



*Aqua***Pruf**[®]
ULTIMATE

7400 Ultimate Series Curved Nose Bar Conveyors

Installation, Maintenance and Parts Manual



DORNER MFG. CORP.
P.O. Box 20 • 975 Cottonwood Ave.
Hartland, WI 53029-0020 USA

INSIDE THE USA
TEL: 1-800-397-8664
FAX: 1-800-369-2440

OUTSIDE THE USA
TEL: 262-367-7600
FAX: 262-367-5827

For other service manuals visit our website at:
www.dorner.com/service_manuals.asp

Table of Contents

Introduction	2	Wear Strips and Belt Returns	17
Warnings – General Safety	3	Maintaining the Conveyor Belt	17
Product Description	4	Troubleshooting	17
Specifications	4	Conveyor Belt Replacement	18
Conveyor Supports	5	Conveyors with Guides	18
7400 Series Frame Section Numbers	5	Standard Belts	18
Straight Infeed / Idler Module	5	Replacing a Section of Belt	18
Straight Intermediate Module	5	Replacing the Entire Belt	19
Curve Module	5	Specialty Intralox 2400 Series Belts	19
Straight Exit / Drive Module	5	Replacing a Section of Belt	19
Installation	6	Replacing the Entire Belt	20
Required Tools	6	Conveyor Belt Tensioning	20
Recommended Installation Sequence	6	Sprocket and Puck Removal	21
Conveyor Installation	6	A - Drive Sprocket Removal	21
Frame Section Connection	6	B - Nose Bar Puck Removal	23
Stand Installation	7	C - Idler Puck Removal	23
Tail Assembly Installation	8	Reassembling Tail Assembly	24
Nose Bar Drive Tail	8	Drive Tail Assembly	24
Nose Bar Tip Up Tail	8	Nose Bar Tip Up Tail	25
Tip Up Tail	9	Tip Up Idler Tail	25
Lifter Installation	10	Bearing Replacement	26
Wear Strip Installation	11	Service Parts	28
Straight Frame Sections	11	Nose Bar Drive End Components	28
Curved Frame Sections	11	Nose Bar Tip Up Tension End	30
Belt Return Installation – Curved Frame Sections	12	Tip Up Tension End	31
Belt Installation	13	Curve Conveyor Frame and Wear Strips	32
Belt Return Installation – Straight Frame Sections	14	Straight Conveyor Frame and Wear Strips	34
Preventive Maintenance and Adjustment	16	Conveyor Frame Connection	35
Required Tools	16	3" (76 mm) High Sides	36
Checklist	16	Straight Belt Return	37
Cleaning	16	Curve Belt Return	37
Routine Cleaning	16	Curve Belt Chain Kit	38
Standard Conveyors	16	Belt Removal Tool	38
Conveyors with Tip Up Tails and Lifters	17	Ordering a Replacement Chain	38
Periodic Cleaning	17	Configuring a Conveyor Part Number	39
Lubrication	17	Return Policy	40
Conveyor Bearings	17		

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


NOTE

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

The Dorner Limited Warranty applies.

Dorner 7400 Series conveyors have patents pending.

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

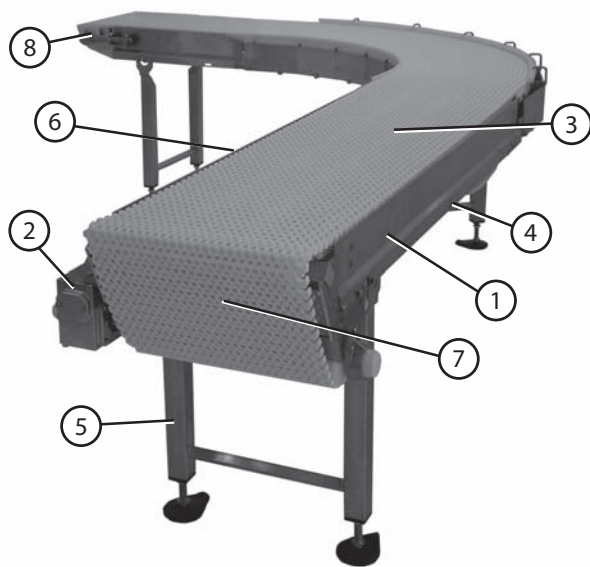


Figure 1

Specifications

Conveyor Width Reference (WW)	08 – 36 in 02 increments
Maximum Conveyor Load	20 lb / ft ² (97 kg / m ²) with a maximum of 1000 lb / ft ² (4882 kg / m ²)
Belt Travel	12" (305 mm) per revolution of pulley
Belt Take-up	2" (51 mm)
Conveyor Length Reference (LLL)	020 – 999 in 001 increments
Conveyor Length	20" (508 mm) – 999" (25.4 m) in 1" (25 mm) increments

IMPORTANT
<p>Maximum conveyor loads are based on:</p> <ul style="list-style-type: none">• 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) = 3 ft (914 mm)

2 (Outfeed) = 3 ft (914 mm)

** Stand positions will be determined by the factory.

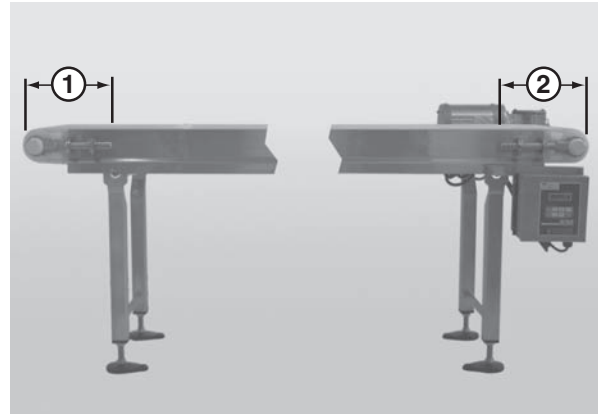
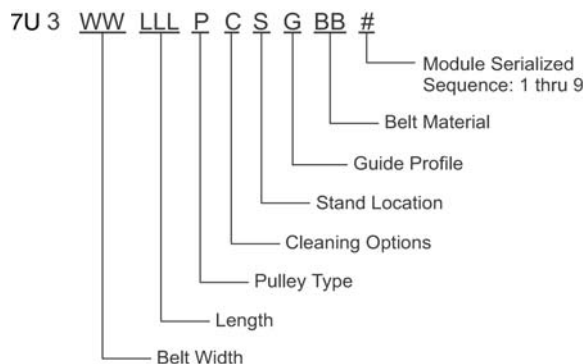


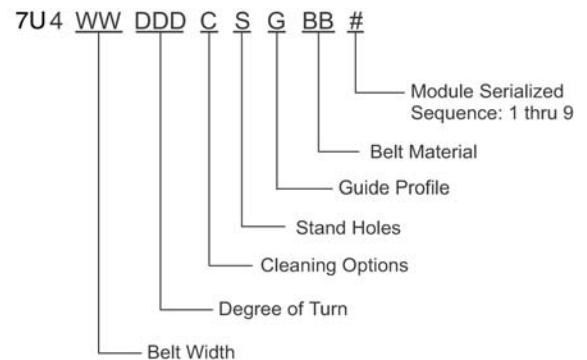
Figure 2

7400 Series Frame Section Numbers

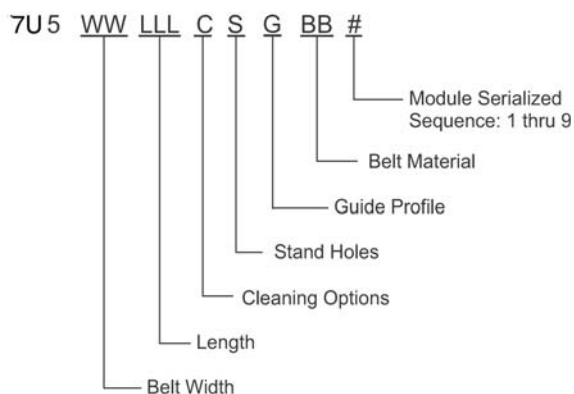
Straight Infeed / Idler Module



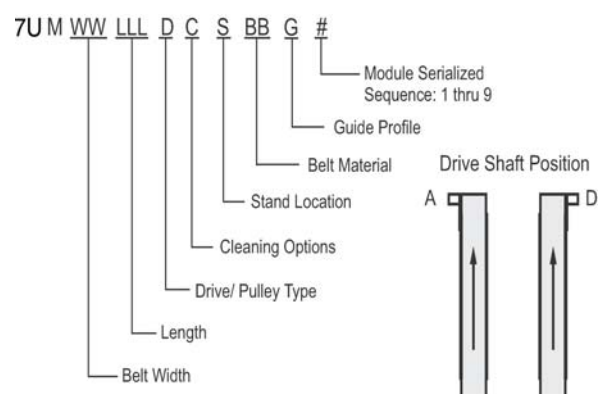
Curve Module



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.

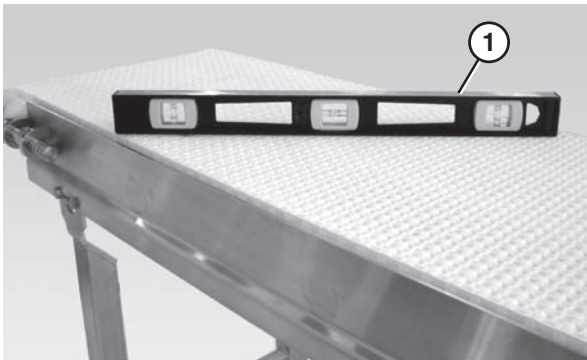


Figure 3

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 10.
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 14.
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-ring (x8) |

* For connections not supported by stands.

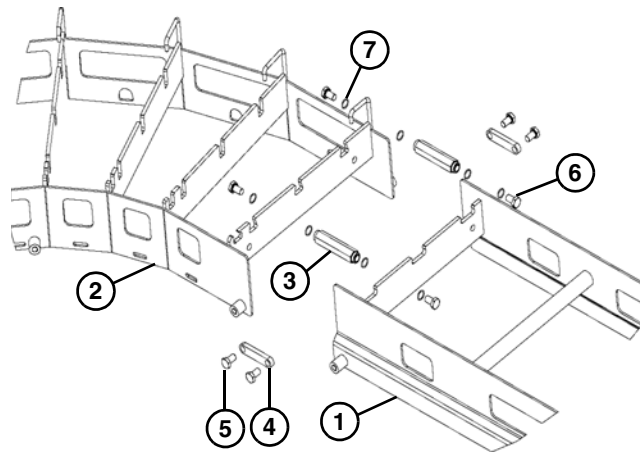


Figure 4

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

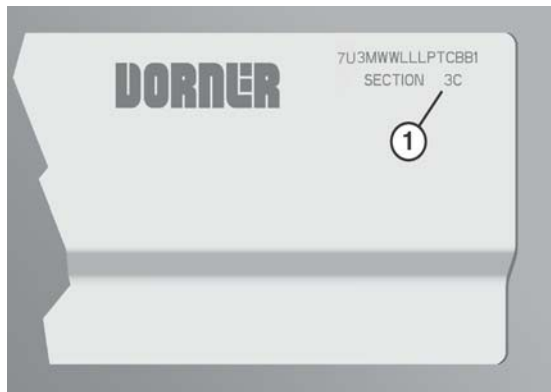


Figure 5

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

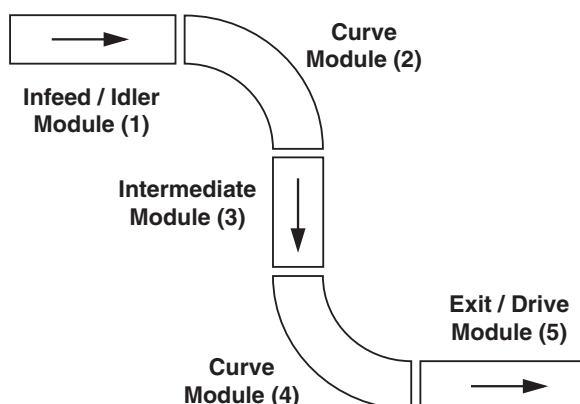


Figure 6

3. Connect the frame sections by bolting the hex post connectors (**Figure 4, item 3**) with O-rings (**Figure 4, item 7**) to the cross member supports of each frame section.
4. Attach the flat connectors (**Figure 4, item 4**), if applicable, to the inside of the frame sections.

Stand Installation

Typical Stand Components (**Figure 7**).

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

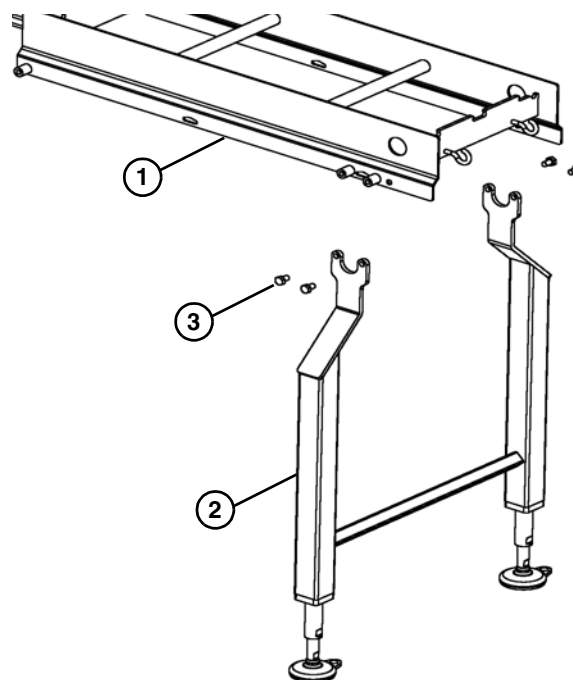


Figure 7

1. Position the stands on a flat, level surface.
2. Attach the stands to the frame (**Figure 8**).

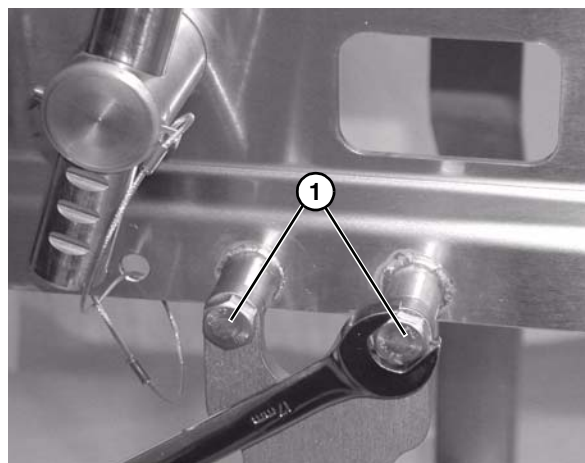


Figure 8

3. Tighten hex screws (**Figure 8, item 1**).

Installation

Tail Assembly Installation

Nose Bar Drive Tail

Typical Nose Bar Drive Tail Components (**Figure 9**).

1	Nose bar drive tail assembly
2	Conveyor frame

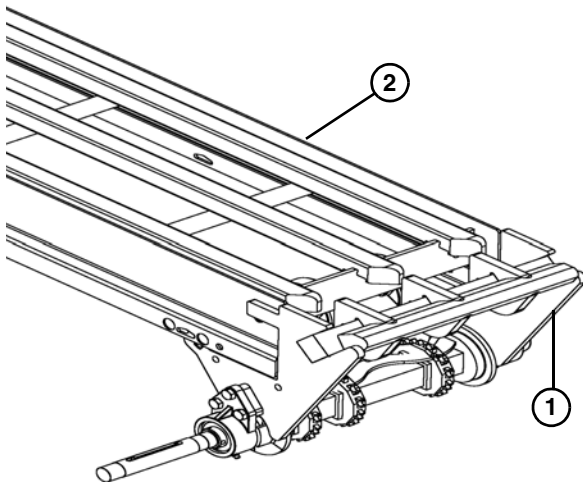


Figure 9

1. Install the drive package, if applicable. Refer to the “7400 Series Drive Package Installation, Maintenance and Parts Manual.”

Nose Bar Tip Up Tail

Typical Nose Bar Tip Up Tail Components (**Figure 10**).

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

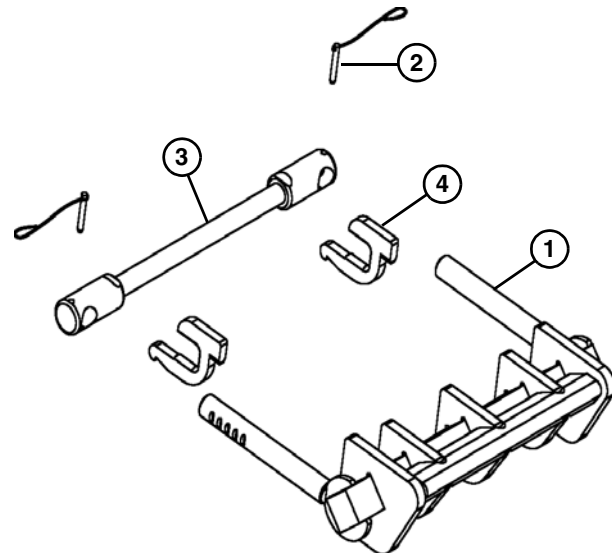


Figure 10

1. Slide the tip up shaft (**Figure 11, item 1**) through the designated slots in the frame.

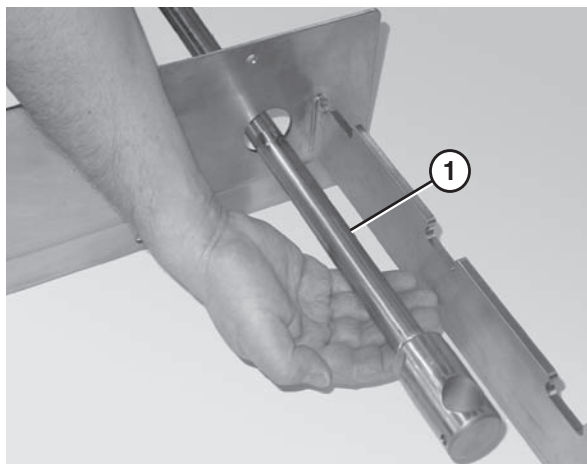


Figure 11

2. Attach the key stops (**Figure 12, item 1**) to the tip up shaft (**Figure 12, item 2**). The rounded end of the key stop should face the tail.

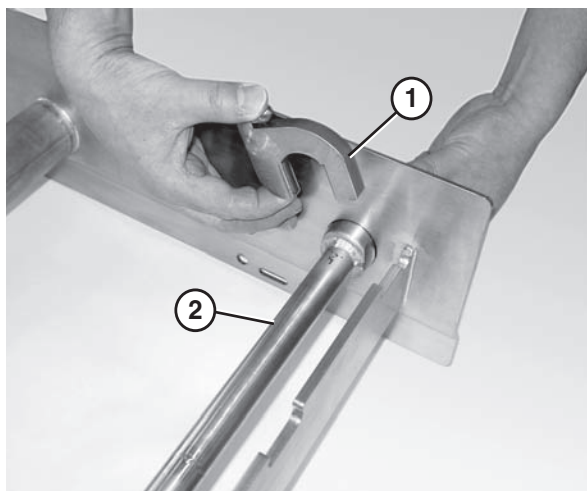


Figure 12

3. Attach the nose bar idler shaft hands (**Figure 13, item 1**) to the tip up shaft (**Figure 13, item 2**).

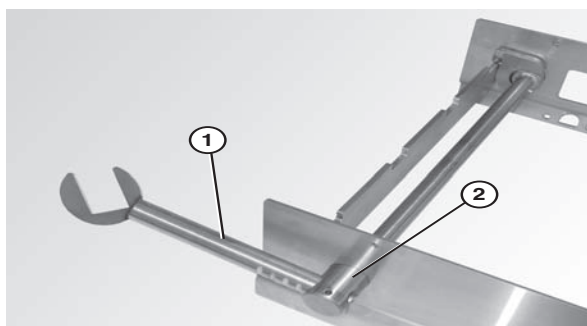


Figure 13

4. Attach the nose bar transfer post (**Figure 14, item 1**) to the nose bar idler shaft hands (**Figure 14, item 2**).

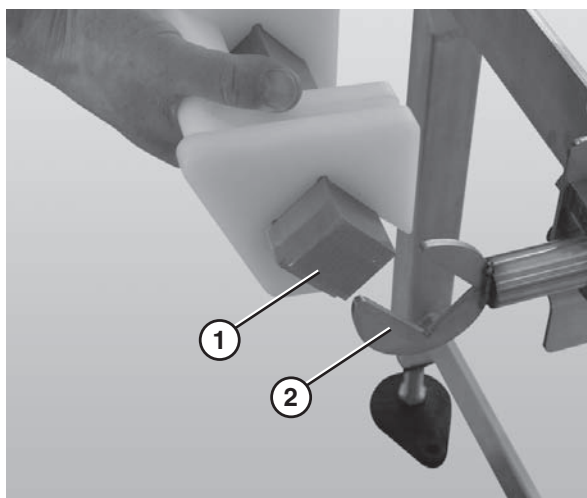


Figure 14

5. Ensure that the nose bar pucks (**Figure 15, item 1**) are in line with the conveyor frame (**Figure 15, item 2**).

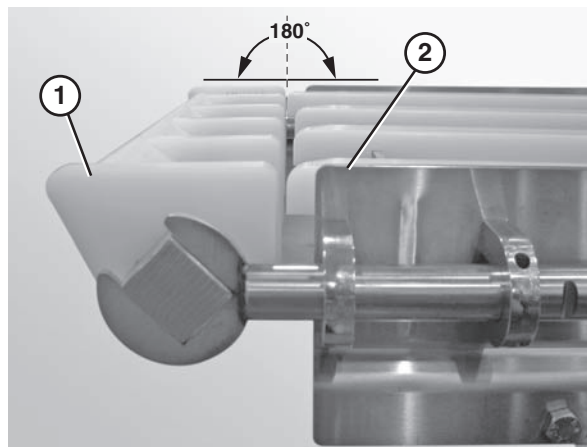


Figure 15

NOTE

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

Tip Up Tail

Typical Tip Up Tail Components (**Figure 16**)

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

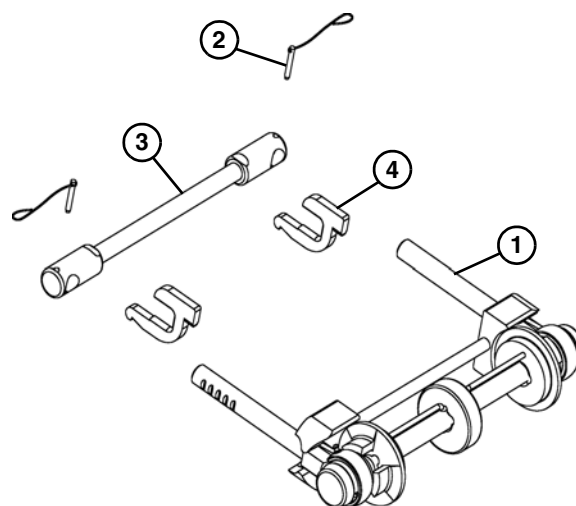


Figure 16

Installation

1. Slide the tip up shaft (**Figure 17, item 1**) through the designated slots in the frame.

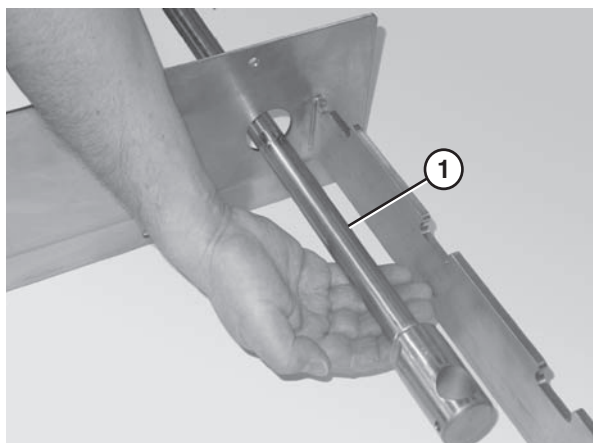


Figure 17

2. Attach the key stops (**Figure 18, item 1**) to the tip up shaft (**Figure 18, item 2**). The rounded end of the key stop should be facing the tail.

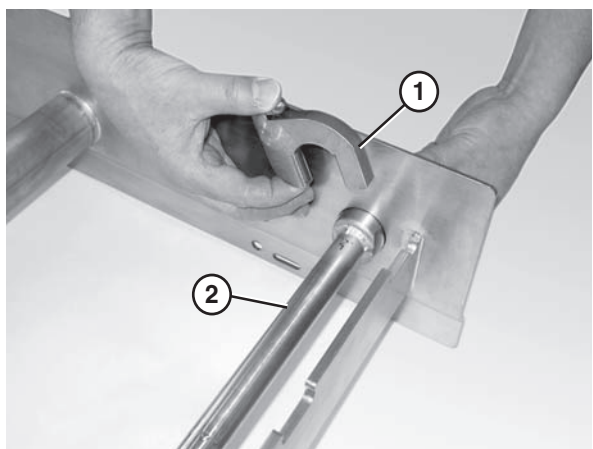


Figure 18

3. Slide the bearing shafts (**Figure 19, item 1**) into the holes in the tip up shaft (**Figure 19, item 2**).

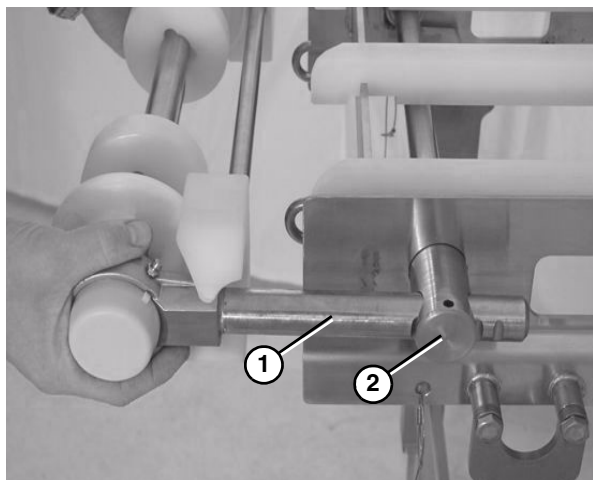


Figure 19

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 20**)

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

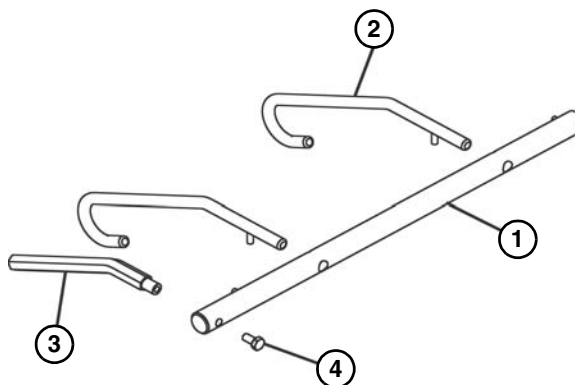


Figure 20

1. Slide the belt lift pivot bar (**Figure 21, item 1**) through the designated holes in the frame.

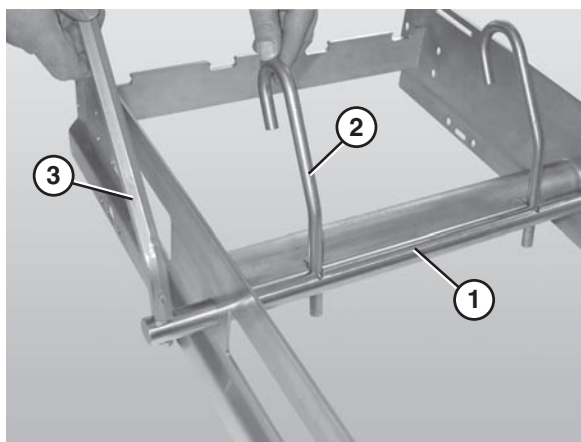


Figure 21

2. Attach the lifter bars (**Figure 21, item 2**) to the belt lift pivot bar (**Figure 21, 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 21, item 3**) to the belt lift pivot rod.

Wear Strip Installation

Straight Frame Sections

Typical Wear Strip Components (**Figure 22**)

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

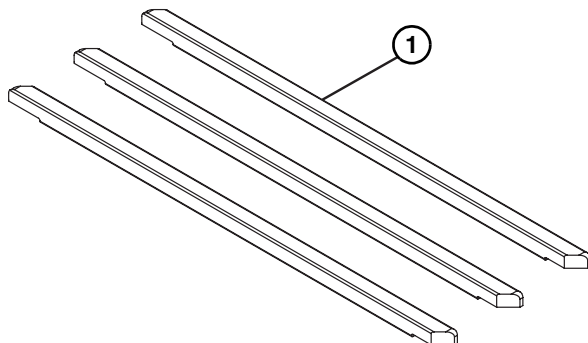


Figure 22

1. Position the wear strips (**Figure 23, item 1**) on the frame.

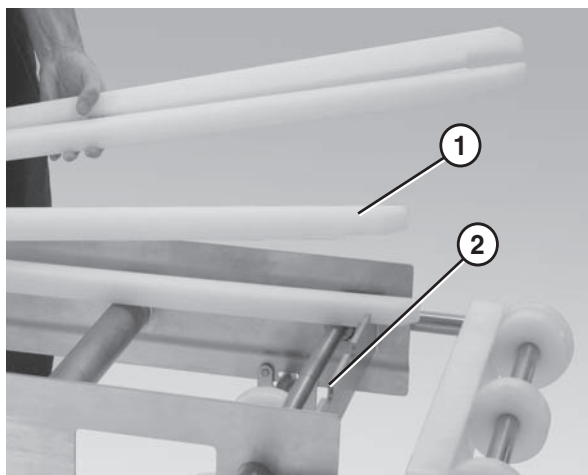


Figure 23

2. Make sure the wear strips are situated securely in the frame slots (**Figure 23, item 2**).

Curved Frame Sections

Typical Curved Wear Strip Components (**Figure 24**)

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

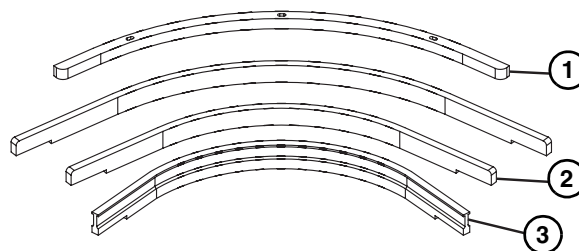


Figure 24

1. Insert the inside curve top wear strip (**Figure 25, item 1**) into the innermost slot (**Figure 25, item 2**) on the inside of the frame.

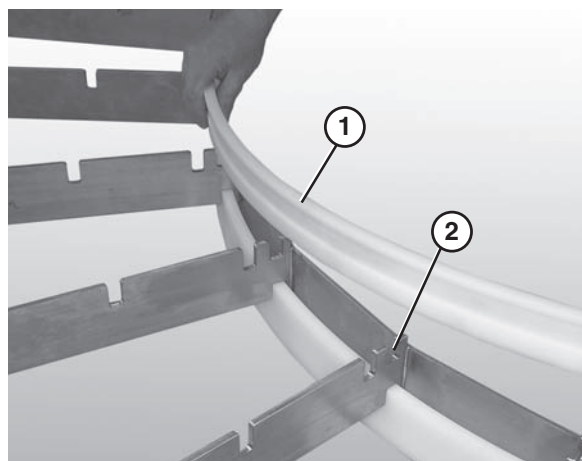


Figure 25

Installation

2. Attach the hold down wear strip (**Figure 26, item 1**) to the frame hooks (**Figure 26, item 2**) on the outside of the frame.

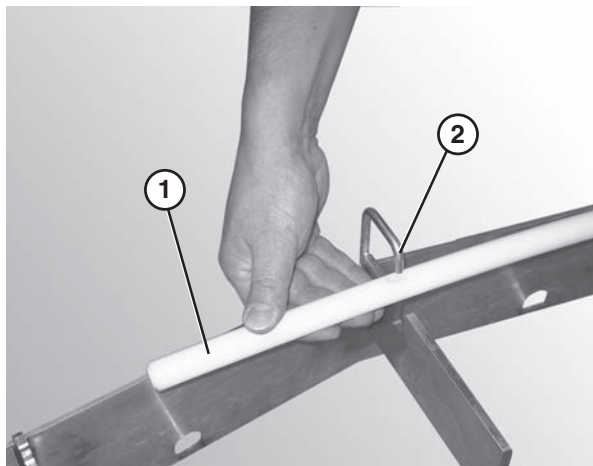


Figure 26

3. Insert the wear strips (**Figure 27, item 1**) into the appropriate slots in the frame (**Figure 27, item 2**), starting with the shortest wear strip on the inside of the curved section and working outward to the longest.

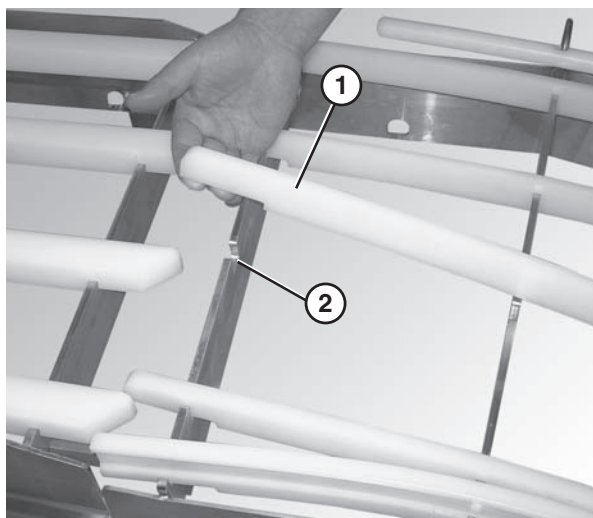


Figure 27

Belt Return Installation – Curved Frame Sections

Typical Curved Belt Return Components (**Figure 28**)

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

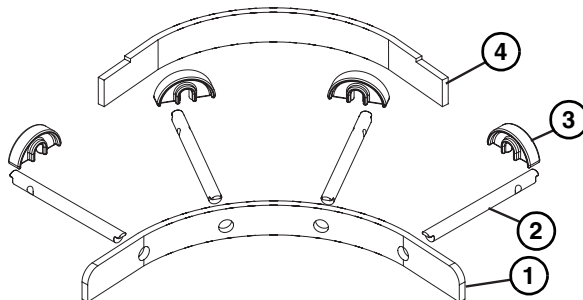


Figure 28

1. Insert the inside return bottom wear strip (**Figure 29, item 1**) into the slots (**Figure 29, item 2**) on the lower inside section of the frame (figure shown without the belt or wear strips).

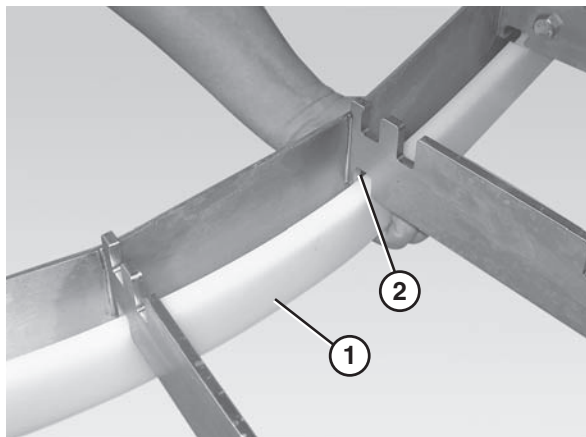


Figure 29

2. Attach the chain return shoes (**Figure 29, item 1**) to the curve return shafts (**Figure 29, item 2**).

- Slide the long end of the curve return shaft (**Figure 30, item 1**) through the center hole in the return bottom wear strip (**Figure 30, item 2**).

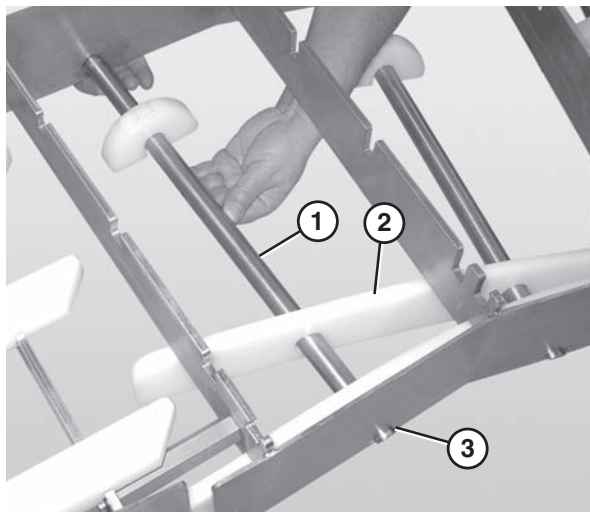


Figure 30

- 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.
- 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 30, item 3**).
- Repeat steps 4 – 5 with the remaining returns.

Belt Installation

Typical Belt Components (**Figure 31**)

1	Chain belt
2	Belt rod

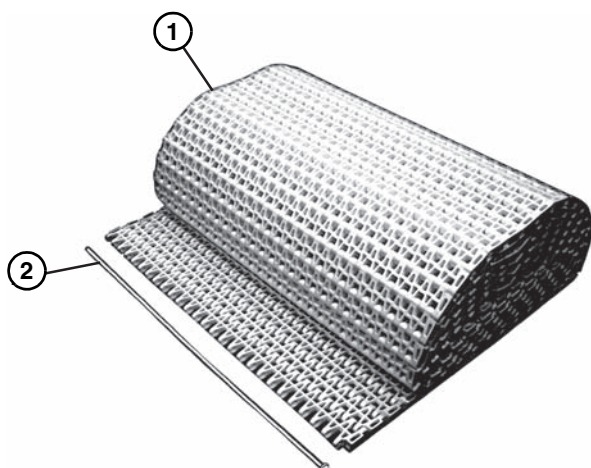


Figure 31

- Position the belt on the conveyor frame (**Figure 32**).



Figure 32

- Wrap the belt around the conveyor, making sure the sprocket teeth have engaged the belt.
- Bring the ends of the belt together (**Figure 33**).



Figure 33

- Insert the belt rod (**Figure 34, item 1**).

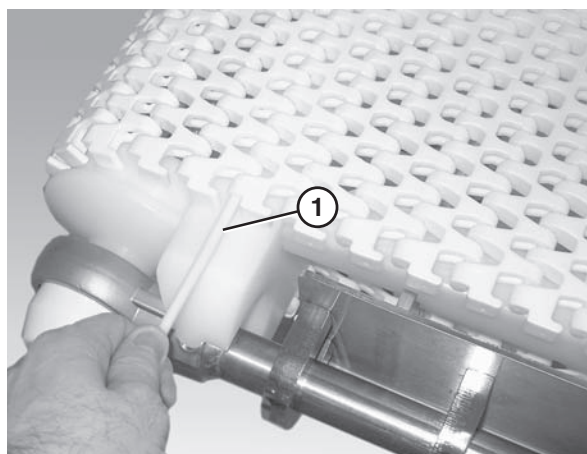


Figure 34

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

Installation

7. Extend the tension end to remove excess slack in the belt (**Figure 35**).

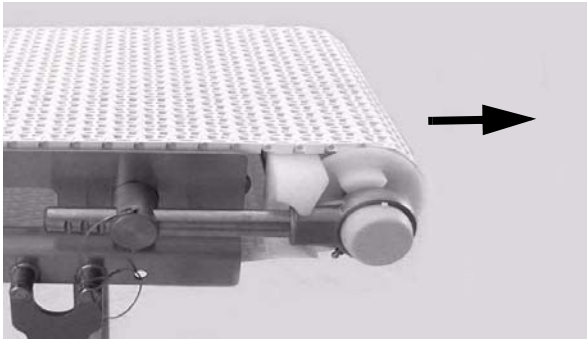


Figure 35

8. Insert the pull pins (**Figure 36, item 1**) on the tension end of the conveyor.

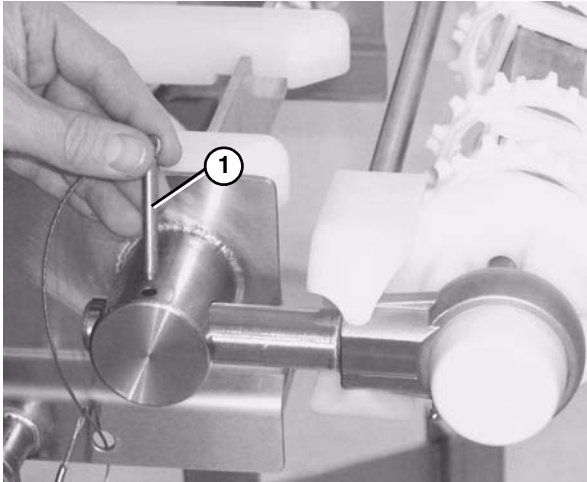


Figure 36

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 37**)

- | | |
|---|-------------------|
| 1 | Return shaft |
| 2 | Chain return shoe |

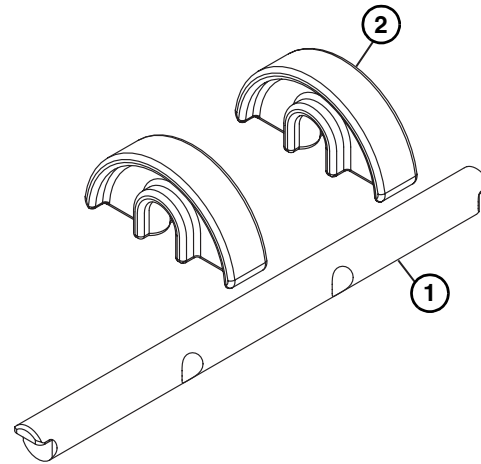


Figure 37

1. Attach the chain return shoes (**Figure 38, item 1**) to the return shaft (**Figure 38, item 2**).

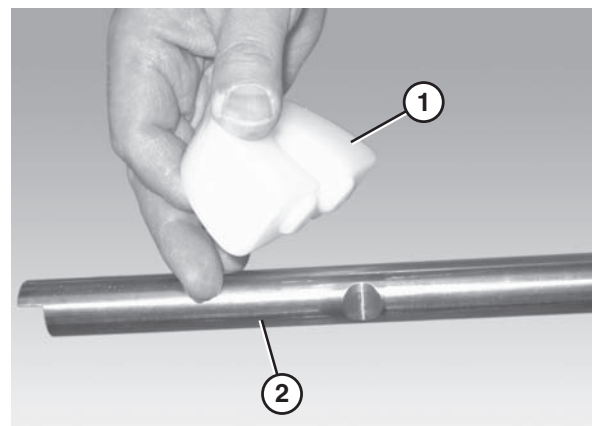


Figure 38

2. Slide the return shaft (**Figure 39, item 1**) up and through the large slot (**Figure 39, item 2**) in the frame (picture shown without the belt or wear strips).

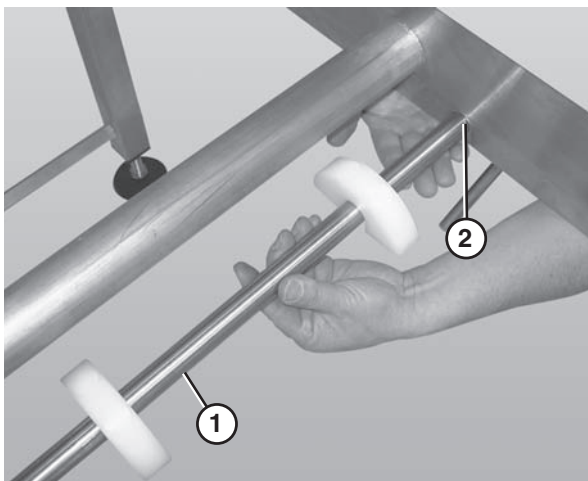


Figure 39

3. Push up on the return shaft (**Figure 39, 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 40**). Belt sag should not exceed 4" (102 mm). Follow steps 7 – 9 in the "Belt Installation" section on page 13 to remove slack from the belt.

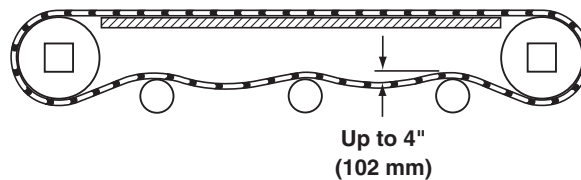


Figure 40

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

NOTE

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

Routine Cleaning

⚠ WARNING



SEVERE HAZARD!

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

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 41, item 1**) that connect the guide (**Figure 41, item 2**) to the frame.

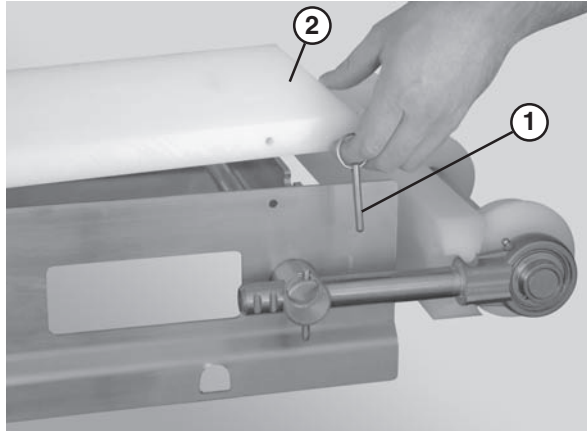


Figure 41

2. Remove the pull pin (**Figure 42, item 1**) on the tension end of the conveyor to release belt tension.

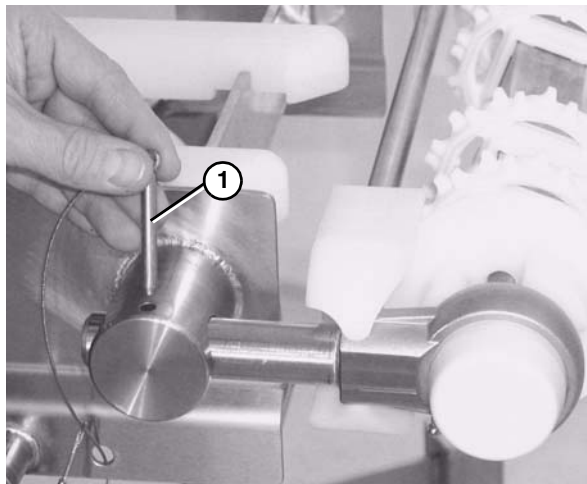


Figure 42

3. Lift up on the belt (**Figure 43**).

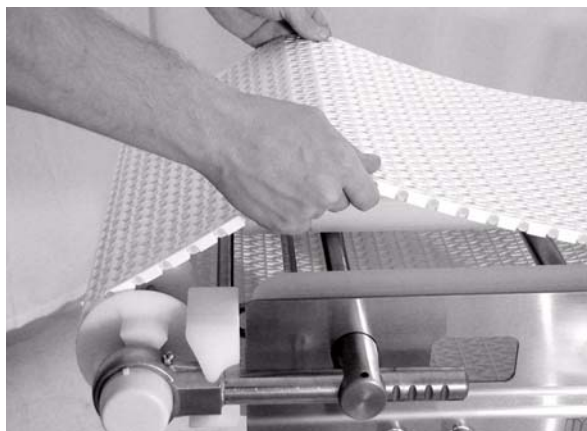


Figure 43

Preventive Maintenance and Adjustment

Conveyors with Tip Up Tails and Lifters

1. Remove the guides, if applicable, by removing the pull pins (**Figure 41, item 1**) that connect the guide (**Figure 41, item 2**) to the frame.
2. Use the lifter handle (**Figure 44, item 1**) to raise the lifters (**Figure 44, item 2**) and raise the tip up tail (**Figure 44, item 3**).

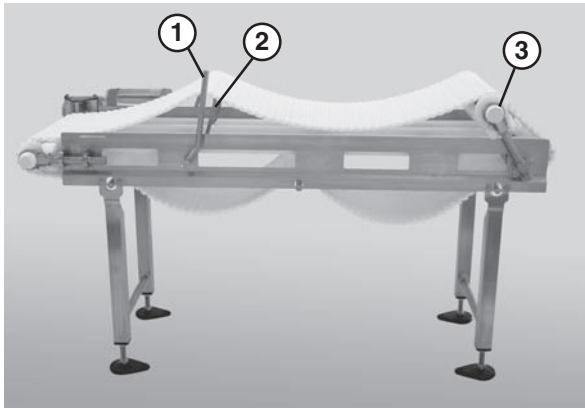


Figure 44

⚠ 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 24.

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 45, item 1**) on the exterior of the bearing shaft assembly.

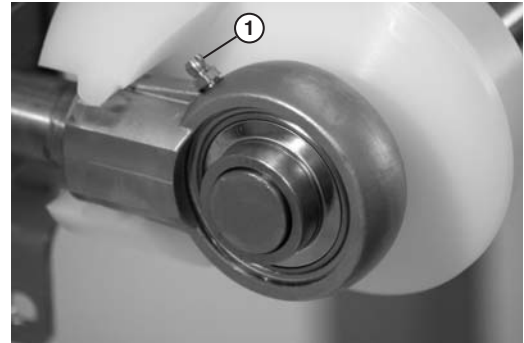


Figure 45

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 wear strip and belt return installation instructions:

- Refer to “Wear Strip Installation” on page 11.
- Refer to “Belt Return Installation – Straight Frame Sections” on page 14.

Maintaining the Conveyor Belt

Troubleshooting

NOTE

Visit 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

Preventive Maintenance and Adjustment

Damage to belt links or rods indicate:

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

Conveyor Belt Replacement

⚠ WARNING



SEVERE HAZARD!

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

Conveyors with Guides

1. Remove the pull pins (**Figure 46, item 1**) that connect the guide (**Figure 46, item 2**) to the frame.

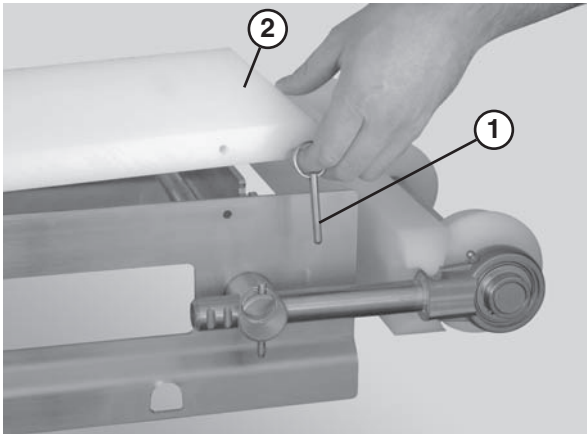


Figure 46

2. Remove the guide (**Figure 47, item 1**).

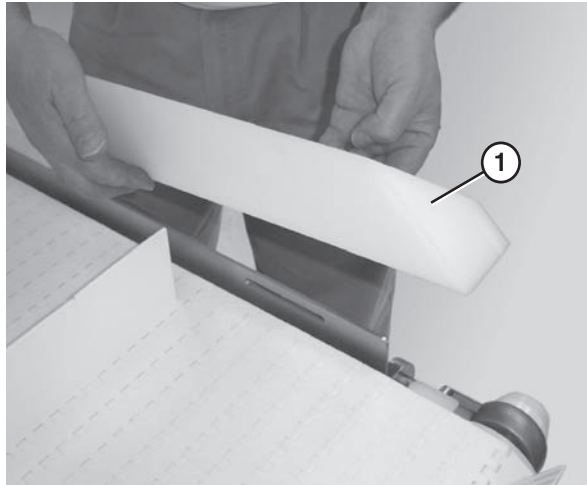


Figure 47

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 48, item 1**) on the tension end of the conveyor to release tension on the belt.

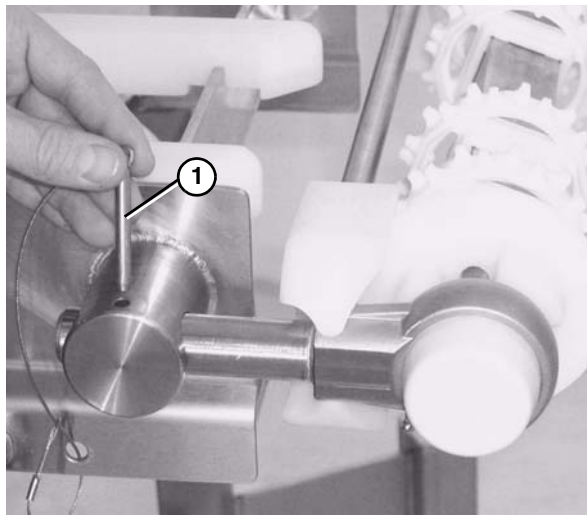


Figure 48

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 49, 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 49, item 2**).

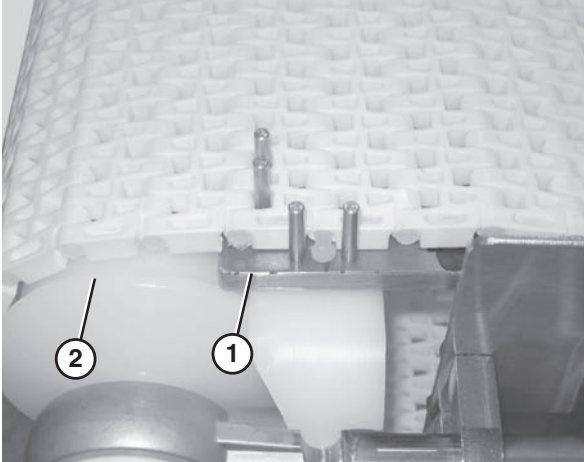


Figure 49

3. Use a punch and hammer to push the belt rod out by striking the rod end opposite the retaining head (**Figure 50**).



Figure 50

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 51, item 1**) and sliding it through the large hole (**Figure 51, item 2**) in the frame.

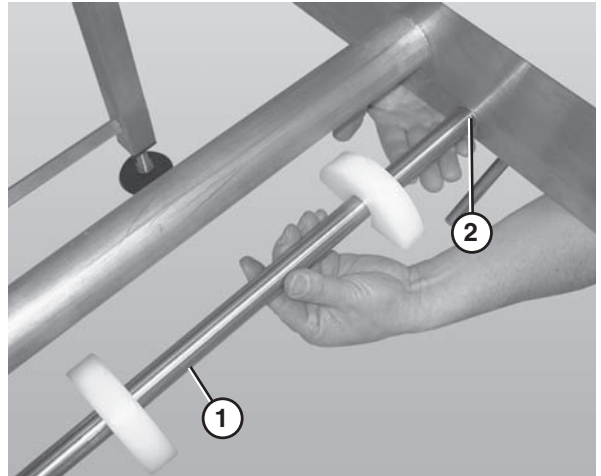


Figure 51

2. Lower the opposite end of the return shaft (**Figure 51, 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 14.

Specialty Intralox 2400 Series 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.

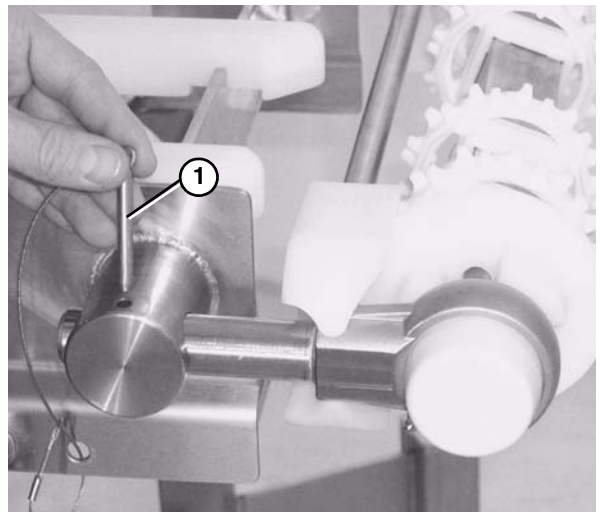


Figure 52

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. Use a punch and hammer to push the belt rod out by striking the rod end opposite the retaining head (Figure 53, item 1).

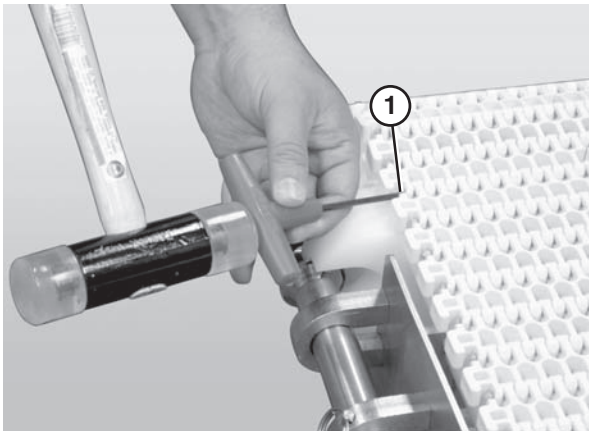


Figure 53

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 54, item 1) and sliding it through the large hole (Figure 54, item 2) in the frame.

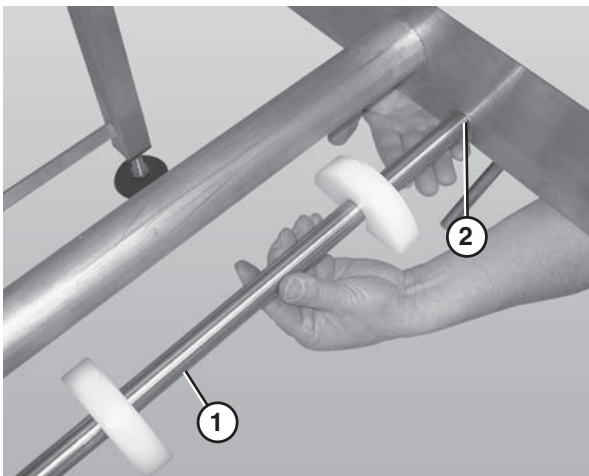


Figure 54

2. Lower the opposite end of the return shaft (Figure 54, 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 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 14.

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 4" (102 mm) from the top of the returns.

1. Remove both pull pins (Figure 55, item 1) on the tension end of the conveyor.

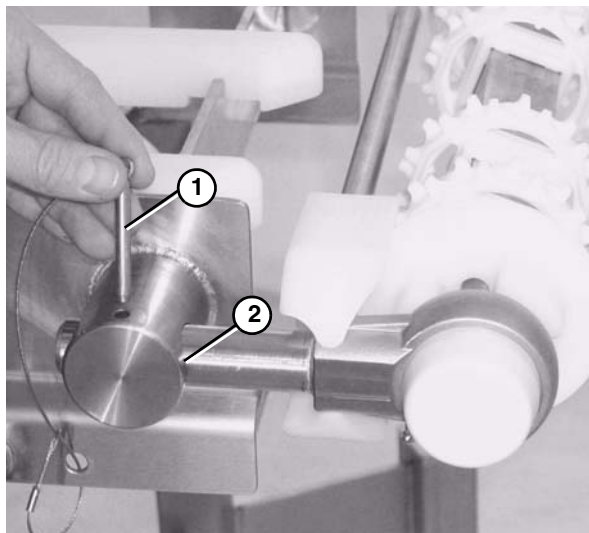


Figure 55

2. Extend the idler tail to the next groove (Figure 55, item 2) on the bearing shaft.

Preventive Maintenance and Adjustment

3. Continue extending the tension end until the belt is sufficiently tight (**Figure 56**).

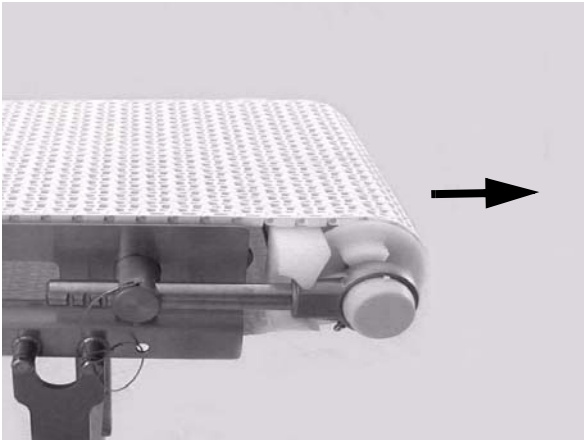


Figure 56

4. Reinsert the pull pins.
5. 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

⚠ WARNING



SEVERE HAZARD!

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

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

A - Drive Sprocket Removal

⚠ WARNING



PUNCTURE HAZARD!

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

1. Loosen the fasteners (**Figure 57, item 1**) that connect the gearmotor to the drive spindle using a hex wrench (**Figure 57, item 2**).

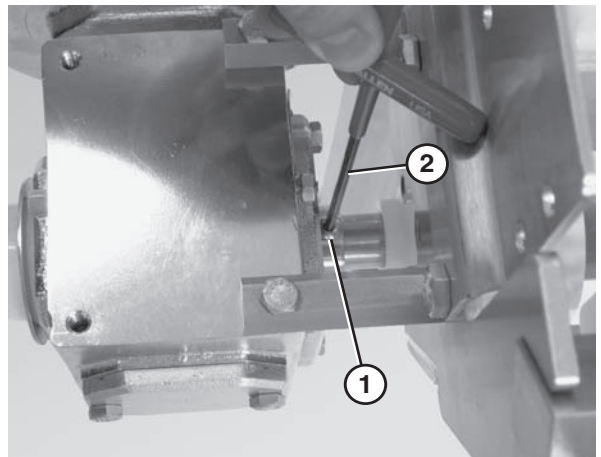


Figure 57

2. Remove the bolts that connect the motor to the drive assembly (**Figure 58**).
3. Remove the motor (**Figure 58, item 1**) from the drive assembly (**Figure 58, item 2**).

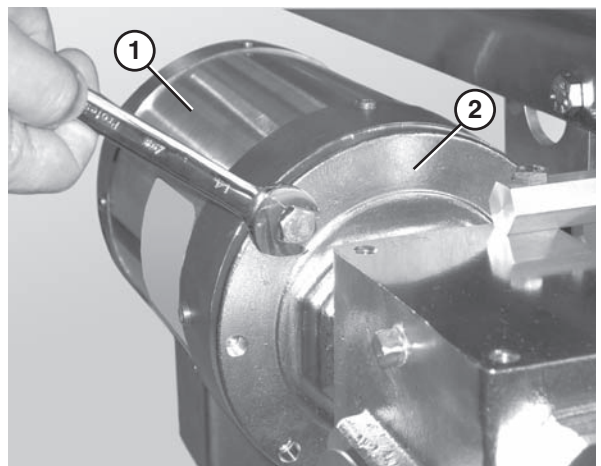


Figure 58

Preventive Maintenance and Adjustment

4. Unbolt the gear head and slide it off the drive spindle (Figure 59).

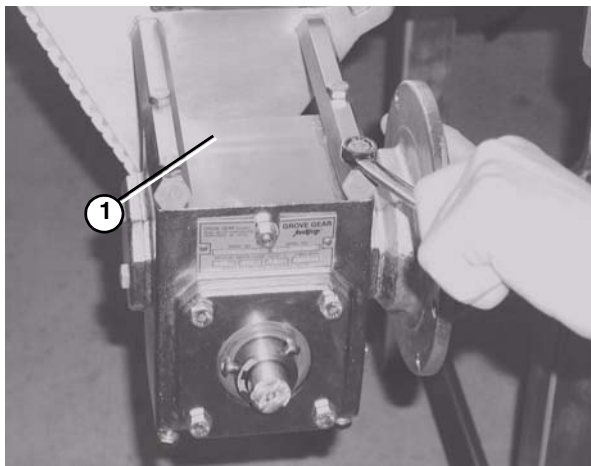


Figure 59

5. Remove the bearing cover.
6. Loosen the 3 hole flange (Figure 60, item 1) with bearing fasteners using a hex wrench (Figure 60, item 2).

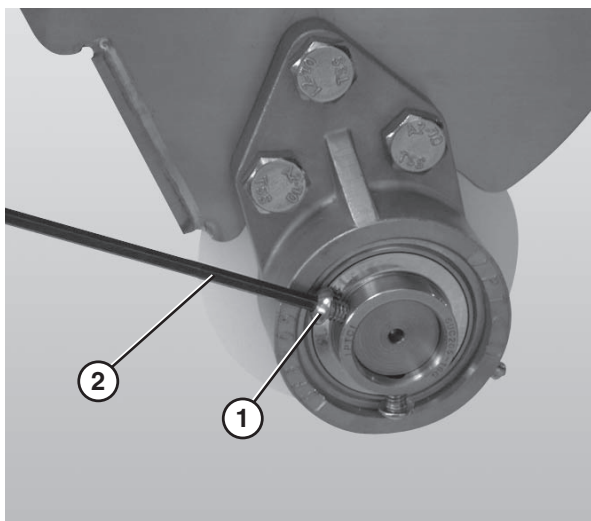


Figure 60

7. Disconnect the 3 hole flange bearing (Figure 61, item 1) from the nose bar drive weldment (Figure 61, item 2).

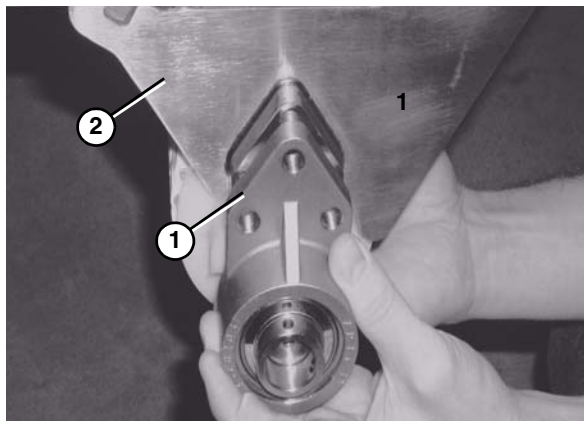


Figure 61

8. Lower the entire drive assembly.
9. Slide the 3 hole flange with bearing (Figure 62, item 1), spacer (Figure 62, item 3), O-Ring (Figure 62, item 4), and flanged puck (Figure 62, item 2) off the drive spindle.

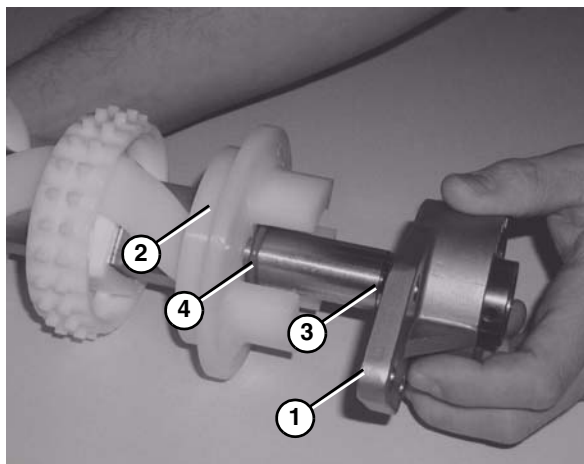


Figure 62

Preventive Maintenance and Adjustment

- Slide the sprockets (**Figure 63, item 1**) and the sprocket alignment bar (**Figure 63, item 2**) off the drive spindle (**Figure 63, item 3**).

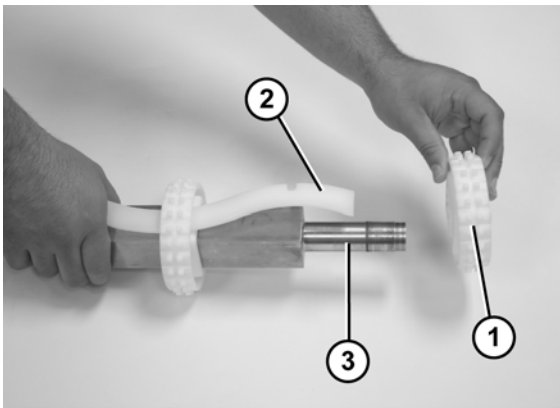


Figure 63

B - Nose Bar Puck Removal

- Slide the nose bar drive or transfer post (**Figure 64, item 1**) out of the nose bar drive weldment or idler hands (**Figure 64, item 2**).

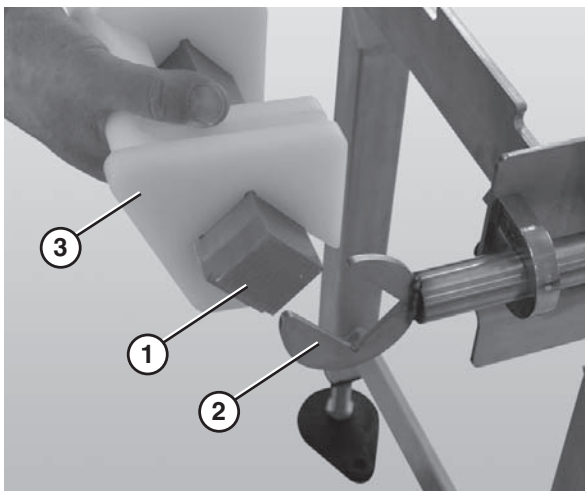


Figure 64

- Remove the nose bar tracking pucks (**Figure 64, item 3**), if applicable.

- Remove the nose bar wear strip (**Figure 65, item 3**).

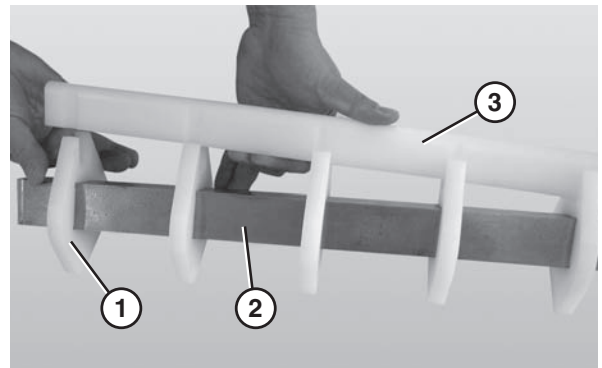


Figure 65

- Slide the nose bar pucks (**Figure 65, item 1**) off the nose bar shaft (**Figure 65, item 2**).

C - Idler Puck Removal

- Remove the pull pins from take up blocks (**Figure 55**).
- Slide the idler tail assembly (**Figure 66, item 1**) out of the take up blocks (**Figure 66, item 2**).

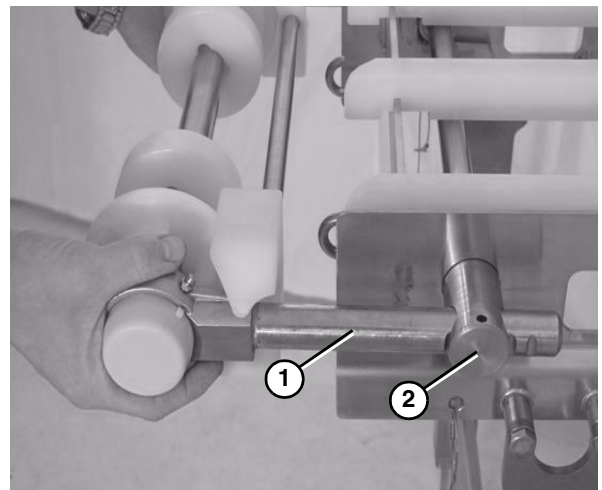


Figure 66

Preventive Maintenance and Adjustment

3. Remove the bearing cover (**Figure 67, item 1**).

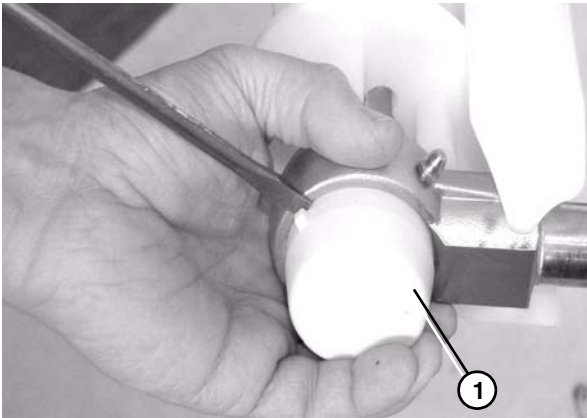


Figure 67

4. Use a hex wrench (**Figure 68, item 1**) to loosen the bearing shaft assembly fasteners (**Figure 68, item 2**).

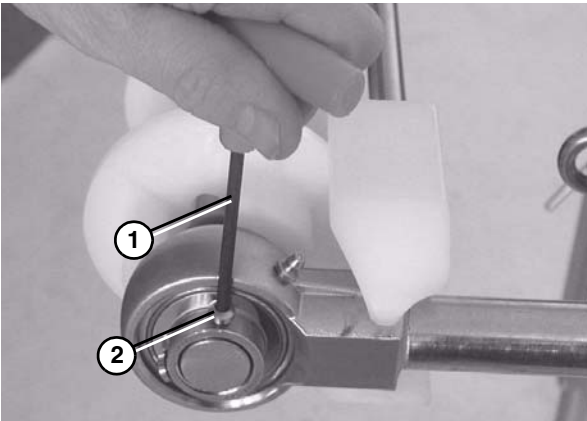


Figure 68

5. Slide off bearing shaft assembly (**Figure 69, item 1**), washer (**Figure 69, item 3**), O-ring (**Figure 69, item 4**), and flanged puck (**Figure 69, item 5**) off the idler shaft (**Figure 69, item 2**).

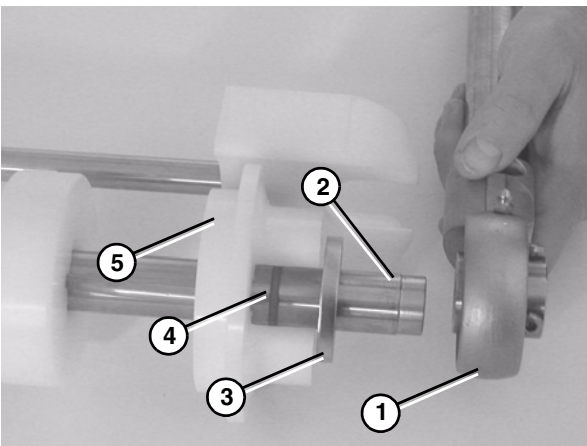


Figure 69

6. Remove the guard bar (**Figure 70, item 1**).

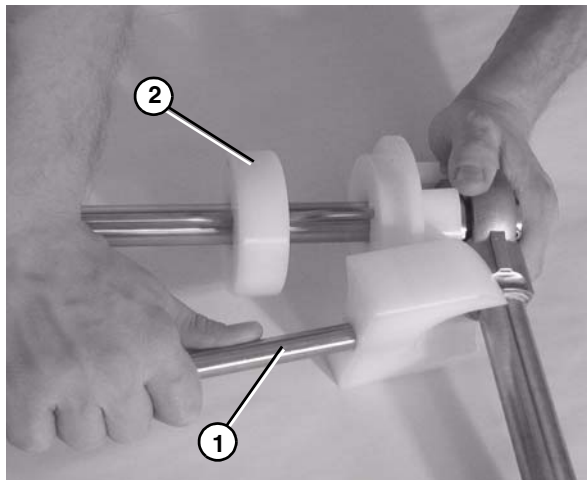


Figure 70

7. Remove the pucks (**Figure 70, 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.

Drive Tail Assembly

1. Slide the first sprocket (**Figure 71, item 1**) onto the drive spindle (**Figure 71, item 2**).

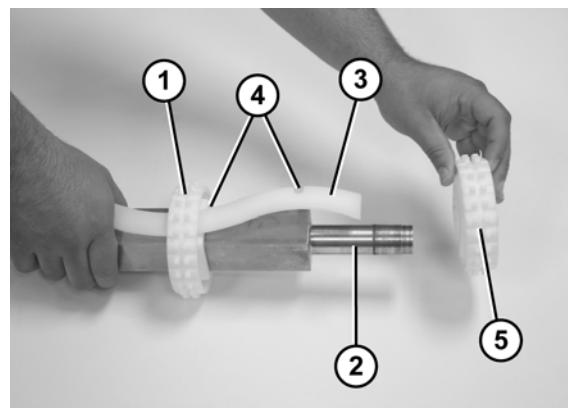


Figure 71

2. Insert the sprocket alignment bar (**Figure 71, item 3**) into the first sprocket and align the sprocket with the notch (**Figure 71, item 4**) in the sprocket alignment bar.
3. Slide the remaining sprockets (**Figure 71, item 5**) onto drive spindle and align each sprocket with the notches (**Figure 71, item 4**) in the sprocket alignment bar.

Preventive Maintenance and Adjustment

4. Attach O-rings (**Figure 72, item 4**), flanged pucks (**Figure 72, item 2**), washer (**Figure 72, item 3**) and the 3 hole flange with bearing (**Figure 72, item 1**) to the drive spindle.

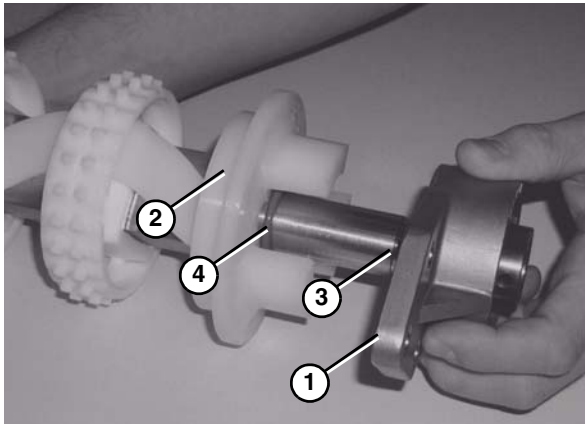


Figure 72

5. Tighten the 3 hole flange with bearing fasteners (**Figure 73, item 1**) using a hex wrench (**Figure 73, item 2**) to 54 in•lbs (6 N•m). Check after 24 hours of conveyor use.

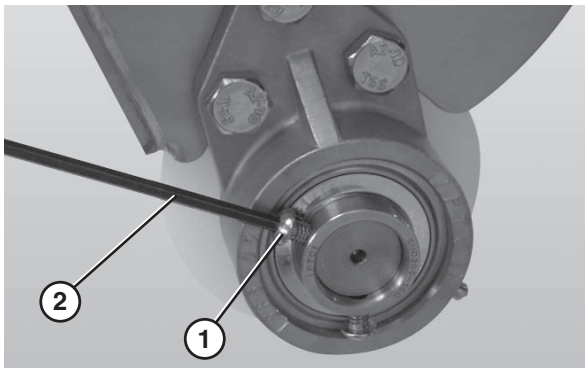


Figure 73

Nose Bar Tip Up Tail

1. Slide the nose bar pucks (**Figure 74, item 1**) onto the nose bar drive post (**Figure 74, item 2**).

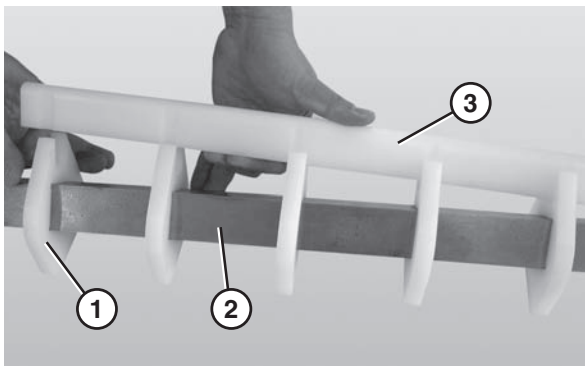


Figure 74

2. Attach the nose bar wear strip (**Figure 74, item 3**).
3. Attach the nose bar tracking pucks (**Figure 75, item 1**) to the nose bar drive post (**Figure 75, item 2**).

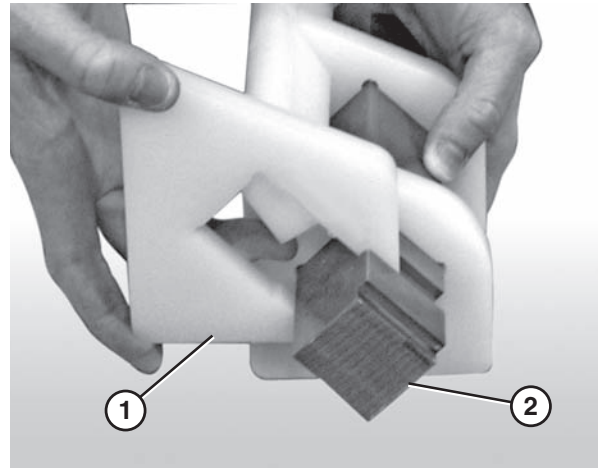


Figure 75

Tip Up Idler Tail

1. Place the idler puck (**Figure 76, item 1**) at the center of the bent retaining bar (**Figure 76, item 2**).
2. Slide the idler puck onto the idler shaft (**Figure 76, item 3**). Make sure to center the idler puck.

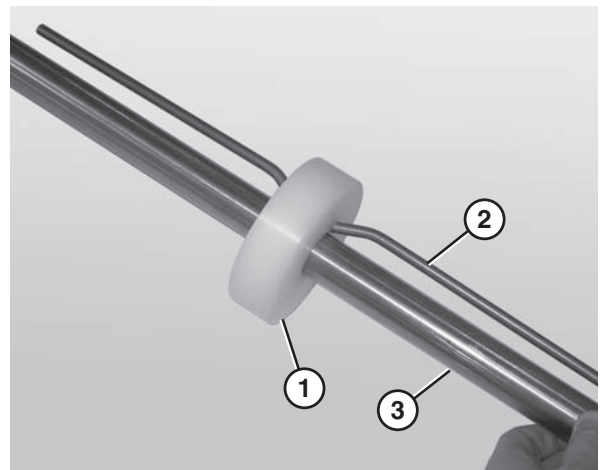


Figure 76

Preventive Maintenance and Adjustment

3. Attach the flanged pucks (Figure 77, item 5), O-rings (Figure 77, item 4), washers (Figure 77, item 3), and bearing shaft assembly (Figure 77, item 1) off the idler shaft (Figure 77, item 2).

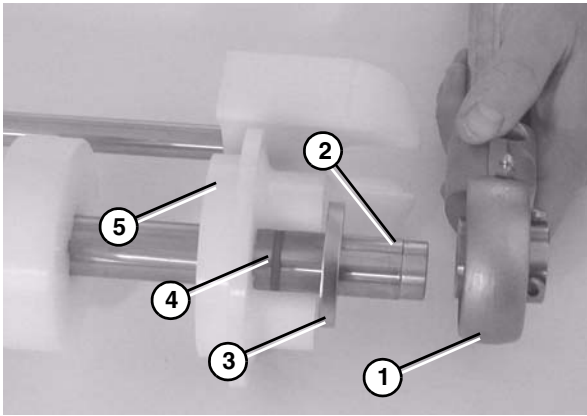


Figure 77

4. Attach the guard bar (Figure 78, item 1).

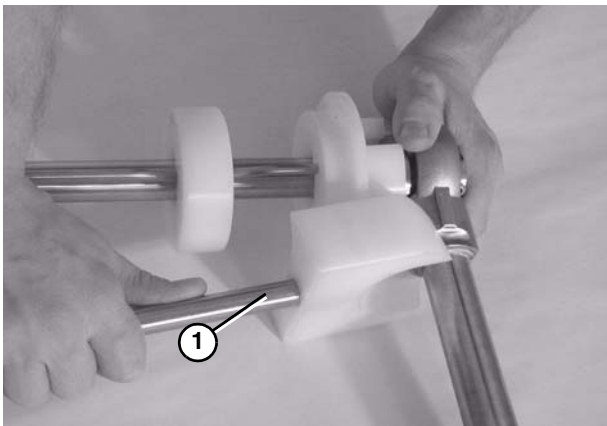


Figure 78

5. Use a hex wrench (Figure 79, item 1) to tighten the bearing shaft fasteners (Figure 79, item 2) to 54 in•lbs (6 N•m). Check after 24 hours of conveyor use.

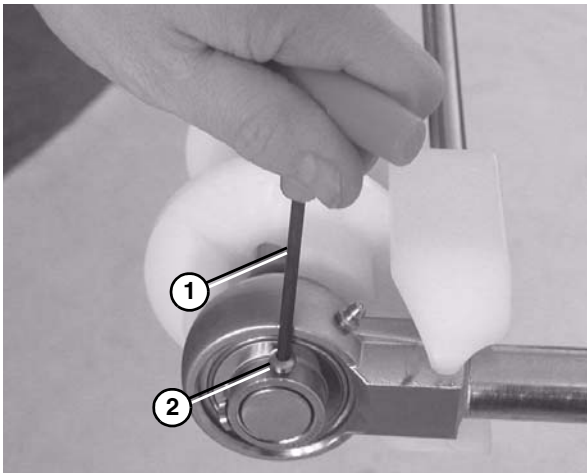


Figure 79

6. Attach the bearing covers. Reference (Figure 67).

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 80).

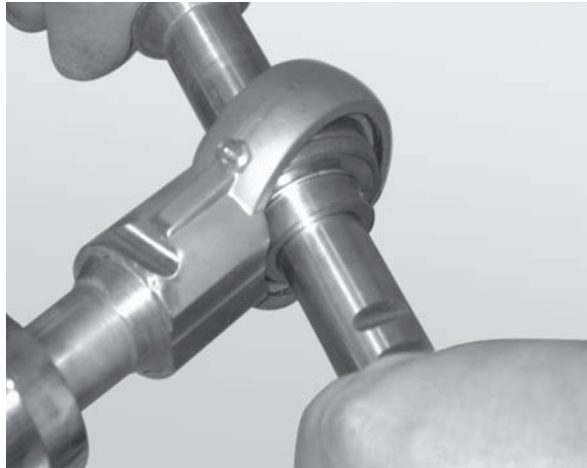


Figure 80

3. Apply lateral pressure to the rod until the bearing comes loose.
4. Remove the worn or damaged bearing (Figure 81).

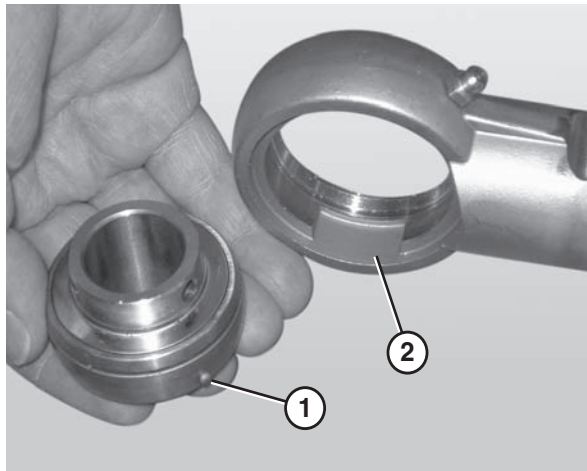


Figure 81


5. Replace the bearing.

NOTE

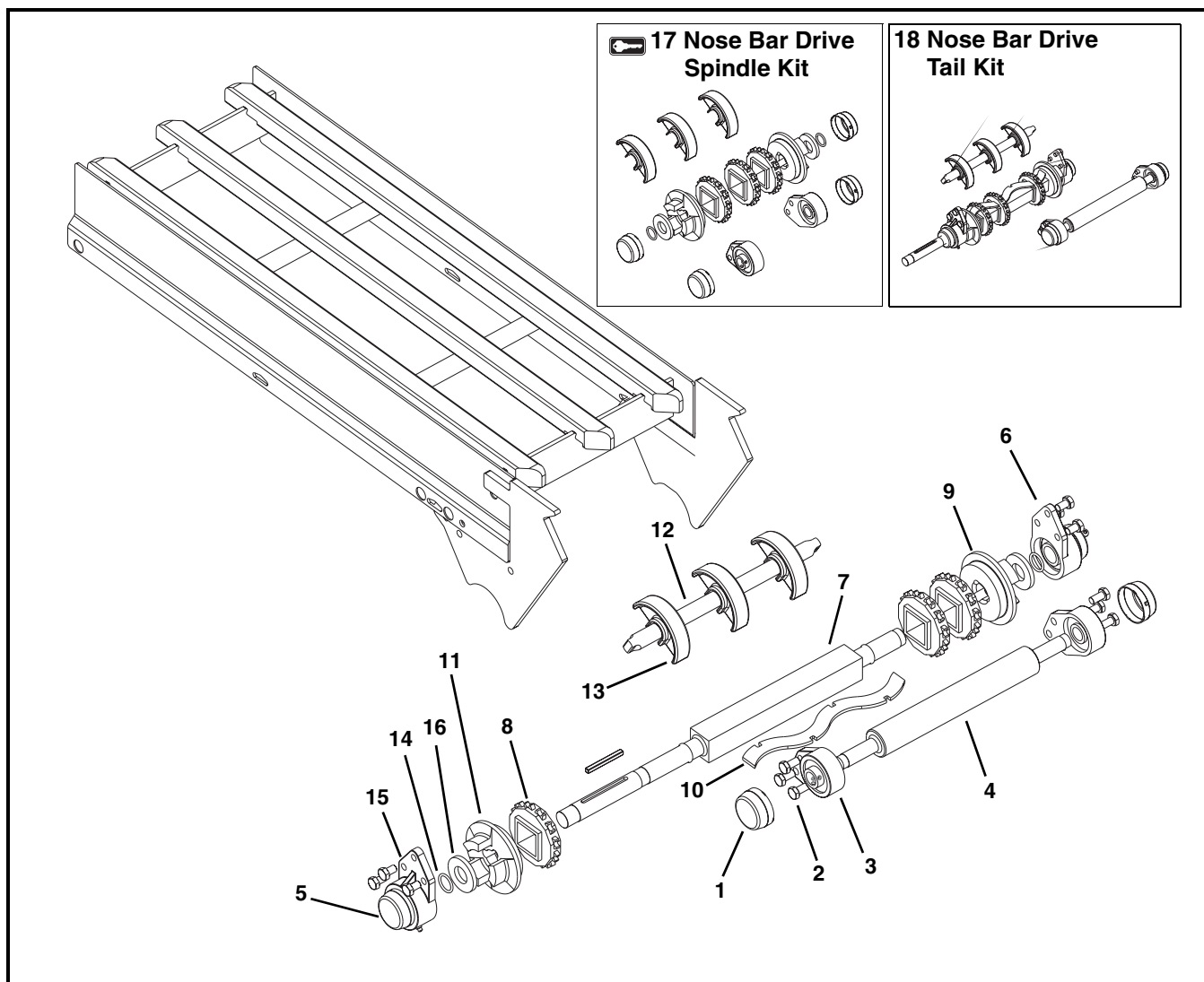
When inserting the new bearing, make sure the anti-rotation notch (Figure 81, item 1) on the bearing lines up with the groove inside the housing (Figure 81, item 2).

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.

Nose Bar Drive End Components



Item	Part Number	Description
1	802-133	Bearing Cover
2	961016MSS	Hex Head Cap Screw M10-1.5x16mm
3	802-132	3 Hole Flange Bearing 20mm Bore
4	5181WW	Transfer Spindle
5	807-1454	Bearing Cover
6	500288	3 Hole Flange with Bearing
7	5179WW	Drive Spindle for Standard Belt
	5180WW	Drive Spindle for Specialty Intralox Belt

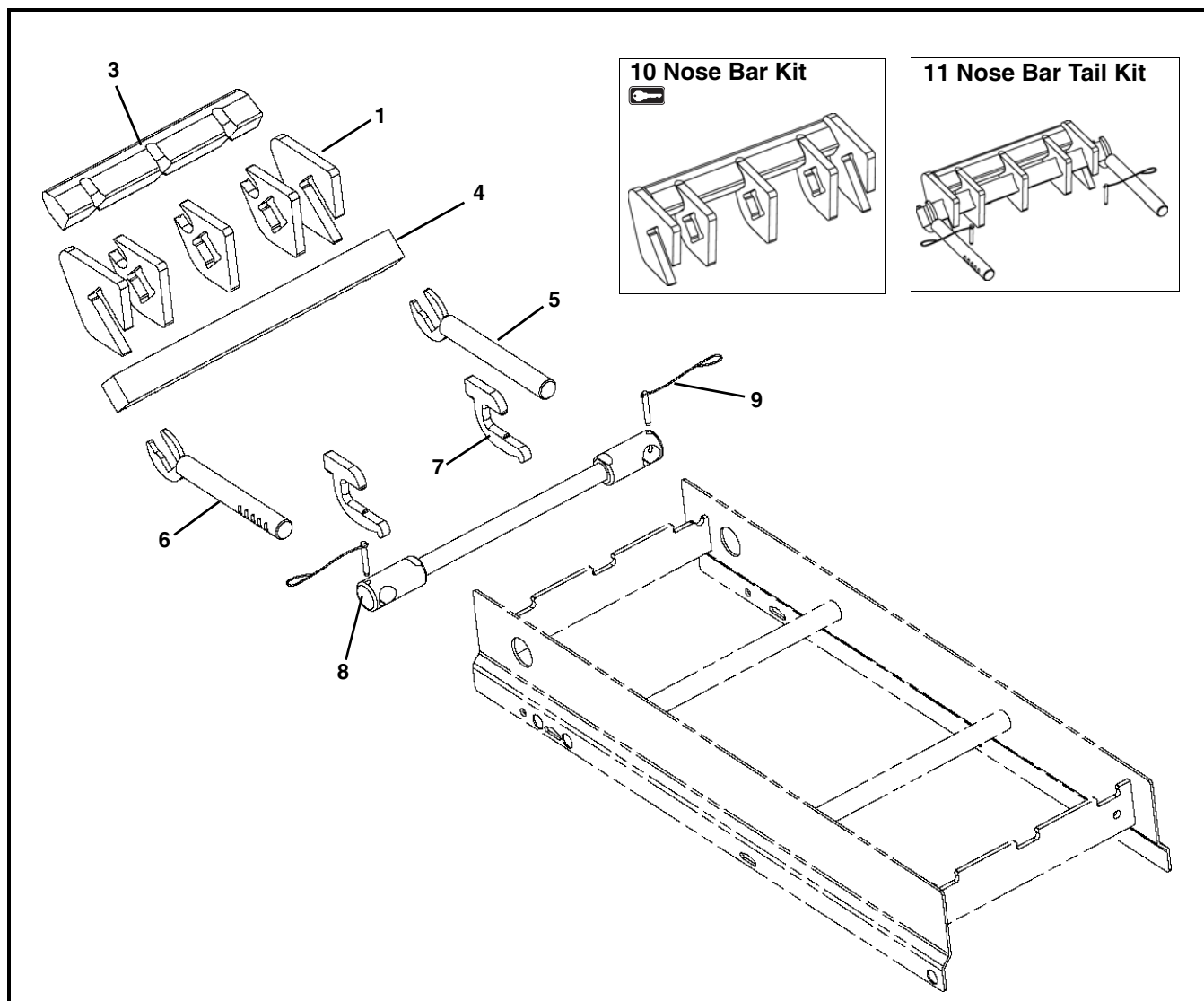
Item	Part Number	Description
8	807-1444	Sprocket for Standard 1.00" Pitch Belt
	807-1447	Sprocket for Specialty Intralox 1.00" Pitch Belt
9	5172WW	Flange Puck for Standard Belt
	5173WW	Flange Puck for Specialty Intralox Belt
10	5161WW	Sprocket Alignment Bar for Standard 1.00" Pitch Belt
	5165WW	Sprocket Alignment Bar for Specialty Intralox 1.00" Pitch Belt

Item	Part Number	Description
11	517201	Drive Puck
12	5039 WW	Return Shaft
13	500075	Chain Return Shoe
14	807-1588	O-Ring
15	802-163	Bearing
16	501381	Washer, Puck Standoff
17	74UNBDD25- WW	Nose Bar Drive Spindle Kit when Conveyor is ordered with a Dorner Gearmotor Mounting Package for Standard 1.00" Pitch Belt (Includes Items 1, 3, 5, 8, 9, 11, 13, 14 and 16)
	74UNBDD24- WW	Nose Bar Drive Spindle Kit when Conveyor is ordered with a Dorner Gearmotor Mounting Package for Specialty Intralox 1.00" Pitch Belt (Includes Items 1, 3, 5, 8, 9, 11, 13, 14 and 16)
	74UNBDC25- WW	Nose Bar Drive Spindle Kit when Conveyor is ordered without a Dorner Gearmotor Mounting Package for Standard 1.00" Pitch Belt (Includes Items 1, 3, 5, 8, 9, 11, 13, 14 and 16)
	74UNBDC24- WW	Nose Bar Drive Spindle Kit when Conveyor is ordered without a Dorner Gearmotor Mounting Package for Specialty Intralox 1.00" Pitch Belt (Includes Items 1, 3, 5, 8, 9, 11, 13, 14 and 16)
18	74UNBDDT25- WW	Nose Bar Drive Tail Kit when Conveyor is ordered with a Dorner Gearmotor Mounting Package for Standard 1.00" Pitch Belt (Includes Items 1, 3, 4, 5 and 7 through 16)
	74UNBDDT24- WW	Nose Bar Drive Tail Kit when Conveyor is ordered with a Dorner Gearmotor Mounting Package for Specialty Intralox 1.00" Pitch Belt (Includes Items 1, 3, 4, 5 and 7 through 16)
	74UNBCDT25- WW	Nose Bar Drive Tail Kit when Conveyor is ordered without a Dorner Gearmotor Mounting Package for Standard 1.00" Pitch Belt (Includes Items 1, 3, 4, 5 and 7 through 16)
	74UNBCDT24- WW	Nose Bar Drive Tail Kit when Conveyor is ordered without a Dorner Gearmotor Mounting Package for Specialty Intralox 1.00" Pitch Belt (Includes Items 1, 3, 4, 5 and 7 through 16)
WW = Conveyor width ref: 08 - 36 in 02 increments		

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

Service Parts

Nose Bar Tip Up Tension End

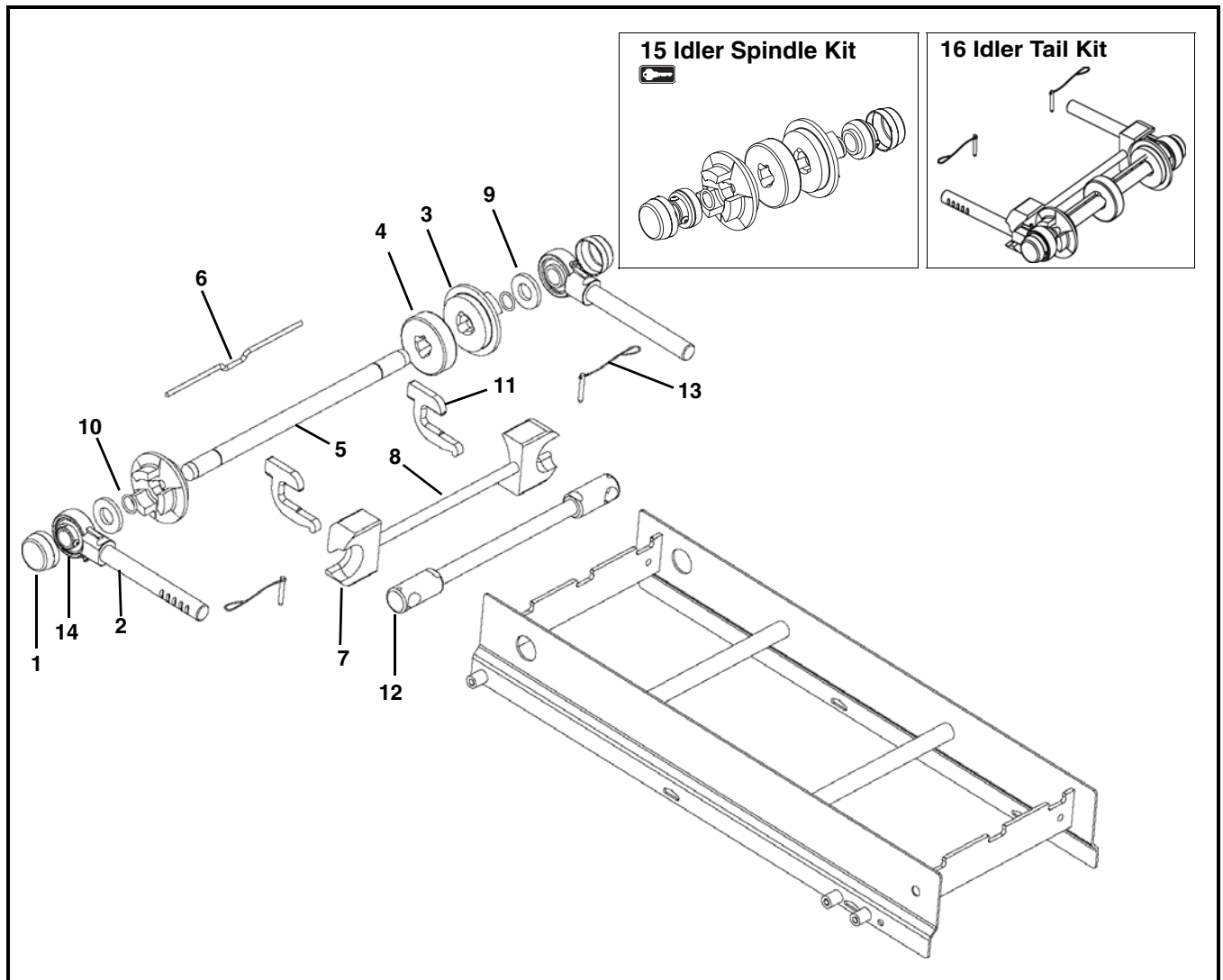


Item	Part Number	Description
1	500490	Nose Bar Tracking Puck
2	500278	Nose Bar Puck
3	5056WW	.5" Pitch Nose Bar Wear Strip
	5058WW	1" Pitch Nose Bar Wear Strip
4	5176WW	Nose Bar Transfer Post for Standard Belt
	5177WW	Nose Bar Transfer Post for Specialty Intralox Belt
5	500487	Nose Bar Idler Shaft Left 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

Tip Up Tension End



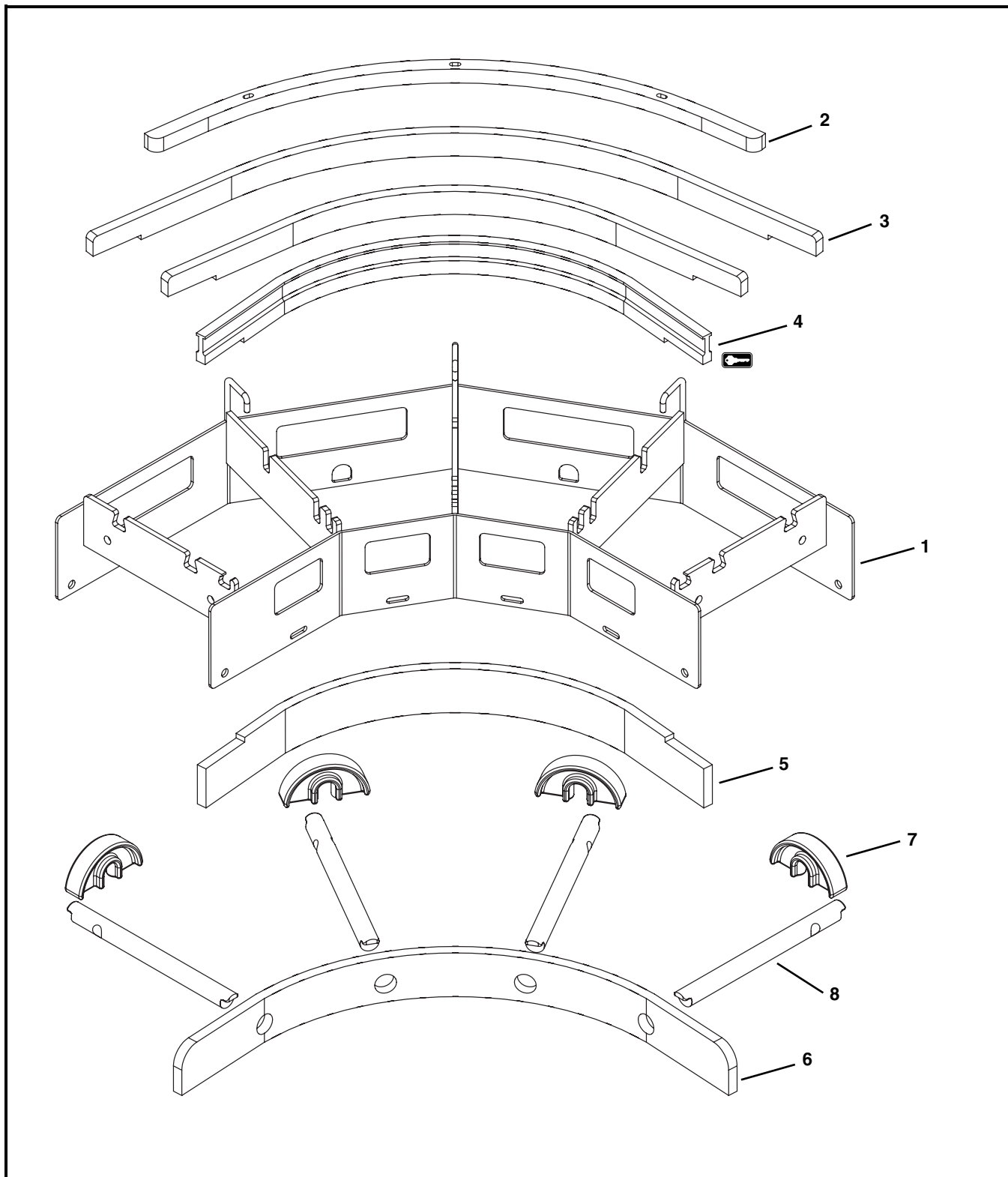
Item	Part Number	Description
1	807-1454	Bearing Cover
2	500079	Shaft Assembly with Bearing
3	5172 WW	Flanged Puck, Idler Tail for Standard Belt
	5173 WW	Flanged Puck, Idler Tail for Specialty Intralox Belt
4	501189	Idler Puck
5	5156 WW	Idler Shaft
6	5157 WW	Bent Retaining Bar for Standard Belt
	5167 WW	Bent Retaining Bar for Specialty Intralox Belt
7	501188	Guard Bar
8	5154 WW	Guard Bar Shaft
9	501381	Washer
10	807-1588	O-Ring
11	501184	Key Stop

Item	Part Number	Description
12	5182 WW	Tip Up Shaft Assembly
13	501676	Pin Assembly
14	802-162	Bearing
15	74UI- WW	Idler Spindle Kit for Standard Belt (Includes Items 1, 3, 4, 10 and 14)
	74UIS- WW	Idler Spindle Kit for Specialty Intralox Belt (Includes Items 1, 3, 4, 10 and 14)
16	74UIT- WW	Idler Tail Kit for Standard Belt (Includes Items 1 through 10, 13 and 14)
	74UITs- WW	Idler Tail Kit for Specialty Intralox Belt (Includes Items 1 through 10, 13 and 14)

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

Service Parts

Curve Conveyor Frame and Wear Strips

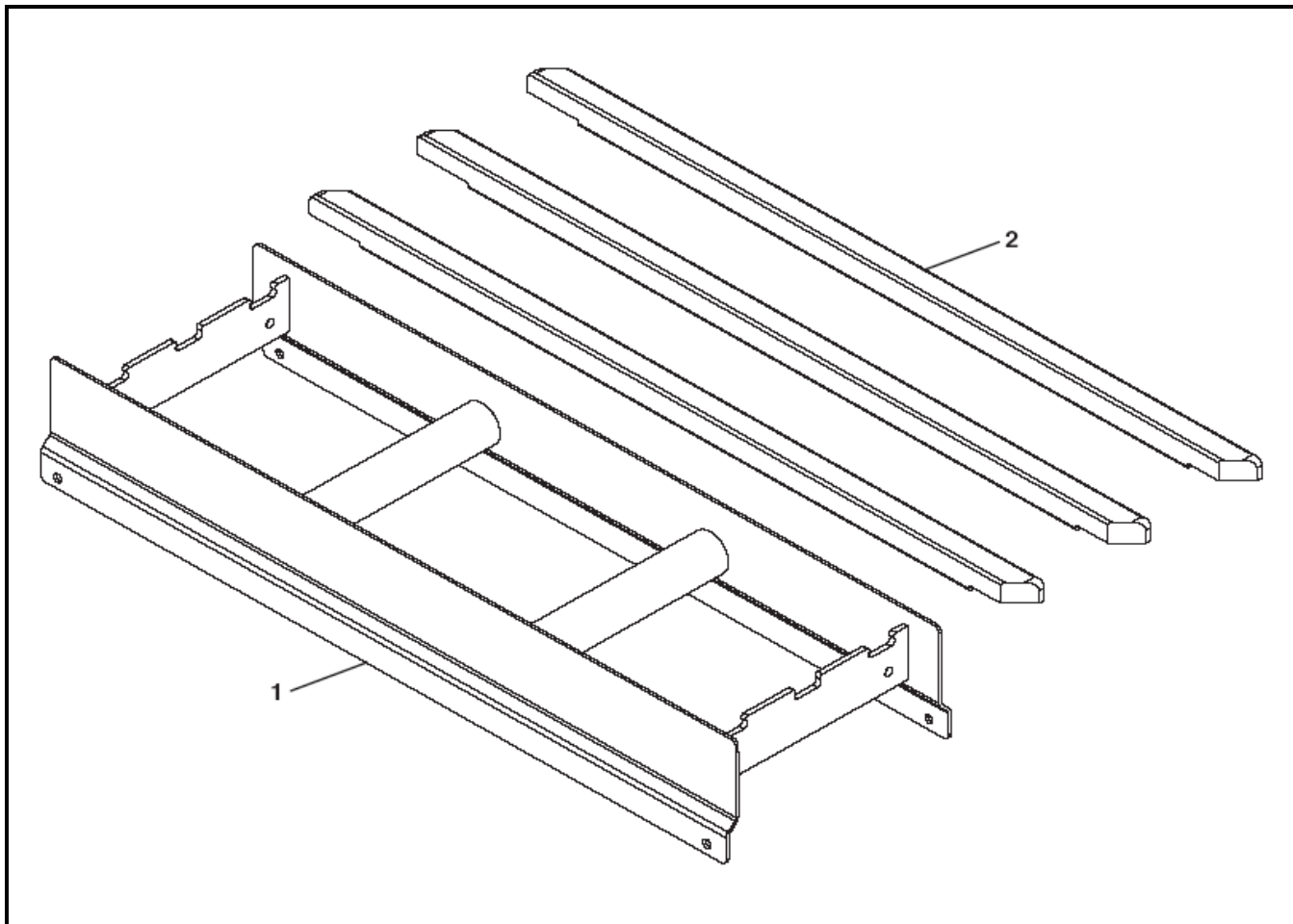


Item	Part Number	Description
1	-----	Consult Factory for Frame Part Number
2	500189- <u>LLLLL</u>	Hold Down Wearstrip
3	500186- <u>LLLLL</u>	Curved Bed Rail Group
4	500187- <u>LLLLL</u>	Low Side Inside Curve Top Wearstrip
	500197- <u>LLLLL</u>	High Side Inside Curve Top Wearstrip
5	500188- <u>LLLLL</u>	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

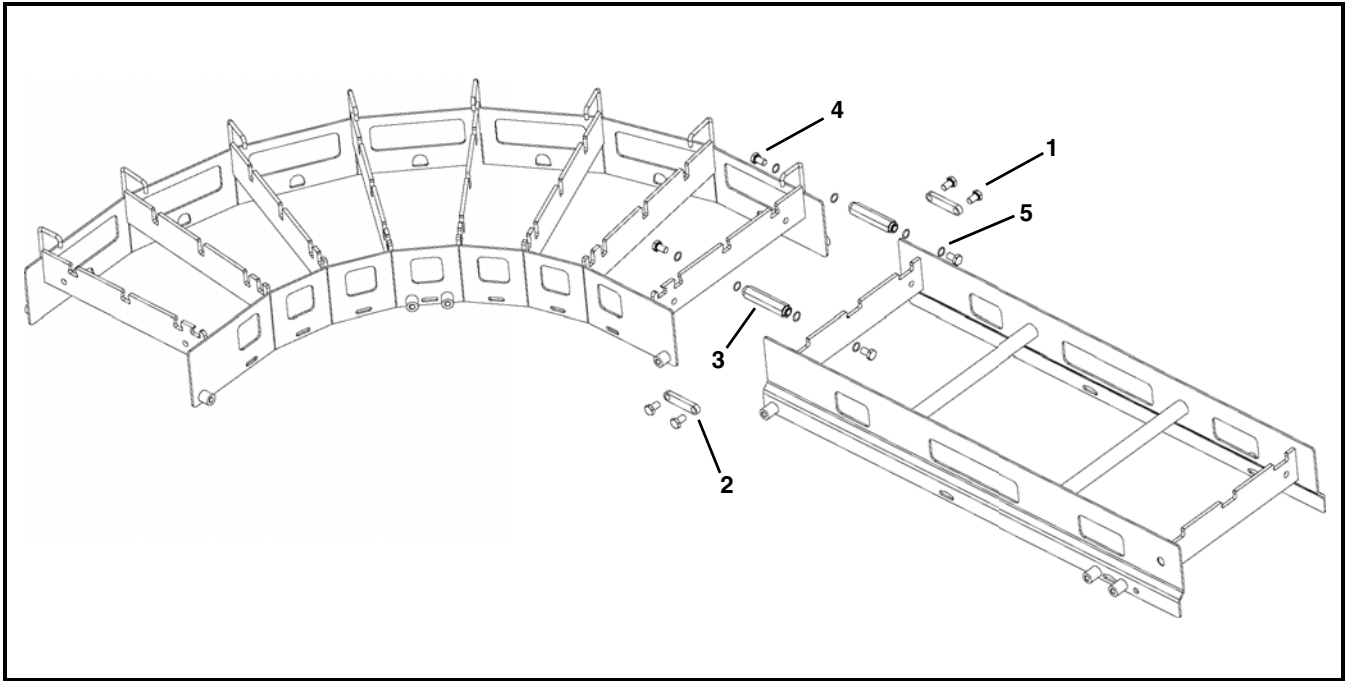
Straight Conveyor Frame and Wear Strips



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)							
		020-132	133-252	253-372	373-492	493-612	613-732	733-852	853-999
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

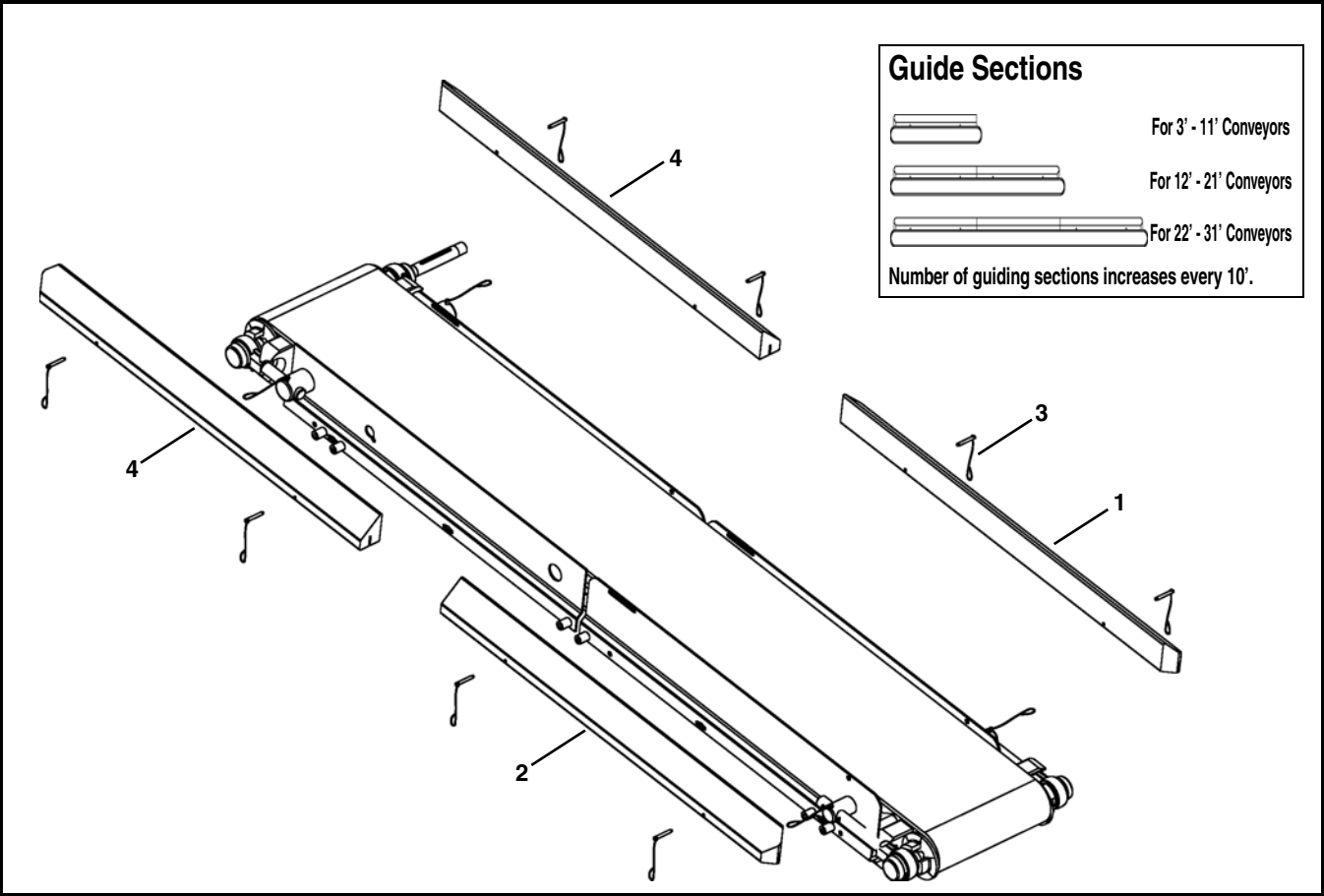


Item	Part Number	Description
1	961012MSS	Hex Head Cap Screw M10-1.5x12mm
2	501195	Flat Connector (Not Applicable if Stand Located at Connection)

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

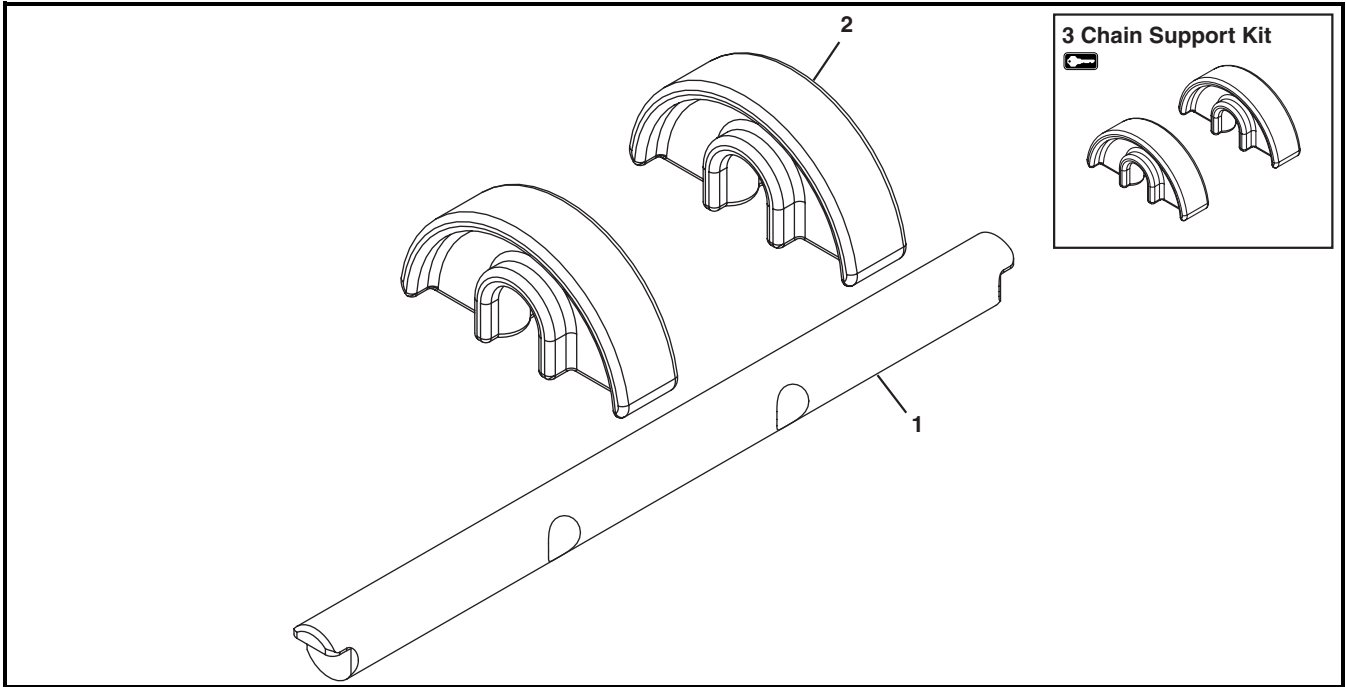
3" (76 mm) High Sides



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		

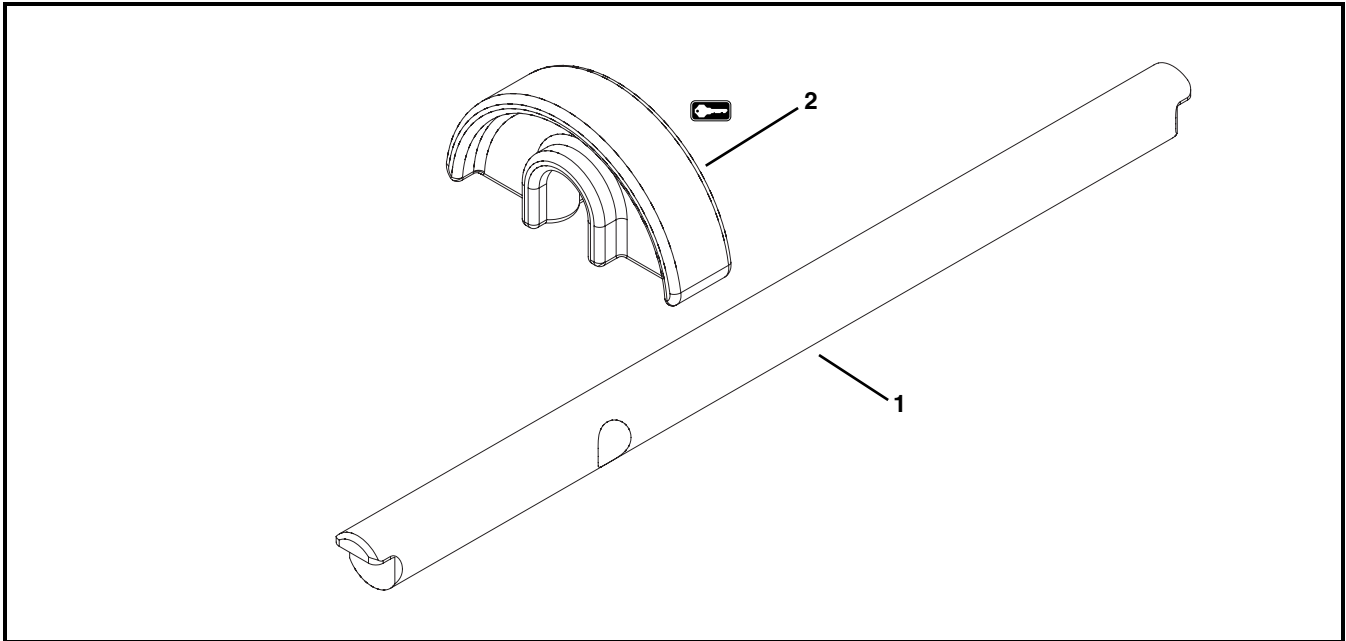
Straight Belt Return



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

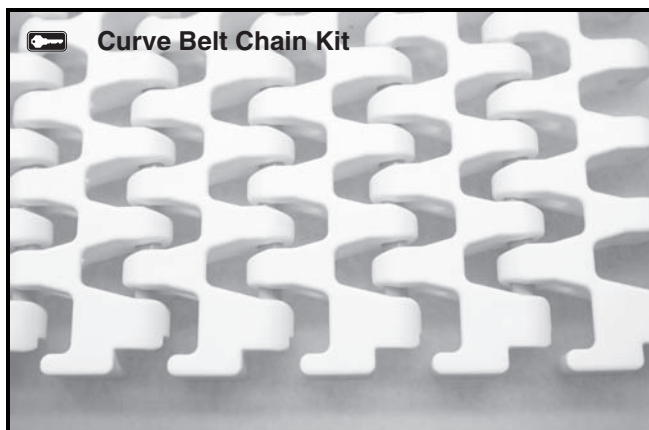



Item	Part Number	Description
1	5033WW	Curve Return Shaft

Item	Part Number	Description
2	500075	Chain Return Shoe
WW = Conveyor width ref: 08 - 36 in 02 increments		

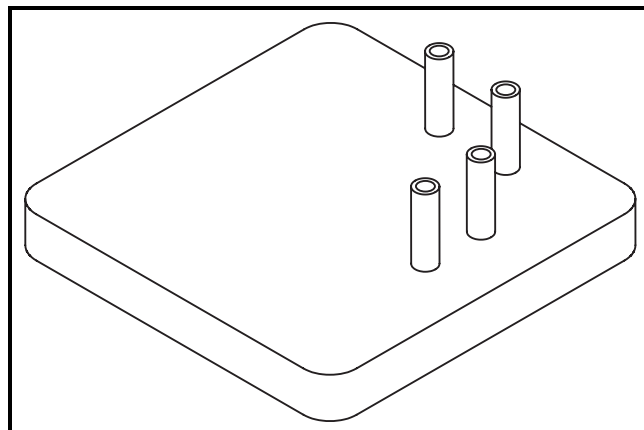
Service Parts

Curve Belt Chain Kit



Item	Part Number	Description
1 	74BB-WW	Curve Belt Chain Kit (Includes 1 ft (305 mm) of flat belt chain and assembly pins)
BB = Chain Reference Number		
WW = 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

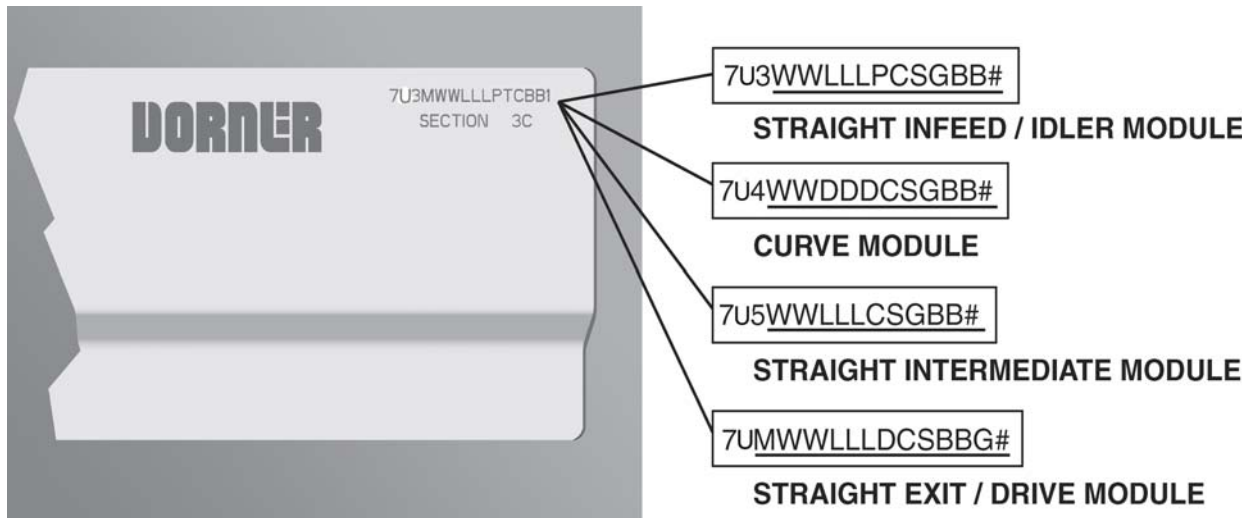


Figure 82

Curve Conveyor

Refer to your serial and model number plate (**Figure 82**). 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.

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



Dorner Mfg. Corp. reserves the right to change or discontinue products without notice. All products and services are covered in accordance with our standard warranty. All rights reserved. © Dorner Mfg. Corp. 2007

DORNER MFG. CORP.

975 Cottonwood Ave., PO Box 20
Hartland, WI 53029-0020 USA
USA
TEL 1-800-397-8664 (USA)
FAX 1-800-369-2440 (USA)
Internet: www.dorner.com

Outside the USA:
TEL 1-262-367-7600
FAX 1-262-367-5827