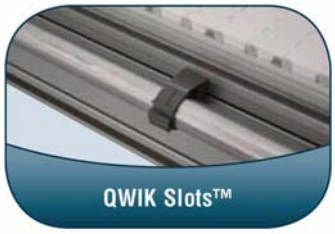
5200 Series Curved End Drive Conveyors

Installation, Maintenance and Parts Manual

Featuring: QwikSlot™ Attachment Method



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

851-631 Rev. C

Table of Contents

Introduction 2
Warnings – General Safety 3
Product Description 4
Specifications 4
5200 Series Curve Conveyor Modules 5
5200 Series Infeed / Idler Module 5
5200 Series Curve Module 5
5200 Series Intermediate Module 5
5200 Series Exit / Drive Module 5
LPZ 5200 Series Curve Conveyor (Infeed Section to Curve) 5
LPZ 5200 Series Curve Conveyor (Infeed Section to Knuckle) 5
LPZ 5200 Series Curve Conveyor (Mid Section Between Curve) 6
LPZ 5200 Series Curve Conveyor (Mid Section Between Knuckles) 6
LPZ 5200 Series Curve Conveyor (Curve Section) 6
LPZ 5200 Series Curve Conveyor (Discharge Section to Curve) 6
LPZ 5200 Series Curve Conveyor (Discharge Section to Knuckle) 6
Conveyor Supports 7
Installation 8
Required Tools 8
Recommended Installation Sequence 8
Conveyors Longer than 12 ft (3658 mm) 8
Frame Connecting Components 8
LPZ Conveyors 9
Knuckles 9
All Conveyors 10
Curve Connecting Components 10
Belt Installation 10
Stand Installation 13
Drive Package Installation 13
Attachment of Accessories to the QwikSlot™ 14
Preventive Maintenance and Adjustment 15
Required Tools 15
Checklist 15
Lubrication 15
Maintaining the Conveyor Belt 15
Troubleshooting 15
Conveyor Belt Replacement 15
Replacing a Section of Belt 15
Replacing the Entire Belt 16
Conveyor Belt Tensioning 16
Wear Strips 16
Removal 16
Installation 17
Spindle Removal 18
A - Drive Spindle Removal 18
B - Idler Spindle Removal 20
C - Nose Bar Idler Spindle Removal 21
Spindle Replacement 23
Drive Spindle 23
Idler Spindle 23
Bearing Replacement 23
Drive Bearing Removal and Replacement 23
Removal 23
Replacement 23
Maintenance of Knuckles 24
Lower Knuckle 24
Upper Knuckle 24
NOTES 25
Service Parts 26
Drive End Components 26
Idler End Components 27
Nose Bar Idler End Components 28
Frame Assembly 29
Curve Conveyor Frame and Wear Strips 30
Upper Knuckle - Low Side 32
Upper Knuckle - High Side 33
Lower Knuckle 34
Connecting Assembly 35
Flat Belt Returns 36
Stand Mount Kit 36
High Speed Shoe Kit 36
LPZ High Speed Shoe Kit 36
Fully Adjustable Guiding (Straight Module) 37
Fully Adjustable Guiding (Curve Module) 38
Tool-Less Fully Adjustable Guiding (Straight Module) 39
Tool-Less Fully Adjustable Guiding (Curve Module) ... 40
Ordering a Replacement Chain 41
Flat Belt Chain Repair Kit 41
Return Policy 42

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 5200 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 .

⚠ 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	Support Stands
5	Motor Controller
6	Drive End
7	Idler End

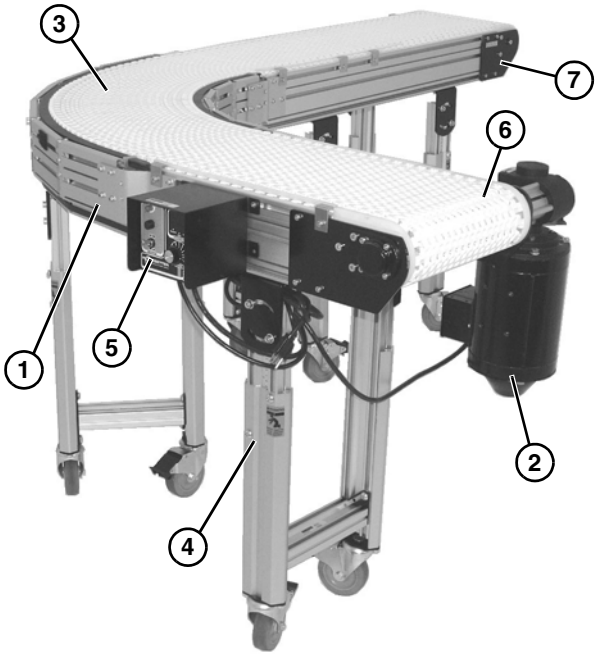


Figure 1

Specifications

Conveyor Width Reference (WW)	08 – 36 in 02 increments
Conveyor Belt Width	8" (203 mm) - 36" (914 mm) in 2" (51 mm) increments
LPZ Conveyor Width Reference (WW)	08 - 24 in 02 increments
LPZ Conveyor Belt Width	8” (103 mm) - 24” (610 mm) in 2” (51 mm) increments
Maximum Conveyor Load	20 lbs. / ft^2 (97 kg/ m^2) with a maximum of 500 lbs. (227 kg)
Belt Travel	12" (305 mm) per revolution of pulley
Maximum Belt Speed	250 ft/minute (76 m/minute)

Conveyor Length Reference (LLL)	036 – 999 in 001 increments
Conveyor Length	36" (914 mm) - 999" (25.4 m) in 1" (25 mm) increments
LPZ Section Length (LLL)	024 - 288 in 001 increments
LPZ Section Length	24” (610 mm) - 288” (7315 mm) in 1” (25 mm) increments

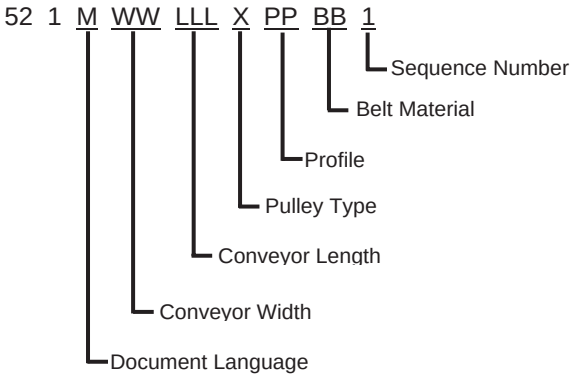
IMPORTANT

Maximum conveyor loads are based on:

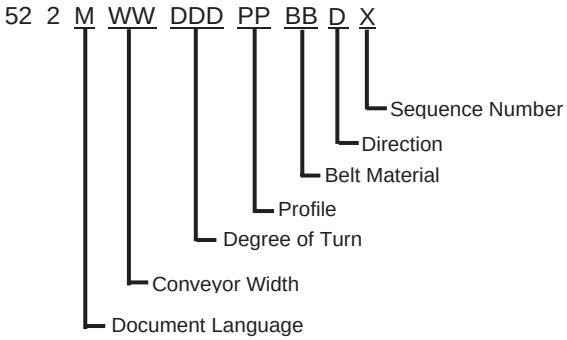
- *Non-accumulating product*
- *Product moving toward gearmotor*
- *Conveyor being mounted horizontally*
- *Conveyor being located in a dry environment*
- *Conveyor equipped with standard belt only*

5200 Series Curve Conveyor Modules

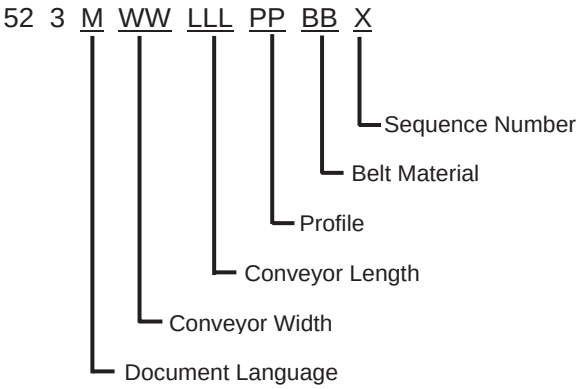
5200 Series Infeed / Idler Module



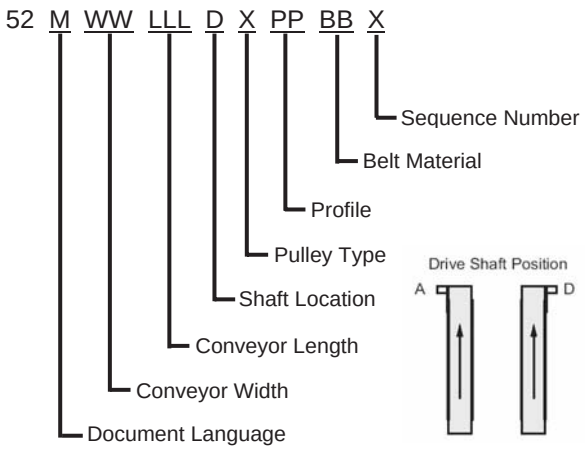
5200 Series Curve Module



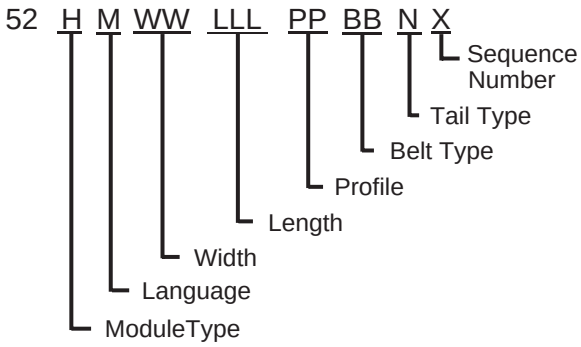
5200 Series Intermediate Module



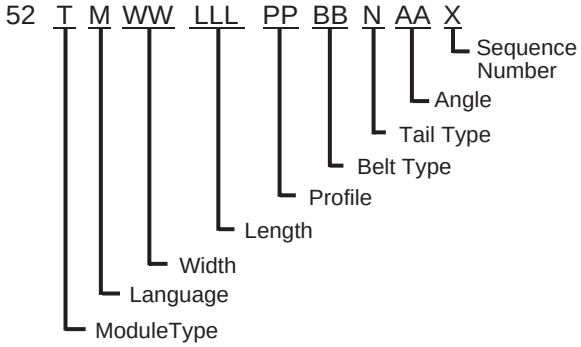
5200 Series Exit / Drive Module



LPZ 5200 Series Curve Conveyor (Infeed Section to Curve)

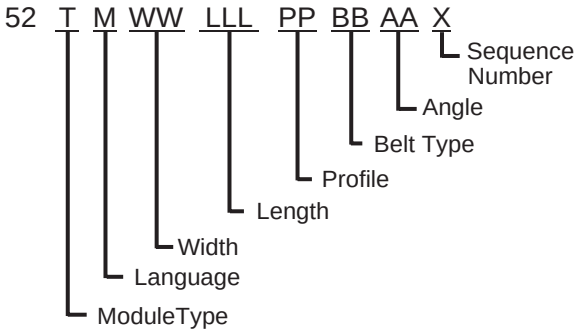


LPZ 5200 Series Curve Conveyor (Infeed Section to Knuckle)

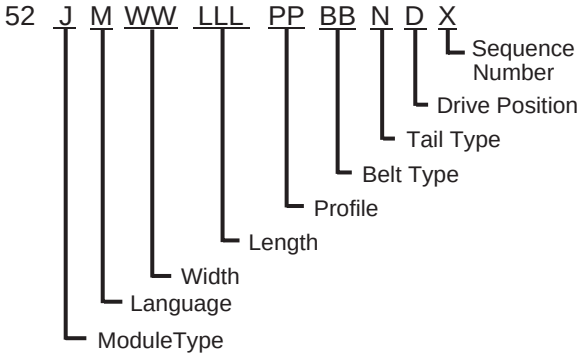


Specifications

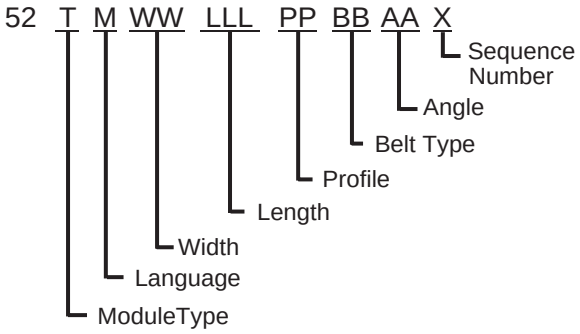
LPZ 5200 Series Curve Conveyor (Mid Section Between Curve)



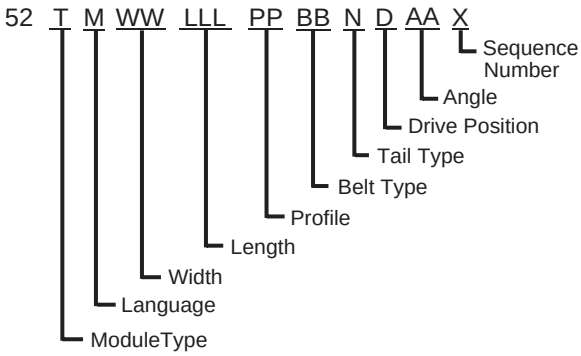
LPZ 5200 Series Curve Conveyor (Discharge Section to Curve)



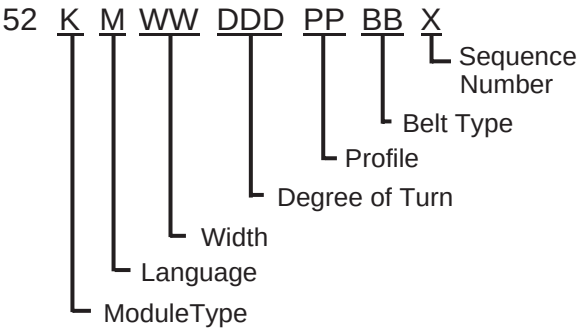
LPZ 5200 Series Curve Conveyor (Mid Section Between Knuckles)



LPZ 5200 Series Curve Conveyor (Discharge Section to Knuckle)



LPZ 5200 Series Curve Conveyor (Curve Section)



Conveyor Supports

Infeed / Idler Module:

- "A" = 3 ft (914 mm) maximum (See **Figure 2**)
- Modules 24" - 47" long get 1 support stand
- All other lengths get 2 support stands, evenly spaced, plus an additional support stand at each straight section break (over 13' straight frame module)

Intermediate Module:

- Modules 24" - 59" long get 1 support stand
- All other lengths get 2 support stands, evenly spaced, plus an additional support stand at each straight section break (modules over 13')

Exit / Drive Module:

- "B" = 3 ft (914 mm) maximum (See **Figure 2**)
- Modules 24" - 47" long get 1 support stand
- All other lengths get 2 support stands, evenly spaced, plus an additional support stand at each straight section break (modules over 13')

*LPZ stand positions may vary, please consult factory.

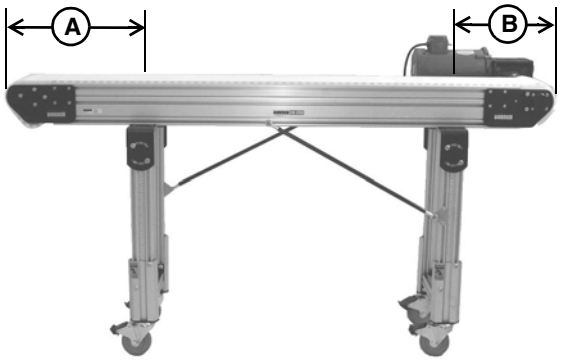


Figure 2

Curve Module:

- Reference chart for support stand quantities, evenly spaced along curve (See **Figure 3**)

Width / Degree	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"	32"	34"	36"
15°	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
30°	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1
45°	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1
60°	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
75°	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2
90°	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2
105°	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2
120°	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
135°	1	1	1	1	1	1	2	2	2	2	2	2	2	3	3
150°	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3
165°	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3
180°	1	1	1	2	2	2	2	2	2	3	3	3	3	3	3

Figure 3

CAUTION

Conveyor MUST be mounted straight, flat and level within confines of conveyor. Use a level (Figure 4, item 1) during setup.

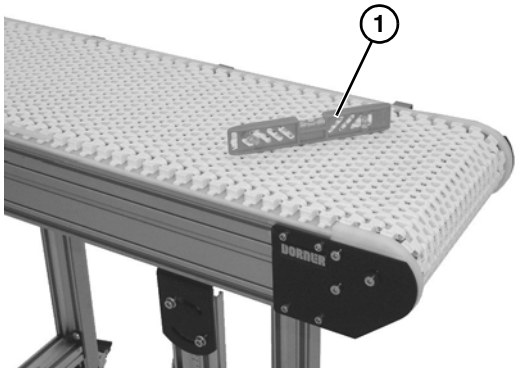


Figure 4

Required Tools

- Level
- Torque wrench
- 4 mm hex wrench
- 5 mm hex wrench

Recommended Installation Sequence

1. Assemble the conveyor (if required). Refer to "Conveyors Longer than 12 ft (3658 mm)" on page 8 or "All Conveyors" on page 10.
2. Attach the stands. Refer to "Stand Installation" on page 13.
3. Install the gearmotor. Refer to "Drive Package Installation" on page 13.

Conveyors Longer than 12 ft (3658 mm)

Frame Connecting Components

Typical Frame Connecting Components **(Figure 5)**

1	Bar Frame Connector
2	Drop-in Tee Bar
3	Conveyor frames
4	Plate Frame Connector
5	Low Head Cap Screw, M6 - 1.00 x 12 mm
6	Washer
7	Socket Head Screw, M6 - 1.00 x 20 mm

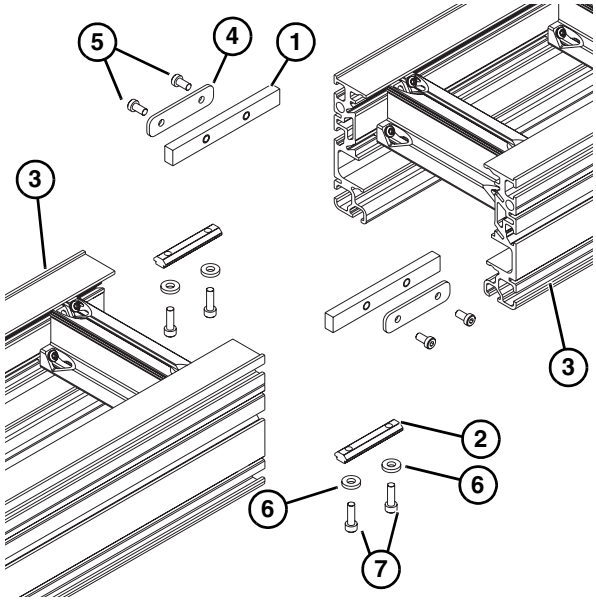


Figure 5

1. Locate and arrange conveyor sections by section labels **(Figure 6, item 1)**.

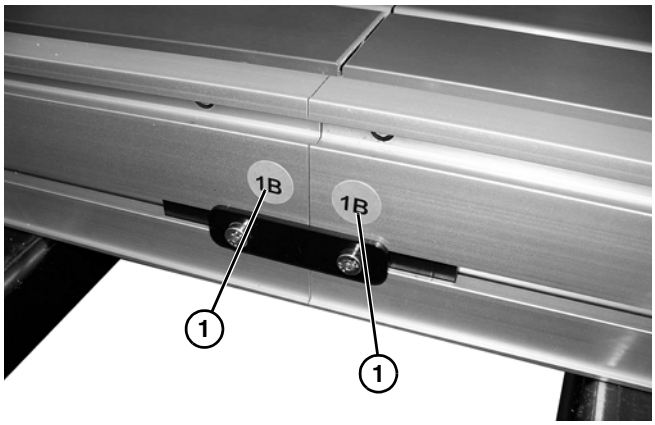


Figure 6

2. Install two bar frame connectors **(Figure 5, item 1)** and two drop-in tee bars **(Figure 5, item 2)** into one conveyor section **(Figure 5, item 3)**.
3. Join both conveyor sections, and install plate frame connectors **(Figure 5, item 4)**, and secure with M6x12 low head cap screws **(Figure 5, item 5)** on both sides. Tighten cap screws to 60 in-lb (7 Nm).
4. Install washers **(Figure 5, item 6)** and M6x20 socket head screws **(Figure 5, item 7)** into drop-in tee bar **(Figure 5, item 2)** on both sides as indicated. (Do not tighten hardware. This is for stand installation.)

NOTE

*The stop plate **(Figure 7, item 1)** on the center wear strip **(Figure 7, item 2)** faces the drive end **(Figure 7, item 3)** of the conveyor.*

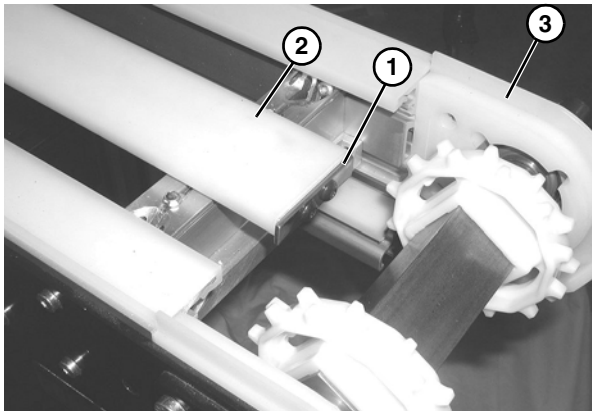


Figure 7

LPZ Conveyors

NOTE

Be sure all frame sections are properly supported during LPZ assembly.

Knuckles

1. Attach upper knuckle to frame by loosening two socket head capscrews **(Figure 8, item 1)** on each side of upper knuckle assembly **(Figure 8, item 2)**, and sliding T-Nuts into straight frame section **(Figure 8, item 3)**.

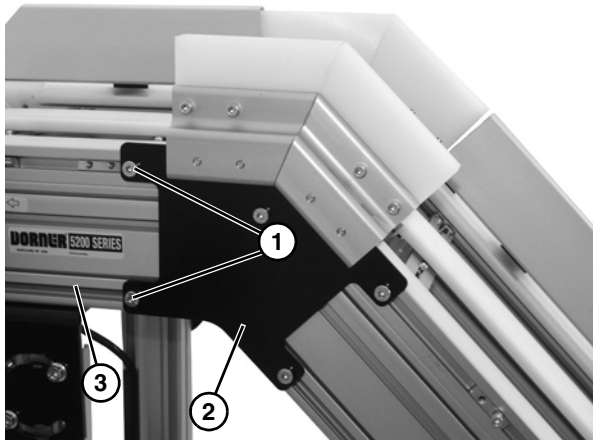


Figure 8

2. Attach lower knuckle to frame by loosening two socket head capscrews **(Figure 9, item 1)** on each side of lower knuckle assembly **(Figure 9, item 2)**, and sliding T-Nuts into straight frame section **(Figure 9, item 3)**.

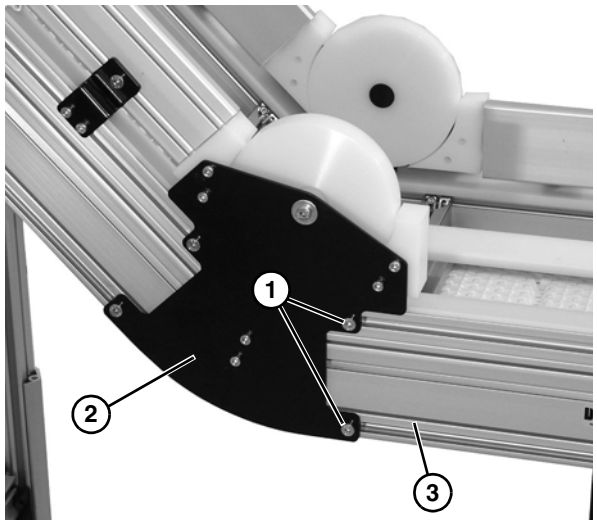


Figure 9

3. Tighten all socket head capscrews to 60 in-lb (7 Nm).

Installation

All Conveyors

Curve Connecting Components

Typical Curve Connecting Components **(Figure 10)**

1	Offset Connecting Plate, Left
2	Offset Connecting Plate, Right
3	Curved Section
4	Drop-in Tee Bar
5	Socket Head Screw, M6 - 1.00 x 16 mm
6	Straight Section

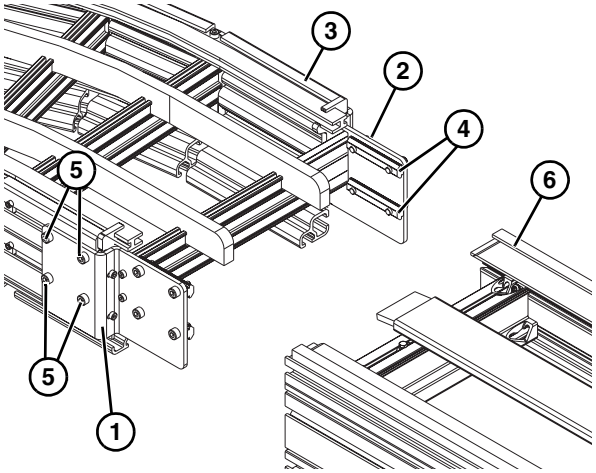


Figure 10

1. For joining curved to straight sections, install left offset connecting plate **(Figure 10, item 1)** and right connecting plate **(Figure 10, item 2)** onto curved section **(Figure 10, item 3)** with two drop-in tee bars **(Figure 10, item 4)** and four M6x16 socket head screws **(Figure 10, item 5),** making sure the straight frame section is flush to the curve section crossmember.
2. Secure straight section **(Figure 10, item 6)** onto curved section with the same hardware as previous step. Tighten all socket head screws to 60 in-lb (7 Nm).

NOTE

*The bottom of the straight frame sections **(Figure 11, item 1)** and curve frame sections **(Figure 11, item 2)** must be level.*

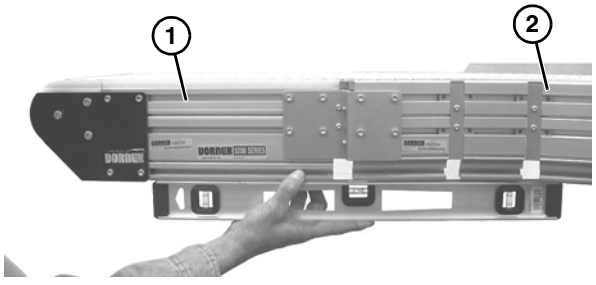


Figure 11

Belt Installation

Typical Belt Components **(Figure 12)**

1	Chain Belt
2	Belt Rod

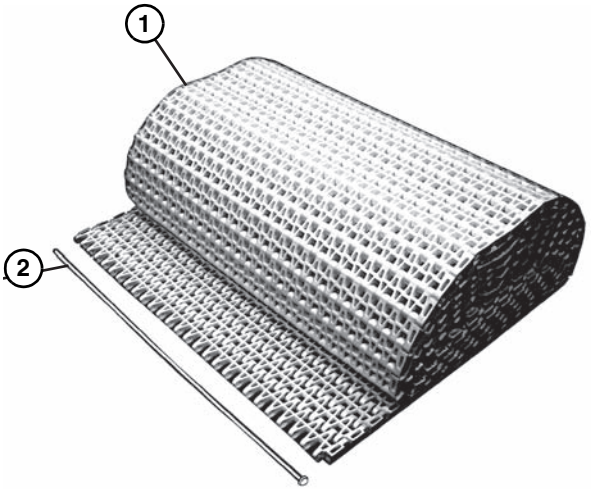


Figure 12

NOTE

*Ensure the belt is running in the correct direction, with hole **(Figure 13, item 1)** towards conveyor motor.*

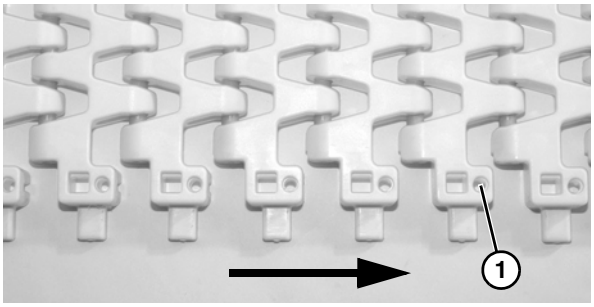


Figure 13

1. Position the belt on the conveyor frame **(Figure 14)**.

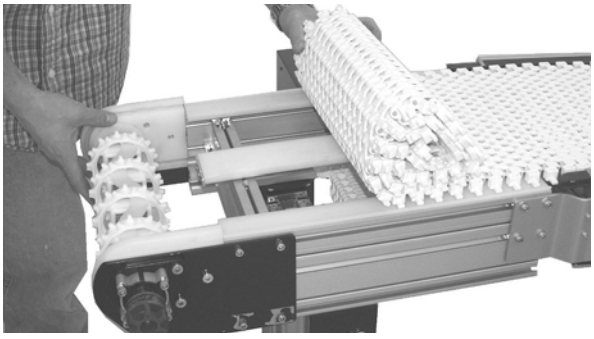


Figure 14

2. Orient the belt direction such that the pin heads **(Figure 15, item 1)** are on the outside of the belt radius **(Figure 15, item 2)**. The straight portion on the pin **(Figure 15, item 3)** will be on the inside radius.

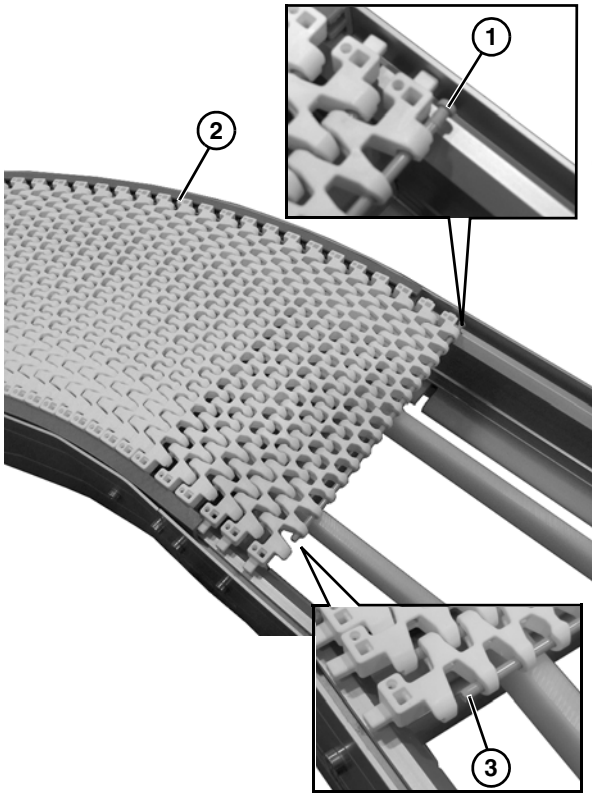


Figure 15

3. Wrap belt around idler tail.
4. Install belt around lower frame section and above lower wear strips **(Figure 16, item 1)**.

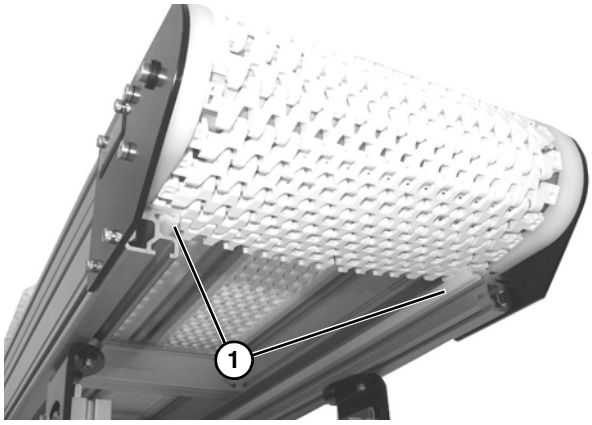


Figure 16

5. On curve conveyors, install belt through wear strip **(Figure 17, item 1)** and install wear strip **(Figure 17, item 2)** on straight conveyor sections before installing and connecting belt.

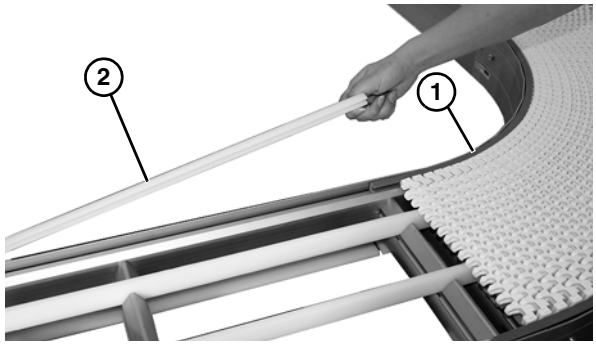


Figure 17

6. Wrap the belt around the drive end of the conveyor, making sure the sprocket teeth have engaged the belt, with concave teeth **(Figure 18, item 1)** mating with rounded section **(Figure 18, item 2)** of belt.

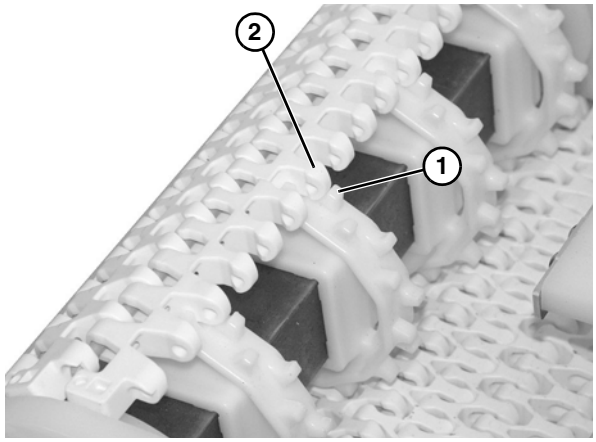


Figure 18

7. Feed the ends of the belt through the top and bottom of the curved frame sections.

8. Bring the ends of the belt together **(Figure 19)**.

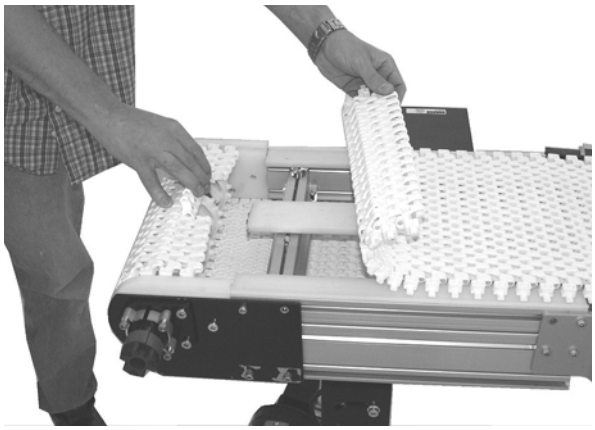


Figure 19

9. Insert the belt rod **(Figure 20, item 1)**.

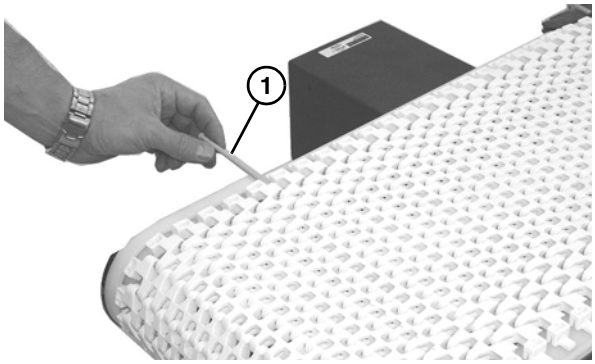


Figure 20

10. Push the belt rod in as far as possible.
11. Lightly tap the head of the rod with a hammer until it snaps into position.
12. Slide the top wear strips **(Figure 21, item 1)** with wide lip facing up, under the conveyor belt **(Figure 21, item 2)** catching the bottom lip on conveyor frame, to cover the belt tabs.

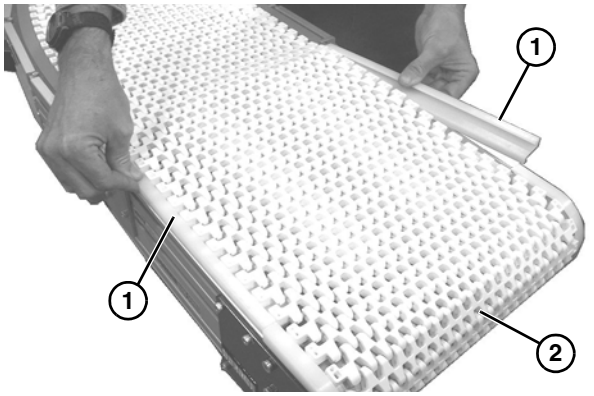


Figure 21

⚠ WARNING

CRUSH HAZARD!

Failure to install the top wear strip in the proper orientation will result in a belt pinch point. Exposed moving parts can cause serious injury.

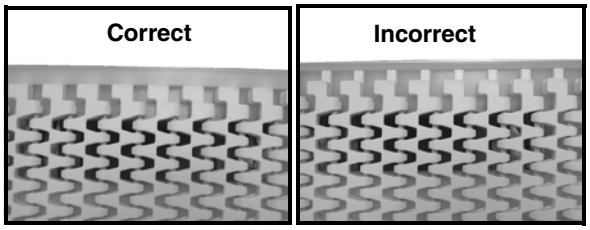


Figure 22

NOTE

Top wear strips are left loose to facilitate ease of belt installation and/or removal.

Stand Installation

NOTE

For detailed assembly instructions, please see your appropriate support stand manual.

Typical stand components **(Figure 23)**

1	Conveyor Frame
2	Stand
3	M6 - 1.0 x 20 mm socket head cap screws (x4)

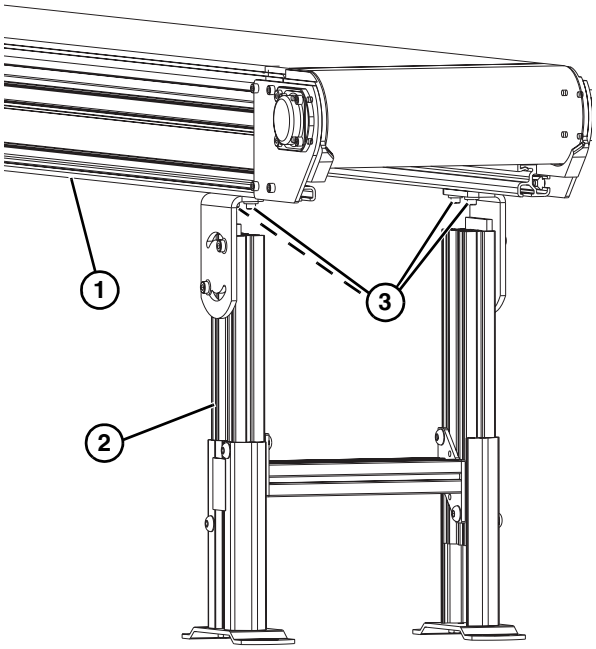


Figure 23

1. Properly support the conveyor.
2. Attach stands **(Figure 24, item 1)** to the bottom of the conveyor frame **(Figure 24, item 2)**. Tighten socket head screws **(Figure 24, item 3)**, on each side, to secure in place.

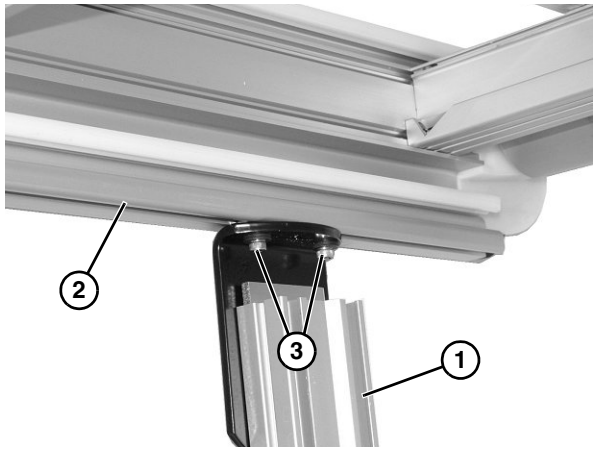


Figure 24

Drive Package Installation

NOTE

For detailed assembly instructions, refer to the appropriate Drive Packages Installation, Maintenance and Parts Manual.

1. Attach the motor **(Figure 25, item 1)** to the gear reducer **(Figure 25, item 2)**.

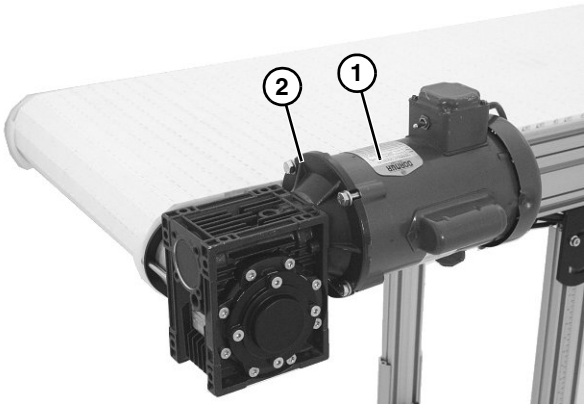


Figure 25

Attachment of Accessories to the QwikSlot™

⚠ WARNING

CRUSH HAZARD!

- **DO NOT ATTACH CONVEYOR SUPPORTS OR STRUCTORAL OR HEAVY COMPONENTS TO THE QWIKSLOT COMPONENTS OR CONVEYOR MAY FALL.**
- **Failure to comply could result in serious injury.**

NOTE

The QwikSlot is an attachment method for quickly attaching devices such as cable ties, conduit mounts, air lines, small junction boxes, etc. to the conveyor side frame. This greatly reduces the time to install a conveyor system.

1. Locate the appropriate fastener for attachment. The QwikSlot will accept #8-32 or M4-0.7 standard fasteners. The maximum depth of engagement is 0.25 inches.
2. Locate the QwikSlot. The Dorner 5200 series conveyor has (2) QwikSlot locations **(Figure 26)**.

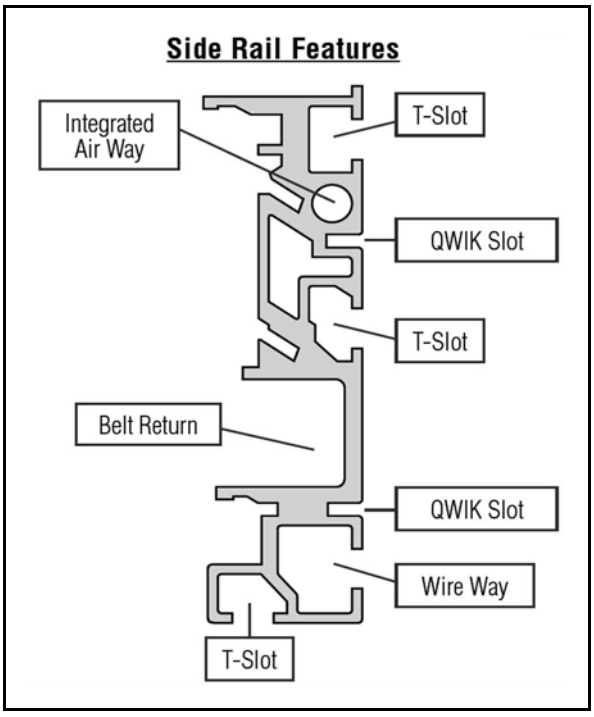


Figure 26

3. With a cordless drill or equivalent, insert the fastener and accessory device into the QwikSlot. **Figure 27** shows a wire tie clamp example. **Figure 28** shows an air line fitting example.

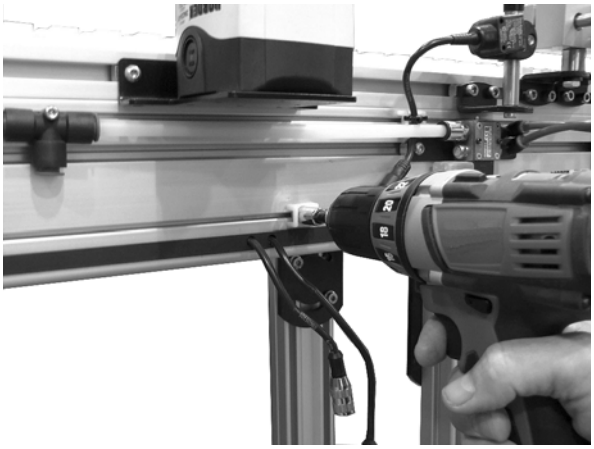


Figure 27

Figure 28

4. Confirm that the fastener is snug by hand tightening **(Figure 29)**. Do not exceed 50 in.lb (6 Nm).

Figure 29

Required Tools

- 4 mm hex wrench
- 5 mm hex wrench
- 6 mm hex wrench
- 8 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 26 for recommendations.
- Replace any worn or damaged parts.

Lubrication

No lubrication is required. Replace bearings if worn.

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 spindle or impacted dirt on drive spindle

Conveyor Belt Replacement

⚠ WARNING

SEVERE HAZARD!

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

Replacing a Section of Belt

1. Use a punch and hammer to push the belt rod **(Figure 30, item 1)** out by striking the rod end opposite the retaining head.

⚠ WARNING

SEVERE HAZARD!

If conveyor belt is damaged or worn, replace belt section.

2. Remove the belt rods on both sides of the section of belt being replaced.

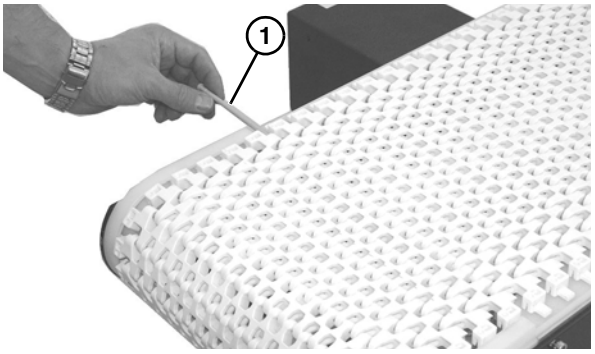


Figure 30

3. Replace old section of belt.

CAUTION

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

Replacing the Entire Belt

1. Use a punch and hammer to push the belt rod **(Figure 31, item 1)** out by striking the rod end opposite the retaining head.

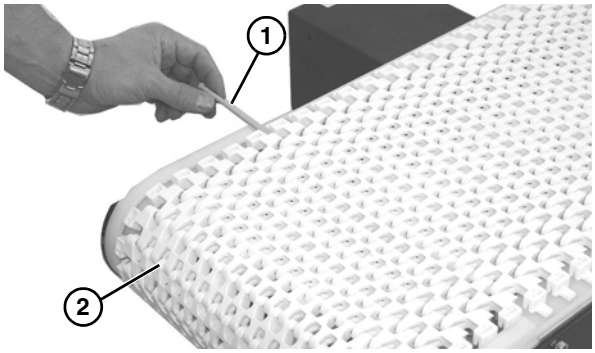


Figure 31

2. Slide the old belt **(Figure 31, item 2)** off the conveyor frame.
3. Replace the old belt with a new one. Refer to “Belt Installation” on page 10.

CAUTION

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

Conveyor Belt Tensioning

⚠ WARNING

SEVERE HAZARD!

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

NOTE

Belt should not be stretched during installation. A proper length of belt can be installed by interlocking the ends by hand without excess links.

1. Remove one or more belt links to take up tension. Refer to “Replacing a Section of Belt” on page 15.

Wear Strips

Replace the wear strips if they become worn.

Typical Standard Wear Strips **(Figure 32)**

1	Wear Strip, Center
2	Wear Strips, Lower Side
3	Wear Strips, Lower Side
4	Stop Plate, Center Wear Strip

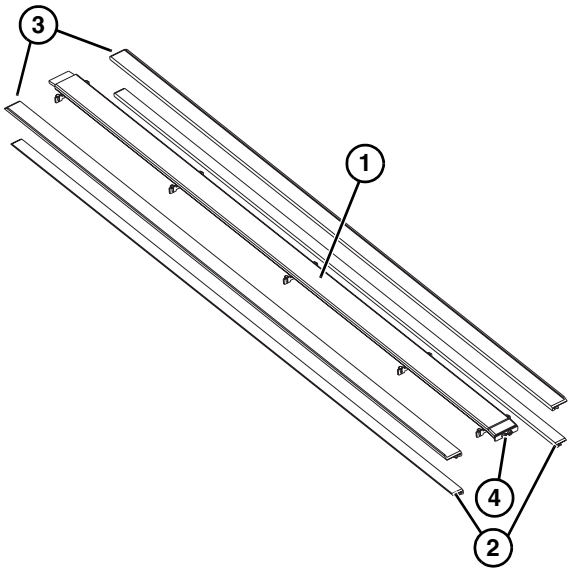


Figure 32

Removal

1. Remove upper wear strips **(Figure 33, item 1)** from top of frame assembly.

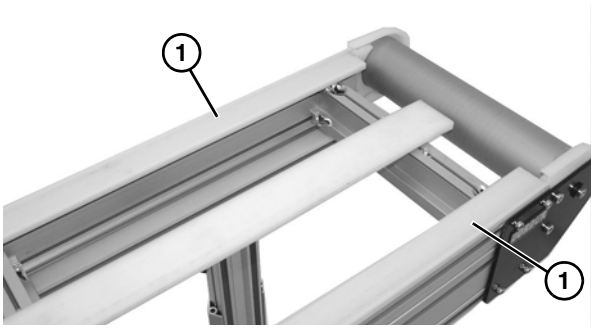


Figure 33

2. Remove lower wear strips **(Figure 34, item 1)**, and if necessary, lower belt return **(Figure 34, item 2)** from lower frame assembly.

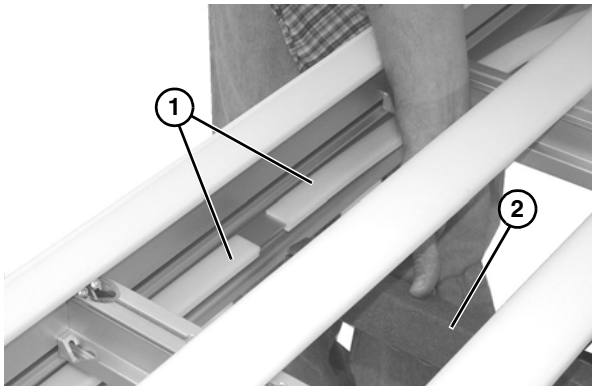


Figure 34

3. Remove two screws **(Figure 35, item 1)** from each clamp on center frame channel.

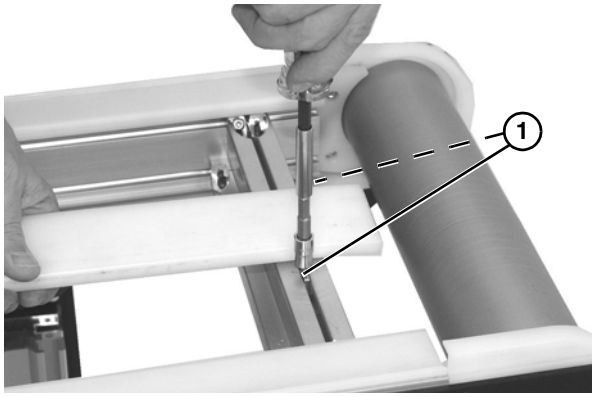


Figure 35

4. Remove center frame channel **(Figure 36, item 1)**, making sure to keep each clamp matched with channel of each cross member **(Figure 36, item 2)**.

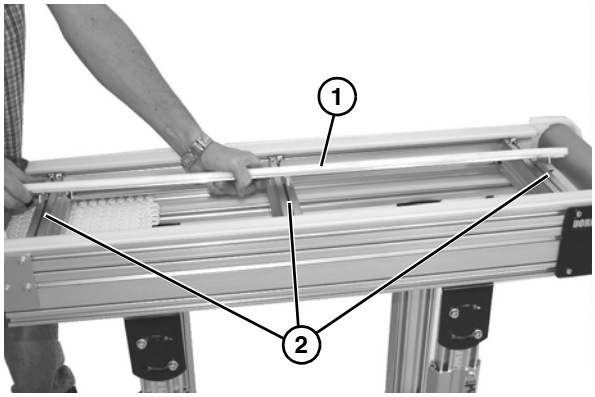


Figure 36

5. Remove the center wear strip **(Figure 37, item 1)** from the center frame channel **(Figure 37, item 2)**.

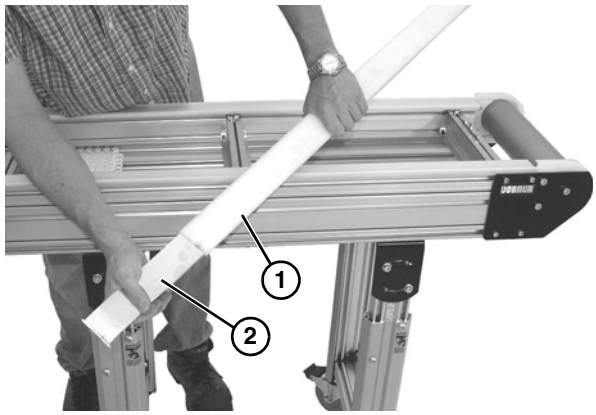


Figure 37

Installation

NOTE
*The stop plate **(Figure 38, item 1)** on the center wear strip **(Figure 38, item 2)** faces the drive end **(Figure 38, item 3)** of the conveyor.*

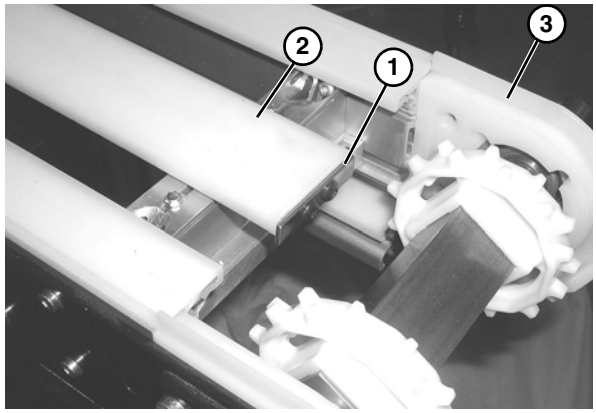


Figure 38

Install components reverse of removal.

Spindle Removal

⚠ WARNING

SEVERE HAZARD!

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

Remove conveyor belt to access spindle(s). See “Replacing the Entire Belt” on page 16. Remove the desired spindle following the corresponding instructions below:

- **A** – Drive Spindle Removal
- **B** – Idler Spindle Removal
- **C** – Nose Bar Idler Spindle Removal

A – Drive Spindle Removal

⚠ WARNING

Drive shaft keyway may be sharp. HANDLE WITH CARE.

1. Remove the gearmotor. For detailed instructions, refer to the appropriate drive package manual.
2. Loosen the four socket head screws **(Figure 39, item 1)**. Repeat on opposite side.

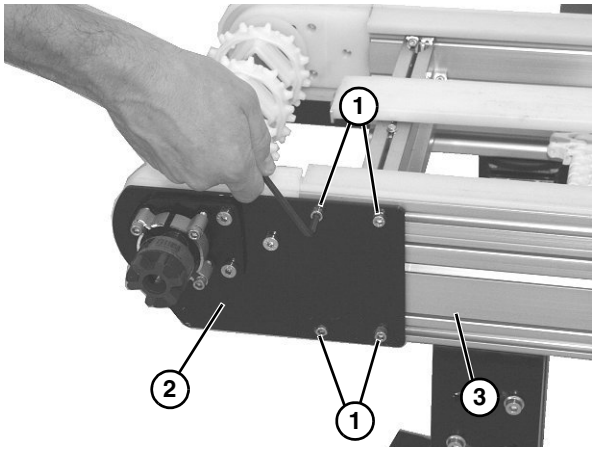


Figure 39

3. Remove the drive tail assembly **(Figure 39, item 2)** from the frame **(Figure 39, item 3)**.
4. Loosen set screw **(Figure 40, item 1)** and remove coupling **(Figure 40, item 2)**.

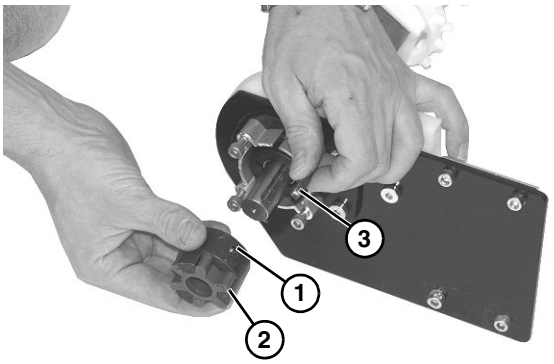


Figure 40

5. Remove key **(Figure 40, item 3)**.
6. Remove four socket head screws **(Figure 41, item 1)** and drive guards **(Figure 41, item 2)**.

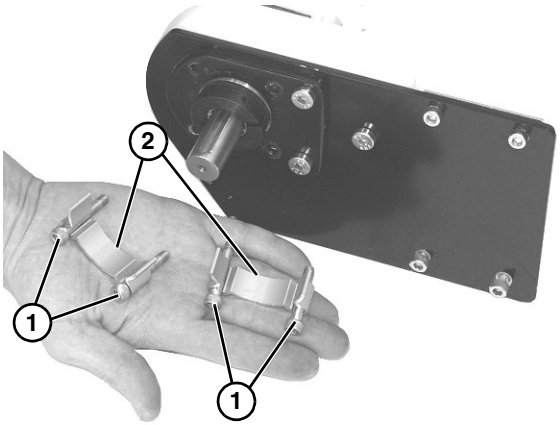


Figure 41

7. Loosen the bearing collar set screw **(Figure 42, item 1)** and remove bearing collar **(Figure 42, item 2)**.

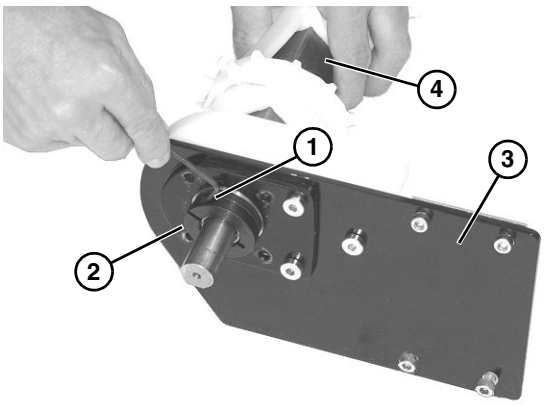


Figure 42

8. Remove plate **(Figure 42, item 3)** from drive spindle **(Figure 42, item 4)**.
9. Remove retaining clip **(Figure 43, item 1)** and flanged puck **(Figure 43, item 2)** from drive spindle.

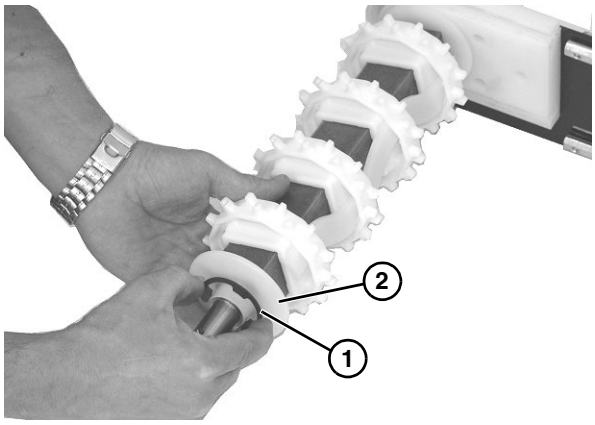


Figure 43

10. Slide entire sprocket assembly slightly outward, and remove the first sprocket **(Figure 44, item 1)** off the drive spindle and alignment bar **(Figure 44, item 2)**.

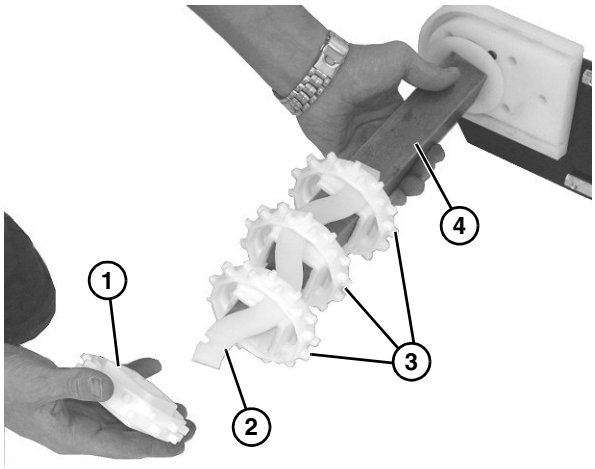


Figure 44

11. Remove remaining sprockets **(Figure 44, item 3)** off the alignment bar as you slide entire assembly off the drive spindle **(Figure 44, item 4).**
12. To assemble sprockets onto drive spindle, slide one sprocket **(Figure 45, item 1)** onto alignment bar **(Figure 45, item 2)** and slide assembly onto drive spindle **(Figure 45, item 3)**.

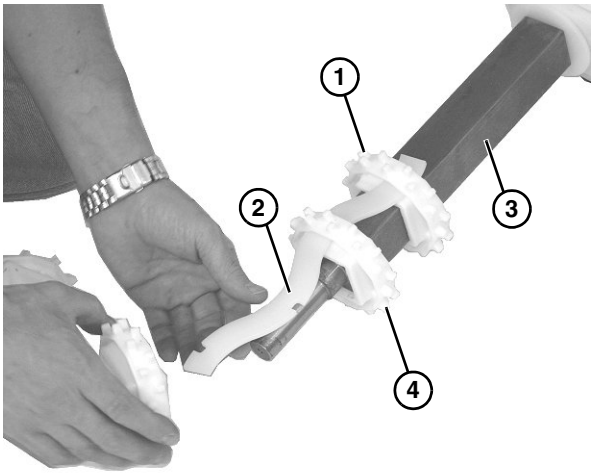


Figure 45

13. Install second sprocket **(Figure 45, item 4)** and subsequent sprockets one by one, while sliding entire assembly onto alignment bar and spindle.
14. Check drive terminal assembly **(Figure 46, item 1)** for wear. If worn, remove three low head cap screws **(Figure 46, item 2)** and replace.

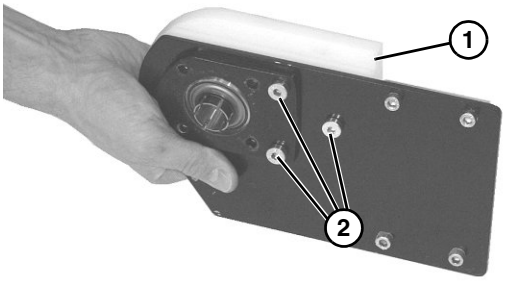


Figure 46

NOTE

When reinstalling the drive spindle tail assembly, the terminal assembly ***(Figure 47, item 1)*** *should mate flush with the conveyor frame* ***(Figure 47, item 2)****.*

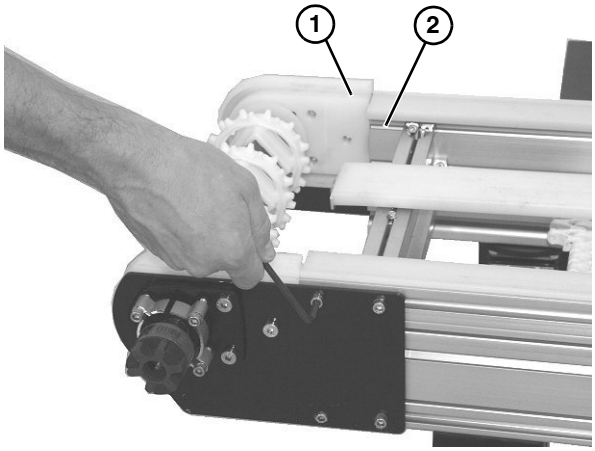


Figure 47

B – Idler Spindle Removal

1. Be sure the conveyor is supported.
2. On one side of conveyor, loosen the four socket head screws **(Figure 48, item 1)**. Repeat on opposite side.

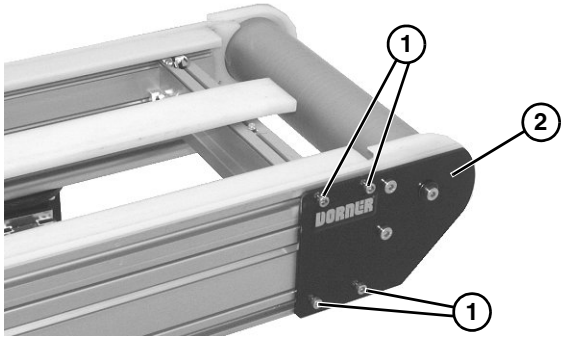


Figure 48

3. Remove idler tail assembly **(Figure 48, item 2)**.
4. Remove socket head screw **(Figure 49, item 1)** from plate **(Figure 49, item 2)** and center of spindle shaft **(Figure 49, item 3)**. Repeat procedure on opposite side.

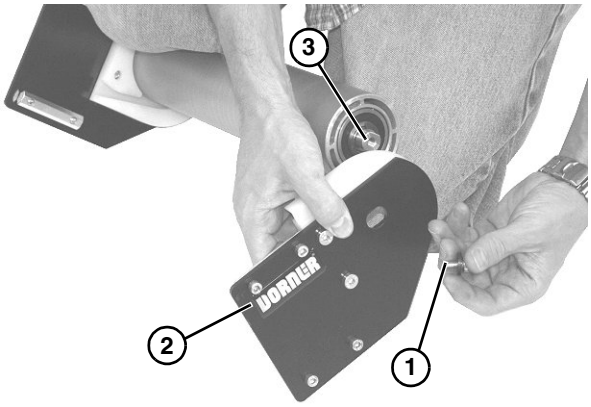


Figure 49

5. Remove the spindle shaft assembly: remove the clip ring **(Figure 50, item 1)** and washer **(Figure 50, item 2)** from one side of the spindle assembly.

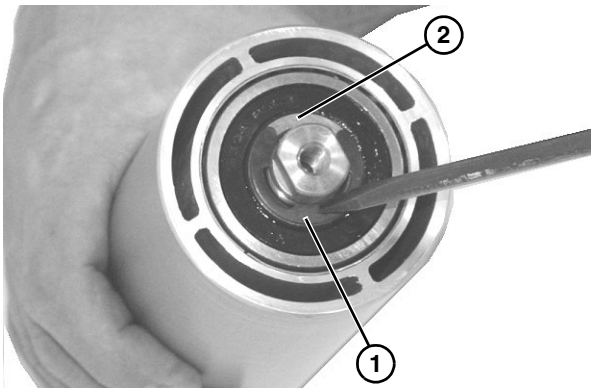


Figure 50

6. Slide the shaft assembly **(Figure 51, item 1)** out of the pulley **(Figure 51, item 2)**.

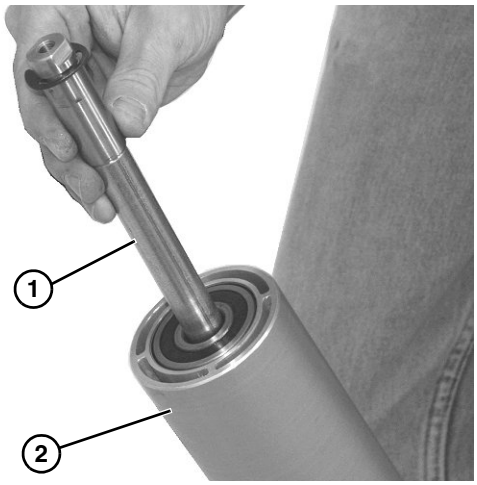


Figure 51

7. Check idler terminal assembly **(Figure 52, item 1)** for wear. If worn, remove two low head cap screws **(Figure 52, item 2)** and replace.

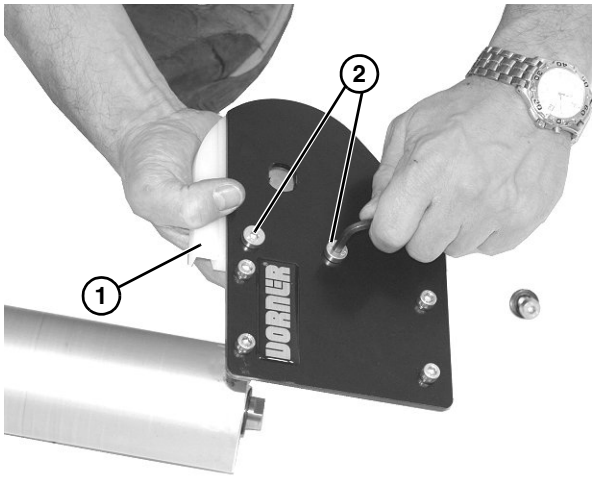


Figure 52

NOTE

*When reinstalling the idler spindle tail assembly, the idler terminal assembly **(Figure 53, item 1)** should mate flush with the conveyor frame **(Figure 53, item 2)**.*

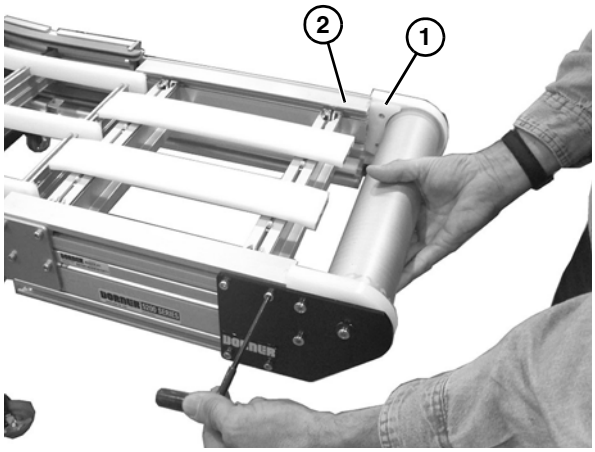


Figure 53

C – Nose Bar Idler Spindle Removal

1. Be sure the conveyor is supported.
2. On one side of conveyor, loosen the four socket head screws **(Figure 54, item 1)**. Repeat on opposite side.

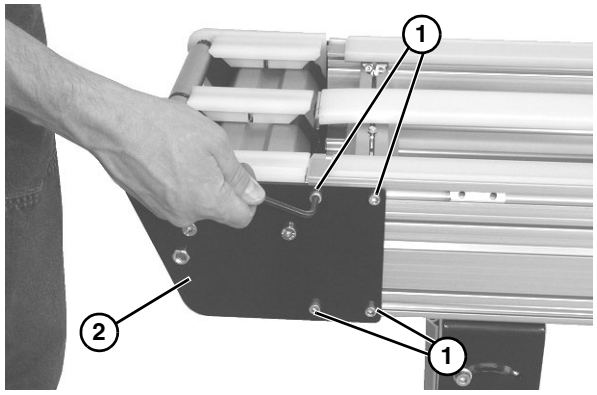


Figure 54

3. Remove idler tail assembly **(Figure 54, item 2)**.
4. Remove two low head cap screws **(Figure 55, item 1)** from plate **(Figure 55, item 2)**. Repeat procedure on opposite side.

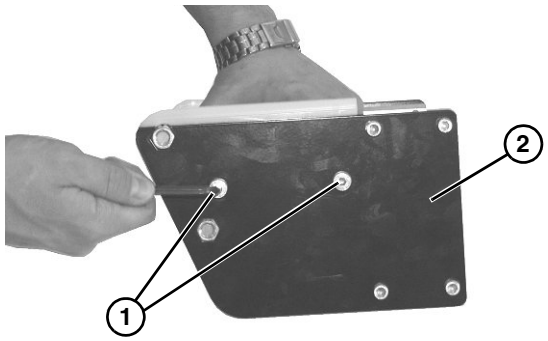


Figure 55

5. Remove upper nut **(Figure 56, item 1)** and spacer from end of axle shaft assembly.

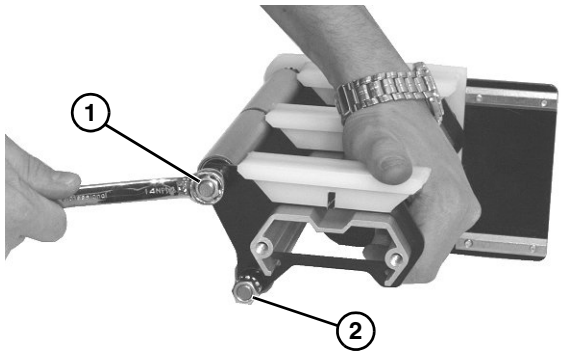


Figure 56

6. Remove lower nut **(Figure 56, item 2)** and spacer from lower axle shaft assembly.

7. Slide the support plate **(Figure 57, item 1)** off of both axle shafts.

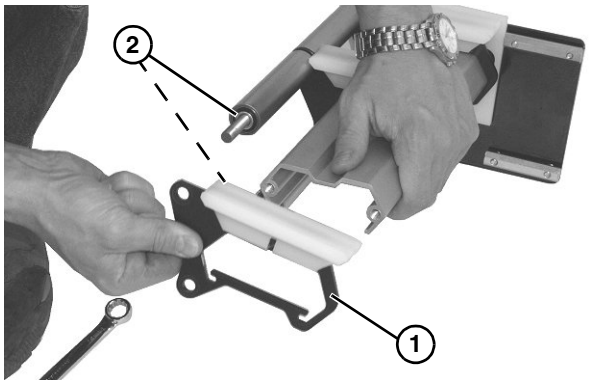


Figure 57

8. Remove washer **(Figure 57, item 2)** off of lower and upper axle shafts.
9. Remove roller assembly **(Figure 58, item 1)** and washer **(Figure 58, item 2)** from axle shaft **(Figure 58, item 3)**.

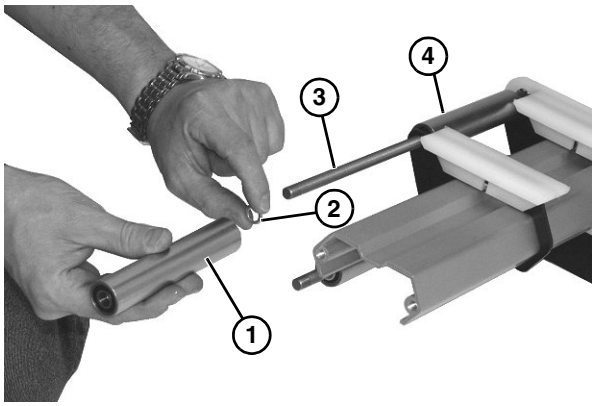


Figure 58

10. Remove remaining roller assembly components **(Figure 58, item 4)** on opposite side.
11. Check idler terminal assembly on each side **(Figure 59, item 1)** for wear. If worn, replace.

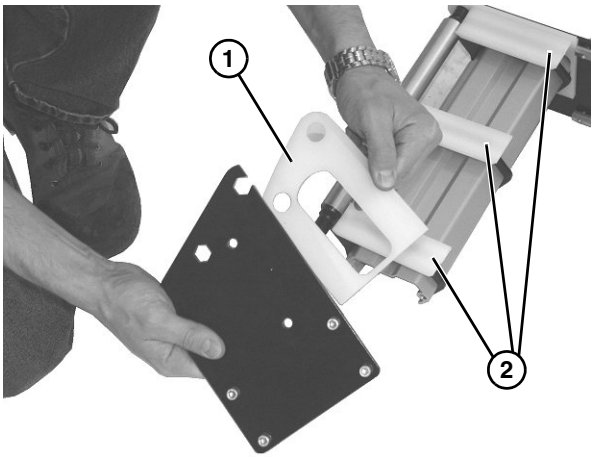


Figure 59

12. Remove and replace wear guides **(Figure 59, item 2)** if worn. When replacing, secure onto pins on each support plate.

NOTE

*When reinstalling the idler spindle tail assembly, the idler terminal assembly **(Figure 60, item 1)** should mate flush with the conveyor frame **(Figure 60, item 2)**.*

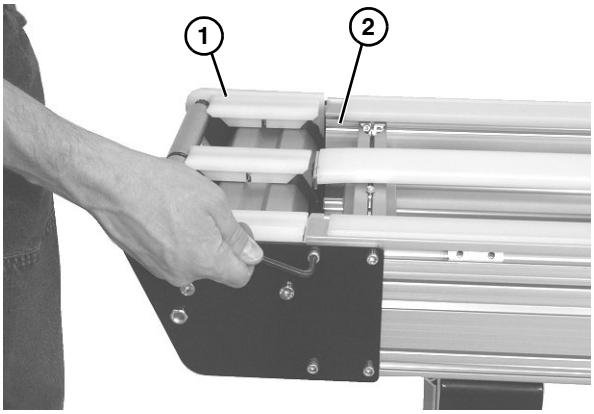


Figure 60

Spindle Replacement

Drive Spindle

To replace the drive spindle, reverse the "A - Drive Spindle Removal" procedure on page 18.

Idler Spindle

To replace the idler spindle, reverse the "B - Idler Spindle Removal" procedure on page 20.

Bearing Replacement

⚠ WARNING

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

Drive Bearing Removal and Replacement

⚠ WARNING

Drive shaft keyway may be sharp. HANDLE WITH CARE.

Removal

1. Turn bearing **(Figure 61, item 1)** to align with slots **(Figure 61, item 2)** in bearing housing. Then remove bearing.

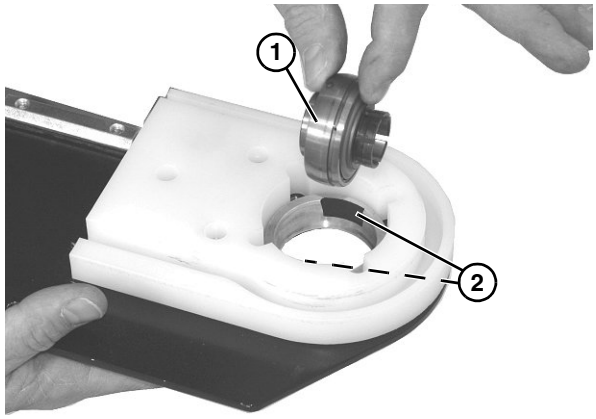


Figure 61

Replacement

1. Inspect bearing housing bearing surface. If worn or damaged, replace. See “Service Parts” on page 26.
2. Insert bearing **(Figure 62, item 1)** into housing slot: Locate anti–rotation nub **(Figure 62, item 2)** to align with slot **(Figure 62, item 3)**, and twist bearing into housing.

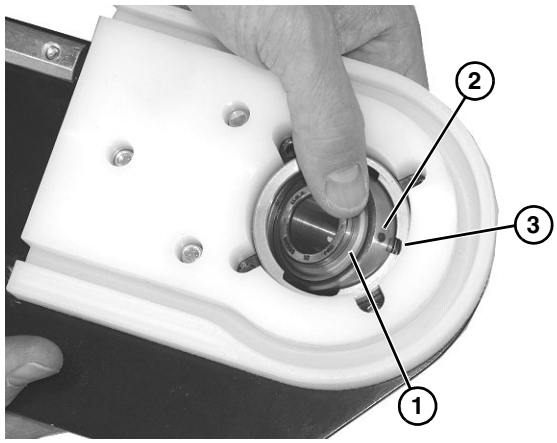


Figure 62

Maintenance of Knuckles

Lower Knuckle

1. Remove cap screw **(Figure 63, item 1)**, washer, and spacer on side of lower knuckle assembly **(Figure 63, item 2)**, and remove hold down guide **(Figure 63, item 3)**. Repeat on opposite side.

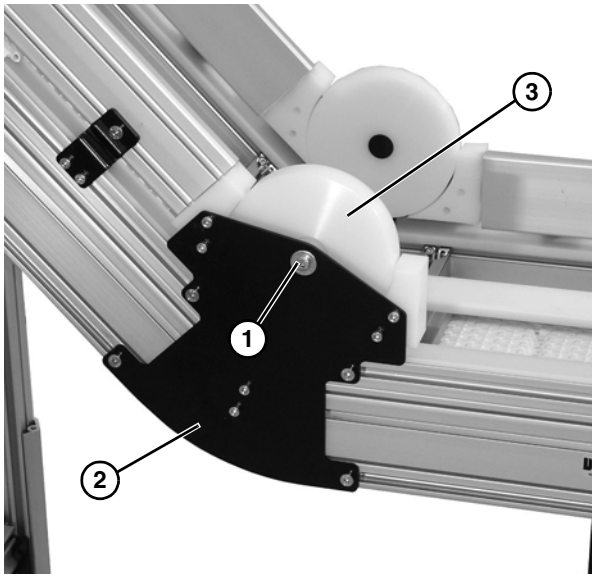


Figure 63

2. Remove two socket cap screws **(Figure 64, item 1)** for all four hold down guards **(Figure 64, item 2)** on side of lower knuckle assembly **(Figure 64, item 3)**.

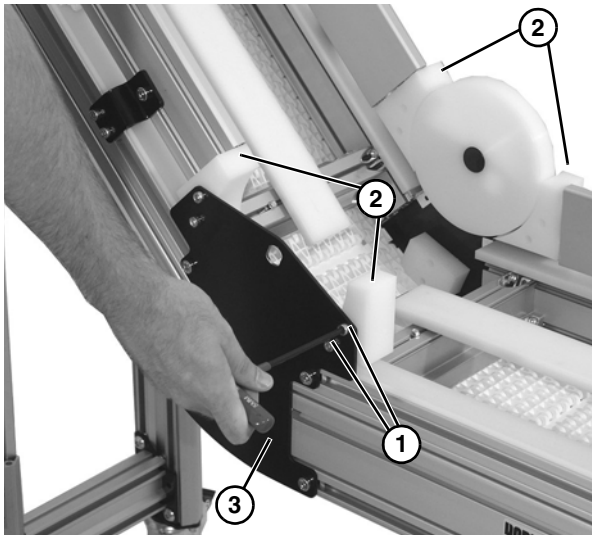


Figure 64

3. Replace parts as necessary.
4. Install parts reverse of removal.

Upper Knuckle

1. Remove socket head cap screw **(Figure 65, item 1)**, on each side of upper knuckle assembly, and remove shaft and sprocket assembly **(Figure 65, item 2)**.

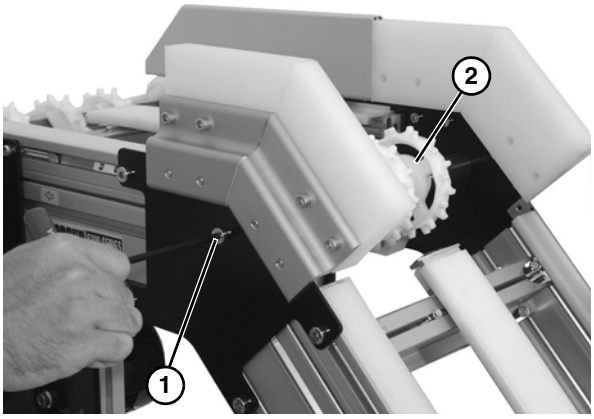


Figure 65

2. Remove three sprockets **(Figure 66, item 1)** off of shaft **(Figure 66, item 2).**

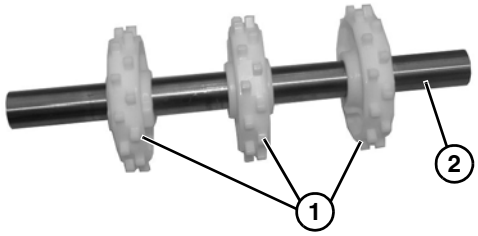


Figure 66

3. Remove socket cap screw **(Figure 67, item 1)** for each belt guide **(Figure 67, item 2)** on side of upper knuckle assembly. Repeat on opposite side.

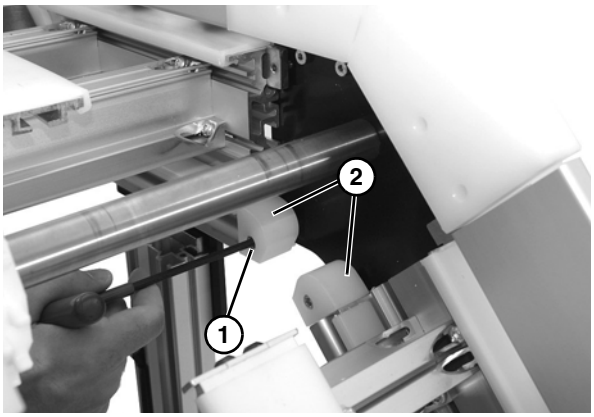


Figure 67

4. Replace parts as necessary.
5. Install parts reverse of removal.

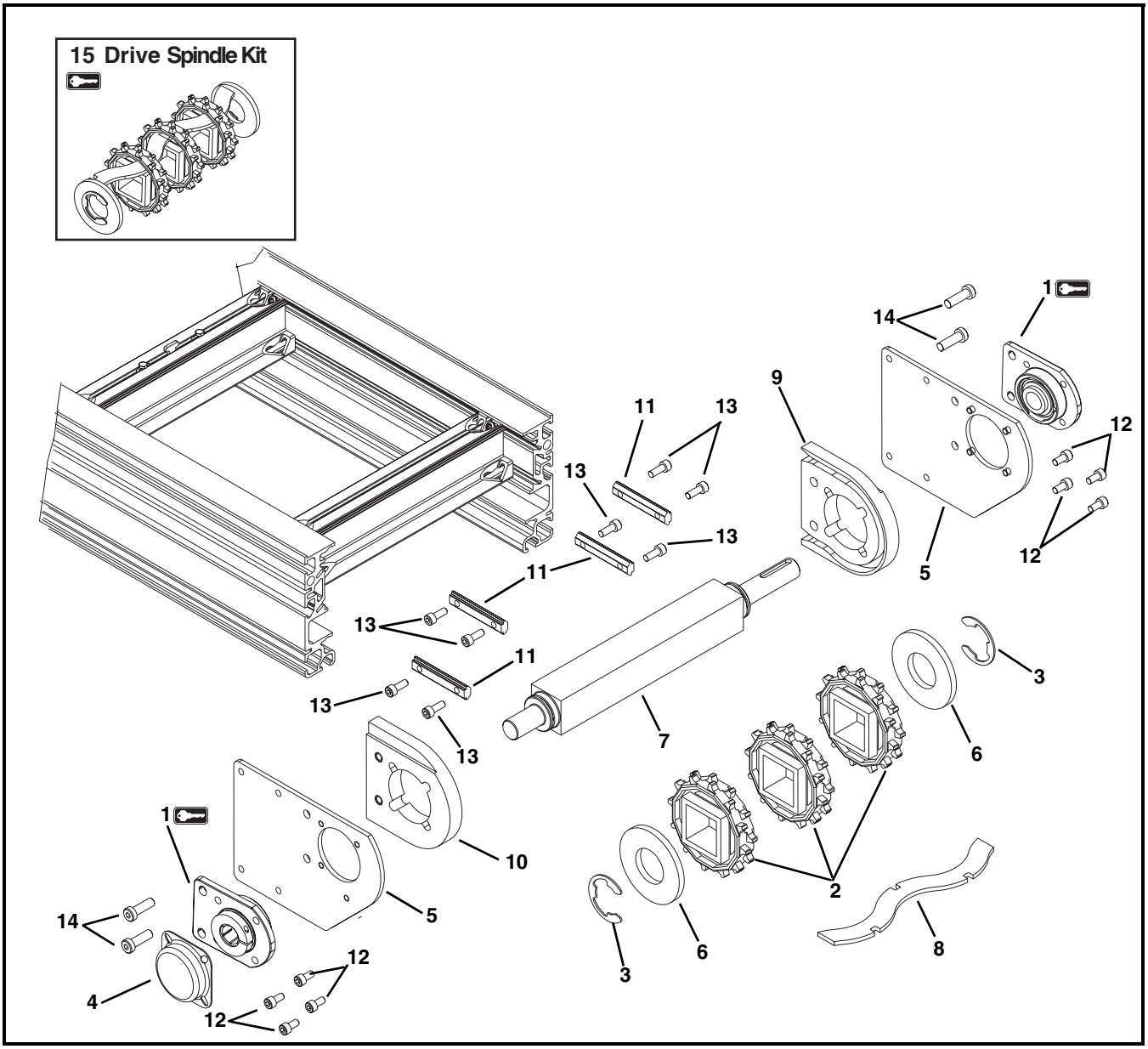
NOTES

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

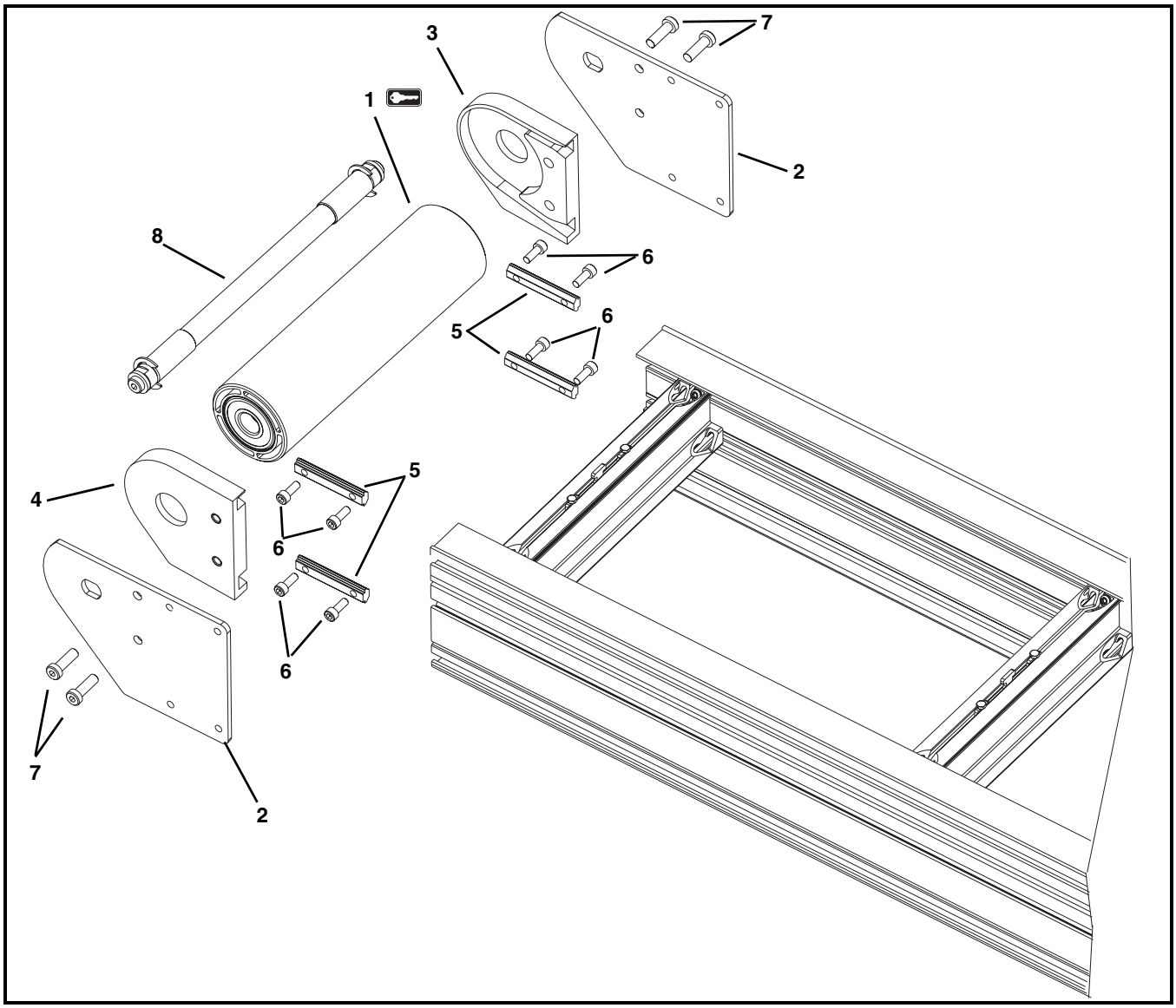


Item	Part Number	Description
1	52BKD	Drive Bearing Kit (Qty 2)
2	807-1444	Sprocket
3	915-240	Retaining Ring
4	300139	Shaft Cover
5	352109	Cover Plate
6	352111	Sprocket Alignment Retainer Key
7	352212-WW	Drive Spindle
8	352213-WW	Sprocket Alignment Bar

Item	Part Number	Description
9	352214	Drive Terminal Assembly Left Hand
10	352215	Drive Terminal Assembly Right Hand
11	300150M	Drop-In Tee Bar
12	920612M	Socket Head Screw, M6-1.00 x 12 mm
13	920616M	Socket Head Screw, M6-1.00 x 16 mm
14	920895M	Low Head Cap Screw, M8-1.25 x 25 mm
15	52CDT-WW	Drive Spindle Kit (Includes Items 2, 3, 6 and 8)

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

Idler End Components

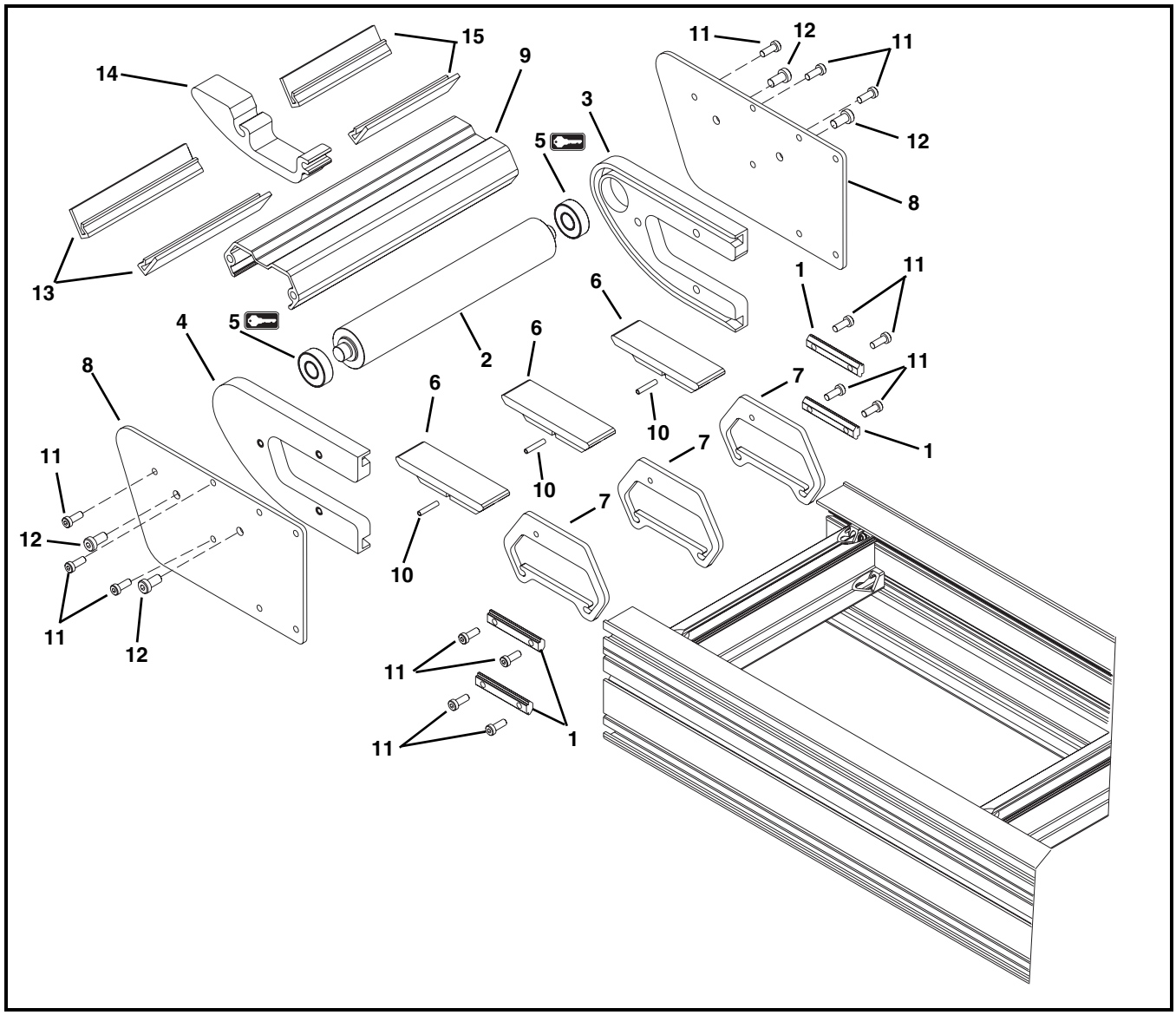


Item	Part Number	Description
1	352033-WW	Idler Pulley Assembly
2	352110	Cover Plate
3	352223	Idler Terminal Assembly Left Hand
4	352224	Idler Terminal Assembly Right Hand

Item	Part Number	Description
5	300150M	Drop-In Tee Bar
6	920616M	Socket Head Screw, M6-1.00 x 16 mm
7	920895M	Low Head Cap Screw, M8-1.25 x 25 mm
8	352034-WW	Idler Wand Assembly
WW = Conveyor width reference: 08 – 36 in 02 increments		

Service Parts

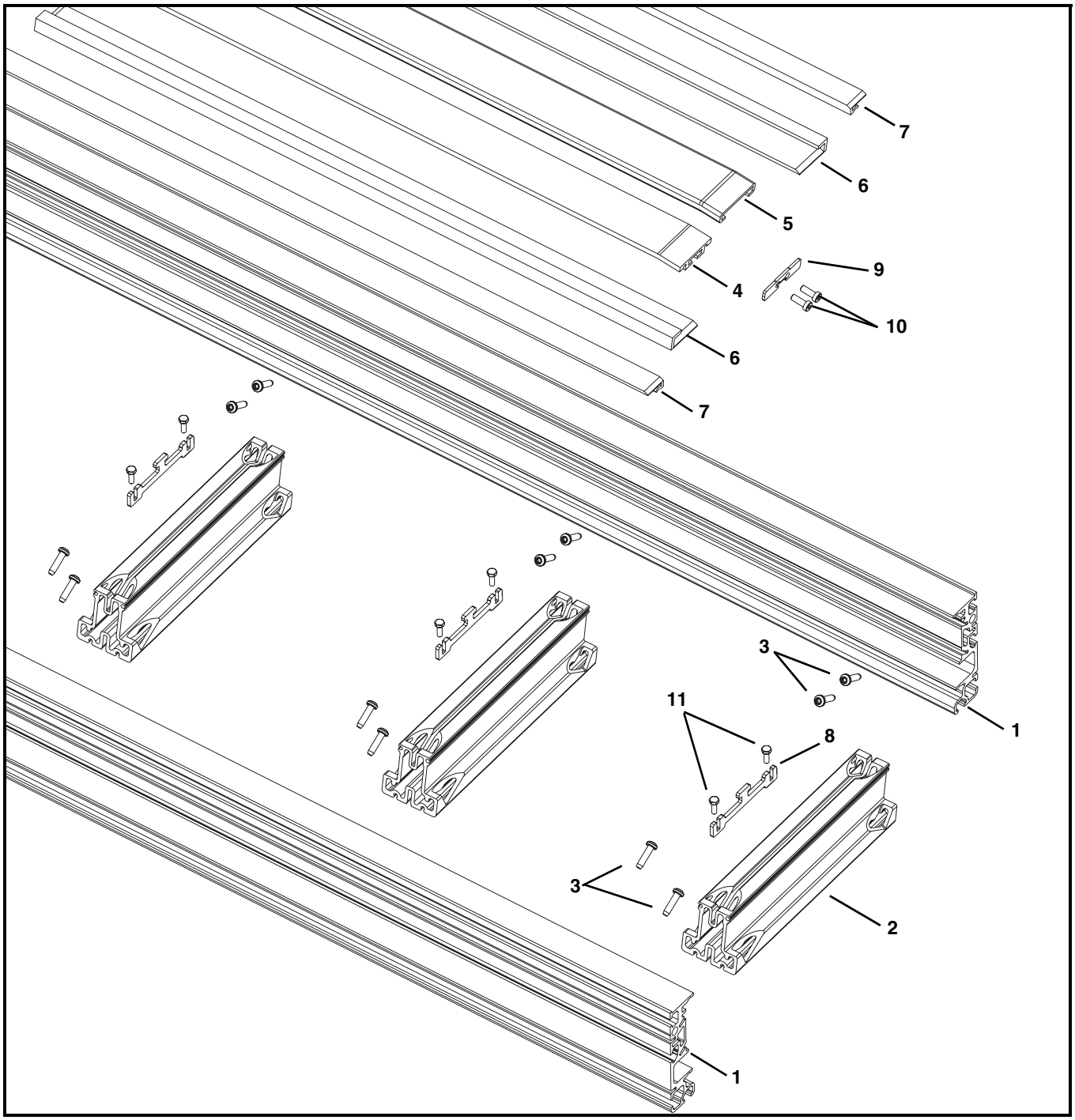
Nose Bar Idler End Components



Item	Part Number	Description
1	300150M	Drop-In Tee Bar
2	352038-WW	Spindle Kit, with bearings
3	352259	Nose Bar Terminal Assembly, Left Hand
4	352260	Nose Bar Terminal Assembly, Right Hand
5	52BKNBC	Bearing Kit
6	352128	Wear Guide
7	352246	Support Plate
8	352249	Tail Plate

Item	Part Number	Description
9	352251-WW	Crossmember
10	913-405	Pin
11	920616M	Socket Head Screw, M6-1.00 x 16 mm
12	920893M	Low Head Cap Screw, M8-1.25 x 25 mm
13	352268-WW	Spacer
14	352266	Transfer Shoe
15	352269-WW	Shoe Spacer
WW = Conveyor width reference: 08 – 36 in 02 increments		

Frame Assembly

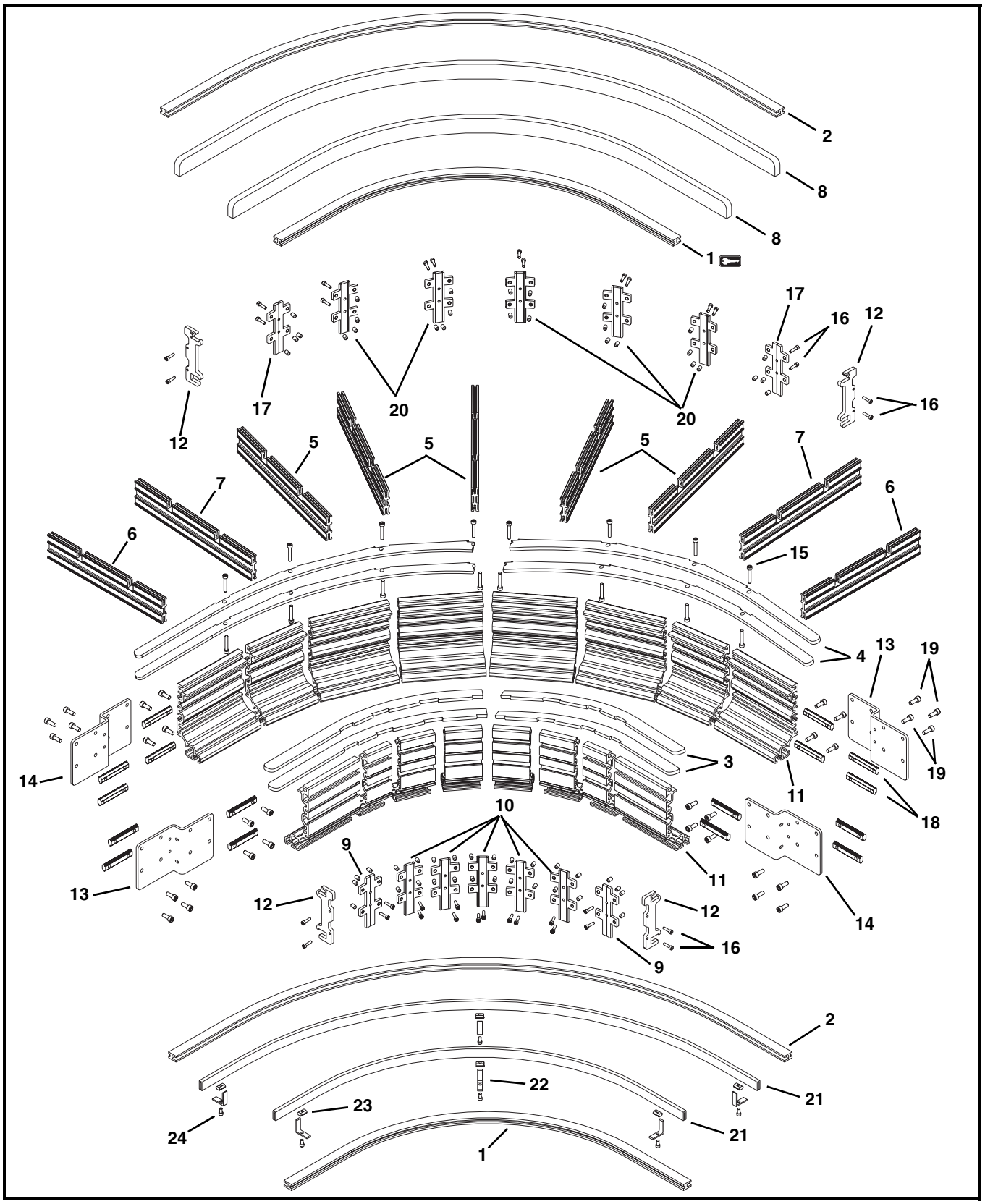


Item	Part Number	Description
1	352100-LLLLL	Side Rail
2	352201-WW	Cross Support Rail
3	352108	Pan Screw, M5-.80 x 20 mm
4	352102-LLLLL	Center Bed Rail
5	352103-LLLLL	Center Wearstrip
6	352210-LLLLL	Top Wearstrip
7	352105-LLLLL	Return Wearstrip
8	352106	Center Bed Rail Hold Down Clip

Item	Part Number	Description
9	352107	Center Wearstrip Stop Plate
10	901-133	Button Head Cap Screw, 1/4-20 x 0.88"
11	960498M	Hex Head Cap Screw, M4-.70 x 12 mm
WW = Conveyor width reference: 08 – 36 in 02 increments		
LLLLL = Length in inches with 2 decimal places.		
Length Example: Length = 95.25" LLLLL = 09525		

Service Parts

Curve Conveyor Frame and Wear Strips



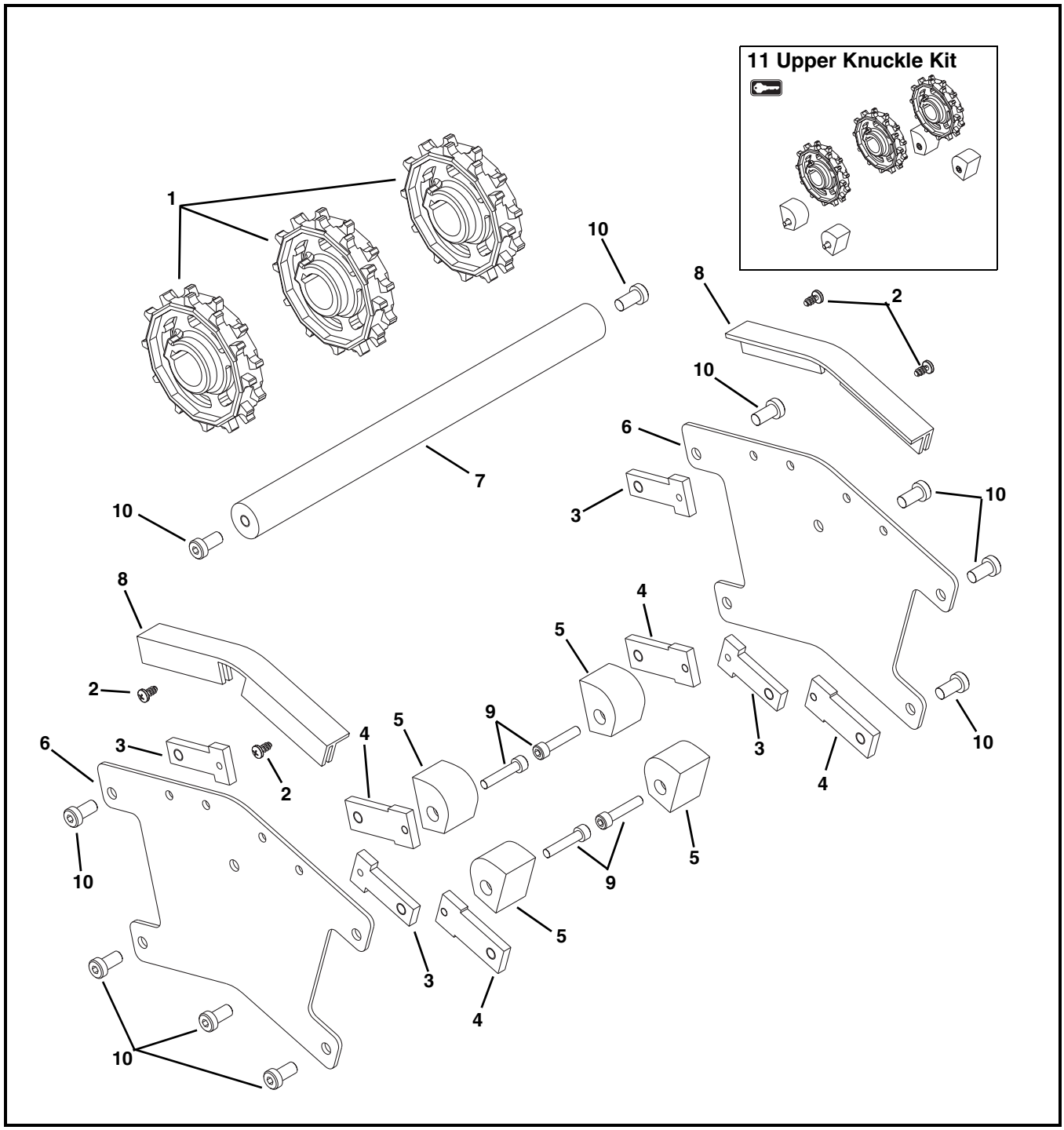
Item	Part Number	Description
1	352203-WW-DDD	Inner Guide
2	352204-WW-DDD	Outer Guide
3	See Chart #3	Inner Spine
4	See Chart #4	Outer Spine
5	352202-WW	Cross Support Rail
6	352207-WW	End Cross Support Rail
7	352209-WW	7.5° Cross Support Rail
8	352208-LLLLL	Top Wearstrip
9	352273	7.5° Inner Connecting Plate Assembly
10	352271	15° Inner Connecting Plate Assembly
11	352200-SSSSS	Side Rail
12	352226	Guide Alignment Plate
13	352227	Offset Connecting Plate, Right
14	352228	Offset Connecting Plate, Left
15	920530M	Socket Head Screw, M5-.80x30mm
16	920416M	Socket Head Screw, M4-.70x16mm
17	352274	7.5° Outer Connecting Plate Assembly
18	300150M	Drop-In Tee Bar
19	920616M	Socket Head Screw, M6-1x16mm
20	352272	15° Outer Connecting Plate Assembly
21	350075-LLLLL	Return Wear Strips (LPZ only)
22	352335	Return Bracket (LPZ only)
23	639971M	T-Nut (LPZ only)
24	920612M	Socket Head Screw M6- 1 x 12mm
WW = Conveyor width reference: 08 – 36 in 02 increments		
DDD = Degree of curve		
Degree Example: Curve = 30° DDD = 030		
LLLLL = Length in inches with 2 decimal places.		
SSSSS=: Length in inches with 3 decimal places.		
Length Example: Length = 95.25" LLLLL = 09525		
Length Example: Length = 6.873" SSSSS = 06873		

Chart #3	
Degree	**Part Number**
15°	352231-WW (x2)
30°	352233-WW (x2)
45°	352235-WW (x2)
60°	352237-WW (x2)
75°	352239-WW & 352237-WW
90°	352239-WW (x2)
105°	352237-WW (x2) & 352243-WW
120°	352239-WW (x2) & 352241-WW
135°	352239-WW (x2) & 352243-WW
150°	352239-WW (x2) & 352241-WW (x2)
165°	352239-WW (x2), 352241-WW & 352243-WW
180°	352239-WW (x2) & 352243-WW (x2)

Chart #4	
Degree	**Part Number**
15°	352232-WW (x2)
30°	352234-WW (x2)
45°	352236-WW (x2)
60°	352238-WW (x2)
75°	352240-WW & 352238-WW
90°	352240-WW (x2)
105°	352238-WW (x2) & 352244-WW
120°	352240-WW (x2) & 352242-WW
135°	352240-WW (x2) & 352244-WW
150°	352240-WW (x2) & 352242-WW (x2)
165°	352240-WW (x2), 352242-WW & 352244-WW
180°	352240-WW (x2) & 352244-WW (x2)

Service Parts

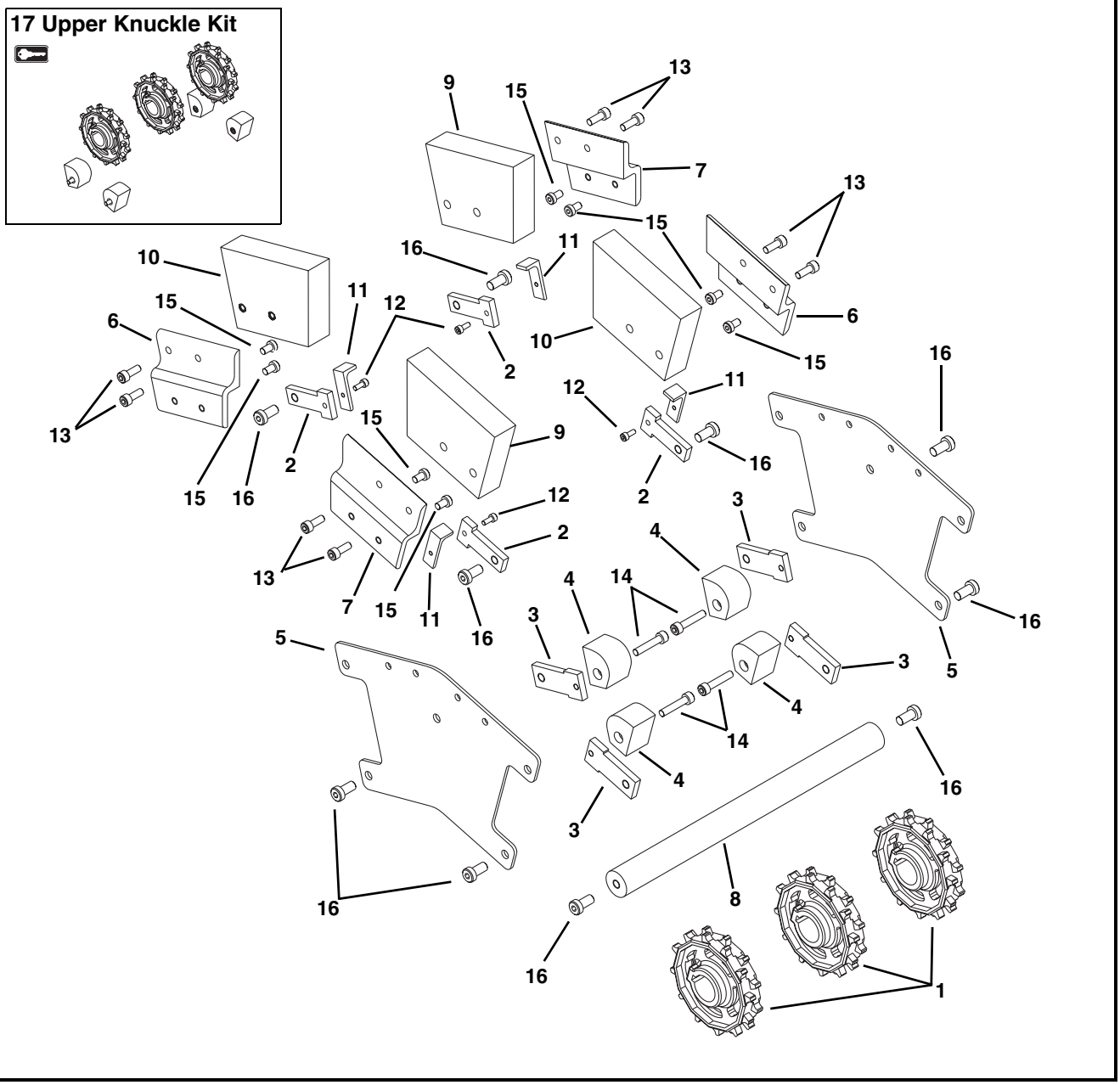
Upper Knuckle - Low Side



Item	Part Number	Description
1	807-1754	Sprocket
2	807-1759	Screw, M5 x 10 mm
3	352322	Top Stop Nut
4	352323	Bottom Stop Nut
5	352328	Belt Guide
6	325329-AA	Side Plate
7	352339-WW	Shaft

Item	Part Number	Description
8	352334-AA	Low Side guide
9	920630M	Socket Head Screw, M6-1.00 x 30 mm
10	920893M	Low Head Cap Screw, M8-1.25 x 16 mm
11	52NO-WW	Upper Knuckle Kit (Includes Items 1, 5 and 9)
WW = Conveyor width reference: 08 – 24 in 02 increments		
AA = Angle 05, 10, 15 and 30		

Upper Knuckle - High Side

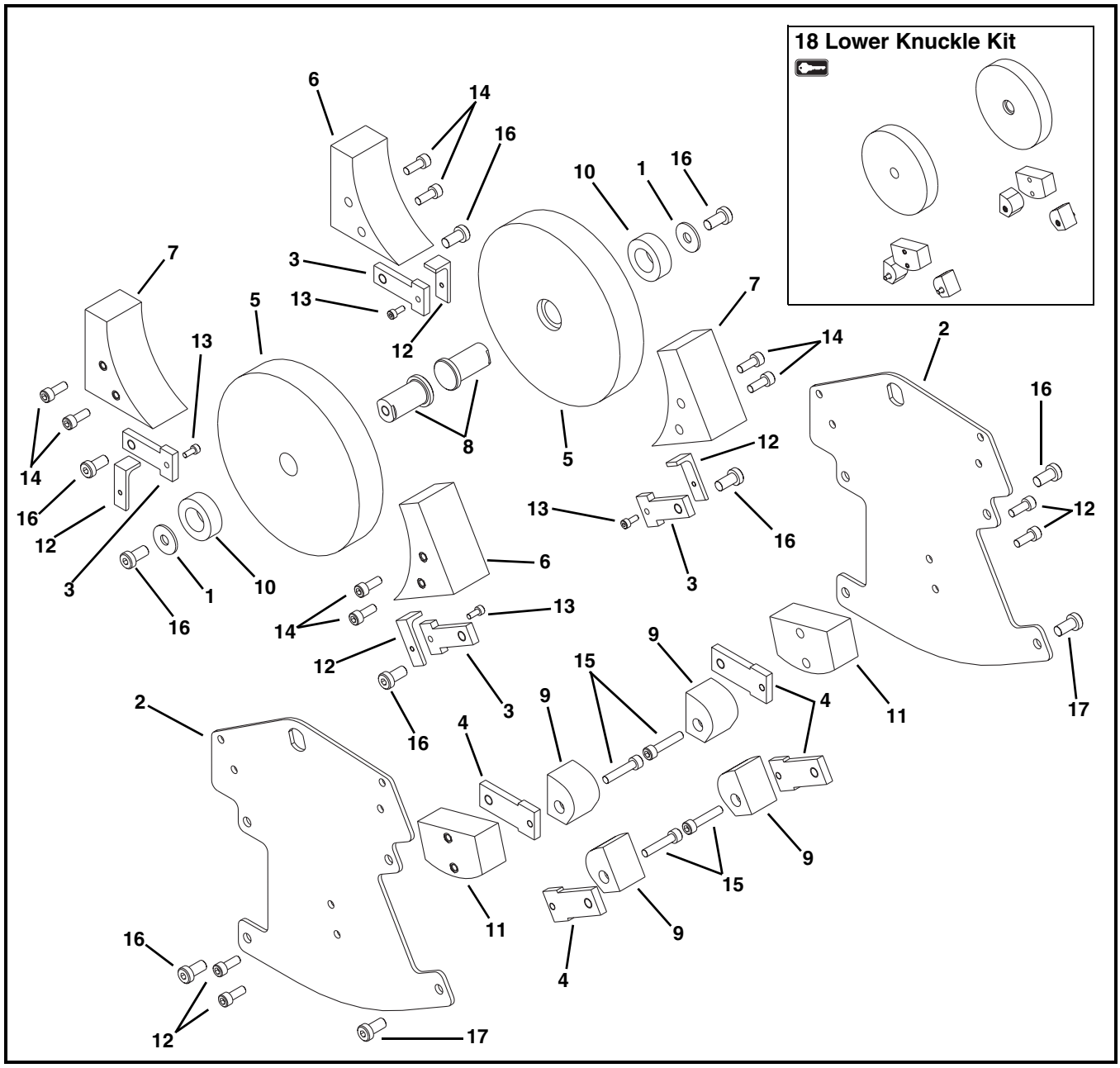


Item	Part Number	Description
1	807-1754	Sprocket
2	352322	Top Stop Nut
3	352323	Bottom Stop Nut
4	352328	Belt Guide
5	325329-AA	Side Plate
6	352332-AA	High Side Mounting Guide Left Hand
7	352333-AA	High Side Mounting Guide Right Hand
8	352339-WW	Shaft
9	352343-AA-L	High Side Guide Left Hand
10	352343-AA-R	High Side Guide Right Hand
11	352346	Wearstrip

Item	Part Number	Description
12	920410M	Socket Head Screw, M4-.70 x 10 mm
13	920616M	Socket Head Screw, M6-1.00 x 16 mm
14	920630M	Socket Head Screw, M6-1.00 x 30 mm
15	920691M	Low Head Cap Screw, M6-1.00 x 10 mm
16	920893M	Low Head Cap Screw, M8-1.23 x 16 mm
17	52NO-WW	Upper Knuckle Kit (Includes Items 1,4 and 14)
WW = Conveyor width reference: 08 – 24 in 02 increments		
AA = Angle 05, 10, 15 and 30		

Service Parts

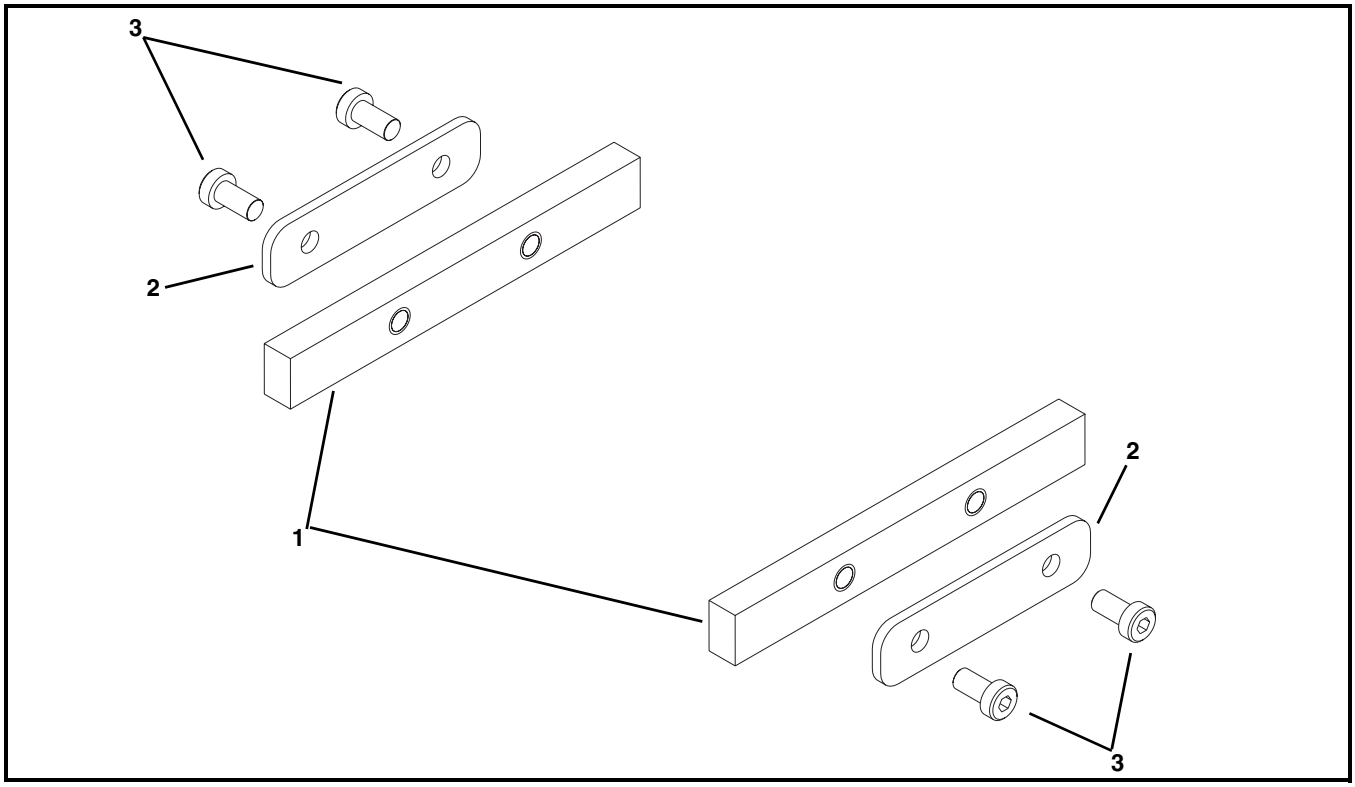
Lower Knuckle



Item	Part Number	Description
1	807-1760	Washer
2	352321-AA	Side Plate
3	352322	Top Stop Nut
4	352323	Bottom Stop Nut
5	352324	Hold Down Guide
6	352325-L	Hold Down Guard Assembly Left Hand
7	352325-R	Hold Down Guard Assembly Right Hand
8	352327	Stub Shaft
9	352328	Belt Guide
10	352337	Hold Down Spacer

Item	Part Number	Description
11	352326	Return Block Guide
12	352346	Wearstrip
13	920410M	Socket Head Screw, M4-.70 x 10 mm
14	920616M	Socket Head Screw, M6-1.00 x 16 mm
15	920630M	Socket Head Screw, M6-1.00 x 30 mm
16	920893M	Low Head Cap Screw, M8-1.23 x 16 mm
17	807-1884	Sheet Metal Screw, #14 x 1.25”
18	52HI	Lower Knuckle Kit (Includes Items 5, 9, 11 and 15)
AA = Angle 05, 10, 15 and 30		

Connecting Assembly

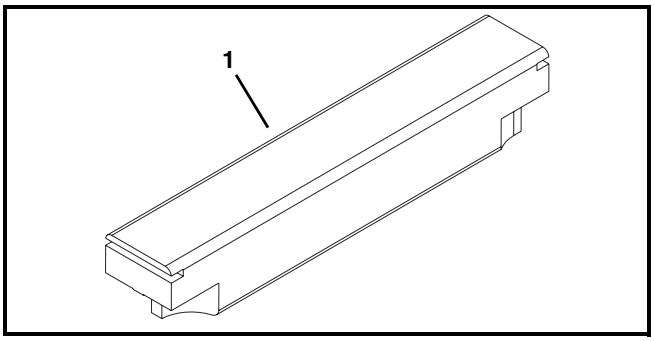


Item	Part Number	Description
1	352315	Bar Frame Connector
2	240859	Plate Frame Connector

Item	Part Number	Description
3	920692M	Low Head Cap Screw, M6-1.00 x 12 mm

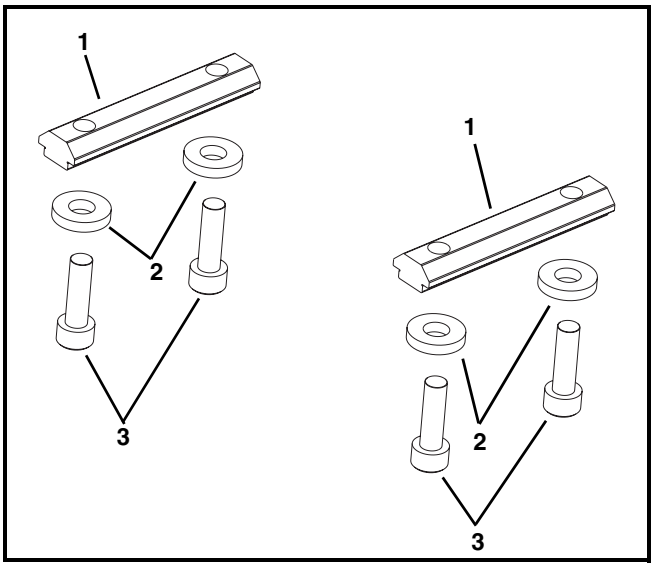
Service Parts

Flat Belt Returns



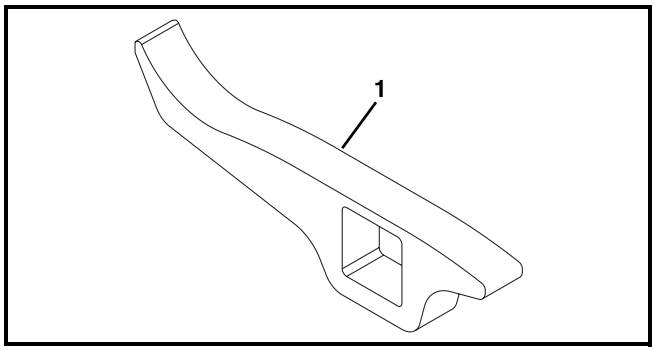
Item	Part Number	Description
1	352220-WW	Returns - Straight Sections of Conveyor
	352211-WW	Returns - Curved Sections of Conveyor
WW = Conveyor width ref: 18 - 36 in 02 increments		

Stand Mount Kit



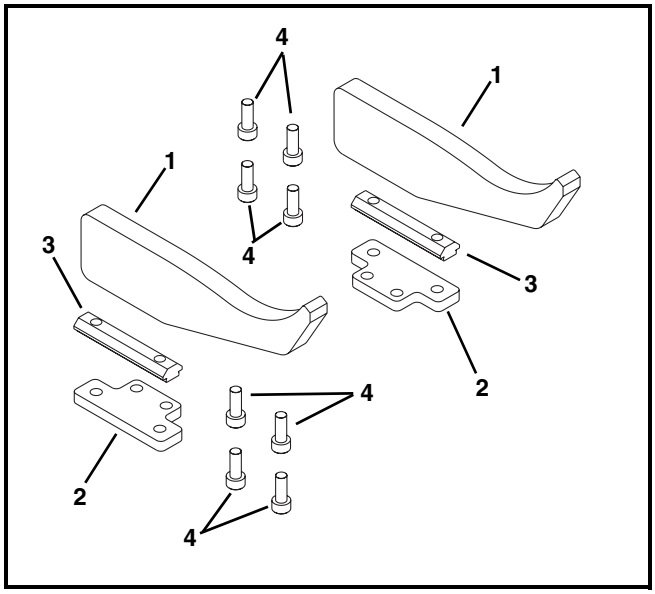
Item	Part Number	Description
1	300150M	Drop-In Tee Bar
2	605279P	Washer
3	920620M	Socket Head Screw, M6-1.00 x 20 mm

High Speed Shoe Kit



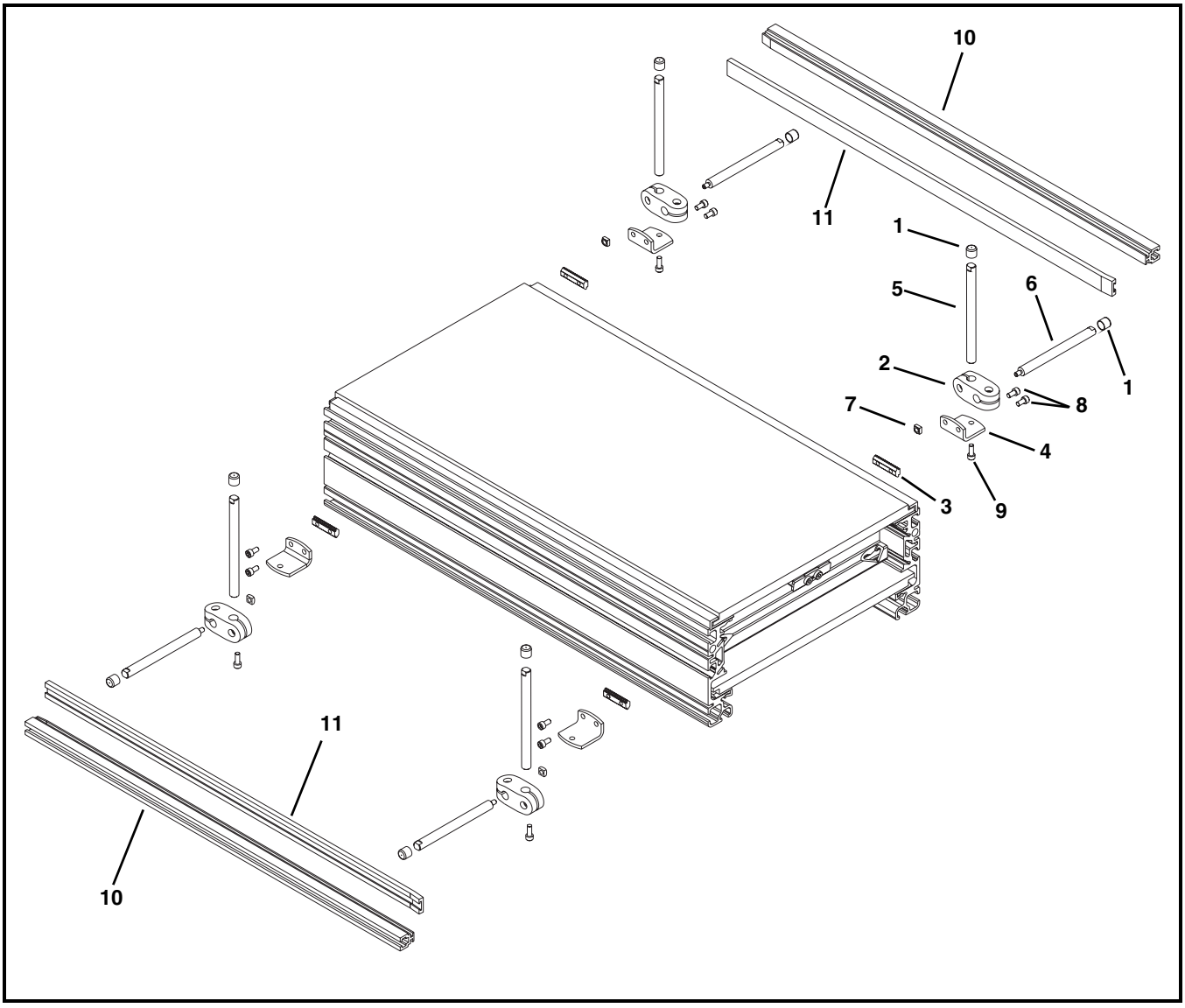
Item	Part Number	Description
1	352316-WW	Shoe kit for straight conveyors
WW = Conveyor width ref: 18 - 36 in 02 increments		

LPZ High Speed Shoe Kit



Item	Part Number	Description
1	352338	Shoe Assembly
2	352345	Shoe Plate
3	300150M	Drop-In Tee Bar
4	920616M	Socket Head Screw, M6-1.00 x 16 mm

Fully Adjustable Guiding (Straight Module)

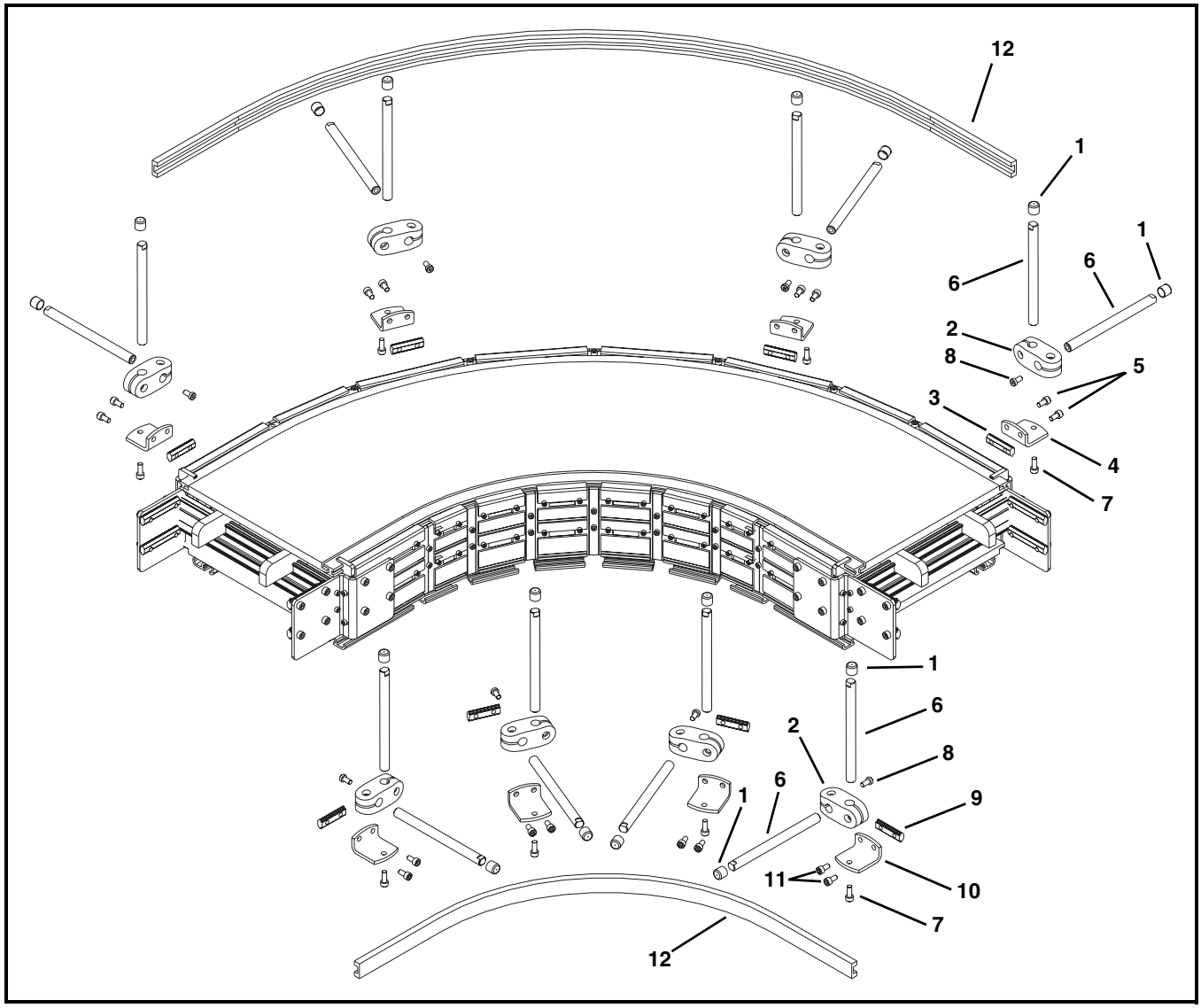


Item	Part Number	Description
1	807-948	Shaft Cap
2	807-652	Cross Block
3	200830M	Drop-In Tee Bar
4	202004M	Mounting Bracket
5	202027M	Vertical Mounting Guide Shaft
6	202028M	Horizontal Mounting Guide Shaft

Item	Part Number	Description
7	674175MP	Square Nut, M6-1.00
8	920612M	Socket Head Screw, M6-1.00 x 12 mm
9	920616M	Socket Head Screw, M6-1.00 x 16 mm
10	381300-LLLLL	Aluminum Profile Guide
11	614068P	Extruded Guide (Per Foot)
LLLLL = Length in inches with 2 decimal places.		
Length Example: Length = 95.25" LLLLL = 09525		

Service Parts

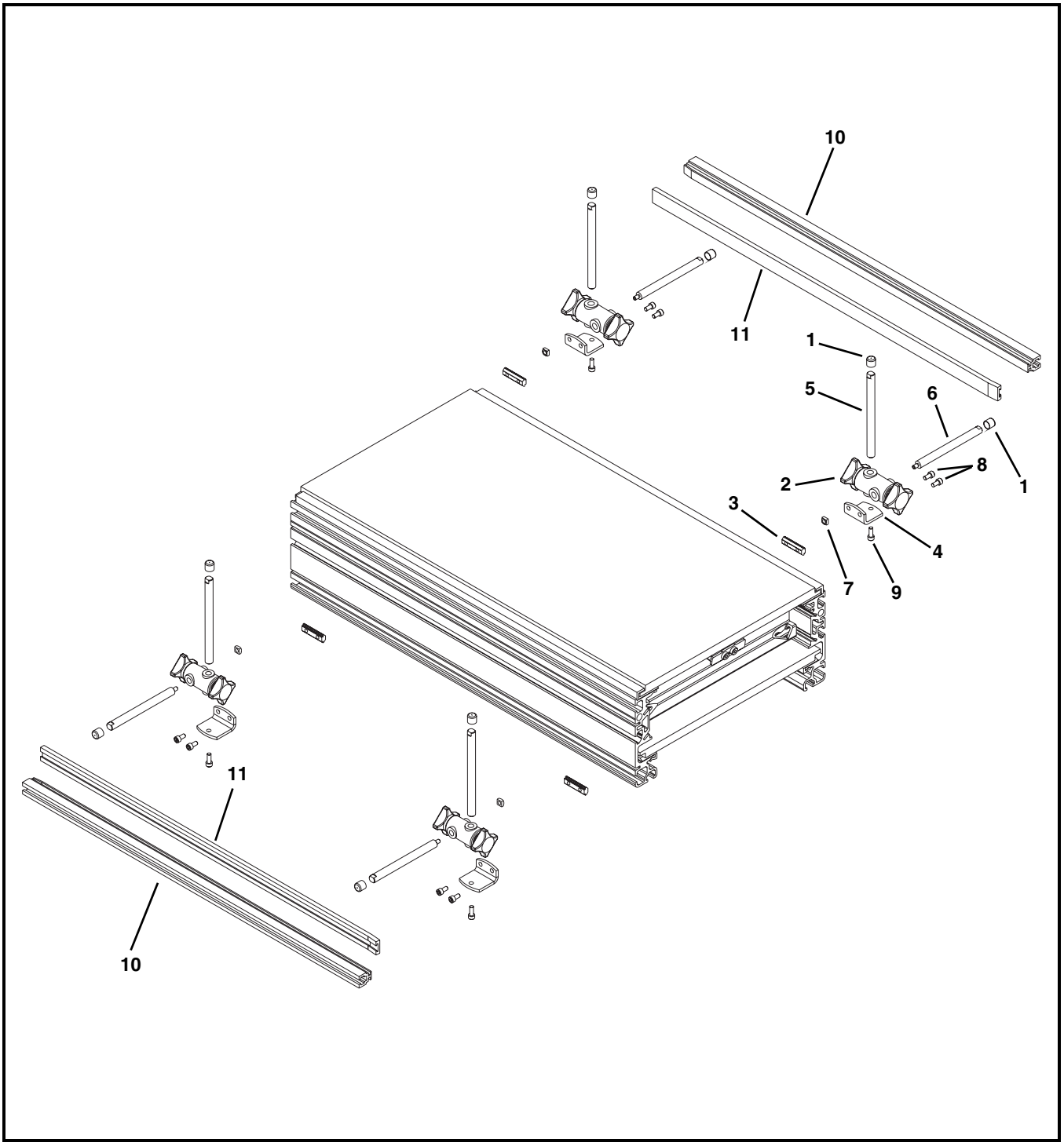
Fully Adjustable Guiding (Curve Module)



Item	Part Number	Description
1	807-948	Shaft Cap
2	807-652	Cross Block
3	200830M	Drop-In Tee Bar, Outer Curve
4	202004M	Mounting Bracket, Outer Curve
5	920612M	Socket Head Screw, M6-1.00x12 mm
6	202027M	Mounting Guide Shaft
7	920616M	Socket Head Screw, M6-1.00x16 mm
8	920692M	Low Head Cap Screw, M6-1.00x16 mm
9	200830M	Drop-In Tee Bar, Inner Curve (12” through 36” wide)

Item	Part Number	Description
10	325303	Mounting Bracket, Inner Curve (8” and 10” wide)
	202004M	Mounting Bracket, Inner Curve (12” through 36” wide)
11	920512M	Socket Head Screw, M5-.80x12 mm for inner curve (8” and 10” wide)
	920616M	Socket Head Screw, M6-1.00x12 mm for inner curve (12” through 36” wide)
12	234014	U-Channel Guide, 4’ Long

Tool-Less Fully Adjustable Guiding (Straight Module)

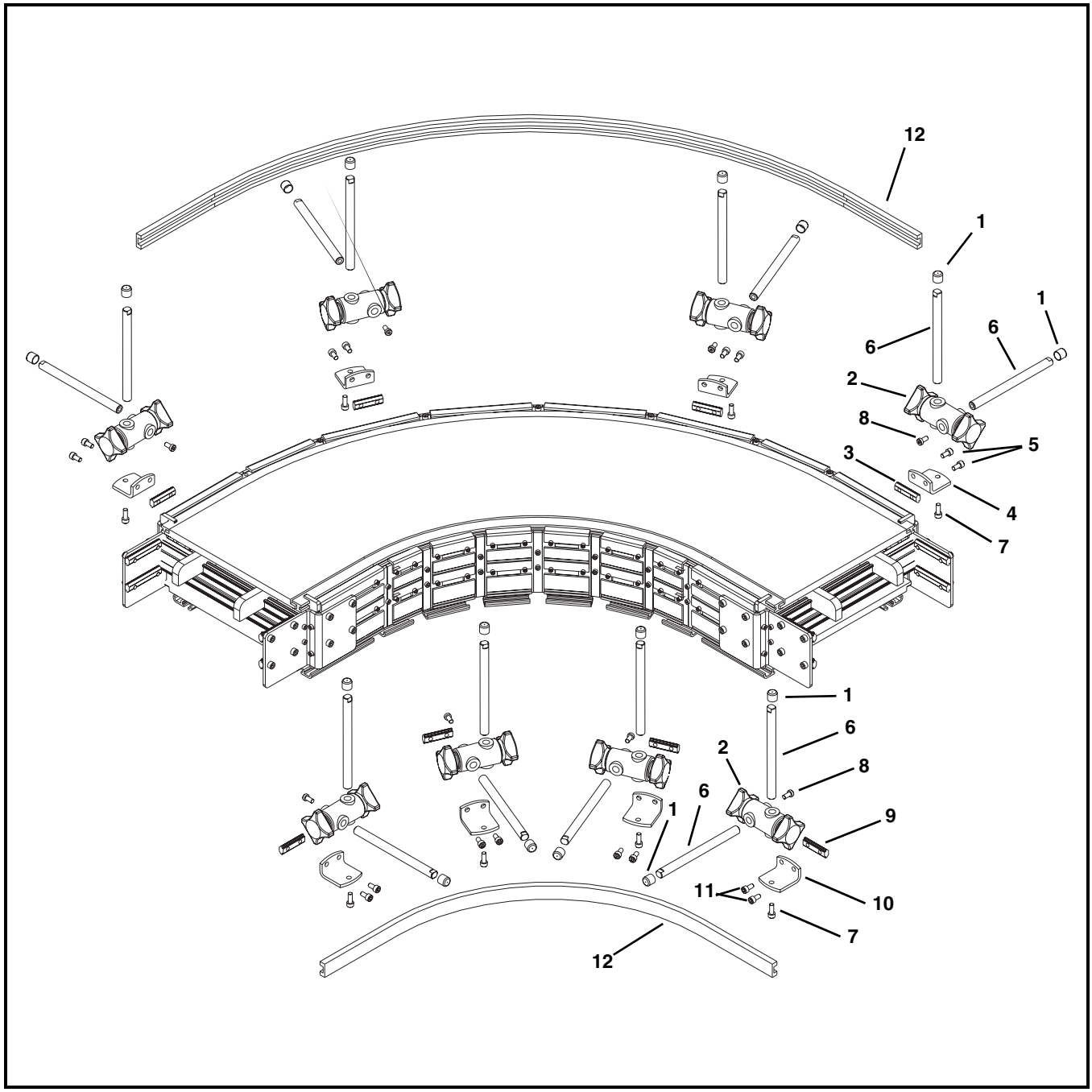


Item	Part Number	Description
1	807-948	Shaft Cap
2	807-1470	Cross Block
3	200830M	Drop-In Tee Bar
4	202004M	Mounting Bracket
5	202027M	Vertical Mounting Guide Shaft
6	202028M	Horizontal Mounting Guide Shaft
7	674175MP	Square Nut, M6-1.00

Item	Part Number	Description
8	920612M	Socket Head Screw, M6-1.00 x 12 mm
9	920616M	Socket Head Screw, M6-1.00 x 16 mm
10	381400-LLLLL	Aluminum Profile Guide
11	614068P	Extruded Guide (Per Foot)
LLLLL = Length in inches with 2 decimal places.		
Length Example: Length = 95.25" LLLLL = 09525		

Service Parts

Tool-Less Fully Adjustable Guiding (Curve Module)



Item	Part Number	Description
1	807-948	Shaft Cap
2	807-1470	Cross Block
3	200830M	Drop-In Tee Bar, Outer Curve
4	202004M	Mounting Bracket, Outer Curve
5	920612M	Socket Head Screw, M6-1.00x12 mm
6	202027M	Mounting Guide Shaft
7	920616M	Socket Head Screw, M6-1.00x16 mm
8	920692M	Low Head Cap Screw, M6-1.00x16 mm
9	200830M	Drop-In Tee Bar, Inner Curve (12” through 36” wide)

Item	Part Number	Description
10	325303	Mounting Bracket, Inner Curve (8” and 10” wide)
	202004M	Mounting Bracket, Inner Curve (12” through 36” wide)
11	920512M	Socket Head Screw, M5-.80x12 mm for inner curve (8” and 10” wide)
	920616M	Socket Head Screw, M6-1.00x12 mm for inner curve (12” through 36” wide)
12	234014	U-Channel Guide, 4’ Long

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:

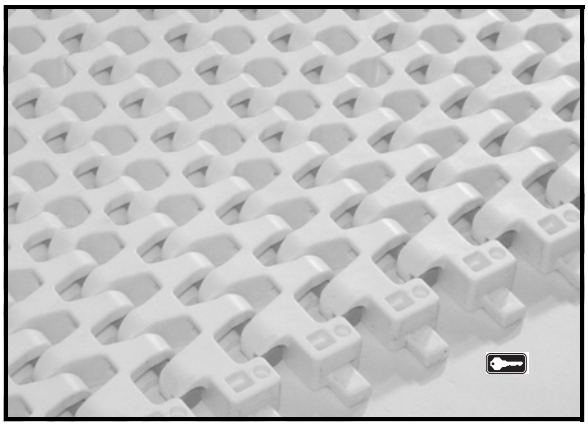
Overall chain length = 42' 5" (rounded up = 43')

Order: Qty (43) of 52MT-WW

MT = Chain reference number

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

Flat Belt Chain Repair Kit



Item	Part Number	Description
1	52MT-WW	Flat Belt Chain Repair kit (Includes 1 ft (305 mm) of flat belt chain and assembly pins)
WW = Conveyor width ref: 08 - 36 in 02 increments		

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 (if available, part serial number).

A representative will discuss action to be taken on the returned items and provide a Returned Goods Authorization (RMA) number for reference. RMA will automatically close 30 days after being issued. To get credit, items must be new and undamaged. There will be a return charge on all items returned for credit, where Dorner was not at fault. It is the customer's responsibility to prevent damage during return shipping. Damaged or modified items will not be accepted. The customer is responsible for return freight.

Conveyors and conveyor accessories

Standard catalog conveyors	30%
MPB, 7200, 7300 Series, cleated and specialty belt	50%
AquaGard & AquaPruf Series conveyors	non-returnable items
Engineered to order products	case by case
Drives and accessories	30%
Sanitary stand supports	non-returnable items

Parts

Standard stock parts	30%
Plastic chain, 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 Customer Service Team 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.
975 Cottonwood Ave., PO Box 20
Hartland, WI 53029-0020 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

851-631 Rev. C

Printed in U.S.A.