

# DORNER<sup>®</sup>

# AquaPruf<sup>®</sup> ULTIMATE

## 7400 Ultimate Series CE Curved End Drive Conveyors

### Installation, Maintenance and Parts Manual



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## Introduction

### CAUTION

Some illustrations may show guards removed. **DO NOT** operate equipment without guards.

Upon receipt of shipment:

- Compare shipment with packing slip. Contact factory regarding discrepancies.
- Inspect packages for shipping damage. Contact carrier regarding damage. Accessories may be shipped loose.
- See accessory instructions for installation.


The Dorner Limited Warranty applies.

Dorner AquaPruf conveyors are covered by Patent Numbers 7,207,435, 7,246,697, 7,383,944, additional patent pending applications, and corresponding patents in other countries.

### NOTE

*Proper conveyor application, cleaning, and sanitation are the responsibility of the end user.*

Dorner reserves the right to make changes at any time without notice or obligation.

Dorner has convenient, pre-configured kits of Key Service Parts for all conveyor products. These time saving kits are easy to order, designed for fast installation, and guarantee you will have what you need when you need it. Key Parts and Kits are marked in the Service Parts section of this manual with the Performance Parts Kits logo .

Intralox is a registered trademark of Laitram L.L.C. in the United States and / or other countries.

# Warnings – General Safety


**⚠ DANGER**



**SEVERE HAZARD!**

**KEEP OFF CONVEYORS.** Climbing, sitting, walking or riding on conveyor will result in death or serious injury.


**⚠ DANGER**



**EXPLOSION HAZARD!**

- **DO NOT OPERATE CONVEYORS IN AN EXPLOSIVE ENVIRONMENT.** The electric gearmotor generates heat and could ignite combustible vapors.
- Failure to comply will result in death or serious injury.

**⚠ WARNING**



**CRUSH HAZARD!**

- **DO NOT** place hands or fingers inside the conveyor while it is running.
- **DO NOT** wear loose garments while operating the conveyor. Loose garments can become caught up in the conveyor.
- Failure to comply could result in serious injury.


**⚠ WARNING**



**CRUSH HAZARD!**

- **SUPPORT CONVEYOR SECTIONS PRIOR TO LOOSENING STAND HEIGHT OR ANGLE ADJUSTMENT SCREWS.**
- Loosening stand height or angle adjustment screws may cause conveyor sections to drop down, causing serious injury.

**⚠ WARNING**



**SEVERE HAZARD!**

**LOCK OUT POWER** before removing guards or performing maintenance. Exposed moving parts can cause serious injury.


**⚠ WARNING**



**BURN HAZARD!**

**DO NOT TOUCH** the motor while operating, or shortly after being turned off. Motors may be **HOT** and can cause serious burn injuries.


**⚠ WARNING**



**PUNCTURE HAZARD!**

Handle drive shaft keyway with care. It may be sharp and could puncture the skin, causing serious injury.

**⚠ WARNING**



**SEVERE HAZARD!**

- **Dorner cannot control the physical installation and application of conveyors.** Taking protective measures is the responsibility of the user.
- When conveyors are used in conjunction with other equipment or as part of a multiple conveyor system, **CHECK FOR POTENTIAL PINCH POINTS** and other mechanical hazards before system start-up.
- Failure to comply could result in serious injury.

# Product Description

Refer to (Figure 1) for typical conveyor components.

Typical Components	
1	Conveyor
2	Gearmotor
3	Belt
4	Return
5	Support Stands
6	Motor Controller
7	Drive End
8	Tension End

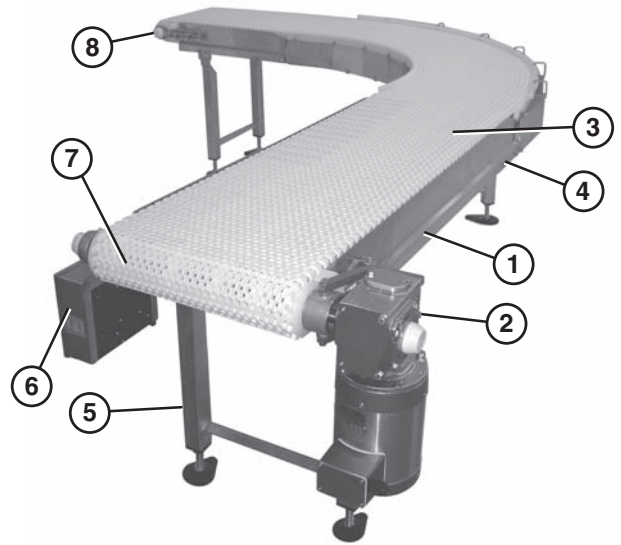


Figure 1

# Specifications

## Specifications

Conveyor Width Reference ( <b>WW</b> )	08 – 36 in 02 increments
Maximum Conveyor Load	97 kg / m <sup>2</sup> (20 lb / ft <sup>2</sup> ) with a maximum of 4882 kg / m <sup>2</sup> (1000 lb / ft <sup>2</sup> )
Belt Travel	305 mm (12") per revolution of pulley
Belt Take-up	51 mm (2")

Conveyor Length Reference ( <b>LLL</b> )	020 – 999 in 001 increments
Conveyor Length	508 mm (20") – 25.4 m (999") in 25 mm (1") increments

### IMPORTANT

Maximum conveyor loads are based on:

- Non-accumulating product
- Product moving toward gearmotor
- Conveyor being mounted horizontally
- Conveyor being located in a dry environment
- Conveyor equipped with standard belt only

## Conveyor Supports

**Maximum Distances:**

1 (Infeed) = 914 mm (3 ft)

2 (Outfeed) = 914 mm (3 ft)

\*\* Stand positions will be determined by the factory.

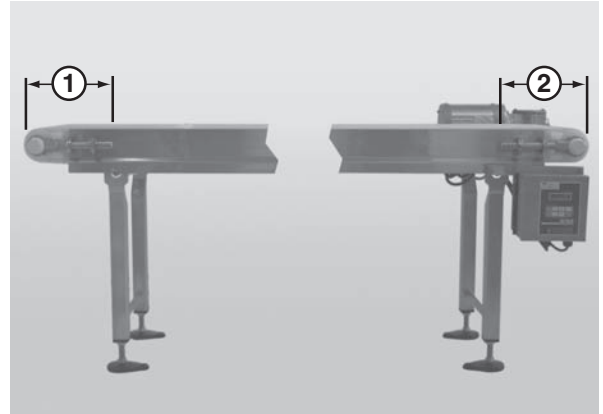
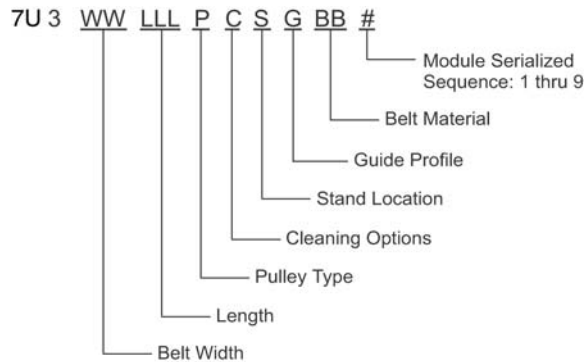


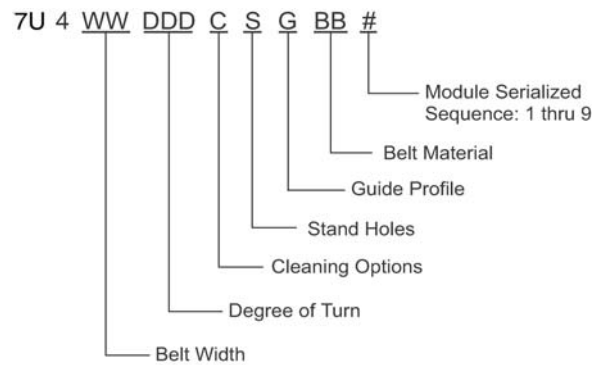
Figure 2

## 7400 Series Frame Section Numbers

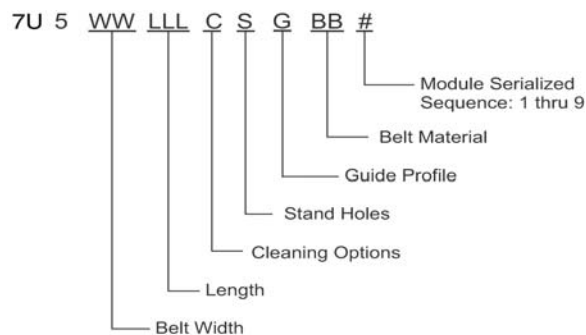
### Straight Infeed Module / Idler Module



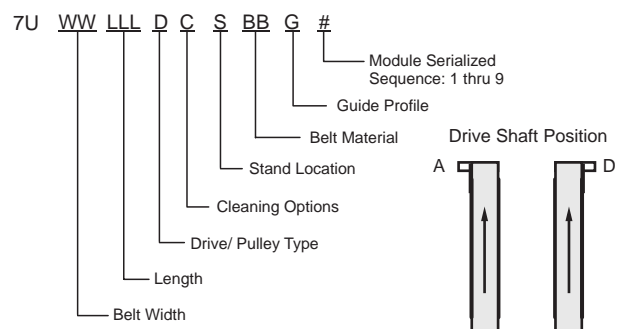
### Curve Module



### Straight Intermediate Module



### Straight Exit / Drive Module



# Installation

## CAUTION

Dorner recommends cleaning all the “food zones” prior to placing conveyor into service. Ensure adequate access is provided for cleaning and servicing equipment so that the required level of hygiene can be maintained.

## NOTE

*Proper conveyor application, cleaning, and sanitation are the responsibility of the end user.*

## CAUTION

Conveyor **MUST** be mounted straight, flat, and level within confines of conveyor. Use a level (Figure 3, item 1), during setup.

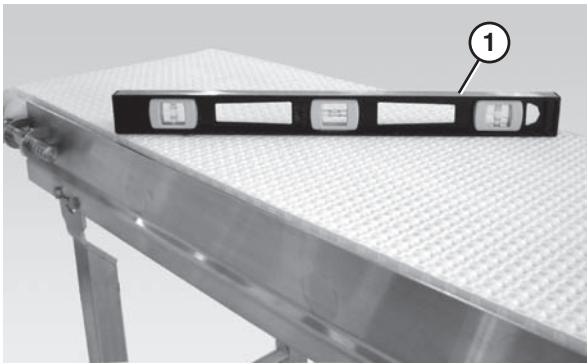


Figure 3

## Required Tools

- 17 mm wrench (for hexagonal head fasteners)
- 4 mm hex wrench (for bearing shaft assembly fasteners)
- Level
- Torque wrench

## Recommended Installation Sequence

1. Connect the frame sections together. “Frame Section Connection” on page 6.
2. Attach the stands to the conveyor. Refer to “Stand Installation” on page 7.
3. Attach the tail assemblies to the frame. Refer to “Tail Assembly Installation” on page 8.
4. Attach the lifters, if applicable. Refer to “Lifter Installation” on page 11.

5. Install the gearmotor, if applicable. Refer to the “7400 Series Drive Package Installation, Maintenance and Parts Manual.”
6. Attach the wear strips. Refer to “Wear Strip Installation” on page 11.
7. Attach the belt returns. Refer to “Belt Return Installation – Straight Frame Sections” on page 15.
8. Install the belt. Refer to “Belt Installation” on page 13.
9. Attach any guides / accessories. Refer to the “Service Parts” section starting on page 28.

## Conveyor Installation

### Frame Section Connection

Typical Connection Components (Figure 4)

- |   |  |
|---|--|
| 1 | Conveyor frame section                     |
| 2 | Curved conveyor frame section              |
| 3 | Hex post connector (x2)                    |
| 4 | Flat connector (x2)*                       |
| 5 | M10 - 1.5 x 12 mm hex head cap screw (x4)* |
| 6 | M10 - 1.5 x 16 mm hex head cap screw (x4)  |
| 7 | O-rings (x8)                               |

\* For connections not supported by stands.

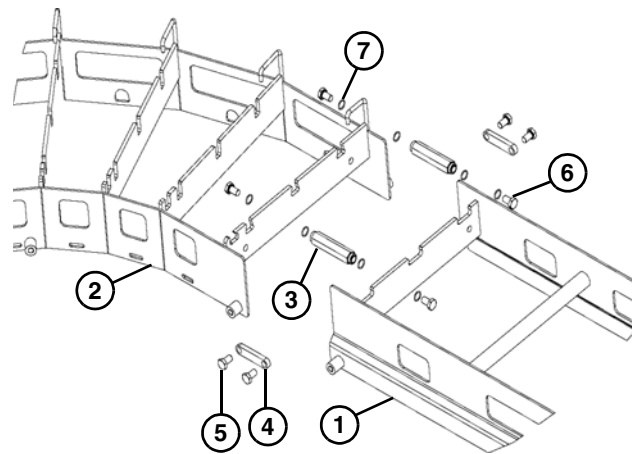
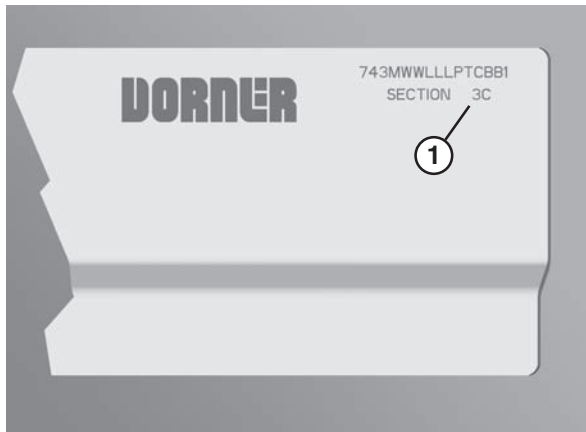


Figure 4

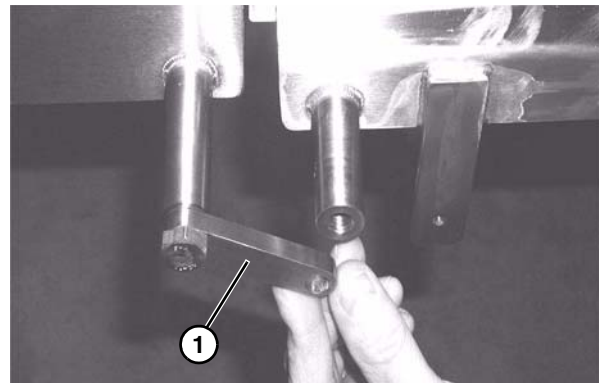
# Installation

1. Locate the section number sequence etched on each section of frame (**Figure 5, item 1**).



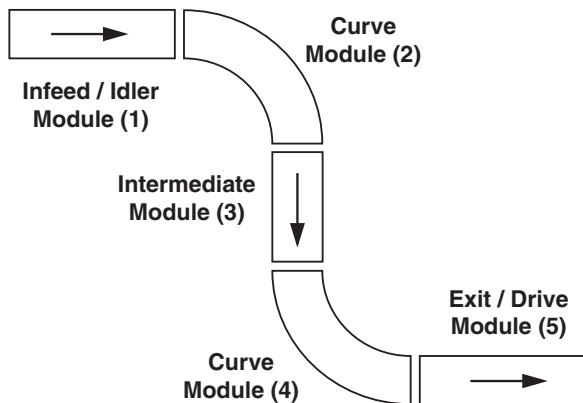
**Figure 5**

4. Attach the flat connectors (**Figure 8, item 1**), if applicable, to the inside of the frame sections.



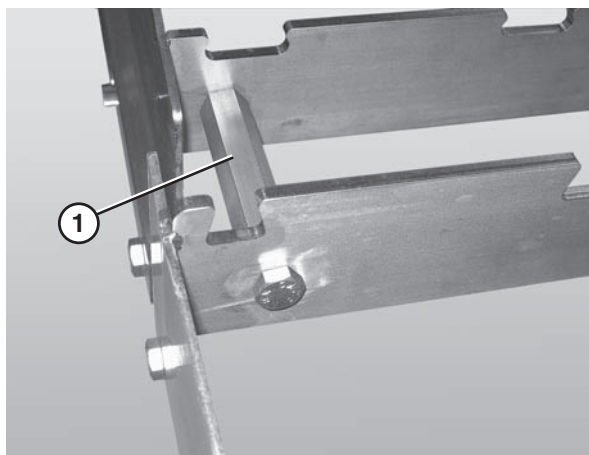
**Figure 8**

2. Position the frame sections in the correct order (**Figure 6**).



**Figure 6**

3. Connect the frame sections by bolting the hex post connectors (**Figure 7, item 1**) to the cross member supports of each frame section.

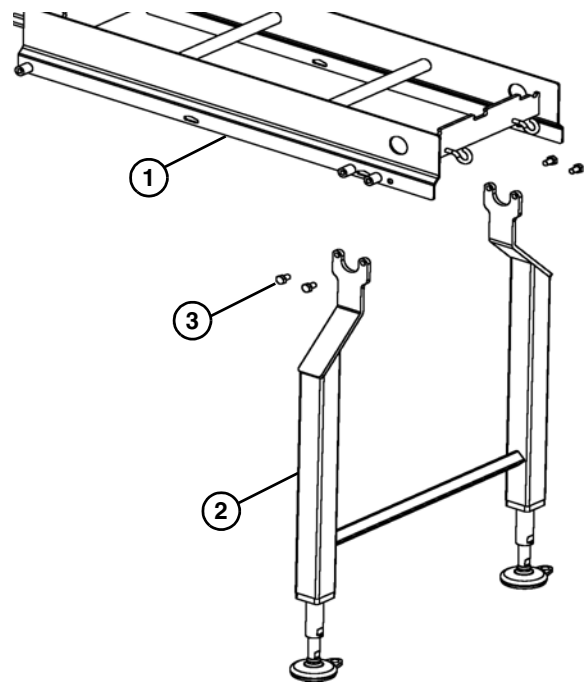


**Figure 7**

## Stand Installation

Typical Stand Components (**Figure 9**)

1	Conveyor frame
2	Stand
3	M10 - 1.5 x 16 mm hex head cap screws (x4)



**Figure 9**



# Installation

1. Position the stands on a flat, level surface.
2. Attach the stands to the frame (**Figure 10**).



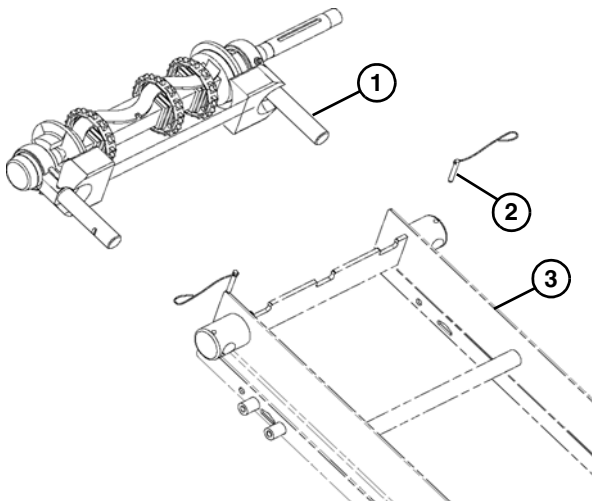
**Figure 10**

## Tail Assembly Installation

### Drive Tail

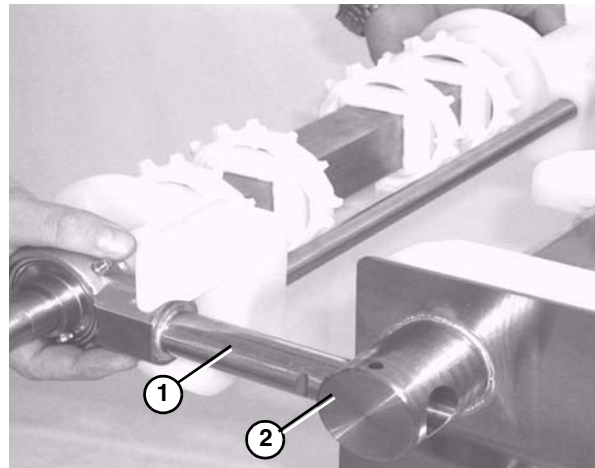
Typical Drive Tail Components (**Figure 11**)

- |   |                     |
|---|---------------------|
| 1 | Drive tail assembly |
| 2 | Pull pin (x2)       |
| 3 | Conveyor frame      |



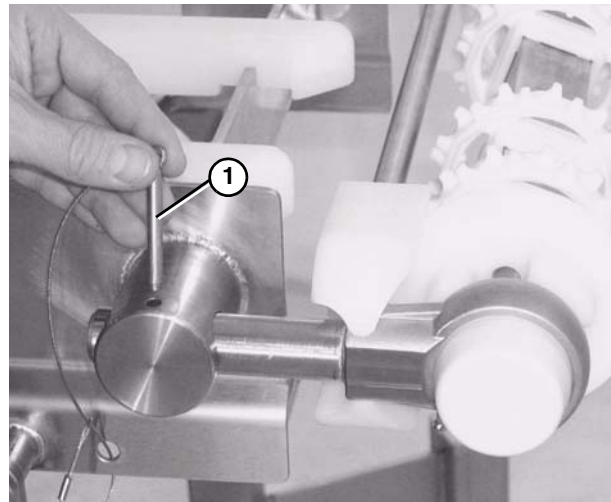
**Figure 11**

1. Slide the bearing shafts (**Figure 12, item 1**) into the take up blocks (**Figure 12, item 2**).



**Figure 12**

2. Install the drive package, if applicable. Refer to the “7400 Series Drive Package Installation, Maintenance and Parts Manual.”
3. Insert the pull pins (**Figure 13, item 1**).



**Figure 13**



## Tip Up Idler Tail

Typical Tip Up Tail Components (Figure 14)

1	Tip up tail assembly
2	Pull pin (x2) & teather
3	Tip up shaft
4	Key stops (x2)

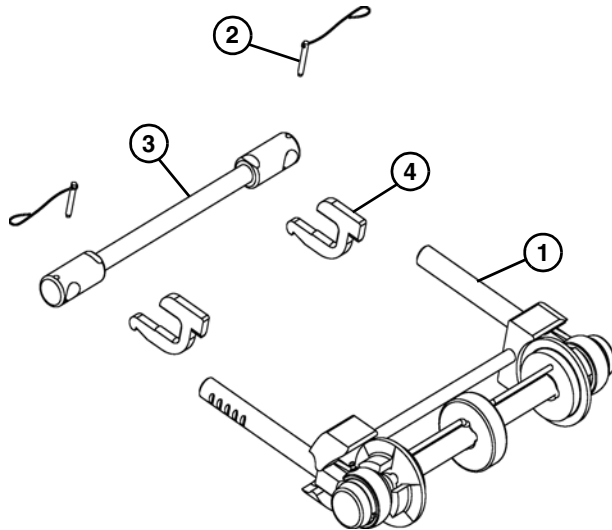


Figure 14

1. Slide the tip up shaft (Figure 15, item 1) through the designated slots in the frame.

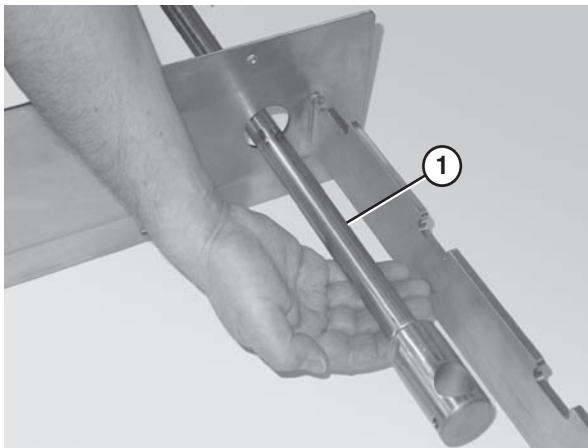


Figure 15

2. Attach the key stops (Figure 16, item 1) to the tip up shaft (Figure 16, item 2). The rounded end of the key stop should be facing the tail.

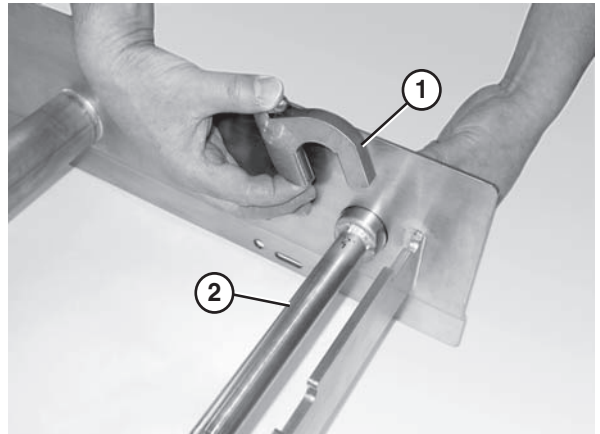


Figure 16

3. Slide the bearing shafts (Figure 17, item 1) into the holes in the tip up shaft (Figure 17, item 2).

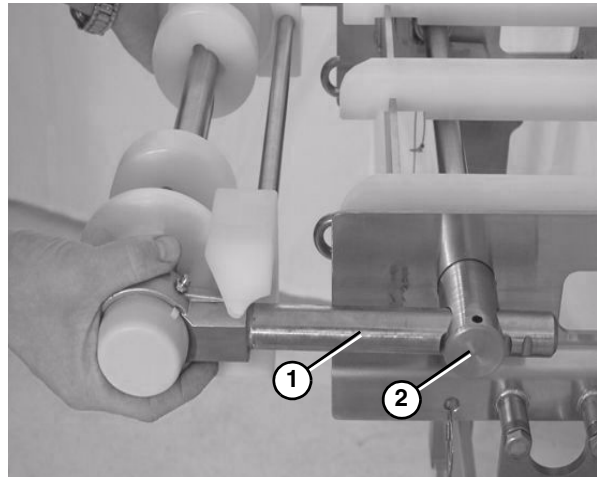


Figure 17

### NOTE

*Do not insert the pull pins on the tension end of the conveyor until the belt has been installed.*

# Installation

## Nose Bar Tip Up Tail

### Typical Nose Bar Tip Up Tail Components (Figure 18)

1	Tip up tail assembly
2	Pull pin (x2) & teather
3	Tip up shaft
4	Key stops (x2)

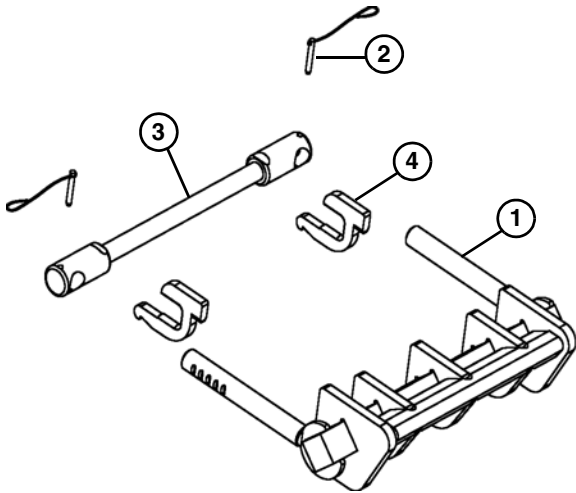


Figure 18

1. Slide the tip up shaft (Figure 19, item 1) through the designated slots in the frame.

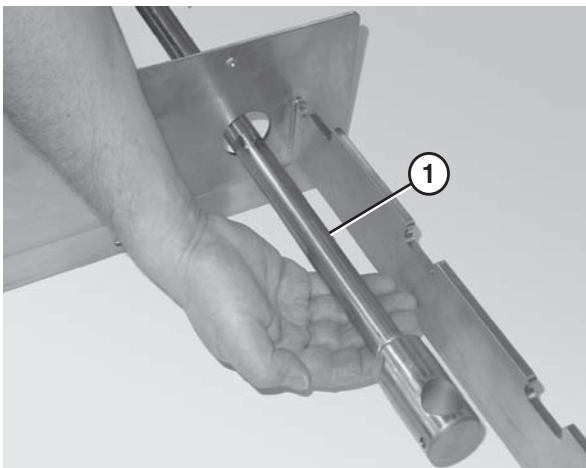


Figure 19

2. Attach the key stops (Figure 20, item 1) to the tip up shaft (Figure 20, item 2). The rounded end of the key stop should face the tail.

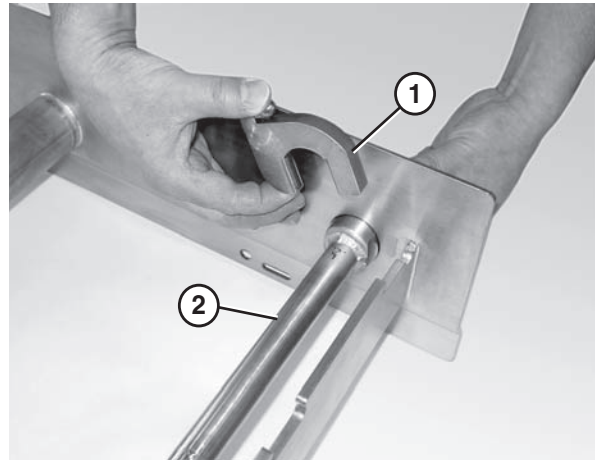


Figure 20

3. Attach nose bar idler shaft hands (Figure 21, item 1) to the tip up shaft (Figure 21, item 2).

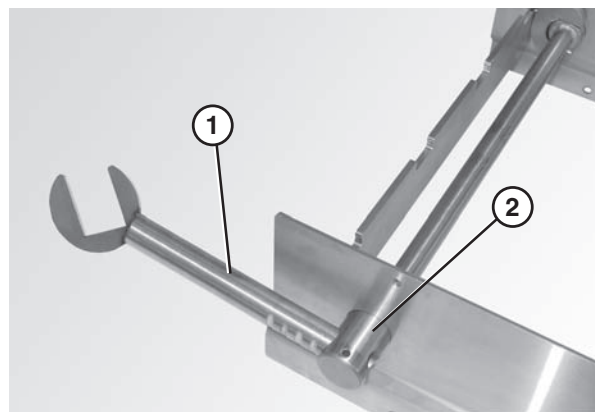


Figure 21

4. Attach the nose bar transfer post (Figure 22, item 1) to the nose bar idler shaft hands (Figure 22, item 2).

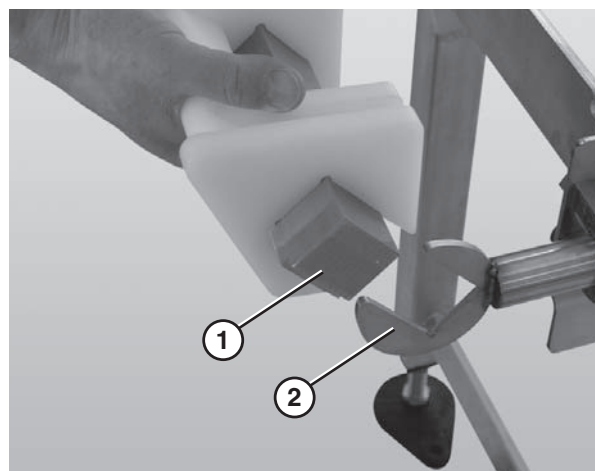
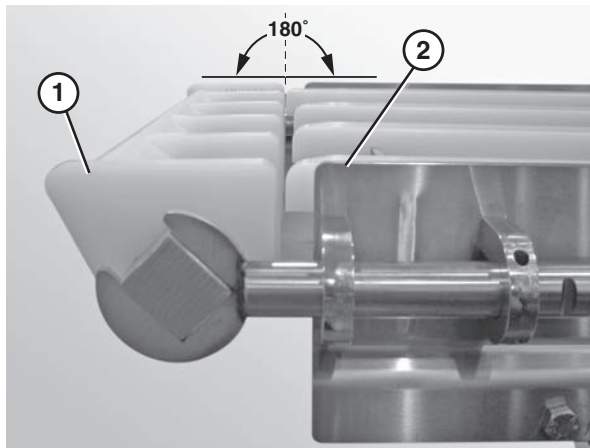


Figure 22

5. Ensure that the nose bar pucks (**Figure 23, item 1**) are in line with the conveyor frame (**Figure 23, item 2**).



**Figure 23**

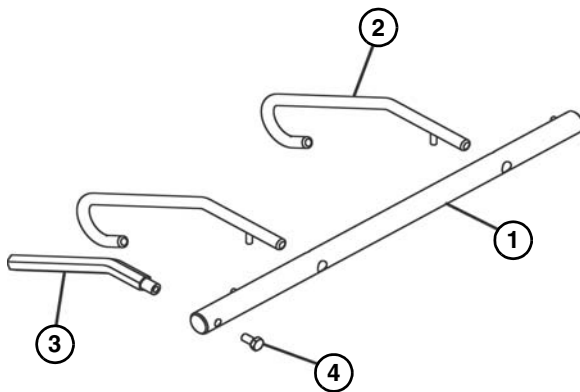
## NOTE

*Do not insert the pull pins on the tension end of the conveyor until the belt has been installed.*

## Lifter Installation

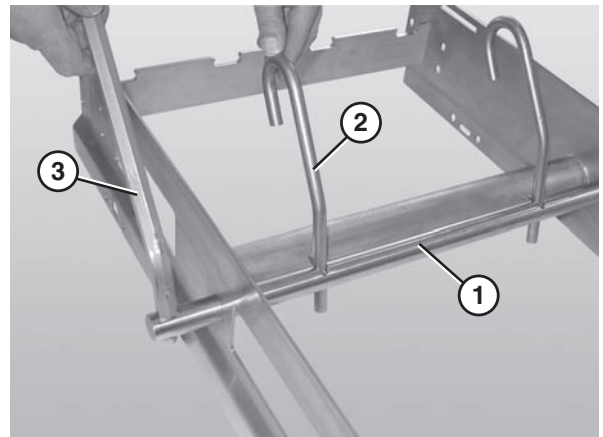
Typical Lifter Components (**Figure 24**)

- |   |                                      |
|---|--------------------------------------|
| 1 | Belt lift pivot bar                  |
| 2 | Lifter bars                          |
| 3 | Belt lift handle                     |
| 4 | M8 - 1.25 x 16 mm hex head cap screw |



**Figure 24**

1. Slide the belt lift pivot bar (**Figure 25, item 1**) through the designated holes in the frame.



**Figure 25**

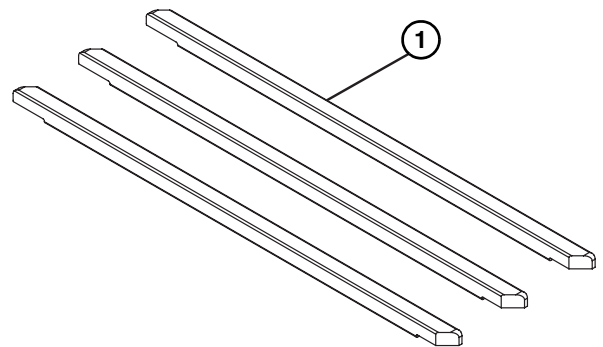
2. Attach the lifter bars (**Figure 25, item 2**) to the belt lift pivot bar (**Figure 25, item 1**). Make sure the hooked ends of the lifter bars are facing down when resting against the frame.
3. Attach the lifter handle (**Figure 25, item 3**) to the belt lift pivot rod.

## Wear Strip Installation

### Straight Frame Sections

Typical Wear Strip Components (**Figure 26**)

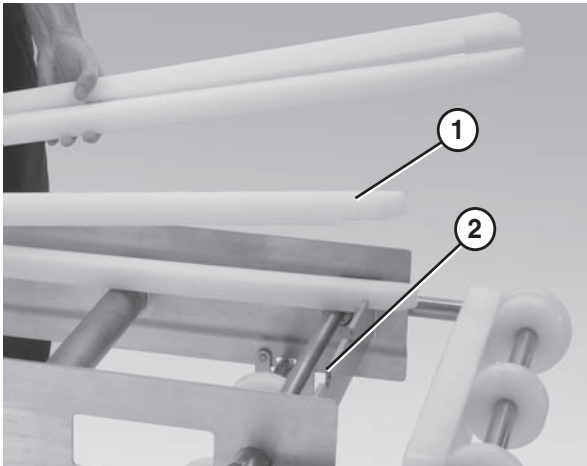
- |   |            |
|---|------------|
| 1 | Wear strip |
|---|------------|



**Figure 26**

# Installation

1. Position the wear strips (**Figure 27, item 1**) on the frame.



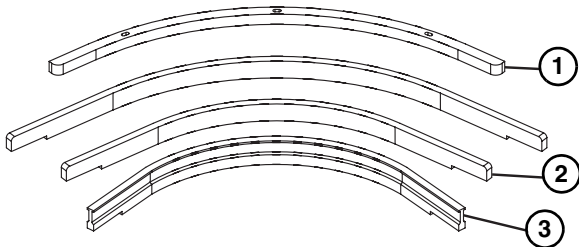
**Figure 27**

2. Make sure the wear strips are situated securely in the frame slots (**Figure 27, item 2**).

## Curved Frame Sections

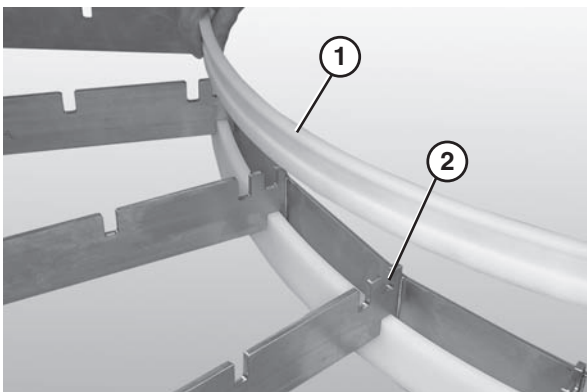
Typical Curved Wear Strip Components (**Figure 28**)

1	Hold down wear strip
2	Wear strip
3	Inside curve top wear strip



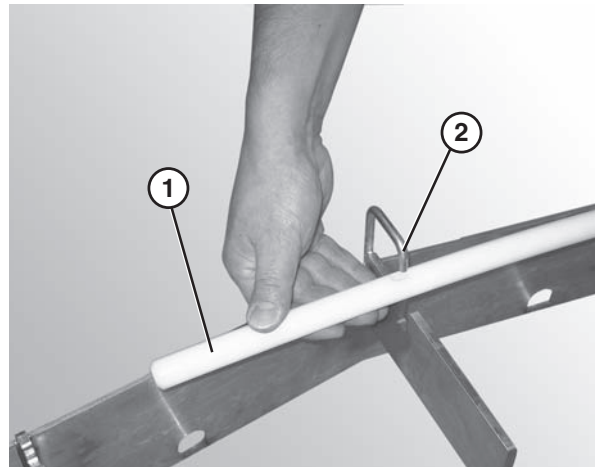
**Figure 28**

1. Insert the inside curve top wear strip (**Figure 29, item 1**) into the innermost slot (**Figure 29, item 2**) on the inside of the frame.



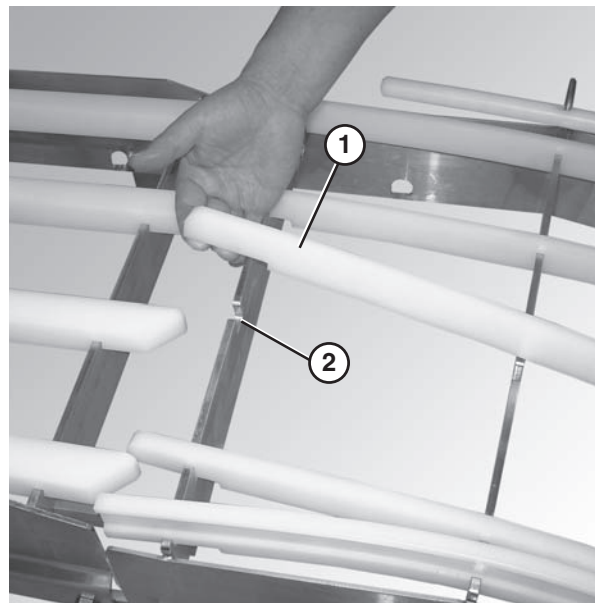
**Figure 29**

2. Attach the hold down wear strip (**Figure 30, item 1**) to the frame hooks (**Figure 30, item 2**) on the outside of the frame.



**Figure 30**

3. Insert the wear strips (**Figure 31, item 1**) into the appropriate slots in the frame (**Figure 31, item 2**), starting with the shortest wear strip on the inside of the curved section and working outward to the longest.



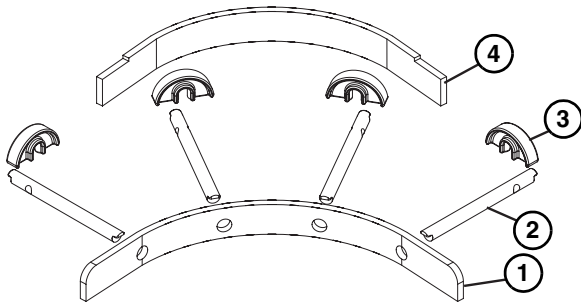
**Figure 31**



## Belt Return Installation – Curved Frame Sections

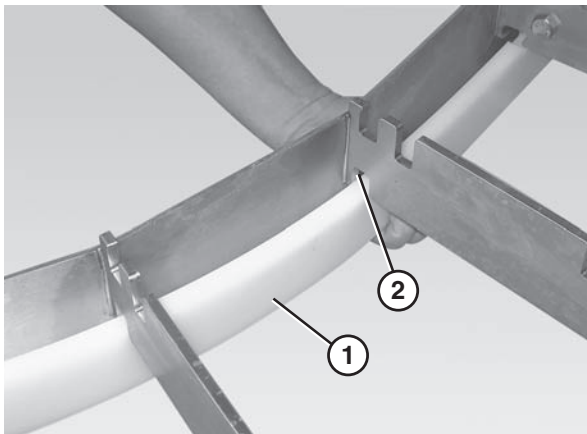
Typical Curved Belt Return Components (Figure 32)

1	Return bottom wear strip
2	Curve return shaft
3	Chain return shoe
4	Inside return bottom wear strip



**Figure 32**

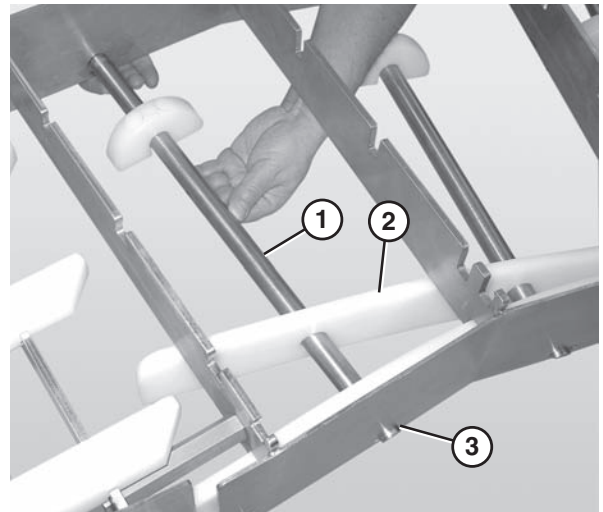
1. Insert the inside return bottom wear strip (Figure 33, item 1) into the slots (Figure 33, item 2) on the lower inside section of the frame (figure shown without the belt or wear strips).



**Figure 33**

2. Attach the chain return shoes (Figure 33, item 1) to the curve return shafts (Figure 33, item 2).

3. Slide the long end of the curve return shaft (Figure 34, item 1) through the center hole in the return bottom wear strip (Figure 34, item 2).



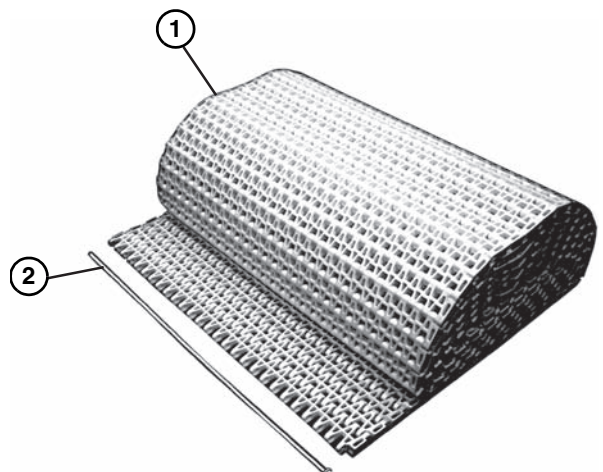
**Figure 34**

4. Slide the return shaft up and through the large slot in the frame. Make sure the holes in the return bottom wear strip match up with the holes in the conveyor frame.
5. Push up on the return shaft and slide the notched end of the shaft through the small slot on the opposite side of the frame (Figure 34, item 3).
6. Repeat steps 4 – 5 with the remaining returns.

## Belt Installation

Typical Belt Components (Figure 35)

1	Chain belt
2	Belt rod



**Figure 35**

# Installation

1. Position the belt on the conveyor frame (**Figure 36**).



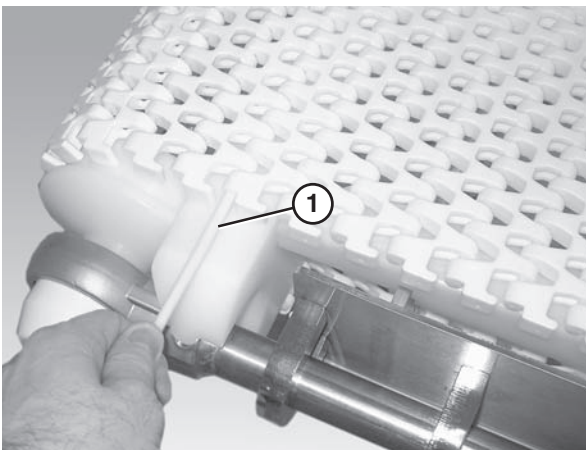
**Figure 36**

2. Wrap the belt around the conveyor, making sure the sprocket teeth have engaged the belt.
3. Bring the ends of the belt together (**Figure 37**).



**Figure 37**

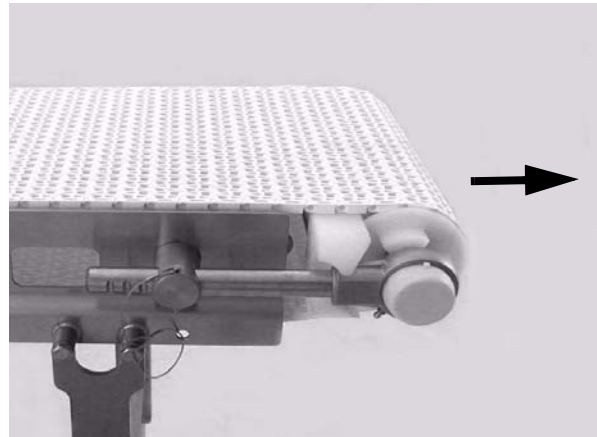
4. Insert the belt rod (**Figure 38, item 1**).



**Figure 38**

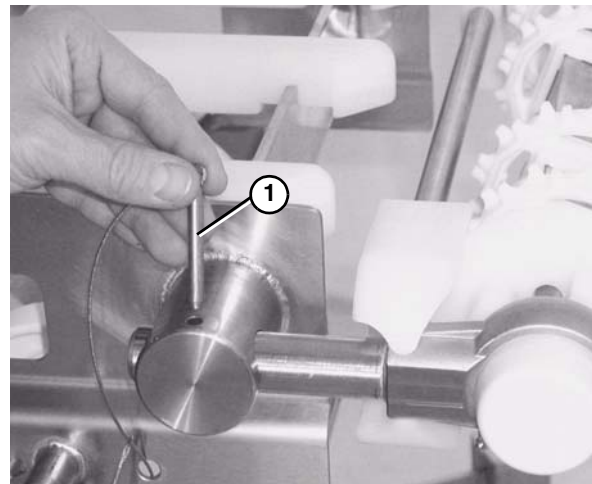
5. Push the belt rod in as far as possible.
6. Lightly tap the head of the rod with a hammer until it snaps into position.

7. Extend the tension end to remove excess slack in the belt (**Figure 39**).



**Figure 39**

8. Insert the pull pins (**Figure 40, item 1**) on the tension end of the conveyor.



**Figure 40**

9. If no more travel is available, remove one or more belt links to take up the tension. Refer to “Standard Belts: Replacing a Section of Belt” on page 18.



## Belt Return Installation – Straight Frame Sections

Typical Belt Return Components (Figure 41)

1	Return shaft
2	Chain return shoe

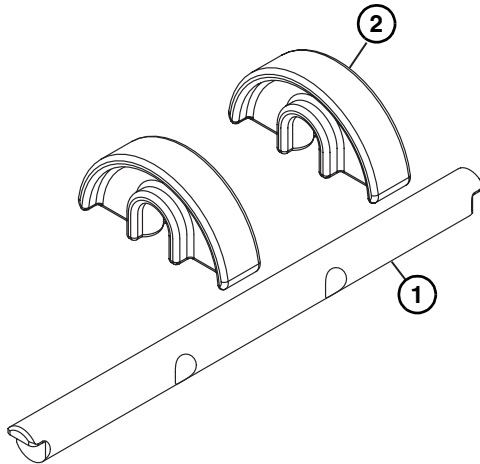


Figure 41

1. Attach the chain return shoes (Figure 42, item 1) to the return shaft (Figure 42, item 2).

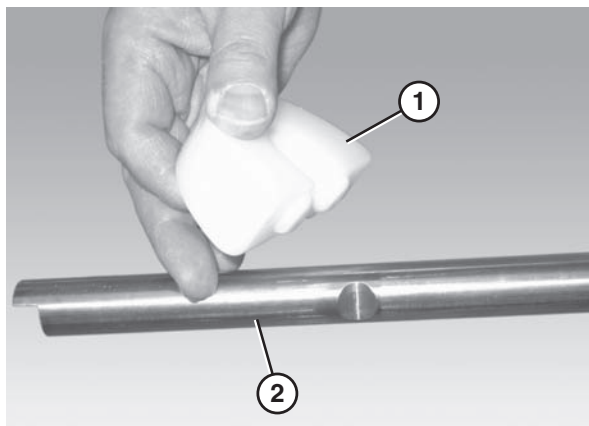


Figure 42

2. Slide the return shaft up (Figure 43, item 1) and through the large slot (Figure 43, item 2) in the frame (picture shown without the belt or wear strips).

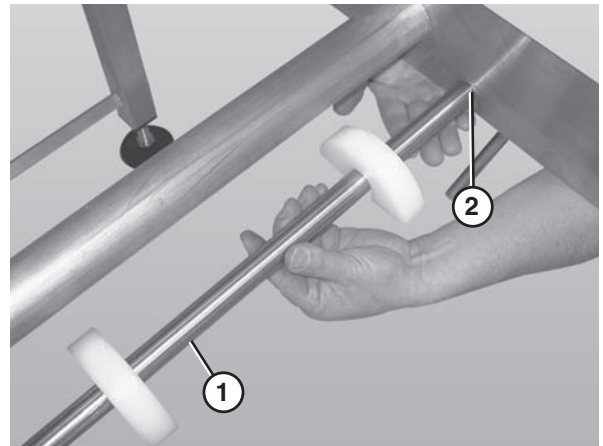


Figure 43

3. Push up on the return shaft (Figure 43, item 1) and slide the notched end of the shaft through the small slot on the opposite side of the frame.
4. Check belt sag by measuring from the top of the return (Figure 44). Belt sag should not exceed 102 mm. Follow steps 7 – 9 in the “Belt Installation” section on page 13 to remove slack from the belt.

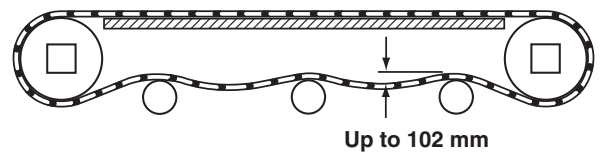


Figure 44

### **⚠ CAUTION**

Belt sag should not exceed 102 mm from the top of the returns.

# Preventive Maintenance and Adjustment

## Required Tools

- 17 mm wrench (or adjustable wrench)
- 4 mm hex wrench (for bearing shaft assembly fasteners)
- 3 mm hex wrench
- Punch and hammer (to remove belt rod)

## Checklist

- Keep service parts on hand. Refer to the "Service Parts" section starting on page 28 for recommendations.
- Replace any worn or damaged parts.

## Cleaning

<b>NOTE</b>
<i>Proper conveyor application, cleaning, and sanitation are the responsibility of the end user.</i>

<b>⚠ CAUTION</b>
<b>Dorner recommends cleaning all the "food zones" prior to placing conveyor into service. Ensure adequate access is provided for cleaning and servicing equipment so that the required level of hygiene can be maintained.</b>

## Routine Cleaning

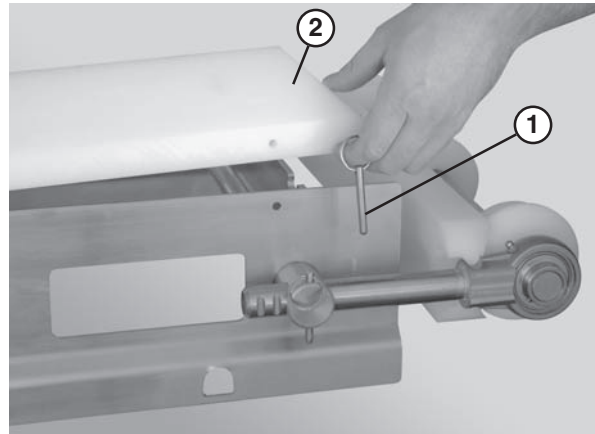
<b>⚠ WARNING</b>

<b>SEVERE HAZARD!</b> <b>LOCK OUT POWER before removing guards or performing maintenance. Exposed moving parts can cause serious injury.</b>

Dorner recommends cleaning the inside and the outside of the conveyor on a daily basis. Refer to the following steps to access the inside of the conveyor.

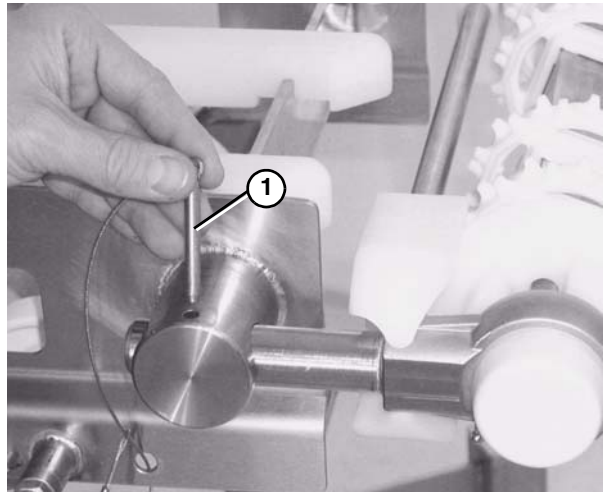
### Standard Conveyors

1. Remove the guides, if applicable, by removing the pull pins (**Figure 45, item 1**) that connect the guide (**Figure 45, item 2**) to the frame.



**Figure 45**

2. Remove the pull pin (**Figure 46, item 1**) on the tension end of the conveyor to release belt tension.



**Figure 46**

3. Lift up on the belt (**Figure 47**).



**Figure 47**

# Preventive Maintenance and Adjustment

## Conveyors with Tip Up Tails and Lifters

1. Remove the guides, if applicable, by removing the pull pins (**Figure 45, item 1**) that connect the guide (**Figure 45, item 2**) to the frame.
2. Use the lifter handle (**Figure 48, item 1**) to raise the lifters (**Figure 48, item 2**) and raise the tip up tail (**Figure 48, item 3**).

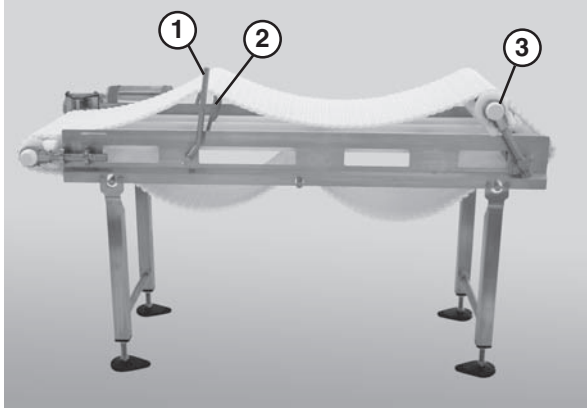


Figure 48

### **CAUTION**

**DO NOT submerge or soak bearing assemblies. This will reduce the life of the bearing.**

## Periodic Cleaning

Dorner recommends complete disassembly of the conveyor periodically for thorough cleaning.

For conveyor disassembly and reassembly instructions:

- Refer to “Conveyor Belt Replacement” on page 18.
- Refer to “Sprocket and Puck Removal” on page 21.
- Refer to “Reassembling Tail Assembly” on page 23.

## Lubrication

### Conveyor Bearings

Conveyor bearing lubrication is required. Dorner recommends using an H-1 food grade grease.

### **NOTE**

*Although bearings are sealed, re-greasing is recommended to increase bearing life. An H-1 food grade grease is recommended. The frequency of bearing re-greasing is dependent upon the application in which the conveyor is being used. Frequency of re-greasing will increase with the frequency of conveyor washing.*

1. Add grease to the bearing using the zerk fitting (**Figure 49, item 1**) on the exterior of the bearing shaft assembly.

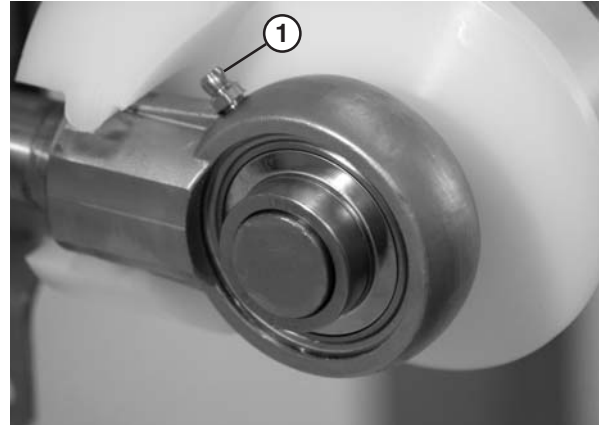


Figure 49

2. Replace the bearings if they become worn.

## Wear Strips and Belt Returns

Replace the wear strips and belt returns if they become worn.

For wearstrip and belt return installation instructions:

- Refer to “Wear Strip Installation” on page 11.
- Refer to “Belt Return Installation – Straight Frame Sections” on page 15.

## Maintaining the Conveyor Belt

### Troubleshooting

### **NOTE**

*Visit [www.dorner.com](http://www.dorner.com) for complete list of troubleshooting solutions.*

Inspect conveyor belt for:

- Surface cuts or wear
- Skipping

Damage to belt links or rods, surface cuts and / or wear indicate:

- Sharp or heavy parts impacting belt
- Jammed parts
- Accumulated dirt
- Foreign material inside the conveyor
- Improperly positioned accessories

Skipping indicates:

- Excessive load on belt
- Worn sprockets or impacted dirt on drive pulley

Damage to belt links or rods indicate:

# Preventive Maintenance and Adjustment

Skipping indicates:

- Excessive load on belt
- Dirt impacted on sprockets
- Excessive or improper side loading
- Improperly positioned accessories

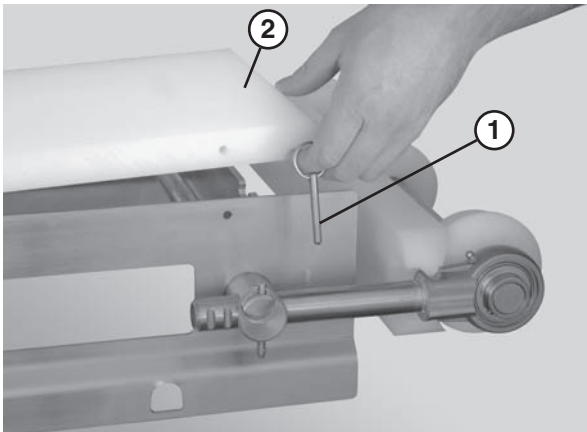
## Conveyor Belt Replacement

 <b>WARNING</b>

<b>SEVERE HAZARD!</b> <b>LOCK OUT POWER</b> before removing guards or performing maintenance. Exposed moving parts can cause serious injury.

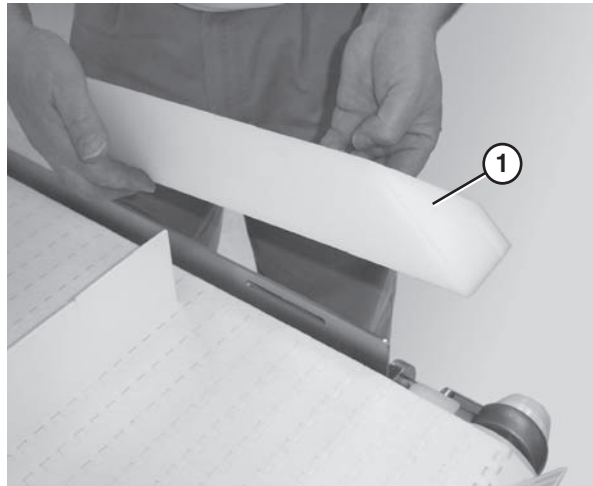
### Conveyors with Guides

1. Remove the pull pins (**Figure 50, item 1**) that connect the guide (**Figure 50, item 2**) to the frame.



**Figure 50**

2. Remove the guide (**Figure 51, item 1**).



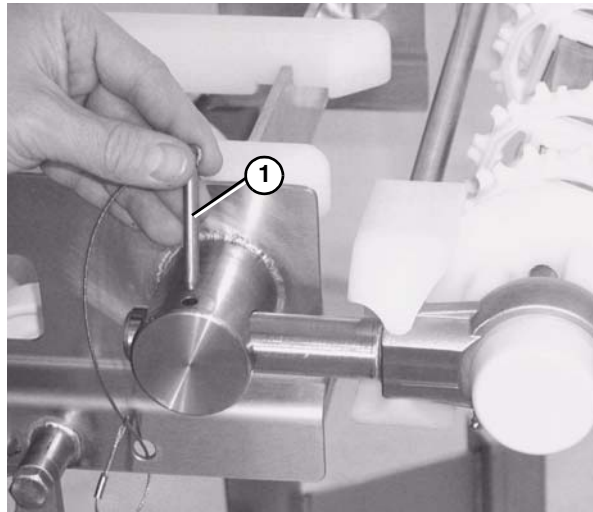
**Figure 51**

3. Follow the belt replacement procedures described in “Standard Belts” on page 18, or “Specialty Intralox 2400 Series Belts” on page 19.

### Standard Belts

#### Replacing a Section of Belt

1. Remove the pull pins (**Figure 52, item 1**) on the tension end of the conveyor to release tension on the belt.



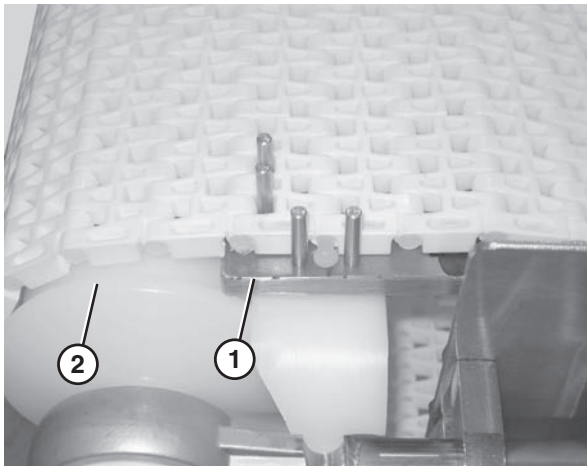
**Figure 52**

# Preventive Maintenance and Adjustment

## **⚠ CAUTION**

**Secure the retaining head side of the belt prior to removing a belt rod in order to prevent damaging the belt.**

2. Secure the retaining head side of the belt. Use the belt removal tool (**Figure 54, item 1**) for 1" pitch belts. For all other belts, position the section of belt so that it is braced by the flanged puck (**Figure 53, item 2**).



**Figure 53**

3. Use a punch and hammer to push the belt rod out by striking the rod end opposite the retaining head (**Figure 54**).



**Figure 54**

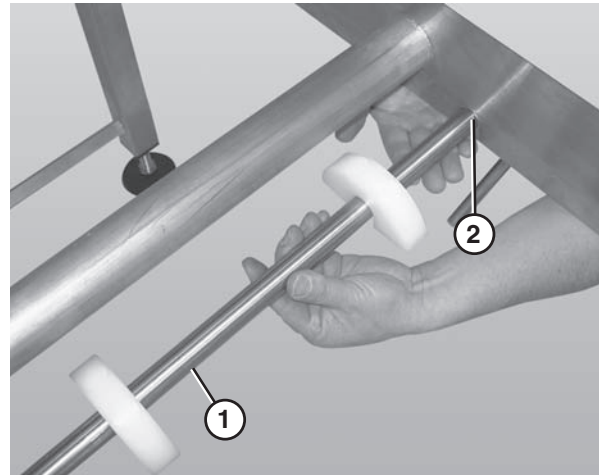
4. Remove the belt rods on both sides of the section of belt being replaced.
5. Replace the old section with a new section of belt.

## **⚠ CAUTION**

**DO NOT reuse belt rods that are damaged or show signs of wear.**

## Replacing the Entire Belt

1. Remove the belt returns by pushing up on the return shaft (**Figure 55, item 1**) and sliding it through the large hole (**Figure 55, item 2**) in the frame.



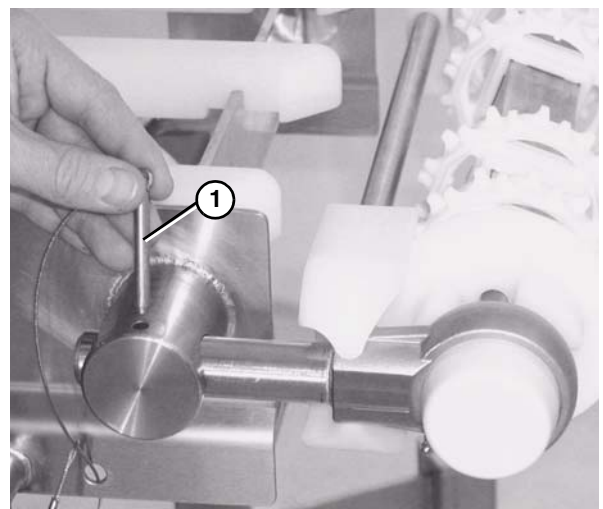
**Figure 55**

2. Lower the opposite end of the return shaft (**Figure 55, item 1**) and slide it out of the frame.
3. Follow steps 1 – 3 in "Standard Belts: Replacing a Section of Belt" on page 18.
4. Remove the belt.
5. Replace the damaged or worn belt. Refer to "Belt Installation" on page 13 and "Belt Return Installation" on page 15.

## Specialty Intralox 2400 Series Belts

### Replacing a Section of Belt

1. Remove the pull pins (**Figure 58, item 1**) on the tension end of the conveyor to release tension on the belt.



**Figure 56**



# Preventive Maintenance and Adjustment

**⚠ CAUTION**

**Secure the retaining head side of the belt prior to removing a belt rod in order to prevent damaging the belt.**

2. Use a punch and hammer to push the belt rod out by striking the rod end opposite the retaining head (Figure 57, item 1).

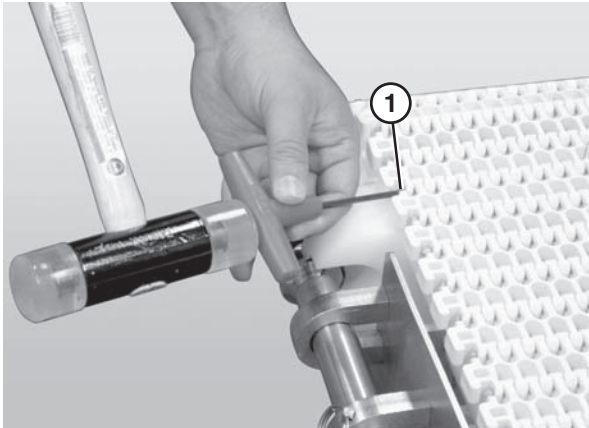


Figure 57

3. Remove the belt rods on both sides of the section of belt being replaced.
4. Replace the old section with a new section of belt.

**⚠ CAUTION**

**DO NOT reuse belt rods that are damaged or show signs of wear.**

## Replacing the Entire Belt

1. Remove the belt returns by pushing up on the return shaft (Figure 58, item 1) and sliding it through the large hole (Figure 58, item 2) in the frame.

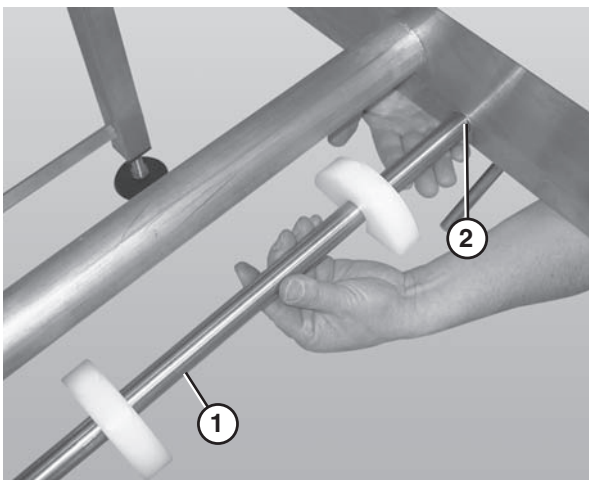


Figure 58

2. Lower the opposite end of the return shaft (Figure 58, item 1) and slide it out of the frame.

3. Follow steps 1 – 3 in "Specialty Intralox 2400 Series Belts: Replacing a Section of Belt" on page 19.
4. Remove the belt.
5. Replace the damaged or worn belt. Refer to "Belt Installation" on page 13, and "Belt Return Installation – Straight Frame Sections" on page 15.

## Conveyor Belt Tensioning

**⚠ WARNING**



**SEVERE HAZARD!**

**LOCK OUT POWER** before removing guards or performing maintenance. Exposed moving parts can cause serious injury.

**⚠ CAUTION**

**Belt sag should not exceed 102 mm from the top of the returns.**

1. Remove both pull pins (Figure 59, item 1) on the tension end of the conveyor.

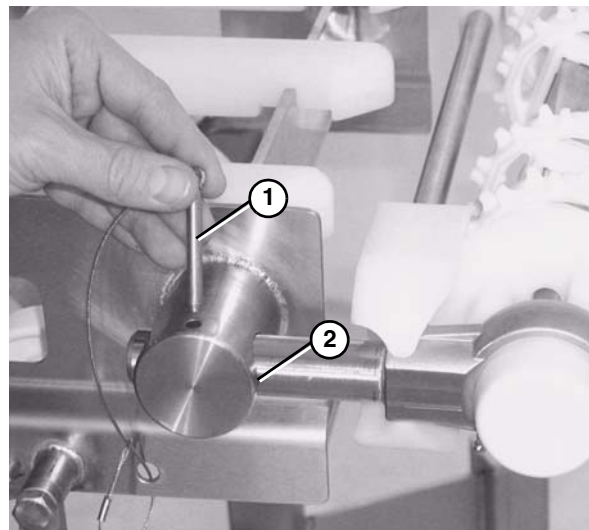


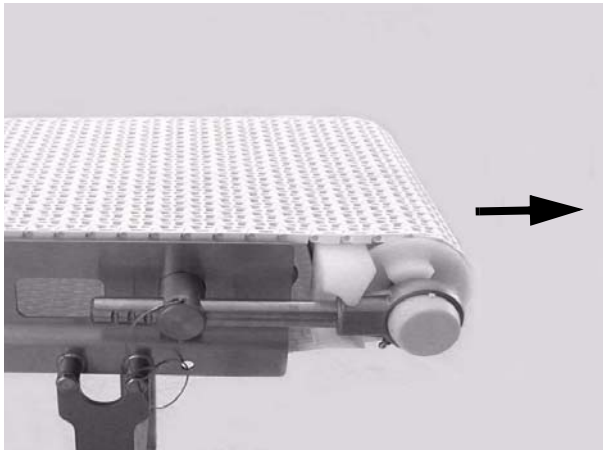
Figure 59

6. Extend the idler tail to the next groove (Figure 59, item 2) on the bearing shaft.



# Preventive Maintenance and Adjustment

- Continue extending the tension end until the belt is sufficiently tight (**Figure 60**).



**Figure 60**

- Reinsert the pull pins.
- If no more travel is available, remove one or more belt links to take up the tension. Refer to “Replacing a Section of Belt” on page 18.

## Sprocket and Puck Removal

 <b>WARNING</b>

<b>SEVERE HAZARD!</b> <b>LOCK OUT POWER before removing guards or performing maintenance. Exposed moving parts can cause serious injury.</b>

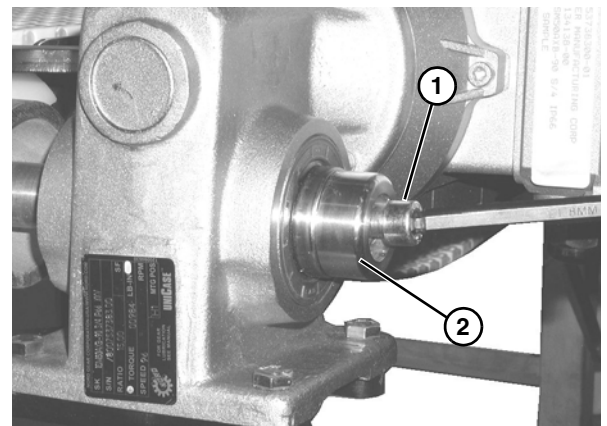
- Remove the conveyor belt to access the sprockets / pucks. Refer to “Conveyor Belt Replacement” on page 18.
- Remove the desired sprocket / puck by following these instructions:
  - A - Drive Sprocket Removal
  - B - Idler Puck Removal

## A - Drive Sprocket Removal

 <b>WARNING</b>

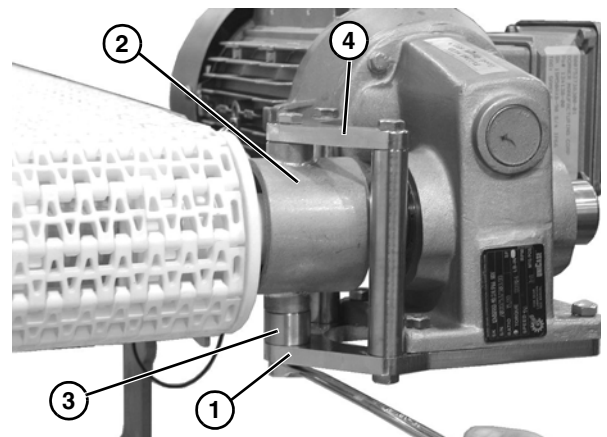
<b>PUNCTURE HAZARD!</b> <b>Handle drive shaft keyway with care. It may be sharp and could puncture the skin, causing serious injury.</b>

- Remove the plastic cap on the end of the motor and remove the socket head screw (**Figure 61, item 1**) and the bore plug (**Figure 61, item 2**).



**Figure 61**

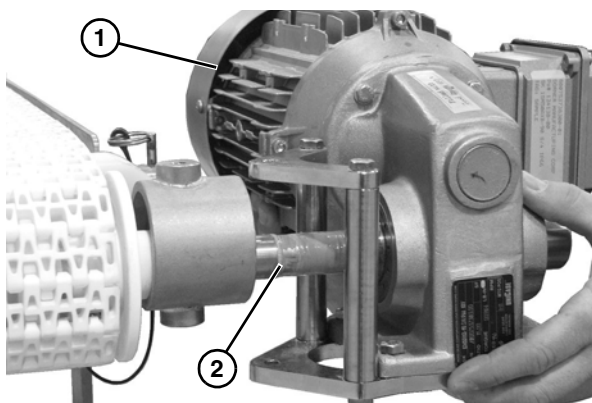
- Remove the lower gearhead mounting bar (**Figure 62, item 1**) from the motor mounting bracket (**Figure 62, item 2**). Remove spacer (**Figure 62, item 3**).
- Remove the upper gearhead mounting bar (**Figure 62, item 4**) from the motor mounting bracket (**Figure 62, item 2**).



**Figure 62**

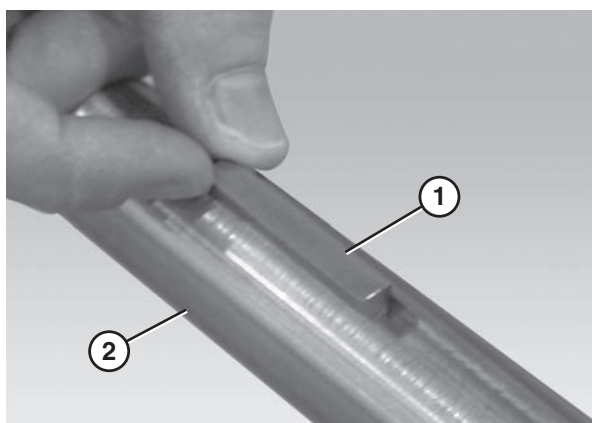
# Preventive Maintenance and Adjustment

- Slide the gearmotor (**Figure 63, item 1**) off of the drive spindle (**Figure 63, item 2**).



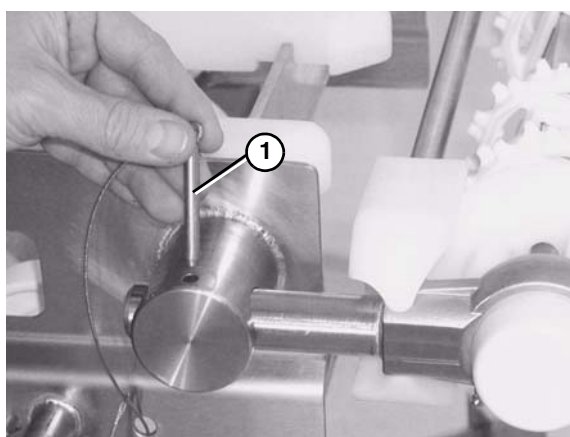
**Figure 63**

- Remove the drive spindle key (**Figure 64, item 1**) from the drive spindle keyway (**Figure 64, item 2**).



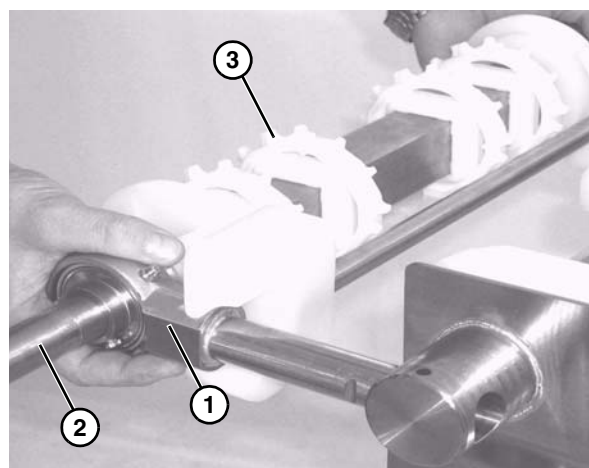
**Figure 64**

- Remove the pull pin (**Figure 65, item 1**).



**Figure 65**

- Slide the drive tail assembly out of the take up blocks (**Figure 66**).

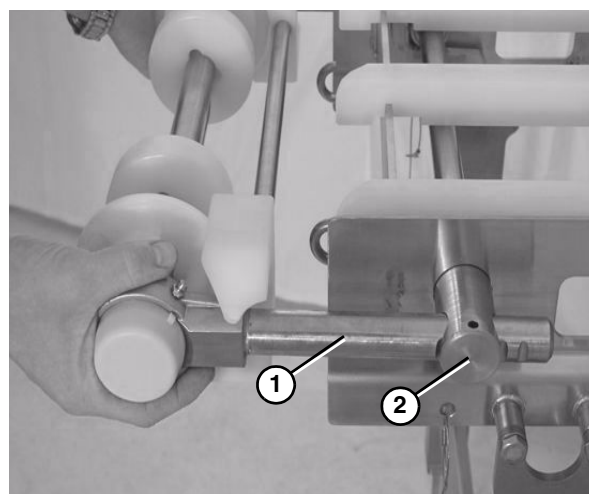


**Figure 66**

- Slide the motor support bracket (**Figure 66, item 1**) off the drive spindle (**Figure 66, item 2**).
- Remove the sprockets (**Figure 66, item 3**).

## B - Idler Puck Removal

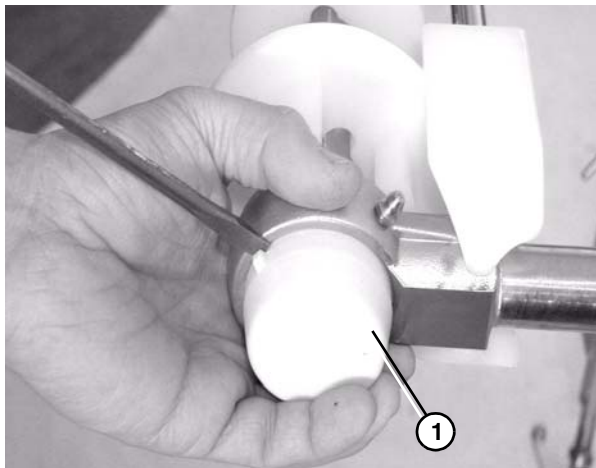
- Remove the pull pins (**Figure 65, item 1**).
- Slide the idler tail assembly (**Figure 67, item 1**) out of the take up blocks (**Figure 67, item 2**).



**Figure 67**

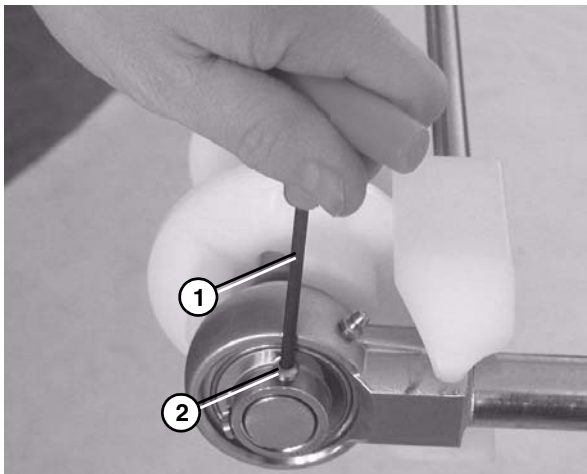
# Preventive Maintenance and Adjustment

3. Remove the bearing cover (**Figure 68, item 1**).



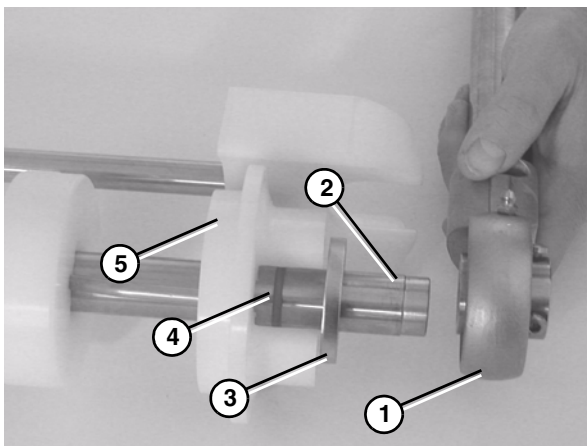
**Figure 68**

4. Use a hex wrench (**Figure 69, item 1**) to loosen the bearing shaft assembly fasteners (**Figure 69, item 2**).



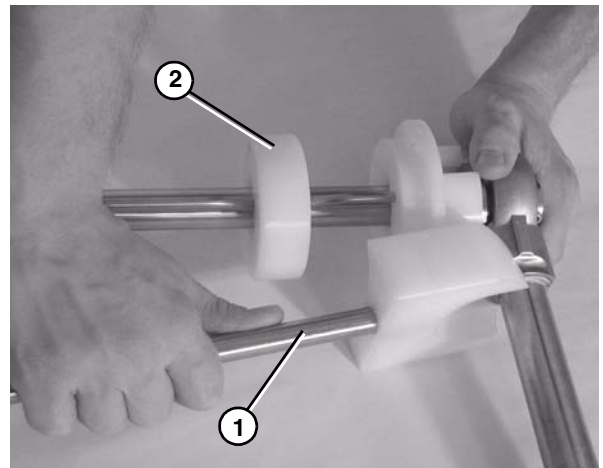
**Figure 69**

5. Slide the bearing shaft assembly (**Figure 70, item 1**) washer off (**Figure 70, item 3**), O-ring (**Figure 70, item 4**), and flanged puck (**Figure 70, item 5**) off the idler shaft (**Figure 70, item 2**).



**Figure 70**

6. Remove the guard bar (**Figure 71, item 1**).



**Figure 71**

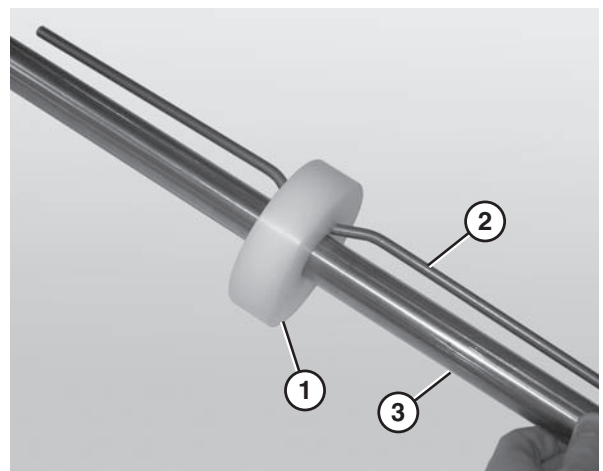
7. Remove the pucks (**Figure 71, item 2**).

## Reassembling Tail Assembly

Refer to the "Service Parts" section starting on page 28 for complete diagrams and lists of all tail assembly components.

### Tip Up Idler Tail

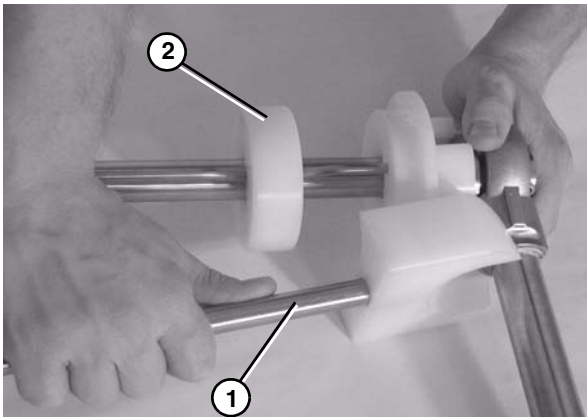
1. Place the idler puck (**Figure 72, item 1**) at the center of the bent retaining bar (**Figure 72, item 2**).
2. Slide the idler puck onto the idler shaft (**Figure 72, item 3**). Make sure to center the idler puck.



**Figure 72**

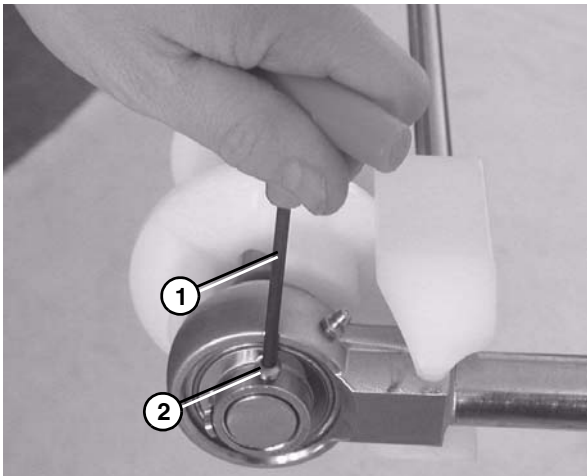
# Preventive Maintenance and Adjustment

3. Attach the flanged pucks (**Figure 73, item 2**) and bearing shaft assemblies to the idler shaft.
4. Attach the guard bar (**Figure 73, item 1**).



**Figure 73**

5. Use a hex wrench (**Figure 74, item 1**) to tighten the bearing shaft fasteners (**Figure 74, item 2**) to 6 N•m (54 in•lbs). Check after 24 hours of conveyor use.

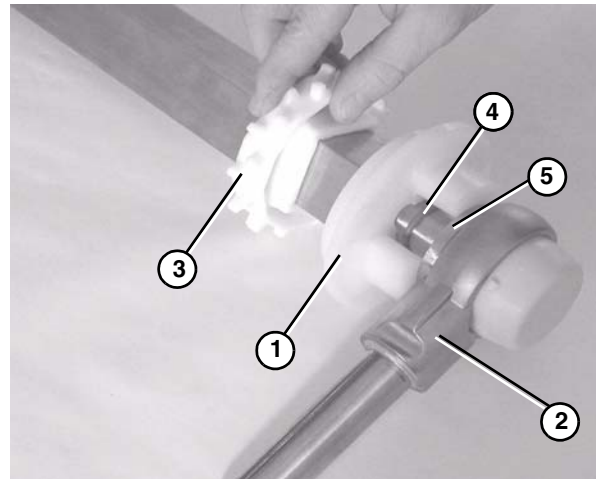


**Figure 74**

6. Attach the bearing covers.

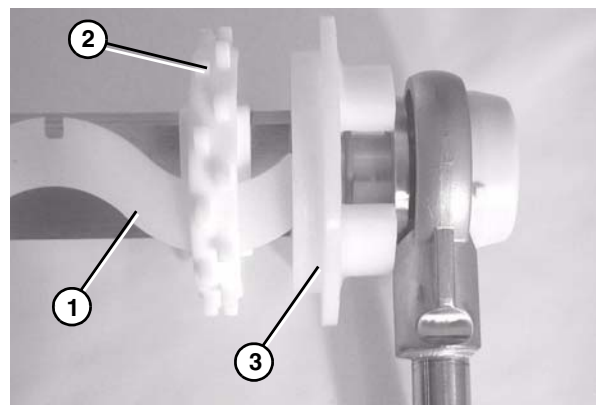
## Drive Tail

1. Attach a flanged puck (**Figure 75, item 1**), an O-ring (**Figure 75, item 4**), a washer (**Figure 75, item 5**) and a bearing shaft assembly (**Figure 75, item 2**) to the supporter end of the drive spindle.



**Figure 75**

2. Slide the first sprocket (**Figure 75, item 3**) onto the drive spindle.
3. Insert the sprocket alignment bar (**Figure 76, item 1**) into the first sprocket (**Figure 76, item 2**) resting it up against the flanged puck (**Figure 76, item 3**). Position the first sprocket with the notch in the sprocket alignment bar.

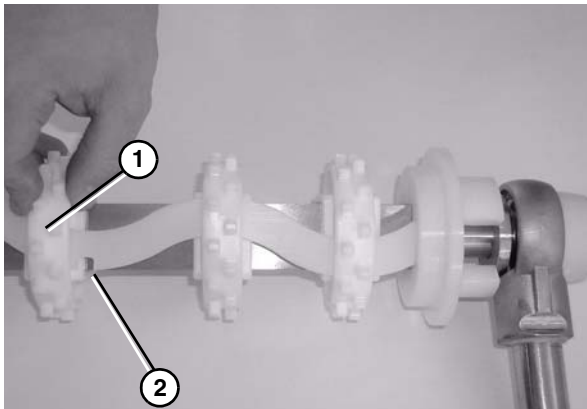


**Figure 76**



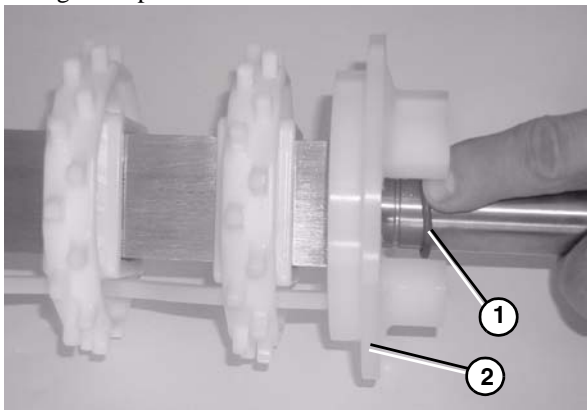
# Preventive Maintenance and Adjustment

4. Install the remaining sprockets (**Figure 77, item 1**) making sure to position each sprocket with the next available notch (**Figure 77, item 2**) in the sprocket alignment bar.



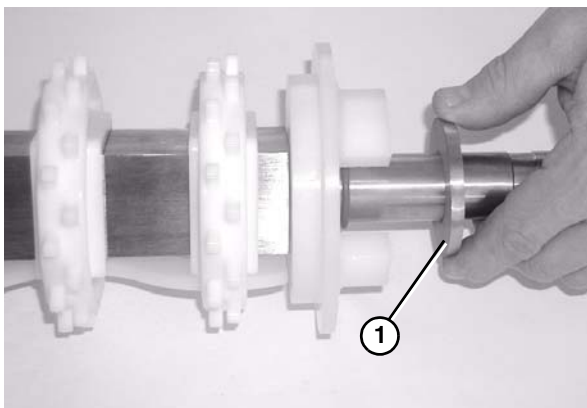
**Figure 77**

5. Install a flanged puck (**Figure 78, item 2**) onto spindle shaft. Install O-ring (**Figure 78, item 1**) onto spindle in groove provided.



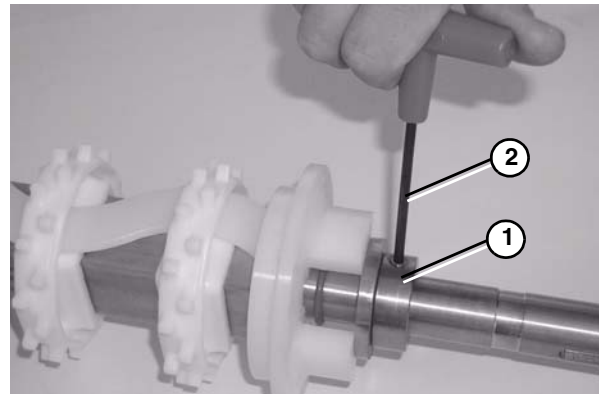
**Figure 78**

6. Install washer (**Figure 79, item 1**) onto spindle shaft.



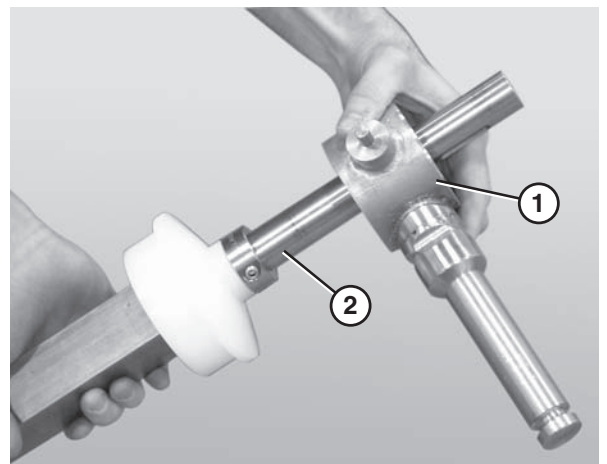
**Figure 79**

7. Slide the retaining ring (**Figure 80, item 1**) onto the drive spindle. Leave a slight gap between ring and washer to allow flanged puck to spin freely.



**Figure 80**

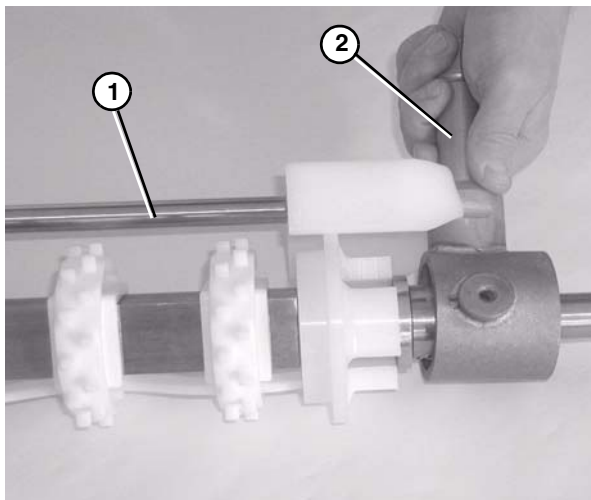
8. Tighten the retainer ring fastener using a hex wrench (**Figure 80, item 2**).
9. Slide the second bearing shaft assembly, or the motor mount bracket (**Figure 81, item 1**), onto the longer end of the drive spindle (**Figure 81, item 2**).



**Figure 81**

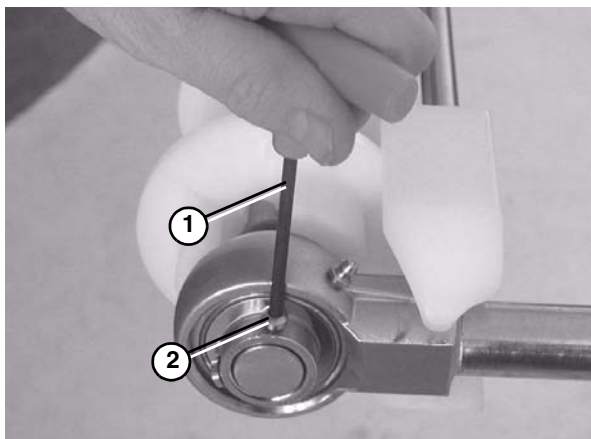
# Preventive Maintenance and Adjustment

10. Attach the guard bar (**Figure 82, item 1**) to the bearing / motor mount bracket shafts (**Figure 82, item 2**).



**Figure 82**

11. Use a hex wrench (**Figure 83, item 1**) to tighten the bearing shaft fasteners (**Figure 83, item 2**) to 6 N•m (54 in•lbs). Check after 24 hours of conveyor use.

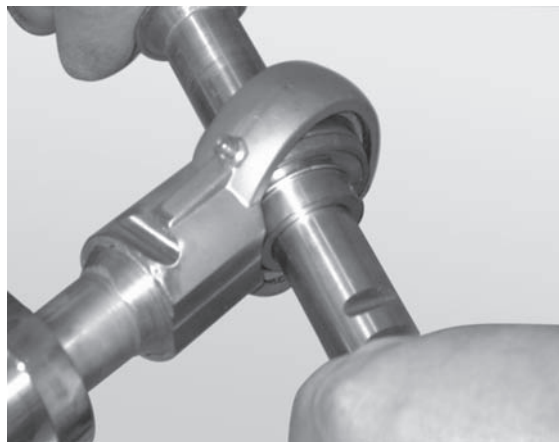


**Figure 83**

12. Attach the bearing covers.

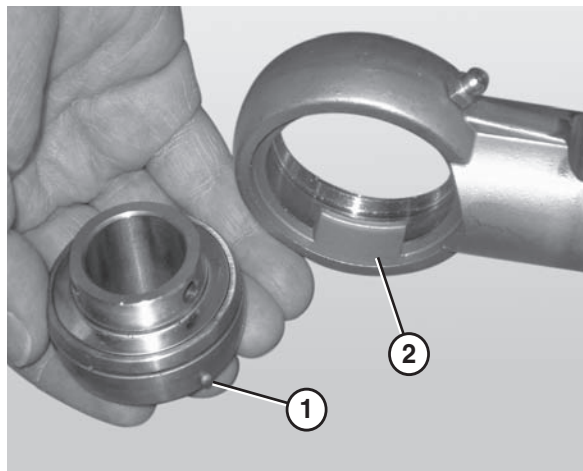
## Bearing Replacement

1. Secure the bearing shaft in the take up blocks.
2. Insert the rod end of a second bearing shaft through the bearing (**Figure 84**).



**Figure 84**

3. Apply lateral pressure to the rod until the bearing comes loose.
4. Remove the worn or damaged bearing (**Figure 85**).



**Figure 85**

5. Replace the bearing.

### NOTE


When inserting the new bearing, make sure the anti-rotation notch (**Figure 85, item 1**) on the bearing lines up with the groove inside the housing (**Figure 85, item 2**).



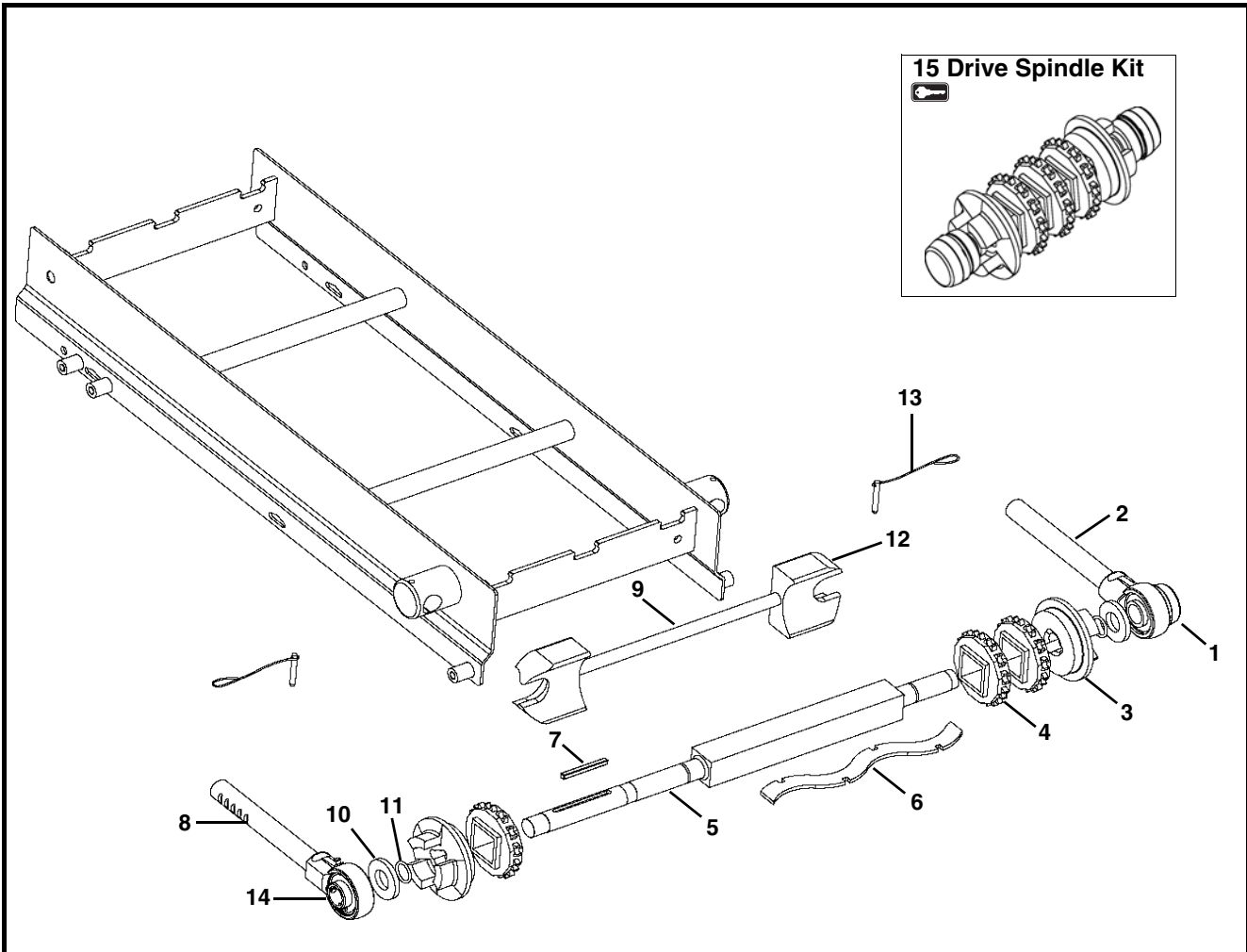


# Service Parts

## NOTE


For replacement parts other than those shown in this section, contact an authorized Dorner Service Center or the factory. Key Service Parts and Kits are identified by the Performance Parts Kits logo . Dorner recommends keeping these parts on hand.

## Drive End Components



Item	Part Number	Description
1	807-1454	Bearing Cover
2	500078	Shaft Assembly with Bearing
3	517201	Flanged Puck
4	807-1444	Sprocket for Standard 1.00" Pitch Belt
	807-1445	Sprocket for Specialty Intralox 1.00" Pitch Belt
5	5296WW	Drive Spindle for Standard Belt
	5298WW	Drive Spindle for Specialty Intralox Belt

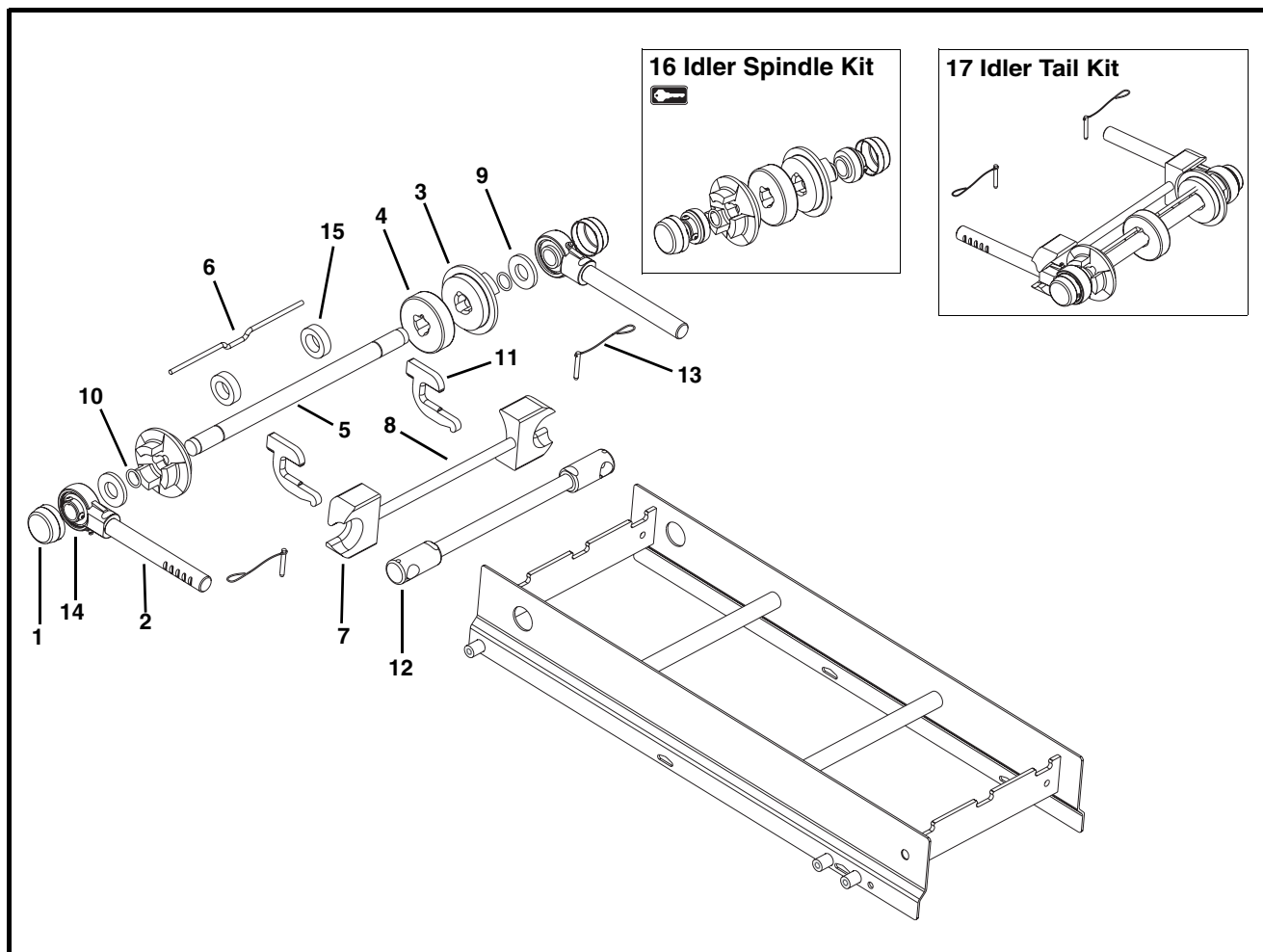
Item	Part Number	Description
6	5161WW	Sprocket Alignment Bar for Standard 1.00" Pitch Belt
	5165WW	Sprocket Alignment Bar for Specialty Intralox 1.00" Pitch Belt
7	912-111SS	Square Key .25 x 2.50"
8 *	500078	Shaft Assembly with Bearing
9	5154WW	Guard Bar Shaft
10	501381	Washer
11	807-1588	O-Ring
12	501188	Guard Bar
13	501676	Pin Assembly
14	802-162	Bearing

Item	Part Number	Description
15 	74DDU25- <u>WW</u>	Drive Spindle Kit when Conveyor is ordered with a Dorner Gearmotor Mounting Package for Standard 1.00" Pitch Belt (Includes Items 1, 3, 4, 10, 11 and 14)
	74DDU16- <u>WW</u>	Drive Spindle Kit when Conveyor is ordered with a Dorner Gearmotor Mounting Package for Specialty Intralox 1.00" Pitch Belt (Includes Items 1, 3, 4, 10, 11 and 14)
	74DCU25- <u>WW</u>	Drive Spindle Kit when Conveyor is ordered without a Dorner Gearmotor Mounting Package for Standard 1.00" Pitch Belt (Includes Items 1, 3, 4, 10, 11 and 14)
	74DCU16- <u>WW</u>	Drive Spindle Kit when Conveyor is ordered without a Dorner Gearmotor Mounting Package for Specialty Intralox 1.00" Pitch Belt (Includes Items 1, 3, 4, 10, 11 and 14)
<u>WW</u> = Conveyor width ref: 08 - 36 in 02 increments		
* When the conveyor is ordered with a Dorner gearmotor mounting package the shaft assembly is replaced with a gearmotor mounting bracket.		

Sprocket Quantity (Item 4)	
Width	Sprocket Quantity
203 mm (8")	2
254 mm (10")	3
305 mm (12")	3
356 mm (14")	4
406 mm (16")	4
457 mm (18")	5
508 mm (20")	5
559 mm (22")	6
610 mm (24")	6
660 mm (26")	7
711 mm (28")	7
762 mm (30")	8
813 mm (32")	8
864 mm (34")	9
914 mm (36")	9

# Service Parts

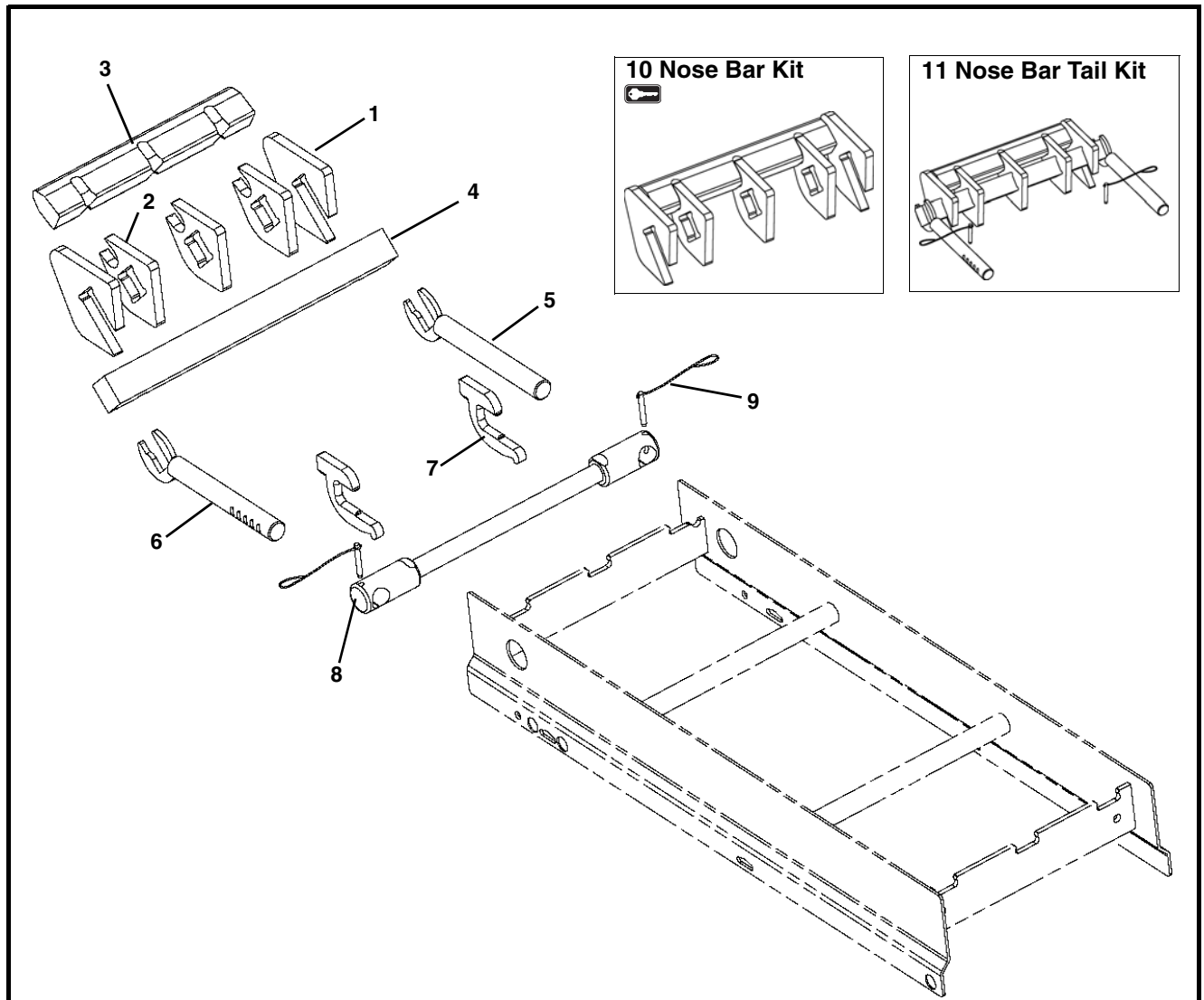
## Tip Up Tension End



Item	Part Number	Description
1	807-1454	Bearing Cover
2	500079	Shaft Assembly with Bearing
3	5172 <del>WW</del>	Flanged Puck, Idler Tail for Standard Belt
	5173 <del>WW</del>	Flanged Puck, Idler Tail for Specialty Intralox Belt
4	501189	Idler Puck
5	5156 <del>WW</del>	Idler Shaft
6	5157 <del>WW</del>	Bent Retaining Bar for Standard Belt
	5167 <del>WW</del>	Bent Retaining Bar for Specialty Intralox Belt
7	501188	Guard Bar
8	5154 <del>WW</del>	Guard Bar Shaft
9	501381	Washer
10	807-1588	O-Ring

Item	Part Number	Description
11	501184	Key Stop
12	5182 <del>WW</del>	Tip Up Shaft Assembly
13	501676	Pin Assembly
14	802-162	Bearing
15	501681	Idler Shaft Sleeve
16	74UI- <del>WW</del>	Idler Spindle Kit for Standard Belt (Includes Items 1, 3, 4, 10 and 14)
	74UIS- <del>WW</del>	Idler Spindle Kit for Specialty Intralox Belt (Includes Items 1, 3, 4, 10 and 14)
17	74UIT- <del>WW</del>	Idler Tail Kit for Standard Belt (Includes Items 1 through 10, 13 and 14)
	74UITS- <del>WW</del>	Idler Tail Kit for Specialty Intralox Belt (Includes Items 1 through 10, 13 and 14)
<del>WW</del> = Conveyor width ref: 08 - 36 in 02 increments		

## Nose Bar Tip Up Tension End



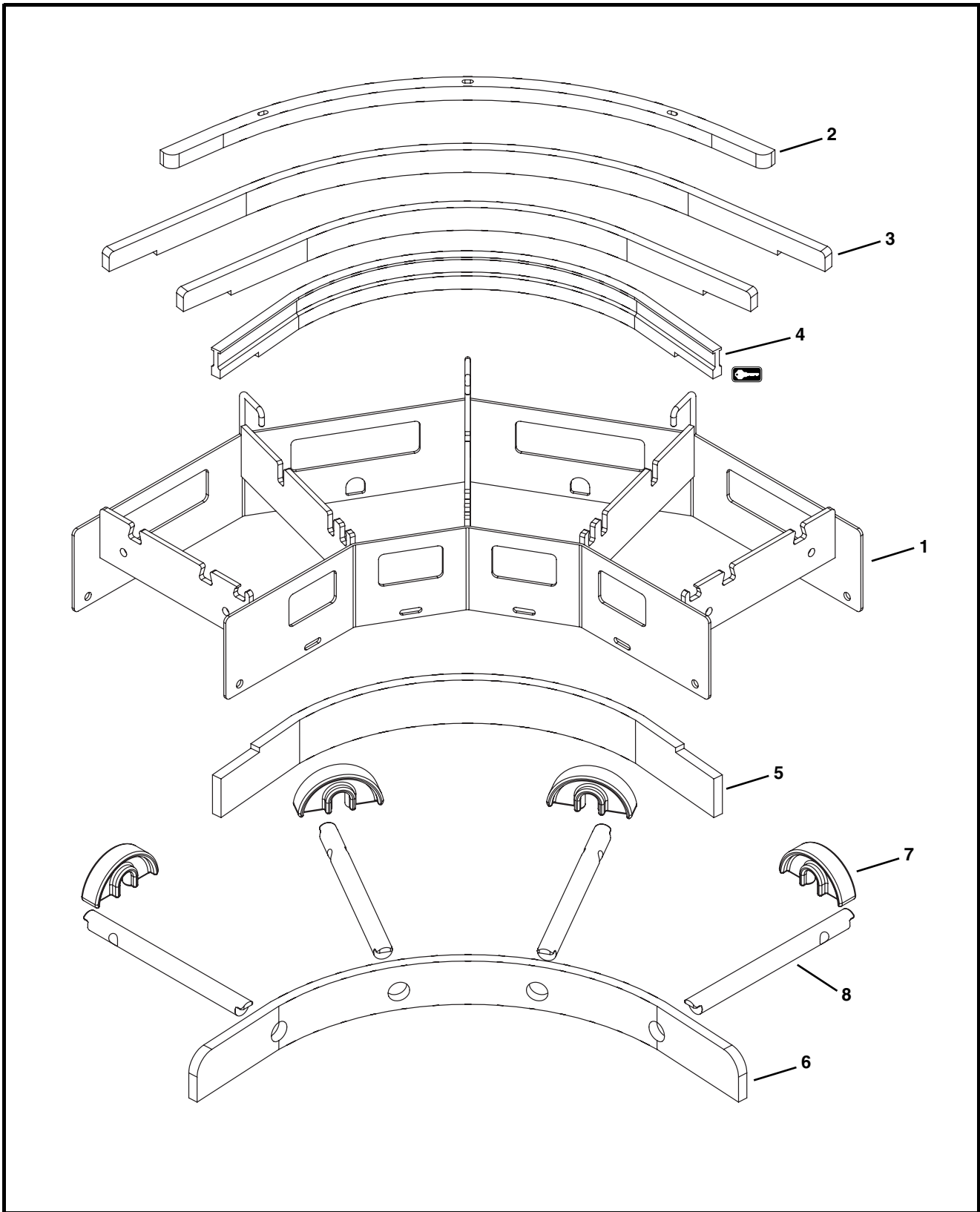
Item	Part Number	Description
1	500490	Nose Bar Tracking Puck
2	500278	Nose Bar Puck
3	5056WW	.5" Pitch Nose Bar Wear Strip
	5058WW	1" Pitch Nose Bar Wear Strip
4	5176WW	Nose Bar Transfer Post for Standard Belt
	5177WW	Nose Bar Transfer Post for Specialty Intralox Belt
5	500487	Nose Bar Idler Shaft Left Hand
6	500488	Nose Bar Idler Shaft Right Hand
7	501184	Key Stop
8	5182WW	Tip Up Shaft Assembly

Item	Part Number	Description
9	501676	Pin Assembly
10	74UNB5-WW	.5" Nose Bar Kit for Standard Belt (Includes Items 1 through 3)
	74UNB1-WW	1" Nose Bar Kit for Specialty Intralox Belt (Includes Items 1 through 3)
11	74UNBT5-WW	.5" Nose Bar Tail Kit for Standard Belt (Includes Items 1 through 6 and 9)
	74UNBT1-WW	1" Nose Bar Tail Kit for Standard Belt (Includes Items 1 through 6 and 9)
	74UNBT5S-WW	.5" Nose Bar Tail Kit for Specialty Intralox Belt (Includes Items 1 through 6 and 9)
	74UNBT1S-WW	1" Nose Bar Tail Kit for Specialty Intralox Belt (Includes Items 1 through 6 and 9)

WW = Conveyor width ref: 08 - 36 in 02 increments


# Service Parts

## Curve Conveyor Frame and Wear Strips





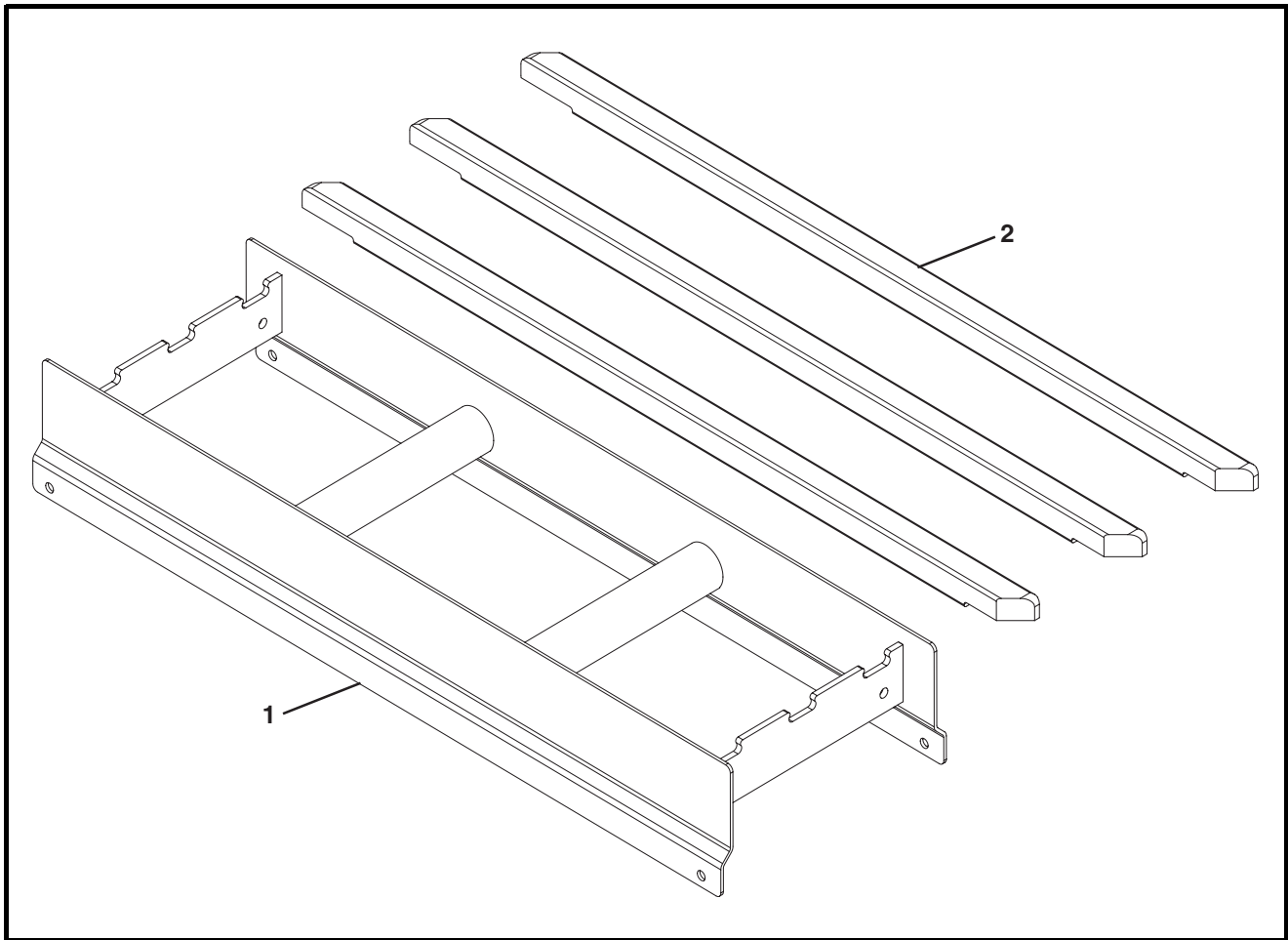
# Service Parts

Item	Part Number	Description
1	-----	Consult Factory for Frame Part Number
2	500189- <u>LLLLL</u>	Hold Down Wearstrip
3	500186- <u>LLLLL</u>	Curved Bed Rail Group
4	 500187- <u>LLLLL</u>	Low Side Inside Curve Top Wearstrip
	500197- <u>LLLLL</u>	High Side Inside Curve Top Wearstrip
5	500188- <u>LLLLL</u>	Inside Return Bottom Wearstrip
6	500190- <u>LLLLL</u>	Return Bottom Wearstrip
7	500075	Chain Return
8	5033 <u>WW</u>	Curve Return Shaft
<u>LLLLL</u> = Length in inches with 2 decimal places.		
Example: Length = 95.25" <u>LLLLL</u> = 09525		
<u>WW</u> = Conveyor width ref: 08 - 36 in 02 increments		

		Section Degree of Turn Chart		
		Conveyor Width ( <u>WW</u> )		
		08-10	12-24	26-36
Module Degree of Turn	15	N/A	15	15
	30	30	30	30
	45	N/A	45	45
	60	60	60	30 & 30
	75	N/A	75	45 & 30
	90	90	90	45 & 45
	105	N/A	60 & 45	45, 30 & 30
	120	60 & 60	60 & 60	45, 45 & 30
	135	N/A	75 & 60	45, 45 & 45
	150	90 & 60	75 & 75	45, 45, 30 & 30
165	N/A	90 & 75	45, 45, 45 & 30	
180	90 & 90	90 & 90	45, 45, 45 & 45	

# Service Parts

## Straight Conveyor Frame and Wear Strips

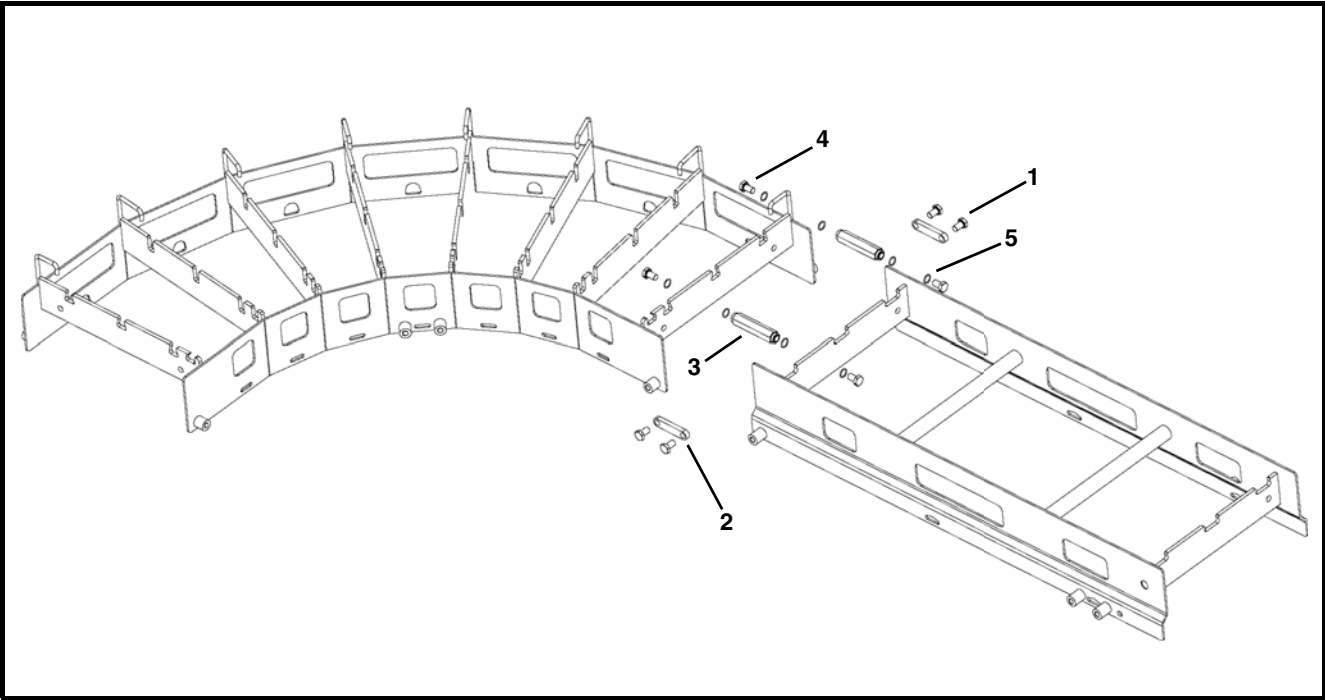


Item	Part Number	Description
1	-----	Consult Factory for Frame Part Number
2	501800-LLL	Straight Wear Strip (Refer to chart)

LLL = Conveyor length ref: 020 - 999 in 001 increments

		Wear Strip Quantity (Item 2)							
		Conveyor Length (LLL)							
		020	133	253	373	493	613	733	853
		-	-	-	-	-	-	-	-
		132	252	372	492	612	732	852	999
Conveyor Width (WW)	08	2	4	6	8	10	12	14	16
	10	3	6	9	12	15	18	21	24
	12	3	6	9	12	15	18	21	24
	14	3	6	9	12	15	18	21	24
	16	4	8	12	16	20	24	28	32
	18	4	8	12	16	20	24	28	32
	20	5	10	15	20	25	30	35	40
	22	5	10	15	20	25	30	35	40
	24	5	10	15	20	25	30	35	40
	26	6	12	18	24	30	36	42	48
	28	6	12	18	24	30	36	42	48
	30	6	12	18	24	30	36	42	48
	32	7	14	21	28	35	42	49	56
34	7	14	21	28	35	42	49	56	
36	8	16	24	32	40	48	56	64	

**Conveyor Frame Connection**

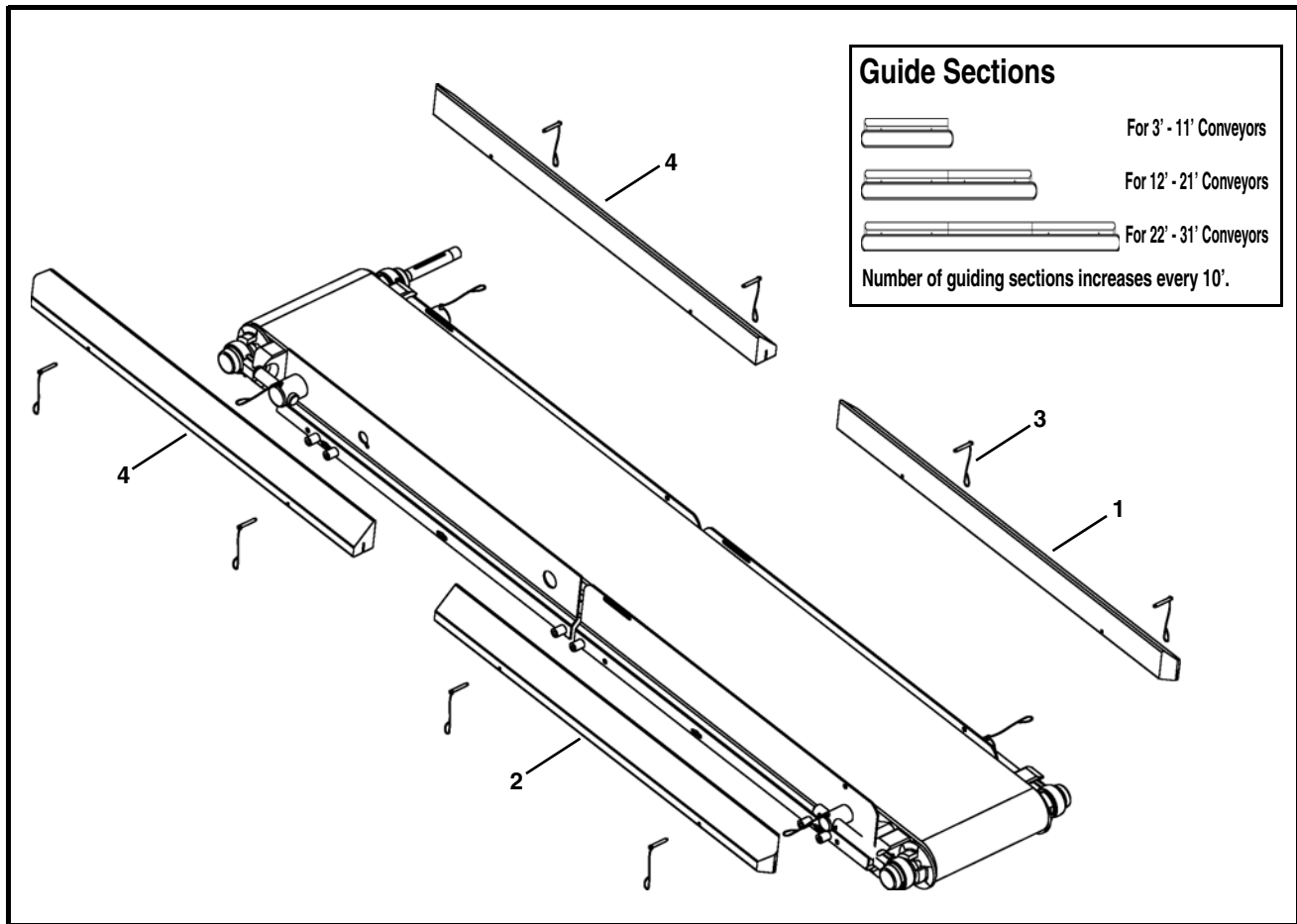


Item	Part Number	Description
1	961016MSS	Hex Head Cap Screw, M10-1.5x16mm
2	501195	Flat Connector (Not Applicable if Stand Located at Connection)

Item	Part Number	Description
3	501190	Hex Post Connector
4	501494	Hex Head Cap Screw, M10-1.5x16mm
5	807-1616	O-Ring

# Service Parts

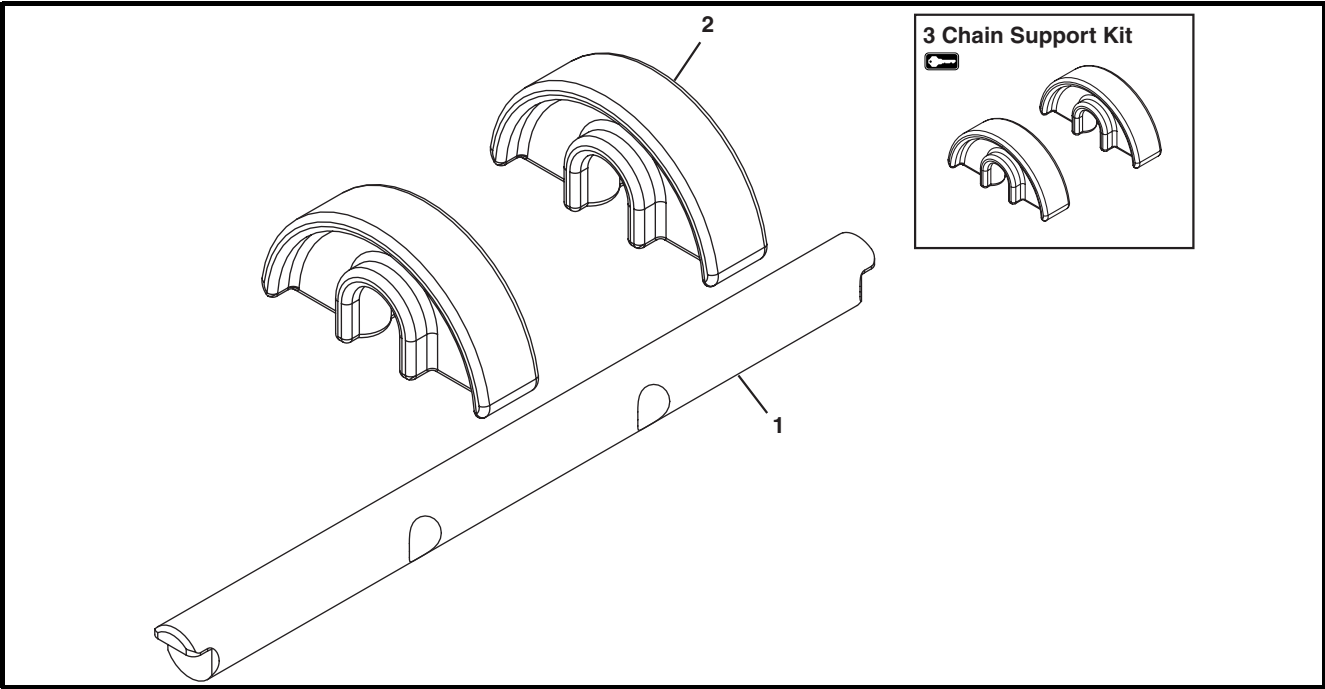
## 76 mm High Sides



Item	Part Number	Description
1	503501- <u>LLLLL</u>	Right Hand High Side Guide
2	503601- <u>LLLLL</u>	Left Hand High Side Guide
3	501676	Pin Assembly

Item	Part Number	Description
4	503401- <u>LLLLL</u>	Square End High Side Guide
<u>LLLLL</u> = Guide Length in inches with 2 decimal places.		
Example: Guide Length = 95.25" <u>LLLLL</u> = 09525		

**Straight Belt Return**

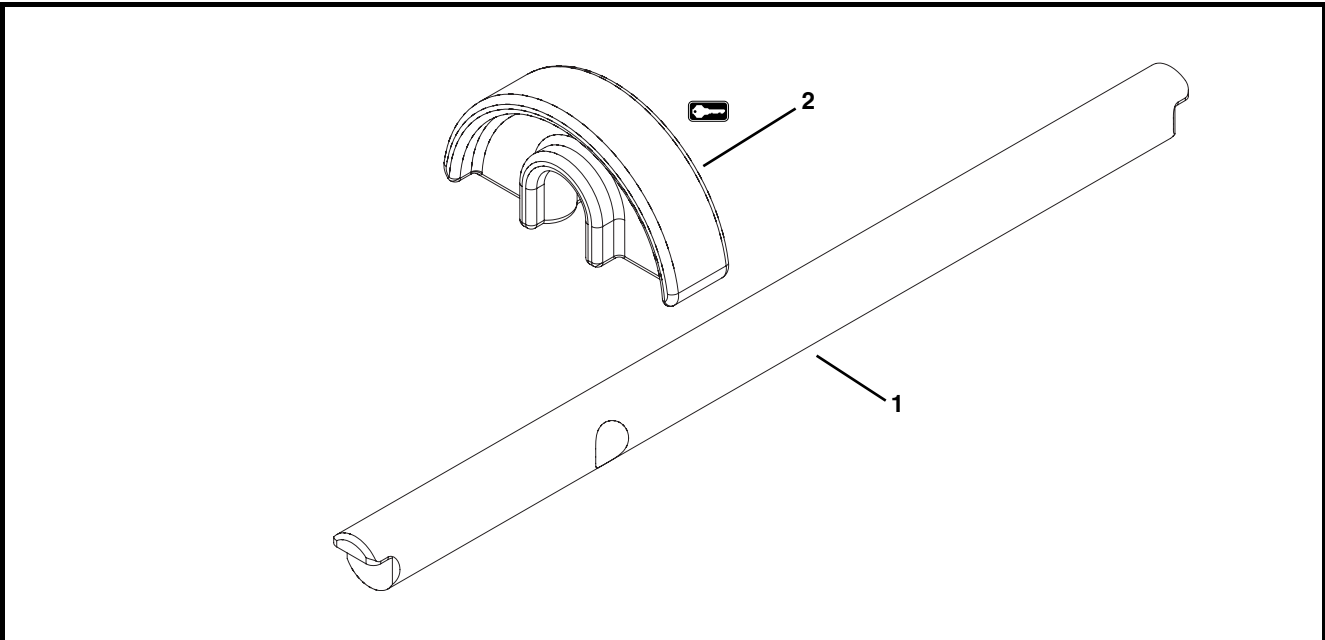


Item	Part Number	Description
1	5032WW	Return Shaft
2	500075	Chain Return Shoe

Item	Part Number	Description
3	74R-WW	Chain Support Kit ( Includes Item 2)

WW = Conveyor width ref: 08 - 36 in 02 increments

**Curve Belt Return**

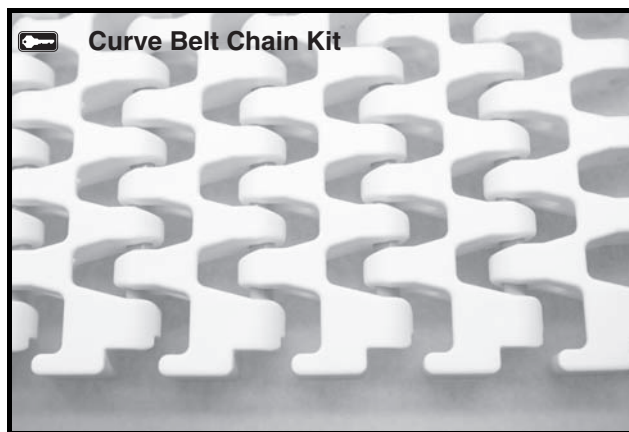


Item	Part Number	Description
1	5033WW	Curve Return Shaft
2	500075	Chain Return Shoe

WW = Conveyor width ref: 08 - 36 in 02 increments

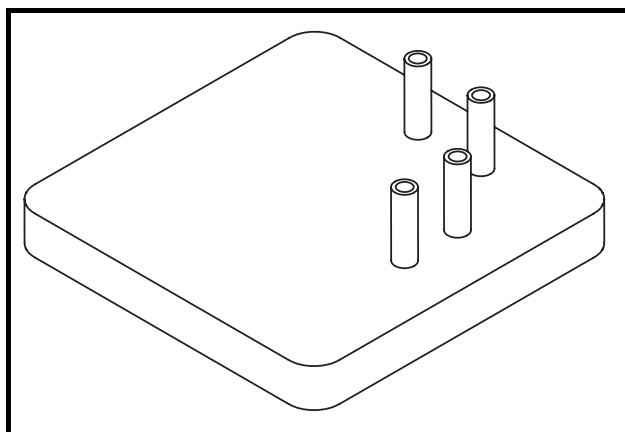
# Service Parts

## Curve Belt Chain Kit



Item	Part Number	Description
1	74 <u>BB</u> - <u>WW</u>	Curve Belt Chain Kit (Includes 305 mm (1 ft) of flat belt chain and assembly pins)
<u>BB</u> = Chain Reference Number		
<u>WW</u> = Conveyor width ref: 08 - 36 in 02 increments		

## Belt Removal Tool



Item	Part Number	Description
1	500582	Tool Rod Removal for 1" Pitch Flush Grid Belt
	500494	Tool Rod Removal for 1/2" Pitch Flush Grid Belt

## Ordering a Replacement Chain

Determine the length of chain required for the conveyor and round up to the nearest foot length. Order the proper number of chain repair kits (1' long each) for your conveyor. Dorner will ship chain kits that are of a reasonable length fully assembled.

### Example:

Overall chain length = 42' 5" (rounded up = 43')

Order: Qty (43) of 74BB-WW

BB = Chain reference number

WW = Conveyor width ref: 08 - 36 in 02 increments

Configuring a Conveyor Part Number

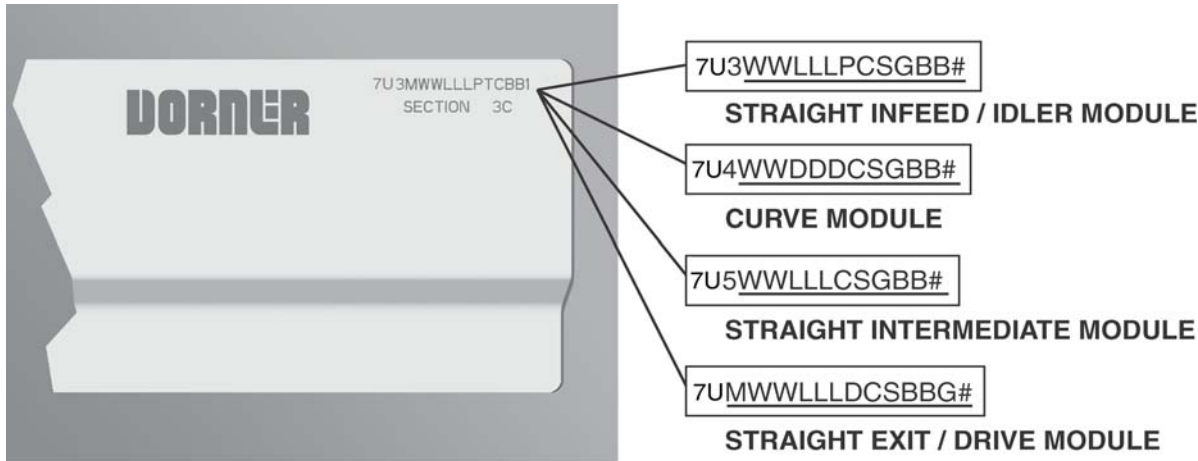


Figure 86

Curve Conveyor

Refer to your serial and model number plate (Figure 86). From the model number, determine conveyor width (WW), length (LLL), pulley type (P), stand location, cleaning options (C), stand holes (S), guide profile (G), belt material (BB), degree of turn (DDD), drive/pulley type (D) and module serialized sequence (#).

Straight Infeed / Idler Module  
Example: 7U32412015B1MR1

Straight Infeed/Idler module, 24" wide, 10' long, ready for Dorner support stands, first stand 12" from pulley end including standard idler pulley, frame cutouts, belt lifters, tip up idler pulley option, lowside profile and MR belt material.

Straight Intermediate Module  
Example: 7U5241807Z1MR3

Straight Intermediate module, 24" wide, 15' long, ready for Dorner support stands, including frame cutouts, belt lifters, lowside profile and MR belt material.

Curve Module  
Example: 7U4240901Z1MR4

Curve module, 24" wide, 90°, ready for Dorner support stands, including frame cutouts and MR belt material.

Straight Exit / Drive Module  
Example: 7UM2404817CMR15

Straight Exit/Drive module, 24" wide, 4' long, ready for Dorner support stands, last stand mounted 18" from pulley end, and side drive mount in position D, including standard drive pulley, frame cutouts, belt lifters, lowside profile and MR belt material.



# Return Policy

Returns must have prior written factory authorization or they will not be accepted. Items that are returned to Dorner without authorization will not be credited nor returned to the original sender. When calling for authorization, please have the following information ready for the Dorner factory representative or your local distributor:

1. Name and address of customer.
2. Dorner part number(s) of item(s) being returned.
3. Reason for return.
4. Customer's original order number used when ordering the item(s).
5. Dorner or distributor invoice number.

A representative will discuss action to be taken on the returned items and provide a Returned Goods Authorization number for reference.

There will be a return charge on all new undamaged items returned for credit where Dorner was not at fault. Dorner is not responsible for return freight on such items.

### **Conveyors and conveyor accessories**

Standard catalog conveyors	30%
MPB Series, cleated and specialty belt conveyors	50%
7400 & 7600 Series conveyors	non-returnable items
Engineered special products	case by case
Drives and accessories	30%
Sanitary stand supports	non-returnable items

### **Parts**

Standard stock parts	30%
MPB, cleated and specialty belts	non-returnable items

Returns will not be accepted after 60 days from original invoice date.

The return charge covers inspection, cleaning, disassembly, disposal and reissuing of components to inventory.

If a replacement is needed prior to evaluation of returned item, a purchase order must be issued. Credit (if any) is issued only after return and evaluation is complete.

Dorner has representatives throughout the world. Contact Dorner for the name of your local representative. Our Technical Sales, Catalog Sales and Service Teams will gladly help with your questions on Dorner products.

For a copy of Dorner's Warranty, contact factory, distributor, service center or visit our website at [www.dorner.com](http://www.dorner.com).

For replacement parts, contact an authorized Dorner Service Center or the factory.



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