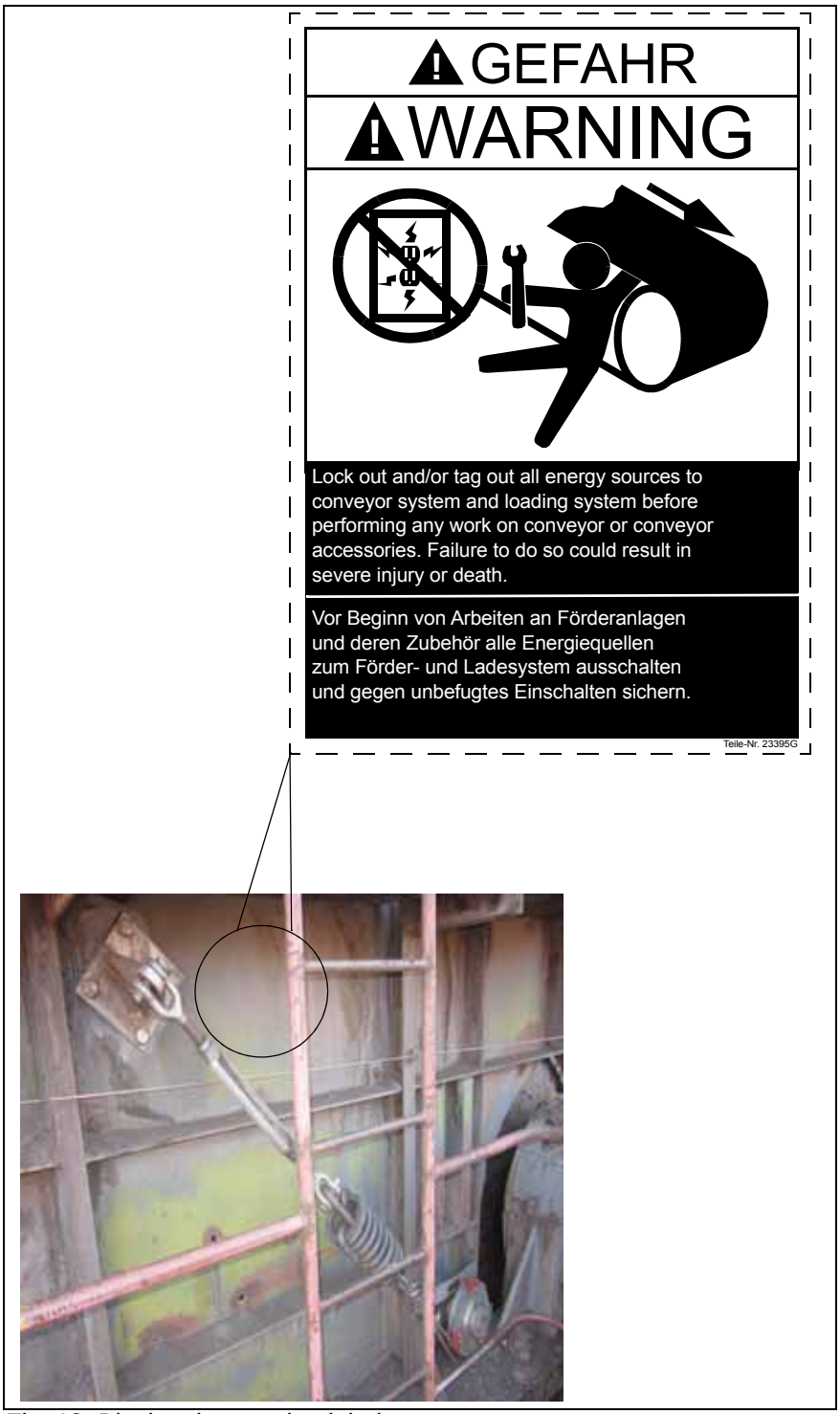

Fig. 18: Placing the warning label

6 Maintenance

6.1 Safety instructions

NOTE

Maintenance inspections should take place at least once a week. Depending on operational conditions, shorter maintenance intervals may be necessary.

NOTE

Read this section thoroughly before beginning any work.

WARNING! DANGER OF INJURY!

Body parts and/or clothing can be caught by rotating parts or the moving conveyor belt.
Before maintenance work is carried out, ensure that all power sources to the conveyor belt system and its accessories are switched off and secured against inadvertent reactivation.
Use warning signs!

6.2 Weekly maintenance

1. Open the inspection door (if present) and check if the Cleaner is working.

WARNING! DANGER OF INJURY!

Do not grab into the chute during operation of the conveyor belt.

2. Switch off the conveyor belt and secure against reactivation.
3. Remove the build up of bulk material on the cleaner blades and the wiper shaft.
4. If necessary readjust the tension on the blade. Observe the instructions in the spring tensioner operating manual.
5. Make sure that all securing parts are tightened. Tighten any loose connections.

NOTE

Check for wear and tear and engagement pressure of the cleaner blades at least once a week and adjust if necessary. The cleaner blades should always have sufficient contact to the conveyor belt.

NOTE

If there are any signs of degrading operation, turn off the relevant part of the conveyor belt system. To receive support, contact Martin Engineering or a representative. DO NOT operate the conveyor belt until the reason for the problem is known and a solution is found.

6. Check the cleaner blade for wear and tear and/or damage. Cleaner blades that have reached at least 100 % of the wear mark are to be replaced according to section 5.3. - page 31.
7. Clean all warning labels. Replace any warning labels that cannot be read. Warning labels can be obtained from Martin Engineering or an authorised dealer.

CAUTION! FLYING PIECES!

Tools or installation parts that are left behind can fall from a moving conveyor belt and cause slight injuries and property damage.
After the installation first remove tools and installation parts from the conveyor belt before applying power.

8. Remove all tools from the working area.
9. Switch on the conveyor belt.

WARNING! DANGER OF INJURY!

Body parts and/or clothing can be caught by rotating parts or moving conveyor belt.
Do not grab into the conveyor belt system during operation.

10. Observe the cleaning efficiency of the Cleaner.

6.3 Replacement of the cleaning element

WARNING! DANGER OF INJURY!

Body parts and/or clothing can be caught by rotating parts or the moving conveyor belt.
Before any installation or maintenance work is carried out; ensure that all power sources to the conveyor belt system and its accessories are switched off and secured against inadvertent reactivation.
Use warning signs!

NOTE

Ideally the cleaner blade should be replaced before the 100 % wear mark has been reached.

6.3.1 Replacing the screwed cleaner blade

Fig. 19: Illustration of the 100 % wear mark

1. Tension the spring tensioner according to the instructions in the corresponding spring tensioner operating manual.
2. Wiper blades can be replaced without de-installing the blade shaft; however they can also be replaced by de-installing the shaft stub end from the blade shaft.

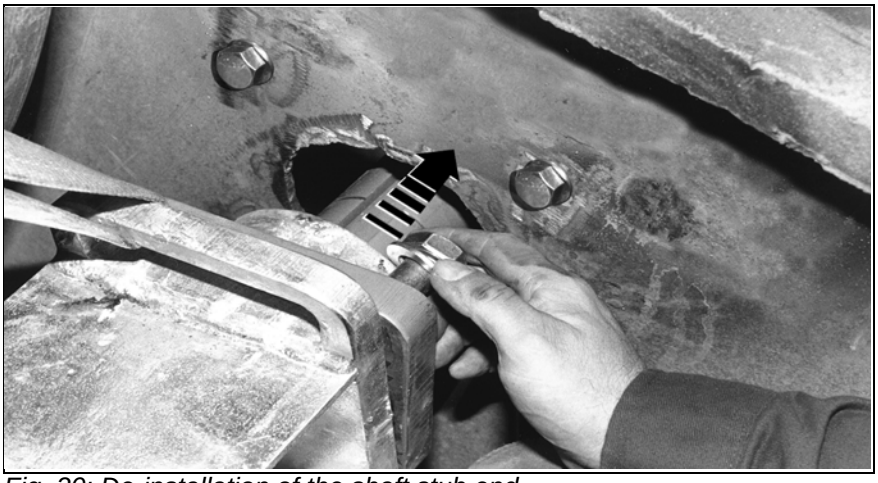

Fig. 20: De-installation of the shaft stub end

3. Loosen the connecting screws between the cleaner shaft and the shaft stub end.
4. Using lifting equipment, lift out the cleaner shaft from the chute and place on a flat surface.

CAUTION!

Secure the cleaner shaft against tipping.
There is a danger of injury due to tipping of the cleaner.

5. Release the securing screws from the cleaner blades and remove. Carefully lift the worn cleaner blades from the blade shaft.

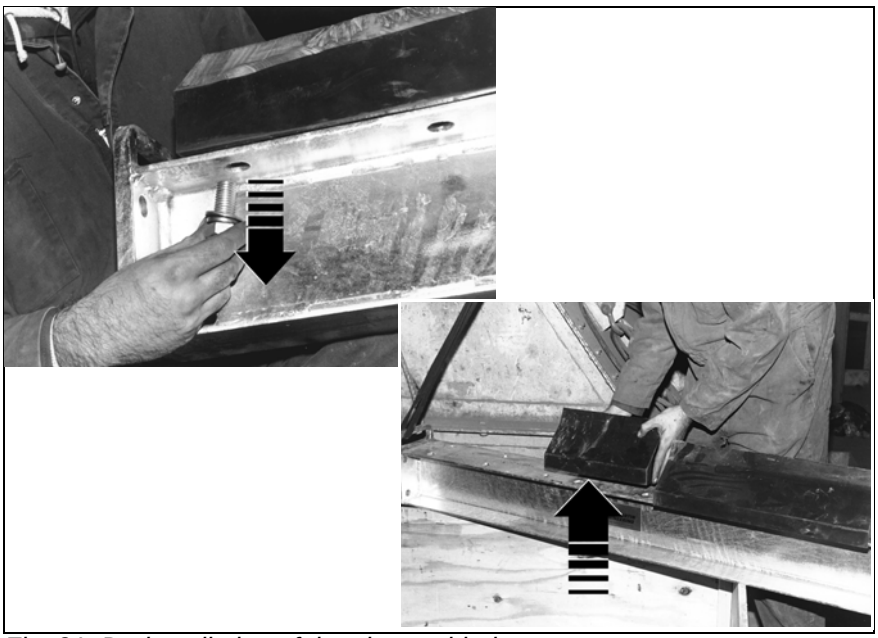

Fig. 21: De-installation of the cleaner blades

6. The new cleaner blades should be installed according to section 4.2.5 page 19 of this operating manual.
7. Remove all tools from the working area.
8. Switch on the conveyor belt.

WARNING! DANGER OF INJURY!

Body parts and/or clothing can be caught by rotating parts or moving conveyor belt.
Do not grab into the conveyor belt system during operation.

9. Observe the cleaning efficiency of the MARTIN®SHD Cleaner.

6.3.2 Replacement of the plugged cleaner blades, type RT

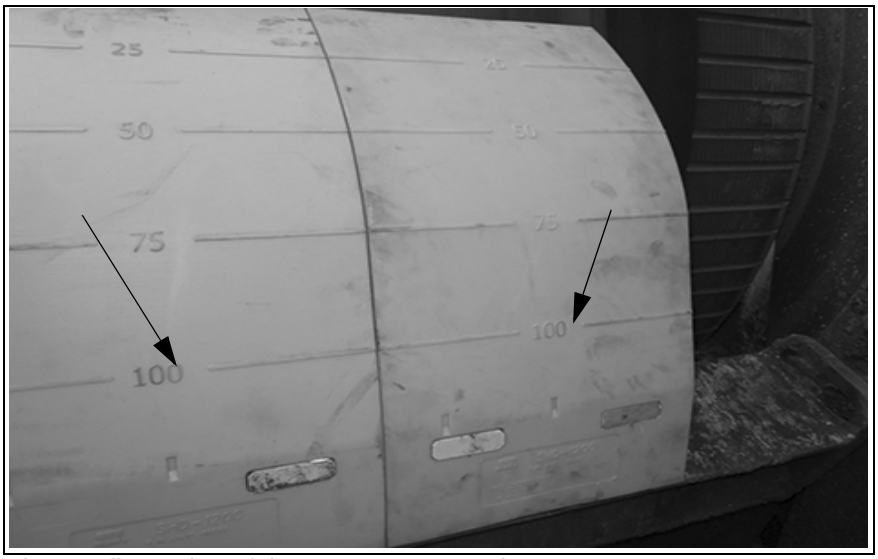

Fig. 22: Illustration of the 100 % wear mark

1. Tension the spring tensioner according to the instructions in the corresponding spring tensioner operating manual.
2. The cleaner blades can be replaced without de-installing the cleaner shaft.

Fig. 23: Driving out the plastic pins

3. Completely drive out the plastic pins from the outside inwards using a flat tapered pin.

NOTE

Replace pins also if excessively worn.

Fig. 24: Drive out the cleaner blade

4. To loosen the position of the cleaner blade; hit from below using a tapered pin. As an alternative; using a pointed object (e.g. screwdriver) break the wall at the marked location and loosen the cleaner blade by lifting.
5. The cleaner blade can now be removed.
6. The new cleaner blades should be installed according to section 4.2.6 - page 21 of this operating manual.
7. Remove all tools from the working area.
8. Switch on the conveyor belt.
9. Observe the cleaning efficiency of the MARTIN®SHD Cleaner.

WARNING! DANGER OF INJURY!

Body parts and/or clothing can be caught by rotating parts or moving conveyor belt.
Do not grab into the conveyor belt system during operation.

7 Troubleshooting

7.1 Safety instructions

NOTE

Conveyor belt blades are subject to many different types of materials and are often used in extreme working and environmental conditions. Therefore faults can occur other than those listed here.
In this case, Martin Engineering or a representative can help with the positioning or customized solutions. Only use the conveyor system after the fault has been found and repaired.

7.2 Troubleshooting

If, after the installation there is an abnormally high wear and tear on the cleaner blade and/or the cleaning efficiency is too low, check the following points:

Symptoms	Cause	Corrective action
High wear and tear on the cleaner blade.	The tension on the cleaner is too high.	Reduce the spring load on the spring tensioner.
Cleaning efficiency too low or accumulation of bulk material.	The blade is either too tight or too loose. Cleaner blade below the 100 % wear mark.	Reduce or increase the spring load on the spring tensioner. Check the cleaner blade for wear and tear and replace if necessary.
Cleaner blade rattling.	With new cleaner blades this should stop after a short running in period or when material is transported. Cleaner blade below the 100 % wear mark.	Check the cleaner blade for wear and tear and replace if necessary.
Irregular wear on the cleaner blade.	Material accumulates in the middle of the conveyor belt. Cleaner blade is installed in the material flow.	Remove a cleaner blade from the blade shaft. Re-position the blade.

Table 3: Troubleshooting

8 Storage, De-installation, Disposal

8.1 Storage

Martin Engineering recommends that in order to maintain optimal usage of the cleaner and the cleaner replacement blades made out of urethane or with rubber components; they should be stored at room temperature and protected from direct sunlight.

The best storage conditions are between +0°C to +30°C and at 60% relative humidity.

Depending on the type of urethane and the storage conditions a storage of from 6 - 12 months or longer under unfavourable conditions degrade the usage of the cleaner or cleaner blades.

8.2 De-installation

De-installation is the reverse of the installation (refer to section 4.2.3. page 16).

8.3 Disposal

Assemblies and/or spare parts of the Martin Engineering cleaner should be disposed of properly after use.

- Complete assemblies should be de-installed and separated according to material and disposed of.

When disposing, all national and international waste disposal regulations have to be observed.

9 Part numbers

This chapter lists the product identifiers with their corresponding part numbers for the MARTIN® SHD Cleaner and its accessories.

Always state the part number when ordering.

9.1 MARTIN® SHD Cleaner

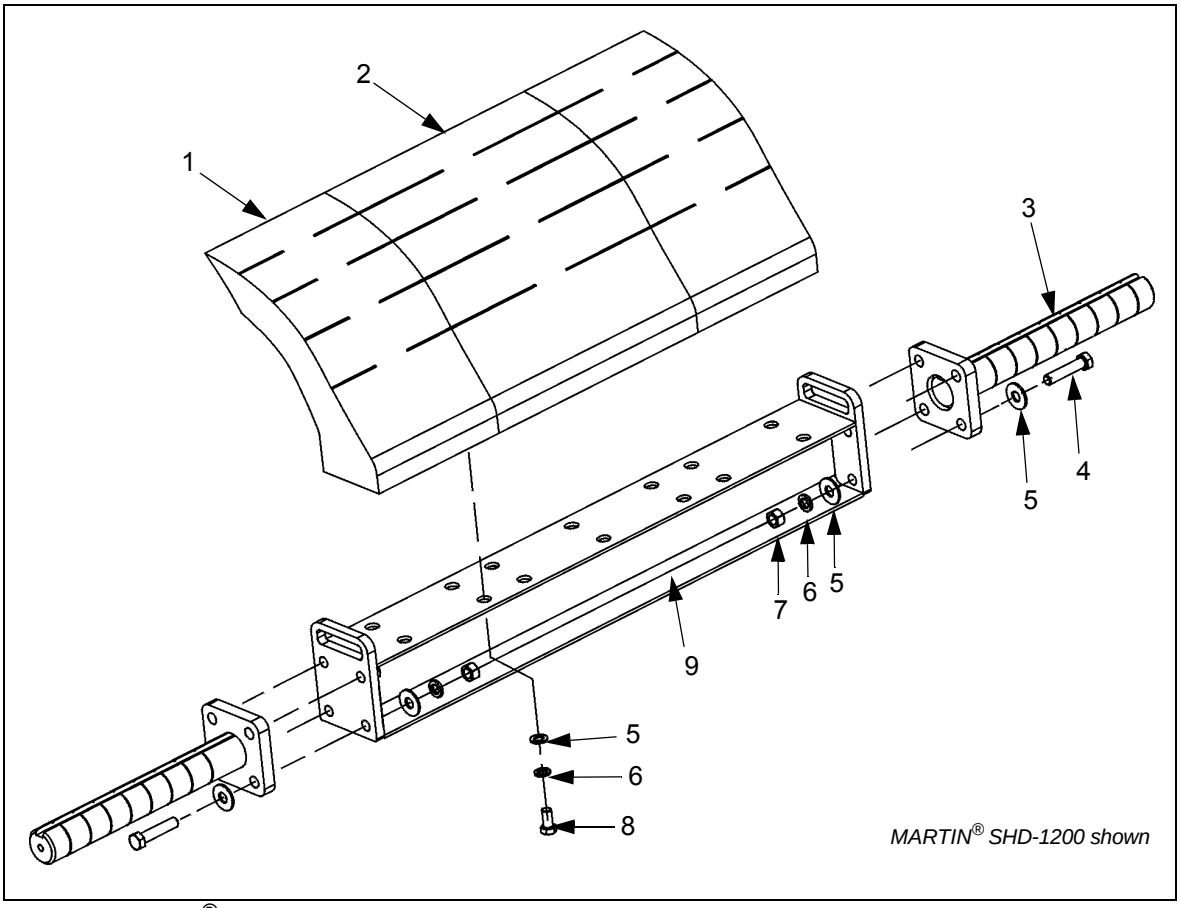

Fig. 25: MARTIN® SHD 600 Series Cleaner; part no. 35541-XXXXXXXX+E;
MARTIN® SHD 1200 Series Cleaner; part no. 35540-XXXXXXXX+E

Pos.	Number	Description	Part-No.
1	s.Tab.5	SHD 600 Cleaner blade (300 mm) SHD1200 Cleaner blade (300 mm)	35522-300 35523-300
2	s.Tab.5	SHD 600 Cleaner blade (500 mm) SHD1200 Cleaner blade (500 mm)	35522-500 35523-500
3	2	SHD shaft stub end	s.Tab.8
4	s.Tab.5	Hex bolt M 20 x 80	41081-20080BZP88
5	s.Tab.5	Washer M 20	41088-20BZP
6	s.Tab.5	Snap ring M 20	41090-20BZP
7	s.Tab.5	Hex nut M 20	41086-20BZP
8	s.Tab.5	Hex bolt M 20 x 40	41081-20040BZP88
9	1	SHD main support	s.Tab.5
---	2	Warning label for conveyor products	23395G
---	1	Installation manual MARTIN® SHD Cleaner	M3427UK

Table 4: MARTIN®SHD 600 Series Cleaner; part no. 35541-XXXXXXXX+E;
MARTIN®SHD 1200 Series Cleaner; part no. 35540-XXXXXXXX+E

Assembly Part no.	Length of shaft max. [mm]	Bladewidth [mm]	Part no. Item 9	No. Item 1	No. Item 2	No. Item 5, 6	No. Item 8
3554x-800XXXX+E	3250	600	35509-800+E	2	0	16	8
3554x-1000XXXX+E	3450	800	35509-1000+E	1	4	18	10
3554x-1200XXXX+E	3550	900	35509-1200+E	3	0	20	12
3554x-1400XXXX+E	3750	1100	35509-1350+E	2	1	22	14
3554x-1600XXXX+E	3950	1300	35509-1500+E	1	2	24	16
3554x-1800XXXX+E	4150	1500	35509-1800+E	0	3	26	18
3554x-2000XXXX+E	4450	1800	35509-2000+E	1	3	30	22
3554x-2200XXXX+E	4650	2000	35509-2100+E	0	4	32	24
3554x-2400XXXX+E	4750	2100	35509-2400+E	2	3	34	26
3554x-2800XXXX+E	5150	2500	35509-2700+E	0	5	38	30
3554x-3000XXXX+E	5250	2600	35509-3000+E	2	4	40	32

Table 5: Dimensions, part numbers, and amount for the MARTIN® SHD Cleaner

9.2 MARTIN® SHD RT Cleaner

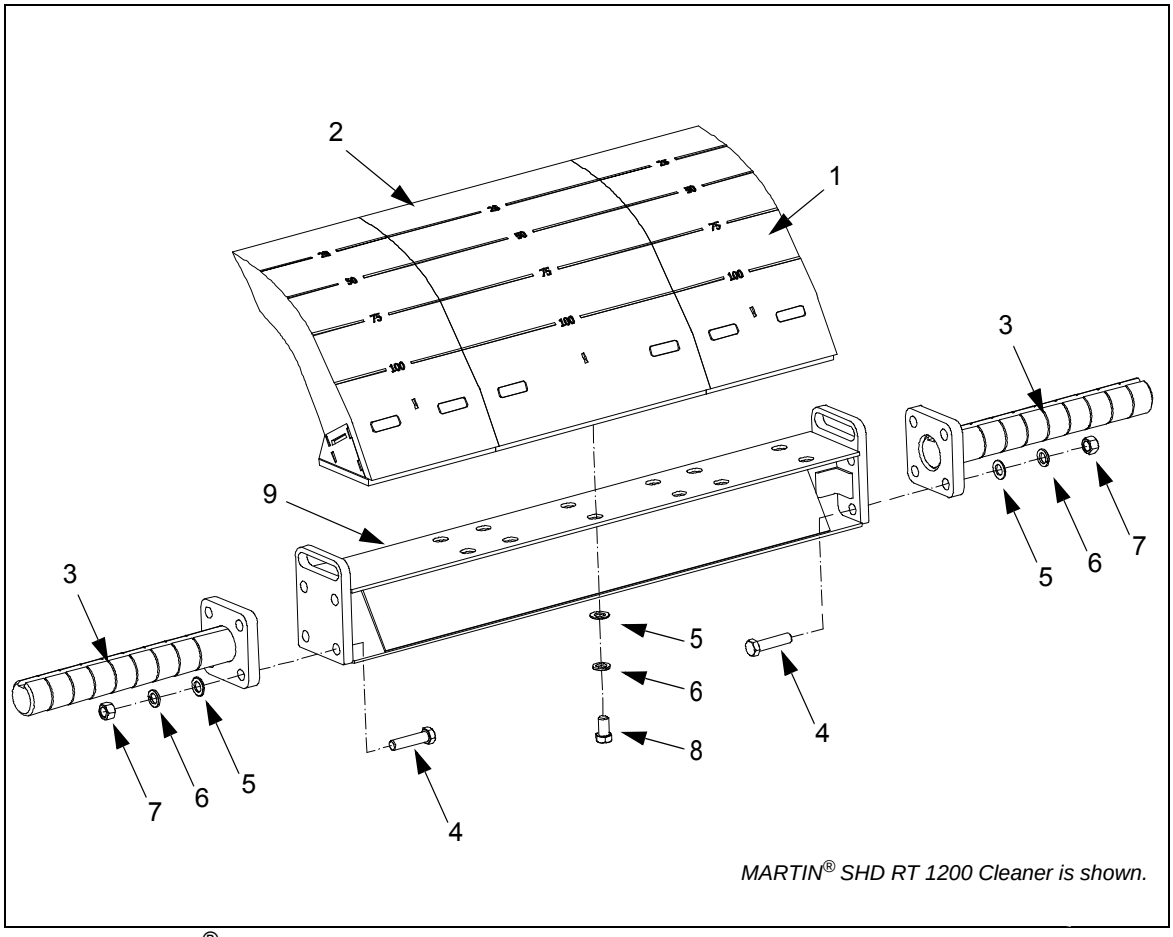

Fig. 26: MARTIN® SHD RT Cleaner; Part no. 41200-XXXXXXXX+E

Pos.	Number	Description	Part-No.
1	s.Tab.7	MARTIN® SHD Cleaner blade RT assembly 300 mm	s.Tab.9
2	s.Tab.7	MARTIN® SHD Cleaner blade RT assembly 500mm	s.Tab.9
3	2	Shaft stub end	s.Tab.8
4	8	Hex bolt M 20 x 80	41081-20080BZP88
5	s.Tab.7	Washer M 20	41088-20BZP
6	s.Tab.7	Snap ring M 20	41090-20BZP
7	8	Hex nut M 20	41086-20BZP
8	s.Tab.7	Hex bolt M 20 x 35	41081-20035BZP88
9	1	SHD main support	s.Tab.7
---	2	Warning label for conveyor products*	23395
---	1	Installation manual, MARTIN® SHD Cleaner*	M3427UK

Table 6: MARTIN® SHD RT Cleaner; Part no. 41200-XXXXXXXX+E

Assembly Part no.	Length of shaft [mm]	Bladewidth [mm]	Part no. Item 6	No. Item 2	No. Item 4, 5	No. Item 8	No. Item 9
41200-XX-042X036XXXXXXX	3550	900	35509-1200+E	12	20	3	0
41200-XX-048X042XXXXXXX	3750	1100	35509-1350+E	12	20	2	1
41200-XX-054X052XXXXXXX	3950	1300	35509-1500+E	12	20	1	2
41200-XX-066X060XXXXXXX	4150	1500	35509-1800+E	12	20	0	3
41200-XX-072X070XXXXXXX	4450	1800	35509-2000+E	16	24	1	3
41200-XX-084X078XXXXXXX	4650	2000	35509-2100+E	16	24	0	4
41200-XX-096X082XXXXXXX	4750	2100	35509-2400+E	20	28	2	3
41200-XX-102X098XXXXXXX	5150	2500	35509-2700+E	20	28	0	5
41200-XX-108X102XXXXXXX	5250	2600	35509-3000+E	24	32	2	4

Table 7: Dimensions, part numbers, and amount for the MARTIN® SHD RT Cleaner

Part no.	Part no. Item 7	Length of the shaft stub end [mm]
41200-XX-XXXXX05XXXXXX	35526-0500+E	500
41200-XX-XXXXX07XXXXXX	35526-0750+E	750
41200-XX-XXXXX10XXXXXX	35526-1000+E	1000
41200-XX-XXXXX12XXXXXX	35526-1250+E	1250

Table 8: Dimensions and part number for the MARTIN® SHD RT Cleaner shaft stub end

Part no.	Part no. Item 8. 9	Colour
41200-06-XXXXXXXXXXORX	41416-XXXOR-A	orange
41200-12-XXXXXXXXXXORX	41417-XXXOR-A	orange

Table 9: Part numbers for the MARTIN® SHD RT Cleaner cleaner blades

9.2.1 Part number - description

SHD-600 **35541-XXXXXXXX+E**

Belt width in mm

Shaft end piece length in dm*

Colour of the urethane blade
OR = orange
BR = brown

SHD-600 with Spring Tensioning Device **41046-XXXXXXXX**

Belt width in inches

Type of bearing fixing
B = plummer block
F = flange bearing

Shaft end piece length in dm*

Colour of the urethane blade
OR = orange
BR = brown

* The shaft end pieces are available in four different lengths: 500 mm, 750 mm, 1000 mm and 1250 mm.

SHD RT **41200-AA-BBBCDDDEEFFGGH**

SHD blade model
06 = SHD 600
12 = SHD 1200

Band width in inches (042 -120)

Installation flange bearing option
0 = without flange
B = plummer block
F = flange bearing

Reinigungsbreite in Zoll (036 -108)

Length of the main frame extension
05 = 500 mm
07 = 750 mm
10 = 1000 mm
12 = 1250 mm

Basic blade options
WP = welded piece- RAL2004 (orange)
WH = welded piece hot galvanized

Blade model (colour)
00 = without blades
OR = orange
BK = black (ATEX certified)

Clamping device option
T= with SHD clamping device
0 = without SHD clamping device

9.3 MARTIN® Inspection doors

With standard rubber door to 68°C:

- 229 x 305 mm: Part no. CYAR-0912M
- 305 x 356 mm: Part no. CYAR-1214M
- 305 x 457 mm: Part no. CYAR-1218M
- 457 x 610 mm: Part no. CYAR-1824M
- 610 x 610 mm: Part no. CYAR-2424M

Steel door

- 229 x 305 mm: Part no. 34955-0912
- 305 x 457 mm: Part no. 34955-1218
- 457 x 610 mm: Part no. 34955-1824
- 610 x 610 mm: Part no. 34955-2424
- MARTIN® door with increased depth 305 x 457 mm: Part no. 35388. (MARTIN® door with increased depth can only be delivered with the dimensions 305 x 457 mm.)

9.4 Installation manuals

- **MARTIN® Inspection door:** Document no. M3127
- **MARTIN® SHD Spring tensioning device:** Document no. M3762

9.5 Warning label / Warning tab

- **Warning label for conveyor products:** Part no. 23395

9.6 Accessories and options

9.6.1 Inspection doors

If the MARTIN® SHD Cleaner is installed in an encapsulated transfer system and better access is required for inspection and maintenance; it is better to install an additional MARTIN® inspection door. This can be obtained from Martin Engineering or from an authorised dealer.

9.6.2 Cleaning elements

The cleaning elements for the MARTIN® SHD Cleaner are available in different materials. Type of material is chosen depending on usage (bulk materials, temperature etc.). Additional specifications are to be found on the corresponding MARTIN® SHD Cleaner data sheet.

9.7 Product label

Fig. 27: Warning label for conveyor products, part no.: 23395

10 Declaration of Incorporation

The following is the EC Declaration of Incorporation for the incomplete MARTIN® SHD Cleaner.

EC - Declaration of Incorporation according to the Machinery Directive (2006/42/EG) Annex II B for the installation of an incomplete machine

We hereby declare, the company Martin Engineering

In der Rehbach 14 Tel.: +49 (0)6123-97820

D-65396 Walluf Fax: +49 (0)6123-75533

that the following named product

Product designation:

Conveyor belt wiper

the make / type of:

MARTIN® SHD Cleaner

with the serial number:

not required

comply with the following regulations:

EC - Machinery Directive 2006/42/EC

DIN EN 618 - Equipment and systems for bulk goods

The following harmonized standards were particularly used:

DIN EN ISO 12100-1 - Safety of machinery (Part 1)

DIN EN ISO 12100-2 - Safety of machinery (Part 2)

Notified body:

not required

The information provided in the installation manual and technical documentation are in the original version with the named product.

The operation of this product is prohibited until it has been established that, the system in which it is to be installed complies with the provisions of the EU Directive 98/37/EC and 2006/42/EC, in the amended form.

Date: 21.01.2010

Manufacturer's signature: Managing director, Michael Hengl

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