

Technical Documentation

# LIFT & TRANSFERS RBM & HQZ SERIES

Each serial number is unique to that specific unit and provides mk North America with complete order details. The serial number is located on the frame of the conveyor. See section 2 for more details.

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## 1 GENERAL INFORMATION

#### 1.1 Foreword

Congratulations on purchasing a conveyor from mk North America, Inc., a leading manufacturer of quality low profile conveyors. Our more than 30 years experience in material handling allows us to offer robust solutions with long life and reliable operation. We strive to make the best products in the industry even better and we are committed to making sure our customers get top notch support before, during, and after each and every sale.

#### 1.2 The importance of reading your manual

Inside this manual you will find the instructions on how to set up and maintain your mk conveyor properly, as well as maximize its performance. Please take the time to read this manual and familiarize yourself with these set up and maintenance instructions. These instructions will help assure a long product life that requires a minimum amount of service and keeps your conveyor working at its maximum capacity.

#### 1.3 If you need assistance

If you need assistance there are a variety of ways to get it. You can contact our customer service team Monday through Friday, 8am-5pm (Eastern Time) at (860) 769-5500. You can also visit our website for additional information and technical documentation at <u>www.mknorthamerica.com</u>. In addition, your local representative can provide support in many instances.

#### 1.4 When your shipment arrives

- 1) Check your shipment
  - a) If you have not already done so, visually inspect the shipping crate/container for any damage caused during shipment.
  - b) Carefully unpack the crate/container making sure to inspect the components for damage that may have occurred inside the packaging materials.
  - c) If you find any damage, please contact the carrier and mk North America, Inc.
  - d) Lastly, check the contents against the packing slip provided by mk for any discrepancies. If you should find any, please contact mk North America, Inc.
- 2) Locate your ordered items
  - a) Each mk conveyor will ship in its own custom built container, carefully packaged in the most economical way.
  - b) Review the packing slip against your Purchase Order.

## 2 SERIAL NUMBER LABEL

• The conveyor's serial number is located on the frame at the drive end of the conveyor.

	Туре:	Date:	
NORTH AMERICA, INC.	Serial #:	CO #:	
	Drawing #:		0
	www.	mknorthamerica.com 🛛 (860) 769-5500	Scan for Documentation

#### Type:

This description refers to the type of unit that is associated with the particular serial number. The type should NOT be substituted for the serial number when inquiring.

#### Serial #:

This number is unique to this item. With this number we can access all of the original order details.

#### Drawing #:

This number, if applicable, refers to the specific drawing that was created for this unit.

#### Date:

This is the date that the unit was scheduled to ship.

#### CO#:

This is the customer order number in which this unit was built. This is an mk North America, Inc. internal number. This number is also referenced on any related invoices, etc.

#### **Scan for Documentation:**

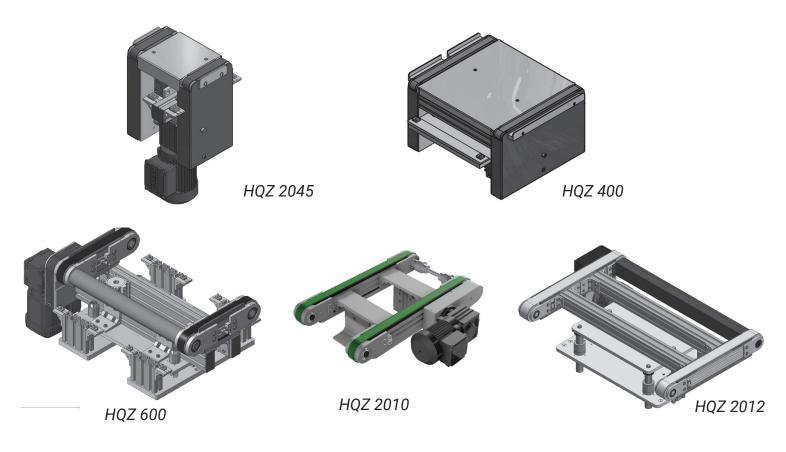
Scanning this QR code will bring you to a webpage specific for the conveyor on this order. From here you can access drawings and spare parts.



## 3 LIFT & TRANSFER TYPES

There are several different standard models of Lift & Transfers:

Below is an example of a each model. The items you receive will vary based on your actual purchase order. Items may appear different on your model based on your particular order requirements. Consult your approval drawing for specifics items included in your order.





RBM 2045, 2010, 2012

Your model may vary.

While all of these models may look vastly different they are all essentially the same design. They are all comprised of a conveyor mounted to a guided, pneumatic cylinder that actuates in a vertical fashion.

#### 4 WARRANTY INFORMATION

#### Warranty

mk North America, Inc. (MKNA) offers a COMPLETE ONE YEAR WARRANTY from the date of delivery, to the original purchaser of the MKNA equipment (CUSTOMER), to be free from defects in material and workmanship; under normal use and with proper installation, maintenance and cleaning.

Additionally MKNA offers a LIMITED 10 YEAR WARRANTY on all equipment that MKNA is the original manufacturer of, to be free from defect and workmanship.<sup>1</sup>

This warranty is extended by MKNA only to CUSTOMER, and is non-transferable. All warranty requests shall be made by CUSTOMER.

MKNA will replace or repair, at our factory or any other location we designate<sup>2</sup>, any defective part within the warranty period and without charge. It is at MKNA's sole discretion whether to repair or replace. CUSTOMER will provide MKNA with a prompt written notice of the defect, including the serial number of the unit (when applicable) and the date of delivery.

At MKNA's request CUSTOMER will return all defective parts for evaluation at MKNA. MKNA will provide CUSTOMER with a return goods authorization number (RGA#). No parts will be returned without a RGA#. The RGA# must clearly be marked on all labels, packages and packing slips.

CUSTOMER shall pay all costs for packaging, shipping, duties and/or any other related costs in the sending or receiving of parts. CUSTOMER is responsible for all labor associated with sending or receiving of parts.

MKNA PROVIDES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE; UNLESS IT IS AGREED TO BY MKNA AND CUSTOMER IN WRITING PRIOR TO PLACEMENT OF ORDER. Such agreement requires approval of MKNA Management.

UNDER NO CIRCUMSTANCES SHALL MKNA BE HELD LIABLE FOR DAMAGES OR LIABILITY FOR LOSS OF PRODUCTION, PRODUCT, EQUIPMENT OR PROFITS OR LIABILITY FOR DIRECT, INCIDENTAL, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES TO PERSONS OR PROPERTY, WHATSOEVER. CUSTOMER agrees that it is their sole remedy for liability of any kind, including negligence with respect to the equipment and services furnished by MKNA shall be limited to the remedies provided herein. This warranty shall not apply to any failure of the unit or its components caused by lack of maintenance and/or improper maintenance, incorrect adjustments, misuse or unreasonable use or exposure to chemicals and/or environments which the unit is not designed for. Unauthorized modification of the unit or the use of non-MKNA replacement parts and building components voids this warranty.

<sup>1.</sup> The limited 10 year warranty does not apply to equipment and components manufactured by others. Such equipment and components are subject to any limitation contained in the original manufacturer's warranty and include, but are not limited to: bearings, belts, casters, controllers, motors and pneumatic devices.

<sup>2</sup> No work will be performed by MKNA or an MKNA factory authorized service representative at the site of installation unless in MKNA's opinion it is impractical for Customer to remove and return the defective part to MKNA's factory.

EXCEPT AS EXPRESSLY STATED HEREIN, THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED, BY OPERATION OF LAW OR OTHERWISE, OF THE EQUIPMENT OR SERVICES FURNISHED BY MKNA OR FACTORY AUTHORIZED SERVICE REPRESENTATIVE. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.

mk North America, Inc. reserves the right to change, modify or discontinue products and/or specifications with or without notice.

All of mk North America, Inc. products are covered by this warranty.



## 5 SAFETY REQUIREMENTS

#### READ AND UNDERSTAND ALL OF THESE WARNINGS PRIOR TO OPERATING EQUIPMENT.



Read this manual before operating conveyors.



Never operate or service equipment under the influence of drugs and/or alcohol.



Lock out power before servicing the conveyor.



Do NOT operate conveyors without guards in place.

Severe injury can occur.

## IMPORTANT



Conveyors must be installed so that they are square and level – across the belt. Failure to install conveyors correctly may cause premature equipment failure and/or product damage.

# 

Climbing, sitting, walking or

riding on the conveyor at any time could result in severe injury or death.

KEEP OFF!



Do not operate conveyors in an explosive environment.

DANGER

Always support conveyor

stands or supports. Loosening stands or

crush hazard.

supports can cause the conveyor to fall creating a

sections prior to loosening



Moving equipment can cause severe injury or death.

Do NOT touch moving parts. Lock out power before servicing.



## NOTICE All work should be done by qualified professionals. This includes electricians for all wiring.

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## 5 SAFETY REQUIREMENTS

(CONT.)



Pneumatic Power Present

Decompress air supply before servicing.





Servicing while pressurized can cause severe injury.

LOCK OUT source and RELIEVE PRESSURE before servicing.

#### OBSERVE ALL MANUFACTURER'S INSTRUCTIONS

- Maintenance and repair work of pneumatic equipment may only be performed by specially trained personnel!
- De-pressurize the machine's pneumatic equipment before starting any maintenance or repair work.
- Hose lines should be replaced regularly during preventative maintenance even without visible damages.
- Before restarting the machine after maintenance or repair work, ensure that all screws are tightened and removed covers, strainers or filters are reinstalled.
  - After completing maintenance or repair work and before restarting the production ensure that:
    - All required maintenance and repair materials, tools and equipment are removed from the work area.
    - All safety devices of the system are working properly!



### 6 WEAR ITEMS & MAINTENANCE FOR SPECIFIC DRIVE OPTIONS

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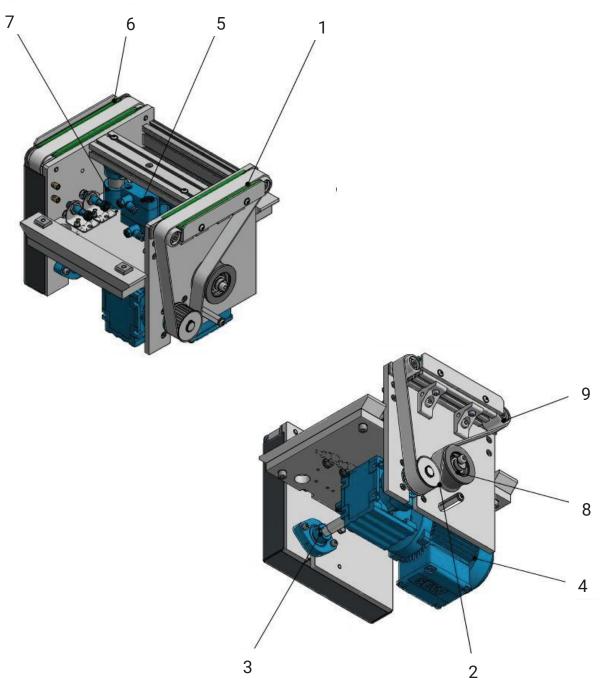
#### 6.1 Important Notes About Wear Items & Maintenance

The following information regarding life of the wear items and service or adjustment intervals of the functional elements are only GUIDELINES. <u>Conveyors are application-specific products whose life expectancy can vary depending on their relative loads and speeds, and which can be significantly influenced by environmental factors.</u>

- All moving components and screw connections should be checked every 6 months.
- · All safety-relevant components should be part of a regularly scheduled weekly inspection
- The proper function of these components must be confirmed at all times.
- Do NOT operate conveyors if safety-relevant components are damaged or missing.
- All parts which contact the product should be cleaned weekly (example: belt).
- Belts require little special care. They are easily cleaned using lukewarm soapy water.
- Remove heavy grease coatings with ethyl alcohol.
- Blow off debris from belts with structured surfaces using compressed air.

## 6 WEAR ITEMS & MAINTENANCE FOR SPECIFIC DRIVE OPTIONS (CONT.)

6.2 HQZ 2045 / HQZ 400



NOTE: Not all items shown in all views for clarity.

(Cont.)



## <u>6 WEAR ITEMS & MAINTENANCE FOR SPECIFIC DRIVE OPTIONS (CONT.)</u>

#### 6.2 HQZ 2045 / HQZ 400 (Cont.)

#### Maintenance Work

Position	Description	Action*	Interval in Hours (Months)
1		I, C	500 Hours (Max. 3 Months)
1 Pulley		R	If wear is indicated
	Time in a Dalk	I, C, T	500 Hours (Max. 3 Months)
2	Timing Belt	R	If wear is indicated
3	Bearing	1	1,000 Hours (Max. 6 Months)
4	Gearmotor	I	Service & Maintenance per manufacturer's documentation
-	Cylinder	I, C	500 Hours (Max. 3 Months)
5		R	If wear is indicated
		I, C	1,000 Hours (Max. 6 months)
6	Wearstrip	R	If wear is indicated
		I, C	500 Hours (Max. 3 Months)
7	Linear Bushing	R	If wear is indicated
	Eccentic Bearing	I, C	1,000 Hours (Max. 6 Months)
8		R	If wear is indicated
	Roller	I, C	1,000 Hours (Max. 6 Months)
9		R	If wear is indicated

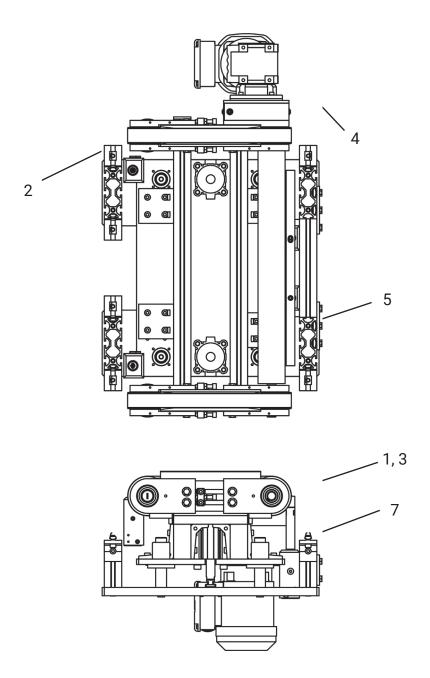
\* LEGEND: Inspect, Replace, Tension, Clean

#### **Replacement Parts**

Contact mk North America with your serial number for spare parts for your specific system

## 6 WEAR ITEMS & MAINTENANCE FOR SPECIFIC DRIVE OPTIONS (CONT.)

6.3 HQZ 600 / HQZ 2010



NOTE: Not all items shown in all views for clarity.

(Cont.)



## 6 WEAR ITEMS & MAINTENANCE FOR SPECIFIC DRIVE OPTIONS (CONT.)

#### 6.3 HQZ 600 / HQZ 2010 (Cont.)

#### Maintenance Work

Position	Description	Action*	Interval in Hours (Months)
1		I, C	500 Hours (Max. 3 Months)
1	Pulley	R	If wear is indicated
		I, C, T	500 Hours (Max. 3 Months)
2	Timing Belt	R	If wear is indicated
3	Bearing	1	1,000 Hours (Max. 6 Months)
4	Gearmotor	I	Service & Maintenance per manufacturer's documentation
	Ordinadau	I, C	500 Hours (Max. 3 Months)
5	Cylinder	R	If wear is indicated
6	Wearstrip	I, C	1,000 Hours (Max. 6 months)
6		R	If wear is indicated
	Bushing	I, C	500 Hours (Max. 3 Months)
/		R	If wear is indicated

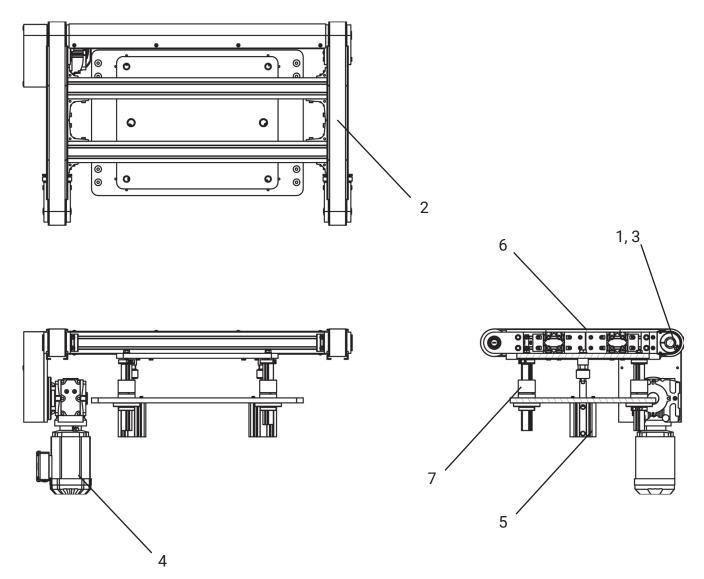
\* LEGEND: Inspect, Replace, Tension, Clean

#### **Replacement Parts**

Contact mk North America with your serial number for spare parts for your specific system

## <u>6 WEAR ITEMS & MAINTENANCE FOR SPECIFIC DRIVE OPTIONS (CONT.)</u>

6.4 HQZ 2012



NOTE: Not all items shown in all views for clarity.

(Cont.)



## <u>6 WEAR ITEMS & MAINTENANCE FOR SPECIFIC DRIVE OPTIONS (CONT.)</u>

#### 6.4 HQZ 2012 (Cont.)

#### Maintenance Work

Position	Description	Action*	Interval in Hours (Months)
1		I, C	500 Hours (Max. 3 Months)
	Pulley	R	If wear is indicated
		I, C, T	500 Hours (Max. 3 Months)
2	Timing Belt	R	If wear is indicated
3	Bearing	1	1,000 Hours (Max. 6 Months)
4	Gearmotor	I	Service & Maintenance per manufacturer's documentation
	Ordinator	I, C	500 Hours (Max. 3 Months)
5	Cylinder	R	If wear is indicated
	Wearstrip	I, C	1,000 Hours (Max. 6 months)
6		R	If wear is indicated
	Bushing	I, C	500 Hours (Max. 3 Months)
7		R	If wear is indicated

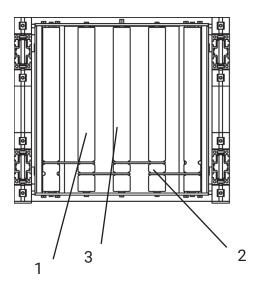
\* LEGEND: Inspect, Replace, Tension, Clean

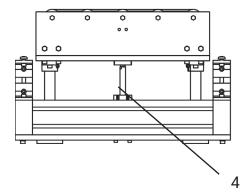
#### **Replacement Parts**

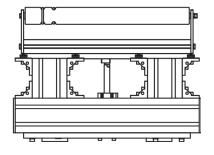
Contact mk North America with your serial number for spare parts for your specific system

## 6 WEAR ITEMS & MAINTENANCE FOR SPECIFIC DRIVE OPTIONS (CONT.)

#### 6.5 RBM 2045 / 2010







NOTE: Not all items shown in all views for clarity.

(Cont.)



## 6 WEAR ITEMS & MAINTENANCE FOR SPECIFIC DRIVE OPTIONS (CONT.)

#### 6.5 RBM 2045 / 2010(Cont.)

#### Maintenance Work

Position	Description	Action*	Interval in Hours (Months)
1	Roller	I, C	1,000 Hours (Max. 6 Months)
		1	500 Hours (Max. 3 Months)
2	V-Belt or O-Ring	R	Replace if wear is present
3	Motorized Roller	I, C	Service & Maintenance per manufacturer's documentations
	Cylinder	I, C	500 Hours (Max. 3 Months)
4		R	Replace is wear is present

\* LEGEND: Inspect, Replace, Tension, Clean

#### **Replacement Parts**

Contact mk North America with your serial number for spare parts for your specific system

## 7 CONVEYOR BELT MAINTENANCE - TENSIONING & TRACKING

7.1	General Remarks	18
7.2	HQZ 2045 / HQZ 400	19
7.3	HQZ 600 / HQZ 2010	20
7.4	HQZ 2012	21

#### 7.1 General Remarks:

- Prior to delivery of the mk conveyor, the belt was tensioned and tracked at the factory.
- Conveyor belts should not require additional tracking once installed.
- It may be necessary to remove the lift and transfer from the main conveyor system prior to servicing.
- Any interfering parts must also be removed.
- Reassemble in reverse order.
- Never operate without all guards in place.



## 7 CONVEYOR BELT MAINTENANCE - TENSIONING & TRACKING (CONT.)

#### 7.2 HQZ 2045 / HQZ 400



All work to be performed by qualified personnel only. Conveyor power must be disconnected before replacing belt.

Loosen screw (1).	1
Fine tune timing belt tracking using the set screw (1) until tim- ing belt is with the correct tension. IMPORTANT: Turn on clockwise. The correct tension is checked at point (2). The timing belt is properly tensioned if the belt can be lifted off the conveyor by hand, approximately 2-4 mm.	
Tighten screw (1).	1

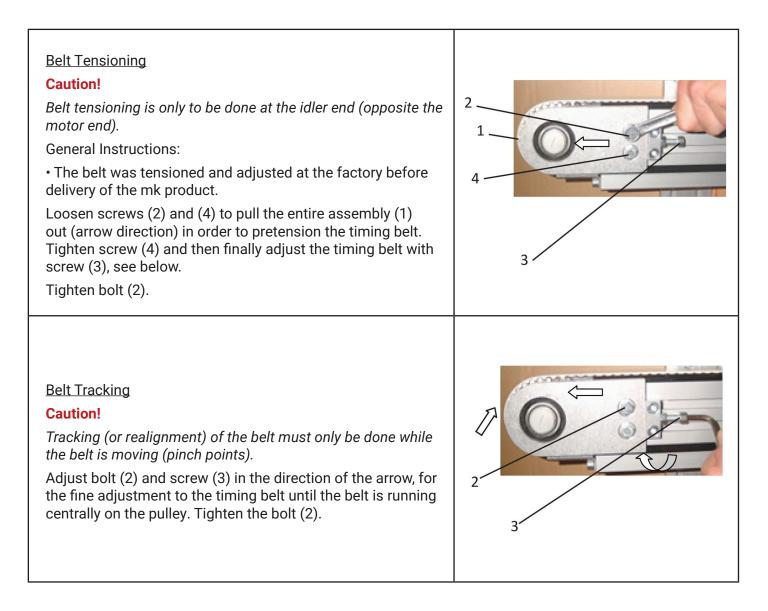
## 7 CONVEYOR BELT MAINTENANCE - TENSIONING & TRACKING (CONT.)

### 7.3 HQZ 600 / HQZ 2010



All work to be performed by qualified personnel only.

Conveyor power must be disconnected before replacing belt.



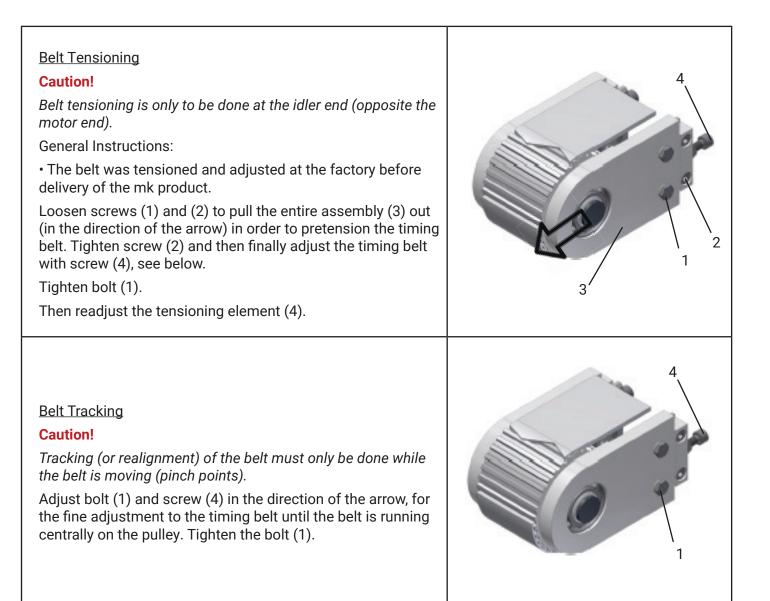


## 7 CONVEYOR BELT MAINTENANCE - TENSIONING & TRACKING (CONT.)

#### 7.4 HQZ 2012



All work to be performed by qualified personnel only. Conveyor power must be disconnected before replacing belt.



## 8 CONVEYOR BELT MAINTENANCE - BELT REPLACEMENT

8.1	General Remarks	22
8.2	HQZ 2045 / HQZ 400	23
8.3	HQZ 600 / HQZ 2010	24
8.4	HQZ 2012	25



All work to be performed by qualified personnel only. Conveyor power <u>must</u> be disconnected before performing maintenance.

#### 8.1 General Remarks:

- Prior to delivery of the mk conveyor, the belt was tensioned and tracked at the factory.
- Conveyor belts should not require additional tracking once installed.
- It may be necessary to remove the lift and transfer from the main conveyor system prior to servicing.
- Any interfering parts must also be removed.
- Reassemble in reverse order.
- Never operate without all guards in place.

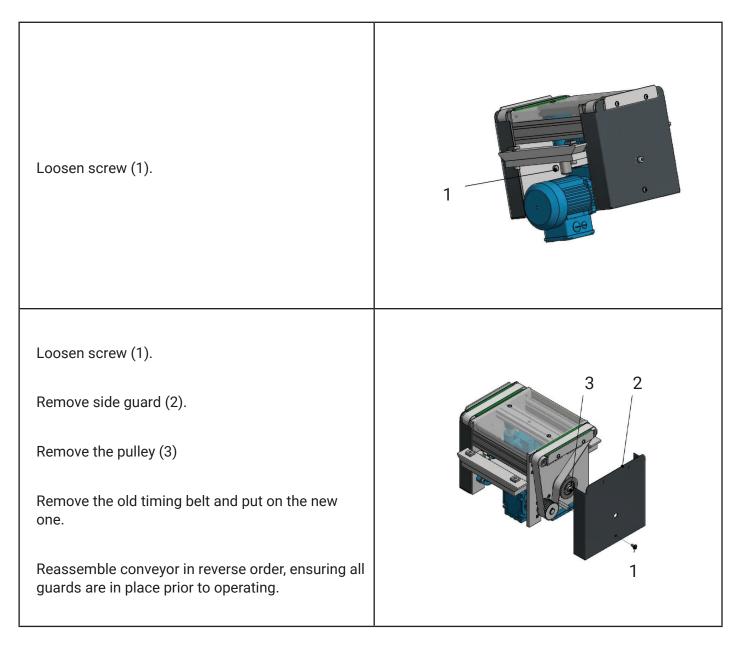


## 8 CONVEYOR BELT MAINTENANCE - BELT REPLACEMENT

(CONT.)

All work to be performed by qualified personnel only. Conveyor power <u>must</u> be disconnected before performing maintenance.

#### 8.2 HQZ 2045 / HQZ 400



## 8 CONVEYOR BELT MAINTENANCE - BELT REPLACEMENT

(CONT.)

All work to be performed by qualified personnel only. Conveyor power <u>must</u> be disconnected before performing maintenance.

#### 8.3 HQZ 600 / HQZ 2010

Loosen all bolts and push the entire head (1) inwards (in the direction of the arrow), in order to create slack in the timing belt.	
Remove the belt return guard (2) by removing all screws. Do this at BOTH ends of the conveyor.	2
Remove the closure strip (3) by sliding the material out of the end. This will expose the belt return channel.	3

#### Removing the Belt:

- The belt can now be replaced once all auxiliary obstructions are removed.
- To replace belt, slip it over the side of the conveyor and fit into the return channel.
- Reassemble conveyor in the reverse order and the track and tension belt.

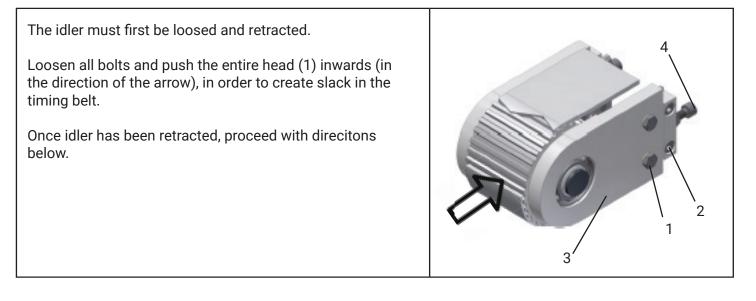


## 8 CONVEYOR BELT MAINTENANCE - BELT REPLACEMENT

(CONT.)

All work to be performed by qualified personnel only. Conveyor power <u>must</u> be disconnected before performing maintenance.

#### 8.4 HQZ 2012



Instructions, Continued:

- The belt can now be replaced once all auxiliary obstructions are removed.
- Slide the existing belt off the free side of the conveyor frame.
- To replace belt, slip it over the side of the conveyor.
- Reassemble conveyor in the reverse order and the track and tension belt prior to use. (see Section 7)

## 9 CONTACT INFORMATION



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Technical Documentation HQZ & RBM Lift & Transfers

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