5300 Series DustPruf Straight Conveyors

Installation, Maintenance and Parts Manual

Featuring: SmartSlot™

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851-705 Rev. D

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Introduction

⚠ CAUTION

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

Upon receipt of shipment:

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

The Dorner Limited Warranty applies.

Dorner 5300 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

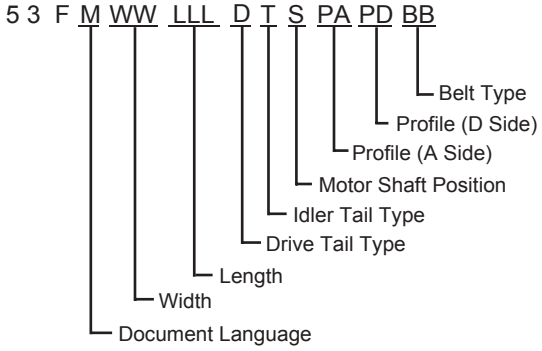
Refer to **(Figure 1)** for typical conveyor components.

Typical Components	
1	Conveyor
2	Gearmotor
3	Belt (Flat Belt Shown)
4	Support Stands
5	Drive End
6	Idler End

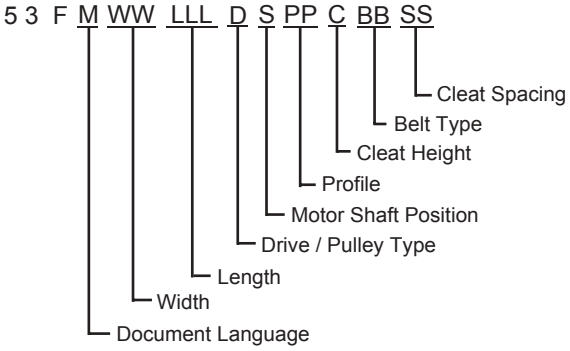
Figure 1

Specifications

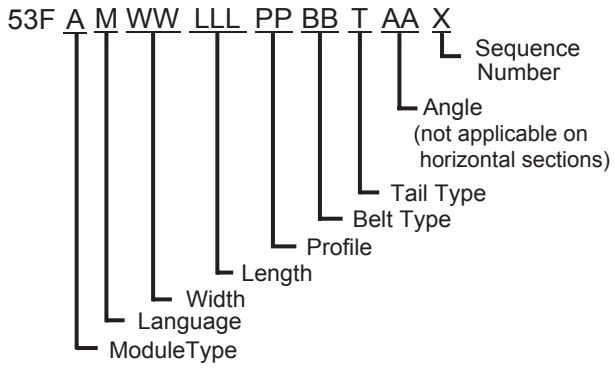
Flat Belt 5300 Series Dustpruf Conveyor



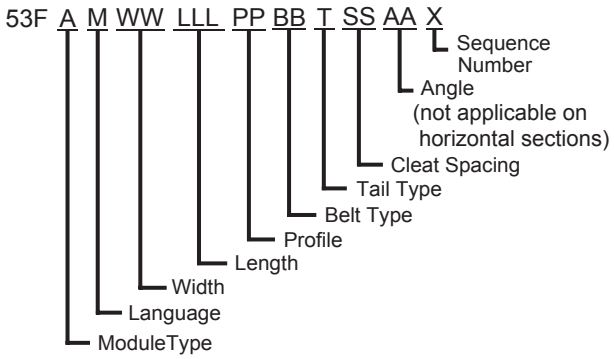
Cleated Belt 5300 Series Dustpruf Conveyor



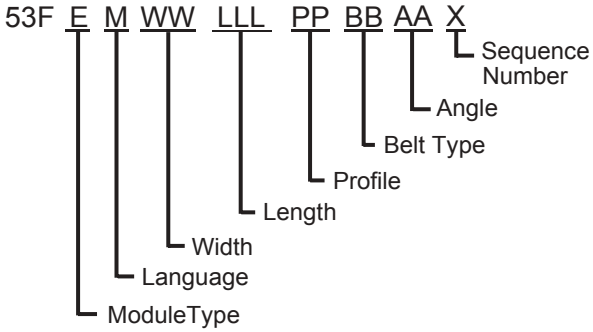
Flat Belt LPZ 5300 Series Conveyor (Infeed Section to Knuckle)



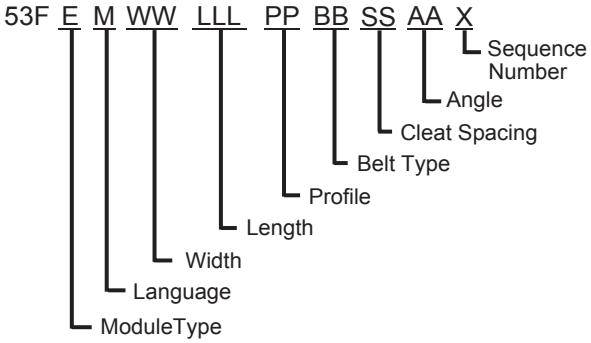
Cleated Belt LPZ 5300 Series Conveyor (Infeed Section to Knuckle)



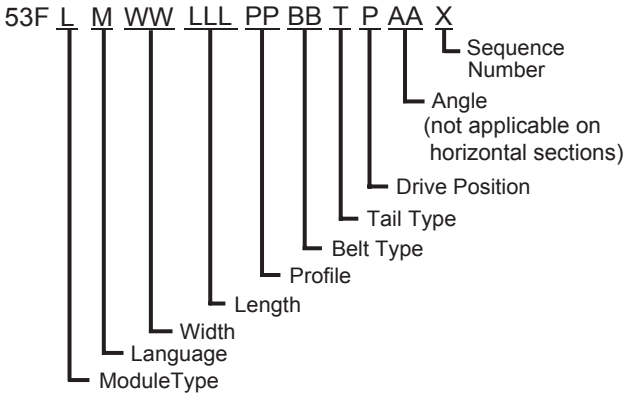
Flat Belt LPZ 5300 Series Conveyor (Mid Section Between Knuckles)



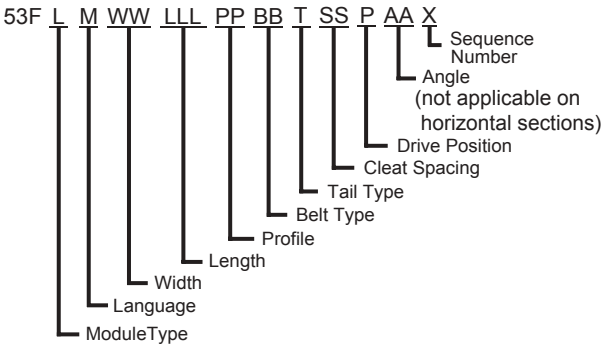
Cleated Belt LPZ 5300 Series Conveyor (Mid Section Between Knuckles)



Flat Belt LPZ 5300 Series Conveyor (Discharge Section from Knuckle)



Cleated Belt LPZ 5300 Series Conveyor (Discharge Section from Knuckle)



Specifications

Conveyor Supports

Maximum Distances:

1 = Support Stand on Idler End = 3 ft (914 mm)

2 = Between Support Stands = 12 ft (3658 mm)**

3 = Support Stand on Drive End = 3 ft (914 mm)

** For conveyors longer than 12 ft (3658 mm), install stand mount kit at frame joint.

* LPZ stand positions may vary, please consult factory.

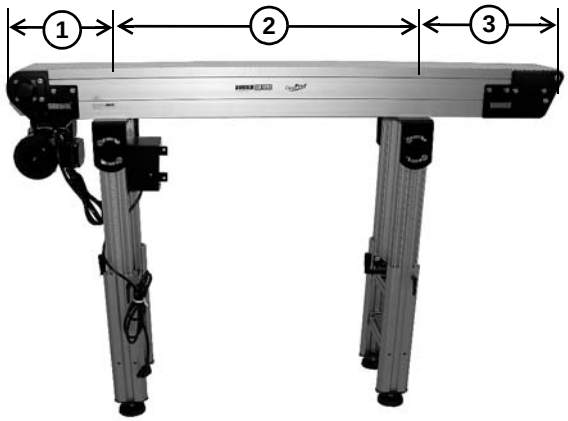


Figure 2

Specifications

Flat Belt Conveyor Width Reference (WW)	06 - 36 in 02 increments
Flat Belt Conveyor Belt Width	6" (152 mm) - 36" (914 mm) in 2" (51 mm) increments
Cleated Belt Conveyor Width Reference (WW)	08 - 24 in 02 increments
Cleated Belt Conveyor Belt Width	8" (103 mm) - 24" (610 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 1000 lbs. (454 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*

⚠ CAUTION

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

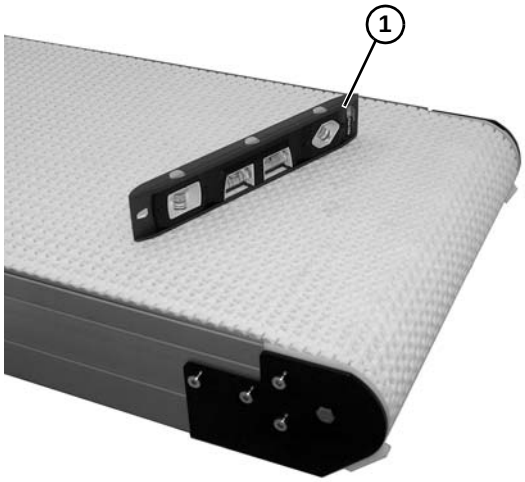


Figure 3

Required Tools

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

Recommended Installation Sequence

1. Assemble the conveyor (if required). Refer to "Conveyor Sections Longer than 12 ft (3658 mm)" on page 7 and "All Conveyors" on page 9.
2. Attach the stands. Refer to "Stand Installation" on page 9.
3. Install the belt. Refer to "Belt Installation" on page 9.
4. Install the guiding. Refer to "Guiding" on page 12.
5. Install the gearmotor. Refer to "Drive Package Installation" on page 12.

Conveyor Sections Longer than 12 ft (3658 mm)

Connecting Components

Typical Connecting Components **(Figure 4)**

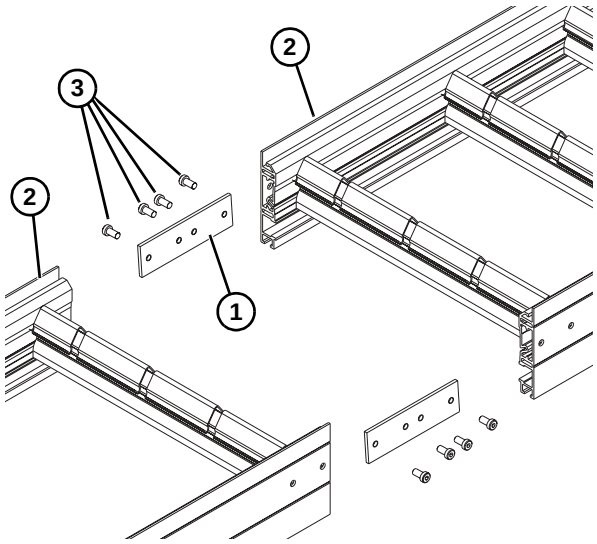


Figure 4

1	Clamp Plate
2	Conveyor frames
3	Low Head Cap Screw, M8 - 1.25 x 16 mm

1. Locate and arrange conveyor sections by section labels **(Figure 5, item 1)**.

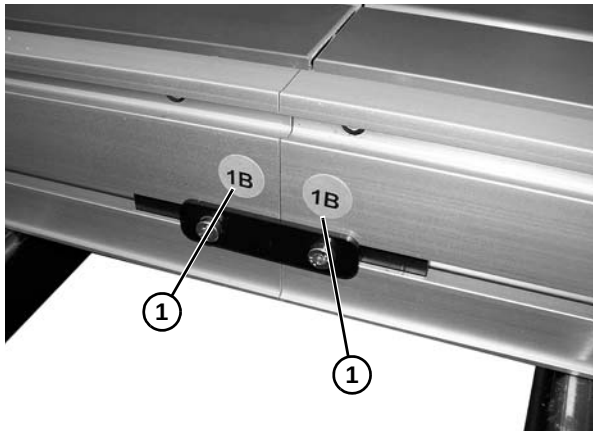


Figure 5

2. Install two clamp plates **(Figure 4, item 1)** into one conveyor section **(Figure 4, item 2)** by lining up two holes in clamp plate with two holes in conveyor frame. Install two M8x16 low head cap screws **(Figure 4, item 3)** to secure each clamp plate.
3. Join both conveyor sections, and secure with two M8x16 low head cap screws **(Figure 4, item 3)** on both sides. Tighten all cap screws to 84 in-lb (9 Nm).

Installation

LPZ Conveyors

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

Upper Knuckle

1. Be sure that the upper edge wearstrip **(Figure 6, item 1)** and the return strip **(Figure 6, item 2)** are inserted into the proper frame channel on each side of conveyor.

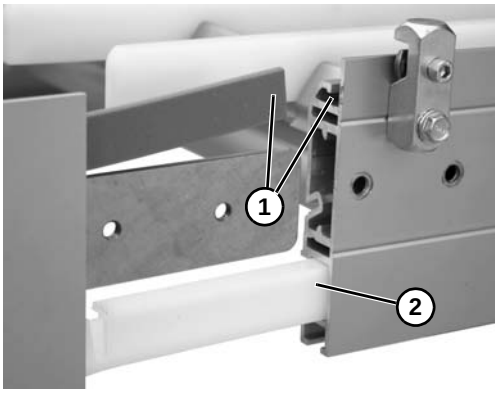


Figure 6

2. Attach upper knuckle **(Figure 7, item 1)** to frame **(Figure 7, item 2)** with socket head screws **(Figure 7, item 3)**. Repeat on other side.

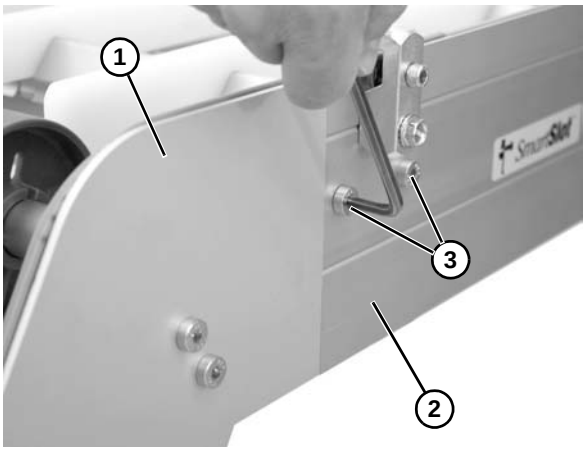


Figure 7

3. Tighten all screws to 60 in-lb (7 Nm).

Lower knuckle

1. Be sure that the return strip **(Figure 8, item 1)** is inserted into the proper frame channel on each side of conveyor.

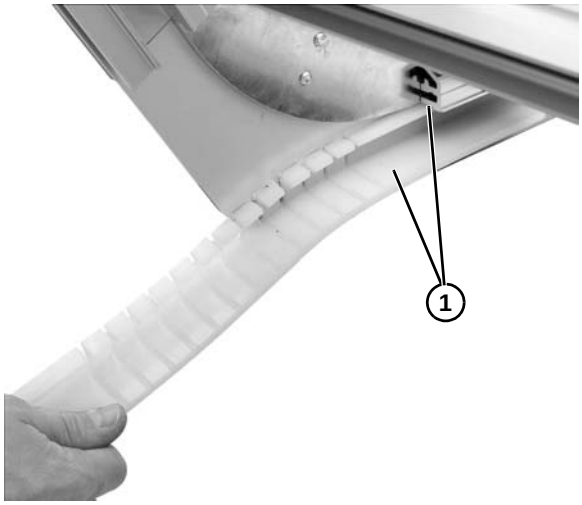


Figure 8

2. Attach lower knuckle **(Figure 9, item 1)** to frame **(Figure 9, item 2)** by using socket head screws **(Figure 9, item 3)**. Repeat on other side.

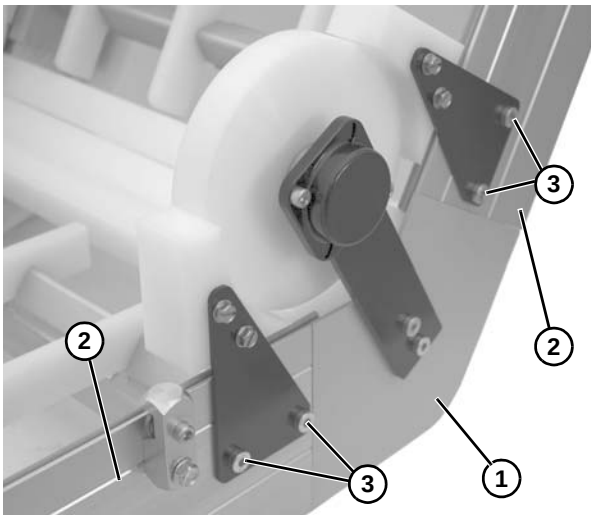


Figure 9

3. Tighten all screws to 60 in-lb (7 Nm).

All Conveyors

Stand Installation

NOTE

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

Typical stand components **(Figure 10)**

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

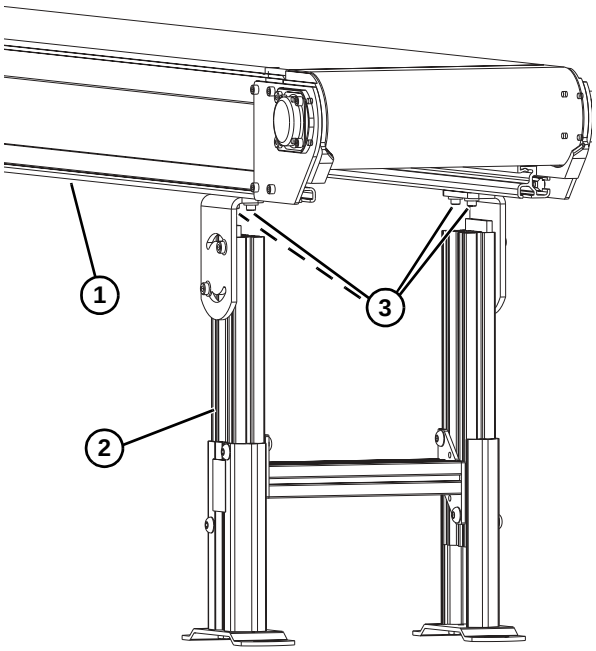


Figure 10

1. Properly support the conveyor.
2. Attach stands **(Figure 11, item 1)** to the bottom of the conveyor frame **(Figure 11, item 2)**. Tighten socket head screws **(Figure 11, item 3)**, on each side, to secure in place.

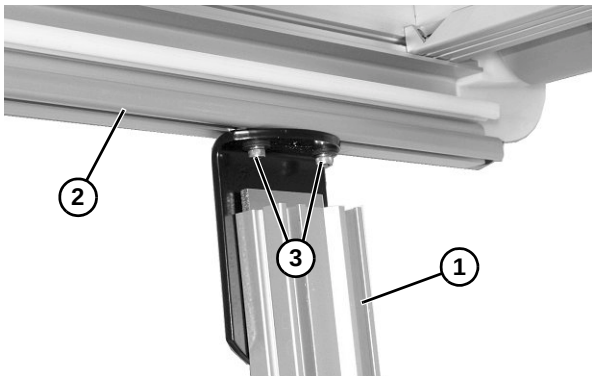


Figure 11

Belt Installation

Typical Belt Components **(Figure 12)**.

1	Chain Belt
2	Belt Rod

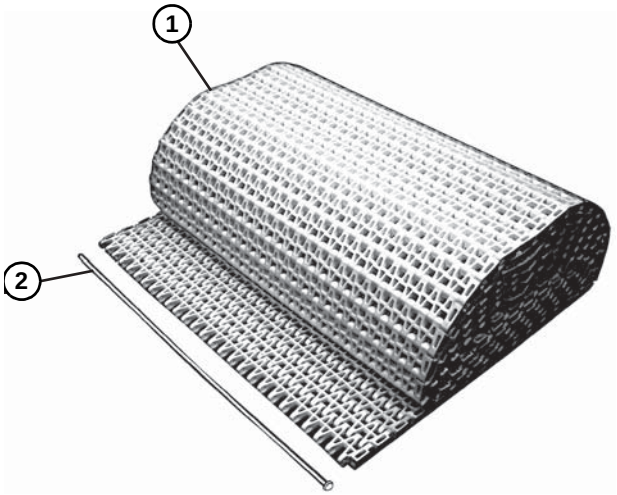


Figure 12

1. Position the belt on the conveyor frame.
2. Wrap belt around idler tail **(Figure 13, item 1)**.

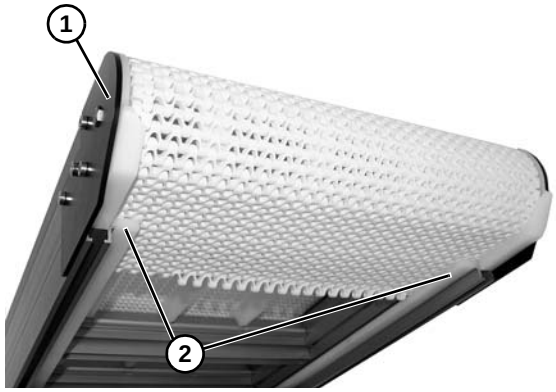


Figure 13

3. Install belt around lower frame section and above lower wear strips **(Figure 13, item 2)**.

4. Wrap the belt around the drive end of the conveyor, making sure the sprocket teeth have engaged the belt, with concave teeth **(Figure 14, item 1)** mating with rounded section **(Figure 14, item 2)** of belt.

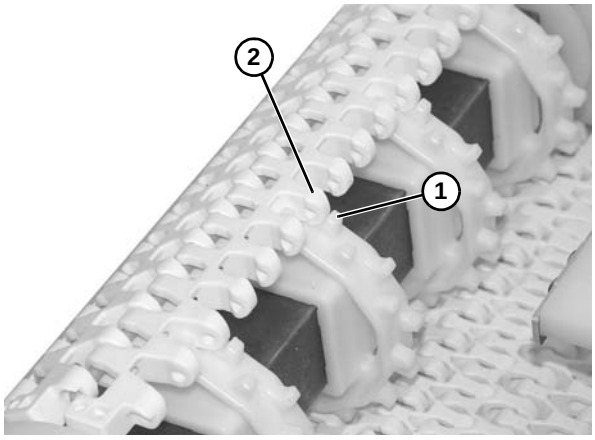


Figure 14

5. Bring the ends of the belt together **(Figure 15)**.

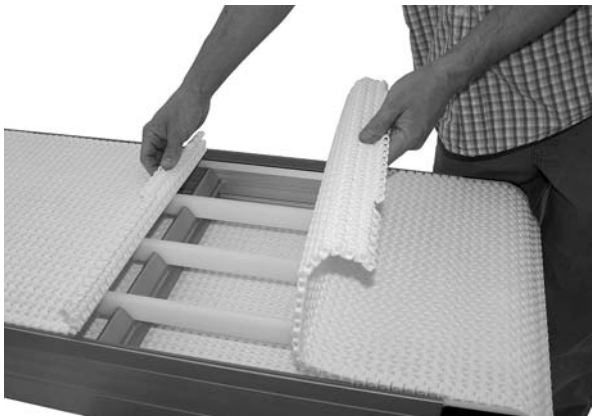


Figure 15

6. Insert the belt rod **(Figure 16, item 1)**.

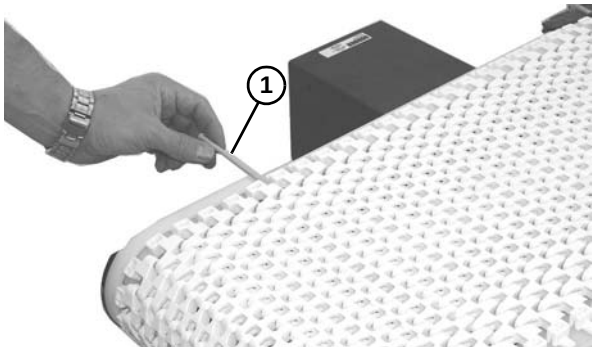


Figure 16

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

Proper Methods of Attachment to Side Rails

⚠ WARNING

Installing self-drilling screws into the dustpruf side rail requires substantial force.

Failure to properly support the conveyor while installing self-drilling screws may cause the operator or conveyor to slip, causing severe injury.

SUPPORT CONVEYOR FRAMES WHILE INSTALLING SELF-DRILLING SCREWS.

The 5300 DustPruf side rail is designed for self-drilling attachment of brackets and accessories. This can be done in two methods: self-drilling screws or pre-drill for standard screws.

Self-Drilling Screws

All Dorner accessories are provided with 1/4-20 self-drilling screws.

1. Locate guide **(Figure 17, item 1)** and retaining clip **(Figure 17, item 2)** and hold to side rail. Hole should line up with notch **(Figure 17, item 3)** in side rail.

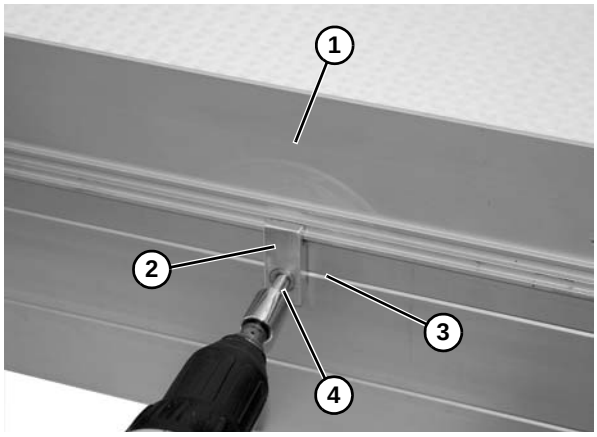


Figure 17

2. With a cordless drill or equivalent install self-drilling screw **(Figure 17, item 4)**. Use high speed setting to drill through side wall. Once the tap portion is started switch drill power to a lower speed. Do not fully tighten with drill.

3. Hand tighten the screws to secure **(Figure 18)**. Recommended torque is 150 in-lb (17 Nm).

Figure 18

Pre-Drill for Standard Screws

The DustPruf side rail will also accept standard screws. M6-1.0 and 1/4-20 are acceptable. Strength grade 8 is recommended.

1. Locate guide **(Figure 19, item 1)** and retaining clip **(Figure 19, item 2)** and hold to side rail. Hole should line up with notch **(Figure 19, item 3)** in side rail. Mark the hole locations with a center punch **(Figure 19, item 4)** and remove the bracket.

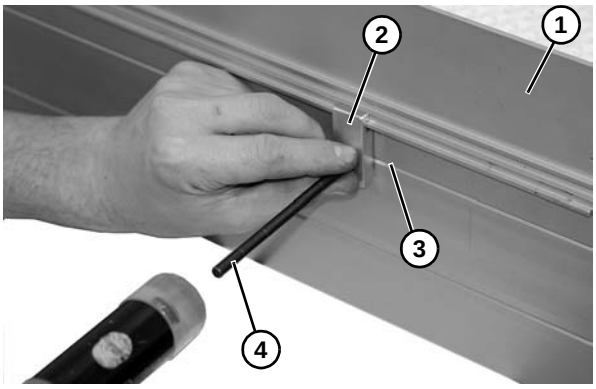


Figure 19

2. Drill the hole locations **(Figure 20, item 1)** with a 3/16" drill bit **(Figure 20, item 2)**.

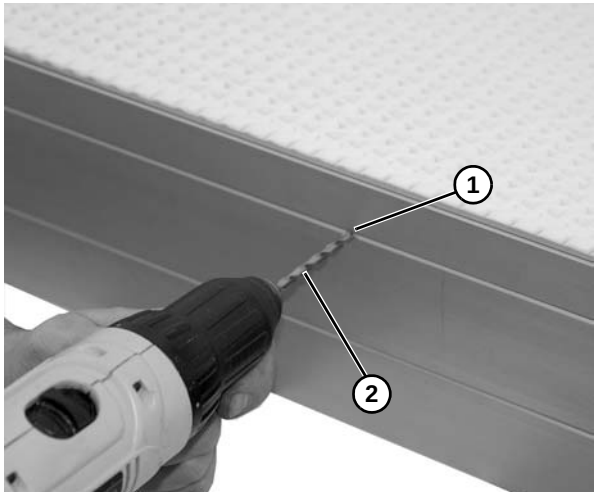


Figure 20

3. Position and hold bracket **(Figure 21, item 1)** to side rail. With a standard M6-1.0 or 1/4-20 screw, install screws **(Figure 21, item 2)** with cordless drill or equivalent. Do not fully tighten with drill.

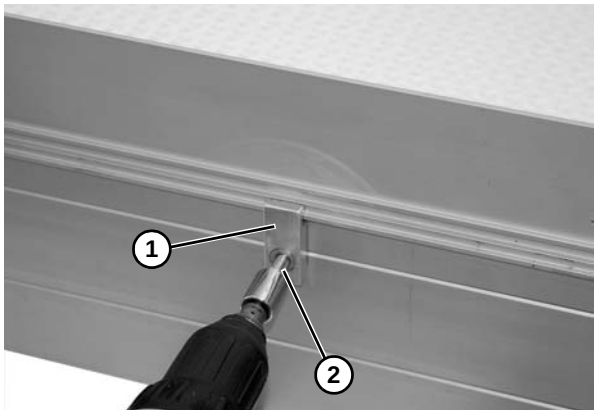


Figure 21

4. Hand tighten the screws to secure **(Figure 22)**. Recommended torque is 150 in-lb (17 Nm).

Figure 22

Guiding

⚠ WARNING

Installing self-drilling screws into the dustpruf side rail requires substantial force.

Failure to properly support the conveyor while installing self-drilling screws may cause the operator or conveyor to slip, causing severe injury.

SUPPORT CONVEYOR FRAMES WHILE INSTALLING SELF-DRILLING SCREWS.

Due to the DustPruf construction ALL guiding must be located and installed by the end user. Take care in locating retaining clips prior to final installation.

1. Lay out retaining clip **(Figure 23, item 1)** locations. The end clips should be no greater than 12" from end of the conveyor. Hole should line up with notch **(Figure 23, item 2)** in side rail.

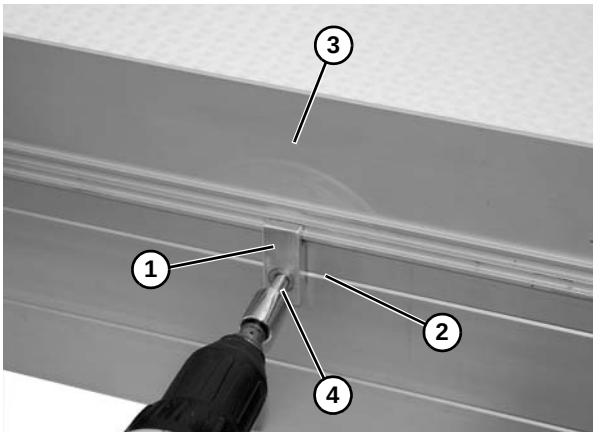


Figure 23

2. Hold guide **(Figure 23, item 3)** and retaining clip **(Figure 23, item 1)** to conveyor side rail. Install self-drilling screws **(Figure 23, item 4)** following the "Proper Methods of Attachment to Side Rails" on page 10 procedure.

Drive Package Installation

NOTE

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

1. Attach the motor **(Figure 24, item 1)** to the gear reducer **(Figure 24, item 2)**. (End Drive shown below.)

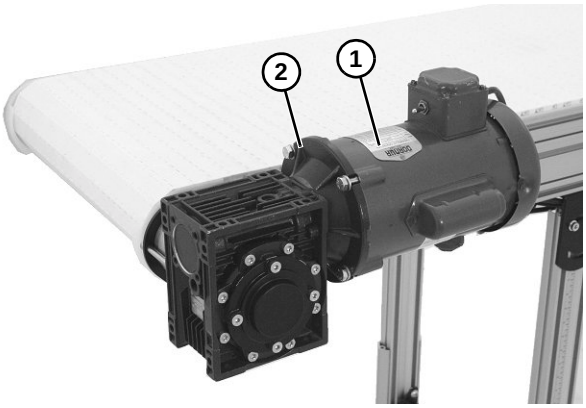


Figure 24

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 27 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 25, 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.

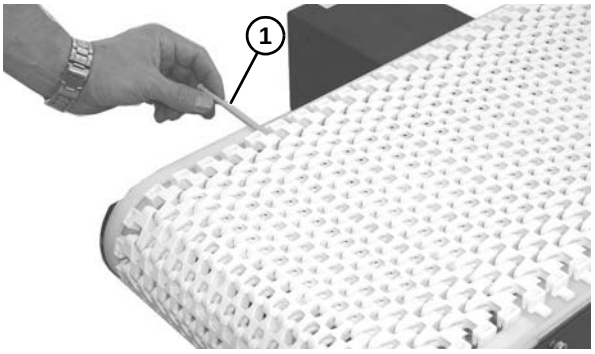


Figure 25

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 26, item 1)** out by striking the rod end opposite the retaining head.

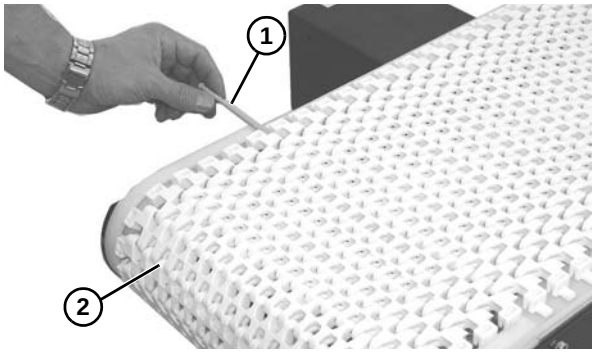


Figure 26

2. Slide the old belt **(Figure 26, item 2)** off the conveyor frame.
3. Replace the old belt with a new one. Refer to "Belt Installation" on page 9.

⚠ 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 13.

Wear Strips

Replace the wear strips if they become worn.

Typical Standard Wear Strips **(Figure 27)**

1	Wear Strips, Side
2	Wear Strips, Upper - Belt Running Surface
3	Wear Strips, Lower - Belt Return Surface

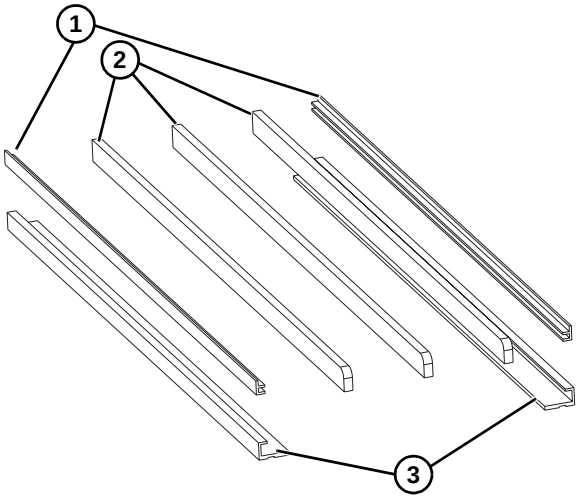


Figure 27

Removal of Upper Wear Strips

1. Remove belt. See "Conveyor Belt Replacement" on page 13.
2. Remove inner spacer **(Figure 28, item 1)** from top of frame assembly.

NOTE

*The upper wearstrips **(Figure 28, item 2)** have a screw **(Figure 28, item 3)** on end of wearstrip that is retained by the inner spacers **(Figure 28, item 1)**.*

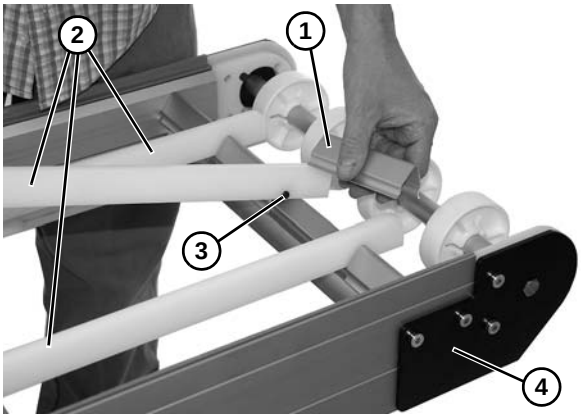


Figure 28

3. Remove upper wear strips **(Figure 28, item 2)**.

Removal of Lower and Side Wear Strips

1. Remove conveyor idler end **(Figure 29, item 1)**. See "C - Idler Spindle Removal" on page 21.

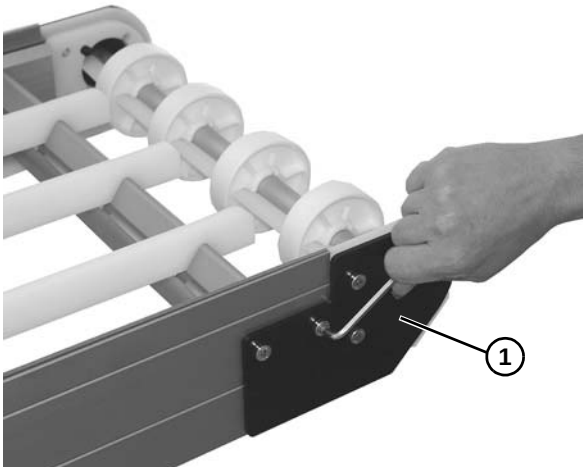


Figure 29

2. Slide lower wear strips **(Figure 30, item 1)**, and side wear strips **(Figure 30, item 2)** from frame assembly.

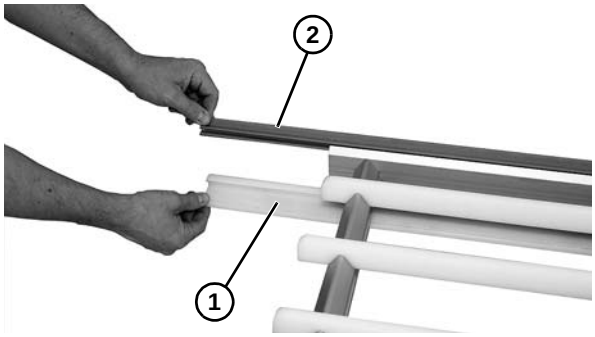


Figure 30

Removal of Belt Returns

Replace the wear strips if they become worn.

Typical Standard Wear Strips **(Figure 31)**

1	Return Support Bracket
2	Return Strip

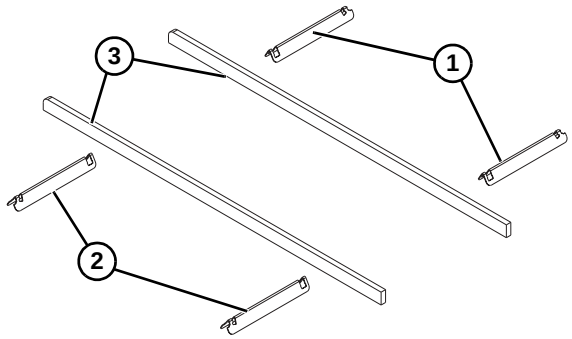


Figure 31

1. Remove return strips **(Figure 32, item 1)**, from brackets **(Figure 32, item 2)**.

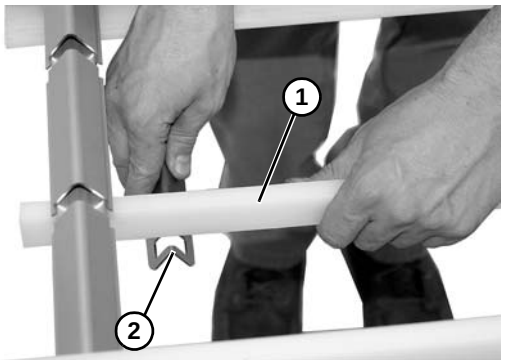


Figure 32

2. If necessary, rotate upward and remove bracket **(Figure 33, item 1)**, from frame channel **(Figure 33, item 2)**.

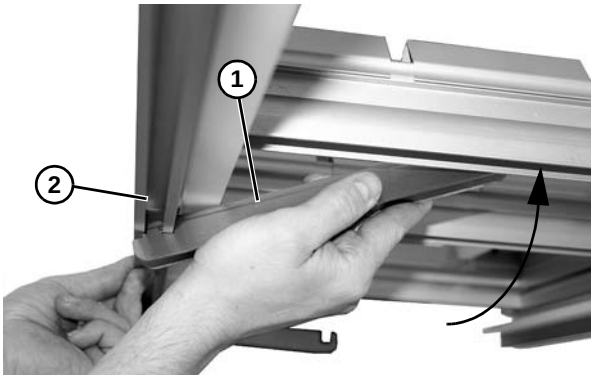


Figure 33

Installation

NOTE

*The rounded ends of top wear strips **(Figure 34, item 1)** faces the idler end **(Figure 34, item 2)** of the conveyor.*

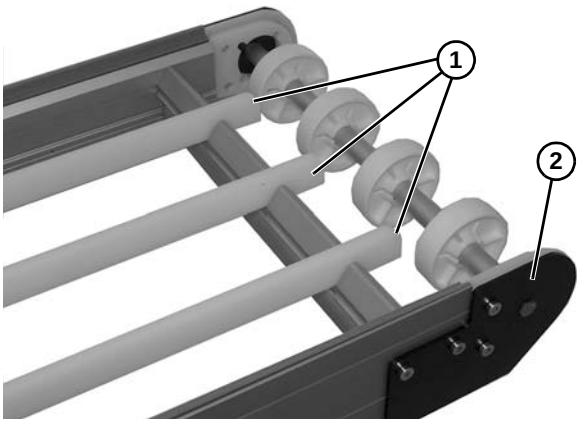


Figure 34

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 14. Remove the desired spindle following the corresponding instructions below:

- **A** – Drive Spindle Removal
- **B** – Nose Bar Drive Spindle Removal
- **C** – Idler Spindle Removal
- **D** – 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. Remove the two socket head screws **(Figure 35, item 1)**. Repeat on opposite side.

Figure 35

3. Remove the drive tail assembly **(Figure 36, item 1)** from the frame **(Figure 36, item 2)**.

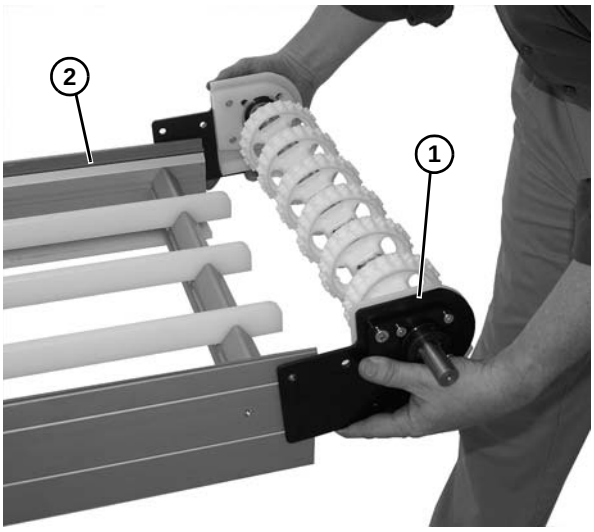


Figure 36

4. Remove the four socket head screws **(Figure 37, item 1)** and cover **(Figure 37, item 2)**.

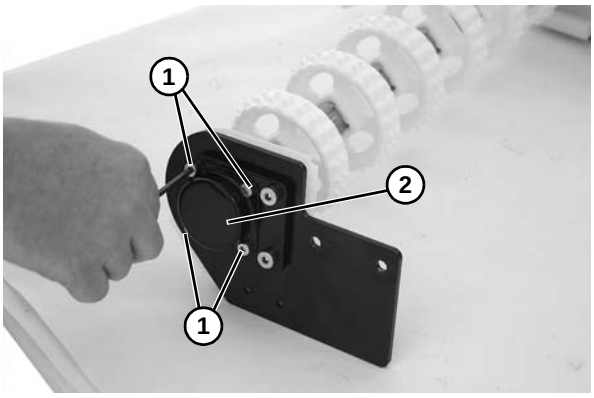


Figure 37

5. Loosen set screw **(Figure 38, item 1)** and remove clamp collar **(Figure 38, item 2)**.

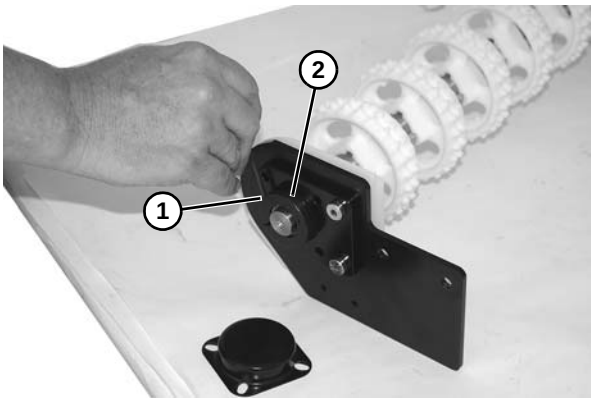


Figure 38

6. Remove end plate **(Figure 39, item 1)** from shaft **(Figure 39, item 2)**.

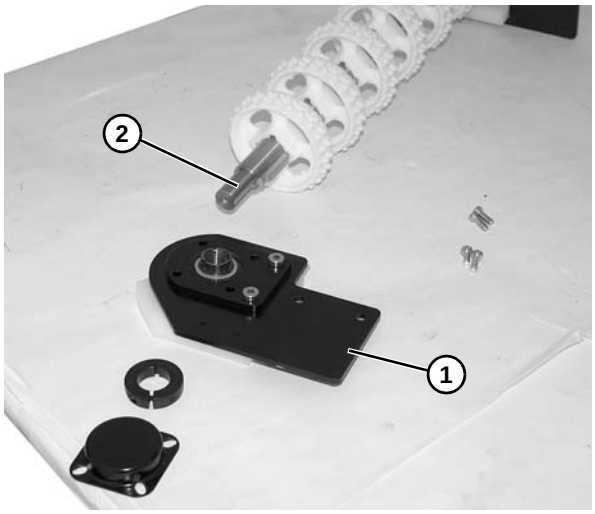


Figure 39

7. Slide entire sprocket assembly slightly outward, and remove the first sprocket **(Figure 40, item 1)** off the drive spindle **(Figure 40, item 2)** and alignment bar **(Figure 40, item 3)**.

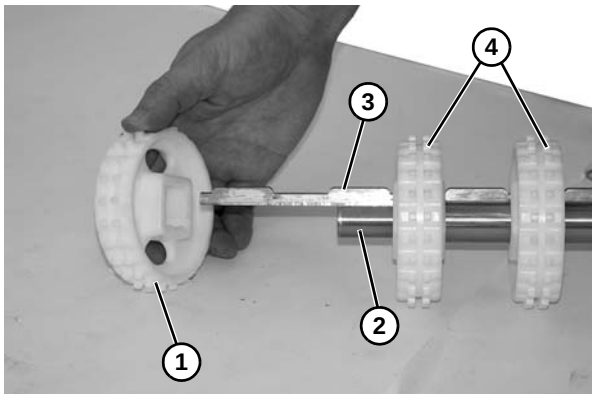


Figure 40

8. Remove remaining sprockets **(Figure 40, item 4)** off the alignment bar as you slide entire assembly off the drive spindle.
9. To assemble sprockets onto drive spindle, slide one sprocket onto alignment bar and slide assembly onto drive spindle.
10. Install second sprocket and subsequent sprockets **(Figure 40, item 4)** one by one, while sliding entire assembly onto alignment bar **(Figure 40, item 3)** and spindle **(Figure 40, item 2)**.
11. Check drive terminal assembly **(Figure 41, item 1)** for wear. If worn, remove two low head cap screws **(Figure 41, item 2)** and replace.

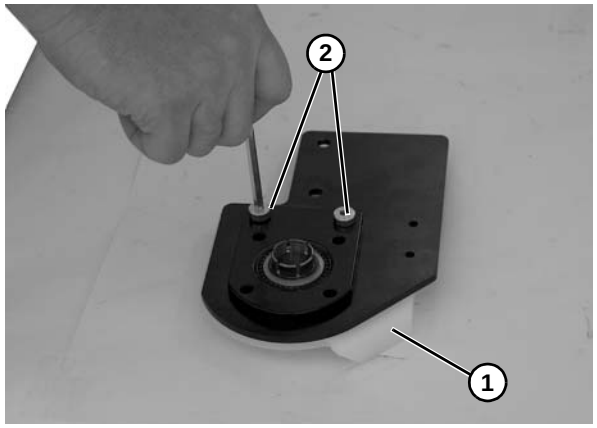


Figure 41

NOTE

*When reinstalling the drive spindle tail assembly, the drive tail assembly **(Figure 42, item 1)** should mate flush with the conveyor frame **(Figure 42, item 2)**.*

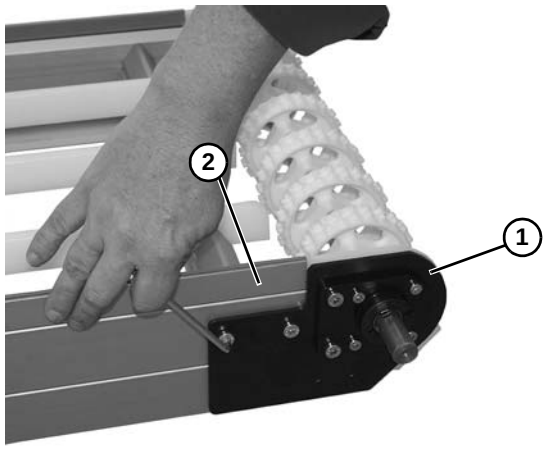


Figure 42

B – Nose Bar 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. Remove two socket head bolts **(Figure 43, item 1)** on each side of drive tail assembly **(Figure 43, item 2)**.

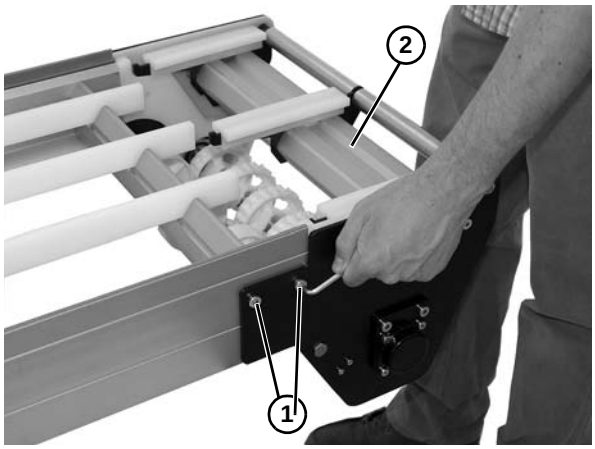


Figure 43

3. Remove the drive tail assembly **(Figure 44, item 1)** from the frame **(Figure 44, item 2)**.

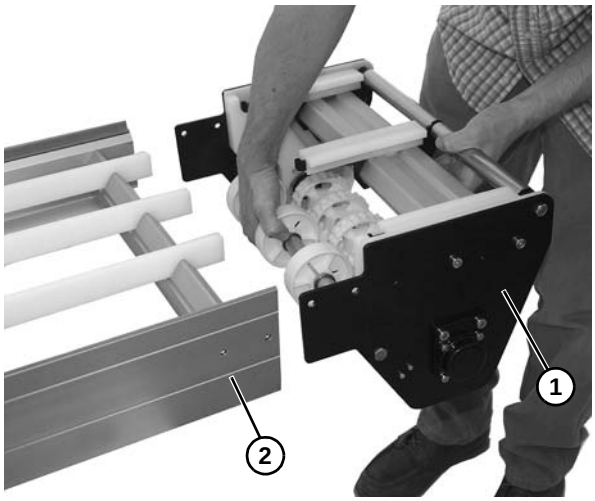


Figure 44

4. Remove wear strip, **(Figure 45, item 1)**, as necessary.

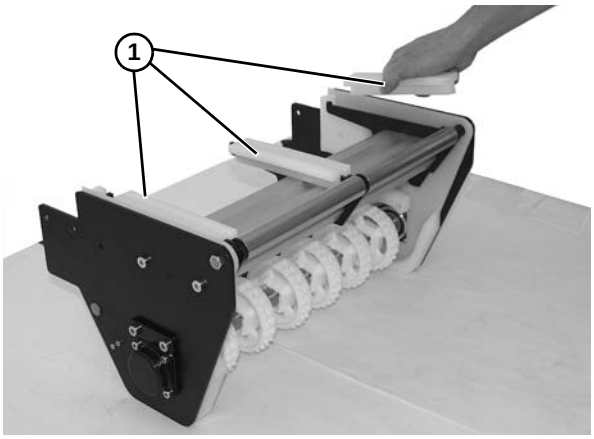


Figure 45

5. On the non-drive side, remove four socket head screws **(Figure 46, item 1)** and cover **(Figure 46, item 2)**.

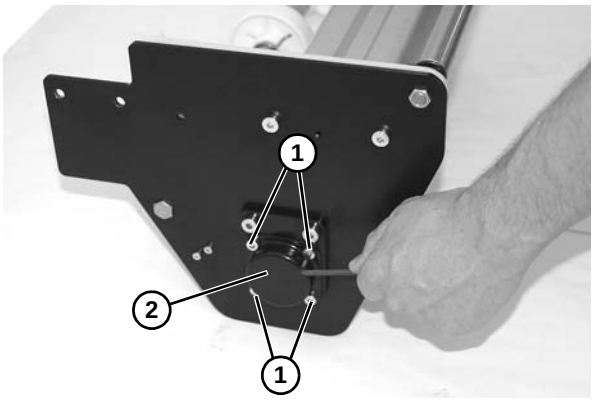


Figure 46

6. Loosen the bearing collar set screw **(Figure 47, item 1)** and remove bearing collar **(Figure 47, item 2)**.

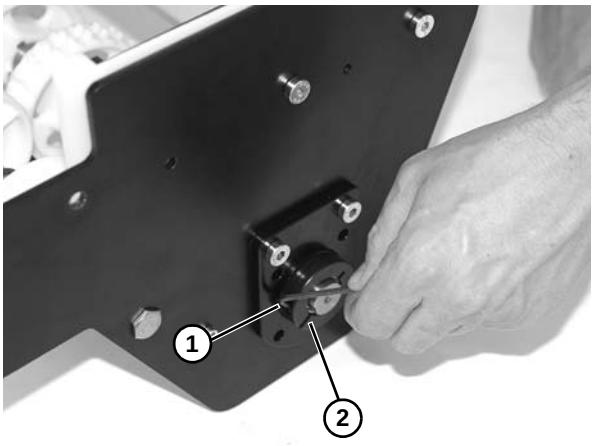


Figure 47

7. Remove two socket head screws **(Figure 48, item 1)** and remove plate **(Figure 48, item 2)**.

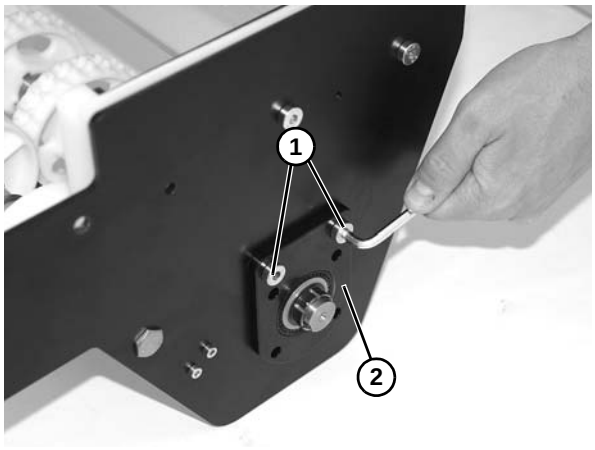


Figure 48

8. Remove two socket head screws **(Figure 49, item 1)** on both sides of the conveyor.

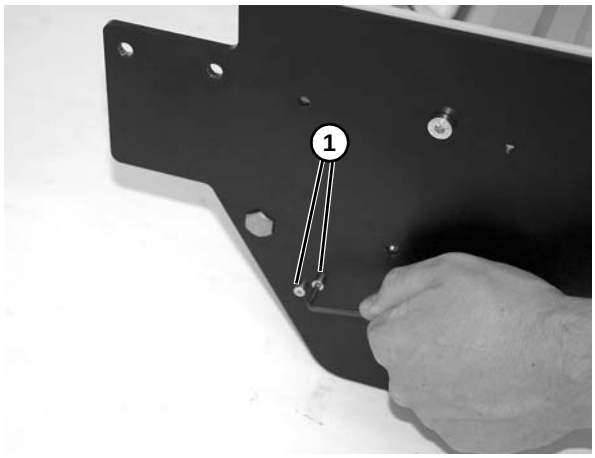


Figure 49

9. Remove guard **(Figure 50, item 1)**.

NOTE
*Note orientation of guard **(Figure 50, item 1)** before removing from end plates.*

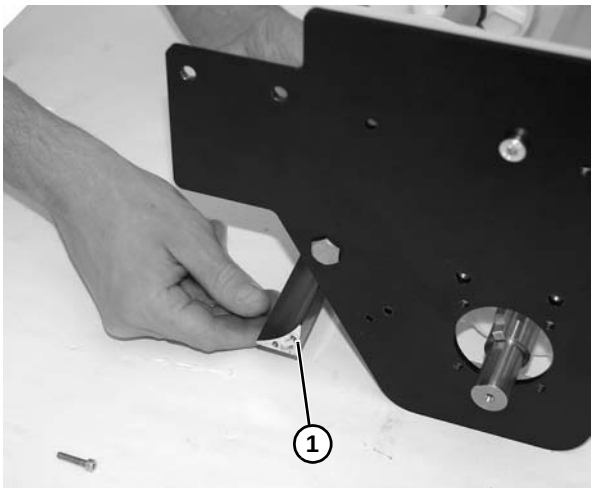


Figure 50

10. Remove two socket head screws **(Figure 51, item 1)** from end plate **(Figure 51, item 2).**

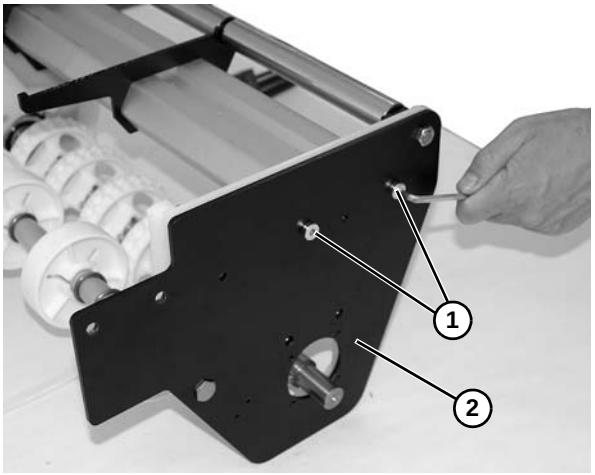


Figure 51

11. Remove end plate **(Figure 52, item 1),** and remove lower roller assembly **(Figure 52, item 2)** from end plate and opposite end plate **(Figure 52, item 3)**.

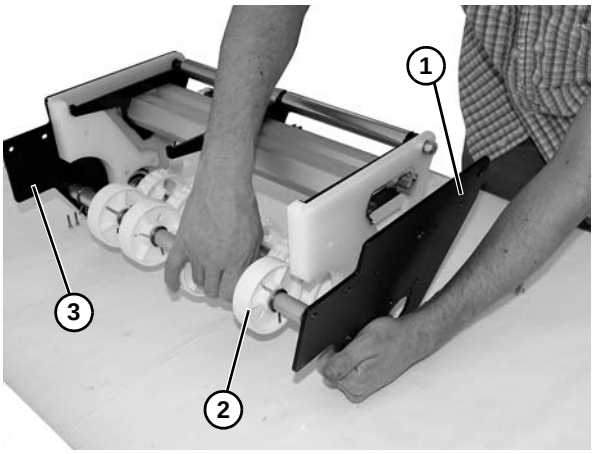


Figure 52

12. Remove terminal assembly **(Figure 53, item 1)** from crossmember **(Figure 53, item 2)** and drive spindle **(Figure 53, item 3)**. Inspect and replace if worn.

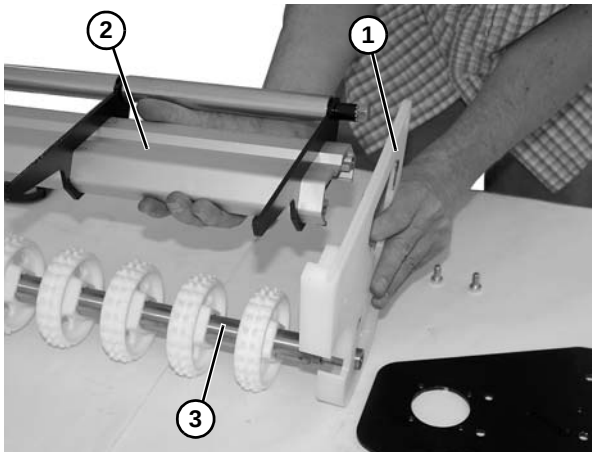


Figure 53

13. Remove crossmember **(Figure 54, item 1)** from opposite terminal assembly **(Figure 54, item 2)**.

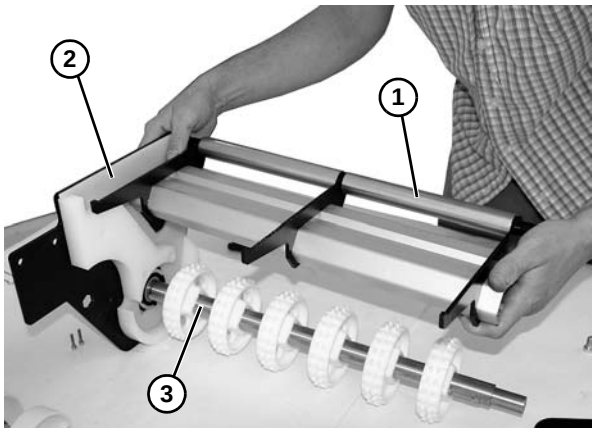


Figure 54

14. Remove drive spindle **(Figure 54, item 3)** from terminal assembly **(Figure 54, item 2)**.
15. Remove rollers **(Figure 55, item 1)** and alignment bar **(Figure 55, item 2)** from shaft **(Figure 55, item 3)**. Inspect and replace if worn.

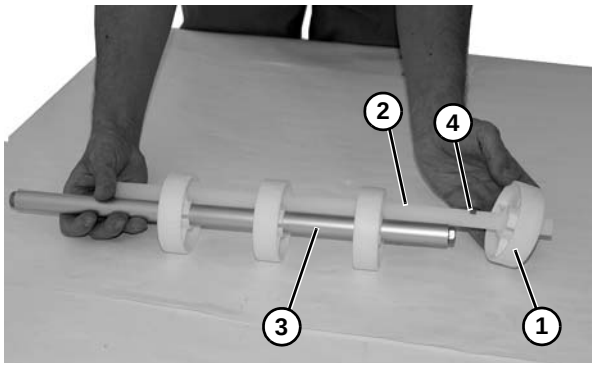


Figure 55

16. Reinstall rollers and alignment bar, with each roller lining up with cutout area **(Figure 55, item 4)** on alignment bar.
17. Slide entire sprocket assembly slightly outward, and remove the first sprocket **(Figure 56, item 1)** off the drive spindle **(Figure 56, item 2)** and alignment bar **(Figure 56, item 3)**.

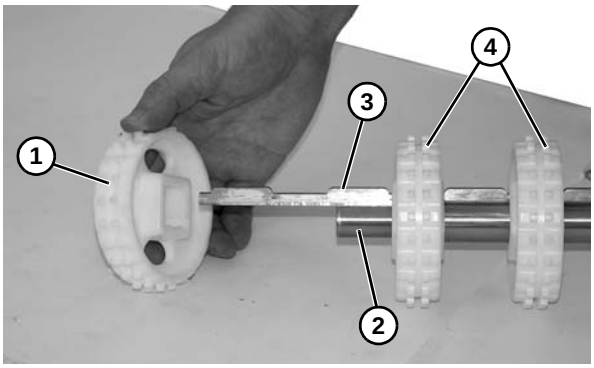


Figure 56

18. Remove remaining sprockets **(Figure 56, item 4)** off the alignment bar as you slide entire assembly off the drive spindle.
19. To assemble sprockets onto drive spindle, slide one sprocket onto alignment bar and slide assembly onto drive spindle.
20. Install second sprocket and subsequent sprockets **(Figure 56, item 4)** one by one, while sliding entire assembly onto alignment bar **(Figure 56, item 3)** and spindle **(Figure 56, item 2)**.
21. Remove nut **(Figure 57, item 1)** from roller axle shaft **(Figure 57, item 2)**.

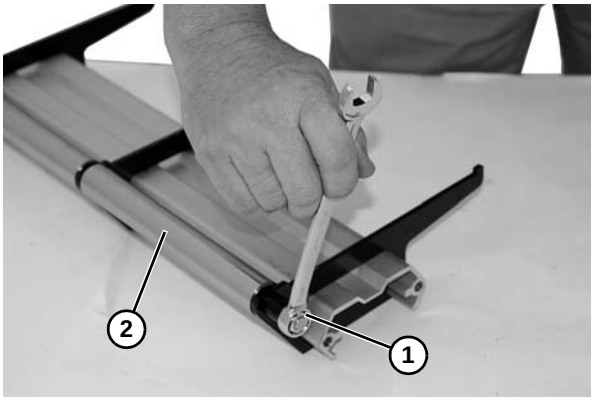


Figure 57

22. Remove spacer **(Figure 58, item 1),** plate **(Figure 58, item 2)**, washer **(Figure 58, item 3)**, roller **(Figure 58, item 4)**, second washer **(Figure 58, item 5)** from axle shaft **(Figure 58, item 6)**.

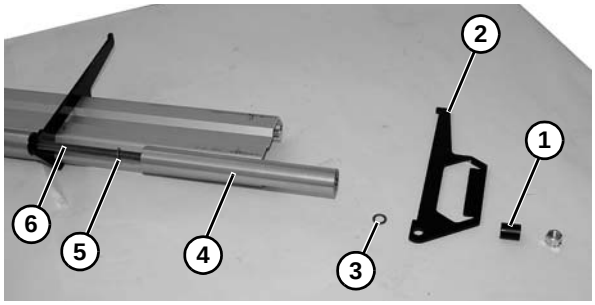


Figure 58

C – Idler Spindle Removal

1. Be sure the conveyor is supported.
2. On one side of conveyor, remove the two socket head screws **(Figure 59, item 1)**.

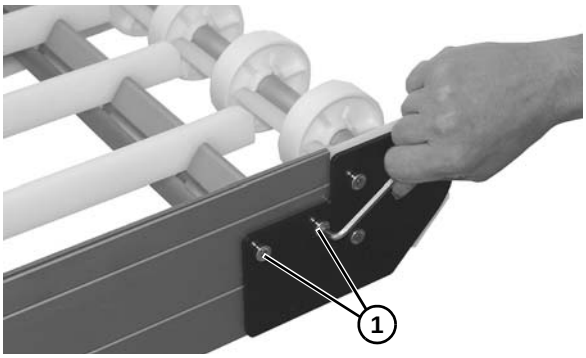


Figure 59

3. Remove end plate **(Figure 60, item 1)** and roller assembly **(Figure 60, item 2)** from conveyor frame **(Figure 60, item 3)** and opposite end plate **(Figure 60, item 4)**.

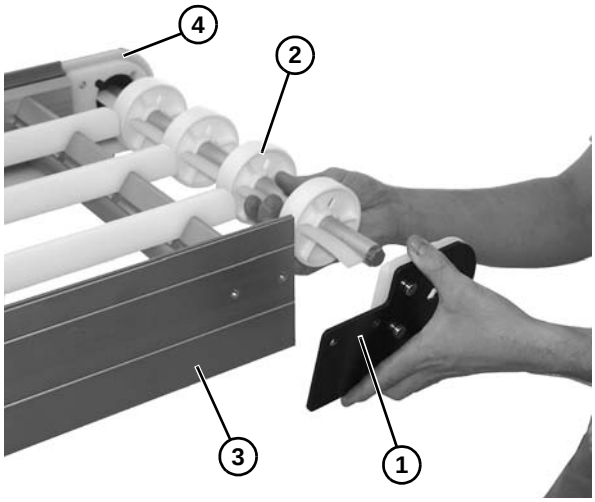


Figure 60

4. Remove rollers **(Figure 61, item 1)** and alignment bar **(Figure 61, item 2)** from shaft **(Figure 61, item 3)**. Inspect and replace if worn.

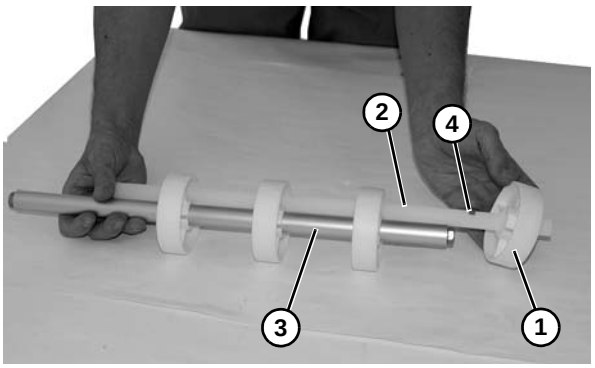


Figure 61

5. Reinstall rollers and alignment bar, with each roller lining up with cutout area **(Figure 61, item 4)** on alignment bar.
6. Check idler terminal assembly **(Figure 62, item 1)** for wear. If worn, remove two low head cap screws **(Figure 62, item 2)** and replace.

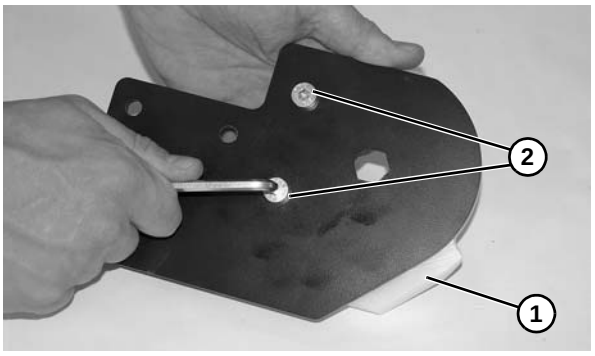


Figure 62

D – Nose Bar Idler Spindle Removal

1. Be sure the conveyor is supported.
2. On one side of conveyor, remove the two socket head screws **(Figure 63, item 1)**. Repeat on opposite side.

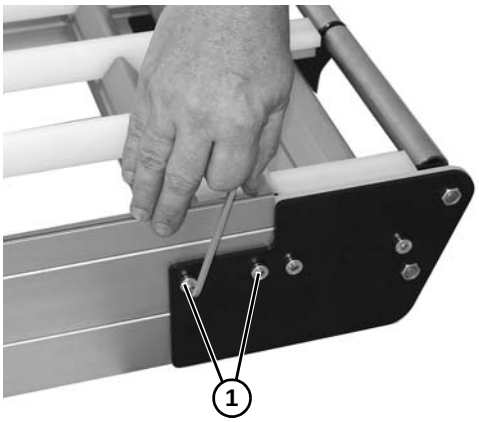


Figure 63

3. Remove idler tail assembly **(Figure 64, item 1)**.

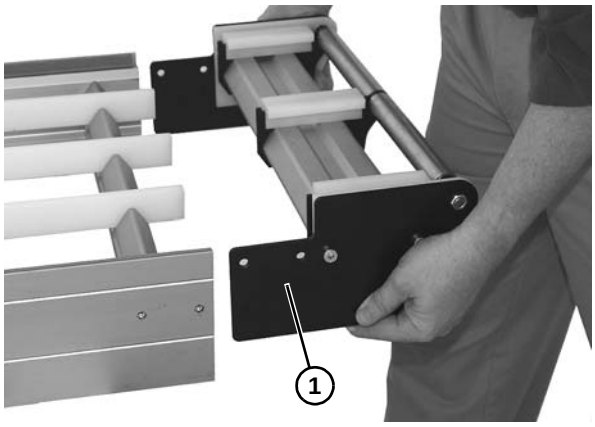


Figure 64

4. Remove two low head cap screws **(Figure 65, item 1)** from plate **(Figure 65, item 2)**. Repeat procedure on opposite side.

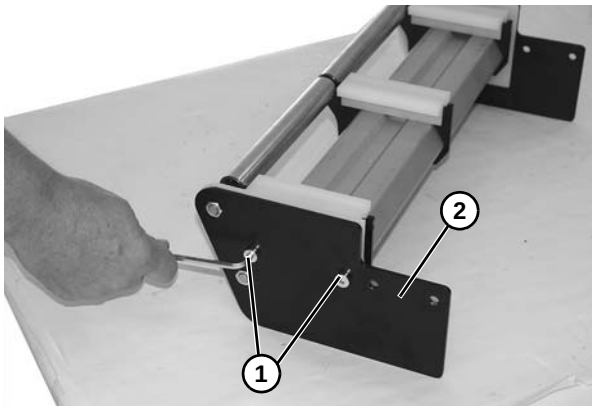


Figure 65

5. Remove plate **(Figure 66, item 1)** and transfer plate **(Figure 66, item 2)**. Repeat procedure on opposite side. Check transfer plate on each side for wear. If worn, replace.

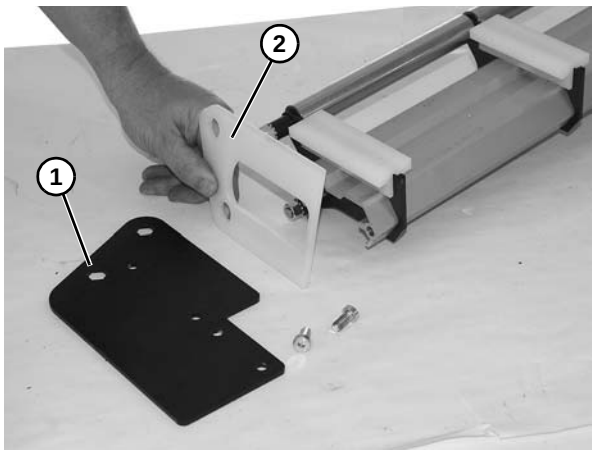


Figure 66

6. Remove upper nut **(Figure 67, item 1)** and spacer **(Figure 67, item 2)** from end of axle shaft assembly.

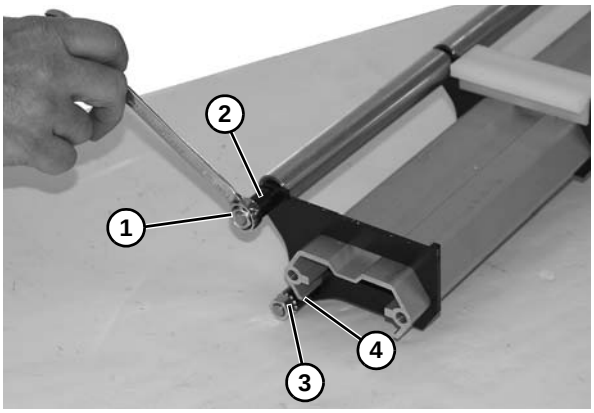


Figure 67

7. Remove lower nut **(Figure 67, item 3)** and spacer **(Figure 67, item 4)** from lower axle shaft assembly.
8. Slide the support plate **(Figure 68, item 1)** off of both axle shafts.

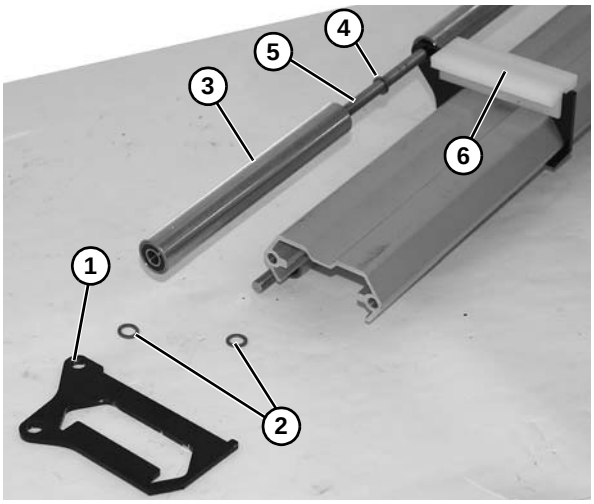


Figure 68

9. Remove washers **(Figure 68, item 2)** off of lower and upper axle shafts.
10. Remove roller assembly **(Figure 68, item 3)** and washer **(Figure 68, item 4)** from axle shaft **(Figure 68, item 5)**.
11. Remove remaining roller assembly components on opposite side.
12. Remove and replace wear guides **(Figure 68, item 6)** if worn.

Spindle Replacement

Drive Spindle

To replace the drive spindle, reverse the procedure “A - Drive Spindle Removal” on page 16.

Nose Bar Drive Spindle

To replace the nose bar drive spindle, reverse the procedure “B - Nose Bar Drive Spindle Removal” on page 18.

Idler Spindle

To replace the idler spindle, reverse the “C - Idler Spindle Removal” on page 21.

Nose Bar Idler Spindle

To replace the idler spindle, reverse the “D - Nose Bar Idler Spindle Removal” on page 21.

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 69, item 1)** to align with slots **(Figure 69, item 2)** in bearing housing. Then remove bearing.

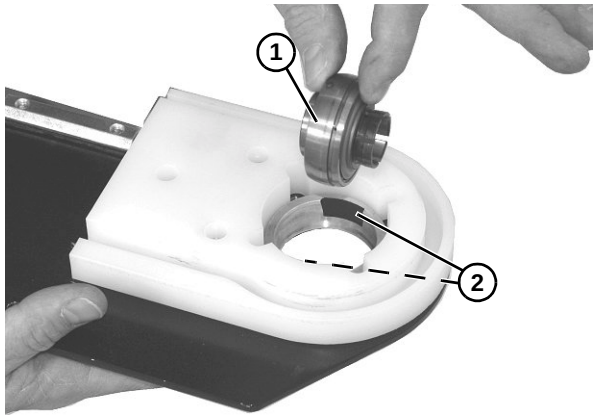


Figure 69

Replacement

1. Inspect bearing housing bearing surface. If worn or damaged, replace. See “Service Parts” on page 27.
2. Insert bearing **(Figure 70, item 1)** into housing slot: Locate anti–rotation nub **(Figure 70, item 2)** to align with slot **(Figure 70, item 3)**, and twist bearing into housing.

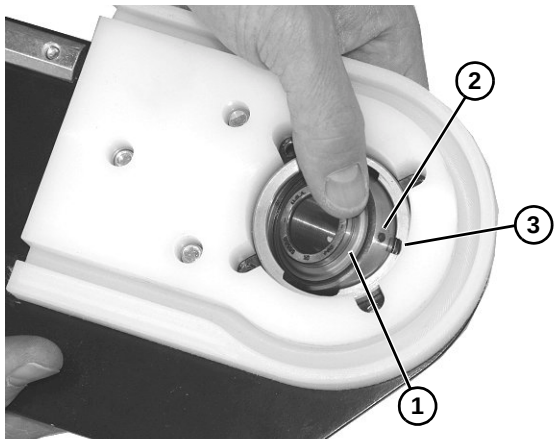


Figure 70

Maintenance of Knuckles

NOTE
Be sure all frame sections are properly supported.

Guides

1. Loosen socket head screw **(Figure 71, item 1)** on guide bracket **(Figure 71, item 2)** and remove guide **(Figure 71, item 3)**. Repeat on opposite side.

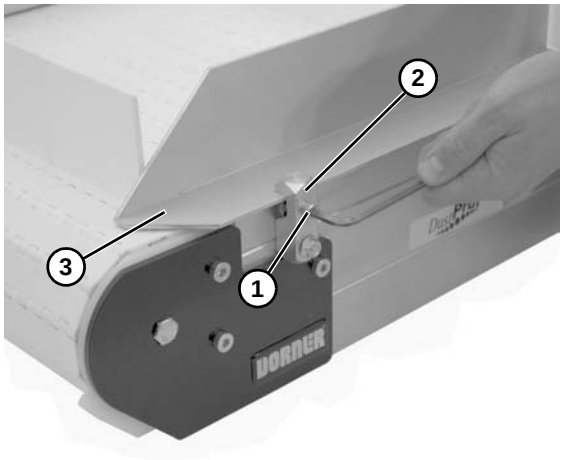


Figure 71

Lower Knuckle

1. Remove belt. See "Conveyor Belt Replacement" on page 13.
2. Remove two cap screws **(Figure 72, item 1)** on each side of the knuckle and remove the hold down roller guards **(Figure 72, item 2)**. Repeat on opposite side.

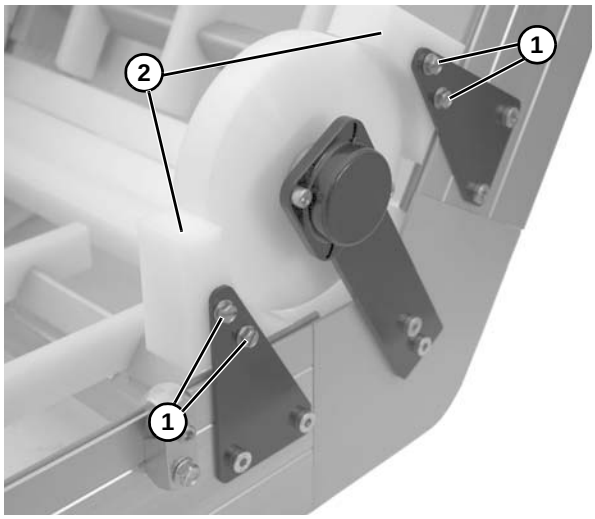


Figure 72

3. Remove two socket head screws **(Figure 73, item 1)** and remove shaft cover **(Figure 73, item 2)**. Repeat on opposite side.

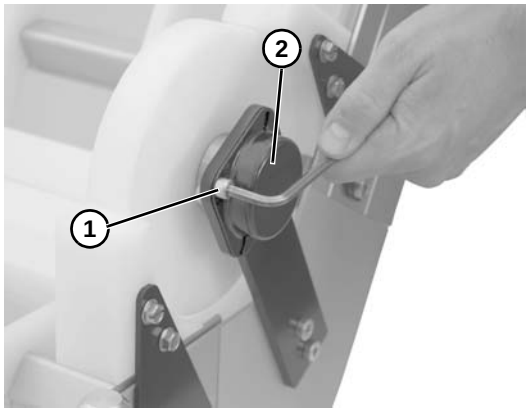


Figure 73

4. Remove the hex jam nut **(Figure 74, item 1)** and the hold down roller **(Figure 74, item 2)**. Repeat on opposite side.

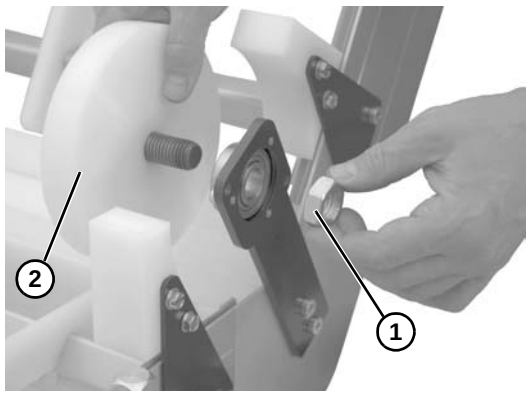


Figure 74

5. Remove three socket head screws and washers **(Figure 75, item 1)** that retain bearing **(Figure 75, item 2)** to support bar **(Figure 75, item 3)**. Repeat on opposite side.

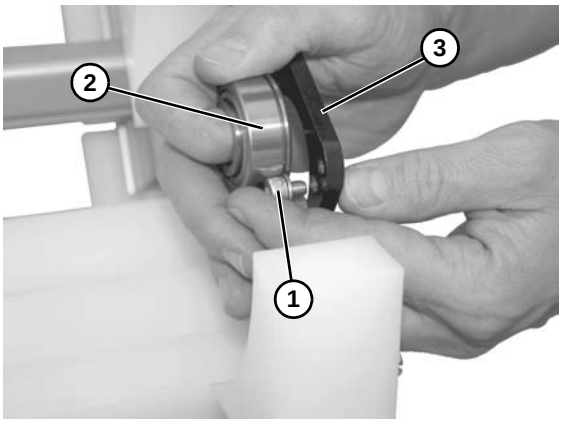


Figure 75

6. Remove knuckle belt supports **(Figure 76, item 1)**.

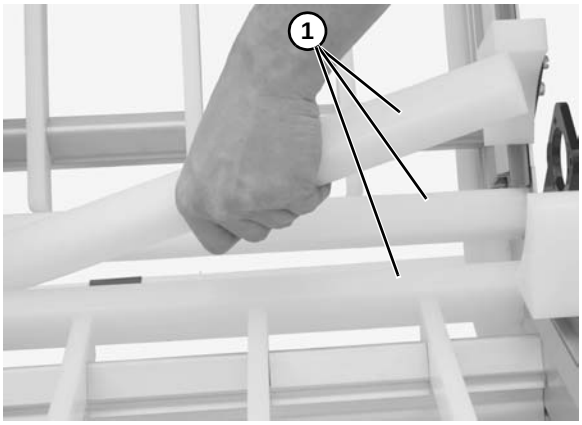


Figure 76

7. Remove belt return wearstrip **(Figure 77, item 1)**. Repeat on opposite side.

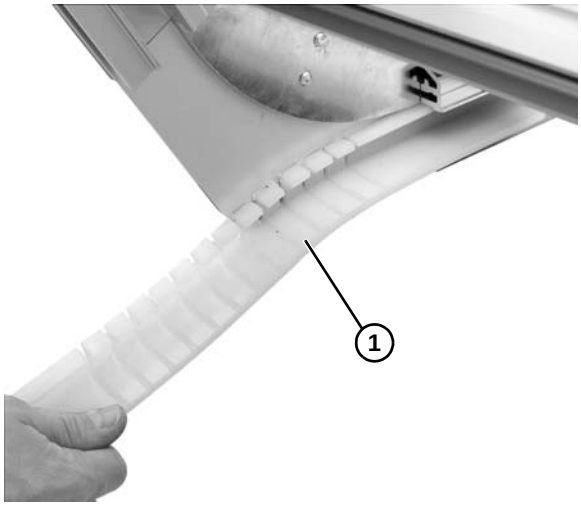


Figure 77

8. Replace parts as necessary.
9. Install parts reverse of removal.

Upper Knuckle

1. Remove belt. See “Conveyor Belt Replacement” on page 13.
2. Remove two socket head screws **(Figure 78, item 1)**. Repeat on other side.

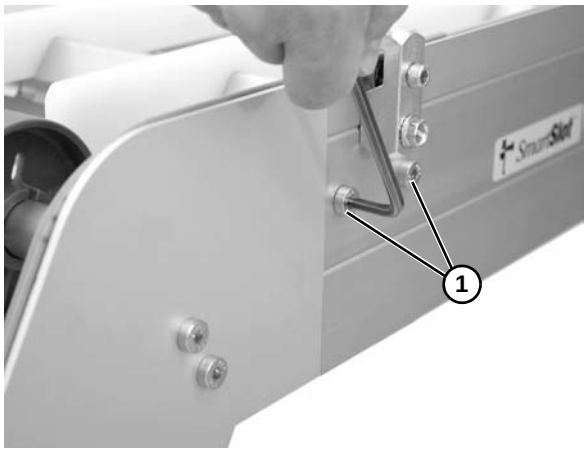


Figure 78

3. Separate conveyor frame **(Figure 79, item 1)** from knuckle assembly **(Figure 79, item 2)**.

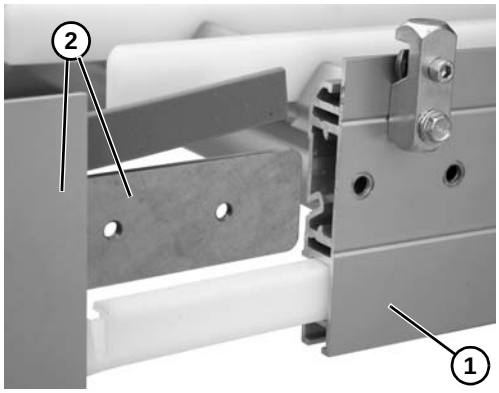


Figure 79

4. Remove upper edge wearstrip **(Figure 80, item 1)**. Repeat on other side.

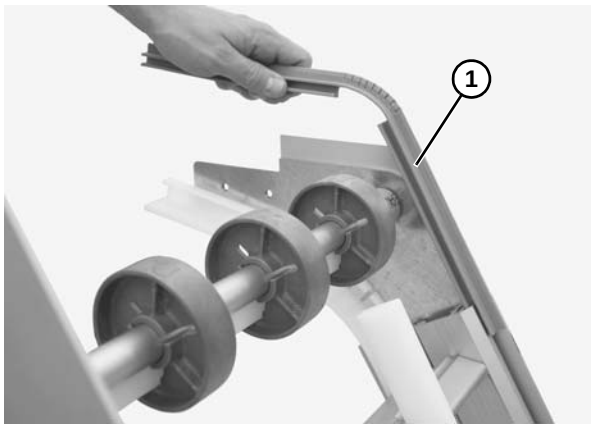


Figure 80

5. Remove belt return wearstrip **(Figure 81, item 1)**. Repeat on other side.

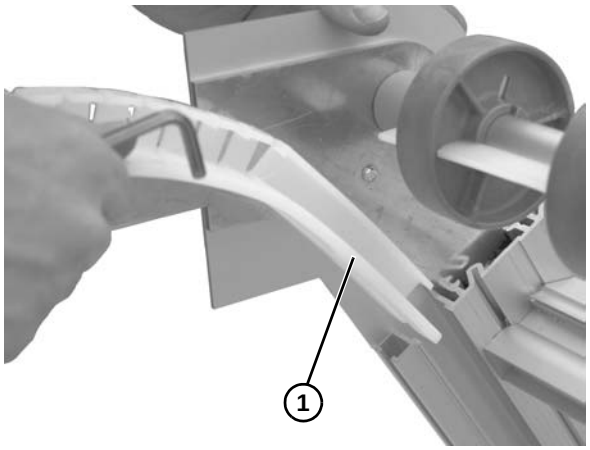


Figure 81

6. Slide knuckle joint plate from slot in conveyor frame **(Figure 82, item** 1) and remove shaft assembly **(Figure 82, item 1)**.

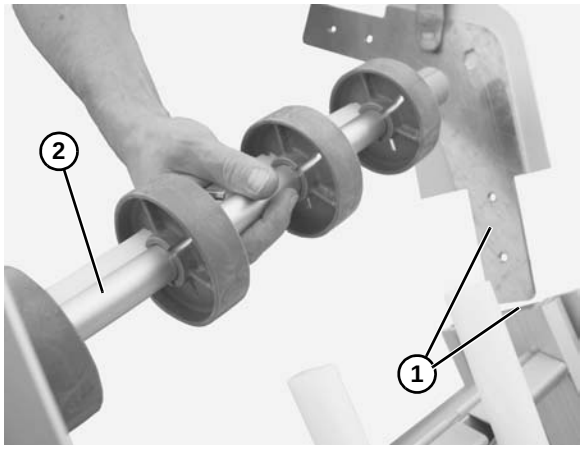


Figure 82

7. Remove tube spacer from shaft **(Figure 83, item** 1).

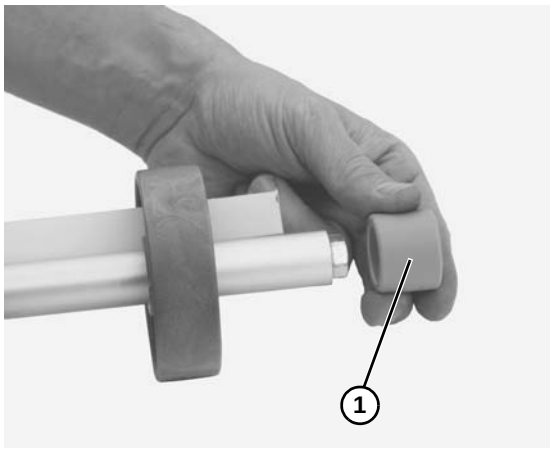


Figure 83

8. Remove rollers **(Figure 84, item 1)** and alignment bar from shaft **(Figure 84, item 2)**.

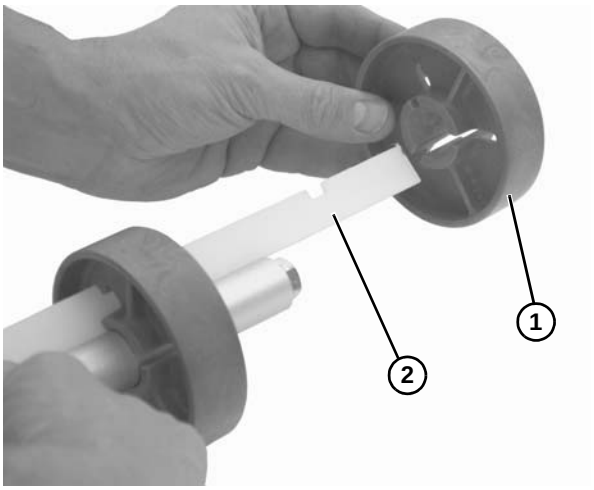


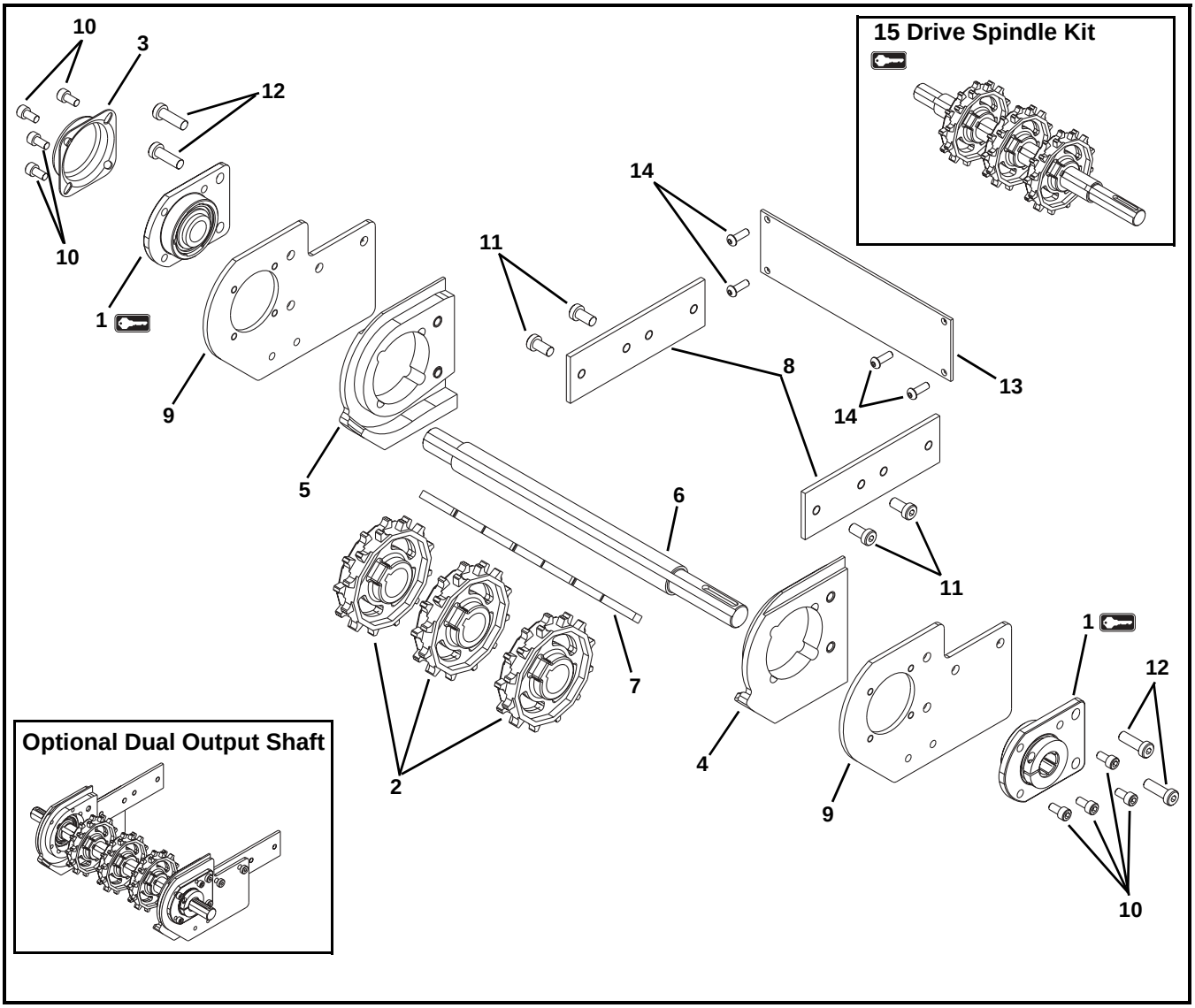
Figure 84

9. Replace parts as necessary.
10. Install parts reverse of removal.

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

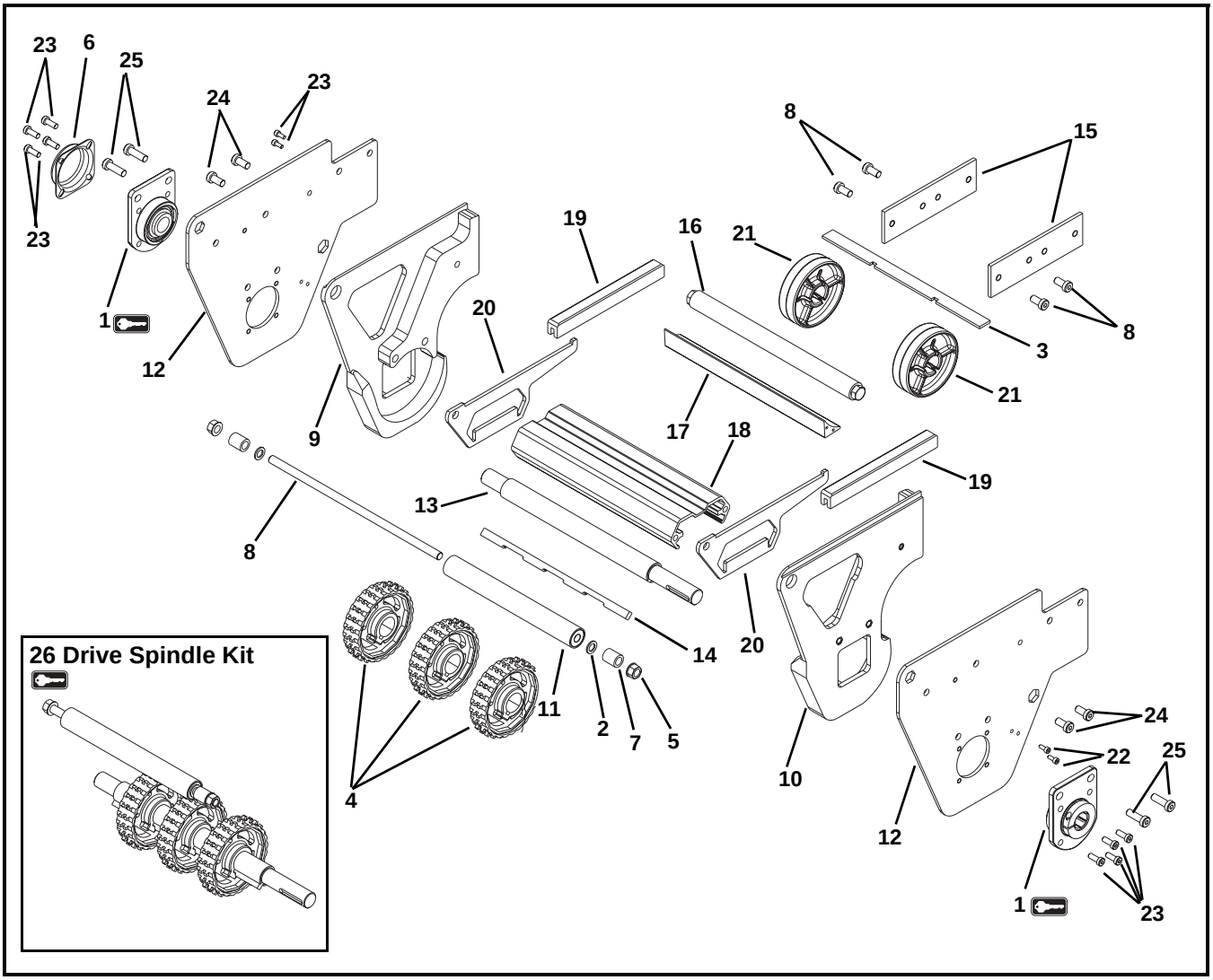


Item	Part Number	Description
1	52BKD	Bearing Kit (Qty. 2)
2	807-1754	Sprocket for 1" Pitch Belt
	807-1761	Sprocket for 0.50" Pitch Belt
3	300139	Shaft Cover
4	352091	Drive Terminal Assembly A Side
5	352092	Drive Terminal Assembly D Side
6	352178-WW	Drive Spindle
	352360-WW	Drive Spindle for Dual Output Shaft
7	352180-WW	Sprocket Alignment Key
8	352184	Clamp Plate

Item	Part Number	Description
9	352192	Cover Plate
10	920612M	Socket Head Screw, M6-1.00 x 12 mm
11	950816M	Low Head Cap Screw, M8-1.25 x 16 mm
12	950825M	Low Head Cap Screw, M8-1.25 x 25 mm
13	352496-WW	Stiffener Plate
14	901-133	Button Head Cap Screw, 1/4 - 20 x .75"
15	53DT-WW	Drive Spindle Kit (Includes items 2, 6 and 7)
WW = Conveyor width reference: 06 – 36 in 02 increments		

Service Parts

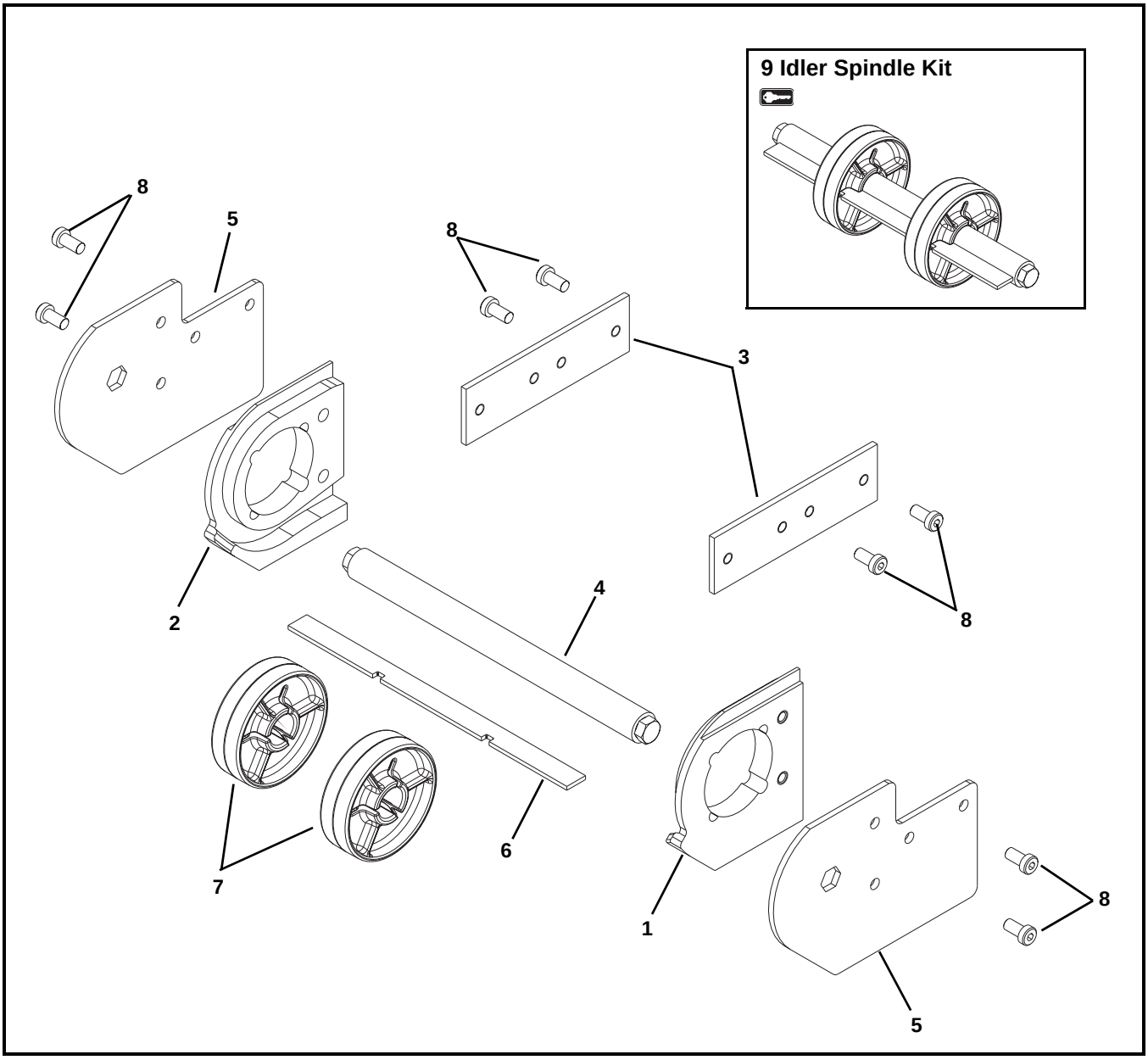
Nose Bar Drive End Components



Item	Part Number	Description
1	52BKD	Bearing Kit (Qty. 2)
2	807-1136	Washer
3	352195-WW	Alignment Bar
4	807-1761	Sprocket for 0.50" Pitch Belt
5	910-203	Hex Nut
6	300139	Shaft Cover
7	352125	Spacer
8	352126-WW	Shaft
9	352135	Terminal Assembly Left Hand
10	352136	Terminal Assembly Right Hand
11	352164-WW	Roller Assembly
12	352166	Tail Plate
13	352178-WW	Spindle
14	352180-WW	Sprocket Alignment Key

Item	Part Number	Description
15	352184	Clamp Plate
16	352189-WW	Shaft Assembly
17	352199-WW	Pinch Guard
18	352277-WW	Crossmember
19	352282	Wear Strip
20	352295	Support Plate
21	506296	Idler Puck
22	920410M	Socket Head Screw, M4-0.70 x 10 mm
23	950616M	Low Head Cap Screw, M6-1.00 x 16 mm
24	950816M	Low Head Cap Screw, M8-1.25 x 16 mm
25	950825M	Low Head Cap Screw, M8-1.25 x 25 mm
26	53NBDT-WW	Nose Bar Drive Spindle Kit (Includes items 2, 4, 5, 7, 8, 11, 13 and 14)
WW = Conveyor width reference: 06 – 36 in 02 increments		

Idler End Components

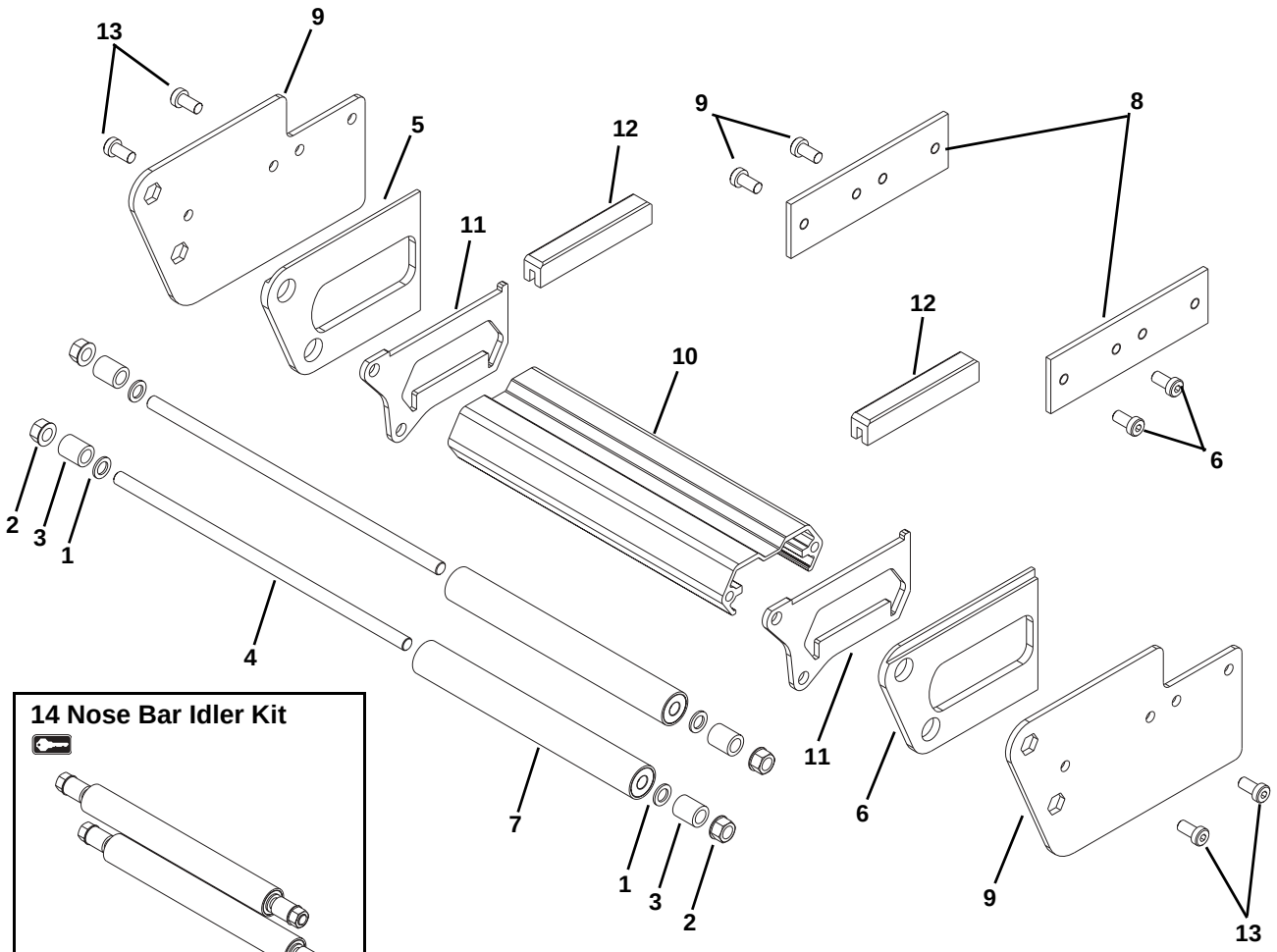


Item	Part Number	Description
1	352091	Terminal Assembly Drive A Side
2	352092	Terminal Assembly Drive D Side
3	352184	Clamp Plate
4	352189-WW	Idler Shaft Assembly
5	352193	Cover Plate
6	352195-WW	Alignment Bar

Item	Part Number	Description
7	506296	Idler Puck
8	950816M	Low Head Cap Screw, M8-1.25 x 16 mm
9	53ET-WW	Idler Spindle Kit (Includes items 4, 6, and 7)
WW = Conveyor width reference: 06 – 36 in 02 increments		

Service Parts

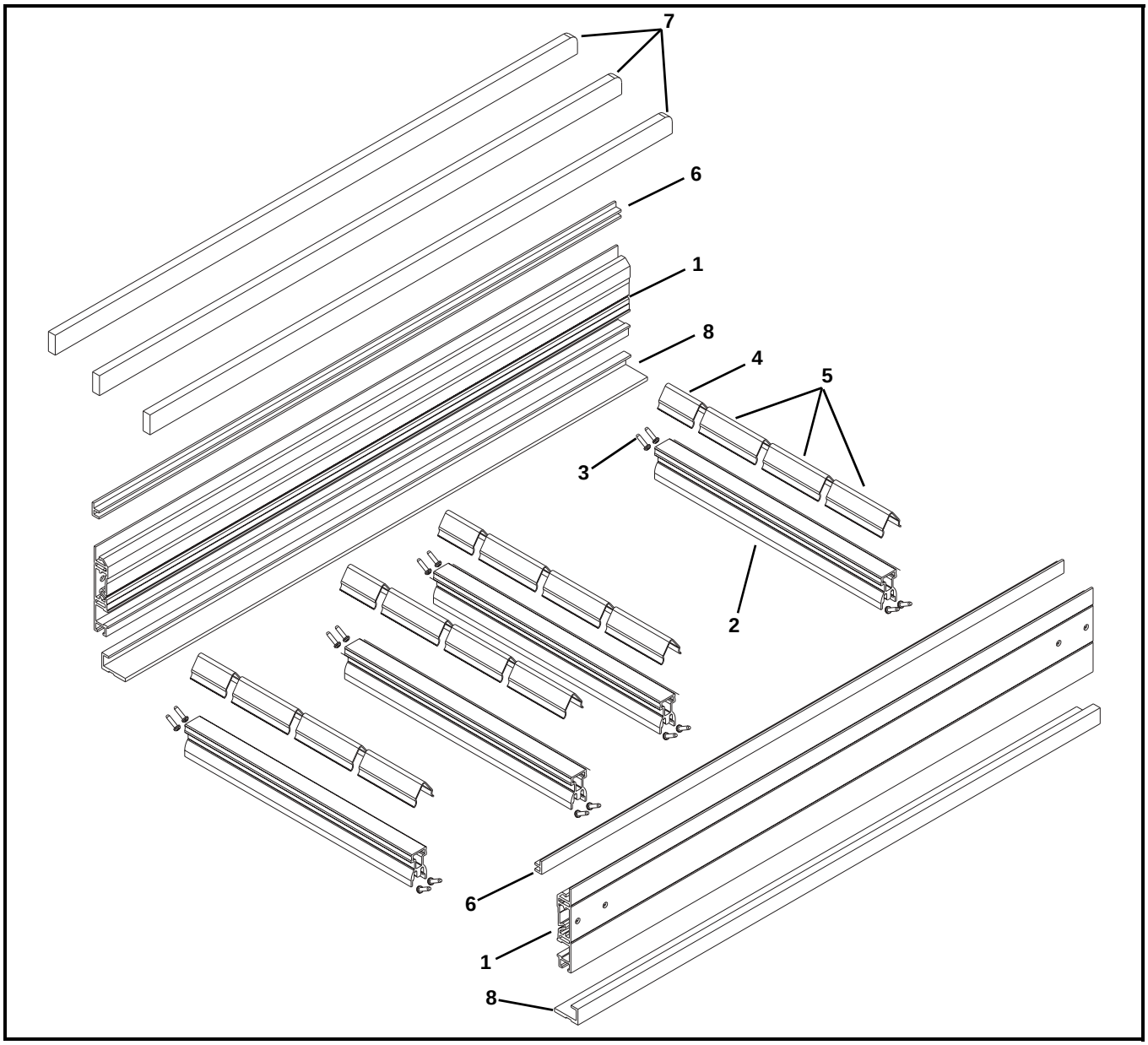
Nose Bar Idler End Components



Item	Part Number	Description
1	807-1136	Washer
2	910-203	Hex Nut
3	352125	Spacer
4	352126-WW	Shaft
5	352131	Terminal Transfer Tail Left Hand
6	352132	Terminal Transfer Tail Right Hand
7	352164-WW	Roller Assembly

Item	Part Number	Description
8	352184	Clamp Plate
9	352188	Tail Plate
10	352277-WW	Crossmember
11	352278	Support Plate
12	352279	Wear Strip
13	950816M	Low Head Cap Screw, M8-1.25 x 16 mm
14	53NBT-WW	Nose Bar Ilder Kit (Includes items 1 thru 4, and 7)
WW = Conveyor width reference: 06 – 36 in 02 increments		

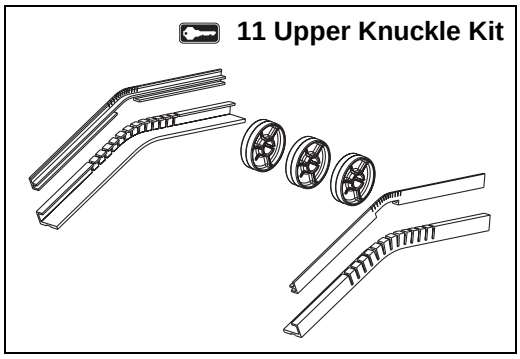
Frame Assembly

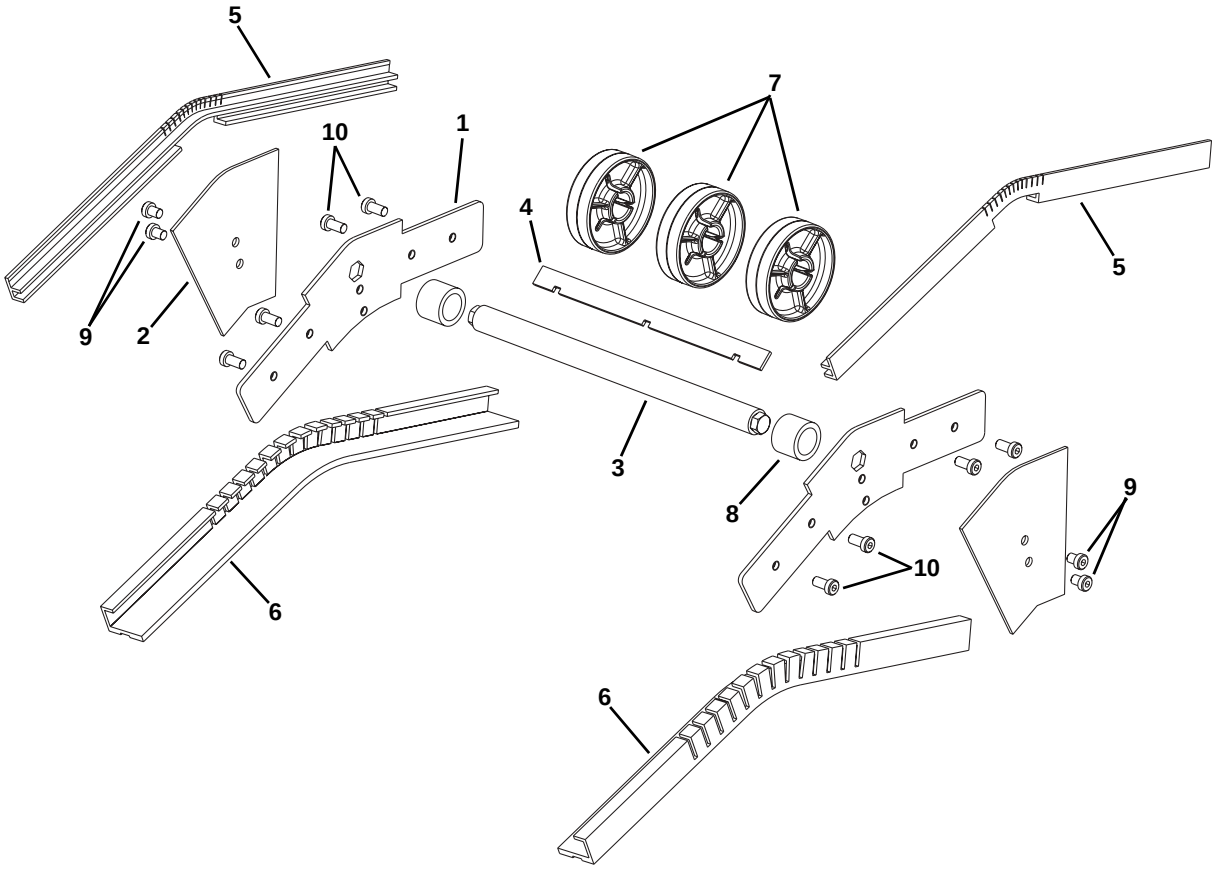


Item	Part Number	Description
1	352171-LLLLL	Side Rail
2	352169-WW	Center Rail
3	352108	Pan Screw, M5-.80 x 20 mm
4	352172-WW	First Spacer
5	352172-06A	Spacer for 6" wide Conveyor
	352172-01	Spacer for 10”, 20”, 24”, and 34” Wide Conveyors Only
	352172-00	Spacer for All Other Width Conveyors
6	352163-LLLLL	Edge Strip
7	352167-LLLLL	Wear Strip
8	352175-LLLLL	Edge Return Wear Strip
WW = Conveyor width reference: 06 – 36 in 02 increments		
LLLLL = Length in inches with 2 decimal places.		
Length Example: Length = 95.25" LLLLL = 09525		

Service Parts

Upper Knuckle

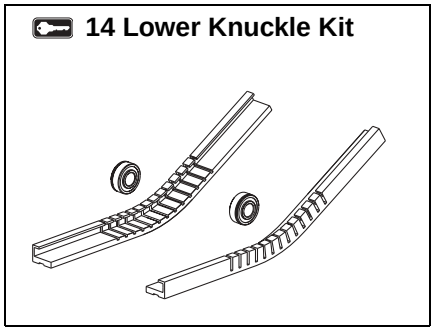


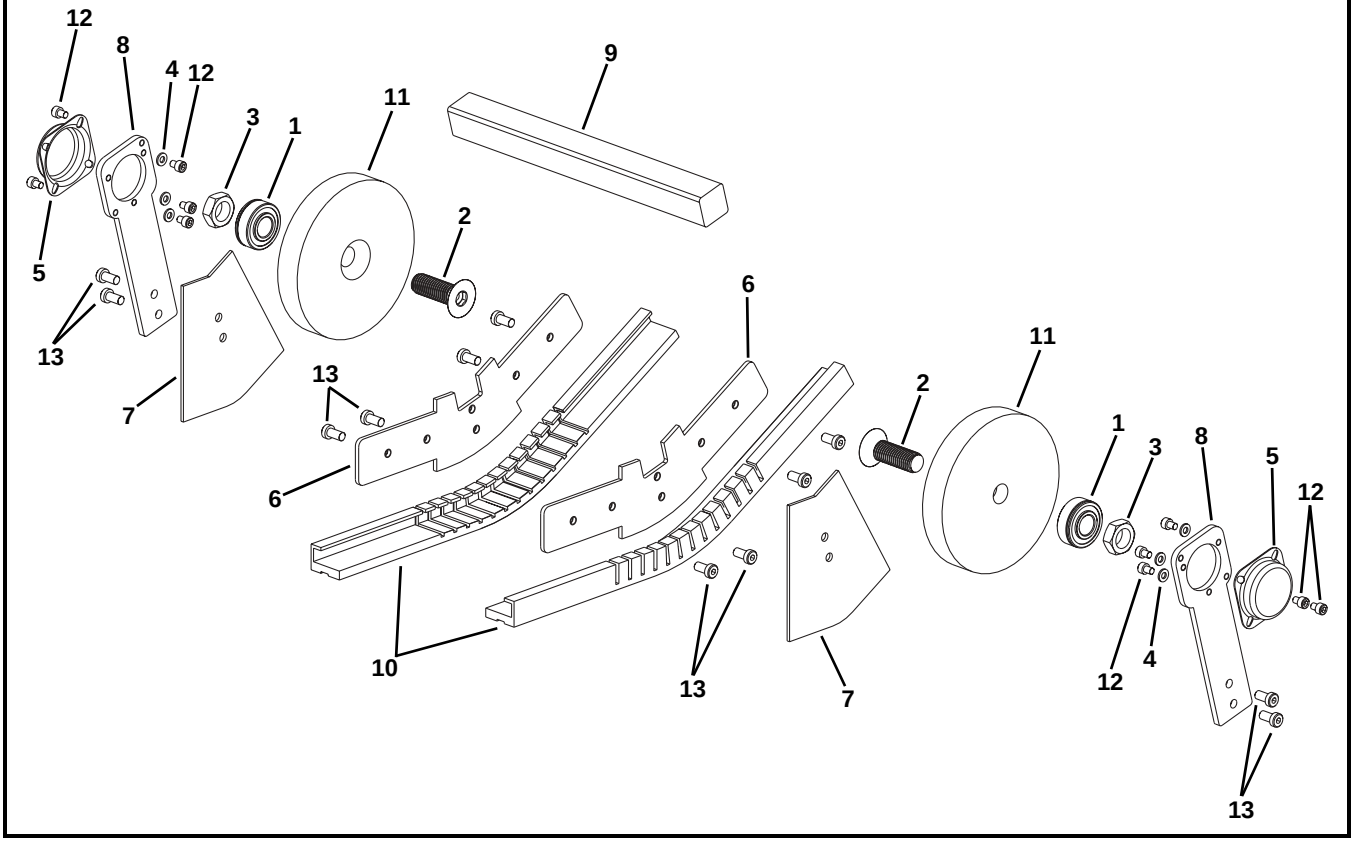


Item	Part Number	Description
1	352452-AA	Upper Joint Plate
2	352453-AA	Knuckle Cover Plate
3	352456-WW	Shaft Assembly
4	352457-WW	Alignment bar
5	352458	Upper Edge Wearstrip
6	352459	Return Strip
7	506296	Idler Puck
8	532127-00100	Tube Spacer

Item	Part Number	Description
9	950810M	Low Head Cap Screw, M8 - 1.25 x 10 mm
10	950816M	Low Head Cap Screw, M8 - 1.25 x 16 mm
11	53NV-WW	Upper Knuckle Kit (Includes Items 5, 6 and 7)
AA = Angle 05, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, and 60		
WW = Conveyor width reference: 08 – 24 in 02 increments		

Lower Knuckle



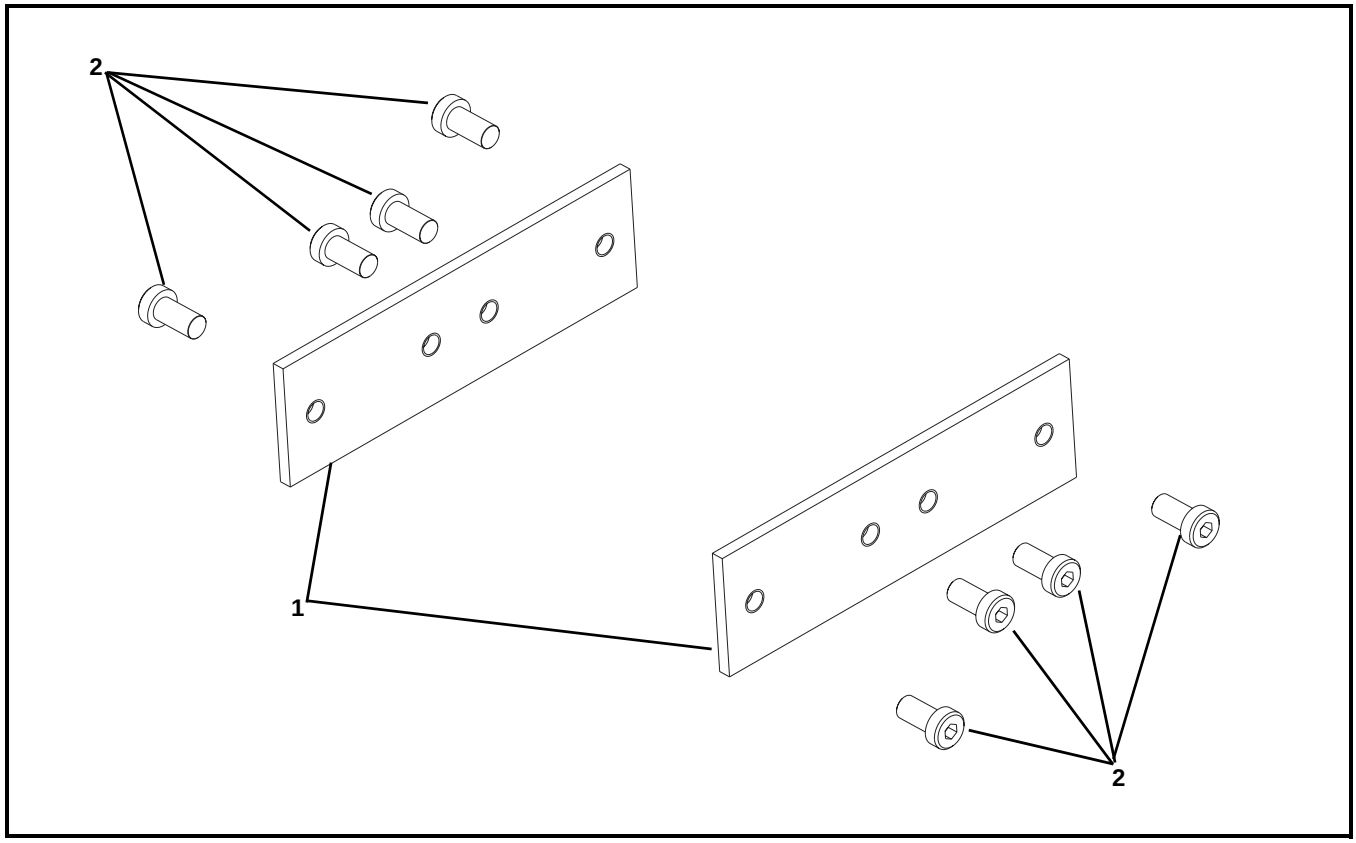


Item	Part Number	Description
1	802-050	Bearing
2	903-349	Flat Head Cap Screw, 3/4 - 10 x 2.25"
3	910-034	Hex Jam Nut
4	911-222	Washer
5	300139	Shaft Cover
6	352451-AA	Lower Joint Plate
7	352453-AA	Knuckle Cover Plate
8	352454	Roller Support Bar
9	352455-WW	Knuckle Belt Support

Item	Part Number	Description
10	352459	Return Wearstrip
11	352465	Hold-Down Wheel
12	920608M	Socket Head Screw, M6 - 1.00 x 8 mm
13	950816M	Low Head Cap Screw, M8 - 1.25 x 16 mm
14	53HI	Lower Knuckle Kit (Includes Items 1 and 10)
AA = Angle 05, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55 and 60		
WW = Conveyor width reference: 08 – 24 in 02 increments		

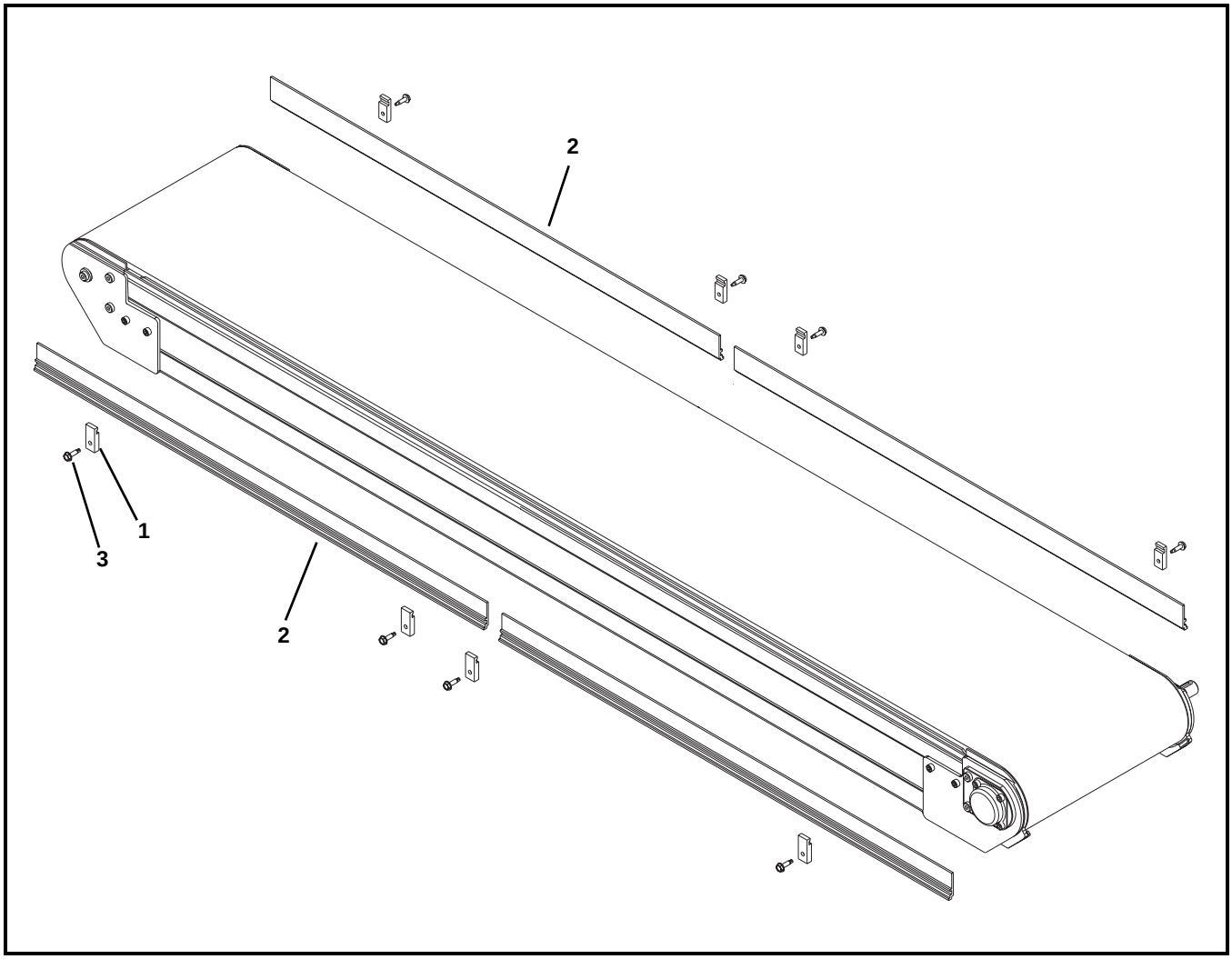
Service Parts

Connecting Assembly



Item	Part Number	Description
1	352184	Clamp Plate
2	950816M	Low Head Cap Screw, M8-1.25 x 16 mm

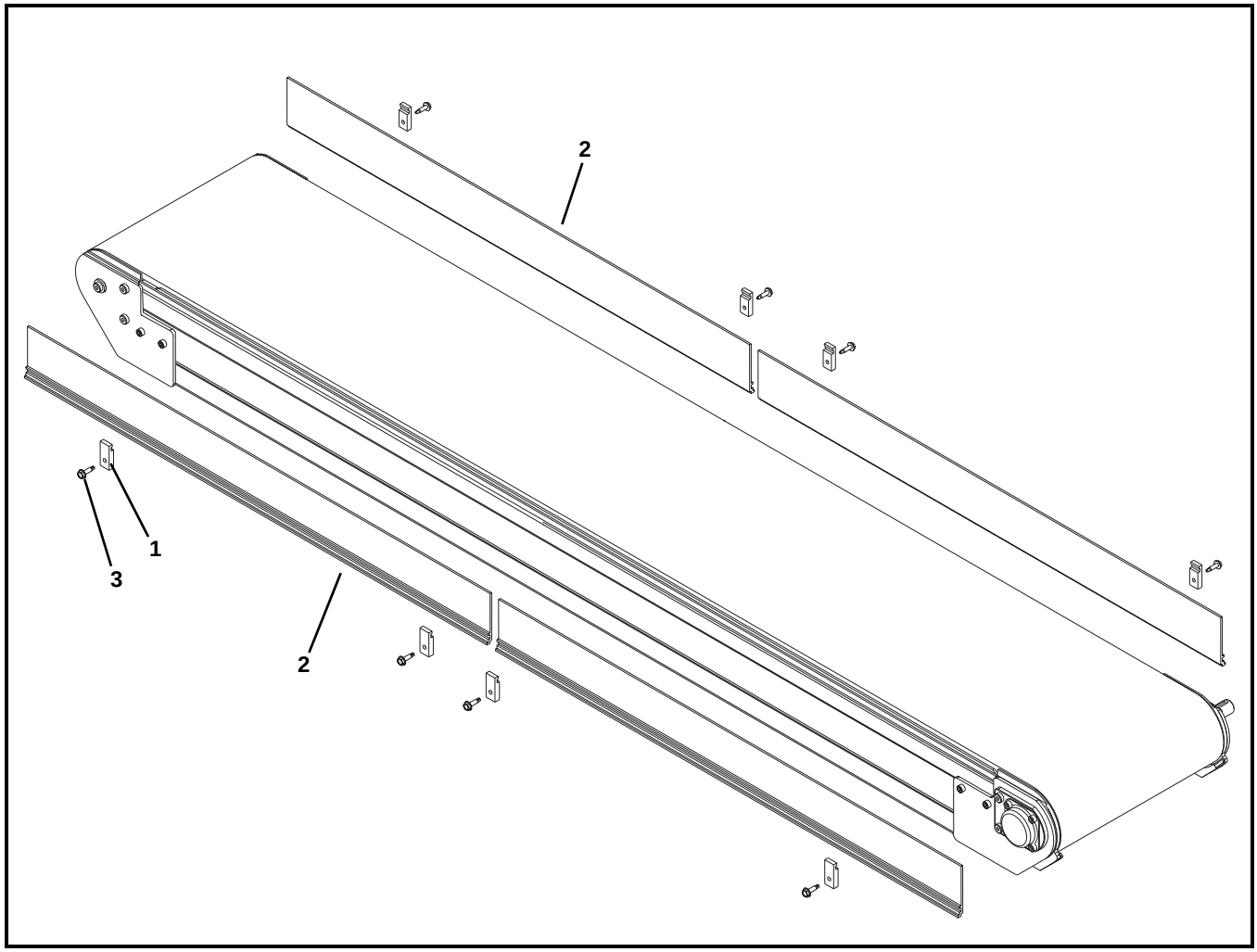
1” (25 mm) High Sides



Item	Part Number	Description
1	352182	Guide Retaining Clip
2	380500-LLLLL	1" Guides
3	807-1937	Self-Drilling Hex Head Screw, 1/4-20 x 1”
LLLLL = Length in inches with 2 decimal places.		
Length Example: Length = 95.25" LLLLL = 09525		

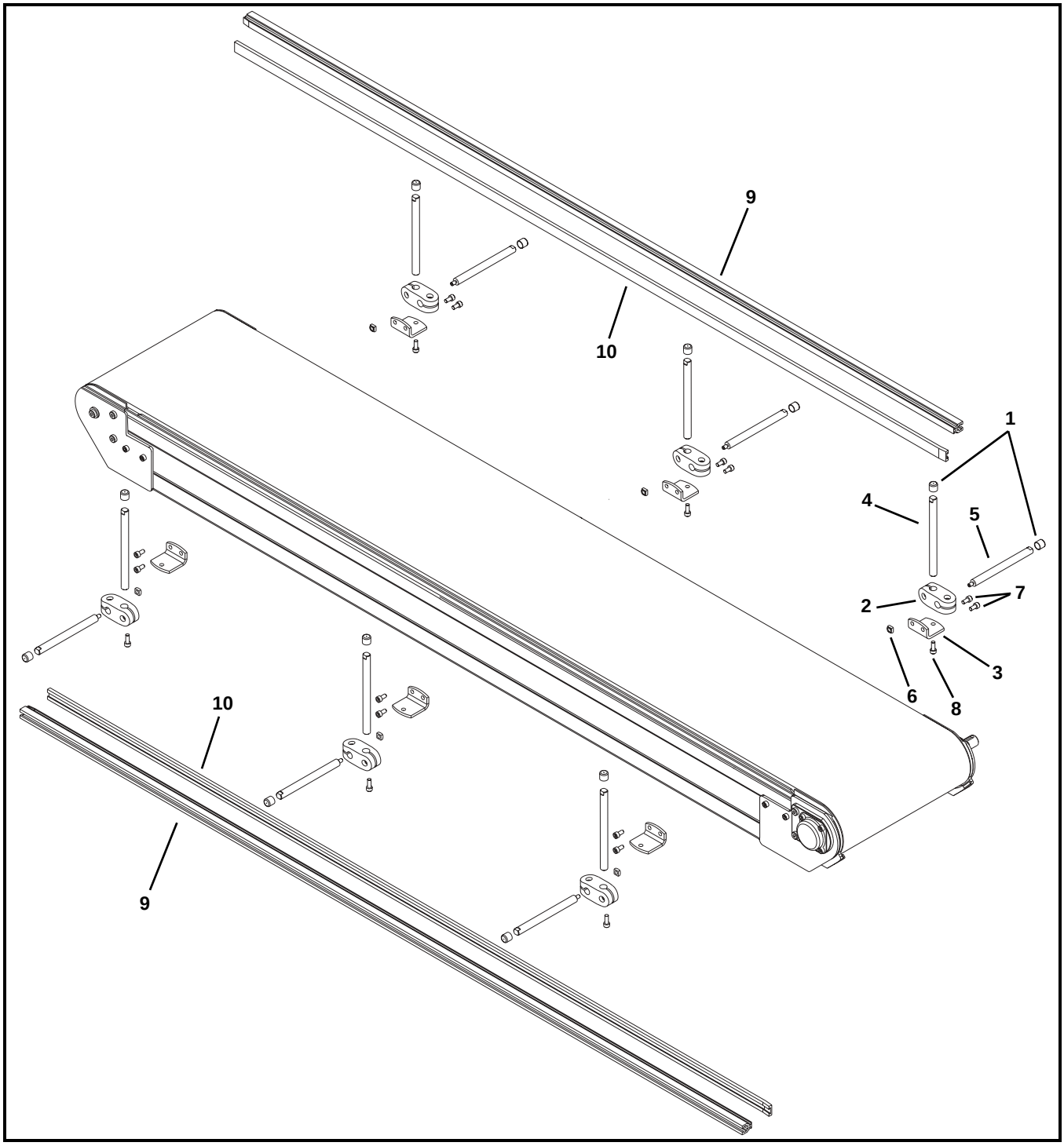
Service Parts

3” (76 mm) High Sides



Item	Part Number	Description
1	352182	Guide Retaining Clip
2	380400-LLLLL	3" Guides
3	807-1937	Self-Drilling Hex Head Screw, 1/4-20 x 1”
LLLLL = Length in inches with 2 decimal places.		
Length Example: Length = 95.25" LLLLL = 09525		

Fully Adjustable Guiding

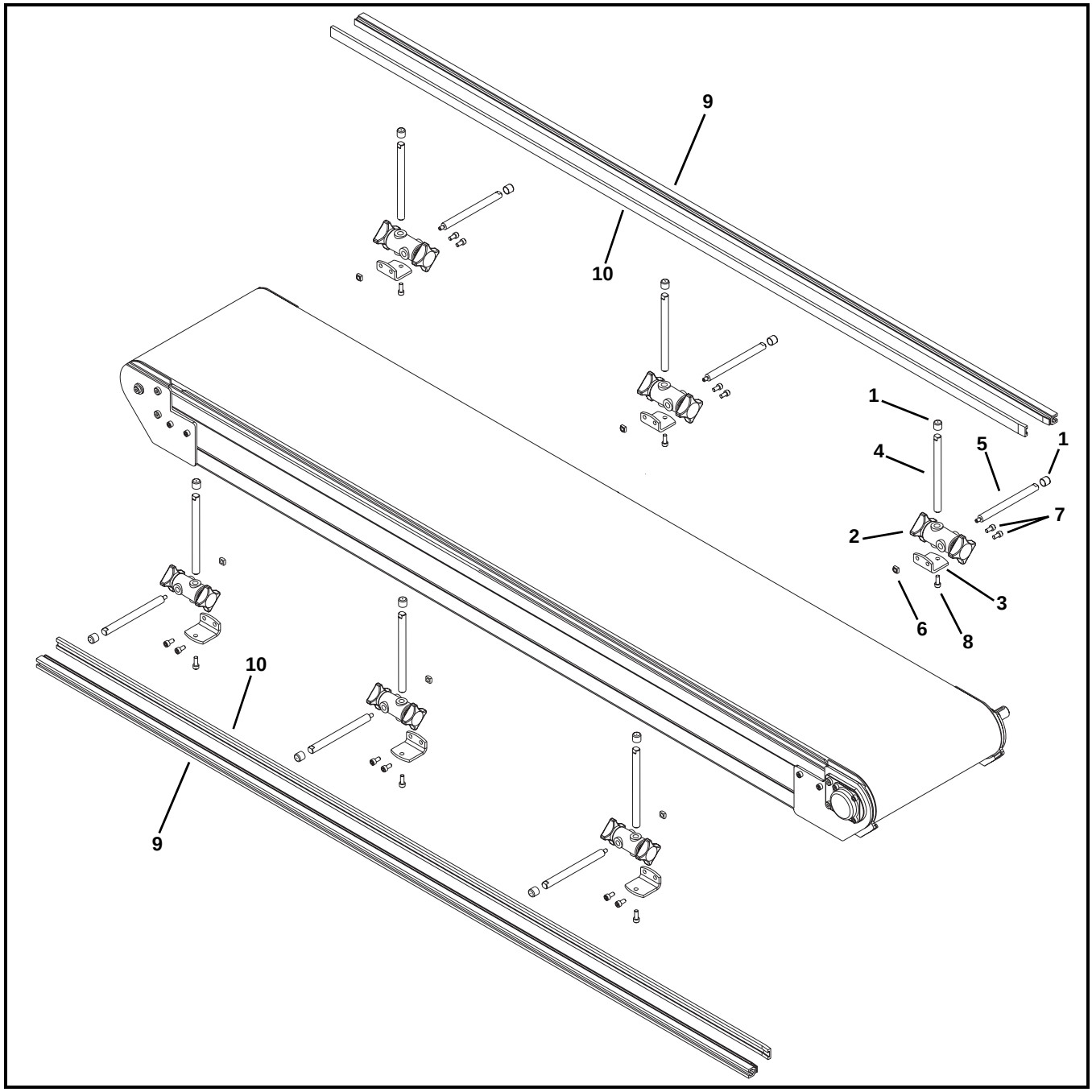


Item	Part Number	Description
1	807-948	Shaft Cap
2	807-652	Cross Block
3	202004	Mounting Bracket
4	202027M	Vertical Mounting Guide Shaft
5	202028M	Horizontal Mounting Guide Shaft
6	674175MP	Square Nut, M6-1.00

Item	Part Number	Description
7	807-1937	Self-Drilling Hex Head Screw, 1/4-20 x 1”
8	920612M	Socket Head Screw, M6-1.00 x 12 mm
9	460063-LLLLL	Aluminum Profile Guide
10	614068P-LLLLL	Extruded Guide
LLLLL = Length in inches with 2 decimal places.		
Length Example: Length = 95.25" LLLLL = 09525		

Service Parts

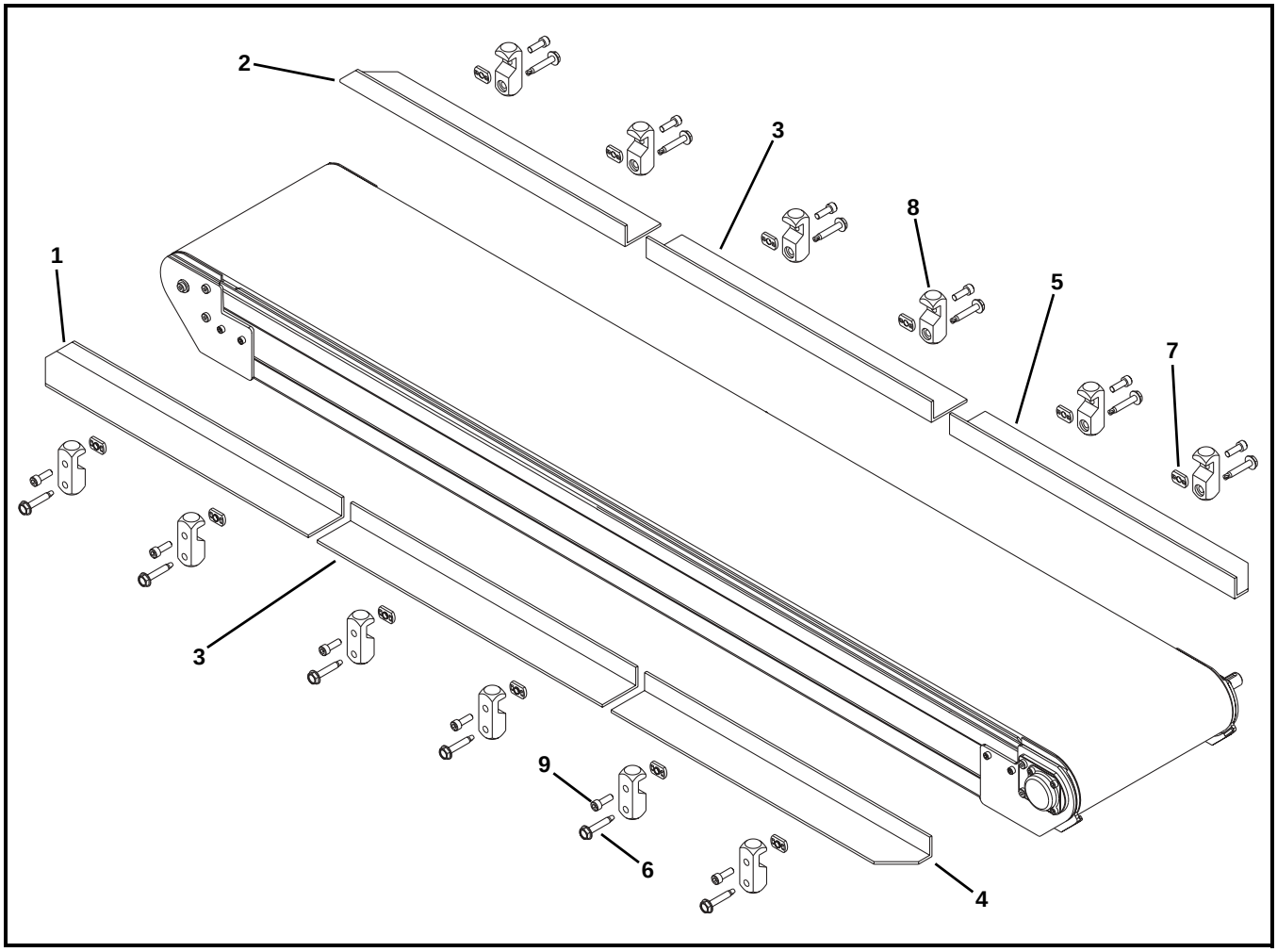
Tool-Less Fully Adjustable Guiding



Item	Part Number	Description
1	807-948	Shaft Cap
2	807-1470	Cross Block
3	202004	Mounting Bracket
4	202027M	Vertical Mounting Guide Shaft
5	202028M	Horizontal Mounting Guide Shaft

Item	Part Number	Description
6	674175MP	Square Nut, M6-1.00
7	807-1937	Self-Drilling Hex Head Screw, 1/4-20 x 1”
8	920612M	Socket Head Screw, M6-1.00 x 12 mm
9	460063-LLLLL	Aluminum Profile Guide
10	614068P-LLLLL	Extruded Guide
LLLLL = Length in inches with 2 decimal places.		
Length Example: Length = 95.25" LLLLL = 09525		

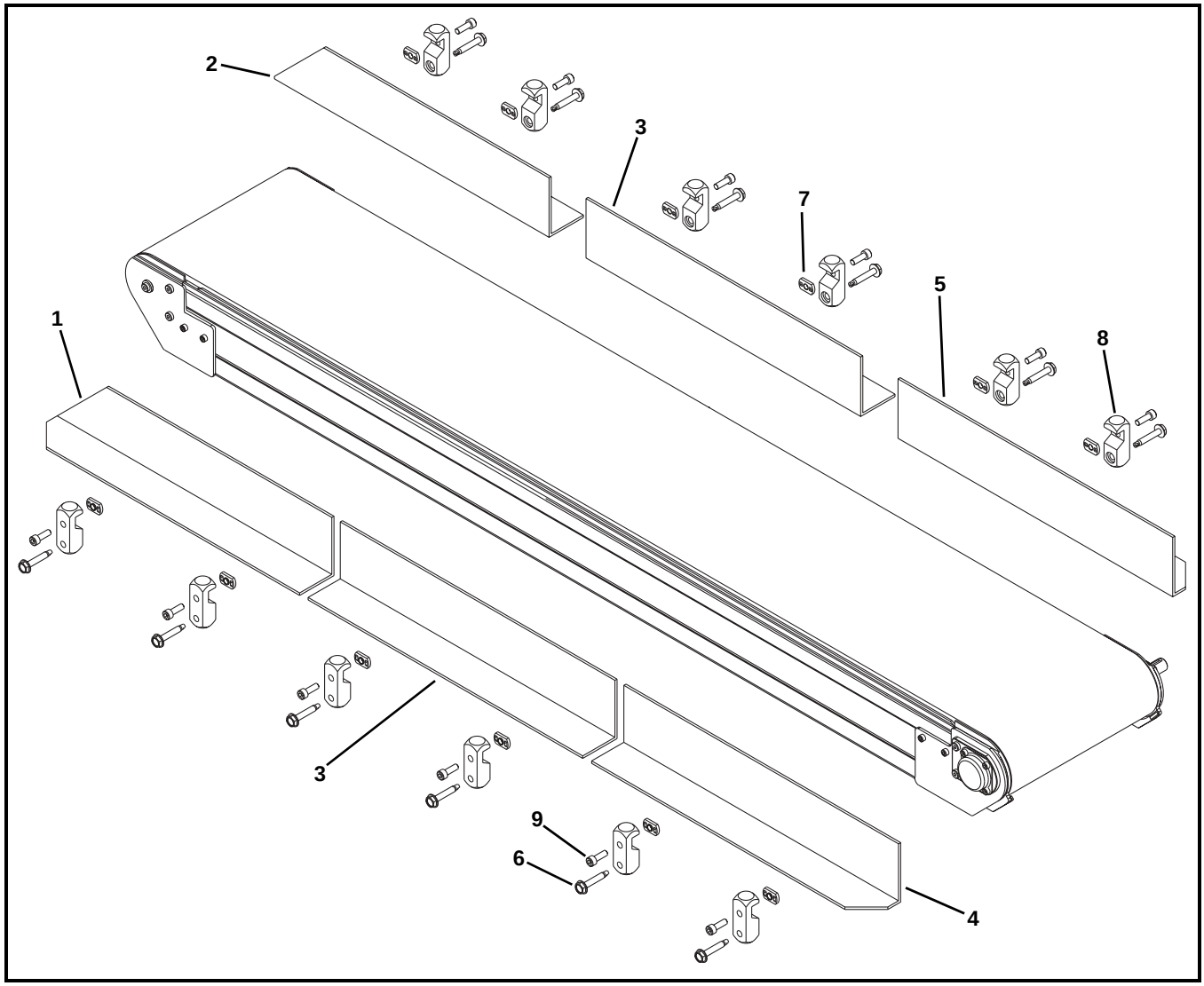
1" Cleated Guiding



Item	Part Number	Description
1	352486-LLLLL	One piece Guiding Right Hand (for Conveyors up to 11' long)
	352484-LLLLL	Infeed Guiding Right Hand
2	352487-LLLLL	One piece Guiding Left Hand (for Conveyors up to 11' long)
	352485-LLLLL	Infeed Guiding Left Hand
3	352492-LLLLL	Mid Guiding
4	352481-LLLLL	Exit Guiding Right Hand
5	352480-LLLLL	Exit Guiding Left Hand
6	807-1944	Self-Drilling Hex Head Screw, 1/4-20 x 1.5"
7	807-2005	Weld Nut
8	352493	Clamping Block
9	920618M	Socket Head Screw, M6-1.00 x 18 mm
LLLLL = Length in inches with 2 decimal places.		
Length Example: Guiding Length = 95.25" LLLLL = 09525		

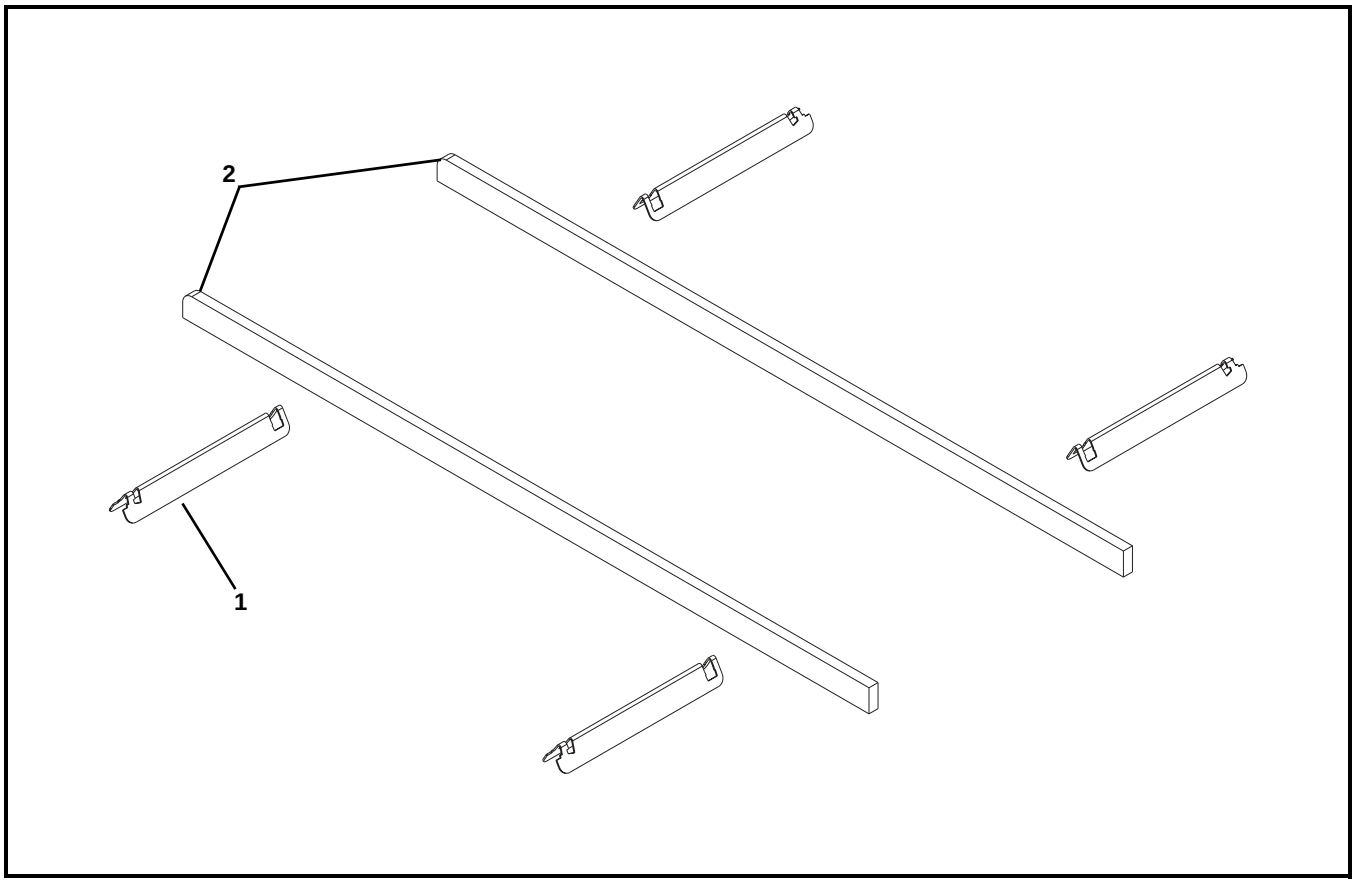
Service Parts

3" Cleated Guiding



Item	Part Number	Description
1	352473-LLLLL	One piece Guiding Right Hand (for Conveyors up to 11' long)
	352471-LLLLL	Infeed Guiding Right Hand
2	352474-LLLLL	One piece Guiding Left Hand (for Conveyors up to 11' long)
	352472-LLLLL	Infeed Guiding Left Hand
3	352479-LLLLL	Mid Guiding
4	352468-LLLLL	Exit Guiding Right Hand
5	352467-LLLLL	Exit Guiding Left Hand
6	807-1944	Self-Drilling Hex Head Screw, 1/4-20 x 1.5"
7	807-2005	Weld Nut
8	352493	Clamping Block
9	920618M	Socket Head Screw, M6-1.00 x 18 mm
LLLLL = Length in inches with 2 decimal places.		
Length Example: Guiding Length = 95.25" LLLLL = 09525		

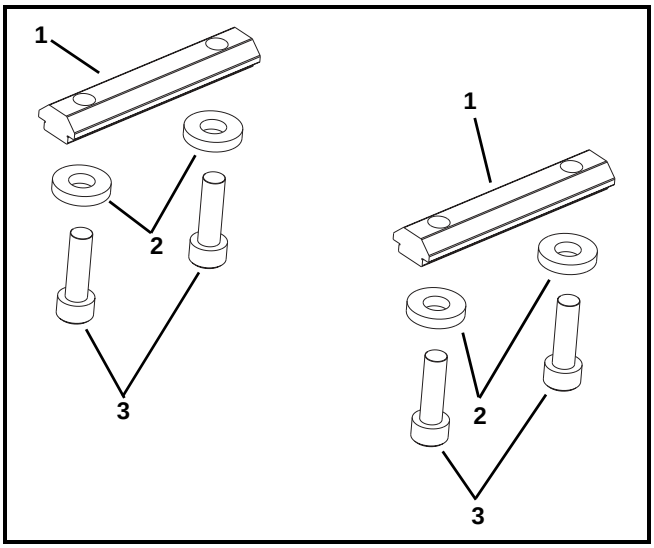
Flat Belt Returns



Item	Part Number	Description
1	352168	Return Support Bracket
2	532162-LLLLL	Return Strip
LLLLL = Length in inches with 2 decimal places.		
Length Example: Guiding Length = 95.25" LLLLL = 09525		

Service Parts

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

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:

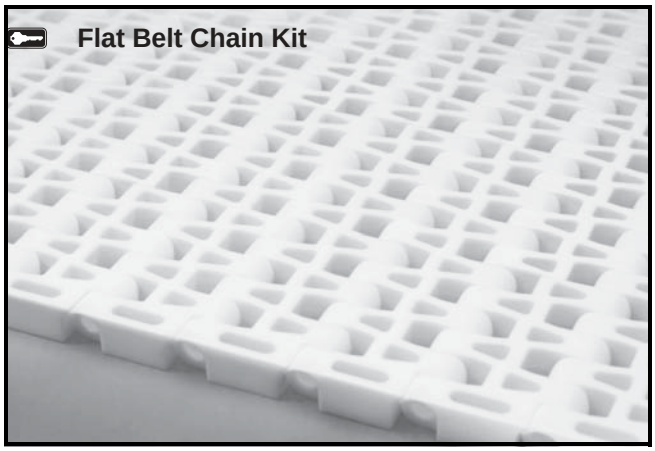
Overall chain length = 42' 5" (rounded up = 43')

Order: Qty (43) of 52BB-WW

BB = Chain reference number

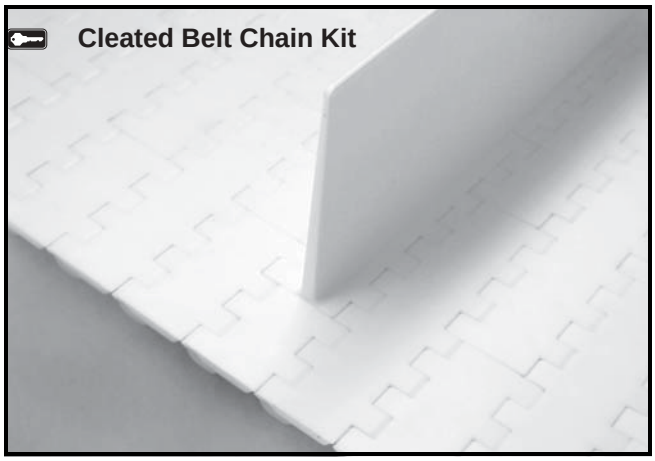
WW = Conveyor width ref: 06-36 in 02 increments

Flat Belt Chain Repair Kit



Item	Part Number	Description
1	52BB-WW	Flat Belt Chain Repair Kit (Includes 1 ft (305 mm) of flat belt chain and assembly pins)
BB = Chain Reference number		
WW = Conveyor width ref: 06 - 36 in 02 increments		

Cleated Belt Chain Repair Kit



Item	Part Number	Description
1	52BB-WW	Cleated Belt Chain Repair Kit (Includes cleats on 1 ft (305mm) of belt chain and assembly pins)
BB = Chain Reference number		
WW = Conveyor width ref: 06 - 36 in 02 increments		

Notes

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.

<table>
<tr><th></th><th colspan="8">Product Type</th></tr>
<tr><th></th><th colspan="7">Standard Products</th><th>Engineered to order parts</th></tr>
<tr><th>Product Line</th><th>Conveyors</th><th>Gearmotors & Mounting Packages</th><th>Support Stands</th><th>Accessories</th><th>Spare Parts (non-belt)</th><th>Spare Belts - Standard Flat Fabric</th><th>Spare Belts - Cleated & Specialty Fabric</th><th>Spare Belts - Plastic Chain</th><th>All equipment and parts</th></tr>
<tr><td>1100</td><td colspan="6" rowspan="14">30% return fee for all products except:
50% return fee for conveyors with modular belt, cleated belt or specialty belts</td><td colspan="2" rowspan="15">non-returnable</td><td rowspan="15">case-by-case</td></tr>
<tr><td>2200</td></tr>
<tr><td>2200 Modular Belt</td></tr>
<tr><td>2200 Precision Move</td></tr>
<tr><td>2300</td></tr>
<tr><td>2300 Modular Belt</td></tr>
<tr><td>3200</td></tr>
<tr><td>3200 LPZ</td></tr>
<tr><td>3200 Precision Move</td></tr>
<tr><td>4100</td></tr>
<tr><td>5200</td></tr>
<tr><td>5300</td></tr>
<tr><td>6200</td></tr>
<tr><td>Controls</td></tr>
<tr><td>7200 / 7300</td><td colspan="6">50% return fee for all products</td></tr>
<tr><td>7350</td><td colspan="9" rowspan="4">non-returnable</td></tr>
<tr><td>7360</td></tr>
<tr><td>7400</td></tr>
<tr><td>7600</td></tr>
</table>

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.

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