



Technical Documentation

versaflex

A06, A08, A10, A17, A29

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 or motor mount at the drive end of the conveyor. See section 2 for more details.

Technical Documentation



1	General Information	3
2	Serial Number Label	4
3	Conveyor Description	5
4	Warranty Information	6
5	Safety Requirements	7
6	Wear Items & Maintenance	9
7	Conveyor Stands/Supports	14
8	Conveyor Chain Maintenance	16
9	Adjusting Slip Clutch	18
10	Troubleshooting Guide	19
11	Contact Information	21

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:	<input type="text"/>	Date:	<input type="text"/>
	Serial #:	<input type="text"/>	CO #:	<input type="text"/>
	Drawing #:	<input type="text"/>		
	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.

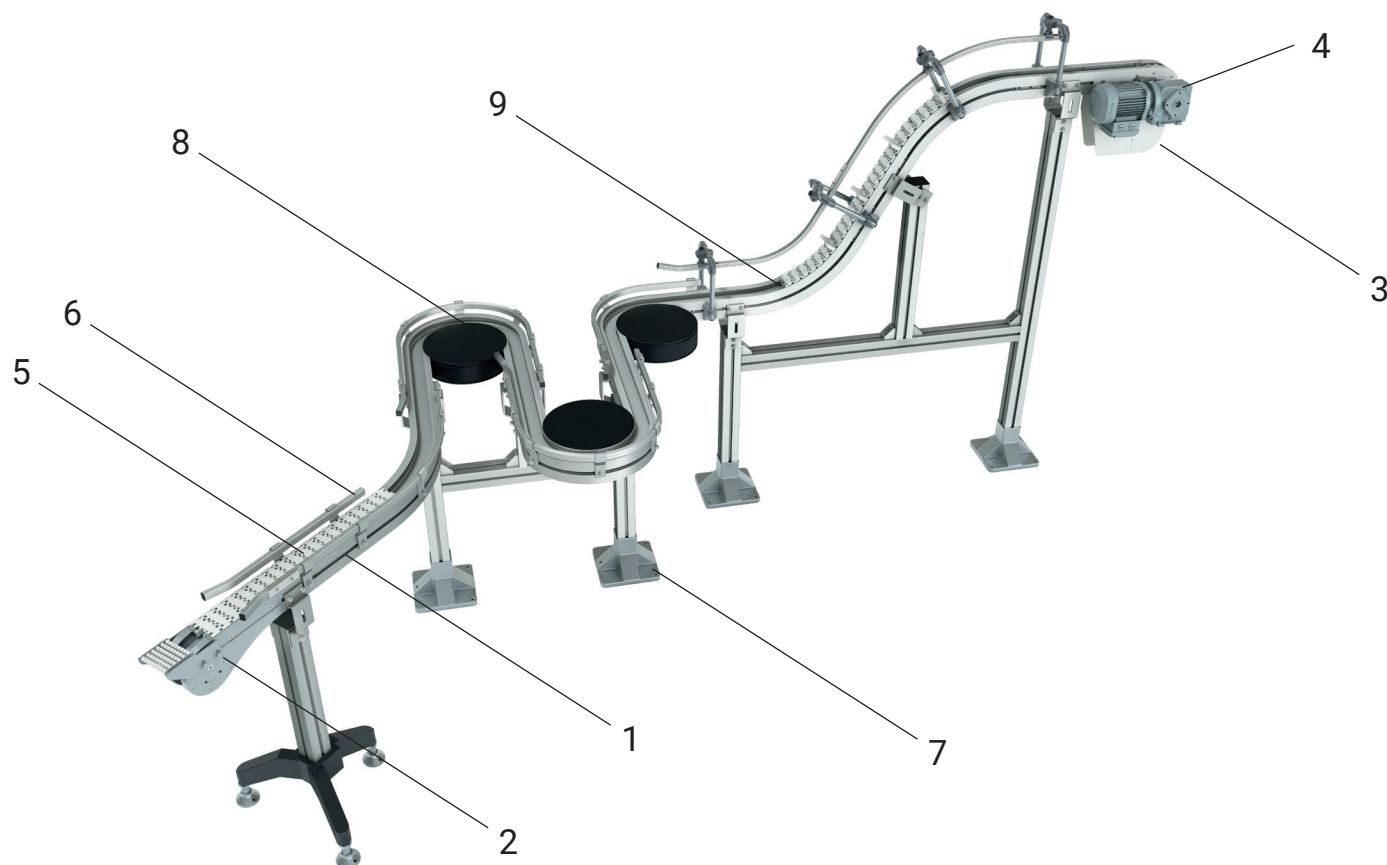
Scan for Documentation:

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 Conveyor Components

Below is a description of the basic parts and options for VersaFlex conveyors. 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. The drawing below is only provided as a reference, highlighting possible popular conveyor options.



Typical Components

- 1) Conveyor Frame
- 2) Idler
- 3) Gearmotor Mount/Drive Assembly
- 4) Gearmotor
- 5) Flat Top Chain
- 6) Side Rails
- 7) Support Stand
- 8) Horizontal Wheel Bend
- 9) Vertical Bend

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



Garmotors 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.

NOTICE



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

6 WEAR ITEMS & MAINTENANCE

6.1	Important Notes About Wear Items & Maintenance	9
6.2	Drive, Direct Drive	10
6.3	Wheel Bends & Straight Sections	12
6.4	Idler & Chain	14

6.1 Important Notes About Wear Items & Maintenance



WARNING!

RISK OF INJURY!

Maintenance work should only be performed by qualified personnel, after the power has been locked-out from the conveyor.

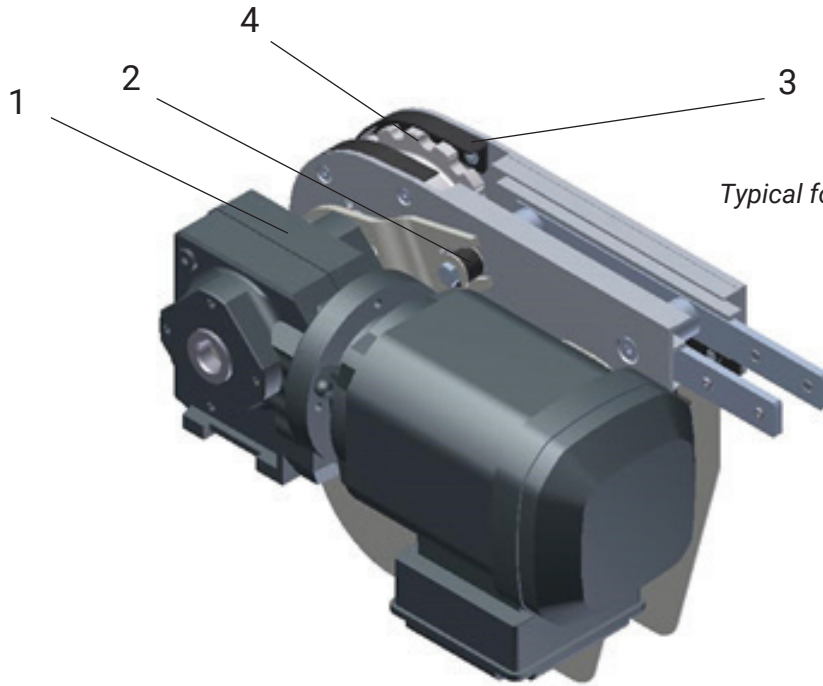
The following information regarding life of the wear items and service or adjustment intervals of the functional elements are only GUIDELINES. Conveyors are application-specific products whose life expectancy can vary depending on their relative loads and speeds, and which can be significantly influenced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

- All 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: chain).
- Chains require little special care.
- Remove heavy grease coatings with ethyl alcohol.

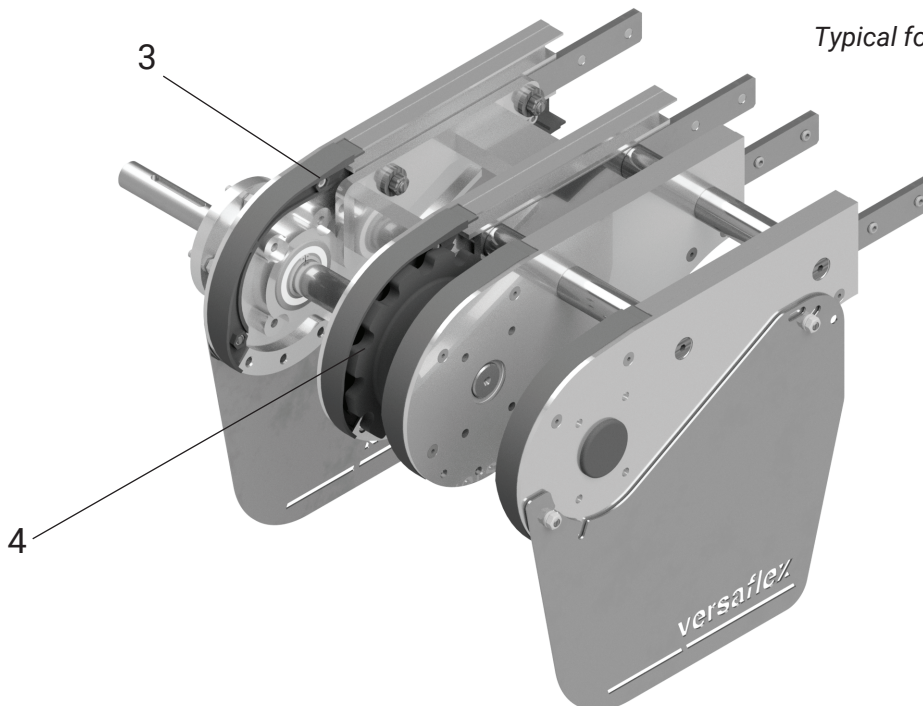
6 WEAR ITEMS & MAINTENANCE

(CONT.)

6.2 Drive, Direct Drive



Typical for A06, A08 and A10 widths



Typical for A17 and A29 widths

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

(Cont.)

6 WEAR ITEMS & MAINTENANCE

(CONT.)

Position	Description	Action*	Interval in Hours (Months)
1	Gearmotor	I, C	Service & maintenance per manufacturer's documentation
2	Dampener	I, C	500 Hours (Max. 3 Months)
		R	If wear visible
3	Guide	I, C	500 Hours (Max. 3 Months)
		R	If wear visible
4	Drive Sprocket	I, C	500 Hours (Max. 3 Months)
		R	If wear visible

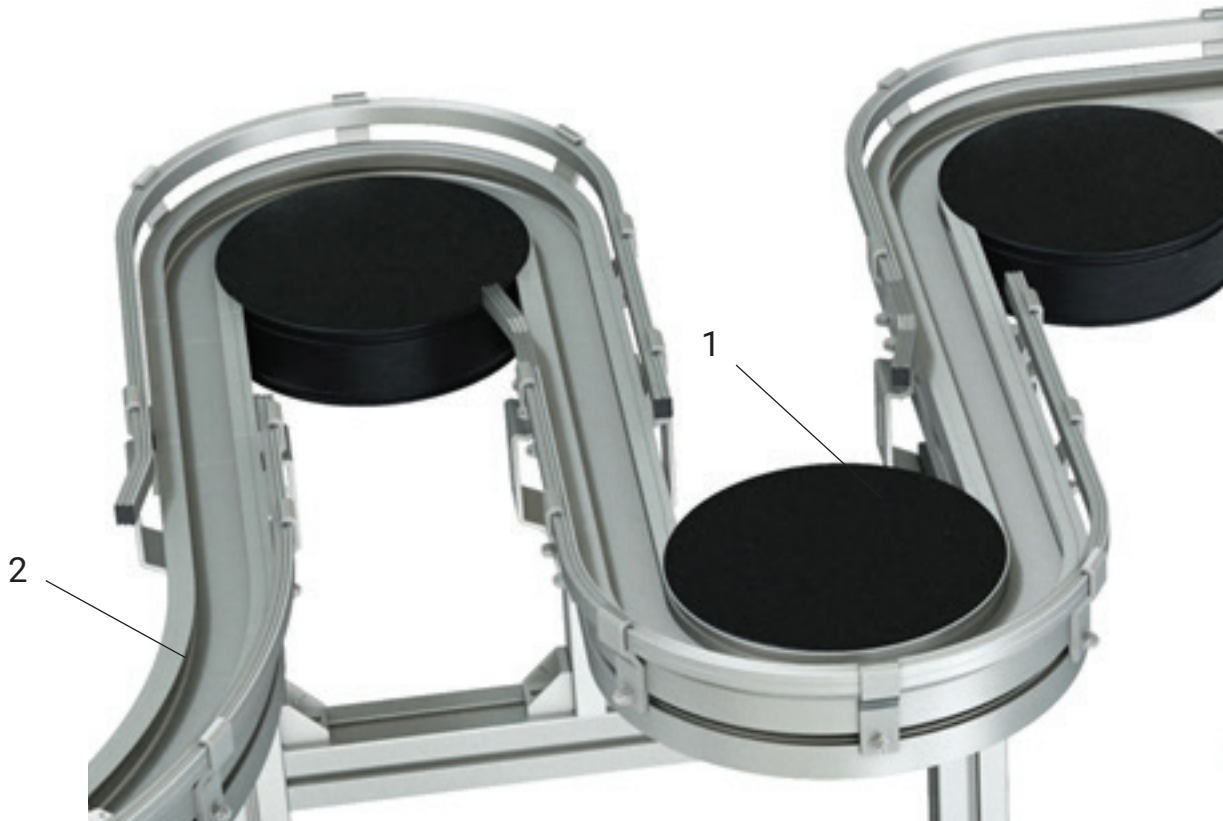
* LEGEND: *Inspect, Replace, Tension, Clean, Lubricate (grease).*

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.)

6.3 Wheel Bends & Straight Sections



Position	Description	Action*	Interval in Hours (Months)
1	Wheel	I, C	500 Hours (Max. 3 Months)
		R	If wear visible
2	Wear Strip	I, C	500 Hours (Max. 3 Months)
		R	If wear visible

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

6 WEAR ITEMS & MAINTENANCE

(CONT.)

6.4 Idler & Chain



Position	Description	Action*	Interval in Hours (Months)
1	Idler	I, C	500 Hours (Max. 3 Months)
		R	If wear visible
2	Roller Transfer (Optional)	I, C	500 Hours (Max. 3 Months)
			Maintenance per manufacturer's documentation
3	Conveyor Chain	I, C, T	500 Hours (Max. 3 Months)
		R	If wear visible

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

7 CONVEYOR STANDS/SUPPORTS (CONT.)

7.1 Conveyor Stands/Supports



WARNING!

RISK OF INJURY!

Maintenance work should only be performed by qualified personnel.

Conveyor power MUST be disconnected and locked-out prior to servicing.

When conveying heavy piece goods or by bumping, the entire mk product can tip and cause serious injuries.

- Stands which are designed to be anchored to the ground should be so secured using floor anchors.
- Mount stands as closely as possible to the ends of the conveyor.
- When using only one stand, install it as close as possible to the center of gravity.
- Always engage the caster brakes on mobile stands.
- Pay attention to the maximum allowable load.
- After adjusting the stands, ensure all screws are securely tightened.



ATTENTION

Product Damage!

Trouble-free operation cannot be guaranteed if the mk product has not been carefully installed.

- Prepare the installation site so that the mk product stands level to the floor.
- Carefully install all connections and check that they are tight.
- To ensure against tipping, the stands or base plates of the mk product must be anchored to the floor.

7 CONVEYOR STANDS/SUPPORTS (CONT.)

7.2 Stands/Supports Supplied by mk North America, Inc.

Before securing to the floor, first level the mk product using the floor pads (if purchased). Use shims for preliminary alignment, if necessary.

Floor Mounting

Stands, which are furnished with floor plates or floor mounting brackets, **MUST** be anchored to the floor using the available thru-holes.

7.3 Stands/Supports Supplied by Others



WARNING!

RISK OF INJURY!

The mk product can tip and cause severe injuries due to careless installation.

- The customer must ensure that the mk product is suitably secured (for example floor anchors, connection to a machine frame), to ensure adequate stability.

8 CONVEYOR CHAIN MAINTENANCE



WARNING!

RISK OF INJURY!

Maintenance work should only be performed by qualified personnel.

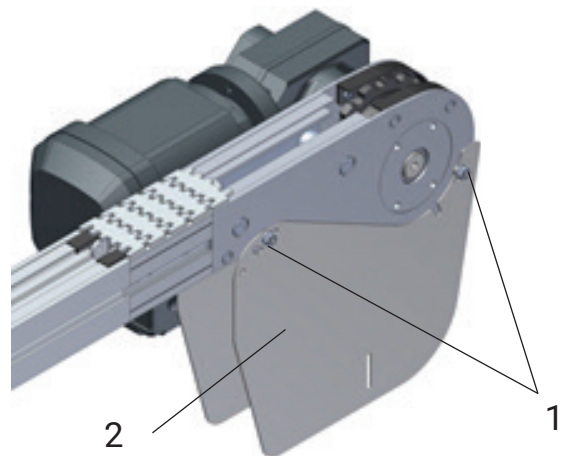
Conveyor power MUST be disconnected and locked-out prior to servicing.

After servicing, and before power is reconnected, all safety guards must be reinstalled.

Ensure all product has been removed from the conveyor.

8.1 Shortening the Chain

Loosen screws (1) and remove protective cover (2).

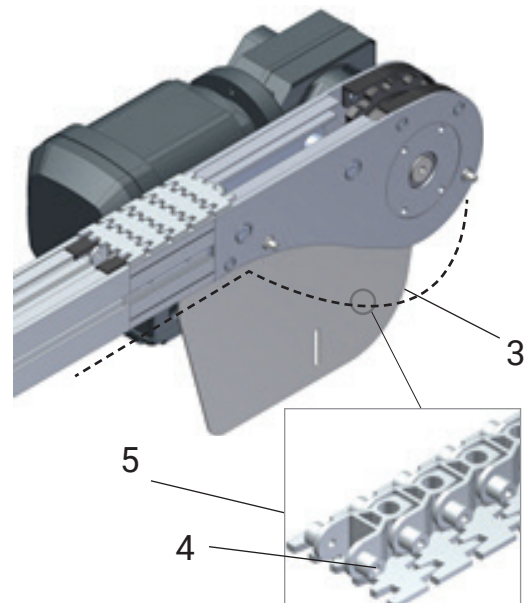


Pull out the conveyor chain (3) below the drive until a connecting pin (4) is visible.

Drive out the connecting pin using a suitable tool.

Then remove the chain link (5).

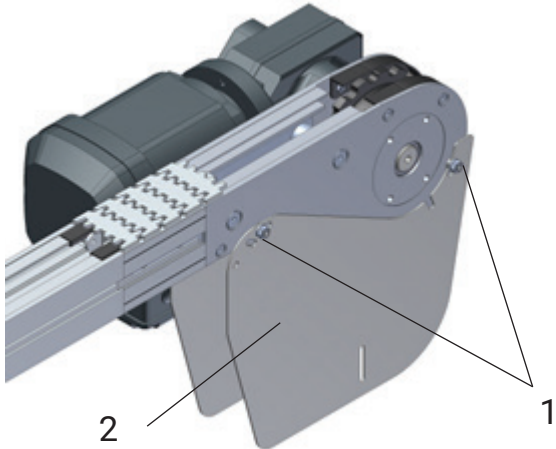
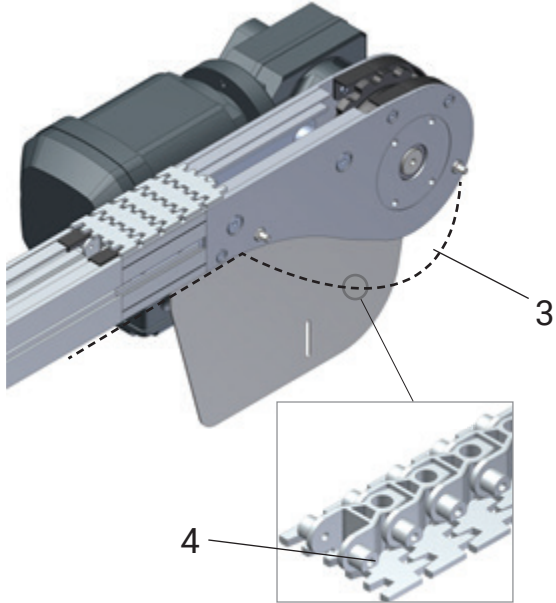
Reassemble in reverse order.



8 CONVEYOR CHAIN MAINTENANCE

(CONT.)

8.2 Changing the Conveyor Chain

<p>Loosen screws (1) and remove protective cover (2).</p>	
<p>Disconnect power transmission between the drive sprocket and the motor. Pull out the conveyor chain (3) below the drive until a connecting pin (4) is visible. Drive out the connecting pin using a suitable tool. Connect the new conveyor chain to the old conveyor chain. Pull out the old conveyor chain; this will pull the new chain through the conveyor. Close the new conveyor chain with a connecting pin. Reassemble in reverse order.</p>	



NOTE!

When changing the conveyor chain always make sure that it engages positively on the drive sprocket.

9 ADJUSTING THE SLIP CLUTCH

The slip clutch is an optional item. This section only pertains to conveyors sold with this option.



WARNING!

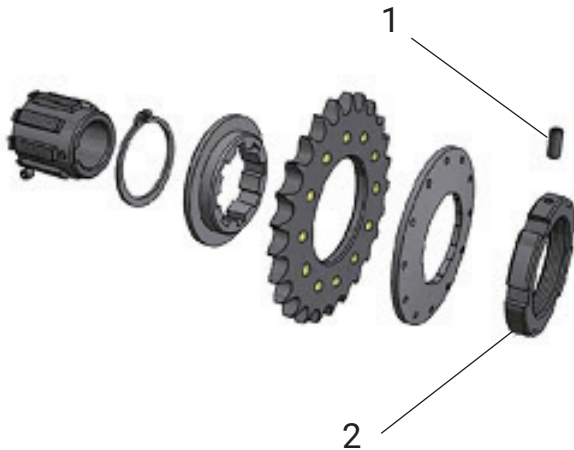
RISK OF INJURY!

Maintenance work should only be performed by qualified personnel.

Conveyor power MUST be disconnected and locked-out prior to servicing.

After servicing, and before power is reconnected, all safety guards must be reinstalled.

Ensure all product has been removed from the conveyor.



Degrees	Max. Traction Force F_{max} (N)	
	A06	A08, A10
0°	450	450
23°	500	500
68°	-	700
98°	-	800
158°	-	1,050
233°	-	1,250

- Loosen the 3 mm Allen head set-screw (1) of the slip clutch
- Using a hook-style spanner, turn the adjusting nut (2) counterclockwise until it can be turned by hand
- Tighten the adjusting nut slightly until it cover the red mark (0° position)
- Using the hook-style spanner, turn the adjusting nut clockwise by the angle that cooresponds to the respective F_{max} value (see above table). **The adjusting nut is factory set to the 0° position.**
- Tighten the 3 mm Allen head screw (1)
- Remount any covers or guards that may have been removed from the drive unit

10 TROUBLESHOOTING

Symptom	Cause	Remedy
Jerky movement of the chain	Poorly adjusted slip clutch	Check/adjust slip clutch
	Conveyor dirty	Clean conveyor chain with warm, soapy water
	Worn drive sprocket	Check/replace drive sprocket
	Poorly installed wear strip	Check/replace wear strip
	Conveyor chain too loose to over-tensioned	Shorten or lengthen conveyor chain
Drive motor is running, but conveyor chain is at a standstill	Slip clutch is set incorrectly	Check/adjust slip clutch
	Slip-clutch worn or defective	
Drive motor overheated	Damaged wear strips or conveyor lanes	Check/adjust clip clutch
		Check conveyor paths, tails or bends
	Conveyor dirty	Clean conveyor chain with warm, soapy water
	Conveyor overloaded	Remove the load from the conveyor and test conveyor
Check the maximum load capacity for conveyor		

Symptom	Cause	Remedy
Unusual noise	Worn/damaged bearings in the drive unit	Check/replace bearings in the drive unit
	Damaged or deformed wear strip	Check/replace wear strip
	Speed of the conveyor too high	Reduce speed, pay attention to noise level
		Check the recommended speed of the conveyor
Conveyor chain too loose to over-tensioned	Shorten or lengthen conveyor chain	
Abnormal wear of plastic conveyor components	Overloaded conveyor system	Remove the load from the conveyor and test conveyor
		Check the maximum load capacity for conveyor
	Ambient temperature too high	Check the recommended ambient temperature
	Chemicals in the environment which attack the plastic parts	Check whether there are damaging chemicals in the contact with the conveyor system
	Foreign objects damage/wear out the plastic parts	Clean conveyor system with warm, soapy water
Identify the source of the foreign objects		

11 NOTES & CONTACT INFORMATION



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