



Technical Documentation

KGF-P 2040 CURVE BELT CONVEYOR

Each serial number is unique to that specific conveyor and provides mk North America with complete order details.

The conveyor serial number is located on the frame at the drive end 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 www.mknorthamerica.com. 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.

	Type:		Date:	
	Serial #:		CO #:	
	Drawing #:			
	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#:

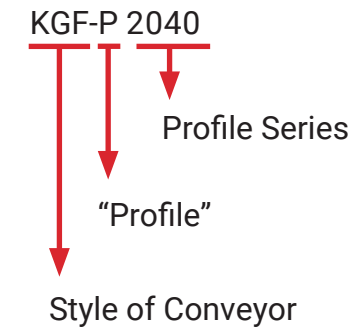
This is the customer order number in which this unit was built. This is an mk North America, Inc. internal number. This number is also referenced on any related invoices, etc.

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 CONVEYOR DESCRIPTION

3.1 Explaining the conveyor **TYPE**.



Style of Conveyor

DGF (Doppel-Gurt Foerderer) Dual-Belt Conveyor

GUF (Gurt Foerderer) Belt Conveyor

KFG (Knickfoerderer Gurt) Bent "Gooseneck" Belt Conveyor

KFM (Knickförder Modular) Bent "Gooseneck" Plastic Modular Belt Conveyor

KGF (Kurvengurt Foerderer) Curve Belt Conveyor

KMF (Kurvengängiges Modulband) Curved Modular Belt Conveyor

KTF (Kettengurt Foerderer) Chain Conveyor

MBF (Modulband Foerderer) Modular Belt Conveyor

RBM (Rollenbahn Motor) Motorized Roller Conveyor

RBS (Rollerbahn Schwerkraft) Idler Roller Conveyor

RBT (Rollenbahn Tangentialkette) Drive Roller Conveyor

SBF (Scharnierband Foerderer) Hinged Belt Conveyor

SPU (Staufaehiges Pallettenumlaufsystem) Continuous Motion Pallet Conveyor

SRF (Staurollen Foerderer) Accumulating Roller Conveyor

TKU (Taktkettenförderer) Timing Chain Conveyor

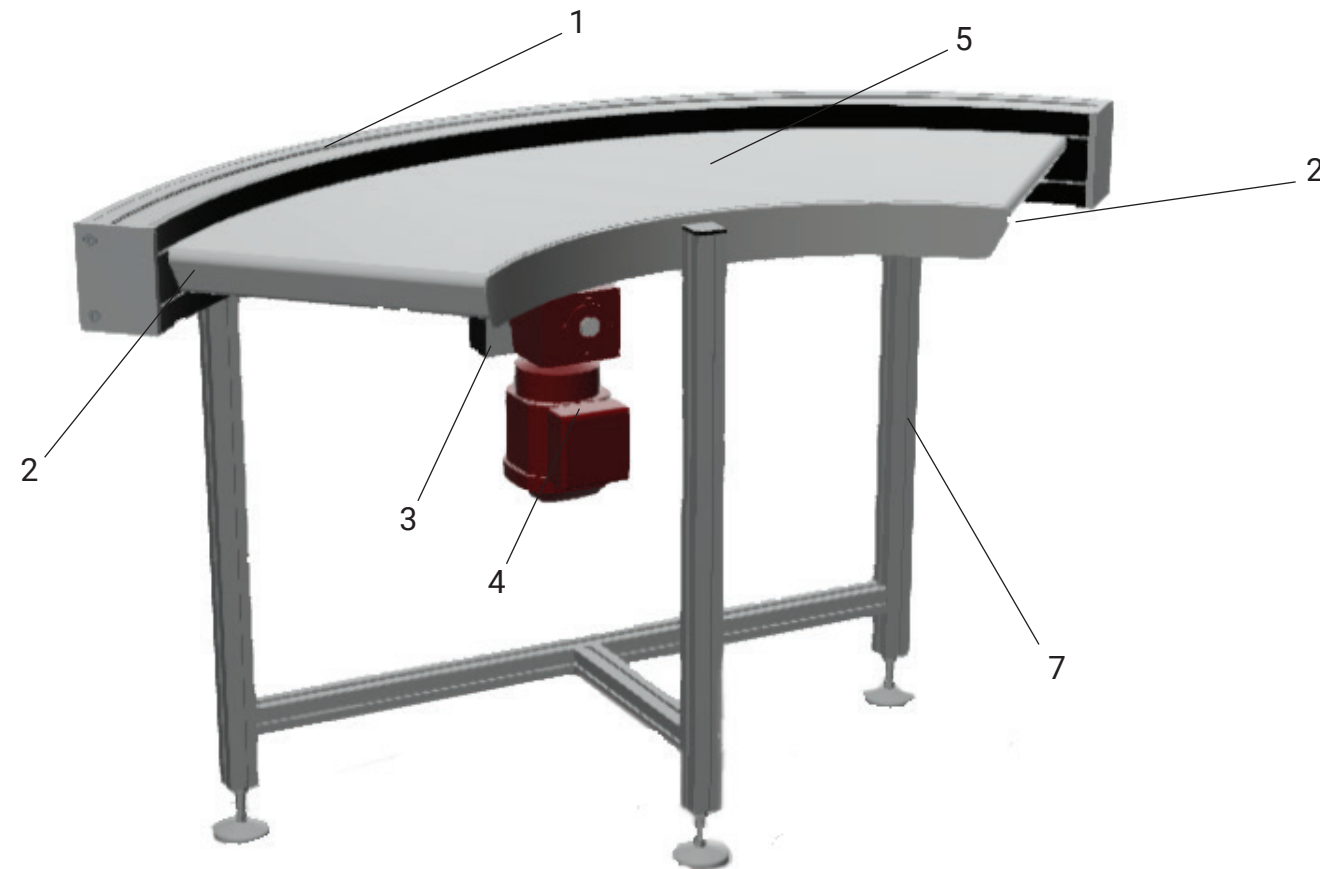
ZRF (Zahnriemen Förderer) Timing Belt Conveyor

3 CONVEYOR DESCRIPTION

(CONT.)

3.2 Conveyor Components

The KGF-P 2040 has many typical conveyor components. Below is a description of the basic parts and options for the KGF-P 2040 conveyor. 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 specific items included in your order.



Your model may vary.

Typical Components

- 1) Conveyor Frame
- 2) Idler Ends
- 3) Gearmotor Mount/Drive Assembly
- 4) Gearmotor
- 5) Belt
- 6) Controller (Not Shown)
- 7) Support Stand

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.¹

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 designate², 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.

¹ 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.

² 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

5.1 Warnings - Safety Guidelines

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

CAUTION




Read this manual before operating conveyors.

CAUTION



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

CAUTION




Lock out power before servicing the conveyor.

WARNING




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.

WARNING




Do not operate conveyors in an explosive environment.

DANGER




Moving equipment can cause severe injury or death.
Do NOT touch moving parts. Lock out power before servicing.

WARNING




Gearmotors will be hot. Do NOT touch.
Severe injury can occur.

DANGER



Climbing, sitting, walking or riding on the conveyor at any time could result in severe injury or death.
KEEP OFF!

DANGER




Always support conveyor sections prior to loosening stands or supports. Loosening stands or supports can cause the conveyor to fall creating a crush hazard.

5 SAFETY REQUIREMENTS

(CONT.)

NOTICE



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

6 WEAR ITEMS & MAINTENANCE

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6.2	KGF-P 2040	12

6 WEAR ITEMS & MAINTENANCE

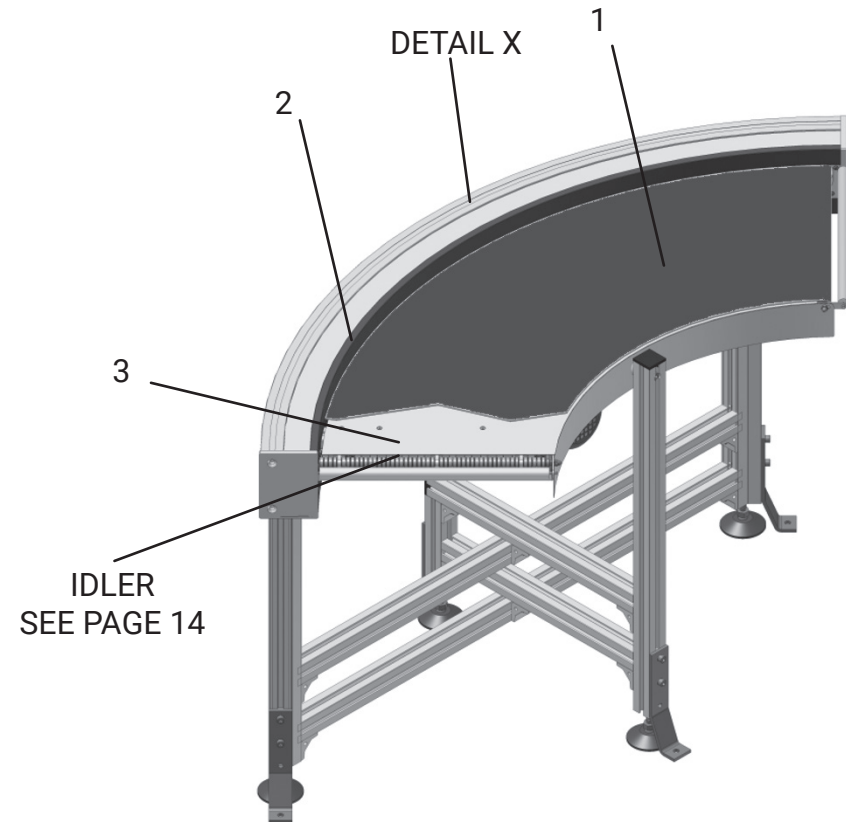
6.1 Important Notes About Wear Items & Maintenance

The following information regarding life of the wear items and service or adjustment intervals of the functional elements are only GUIDELINES. 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.

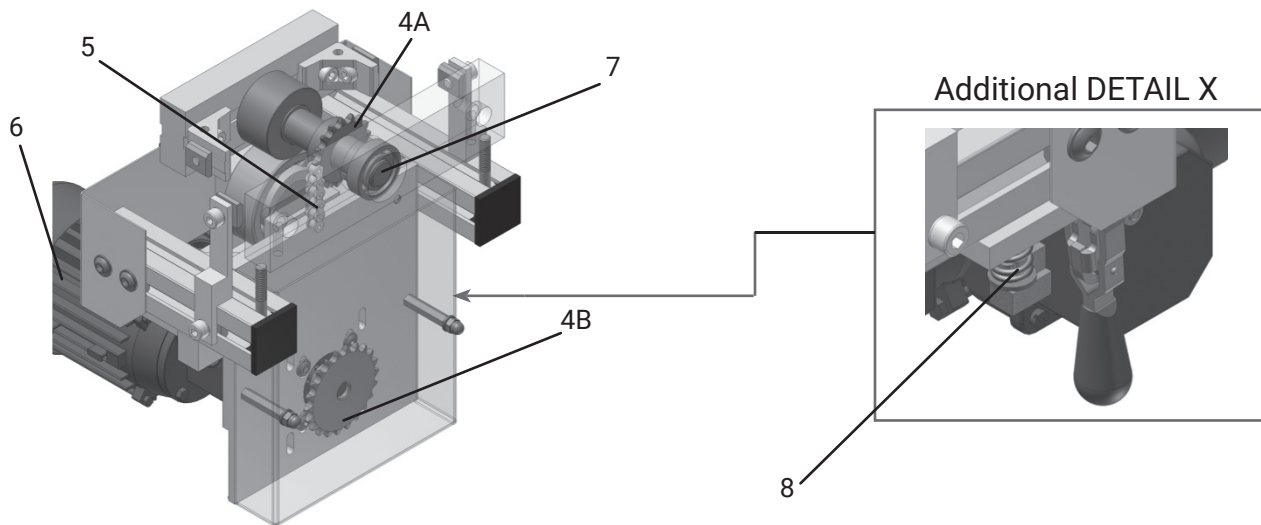
- All safety-relevant components should be part of a regularly scheduled weekly inspection.
- The proper function of these components must be confirmed at all times.
- Do NOT operate conveyors if safety-relevant components are damaged or missing.
- All parts which contact the product should be cleaned weekly (example: belt).
- Blow off debris from structured surfaces using compressed air.

6 WEAR ITEMS & MAINTENANCE (CONT.)

6.2 KGF-P 2040 Items are the same regardless of curve degree.



DETAIL X - Drive Assembly



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

(Cont.)

6 WEAR ITEMS & MAINTENANCE (CONT.)

6.2 KGF-P 2040

Wear & Maintenance Items for KGF-P 2040

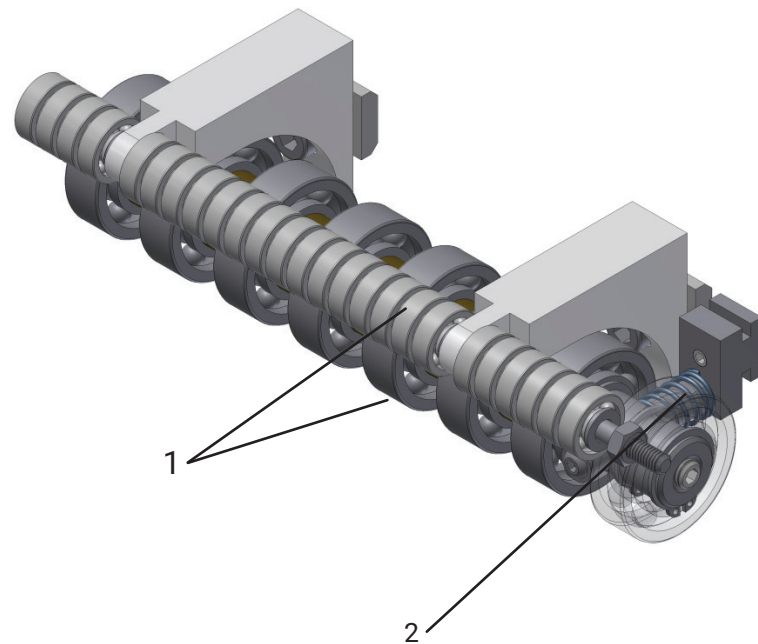
Position	Description	Action*	Interval in Hours (Months)	Lubricant
1	Belt	I, C, T	500 Hours (Max. 3 Months)	
		R	If damaged or stretched	
2	Wear Strip	I, C	1,000 Hours (Max. 6 Months)	
		R	If damaged	
3	Slider Bed	I, C	1,000 Hours (Max. 6 Months)	
		R	If damaged	
4A & 4B	Drive Sprocket Motor Sprocket	I, C	500 Hours (Max. 3 Months)	
		R	If damaged	
5	Chain	I, C, L	500 Hours (Max. 3 Months)	SO14 or SAE20 – SAE50
		R	If damaged	
6	Gearmotor	I	Service & maintenance per manufacturer's documentation	
7	Bearing	I	1,000 Hours (Max. 6 Months)	
		R	If damaged	
8	Spring	I, C	500 Hours (Max. 3 Months)	
		R	If damaged	

* LEGEND: *Inspect, Replace, Tension, Clean, Lubricate (grease).*

NOTE: *For adjusting the chain tensioning, please see the related section for details. When cleaning the chain, avoid any harsh chemicals or detergents.*

6 WEAR ITEMS & MAINTENANCE (CONT.)

6.2 KGF-P 2040 IDLER Items are the same regardless of curve degree.



Wear & Maintenance Items for KGF-P 2040 IDLER

Position	Description	Action*	Interval in Hours (Months)	Lubricant
1	Bearing	I, C	1,000 Hours (Max. 6 Months)	
		R	If damaged or stretched	
2	Spring	I	1,000 Hours (Max. 6 Months)	
		R	If damaged	

* LEGEND: Inspect, Replace, Tension, Clean, Lubricate (grease).

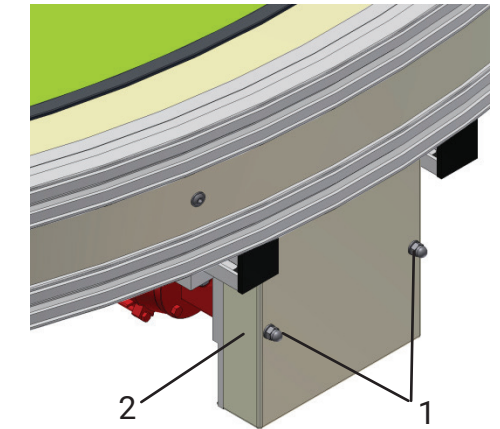
7 DRIVE CHAIN MAINTENANCE



All work to be performed by qualified personnel only.
Disconnect power before servicing.

Tensioning the Drive Train Chain

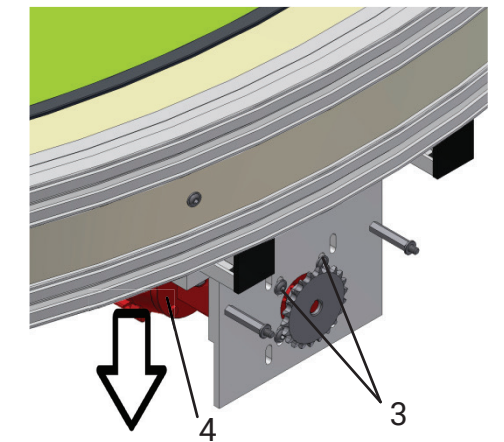
1. Remove nuts (1)
2. Remove the guard (2)



1. Loosen screws (3)
2. Move the motor (4) in the direction of the arrow, this will place tension on the drive train chain (not shown)
3. Retighten screws (3)

Lubricating the Drive Train Chain

After following the above instructions apply lubricant to the edge of the chain link using a brush, ensuring that the lubricant enters the chain hinges.

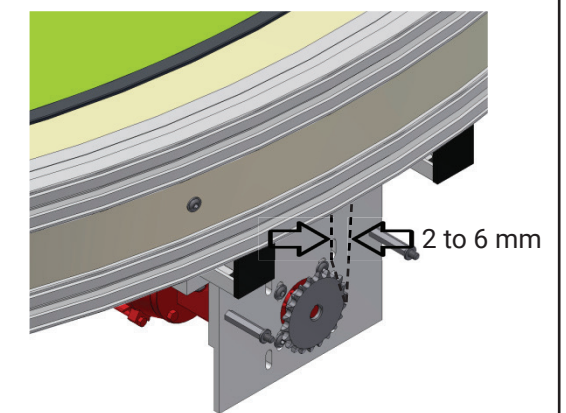


NOTES

Do NOT over tension the drive chain. There must always be between 2 and 6 mm of play on the return side.

The two DRIVE Sprockets must always be inline with each other.

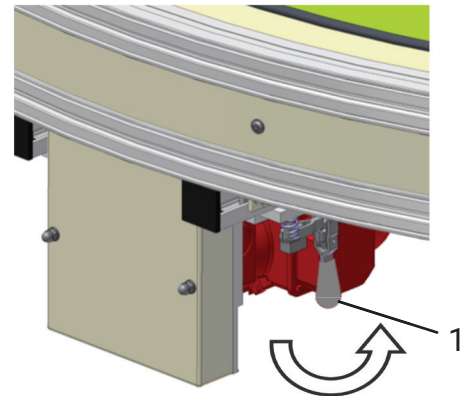
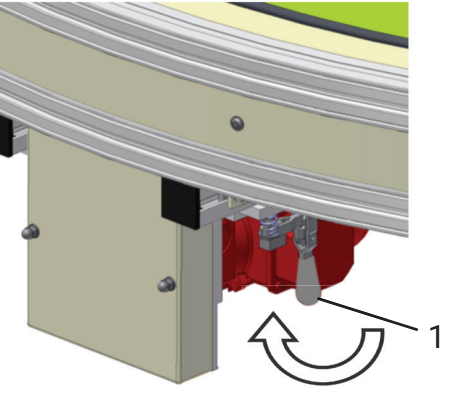
ALWAYS REPLACE THE GUARD (2) AND REPLACE THE NUTS (1) BEFORE REAPPLYING POWER.



8 BELT MAINTENANCE

8.1 Maintenance Notes - Tension Lever


 All work to be performed by qualified personnel only.

<p>After Every Shutdown</p> <p>Relieve the tension on the conveyor's tension roller by turning the lever (1) in the direction of the arrow.</p>	
<p>Before Every Commissioning</p> <p>Tension the conveyor's tension roller by turning the lever (1) in the direction of the arrow shown.</p>	

8 BELT MAINTENANCE

(CONT.)

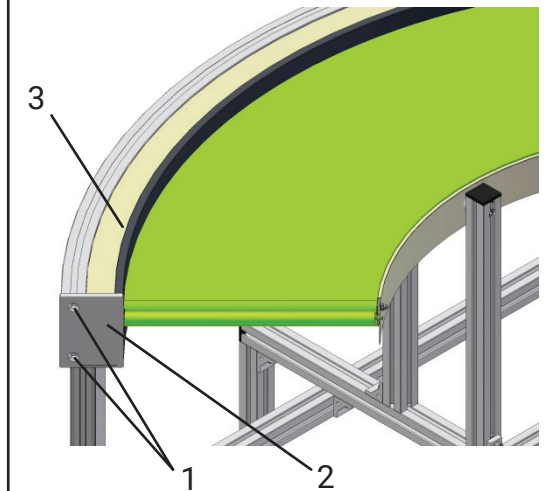
8.2 Replacing the Conveyor Belt

 All work to be performed by qualified personnel only.
Disconnect power before servicing.

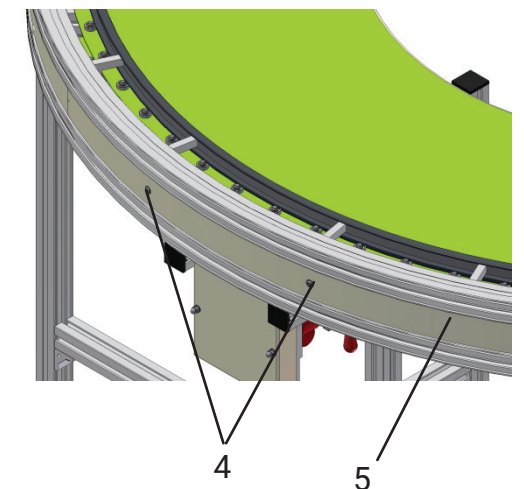
Before Beginning Work

After ensuring that the power has been locked out, remove all accessories attached to either side of the conveyor frame. Then free the tension on the conveyor belt using the information provided on page 16. Ensure that the conveyor is properly supported at all time.

1. Loosen screws (1) and remove plate (2) - both this on both ends of the conveyor.
2. Remove top cover (3) and bottom cover (not shown).



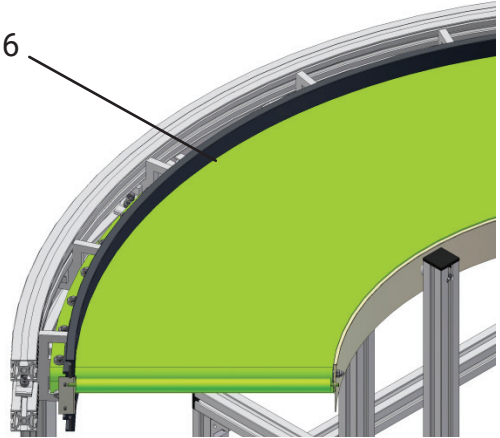
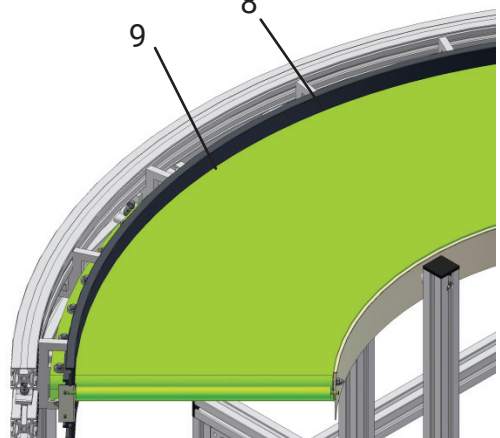
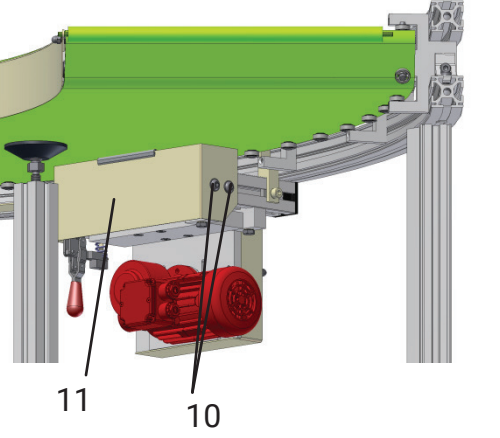
3. Remove screws (4).
4. Remove outside cover (5).



8 BELT MAINTENANCE

(CONT.)

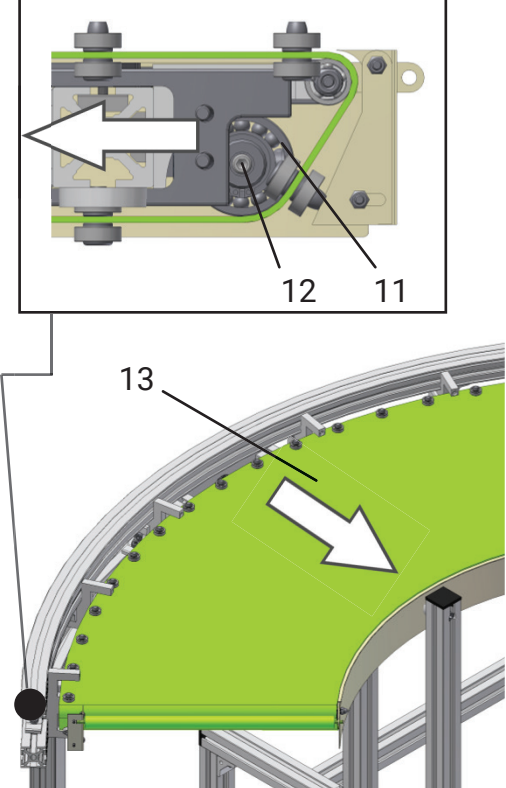
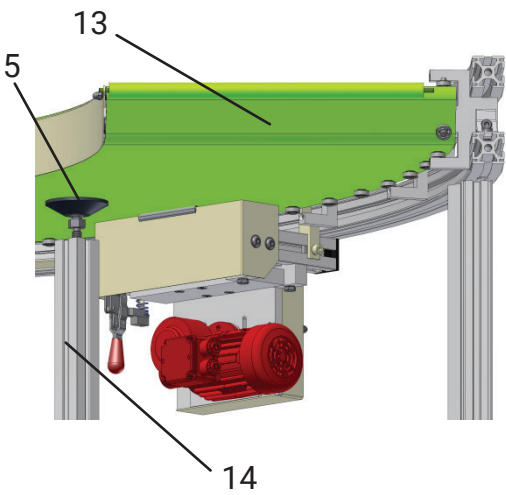
8.2 Replacing the Conveyor Belt

<p>5. Remove top (6) and bottom wear strips (not shown).</p>	
<p>6. Loosen screws (8) and guide rail (9).</p>	
<p>7. Remove screws (10) and then remove guard (11).</p>	

8 BELT MAINTENANCE

(CONT.)

8.2 Replacing the Conveyor Belt

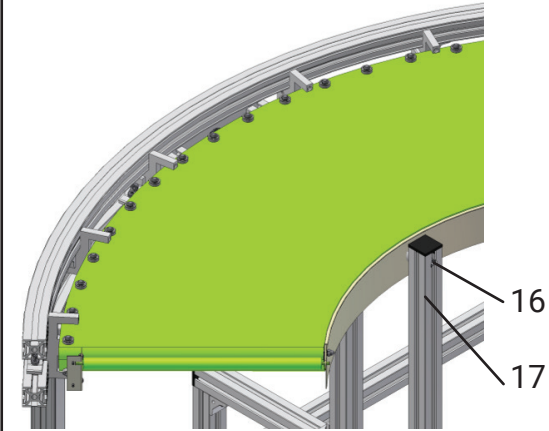
<p>8. Press the idler roller (11) inwards in the direction of the arrow, and secure it in place with the safety screw (12).</p> <p>9. Pull the belt (13) in the direction of the arrow, towards the inside of the curve.</p>	
<p><u>With Optional Safety Support - Skip This Step and Continue to Next Page if Optional Safety Support is NOT Included</u></p> <p>If the Optional Safety Support (14) is included with your conveyor, it provides support during the belt replacement.</p> <ol style="list-style-type: none"> 1. Pull the belt (13) over the safety support. 2. Turn the leveling foot (15) until it stops. 	

8 BELT MAINTENANCE

(CONT.)

8.2 Replacing the Conveyor Belt

3. Loosen screw (16) and move the profile (17) in the direction of the arrow.



The belt can now be removed from the conveyor.

To re-assemble, follow the above steps in the reverse order.

NOTES

Before installing the wear strips [(6) – page 18], ensure that the conveyor is upright and secure. The wear strips are inserted via the lateral guide rails once the belt has been installed. The bearings on the belt must be pressed into the guide.

9 CONTACT INFORMATION



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Technical Documentation
KGF-P 2040
Curve Belt Conveyor

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