NORTH AMERICA, INC.
a member of the mk Technology Group

Technical Documentation

CTF-400 FLAT TOP CHAIN CONVEYOR CLEANMOVE PLUS

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.

Technical Documentation
CTF-400

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.

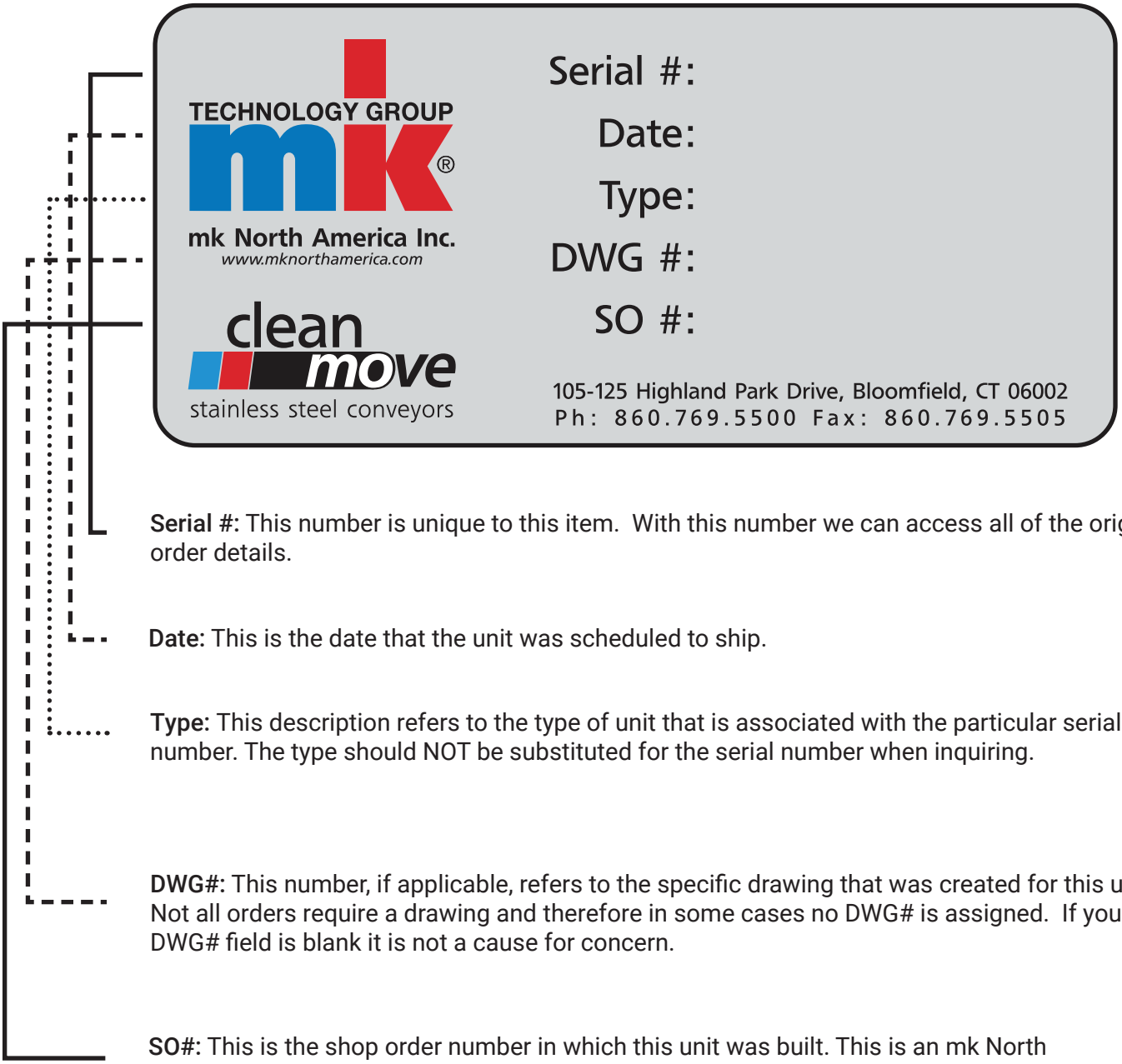
1.4 When your shipment arrives

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 DECODING YOUR SERIAL NUMBER

- The conveyor's serial number is located on the frame at the drive end of the conveyor; it is affixed to the black drive train cover which has the gearmotor mounted to the back plate.
- If there is no black drive train cover, the serial number is affixed to the frame.
- We have provided an area in the back of this manual for you to add any notes about this unit.



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

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

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.

DWG#: This number, if applicable, refers to the specific drawing that was created for this unit. Not all orders require a drawing and therefore in some cases no DWG# is assigned. If your DWG# field is blank it is not a cause for concern.

SO#: This is the shop 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.

3 CONVEYOR DESCRIPTION

3.1 Conveyor Description

1.) Explaining the type of conveyor:

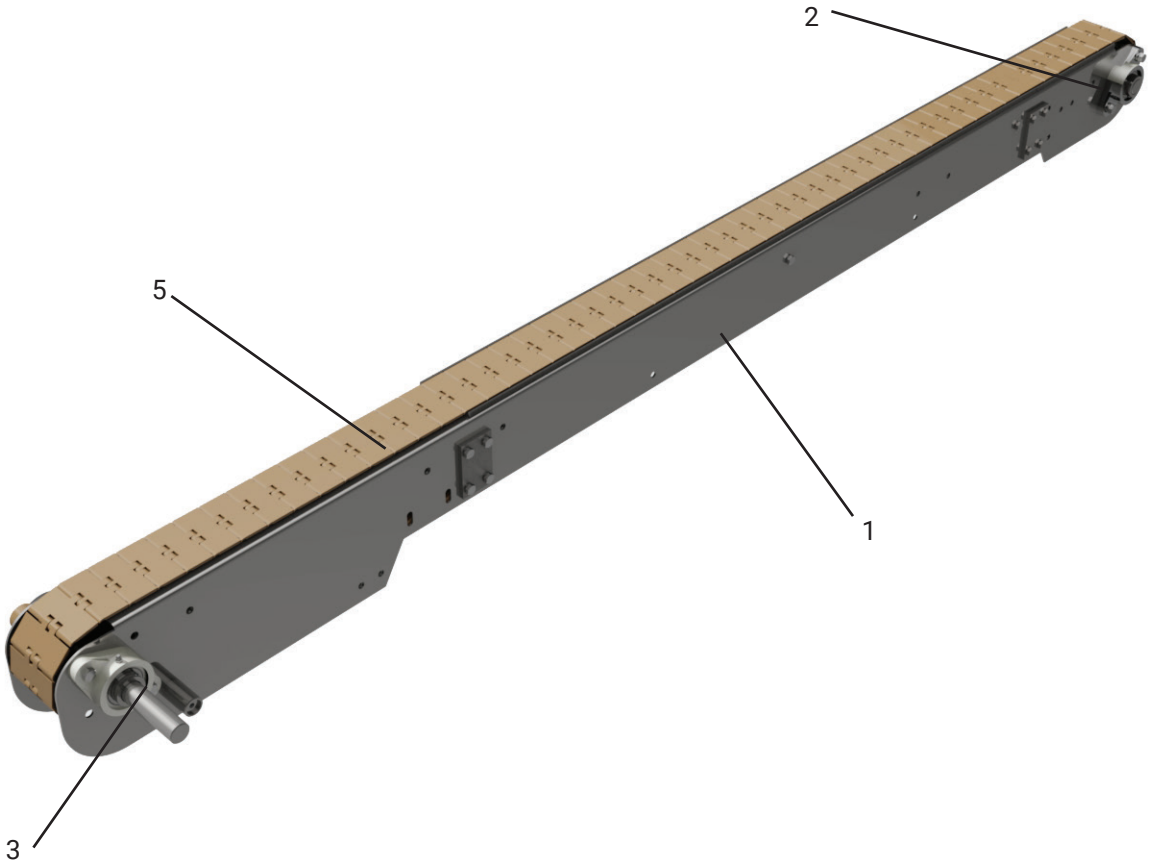
CTF

Style of Conveyor

CFB - CleanMove Flat Belt Conveyor
CFC - CleanMove Flat Belt Curve Conveyor
CCB - CleanMove Cleated Belt Conveyor
CIC - CleanMove Incline Conveyor
CMP - CleanMove Plastic Modular Belt Conveyor
CCM - CleanMove Cleated Plastic Modular Belt Conveyor
CIM - CleanMove Incline Plastic Modular Belt Conveyor
CRM - CleanMove Radius Plastic Modular Belt
CTF - CleanMove Flop Top Chain Conveyor
CRM - CleanMove Curved Flat Top Chain Conveyor

3.2 Conveyor Components

The CTF-200 has many typical conveyor components. Below is a description of the basic parts and options for the CTF-200 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 will vary.

Typical Components

1) Conveyor Frame
2) Idler End
3) Drive - **serial number plate mounted here**
4) Gearmotor (Not shown)
5) Chain
6) Controller (Not shown)
7) Side Rails (Not shown)
8) Support Stand (Not shown)

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 designate[2.], 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

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.

6 WEAR ITEMS & MAINTENANCE

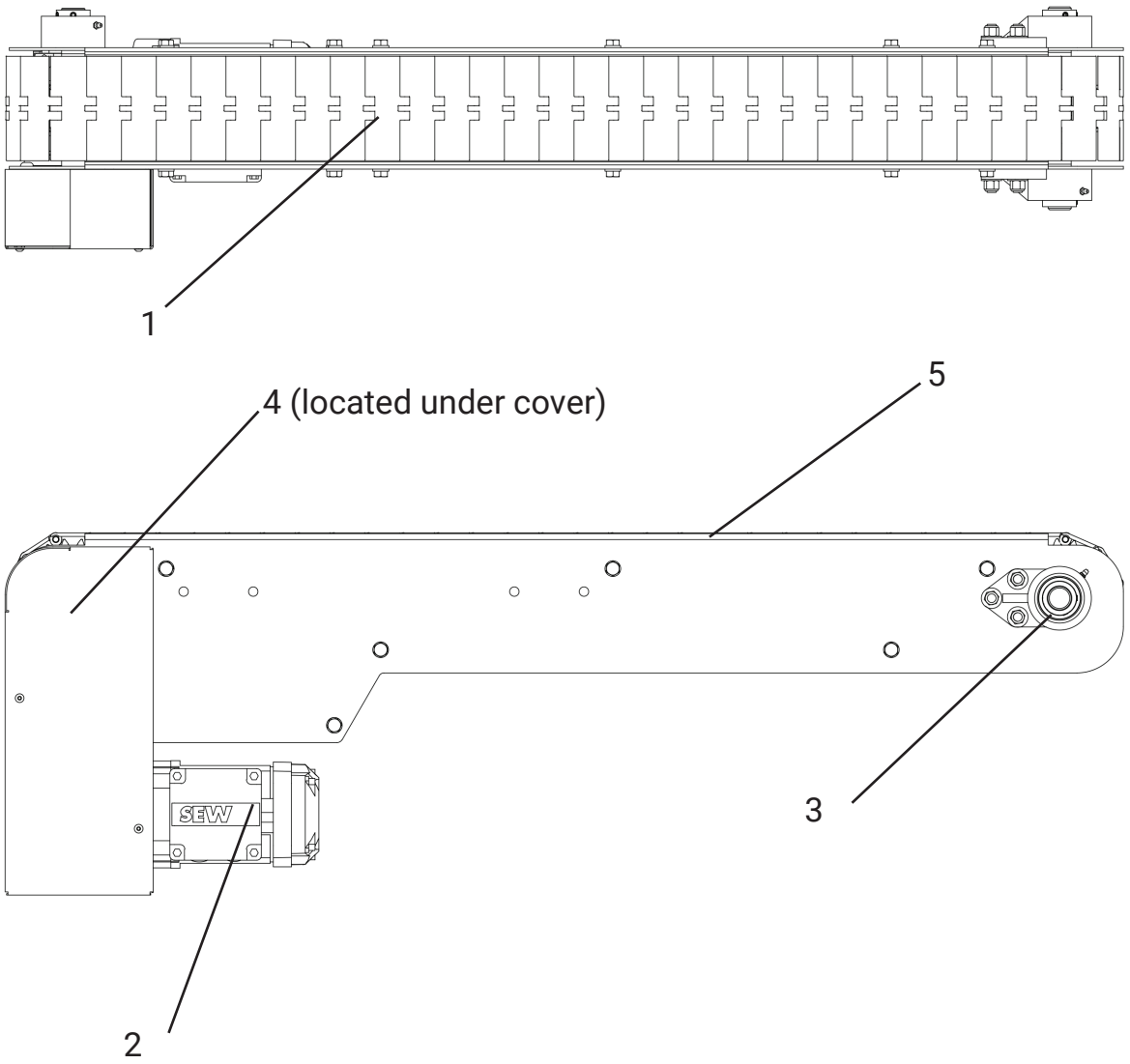
6.1 Important Notes About Wear Items & Maintenance

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 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.
- Ensure that conveyor is kept clean and hygienic as required by your regulating industries and bodies.

6 WEAR ITEMS & MAINTENANCE (CONT.)

6.2 Drive Version AC



NOTE: Not all items shown in all views for clarity. Not all views are to scale. Your model may vary.

(Cont.)

6 WEAR ITEMS & MAINTENANCE (CONT.)

6.2 Drive Version AC

Maintenance Work

Position	Description	Action*	Interval in Hours (Months)	Lubricant
1	Flat Top Chain	I	1,000 Hours (Max. 6 Months)	
		R	Replace if wear visible	
2	Gearmotor	I	Service & Maintenance per manufacturer's documentation	
3	Flanged Bearing[1]	I, L	CLEAN ENVIRONMENTS: 1,000 Hours (Max. 6 Months)	Lithium-based NLGI #2 grease
		I, L	DIRTY ENVIRONMENTS: 160 Hours (Max. 1 Month)	
		I, L	VERY DIRTY ENVIRONMENTS: 160 Hours (Max. 1 Month)	
		R	Replace is wear is visible	
4	Drive Train	I, L, T	500 Hours (Max. 3 Months)	Lithium-based NLGI #2 grease
		R	Replace if wear visible	
5	Wear Strips	I	1,000 Hours (Max. 6 Months)	
		R	Replace if wear visible	

** LEGEND: **I**nspect, **R**eplace, **T**ension, **L**ubricate (grease).*

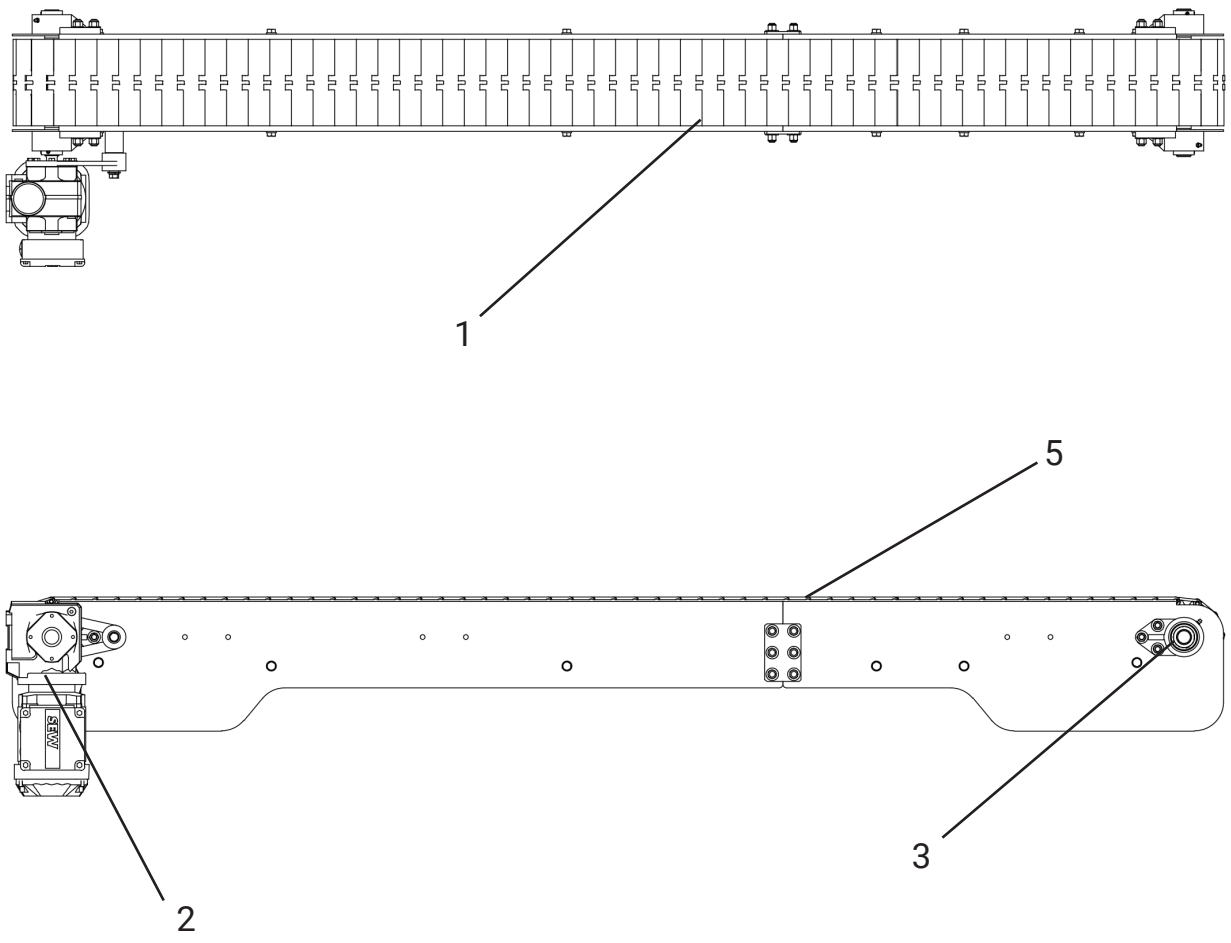
[1]: Over lubrication is a major cause of bearing failure. Please re-lubricate conservatively when unsure of bearing requirements.

Wear Items

For specific wear items for each conveyor please refer to spare parts lists as associated with the drawing number for each specific conveyor.

6 WEAR ITEMS & MAINTENANCE (CONT.)

6.2 Drive Version AF



NOTE: Not all items shown in all views for clarity. Not all views are to scale. Your model may vary.

(Cont.)

6 WEAR ITEMS & MAINTENANCE (CONT.)

6.2 Drive Version AF

Maintenance Work

Position	Description	Action*	Interval in Hours (Months)	Lubricant
1	Flat Top Chain	I	1,000 Hours (Max. 6 Months)	
		R	Replace if wear visible	
2	Gearmotor	I	Service & Maintenance per manufacturer's documentation	
3	Flanged Bearing[1]	I, L	CLEAN ENVIRONMENTS: 1,000 Hours (Max. 6 Months)	Lithium-based NLGI #2 grease
		I, L	DIRTY ENVIRONMENTS: 160 Hours (Max. 1 Month)	
		I, L	VERY DIRTY ENVIRONMENTS: 160 Hours (Max. 1 Month)	
		R	Replace is wear is visible	
5	Wear Strips	I	1,000 Hours (Max. 6 Months)	
		R	Replace if wear visible	

** LEGEND: **I**nspect, **R**eplace, **T**ension, **L**ubricate (grease).*

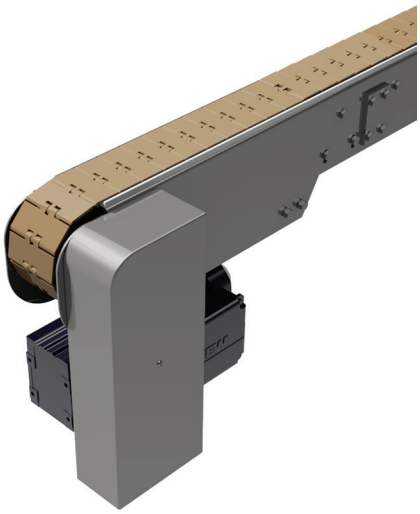
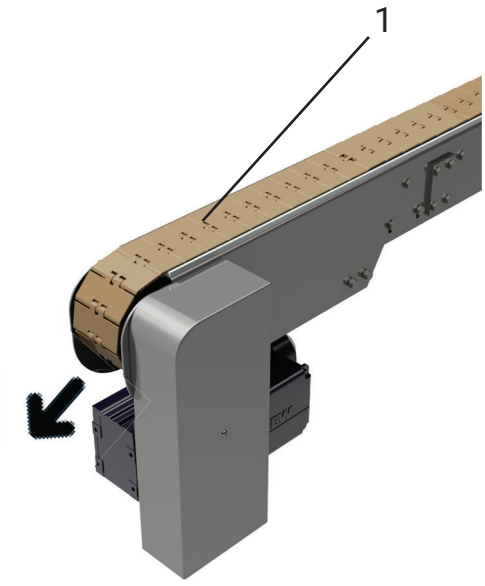
[1]: Over lubrication is a major cause of bearing failure. Please re-lubricate conservatively when unsure of bearing requirements.

Wear Items

For specific wear items for each conveyor please refer to spare parts lists as associated with the drawing number for each specific conveyor.

7 CONVEYOR MAINTENANCE - CHAIN REPLACEMENT

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

Disconnect conveyor from power source. Perform all work at the drive end of the conveyor.	
Pull flat top chain (1) from underneath in the direction of the arrow in order to expose one of the pins between the links. Remove the pin (by pressing it out) with a suitable tool, being careful not to damage the chain in the process. The flat top chain may now be removed by pulling from the top running surface. Remove all or part of the chain, as necessary. Thread new chain through conveyor, or replace section as required. When installing new chain, pay special attention to the running direction of the chain. Many chains are marked with a directional arrow on the underside. Make sure to include enough links for a centenary sag at the drive. Finally, ensure the chain is properly seated on the drive and tail sprockets. Ensure all guards are in place prior to powering up conveyor.	

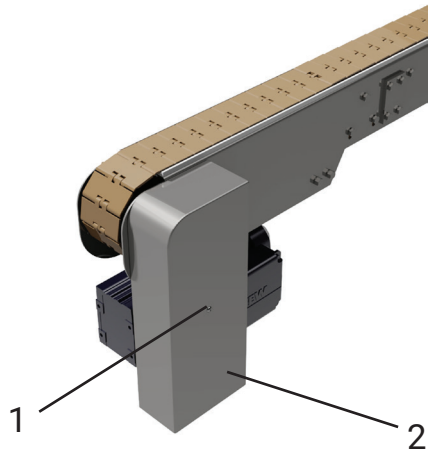
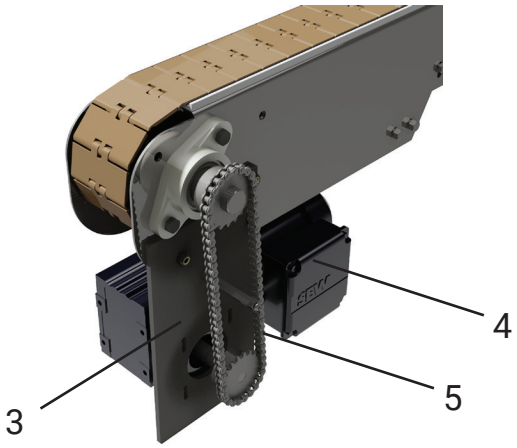
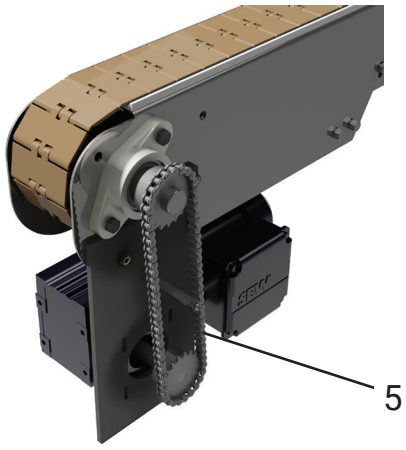
8 CONVEYOR MAINTENANCE - GREASING & TENSIONING OF DRIVE TRAIN

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

Do NOT lubricate timing belt and pulley drive trains.

ONLY APPLIES TO DRIVE VERSION AC.

8 CONVEYOR MAINTENANCE - GREASING & TENSIONING OF DRIVE TRAIN

Disconnect power to the conveyor. Remove screw (1) and remove chain guard (2).	
<u>Tensioning the Drive Train</u> Loosen the four motor plate mounting screws (3), 4 places. Move the motor (4) in the arrow direction to tension the drive chain (5). Do not over-tension the drive chain. Proper chain tension should allow 2-6 mm of play on one side. **<u>Replace all covers prior to applying power to conveyor.</u>**	
<u>Greasing the Drive Train</u> The drive chain (5) is to be lubricated with lubricant as outlined in Section 6. Apply the lubricant with a brush to the chain edges, in order for the lubricant to penetrate the links completely. **<u>Replace all covers prior to applying power to conveyor.</u>**	

7 NOTES & CONTACT INFORMATION

7.1 Record Your Notes

7 NOTES & CONTACT INFORMATION

7.1 Record Your Notes

7.2 Contacting mk North America, Inc.

Email: sales@mknorthamerica.com

Phone: (860) 769-5500

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CTF-200

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