2200 Series Conveyors

Installation, Maintenance & Parts Manual

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

851-863 Rev. A

CE

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IMPORTANT

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.

Dorner's Limited Warranty applies.

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 .

Dorner 2200 series conveyors are covered by Patent Numbers 5,174,435, 6,298,981, 6,422,382 and corresponding patents and patent applications in other countries.

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

Warnings – General Safety

⚠ WARNING

The safety alert symbol, black triangle with white exclamation, is used to alert you to potential personal injury hazards.

⚠ DANGER

SEVERE HAZARD!

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

⚠ 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!

- **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.**

Typical Conveyor Components Figure 1:

1	Conveyor
2	Gearmotor Mounting Package
3	Gearmotor
4	Guiding & Accessories
5	Mounting Brackets
6	Return Rollers
7	Support Stand
8	Variable Speed Controller
9	Drive End
10	Idler/Tension End

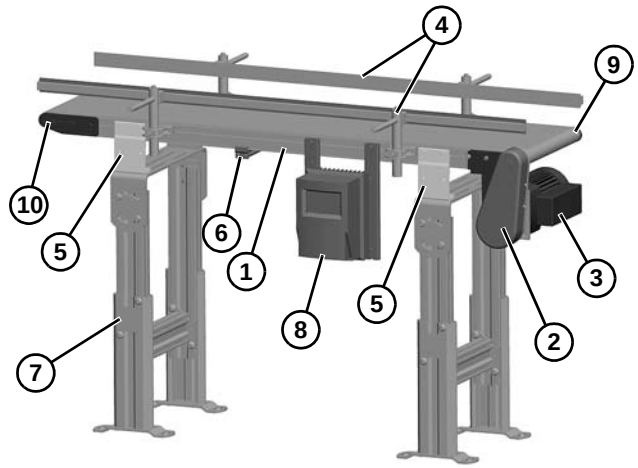
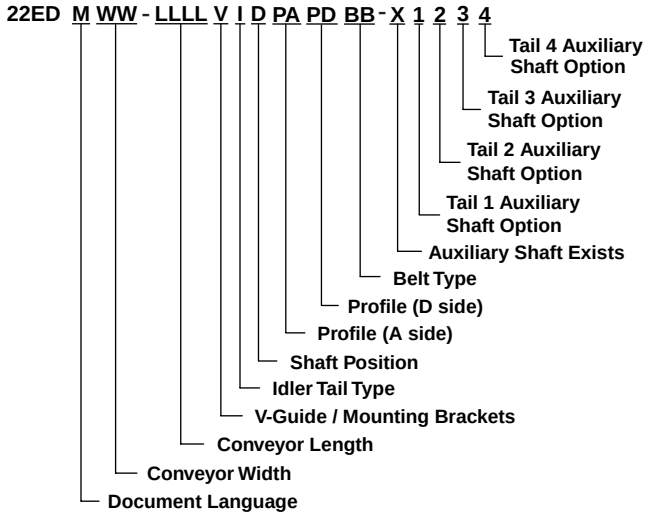


Figure 1

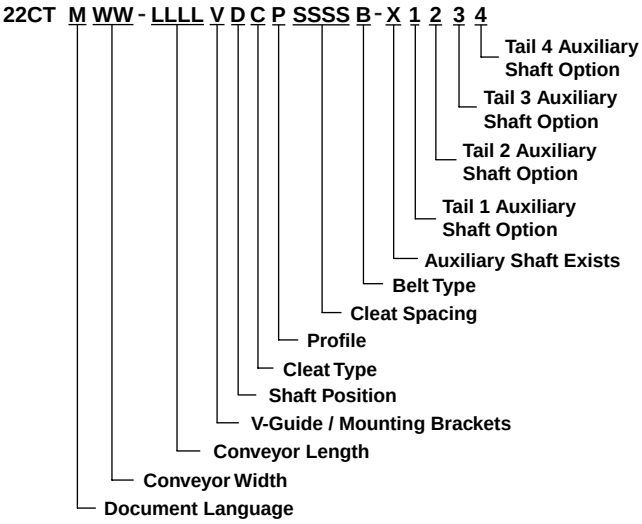
Specifications

Models:

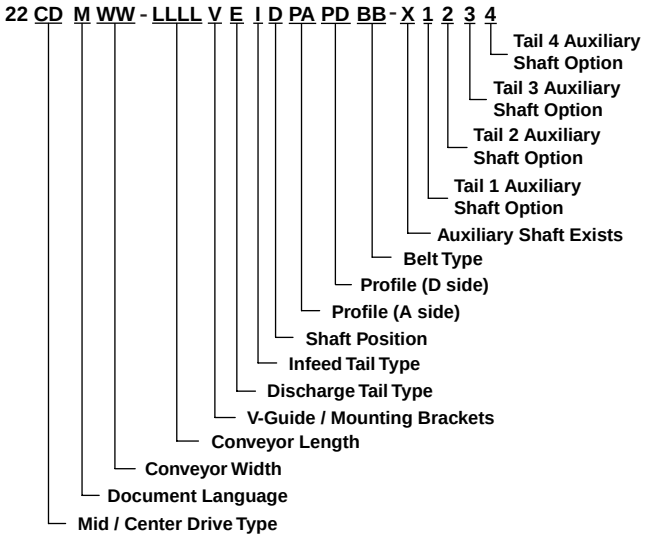
Flat Belt 2200 Series End Drive Conveyor



Cleated Belt 2200 Series End Drive Conveyor



Flat Belt 2200 Series Mid / Center Drive Conveyor



Conveyor Supports

End Drive Conveyor Supports

Maximum Distances:

1 = 610 mm

2 = 457 mm

3 = 2438 mm

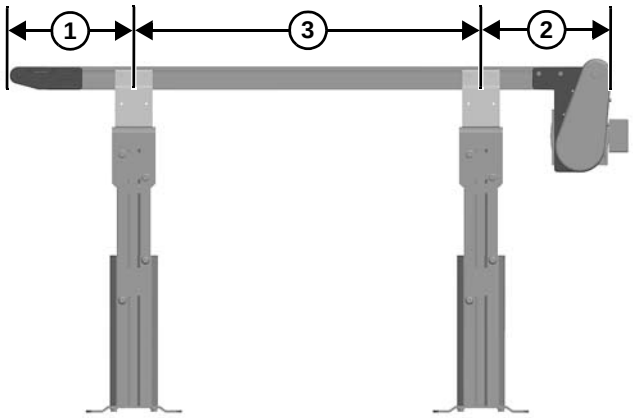


Figure 2

Mid/Center Drive Conveyor Supports

Maximum Distances:

1 = 610 mm

2 = 2438 mm**

** For conveyors longer than 3962 mm, install support at joint.

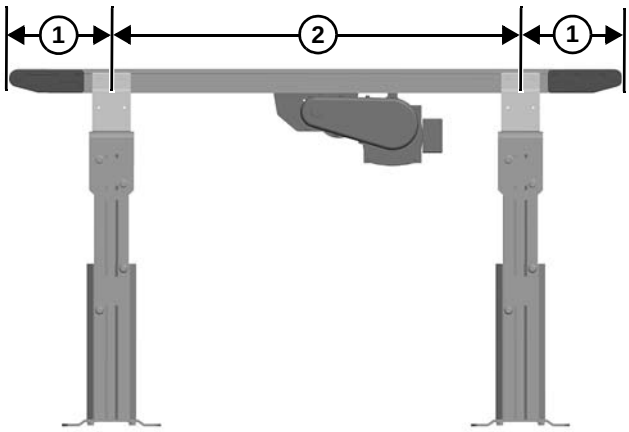


Figure 3

Specifications

End/Mid Drive Conveyor Specifications

Conveyor Width Reference (WW)	02	04	06	08	10	12
Conveyor Belt Width	44 mm	95 mm	152 mm	203 mm	254 mm	305 mm
Maximum Conveyor Load* (See NOTE Below)	14 kg	19 kg	27 kg	32 kg	36 kg	36 kg
End Drive Conveyor Startup Torque**	0.2 Nm	0.5 Nm	0.9 Nm	1.1 Nm	1.4 Nm	1.5 Nm
Mid Drive Conveyor Startup Torque**	0.5 Nm	0.7 Nm	1.1 Nm	1.4 Nm	1.6 Nm	1.7 Nm
End Drive Conveyor Length Reference (LLLL)	0150 to 1800 in 0001 increments					
Mid Drive Conveyor Length Reference (LLLL)	0200 to 2400 in 0001 increments					
End Drive Conveyor Length	457 mm to 5486 mm in 0.31 mm increments					
Mid Drive Conveyor Length	610 mm to 7315 mm in 0.31 mm increments					
Belt Travel	88 mm per revolution of pulley					
Maximum Belt Speed*	80.5 m/minute					
Belt Take-up	10 mm of stroke = 19 mm of belt take-up					

Conveyor Width Reference (WW)	14	16	18	20	22	24
Conveyor Belt Width	356 mm	406 mm	457 mm	508 mm	559 mm	609 mm
Maximum Conveyor Load* (See NOTE Below)	36 kg	36 kg	36 kg	36 kg	36 kg	36 kg
End Drive Conveyor Startup Torque**	1.6 Nm	1.7 Nm	1.8 Nm	1.9 Nm	2.0 Nm	2.3 Nm
Mid Drive Conveyor Startup Torque**	1.8 Nm	1.9 Nm	2.0 Nm	2.1 Nm	2.3 Nm	2.5 Nm
End Drive Conveyor Length Reference (LLLL)	0150 to 1800 in 0001 increments					
Mid Drive Conveyor Length Reference (LLLL)	0200 to 2400 in 0001 increments					
End Drive Conveyor Length	457 mm to 5486 mm in 0.31 mm increments					
Mid Drive Conveyor Length	610 mm to 7315 mm in 0.31 mm increments					
Belt Travel	88 mm per revolution of pulley					
Maximum Belt Speed*	80.5 m/minute					
Belt Take-up	10 mm of stroke = 19 mm of belt take-up					

* See Ordering and Specifications Catalog for details.

** Conveyor Startup Torque dependent on belt type and conveyor length.

Center Drive Conveyor Specifications

Conveyor Width Reference (WW)	02	04	06	08	10	12
Conveyor Belt Width	44 mm	95 mm	152 mm	203 mm	254 mm	305 mm
Maximum Conveyor Load* (See NOTE Below)	18 kg	27 kg	41 kg	47 kg	54 kg	54 kg
Conveyor Startup Torque**	1.0 Nm	1.2 Nm	1.7 Nm	2.3 Nm	2.6 Nm	2.8 Nm
Conveyor Length Reference (LLLL)	0200 to 2400 in 0001 increments					
Conveyor Length	457 mm to 7315 mm in 0.31 mm increments					
Belt Travel	107 mm per revolution of pulley					
Maximum Belt Speed*	72 m/minute					
Belt Take-up	25 mm of stroke = 51 mm of belt take-up (Center Drive Conveyors Only)					

Conveyor Width Reference (WW)	14	16	18	20	22	24
Conveyor Belt Width	356 mm	406 mm	457 mm	508 mm	559 mm	609 mm
Maximum Conveyor Load* (See NOTE Below)	54 kg	54 kg	54 kg	54 kg	54 kg	54 kg
Conveyor Startup Torque**	2.9 Nm	3.2 Nm	3.4 Nm	3.6 Nm	3.8 Nm	4.0 Nm
Conveyor Length Reference (LLLL)	0200 to 2400 in 0001 increments					
Conveyor Length	457 mm to 7315 mm in 0.31 mm increments					
Belt Travel	107 mm per revolution of pulley					
Maximum Belt Speed*	72 m/minute					
Belt Take-up	25 mm of stroke = 51 mm of belt take-up (Center Drive Conveyors Only)					

* See Ordering and Specifications Catalog for details.

** Conveyor Startup Torque dependent on belt type and conveyor length.

Installation

NOTE

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

Figure 4

Required Tools

- Hex-key wrenches: 4 mm, 5 mm, 6 mm
- Level
- Torque wrench

Recommended Installation Sequence

- Assemble conveyor (if required)
- Attach mounting brackets to conveyor
- Attach conveyor to stands
- Install return rollers on conveyor (optional)
- Mount gearmotor mounting package (See accessory instructions)
- Attach guides/accessories. (See "Service Parts" section beginning on page 36 for details.)

Conveyors Up to 3658 mm

No assembly is required. Install mounting brackets and return rollers. Refer to "Mounting Brackets" on page 12 and "Return Rollers" on page 13.

Conveyors Longer Than 3658 mm

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

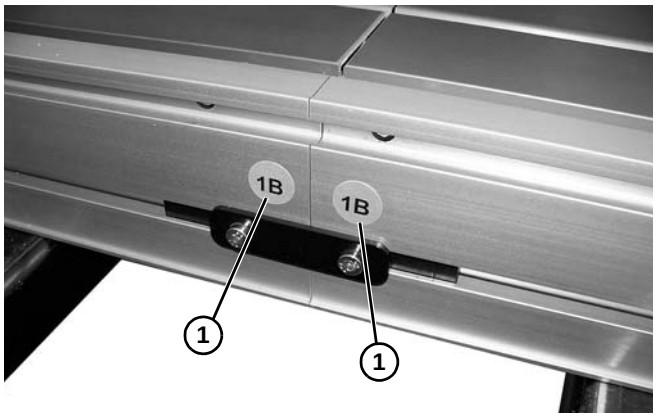
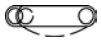


Figure 5

2. On tension end of the conveyor, identified with  a label **(Figure 6, item 1)**, push in headplate assembly **(Figure 6, item 2)**:

   a. On both sides of conveyor, loosen and move cam tracking assemblies **(Figure 6, item 3)** (if equipped) away from headplates.

   b. Loosen fastening screws **(Figure 6, item 4)** and push headplate assembly inward.

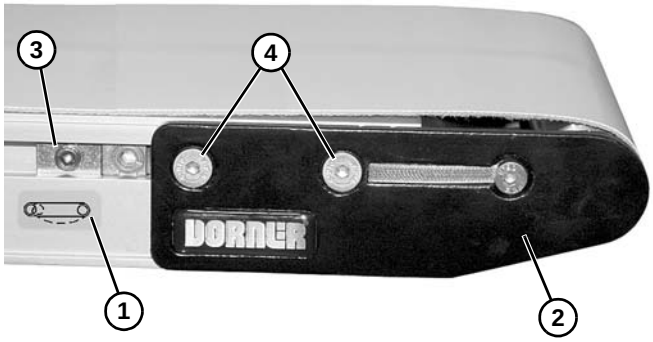


Figure 6

3. Roll out conveyor belt and place conveyor frame sections **(Figure 7, item 1)** into belt loop.

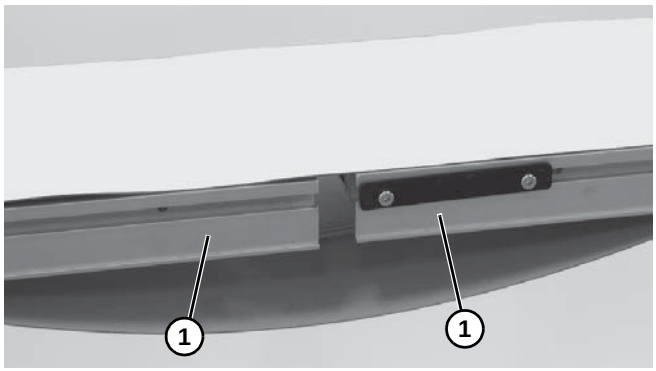


Figure 7

4. Join conveyor sections and install frame connector plates **(Figure 8, item 1)** or connector/mount brackets **(Figure 8, item 2)** and screws **(Figure 8, item 3)** on both sides as indicated. Tighten screws to 7 Nm.

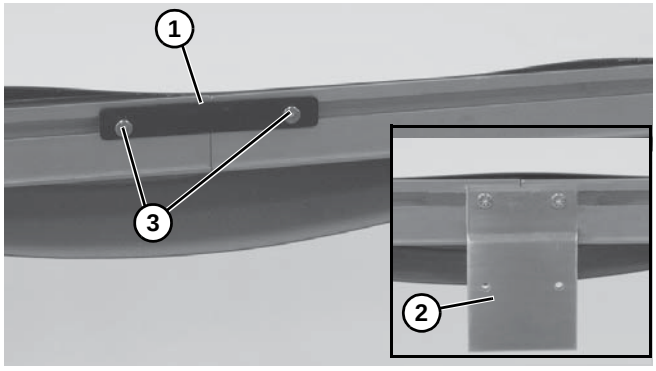


Figure 8

5. Tension conveyor belt. For proper tensioning, refer to “Conveyor Belt Tensioning” on page 24”.
6. Install mounting brackets and return rollers. Refer to “Mounting Brackets” on page 12 and “Return Rollers” on page 13.
7. If equipped with cam tracking assemblies, reposition and adjust belt tracking. Refer to “Conveyor Belt Tracking” on page 26.

Installation

Mounting Brackets

1. Locate brackets. Exploded views shown in Figure 9 & Figure 10.

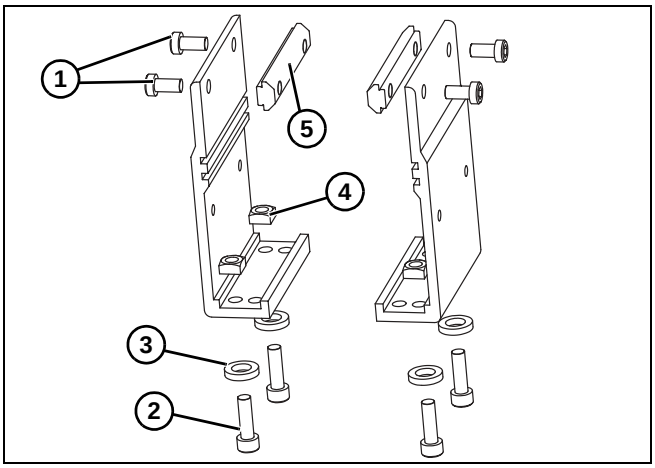


Figure 9

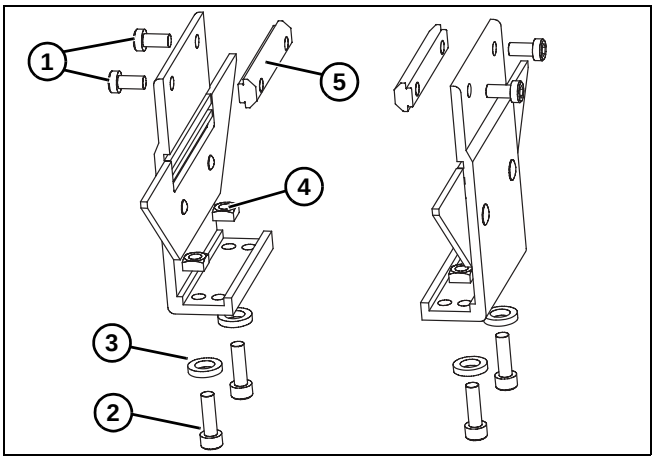


Figure 10

2. Remove screws **(Figure 9, item 1 & 2)** & **(Figure 10, item 1 & 2)**, washers **(Figure 9, item 3)** & **(Figure 10, item 3)**, nuts **(Figure 9, item 4**) & **(Figure 10, item 4)**, and T-bars **(Figure 9, item 5)** & **(Figure 10, item 5)** from brackets.
3. Insert T-bars **(Figure 9, item 5)** & **(Figure 10, item 5)** into conveyor side slots **(Figure 11, item 1)**. Fasten brackets **(Figure 11, item 2)** to conveyor with mounting screws **(Figure 11, item 3)**.

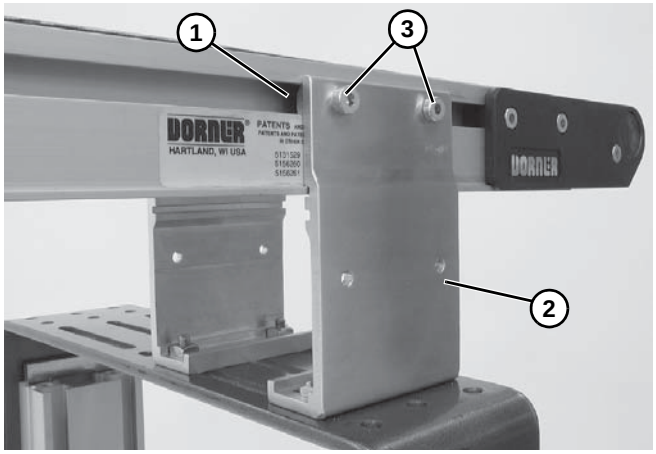


Figure 11

NOTE
Mounting brackets for flat belt conveyors shown.

4. Fasten brackets to support stand with mounting screws **(Figure 9, item 2)**, washers **(Figure 9, item 3)** and nuts **(Figure 9, item 4)**.
5. Tighten all screws to 7 Nm.

Return Rollers

Cleated Belt and 44–152 mm Wide Flat Belt Conveyors

1. Locate return rollers. Exploded views shown in Figure 12 & Figure 13.

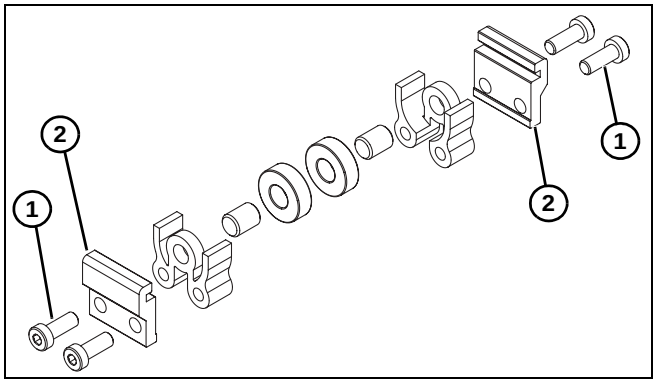


Figure 12

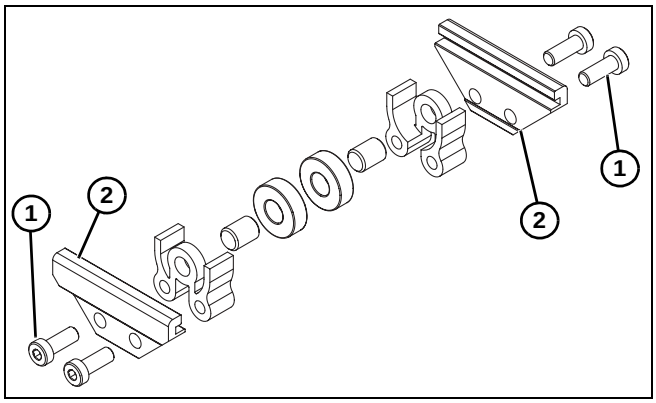


Figure 13

2. Remove screws **(Figure 12, item 1)** & **(Figure 13, item 1)** and clips **(Figure 12, item 2)** & **(Figure 13, item 2)** from roller assembly.
3. Install roller assemblies **(Figure 14, item 1)** as shown. Tighten screws **(Figure 14, item 2)** to 7 Nm.

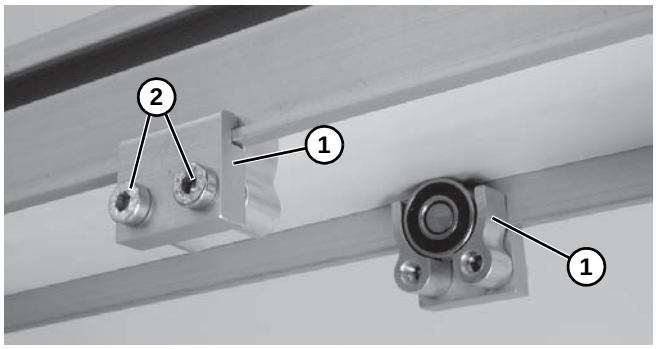


Figure 14

203–610 mm Wide Flat Belt Conveyors

1. Locate return rollers. Exploded view shown in Figure 15.

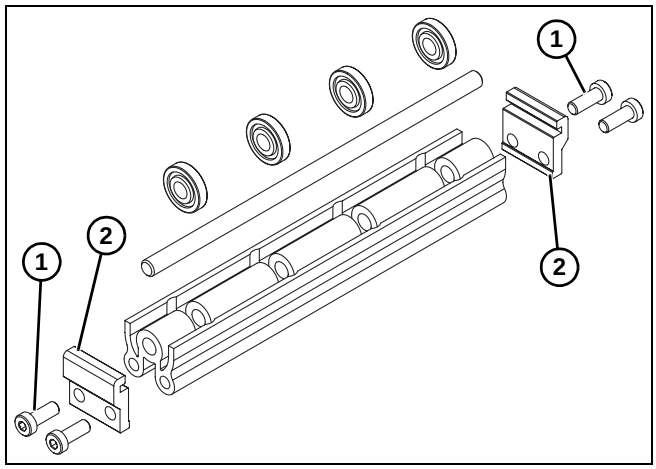


Figure 15

2. Remove screws **(Figure 15, item 1)** and clips **(Figure 15, item 2)** from roller assembly.
3. Install roller assembly as shown **(Figure 16, item 1)**. Tighten screws **(Figure 16, item 2)** to 7 Nm.

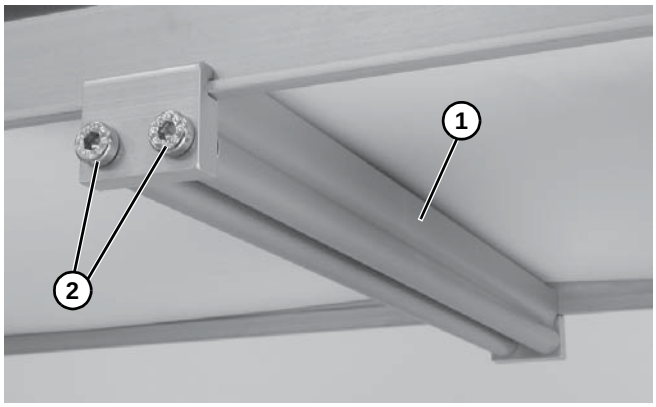


Figure 16

Installation

Guide Clips

1. Install guide clip assembly **(Figure 17, item 1)** into conveyor t-slot **(Figure 17, item 2)** as shown.

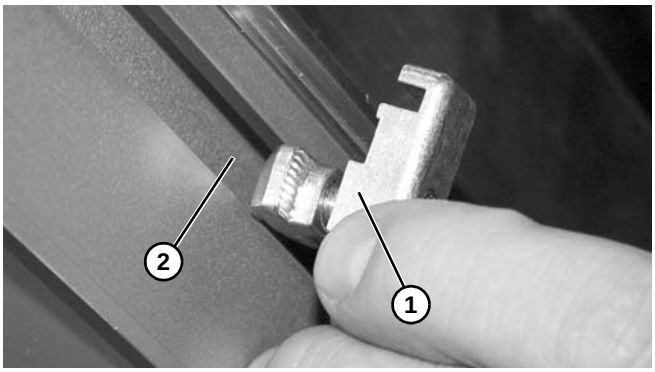


Figure 17

2. Tighten screw **(Figure 18, item 1)** making sure t-bar **(Figure 18, item 2)** rotates and engages inside of t-slot.

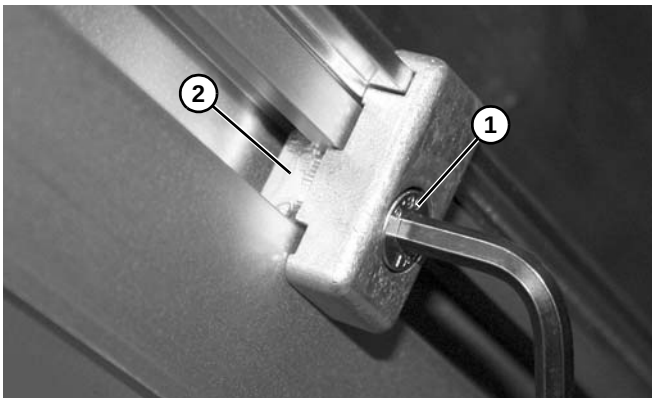


Figure 18

Adjustable Guides

1. Install guide bracket assembly **(Figure 19, item 1)** into the conveyor t-slot **(Figure 19, item 2)**.

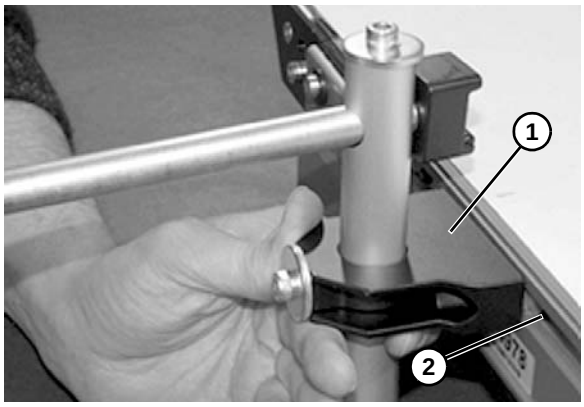


Figure 19

2. Tighten screws **(Figure 20, item 1)** making sure t-nut **(Figure 20, item 2)** rotates and engages inside of the t-slot.

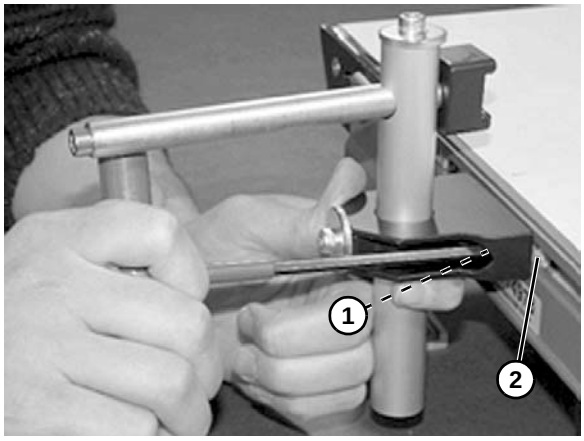


Figure 20

3. Loosen screw **(Figure 21, item 1)** on end of shaft **(Figure 21, item 2)** to remove clip **(Figure 22, item 1)**.

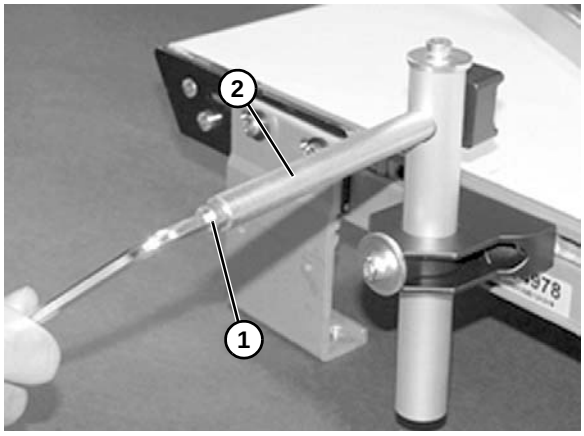


Figure 21

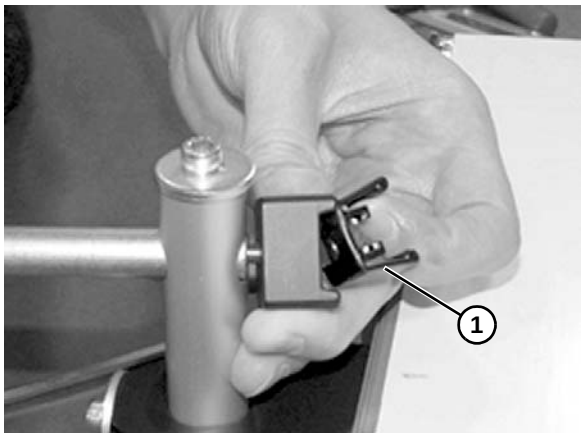


Figure 22

4. Snap clip **(Figure 23, item 1)** onto guide rail **(Figure 23, item 2)**.

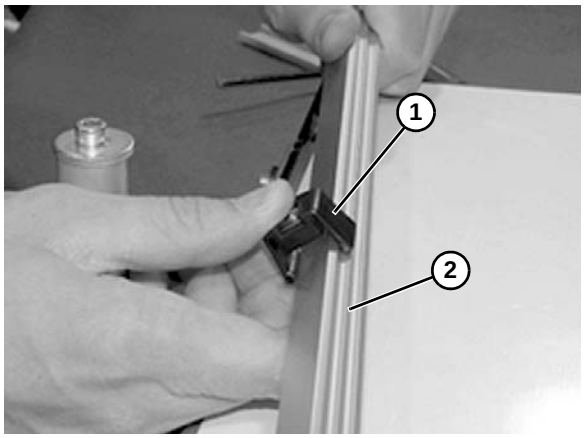


Figure 23

5. Reassemble clip **(Figure 24, item 1)** and attach to shaft **(Figure 24, item 2)**. Tighten screw **(Figure 21, item 1)** on end of shaft.

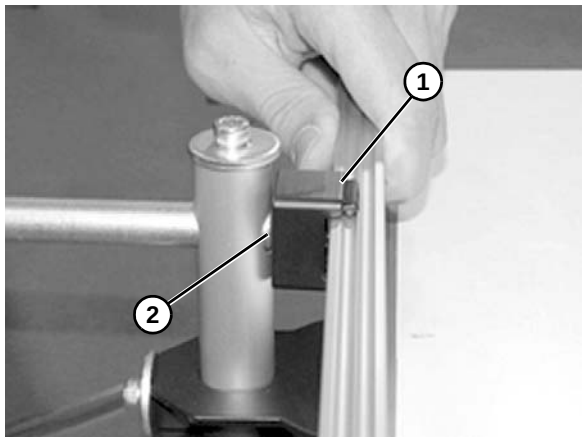


Figure 24

6. Adjust rail width with top screw **(Figure 25, item 1)**.

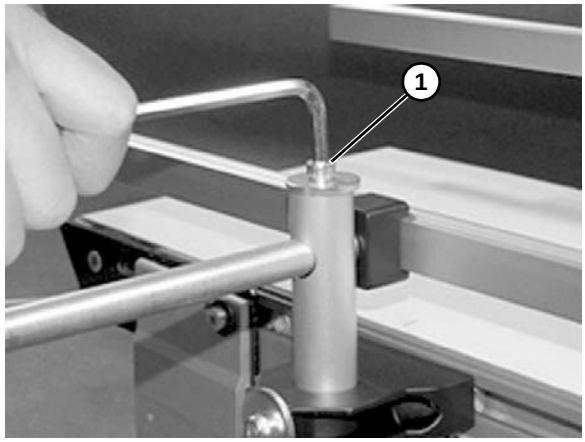


Figure 25

7. Adjust rail height with lower screw **(Figure 26, item 1)**.

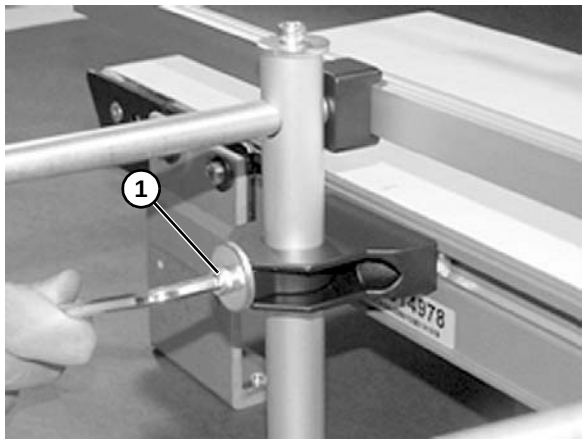


Figure 26

Preventive Maintenance and Adjustment

Required Tools

Standard Tools

- Hex-key wrenches:
  - 2.5 mm, 4 mm, 5 mm, 6 mm

Checklist

- Keep service parts on hand (see “Service Parts” section for recommendations)
- Keep supply of belt cleaner
- Clean entire conveyor and knurled pulley while disassembled
- Replace worn or damaged parts

Lubrication

No lubrication is required. Replace bearings if worn.

Maintaining Conveyor Belt

Troubleshooting

Inspect conveyor belt for:

- Surface cuts or wear
- Stalling or slipping
- Damage to V-guide

Surface cuts and wear indicate:

- Sharp or heavy parts impacting belt
- Jammed parts
- Improperly installed bottom wipers (if installed)
- Accumulated dirt in wipers (if installed)
- Foreign material inside the conveyor
- Improperly positioned accessories
- Bolt-on guiding is pinching belt

Stalling or slipping indicates:

- Excessive load on belt
- Conveyor belt or drive timing belt are not properly tensioned
- Worn knurl or impacted dirt on drive pulley
- Intermittent jamming or drive train problems

Damage to V-guide indicates:

- Twisted or damaged conveyor frame
- Dirt impacted on pulleys
- Excessive or improper side loading

Cleaning

Use mild soap and water to clean the belt and conveyor. Do not soak the belt.

For /05 woven polyester and /06 black anti-static belts, use a bristled brush to improve cleaning.

Conveyor Belt Replacement

⚠ WARNING

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

Conveyor Belt Replacement Sequence

- Release tension
- Remove old conveyor belt:
  - Conveyor without Stands or Gearmotor Mounting Package
  - Conveyor with Stands and Gearmotor Mounting Package
- Install new conveyor belt
- Tension conveyor belt

Belt Removal for End Drive Conveyors

Without Stands or Gearmotor Mounting Package

1. If equipped, remove return rollers and guiding and accessories from one side of conveyor.
2. On tension end of the conveyor, identified with  a label **(Figure 27, item 1)**, push in headplate assembly **(Figure 27, item 2)**:
   a. On both sides of conveyor, loosen and move cam tracking assemblies **(Figure 27, item 3)** (if equipped) away from headplates.
   b. Loosen fastening screws **(Figure 27, item 4)** and push headplate assembly inward.

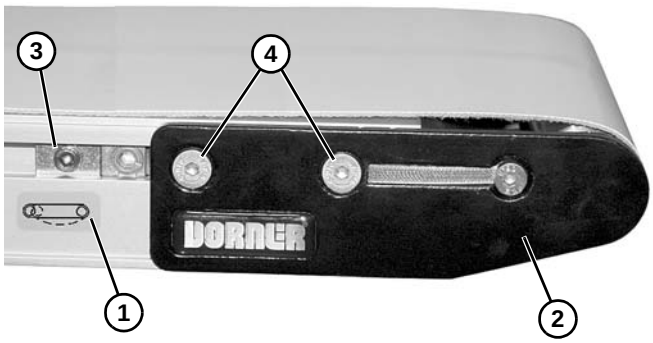


Figure 27

3. Remove conveyor belt.

With Stands and Gearmotor Mounting Package

⚠ WARNING

Removing mounting brackets without support under gearmotor will cause conveyor to tip, causing severe injury.

PROVIDE SUPPORT UNDERNEATH THE GEARMOTOR WHEN CHANGING THE BELT

1. Place temporary support stands **(Figure 28, item 1)** at both ends of the conveyor. Place an additional support stand **(Figure 28, item 2)** under the drive motor, if equipped. See WARNING.

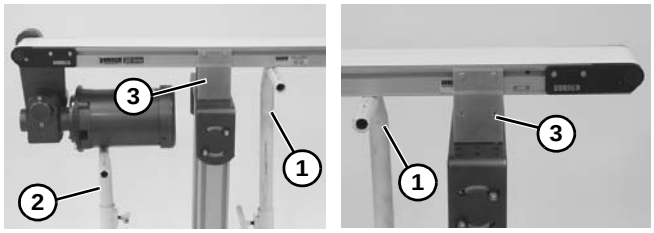


Figure 28

2. Remove mounting brackets **(Figure 28, item 3)** from one side of conveyor. (Reverse steps 3 & 4 of "Mounting Brackets" section beginning on page 12.)
3. If equipped, remove return rollers and guiding and accessories from side opposite drive cover.
4. On tension end of the conveyor, identified with  a label **(Figure 29, item 1)**, push in headplate assembly **(Figure 29, item 2)**:
   a. On both sides of conveyor, loosen and move cam tracking assemblies **(Figure 29, item 3)** (if equipped) away from headplates.
   b. Loosen fastening screws **(Figure 29, item 4)** and push headplate assembly inward.

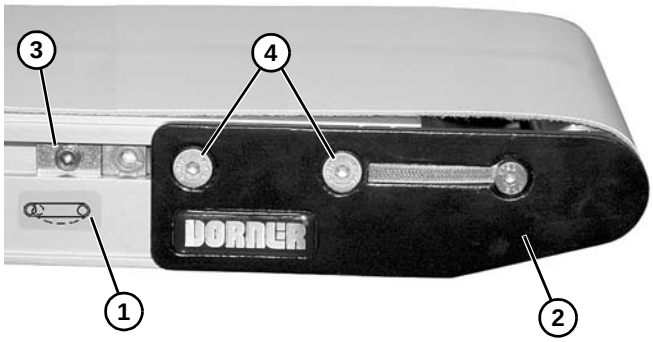


Figure 29

5. Remove belt **(Figure 30, item 1)** from conveyor.

Figure 30

Belt Removal for Center Drive Conveyors

1. If equipped, remove return rollers and guiding and accessories from one side of conveyor.
2. Loosen corner screws **(Figure 31, item 1)** on each side of the drive module **(Figure 31, item 2)**.

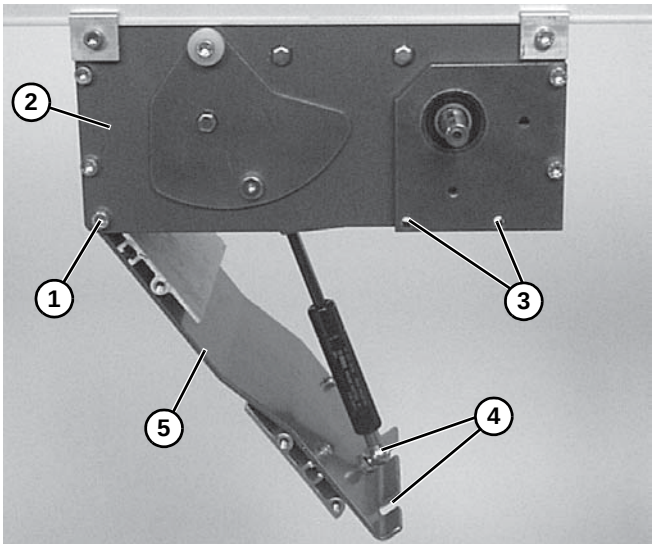


Figure 31

3. Remove tension door screws **(Figure 31, item 3)** on each side of the drive module.
4. Using finger grip holes **(Figure 31, item 4)**, open the tension door **(Figure 31, item 5)** to release conveyor belt tension.
5. On tension end of the conveyor, identified with  a label **(Figure 32, item 1)**, push in headplate assembly **(Figure 32, item 2)**:
   a. On both sides of conveyor, loosen and move cam tracking assemblies **(Figure 32, item 3)** (if equipped) away from headplates.
   b. Loosen fastening screws **(Figure 32, item 4)** and push headplate assembly inward.

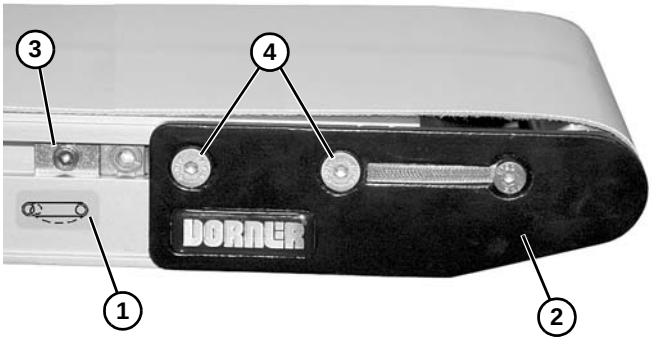


Figure 32

6. If not equipped with stands, skip to step 9.
7. Place temporary support stands **(Figure 33, item 1)** at both ends of the conveyor.

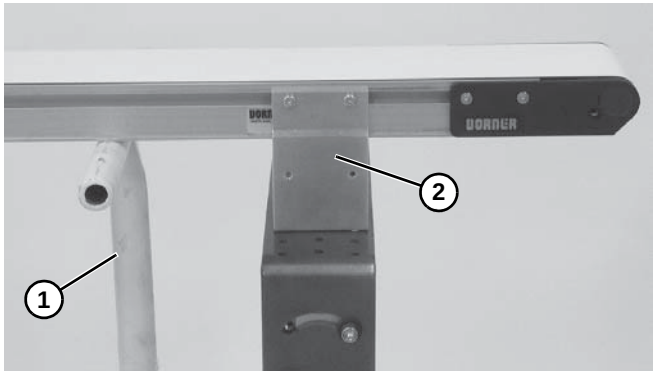


Figure 33

8. Remove mounting brackets **(Figure 33, item 2)** from one side of conveyor. (Reverse steps 3 & 4 of "Mounting Brackets" on page 12.)
9. Remove conveyor belt from conveyor ends. See NOTE.

NOTE

On conveyors 1219 mm and shorter, by 203 mm wide and wider, it is necessary to remove the drive module at the same time the conveyor belt is removed. See "Drive Module Removal" on page 20.

10. Proceed to "Drive Module Removal" on page 20 and "Belt Removal from Drive Module" on page 20.

Gearmotor Mounting Package Removal

1. Remove cover screws **(Figure 34, item 1)** and remove cover **(Figure 34, item 2)**.

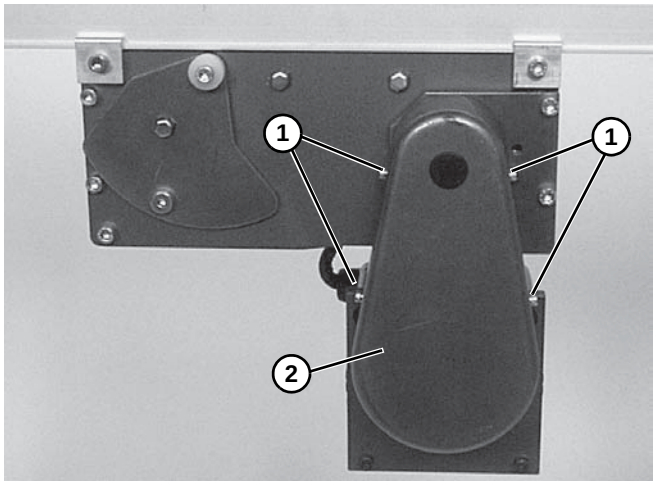


Figure 34

NOTE

Figure 37 *shows a vertically mounted gearmotor. Horizontally mounted gearmotor is similar.*

2. Loosen belt tensioner **(Figure 35, item 1)** then remove timing belt **(Figure 35, item 2)**.

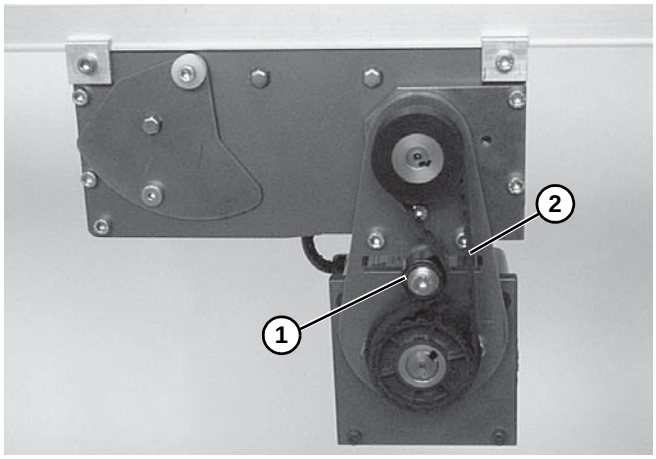


Figure 35

NOTE

If the timing belt does not slide over the pulley flange, loosen the driven pulley set screws ***(Figure 36, item 1)*** *and remove the pulley* ***(Figure 36, item 2)*** *with the belt* ***(Figure 36, item 3)****.*

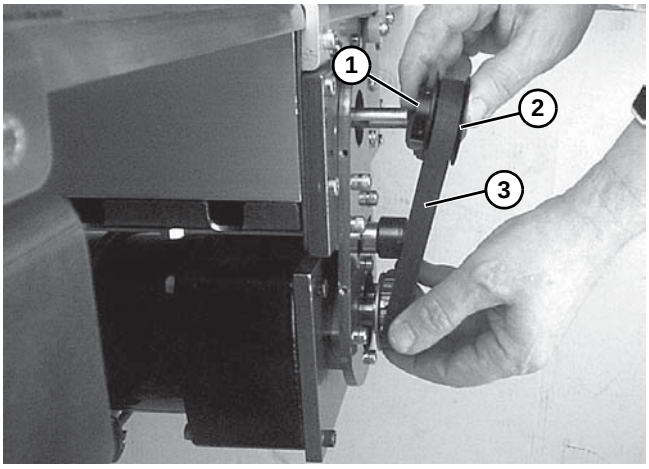


Figure 36

3. Remove four mounting screws **(Figure 37, item 1)** and remove gearmotor.

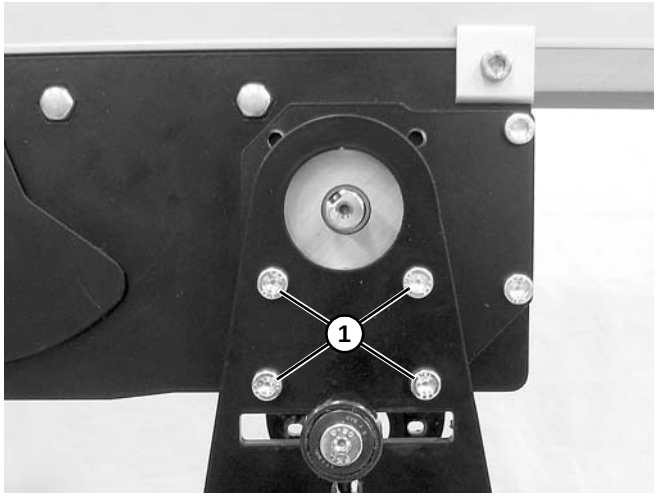


Figure 37

Drive Module Removal

⚠ WARNING

Removing drive module without support under the module may lead to personal injury.

PROVIDE SUPPORT UNDERNEATH THE DRIVE MODULE BEFORE REMOVING THE MODULE.

NOTE

If desired, mark position of drive module on conveyor before removal.

1. Place temporary support **(Figure 38, item 1)** underneath the drive module.

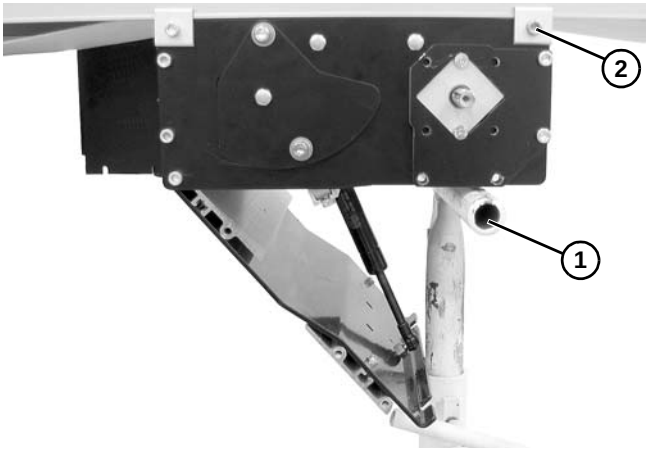


Figure 38

2. Loosen clamp screws **(Figure 38, item 2)** on each corner of the module. Remove the module.

Belt Removal from Drive Module

1. Remove screws **(Figure 39, item 1)** and remove spindle bearing block **(Figure 39, item 2)**.

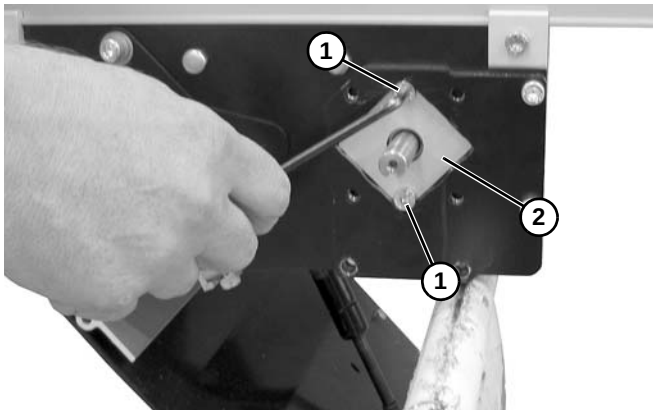


Figure 39

2. Remove drive pulley **(Figure 40, item 1)**.

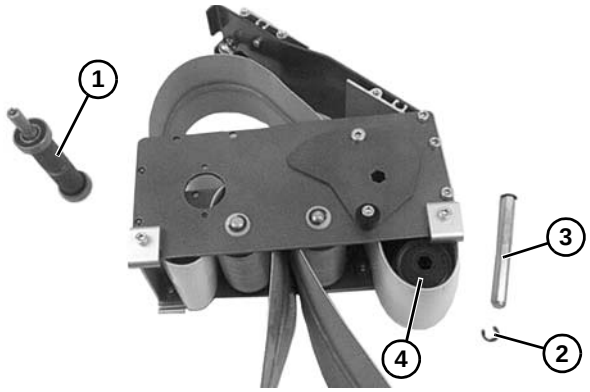


Figure 40

Figure 41

3. Remove grooved idler pulley:
   a. For 44 mm, 70 mm, or 95 mm wide conveyor, detach E-ring clip **(Figure 40, item 2)**. Remove pulley shaft **(Figure 40, item 3)** and remove pulley **(Figure 40, item 4)**.
   b. For 127 mm or wider conveyor, depress both sides of spring-loaded shaft and remove pulley **(Figure 41, item 5)**.
4. Remove the conveyor belt.

Belt Removal for Mid Drive Conveyors

⚠ WARNING

SEVERE HAZARD!

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

1. Remove belt tension. See "Conveyor Belt Replacement" on page 16 for releasing belt tension.
2. Remove two screws **(Figure 42, item 1)** from bottom of mid drive assembly **(Figure 42, item 2)**.

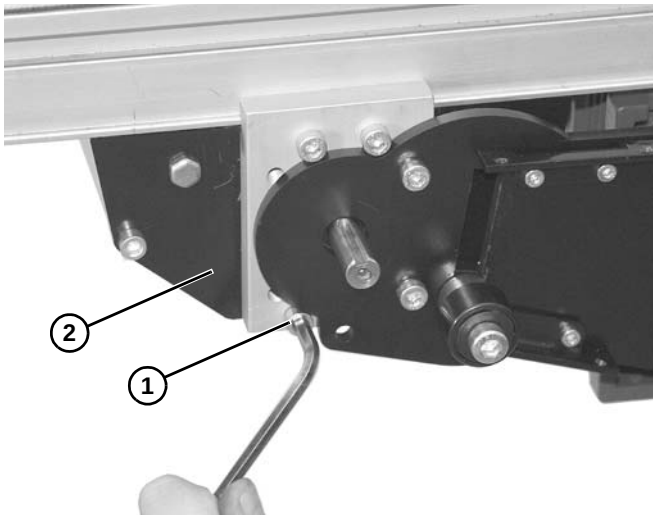


Figure 42

3. Lower and remove mid drive module **(Figure 43, item 1)** from belt **(Figure 43, item 2)**.

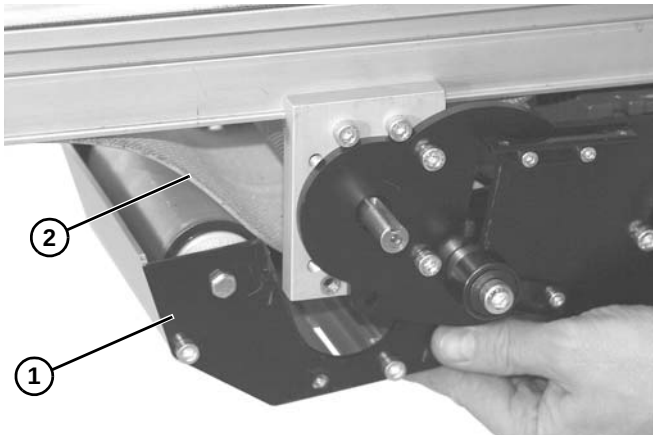


Figure 43

4. Remove belt **(Figure 44, item 1)** from conveyor frame.

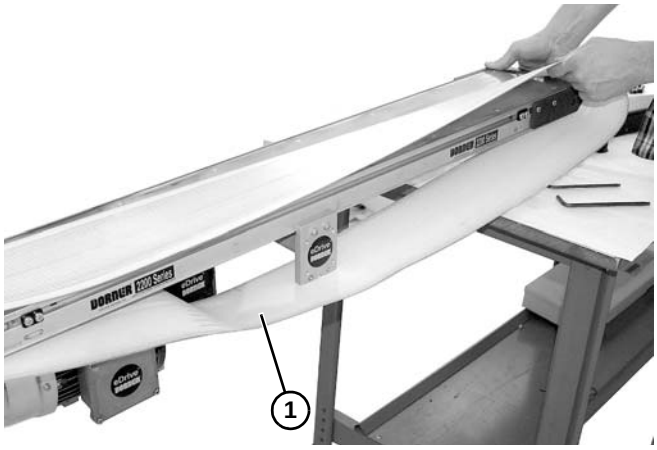


Figure 44

5. Installation of new belt is the reverse order of removal.

Belt Installation for End Drive Conveyors

Without Stands or Gearmotor Mounting Package

1. Orient belt so splice leading fingers **(Figure 45, item 1)** point in the direction of belt travel as identified by the conveyor directional label **(Figure 45, item 2)**.

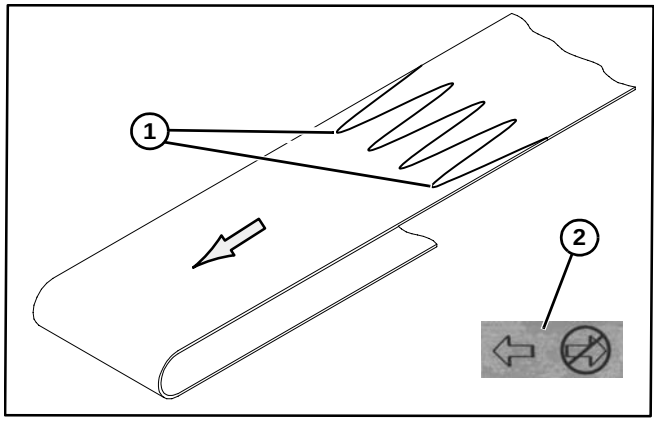


Figure 45

2. Slide belt onto the conveyor frame assembly.
3. Tension belt. Refer to "Conveyor Belt Tensioning" on page 24.
4. If equipped, install return rollers and guiding.

With Stands and Gearmotor Mounting Package

⚠ WARNING

Removing mounting brackets without support under gearmotor will cause conveyor to tip, causing severe injury.

PROVIDE SUPPORT UNDERNEATH THE GEARMOTOR WHEN CHANGING THE BELT

1. Ensure temporary support stands **(Figure 46, item 1)** are placed at both ends of the conveyor. Place an additional support stand under the drive motor **(Figure 46, item 2)**, if equipped. See WARNING.

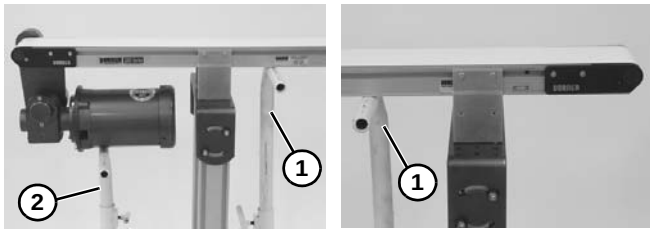


Figure 46

2. Orient belt so splice leading fingers **(Figure 45, item 1)** point in the direction of belt travel as identified by the conveyor directional label **(Figure 45, item 2)**.
3. Install belt **(Figure 47, item 1)** on conveyor. Lift conveyor slightly to avoid pinching belt on temporary support stands.

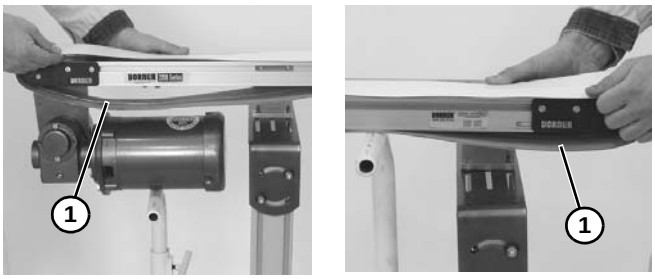


Figure 47

4. Re-install conveyor mounting brackets. Refer to "Mounting Brackets" beginning on page 12, steps 3 through 5.
5. Tension belt. Refer to "Conveyor Belt Tensioning" on page 24.
6. If equipped, install return rollers and guiding.

Belt Installation for Center Drive Conveyors

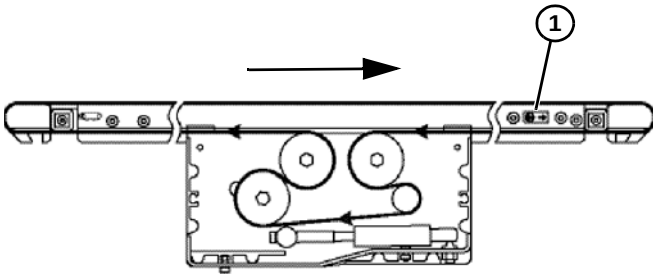


Figure 48

IMPORTANT

On a center drive conveyors, belt travel direction is identified by an arrow decal on the side of the conveyor ***(Figure 48, item 1)*** *&* ***(Figure 49, item 1)****.*

Figure 49

NOTE

On conveyors 1219 mm and shorter, by 203 mm wide and wider, it is necessary to remove the drive module at the same time the conveyor belt is removed. See "Drive Module Removal" on page 20.

1. Orient the conveyor belt so that the splice leading fingers **(Figure 50, item 1)** point in the direction of belt travel, indicated by the label **(Figure 49, item 1)**.

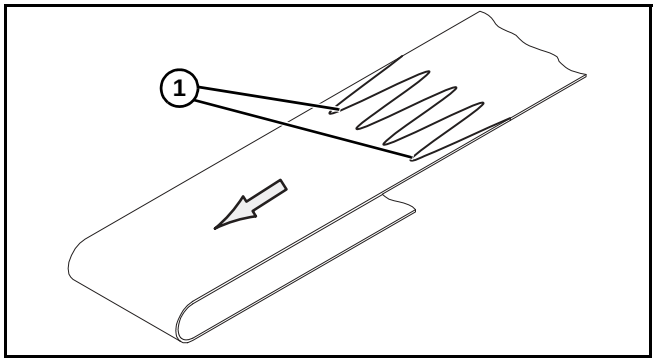


Figure 50

2. Place loop of belt **(Figure 51, item 1)** into the drive module between top idler pulleys **(Figure 51, item 2)**.

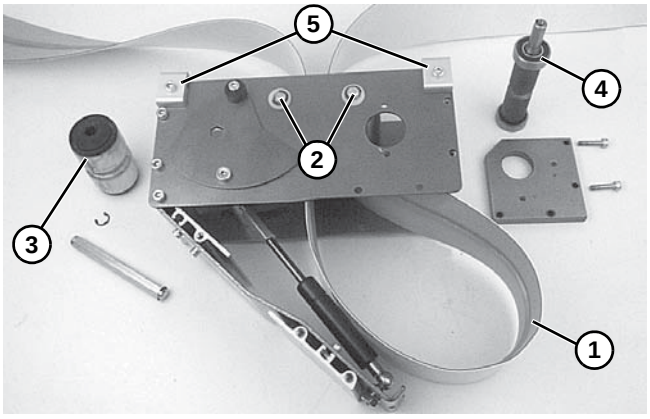


Figure 51

3. Place grooved idler pulley **(Figure 51, item 3)** into the belt loop and install it in the drive module. Refer to "Belt Removal from Drive Module" on page 20 and reverse step 3.
4. Place drive pulley **(Figure 51, item 4)** into the belt loop and install it in the drive module. Refer to "Belt Removal from Drive Module" on page 20 and reverse steps 1 and 2. Tighten screws **(Figure 39, item 1)** to 6.8 Nm.
5. Install the drive module onto the conveyor and attach clamps **(Figure 51, item 5)** in each corner. Tighten screws to 6.8 Nm.
6. Route and install the belt over both ends of the conveyor.
7. On conveyors with stands, re-install conveyor mounting brackets. Refer to "Mounting Brackets" on page 12, steps 3 through 5.
8. Adjust the conveyor tensioning end. See "Conveyor Belt Tensioning" on page 24.

⚠ WARNING

Tension door closes quickly, may cause injury.
KEEP FINGERS CLEAR OF TENSION DOOR.

9. Carefully close the drive module tension door **(Figure 52, item 1)**. See WARNING.

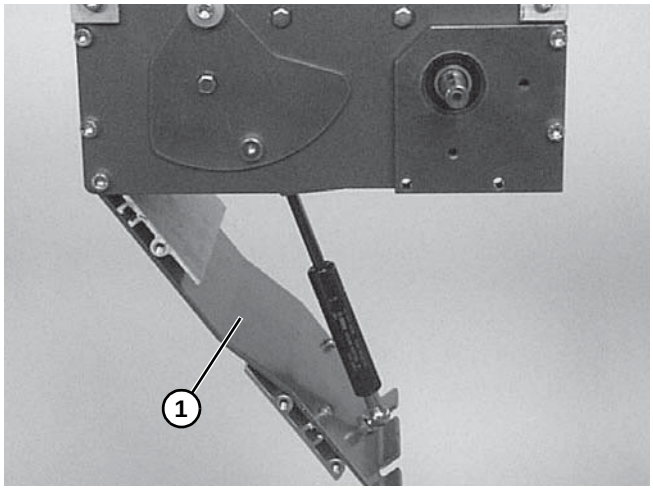


Figure 52

10. Tighten corner screws **(Figure 53, item 1)** on each side of the drive module to 9 Nm.

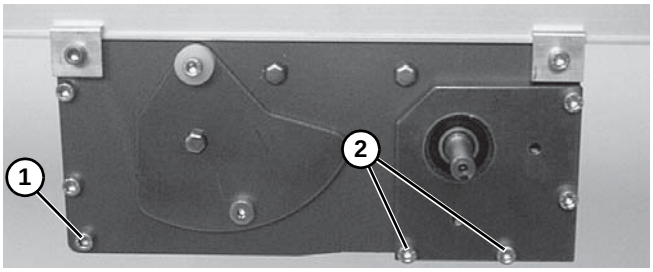


Figure 53

11. If equipped, re-install the gearmotor mounting package. Reverse steps of "Gearmotor Mounting Package Removal" on page 19.
12. Re-install tension door screws **(Figure 53, item 2)** on each side of the module. Tighten screws to 6.8 Nm.

NOTE

*With vertically mounted gearmotors, tension door screws **(Figure 53, item 2)** are installed on one side when the gearmotor mounting package is installed.*

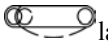
13. If equipped, replace guiding.

Conveyor Belt Tensioning

⚠ WARNING

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

Conveyors with 32 mm Diameter Pulleys

1. On tension end of the conveyor, identified with a  label **(Figure 54, item 1)**, adjust headplate assembly **(Figure 54, item 2)**:
   a. If equipped with dust covers **(Figure 54, item 3)**, remove screw **(Figure 54, item 4)** and dust cover on both sides of conveyor. Reinstall screw **(Figure 54, item 4)**.
   b. On both sides of conveyor, loosen fastening screws **(Figure 54, item 5)** and rotate pinion gear **(Figure 54, item 6)** to adjust headplate assembly.

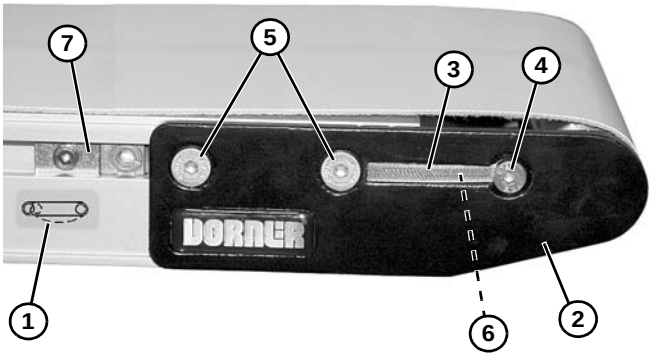


Figure 54

2. Adjust headplate assembly so end of conveyor frame aligns with or between the headplate tensioning marks **(Figure 55, item 1 & 2)**. Replace belt if proper tensioning can not be obtained while aligning the end of the conveyor frame with or between the tensioning marks. See NOTE.

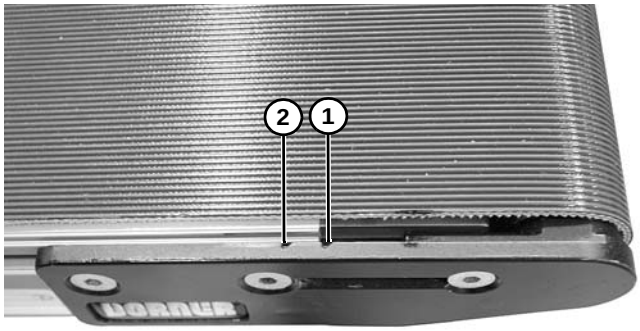


Figure 55

NOTE

On pinion gear, do not exceed a torque of 2.8 Nm for 44 – 305 mm wide conveyors and 4.5 Nm for 457 – 610 mm wide conveyors. Over tensioning the conveyor belt could cause excessive pulley bearing load and early failure.

3. After adjusting proper tensioning, tighten fastening screws **(Figure 54, item 5)** on both sides of conveyor to 7 Nm.
4. If equipped, install dust covers **(Figure 54, item 3)**.
5. If equipped with cam tracking assemblies **(Figure 54, item 7)**, position against headplates and adjust belt tracking. Refer to “Conveyor Belt Tracking” on page 26.

Center Drive Conveyors

The conveyor is equipped with an automatic tensioning cylinder. No tensioning adjustment is required.

For a new belt, the tension plate **(Figure 56, item 1)** will be in position indicated below left. When the tension plate extends to position indicated below right, the conveyor belt must be replaced.

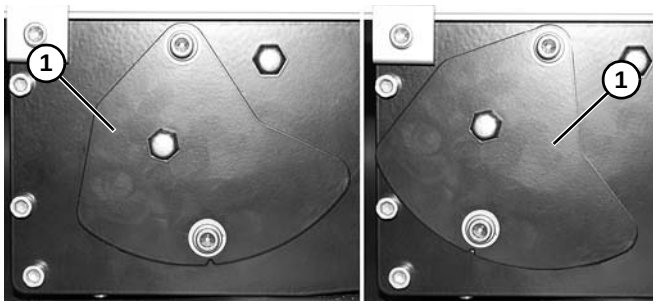


Figure 56

Conveyors with Nose Bar Idlers

1. On tension end of the conveyor, identified with a label **(Figure 57, item 1)**, adjust headplate assembly **(Figure 57, item 2)**:
   a. On both sides of conveyor, loosen fastening screws **(Figure 57, item 3)**.
   b. If equipped with dust covers **(Figure 57, item 4)**, loosen screw **(Figure 57, item 5)** and remove dust cover on both sides of conveyor. Tighten screw **(Figure 57, item 5)**.
   c. Rotate pinion gear **(Figure 57, item 6)** to adjust headplate assembly.

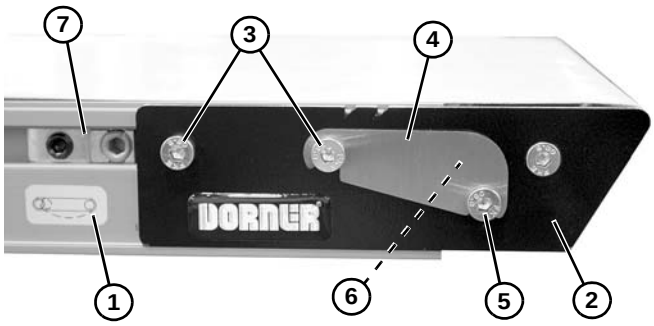


Figure 57

2. Adjust headplate assembly so end of conveyor frame aligns with or between the headplate tensioning marks **(Figure 58, item 1 & 2)**. Replace belt if proper tensioning can not be obtained while aligning the end of the conveyor frame with or between the tensioning marks. See NOTE.

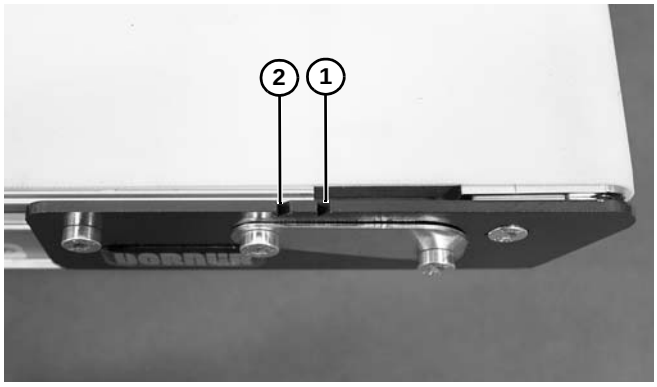


Figure 58

NOTE

On pinion gear, do not exceed a torque of 2.8 Nm for 44 – 305 mm wide conveyors and 4.5 Nm for 457 – 610 mm wide conveyors. Over tensioning the conveyor belt could cause excessive pulley bearing load and early failure.

3. After adjusting proper tensioning, tighten fastening screws **(Figure 57, item 3)** on both sides of conveyor to 7 Nm.
4. If equipped, install dust covers **(Figure 57, item 4)**.
5. If equipped with cam tracking assemblies **(Figure 57, item 7)** position against headplates and adjust belt tracking. Refer to “Conveyor Belt Tracking”, next section.

Preventive Maintenance and Adjustment

Conveyor Belt Tracking

V-Guided Belts

V-guided belts do not require tracking adjustment.

Non V-Guided Belts

Non V-guided belt conveyors are equipped with belt tracking cam assemblies **(Figure 59, item 1)** for belt tracking adjustment.

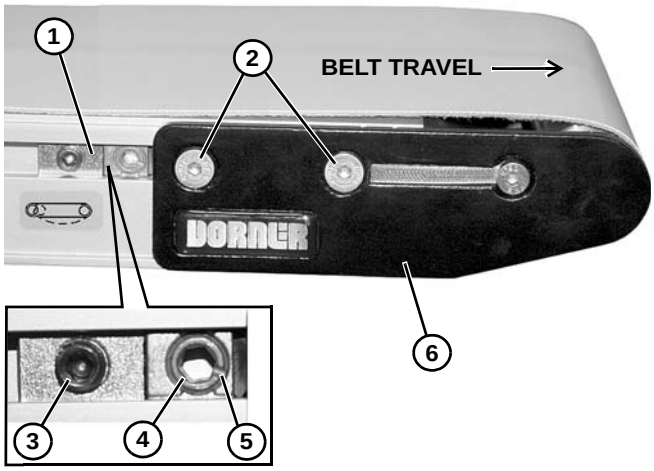


Figure 59

When adjusting belt tracking, always adjust the discharge end of the conveyor first. To adjust belt tracking:

1. Ensure headplate fastening screws **(Figure 59, item 2)** on both sides of conveyor are tightened.
2. On both sides of conveyor, loosen cam fastening screw **(Figure 59, item 3)**. Adjust cams **(Figure 59, item 4)** until indicator slots **(Figure 59, item 5)** are horizontal and facing end of conveyor. Then slide cam assemblies against headplates **(Figure 59, item 6)** and re-tighten cam fastening screws **(Figure 59, item 3)** to 7 Nm.
3. On the side toward which the belt is tracking, loosen headplate fastening screws **(Figure 59, item 2)**.
4. With the conveyor running, use a 5 mm hex-key wrench to rotate the tracking cam **(Figure 59, item 4)** in small increments until the belt tracks in the center of the conveyor. Then while holding the cam in position, re-tighten the headplate fastening screws **(Figure 59, item 2)** with a 4 mm hex-key wrench to 7 Nm.

Pulley Replacement

⚠ WARNING

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

Unless instructed otherwise, leave belt in place to remove the desired pulley. Follow the corresponding instructions below:

- **A** – Drive Pulley Removal
- **B** – Idler Pulley Removal
- **C** – 16 mm Nose Bar Pulley Removal
- **D** – Center Drive Module Pulley Removal
- **E** – Mid Drive Module Pulley Removal

A – Drive Pulley Removal

1. Remove belt tension.
2. On one side of the conveyor, remove screw **(Figure 60, item 1)** and remove dust cover **(Figure 60, item 2)**, if installed.

NOTE

To prevent damage to the headplates, be sure to remove them slowly because they are not attached to pulley.

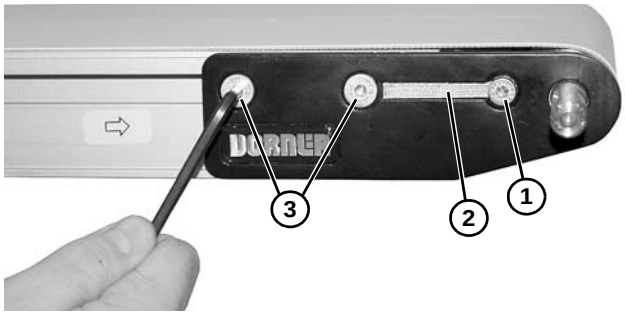


Figure 60

3. Remove two fastening screws **(Figure 60, item 3)**.

⚠ WARNING

Drive shaft keyway may be sharp. HANDLE WITH CARE.

4. Remove the headplate **(Figure 61, item 1)** from the conveyor frame, holding spindle in place.

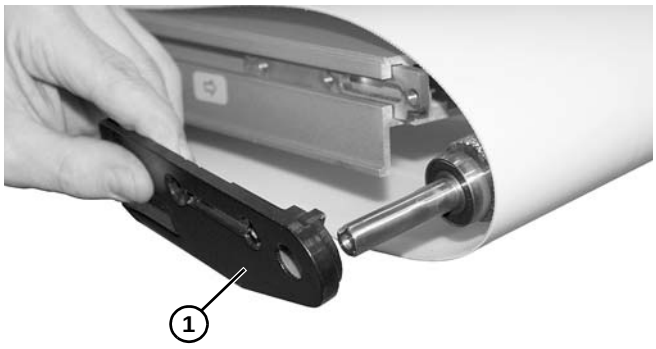


Figure 61

5. Slide the drive pulley out of the belt loop.
6. To replace the drive tail pulley, reverse the removal procedure.
7. Re-install belt on end of conveyor, then tension the belt. See “Conveyor Belt Tensioning” on page 24.
8. If installed, re-position the cam assemblies against the headplates and adjust belt tracking. See “Conveyor Belt Tracking” on page 26.

B – Idler Pulley Removal

1. On one side of the conveyor, remove screw **(Figure 62, item 1)** and remove dust cover **(Figure 62, item 2)**, if installed.

NOTE

To prevent damage to the headplates, be sure to remove them slowly because they are not attached to pulley.

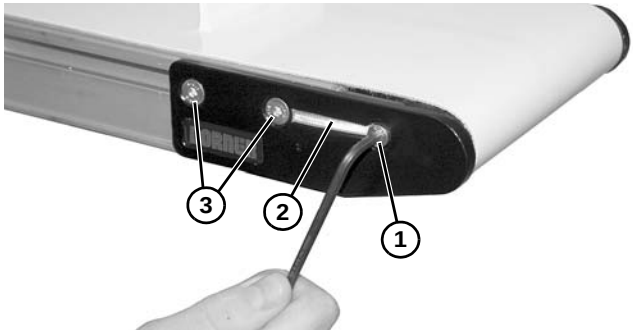


Figure 62

2. Remove two fastening screws **(Figure 62, item 3)**.
3. Remove the headplate **(Figure 63, item 1)** from the conveyor frame, holding spindle in place.

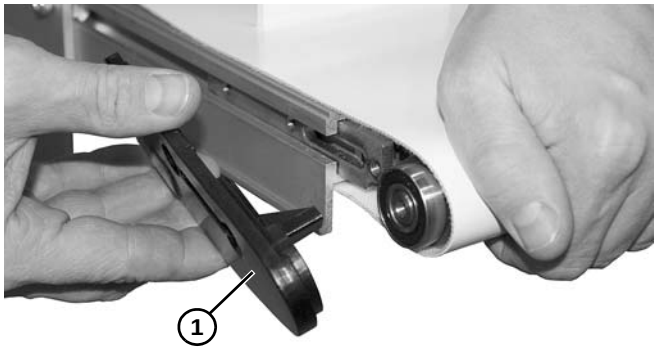


Figure 63

4. Slide spindle out of the belt loop.
5. To replace the idler tail pulley, reverse the removal procedure.
6. Re-install belt on end of conveyor, then tension the belt. See “Conveyor Belt Tensioning” on page 24.
7. If installed, re-position the cam assemblies against the headplates and adjust belt tracking. See “Conveyor Belt Tracking” on page 26.

C – 16 mm Nose Bar Pulley Removal

1. On both sides of conveyor, loosen cam fastening screw **(Figure 64, item 1)** (if equipped) and slide cam assemblies toward the center of the conveyor.

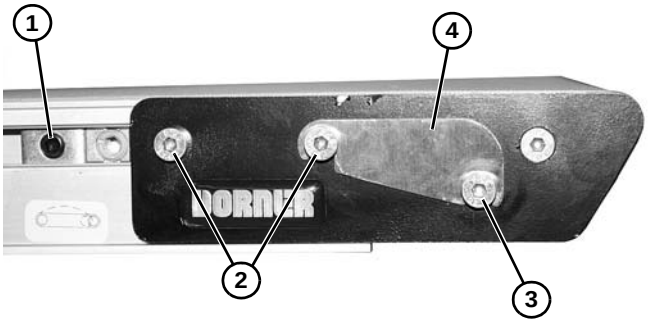


Figure 64

2. On both sides of conveyor, loosen fastening screws **(Figure 64, item 2)** to remove belt tension. Remove belt from end of conveyor.
3. On both sides of conveyor, loosen fastening screw **(Figure 64, item 3)** and remove dust cover **(Figure 64, item 4)** (if equipped).
4. Remove nose bar tail from the conveyor and place on an open work surface. On one side of nose bar tail, remove two fastening screws **(Figure 64, item 2)**.
5. Remove lower screw **(Figure 65, item 1)** and remove tail nut bar **(Figure 65, item 2)** and side plate **(Figure 65, item 3)**.

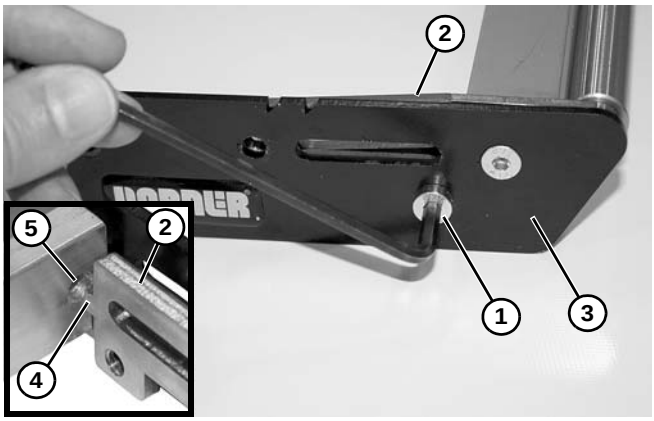


Figure 65

NOTE

*During reassembly, make certain that the tail nut bar nipple **(Figure 65, item 4)** is inserted into the support bar hole **(Figure 65, item 5)**.*

6. Remove outer and inner end plate **(Figure 66, item 1)**.

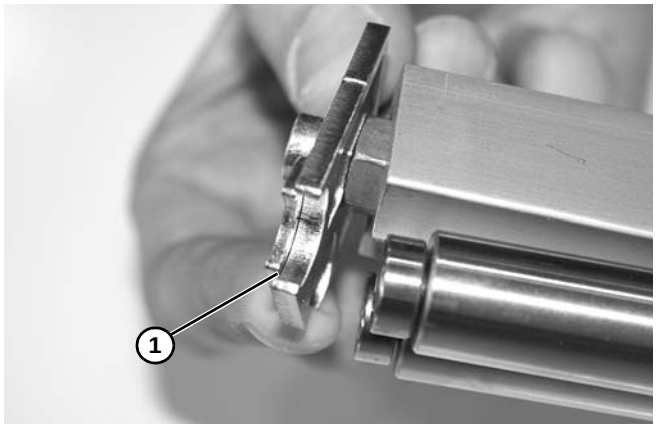


Figure 66

7. Remove spindles **(Figure 67, item 1)**.

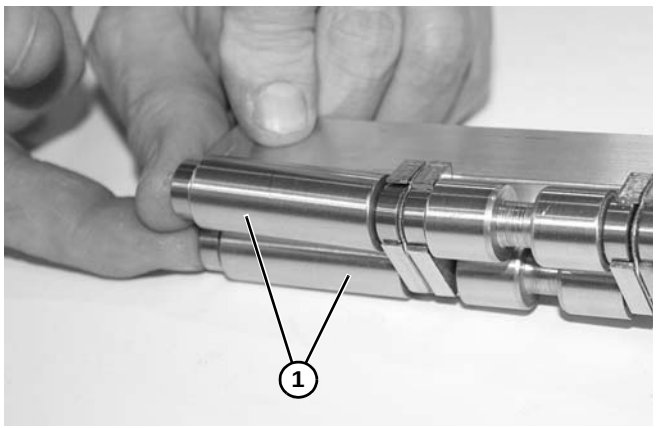


Figure 67

8. Remove bearing carrier (if installed) **(Figure 68, item 1)** and spindles **(Figure 68, item 2)**.

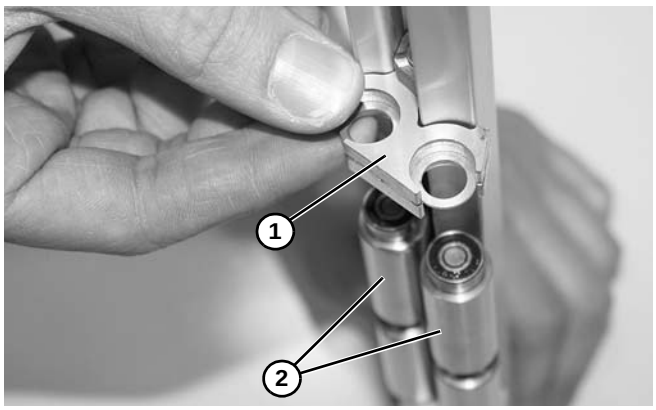


Figure 68

9. Repeat step 8 for remaining spindles.
10. Assemble and install headplate in reverse order of removal. Use a 4 mm hex-key wrench to tighten lower screw **(Figure 65, item 1)** to 3.4 Nm. Leave two fastening screws **(Figure 64, item 2)** loose for belt tensioning.

11. Re-install belt on end of conveyor, then tension the belt. See “Conveyor Belt Tensioning” on page 24.
12. Re-position the cam assemblies (if equipped) against the headplates and adjust belt tracking. See “Conveyor Belt Tracking” on page 26.

D – Center Drive Module Pulley Removal

Remove the conveyor belt to access the pulley(s). Refer to “Belt Removal for Center Drive Conveyors” on page 18, steps 1 through 10.

Perform one of the following procedures to remove desired pulley:

- Drive Module Drive Pulley Removal
- Drive Module Idler Pulley Removal

Drive Module Drive Pulley Removal

1. Remove the gearmotor drive package. Refer to “Gearmotor Mounting Package Removal” on page 19.
2. Remove the drive module. Refer to “Drive Module Removal” on page 20.
3. Remove the drive pulley. Refer to “Belt Removal from Drive Module” on page 20, steps 1 and 2.
4. To replace the pulley, reverse the removal procedure.
5. Re-install belt on end of conveyor, then tension the belt. See “Conveyor Belt Tensioning” on page 24.
6. If installed, re-position the cam assemblies against the headplates and adjust belt tracking. See “Conveyor Belt Tracking” on page 26.

Drive Module Idler Pulley Removal

1. Remove the gearmotor drive package. Refer to “Gearmotor Mounting Package Removal” on page 19.
2. Remove the drive module. Refer to “Drive Module Removal” on page 20“.
3. Remove the grooved idler pulley. Refer to “Belt Removal from Drive Module” on page 20, step 3.
4. Remove smooth idler pulleys:

   a. For 44 mm, 70 mm, or 95 mm wide conveyor, remove E-ring clips and washers **(Figure 69, item 1)**. Remove pulley shafts **(Figure 69, item 2)** and pulleys **(Figure 69, item 3)**.

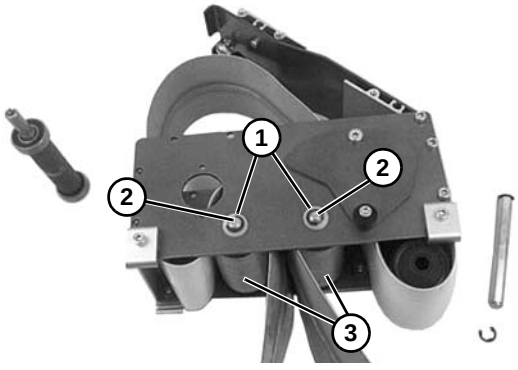


Figure 69

   b. For 127 mm or wider conveyor, depress both sides of each spring-loaded shaft **(Figure 70, item 1)**. Remove pulleys **(Figure 70, item 2)**.

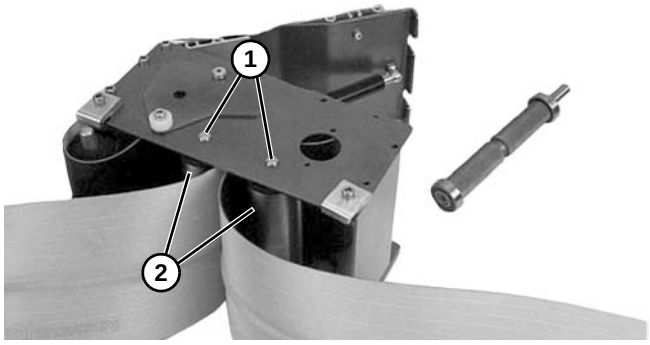


Figure 70

5. To replace the pulley, reverse the removal procedure.
6. Re-install belt on end of conveyor, then tension the belt. See “Conveyor Belt Tensioning” on page 24.
7. Re-position the cam assemblies (if equipped) against the headplates and adjust belt tracking. See “Conveyor Belt Tracking” on page 26.

E – Mid Drive Module Pulley Removal

1. On tension end of the conveyor, identified with  a label **(Figure 71, item 1)**, push in headplate assembly **(Figure 71, item 2)**:

   a. On both sides of conveyor, loosen and move cam tracking assemblies **(Figure 71, item 3)** (if equipped) away from headplates.

   b. Loosen fastening screws **(Figure 71, item 4)** and push headplate assembly inward.

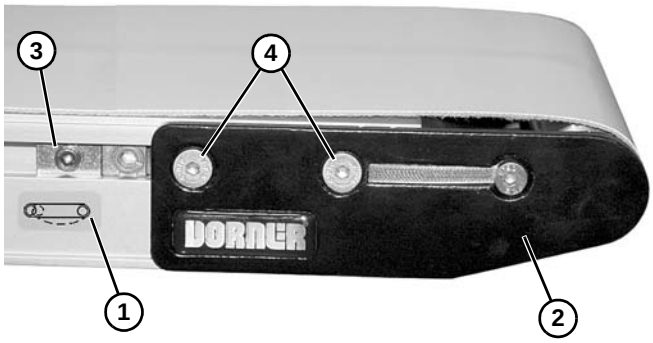


Figure 71

2. Remove drive package. See your appropriate Drive Package manual for removal procedure.

3. Loosen one socket head screw **(Figure 72, item 1)** from each side of mounting block **(Figure 72, item 2)**.

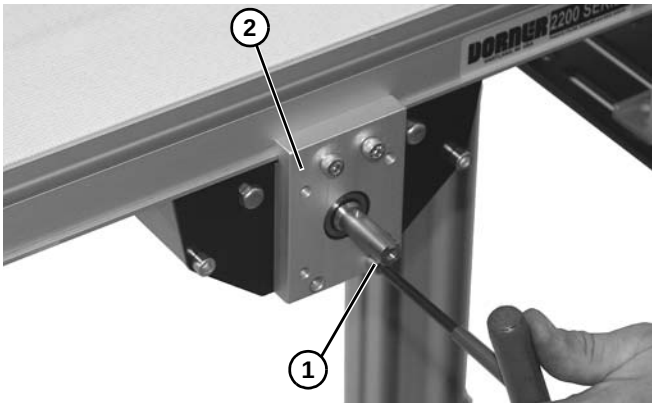


Figure 72

4. Lower and remove mid drive module **(Figure 73, item 1)** from belt **(Figure 73, item 2)**.

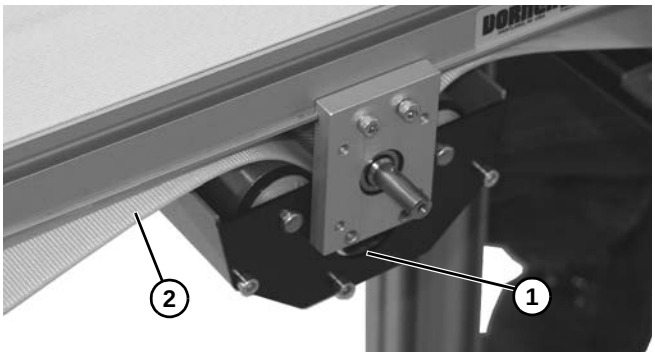


Figure 73

5. Loosen two socket head screws **(Figure 74, item 1)** from each side of mounting block **(Figure 74, item 2)**.

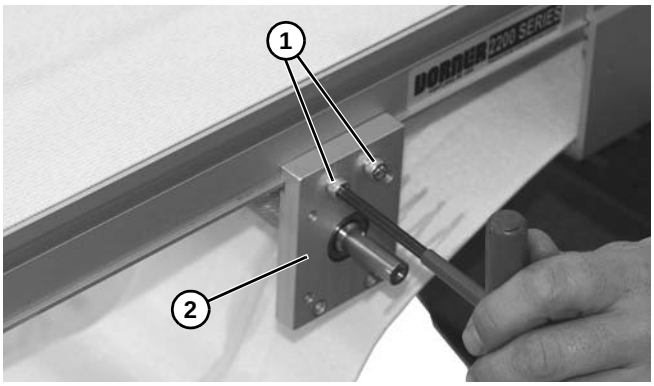


Figure 74

6. Separate mounting blocks **(Figure 75, item 1)** from spindle **(Figure 75, item 2)**.

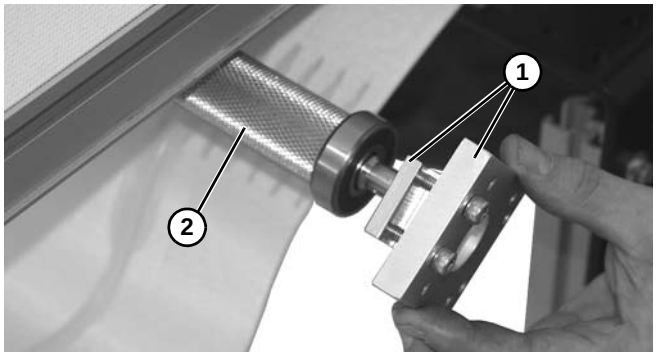


Figure 75

7. Replace spindle.
8. Install components, reverse order of removal.
9. Be certain to use a square **(Figure 76, item 1)** across mounting blocks **(Figure 76, item 2)**, so blocks are aligned to one another, before tightening hardware.

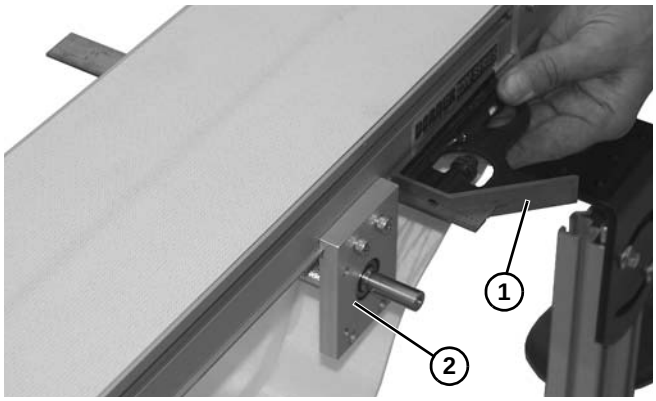


Figure 76

10. Tighten socket head screws **(Figure 72, item 1)** and **(Figure 74, item 1)** to 7 Nm.
11. Tension conveyor belt. See “Conveyor Belt Tensioning” on page 24.

Bearing Removal and Replacement

Removal

IMPORTANT

Do not use any removed bearings. Replace them.

1. Place bearing removal tool part #456063 **(Figure 77, item 1)** below bearing **(Figure 77, item 2)** with lip **(Figure 77, item 3)** located in gap **(Figure 77, item 4)** between bearing and spindle hub **(Figure 77, item 5)** as shown.

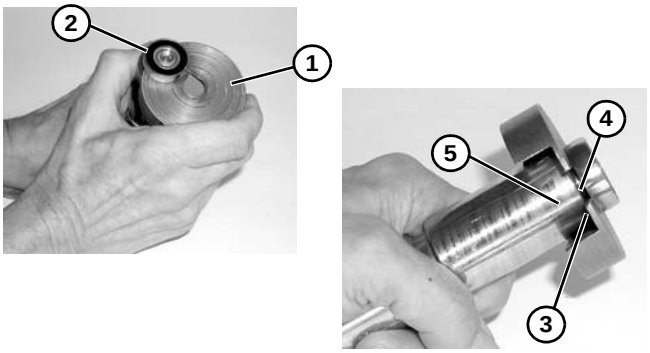


Figure 77

2. Using puller part #807–1716 **(Figure 78, item 1)**, remove and discard bearing.

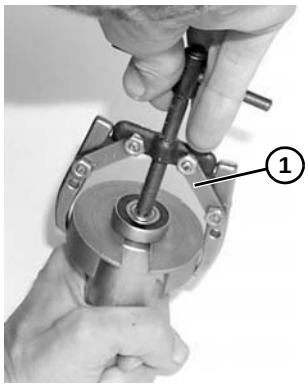


Figure 78

Replacement

1. Inspect the headplates bearing seating surface **(Figure 79, item 1)**. If they are worn or damaged, replace. See “Service Parts” on page 36.

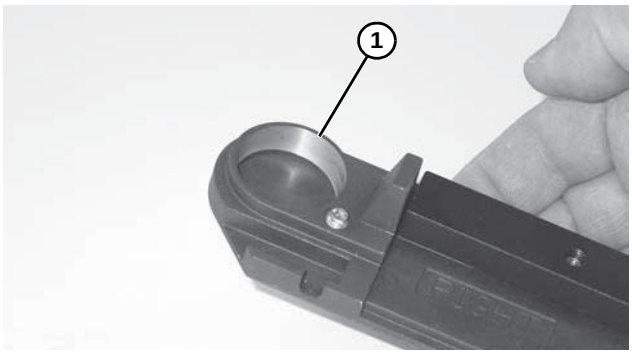


Figure 79

2. Inspect spindle **(Figure 80, item 1)**. Replace if worn.
3. Slide bearing **(Figure 80, item 2)** onto spindle.

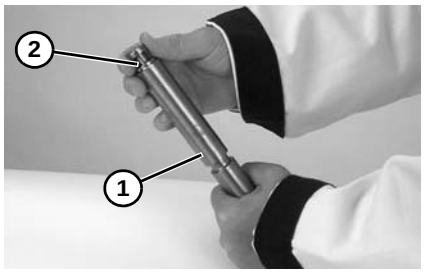


Figure 80

4. Using an arbor press or similar device, press bearing onto pulley shaft **(Figure 81)**.

⚠ WARNING

Be certain that bearing and shaft is set onto press completely flush with press cylinder plate. If not, damage to bearing or shaft could result.

Keep hands and fingers away from press and components during procedure.

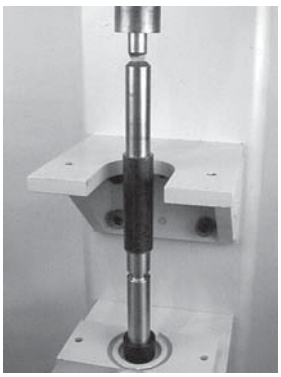


Figure 81

5. Repeat steps 1 through 4 for each bearing.

Tail Plate Shaft Knockout Removal

1. Determine which tail plate or plates require the removal of the hole knockout slug for the drive shaft.
   - Position A or B = 205370-LH
   - Position C or D = 205370-RH
2. Set tail plate **(Figure 82, item 1)** flat side down over washer **(Figure 82, item 2)** or hole in workbench that has a minimum diameter of 16 mm.

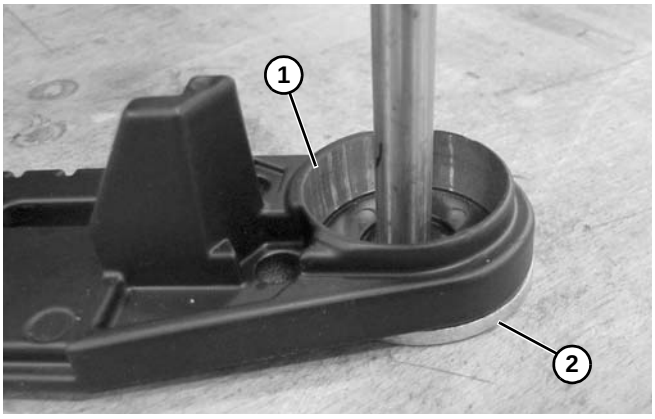


Figure 82

3. Use a hammer and punch (6 mm - 13 mm diameter) **(Figure 83, item 1)** or long bolt to knock out slug **(Figure 84, item 1)** for shaft backing up tail plate with washer.

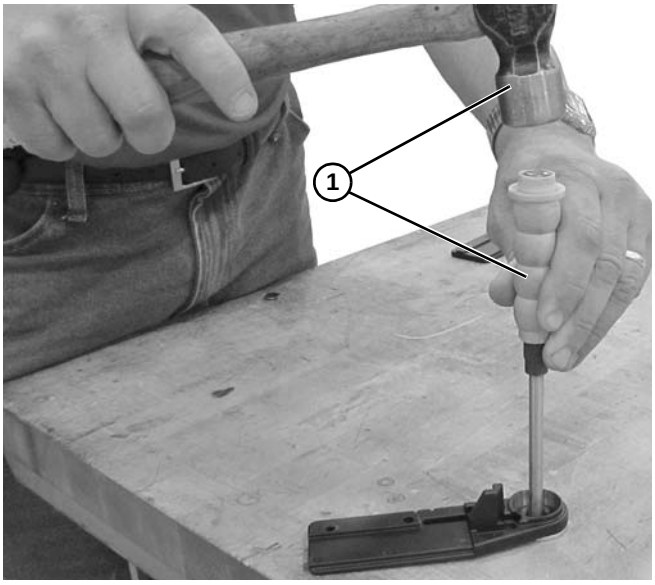


Figure 83

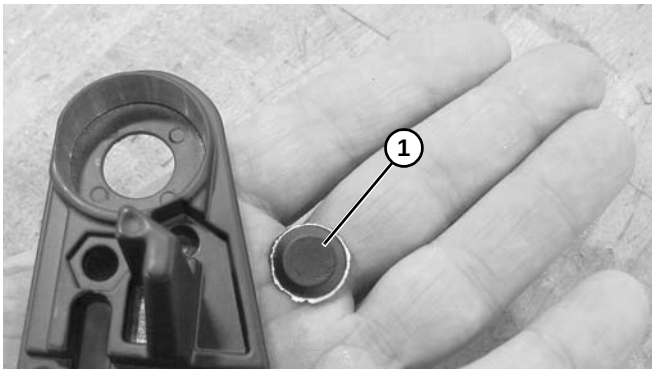


Figure 84

4. Repeat the same operation to knockout **(Figure 86, item 1)** for alignment screw hole using a 3 mm - 5 mm punch **(Figure 85, item 1)** or M5 - M6 bolt.

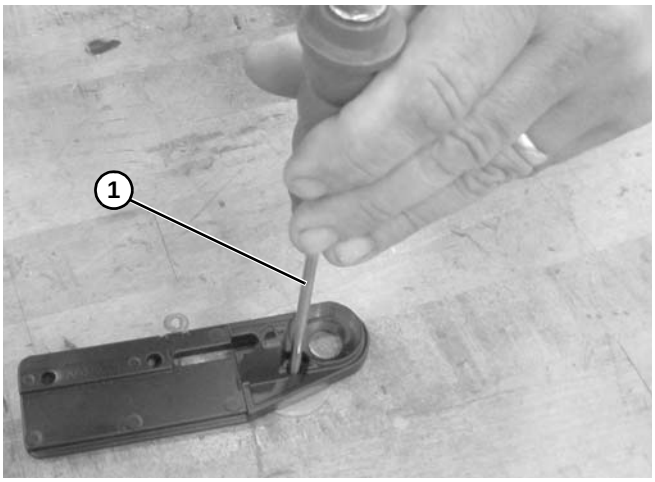


Figure 85

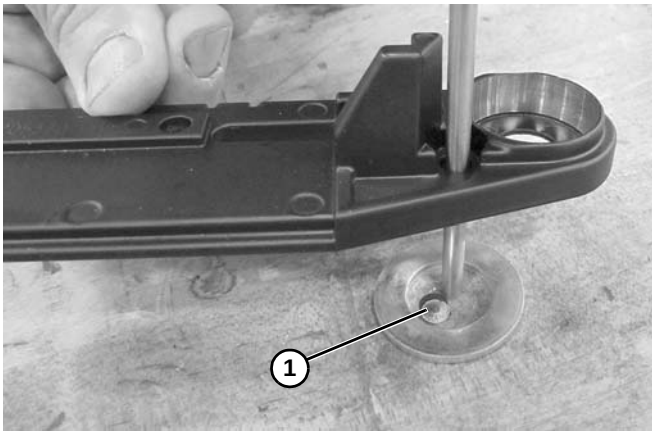


Figure 86

Pinion Replacement

1. Remove conveyor belt. See "Conveyor Belt Replacement" section on page 16.
2. Remove idler tail **(Figure 87, item 1)** by sliding off of the conveyor **(Figure 87, item 2)**.

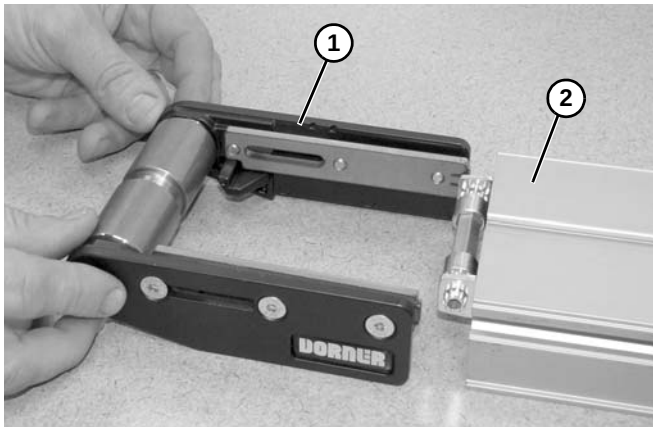


Figure 87

3. Pry pinion assembly **(Figure 88, item 1)** from conveyor frame by alternating sides.

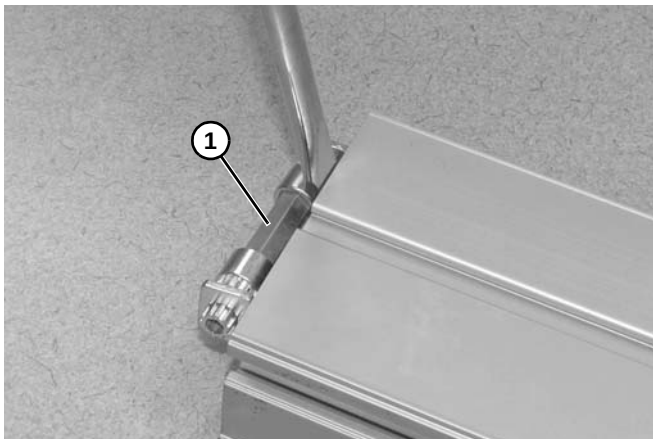


Figure 88

4. Replace worn components.

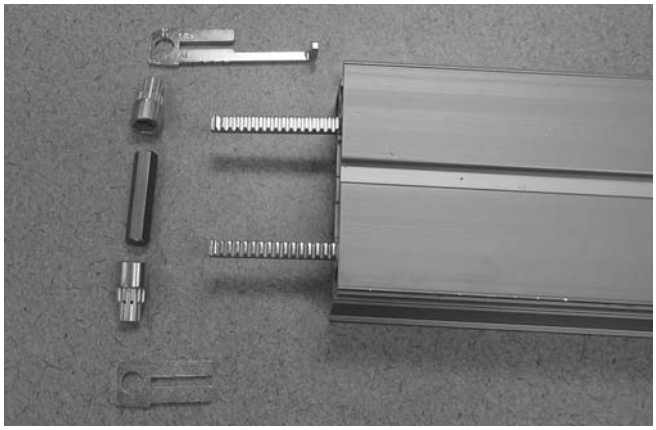


Figure 89

5. To reassemble, make sure that the lines **(Figure 90, item 1)** on the pinion end gears **(Figure 90, item 2)** are aligned.

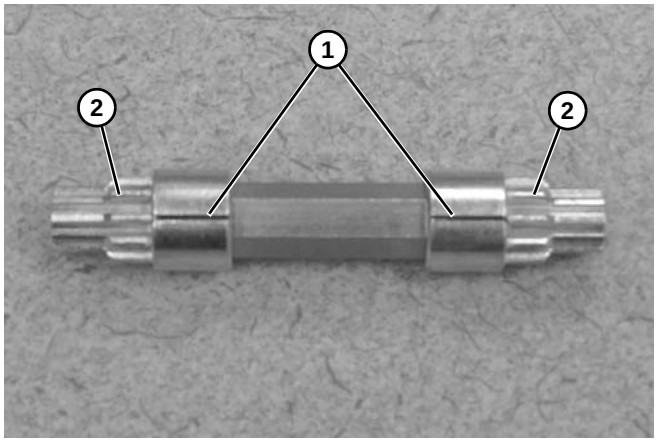


Figure 90

6. Slide on retaining plates **(Figure 91, item 1)**.

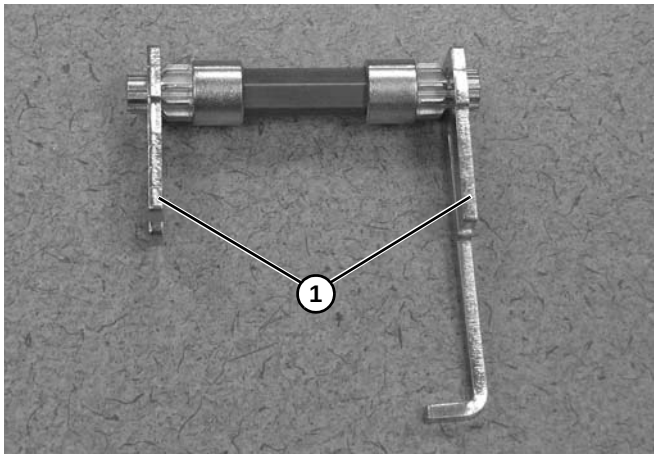


Figure 91

7. Insert pinion assembly **(Figure 92, item 1)** into conveyor frame.

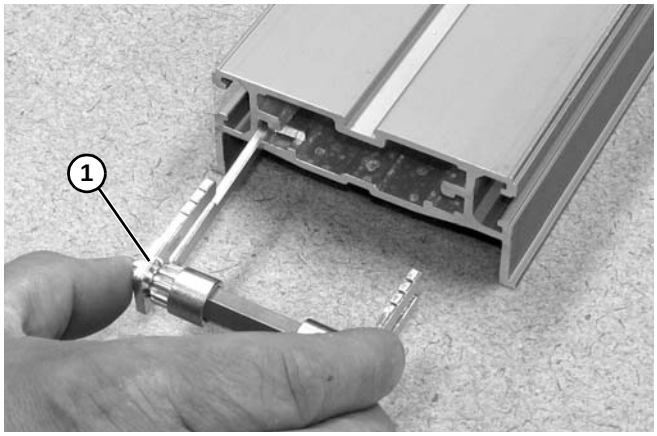


Figure 92

8. Tap alternating retaining plates **(Figure 93, item 1)** and **(Figure 94, item 1)** with a hammer until fully assembled onto conveyor frame.

⚠ CAUTION

Do not hit pinion gear with hammer. It may cause damage to the pinion teeth.

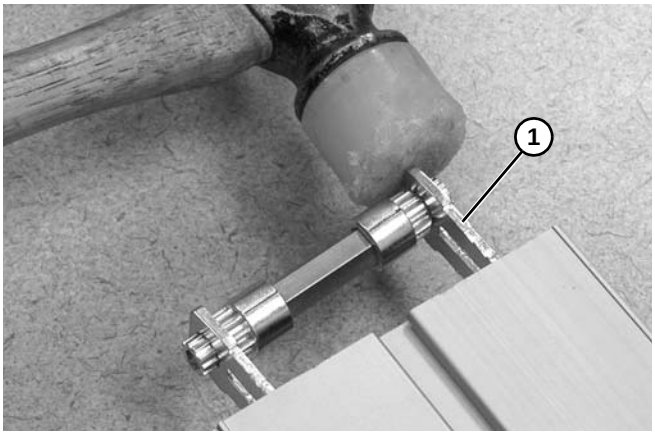


Figure 93

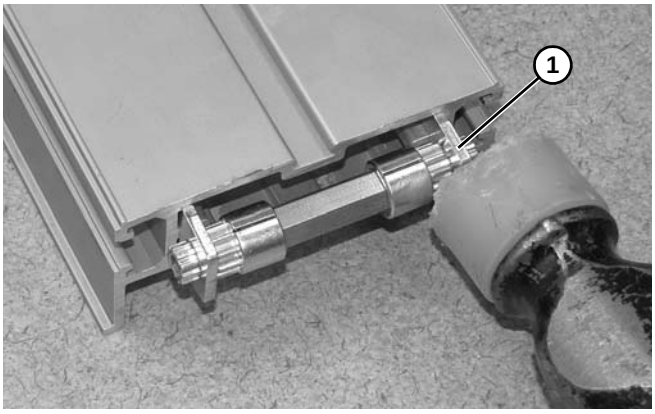


Figure 94

9. Insert both gear racks **(Figure 95, item 1)** into conveyor frame.

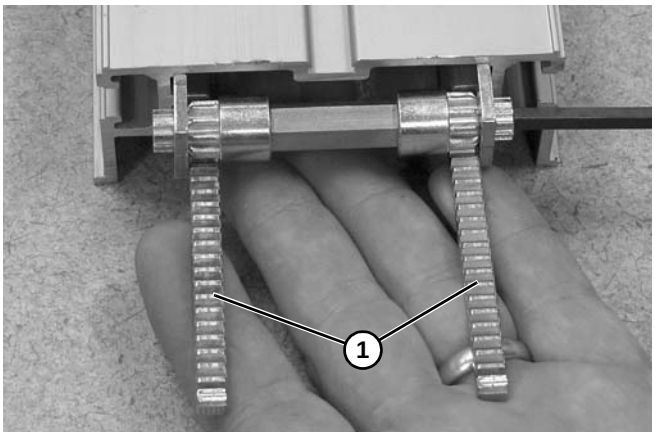


Figure 95

NOTE

*Make sure the bent end **(Figure 96, item 1)** of the gear rack is NOT assembled into the conveyor frame.*

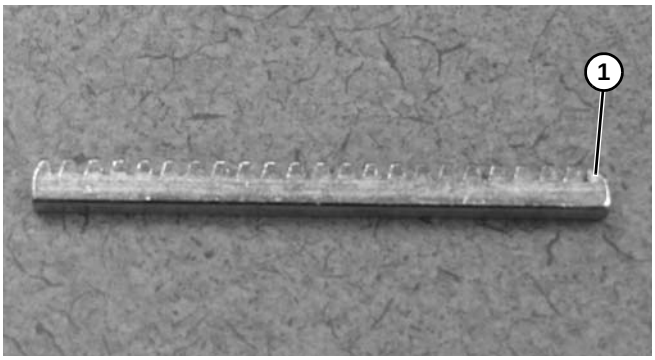


Figure 96

10. Rotate pinion **(Figure 97, item 1)** with hex wrench until gear racks **(Figure 97, item 2)** are fully collapsed.

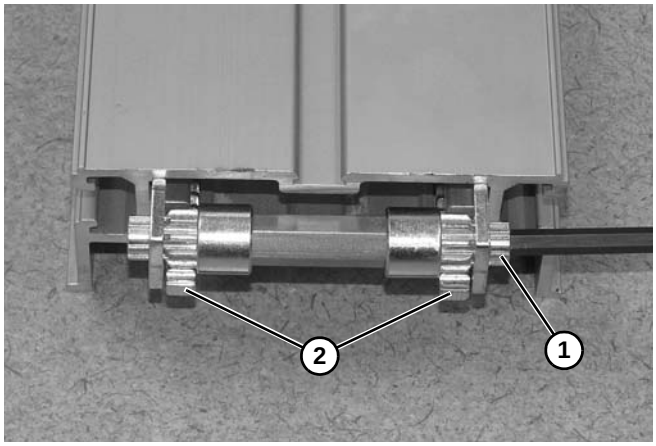


Figure 97

NOTE

The gear racks must be aligned with each other, as shown above. Example of misaligned gear racks shown below.

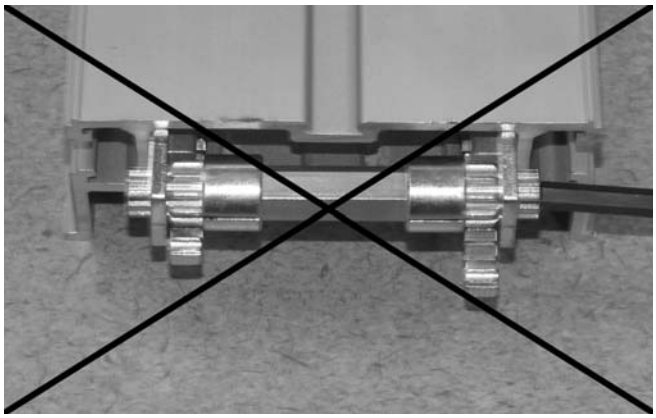


Figure 98

11. Reinstall idler tail by sliding tail assembly **(Figure 99, item 1)** fully back onto conveyor frame.

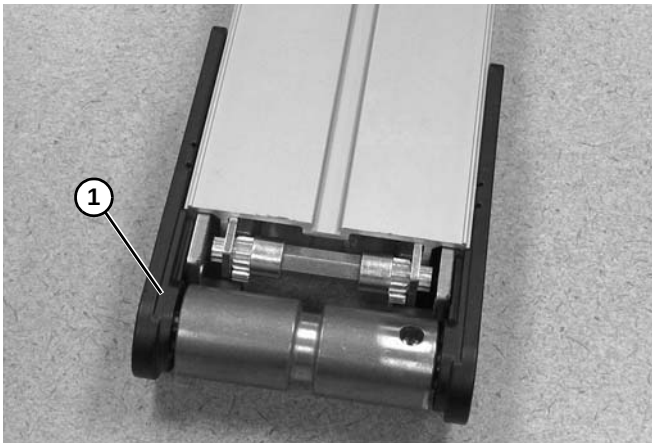


Figure 99

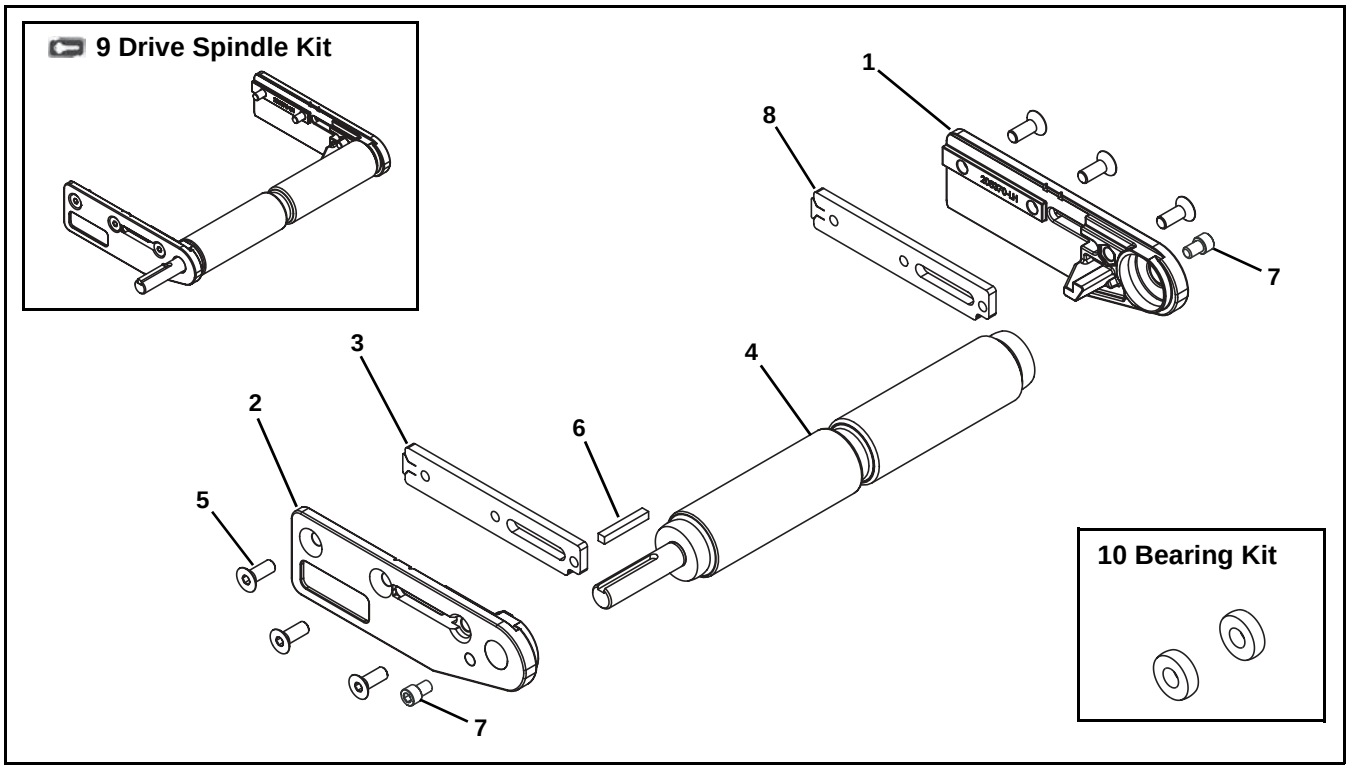
12. Reinstall belt on end of conveyor, then tension the belt. See “Conveyor Belt Tensioning” on page 24.

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.

End Drive Tail



Item	Part Number	Description
1	205370-LH	Headplate, Left Hand
2	205370-RH	Headplate, Right Hand
3	206006	Tail Nut Bar for V-Guided Belts
	206006-RHBEND	Tail Nut Bar for Non V-Guided Belts
4	203713-WW	Knurled Spindle Assembly (One Keyed Shaft)
	203714-WW	Dual Shaft Knurled Spindle Assembly (Two Keyed Shafts)
	203717-WW	Common Drive - Knurled Conveyor Spindle Assembly (Keyed Shaft & Stub Shaft)
	203716-WW	Common Drive - Knurled Mid Conveyor Spindle Assembly (Two Stub Shafts)
	203715-WW	Common Drive - Knurled End Conveyor Spindle Assembly (One Stub Shaft)
	203723-WW	Lagged Drive Spindle (One Keyed Shaft)
	203724-WW	Lagged Dual Shaft Drive Spindle (Two Keyed Shafts)
	203727-WW	Lagged Common Drive - Drive Conveyor Spindle (Keyed Shaft & Stub Shaft)
	203726-WW	Lagged Common Drive - Mid Conveyor Spindle (Two Stub Shafts)
	203725-WW	Lagged Common Drive - End Conveyor Spindle (One Stub Shaft)
5	930616M	Flat Head Screw, M6-1.00 x 16 mm
6	980428M	Square Key, 4 mm x 28 mm
7	807-2979	Socket Head Screw, 1/4-28 x .375"
8	206006	Tail Nut Bar for V-Guided Belts
	206006-LHBEND	Tail Nut Bar for Non V-Guided Belts

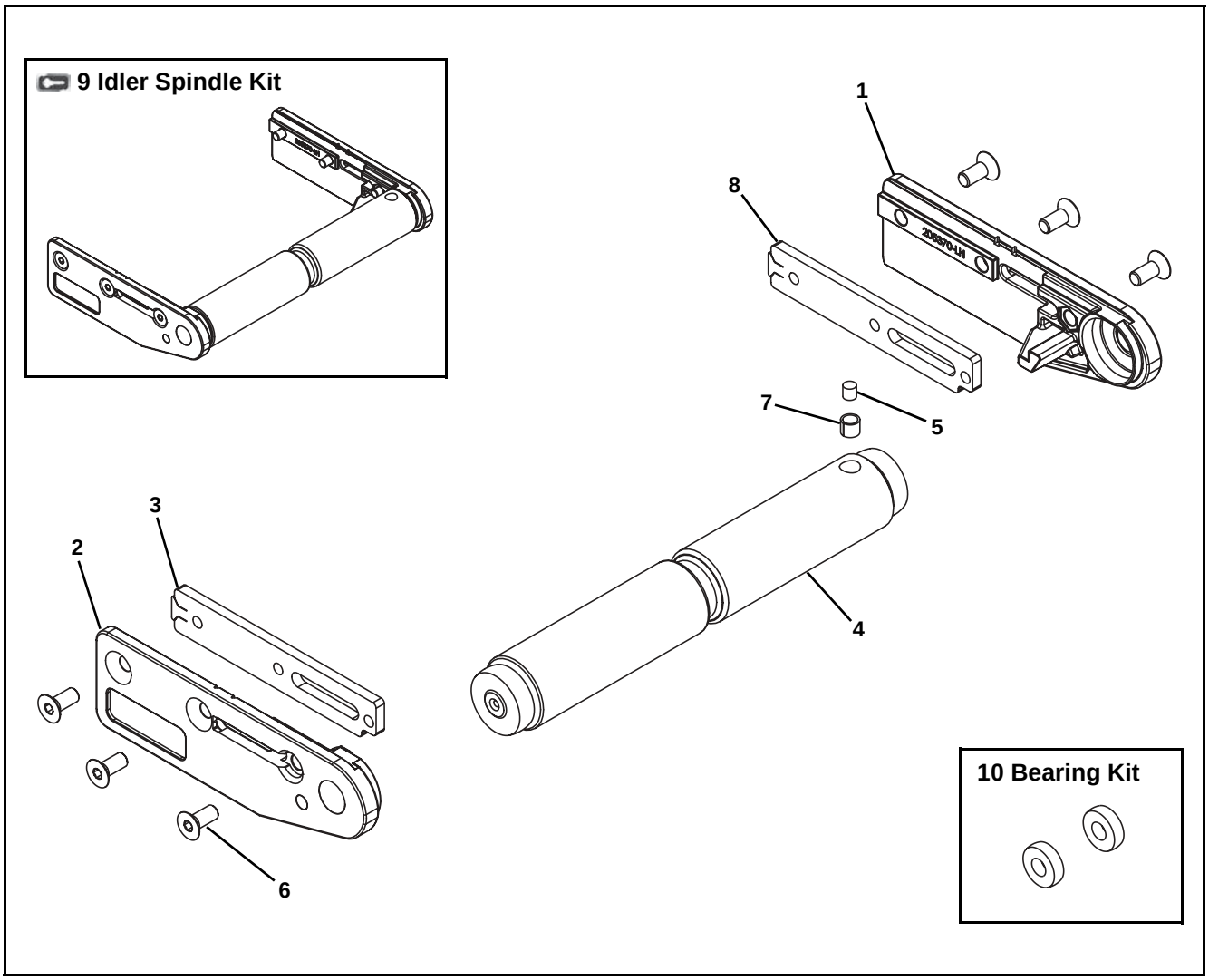
Item	Part Number	Description
9	22V2FO-WW	Knurled Spindle Kit (One Keyed Shaft) (Includes Items 1, 2, 4, 5 and 6)
	22V2FK-WW	Dual Shaft Knurled Spindle Kit (Two Keyed Shafts) (Includes Items 1, 2, 4, 5 and 6)
	22V2FS-WW	Common Drive - Knurled Conveyor Spindle Kit (Keyed Shaft & Stub Shaft) (Includes Items 1, 2, 4, 5 and 6)
	22V2FE-WW	Common Drive - Knurled End Conveyor Spindle Kit (One Stub Shaft) (Includes Items 1, 2, 4, 5 and 6)
	22V2FC-WW	Common Drive - Knurled Mid Conveyor Spindle Kit (Two Stub Shafts) (Includes Items 1, 2, 4, 5 and 6)
	22V2FLO-WW	Lagged Drive Spindle Kit (One Keyed Shaft) (Includes Items 1, 2, 4, 5 and 6)
	22V2FLK-WW	Lagged Dual Shaft Drive Spindle Kit (Two Keyed Shafts) (Includes Items 1, 2, 4, 5 and 6)
	22V2FLS-WW	Lagged Common Drive - Drive Conveyor Spindle Kit (Keyed Shaft & Stub Shaft) (Includes Items 1, 2, 4, 5 and 6)
	22V2FLE-WW	Lagged Common Drive - End Conveyor Spindle Kit (One Stub Shaft) (Includes Items 1, 2, 4, 5 and 6)
	22V2FLC-WW	Lagged Common Drive - Mid Conveyor Spindle Kit (Two Stub Shafts) (Includes Items 1, 2, 4, 5 and 6)
10	22BK2	Bearing Kit (2 Pack)
	22BK4	Bearing Kit (4 Pack)

*WW = Conveyor width reference: 02, 04, 06, 08, 10, 12, 14, 16, 18, 20, 22, & 24

* See pages 8 and 9 for cross-reference to width reference and conveyor width.

Service Parts

Idler Tail

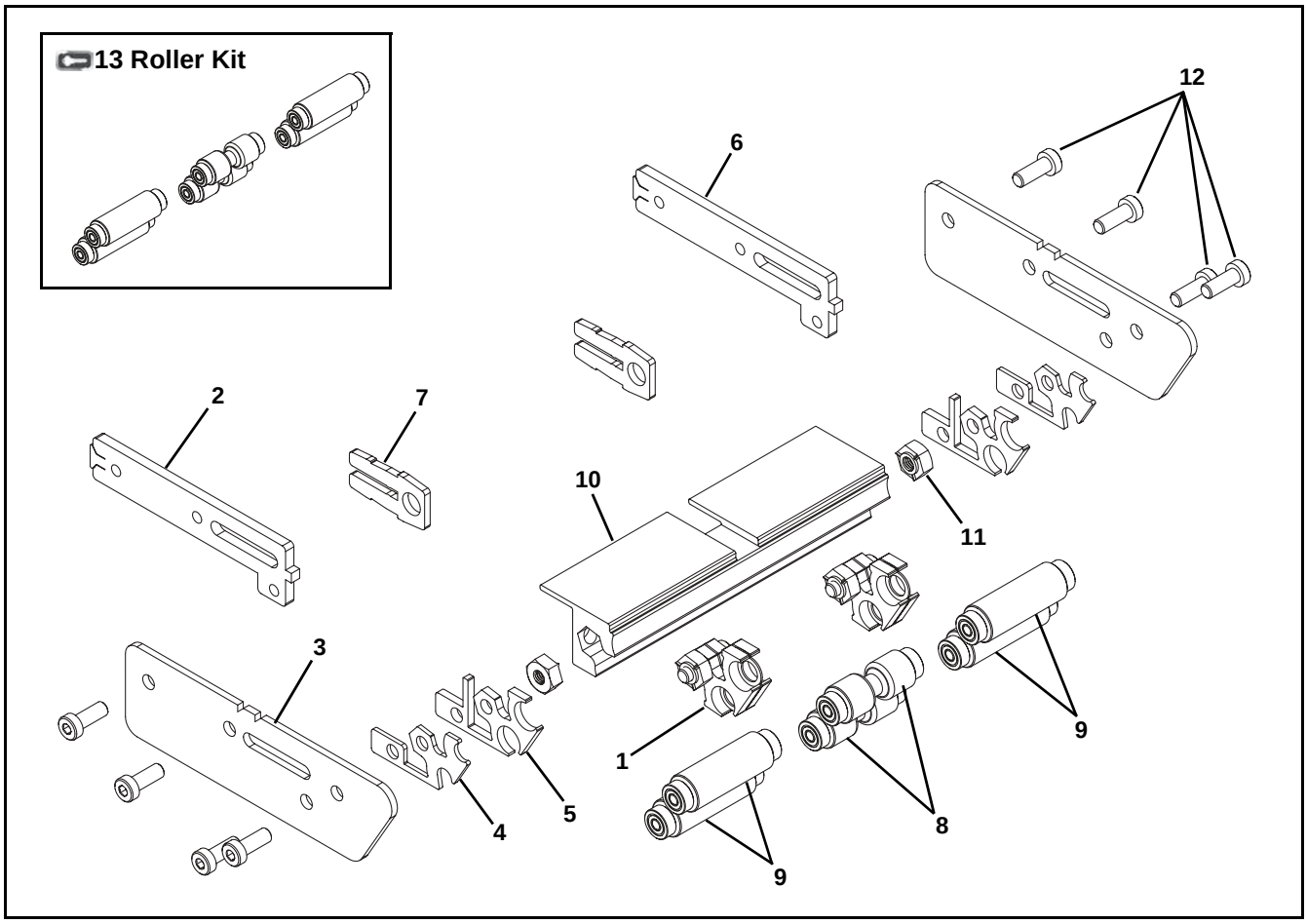


Item	Part Number	Description
1	205370-LH	Headplate, Left Hand
2	205370-RH	Headplate, Right Hand
3	206006	Tail Nut Bar for V-Guided Belts
	206006-RHBEND	Tail Nut Bar for Non V-Guided Belts
4	201273-WW	Standard Spindle Assembly
	203715-WW	Spindle with One Stub Shaft Assembly
	203713-WW	Spindle with Auxiliary Keyed Shaft Assembly
5	808-020	Magnet (Optional)
6	930616M	Flat Head Screw, M6-1.00 x 16 mm
7	450226SSP	Magnet Sleeve (Optional)
8	206006	Tail Nut Bar for V-Guided Belts
	206006-LHBEND	Tail Nut Bar for Non V-Guided Belts

Item	Part Number	Description
9	22V2TO-WW	Standard Idler Spindle Kit (Includes Items 1, 2, 4, and 6)
	22V2TM-WW	Idler Spindle Kit with Magnet (Includes Items 1, 2, 4, 5, 6, and 7)
	22V2TS-WW	Idler Spindle Kit with One Stub Shaft (Includes Items 1, 2, 4, and 6)
	22V2TK-WW	Idler Spindle Kit with One Keyed Shaft (Includes Items 1, 2, 4, and 6)
10	22BK2	Bearing Kit (2 Pack)
	22BK4	Bearing Kit (4 Pack)
*WW = Conveyor width reference: 02, 04, 06, 08, 10, 12, 14, 16, 18, 20, 22, & 24		

* See pages 8 and 9 for cross-reference to width reference and conveyor width.

16 mm Nose Bar Tail



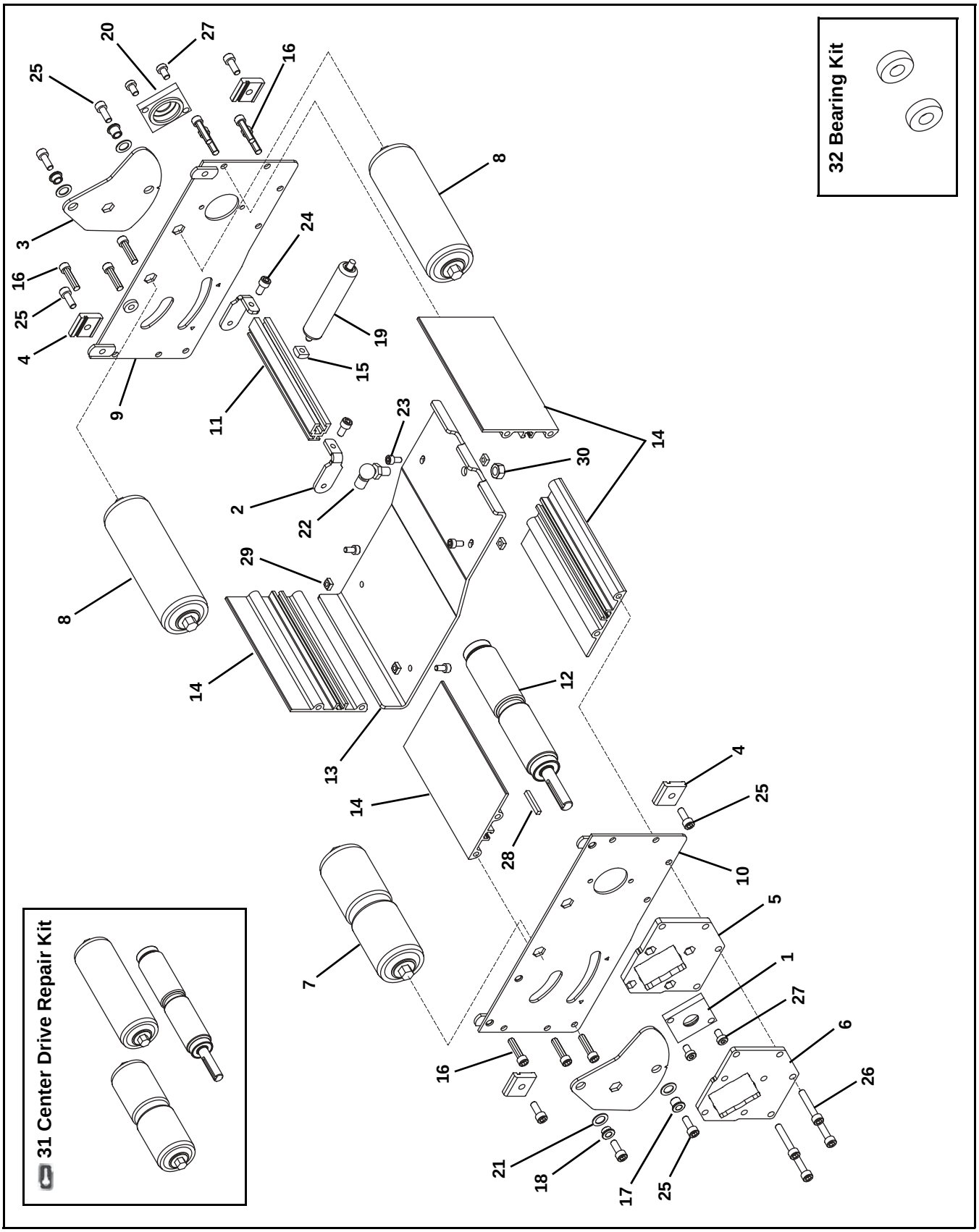
Item	Part Number	Description
1	205523	Carrier Bearing (for conveyors 06 wide and wider)
2	206007	Tail Nut Bar for V-Guided Belts
	206007-RHBEND	Tail Nut Bar for Non V-Guided Belts
3	206009	Tail Plate
4	206010	Outer End Plate
5	206011	Inner End Plate
6	206007	Tail Nut Bar for V-Guided Belts
	206007-LHBEND	Tail Nut Bar for Non V-Guided Belts
7	205450	Retaining Plate
8	205526-WW	V-Groove Spindle Assembly
9	205527-WW	Smooth Spindle Assembly (for conveyors 06 wide and wider)
10	206286-WW	Support Bar
11	807-2873	Weld Nut
12	950616M	Low Head Cap Screw, M6-1.00 x 16 mm
13	22V2H-WW	Roller Kit (Includes Items 8 and 9)

*WW = Conveyor width reference: 02, 04, 06, 08, 10, 12, 14, 16, 18, 20, 22, & 24

* See pages 8 and 9 for cross-reference to width reference and conveyor width.

Service Parts

Center Drive Module



Item	Part Number	Description
1	203628	Bearing Mounting Block w/Hole
2	203632	Tensioner Bar Tab, for 04 - 24 wide conveyors
3	203681	Pivot Tension Plate
4	204566	Mounting Clip
5	205446	Inside Mounting Plate
6	205447	Outside Mounting Plate
7	463037	Grooved Roller, for 02 wide Conveyor
	463039	Grooved Roller, for 04 wide Conveyor
	203633-WW	Grooved Roller, for 06 - 24 wide Conveyors
8	463040	Smooth Roller, for 02 wide Conveyor
	463042	Smooth Roller, for 04 wide Conveyor
	203635-WW	Smooth Roller, for 06 - 24 wide Conveyors
9	202633M	Side Plate, Left Hand
10	202634M	Side Plate, Right Hand
11	203631-WW	Tensioner Rail
	463302	Tensioner Rail, for 02 wide Conveyor
12	203713-WW	Drive Spindle Assembly
	203714-WW	Dual Shaft Drive Spindle Assembly
	203723-WW	Lagged Drive Spindle
	203724-WW	Lagged Dual Shaft Drive Spindle
13	4632WWM	Bottom Cover, for 02 - 14 & 18 wide Conveyors
	463208M	Bottom Cover, for 16 wide Conveyors (qty. 2)
	463210M	Bottom Cover, for 20 wide Conveyors (qty. 2)
	463212M	Bottom Cover, for 22 wide Conveyors
	463205M	Bottom Cover, for 22 wide Conveyors (qty. 2)
	463212M	Bottom Cover, for 24 wide Conveyors (qty. 2)
14	4638WW	Support Rail
15	674175MP	Square Nut, M6
16	708180P	Trilobe Screw, M6-1.00 x 25 mm
17	801-138	Bearing
18	801-173	Bearing
19	807–1040	Gas Spring, for 02 wide Conveyor
	807–985	Gas Spring, for 04 - 06 & 12 - 24 wide Conveyors
	807–984	Gas Spring, for 08 - 10 wide Conveyors
20	203728	Bearing Mounting Block
21	807-2885	Washer
22	807-987	Steel Ball Joint M6 x M8
23	920510M	Socket Head Screw, M5-.80 x 10 mm
24	920612M	Socket Head Screw, M6-1.00 x 12 mm
25	920616M	Socket Head Screw, M6-1.00 x 16 mm

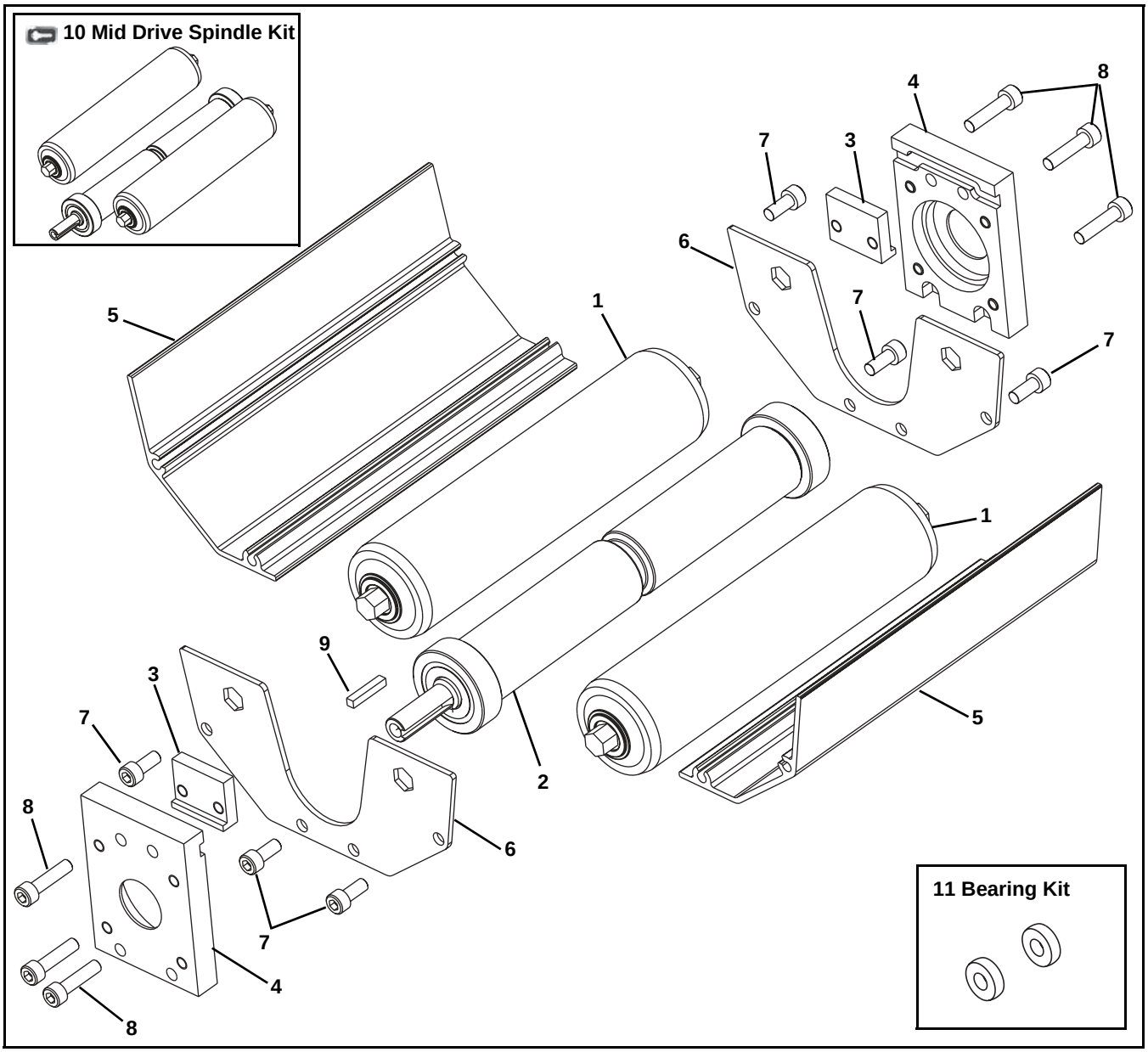
Item	Part Number	Description
26	920635M	Socket Head Screw, M6-1.00 x 35 mm
27	950610M	Low Head Cap Screw, M6-1.00 x 10 mm
28	980428M	Square Key, 4mm x 28 mm
29	990503M	Square Nut, M5
30	990801M	Hex Nut, M8
31	22V2CDKO–WW	Center Drive Repair Kit (Includes Items 7, 8, & 12)
	22V2CDKE–WW	Center Drive Repair Kit for Dual Shaft Spindle (Includes Items 7, 8, & 12)
	22V2CDLO–WW	Center Drive Repair Kit for Lagged Drive Spindle (Includes Items 7, 8, & 12)
	22V2CDLE–WW	Center Drive Repair Kit for Lagged Dual Shaft Spindle (Includes Items 7, 8, & 12)
32	22BK2	Bearing Kit (2 Pack)
	22BK4	Bearing Kit (4 Pack)

*WW = Conveyor width ref.: 02, 04, 06, 08, 10, 12, 14, 16, 18, 20, 22, & 24

* See pages 8 and 9 for cross-reference to width reference and conveyor width.

Service Parts

Mid Drive Module

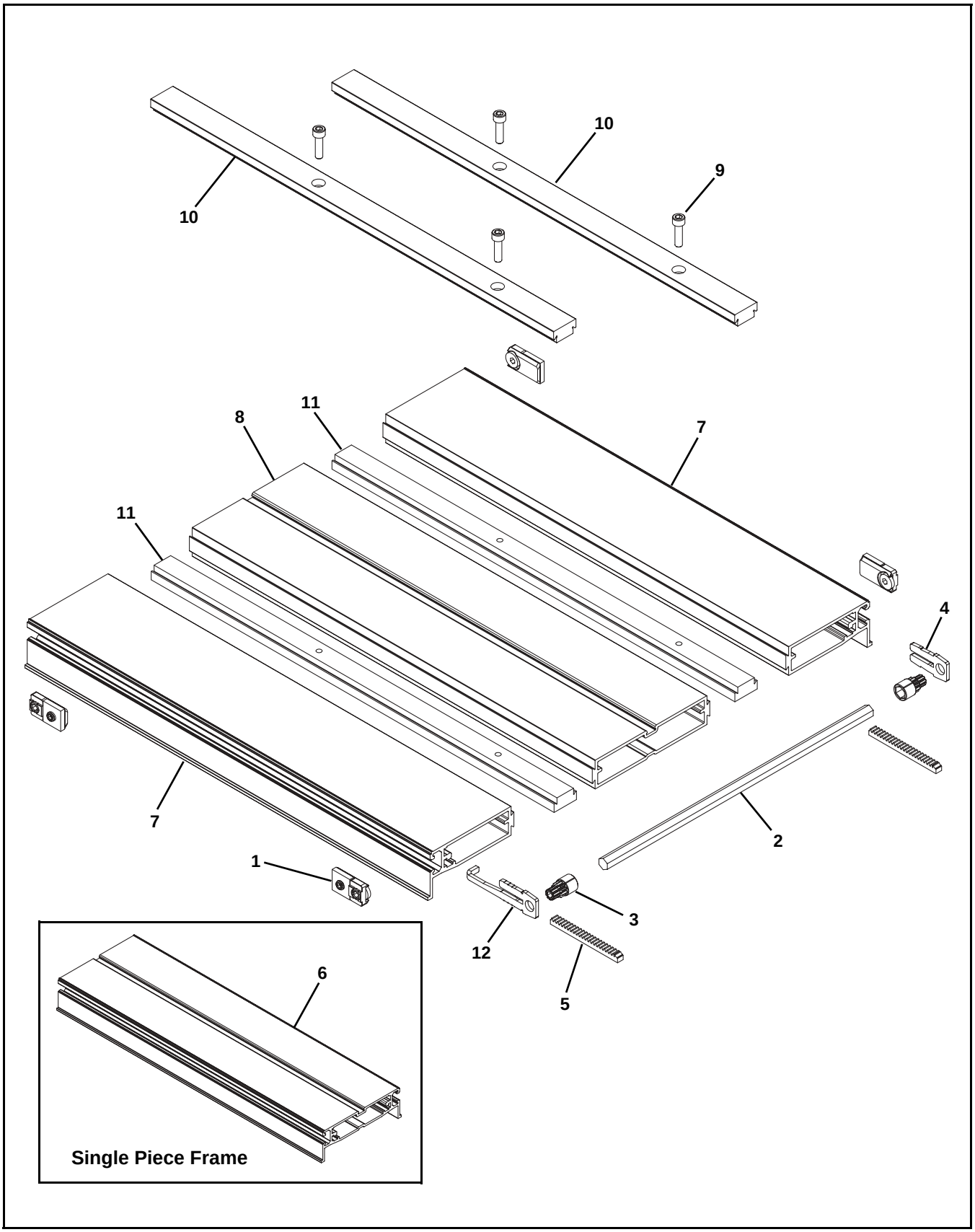


Item	Part Number	Description
1	463040	Idler Roller Assembly for 02 wide Conveyor
	463042	Idler Roller Assembly for 04 wide Conveyor
	203635-WW	Idler Roller Assembly for 06 wide and wider Conveyors
2	203713-WW	Knurled Spindle Assembly
	203714-WW	Knurled Spindle Assembly - Dual Shaft
	203723-WW	Lagged Spindle Assembly
	203724-WW	Lagged Spindle Assembly - Dual Shaft
3	202353	Clamp Block
4	203637	Mounting Block
5	202455-WW	Bottom Guard
6	202456	Side Plate
7	920614M	Socket Head Screw, M6-1.00 x 14 mm
8	920625M	Socket Head Screw, M6-1.00 x 25 mm
9	980428M	Square Key 4 mm x 28 mm
10	22V2MDKO-WW	Mid Drive Spindle Kit for Knurled Spindle (includes items 1 and 2)
	22V2MDKE-WW	Mid Drive Spindle Kit for Knurled Spindle - Dual Shaft (includes items 1 and 2)
	22V2MDLO-WW	Mid Drive Spindle Kit for Lagged Spindle (includes items 1 and 2)
	22V2MDLE-WW	Mid Drive Spindle Kit for Lagged Spindle - Dual Shaft (includes items 1 and 2)
11	22BK2	Bearing Kit (2 Pack)
	22BK4	Bearing Kit (4 Pack)
*WW = Conveyor width ref.: 02, 04, 06, 08, 10, 12, 14, 16, 18, 20, 22, & 24		

* See pages 8 and 9 for cross-reference to width reference and conveyor width.

Service Parts

Frame Assembly

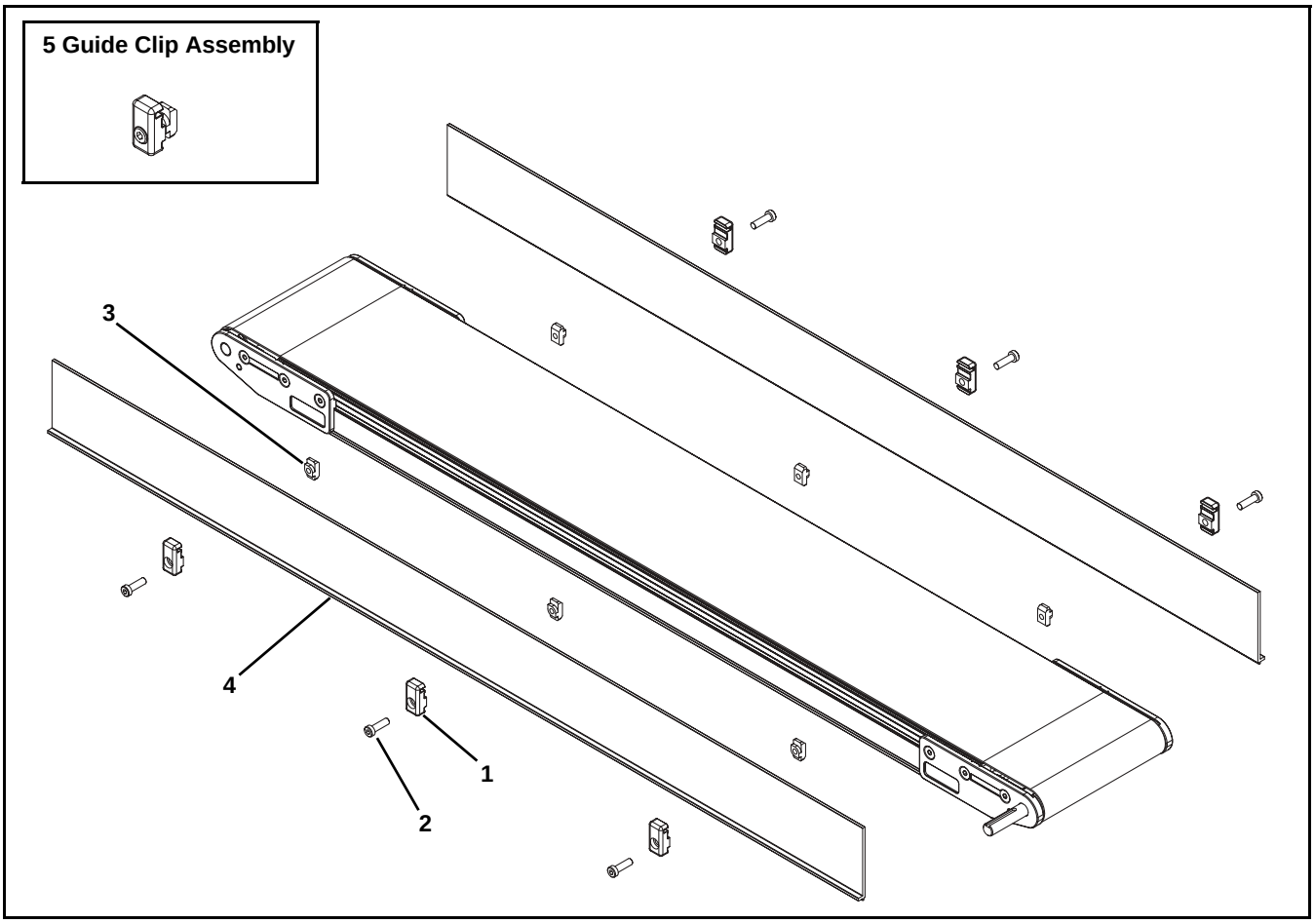


Item	Part Number	Description
1	203597	Tracking Block Assembly
2	205469-WW	Hex Pinion, for 04 - 24 wide Conveyors
3	207145	Pinion End Gear, for 02 wide Conveyors
	205383	Pinion End Gear, for 04 - 24 wide Conveyors
4	205450	Retaining Plate - Left Hand
5	203596	Gear Rack
6	203629-WW-LLLLL	Single Piece Frame, for 02 - 12 wide Conveyors
7	205393-LLLLL	Outside Frame, for Multi Piece 14 & 20 wide Conveyors (Qty. 2)
	205394-LLLLL	Outside Frame, for Multi Piece 16 & 22 wide Conveyors (Qty. 2)
	205395-LLLLL	Outside Frame, for Multi Piece 18 & 24 wide Conveyors (Qty. 2)
8	205396-LLLLL	Mid Frame, for Multi Piece 14 - 18 wide Conveyors
	205398-LLLLL	Mid Frame, for Multi Piece 20 - 24 wide Conveyors
9	920622M	Socket Head Screw, M6-1.00 x 22 mm
10	206505-LLLLL	Upper Connecting Strip
11	206506-LLLLL	Lower Connecting Strip
12	205450RH	Retaining Plate - Right Hand
*WW = Conveyor width reference: 02, 04, 06, 08, 10, 12, 14, 16, 18, 20, 22, & 24		
LLLLL = part length in inches with 2 decimal places		
Example: Part length = 35.25 inches LLLLL = 03525		

* See pages 8 and 9 for cross-reference to width reference and conveyor width.

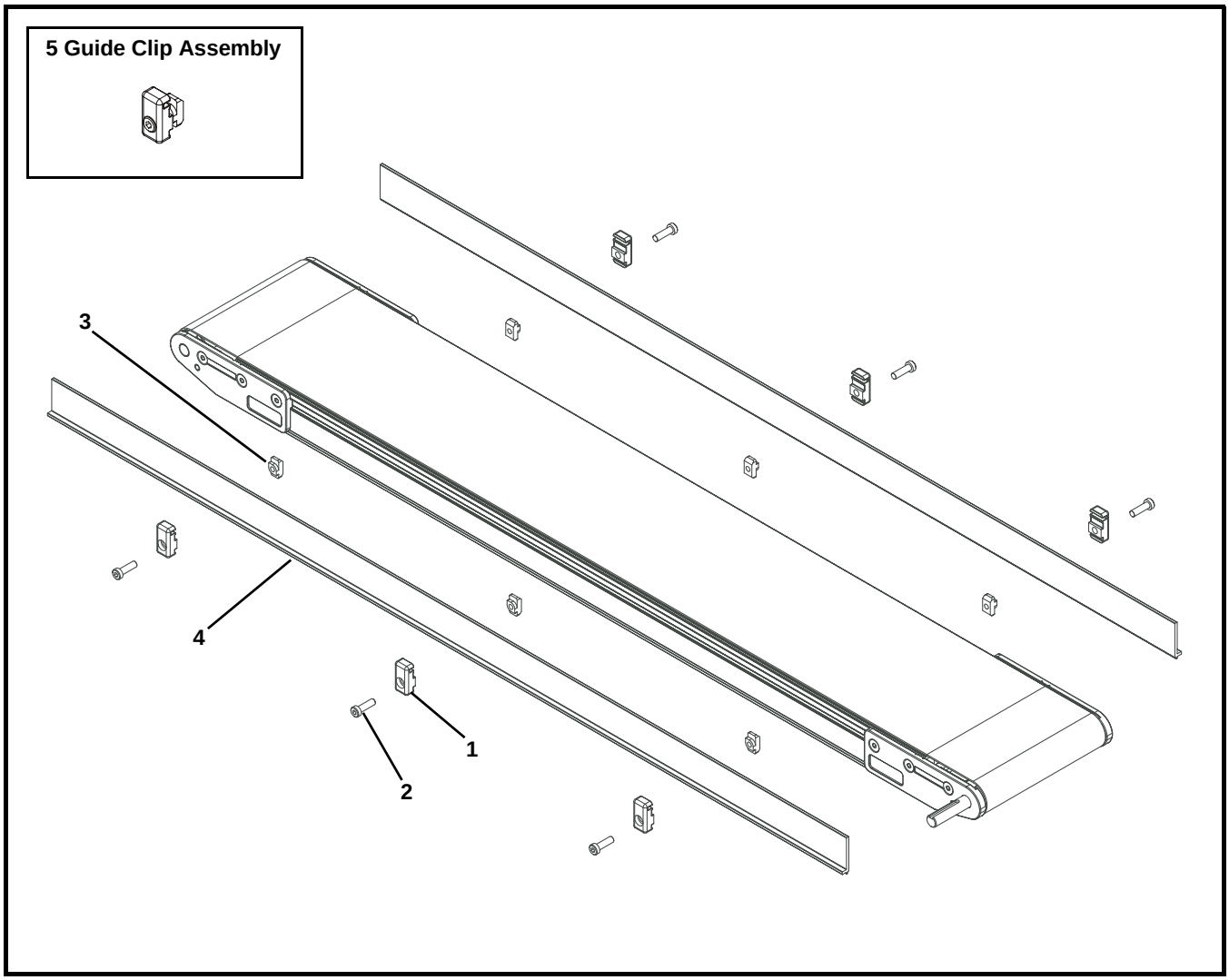
Service Parts

#04 Profile - 76 mm Aluminum Side



Item	Part Number	Description
1	206503	Guide Clip
2	807-2878	Low Head Cap Screw, M6-1.00 x 16 mm
3	206685	T-Nut
4	206514-LLLLL	76 mm Guides
	GTB04A04	76 mm Guides 1219 mm long
	GTB04A08	76 mm Guides 2438 mm long
5	203661	Guide Clip Assembly (Includes items 1, 2, and 3)
LLLLL = part length in inches with 2 decimal places		
Length Example: Length = 35.25 inches LLLLL = 03525		

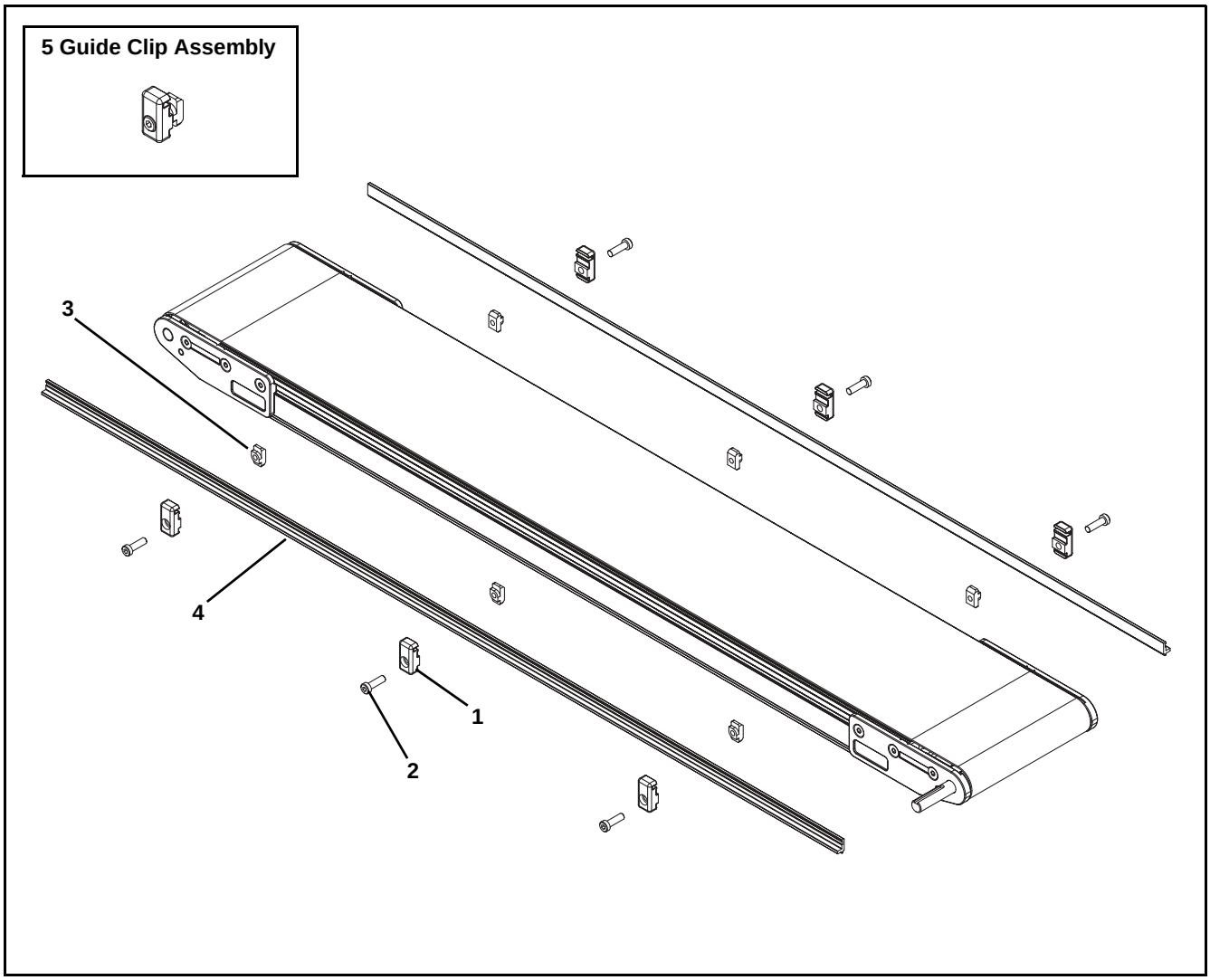
#05 Profile - 38 mm Aluminum Side



Item	Part Number	Description
1	206503	Guide Clip
2	807-2878	Low Head Cap Screw, M6-1.00 x 16 mm
3	206685	T-Nut
4	206513-LLLLL	38 mm Guides
	GTB05A04	38 mm Guides 1219 mm long
	GTB05A08	38 mm Guides 2438 mm long
5	203661	Guide Clip Assembly (Includes items 1, 2, and 3)
LLLLL = part length in inches with 2 decimal places		
Length Example: Length = 35.25 inches LLLLL = 03525		

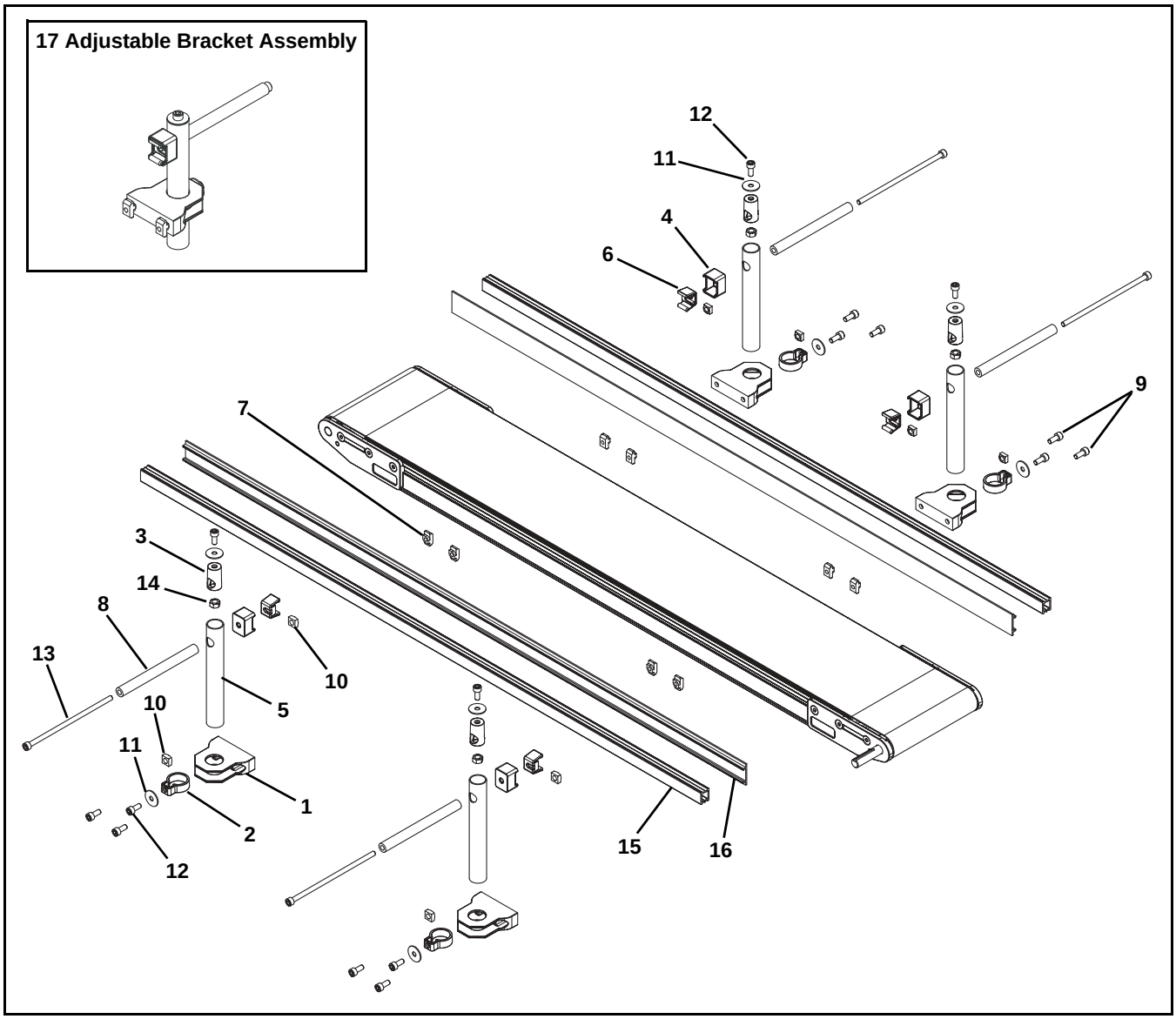
Service Parts

#09 Profile - 13 mm High Side



Item	Part Number	Description
1	206503	Guide Clip
2	807-2878	Low Head Cap Screw, M6-1.00 x 16 mm
3	206685	T-Nut
4	206512-LLLLL	13 mm Guides
	GTB09A04	13 mm Guides 1219 mm long
	GTB09A08	13 mm Guides 2438 mm long
5	203661	Guide Clip Assembly (Includes items 1, 2, and 3)
LLLLL = part length in inches with 2 decimal places		
Length Example: Length = 35.25 inches LLLLL = 03525		

#13, 33 & 43 Profile - Adjustable Guiding

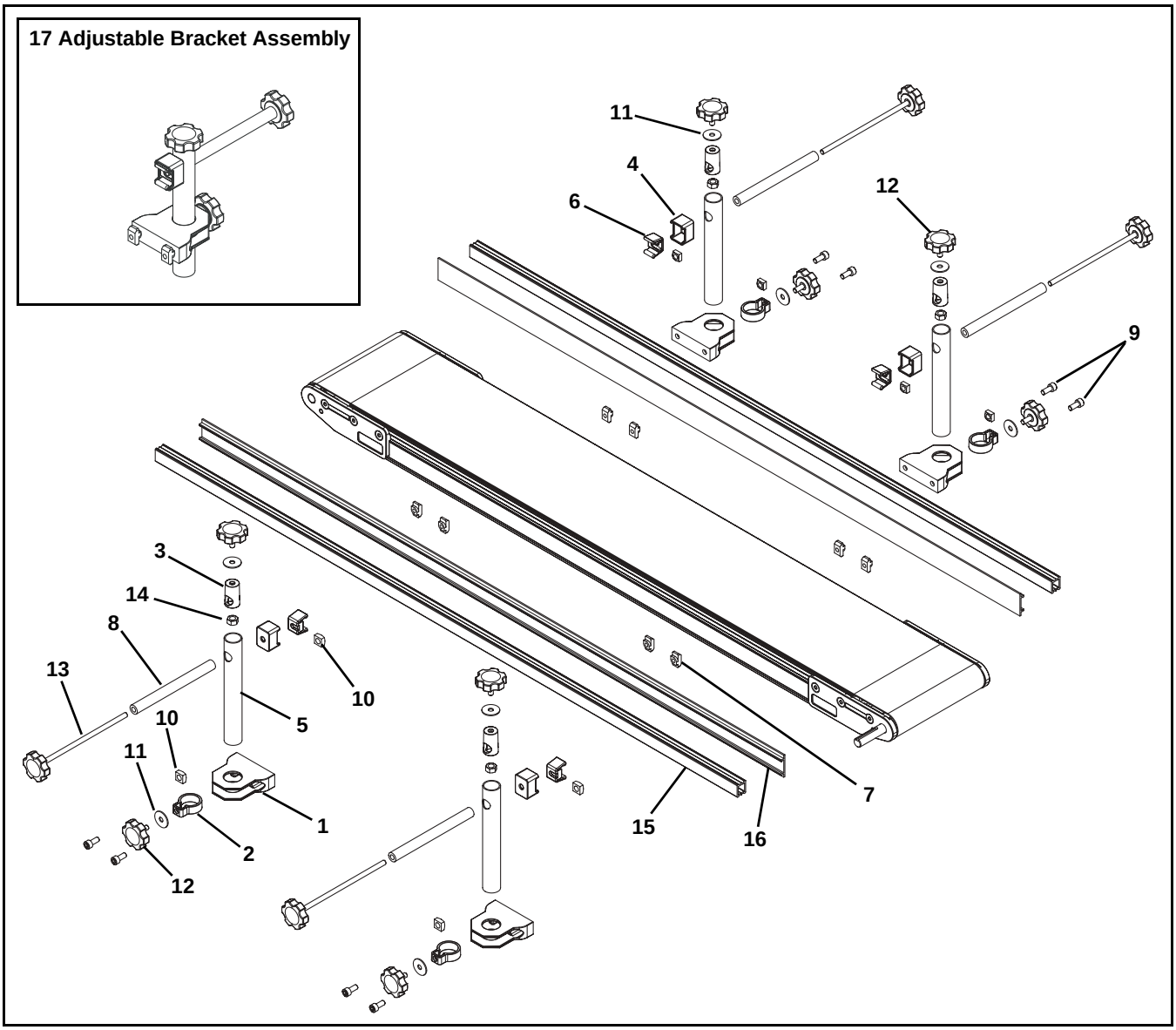


Item	Part Number	Description
1	206380	Base
2	206381	Base Clamp
3	206382	Insert Clamp
4	206383	Guide Ring
5	206385	Tube
6	206397	Clip
7	206685	T-Nut
8	206692	Guide Tube
9	807-2859	Nylon Cap Screw, N6 x 16 mm
10	807-920	Square Nut, M6-1.0
11	911-710	Washer
12	920616M	Socket Head Screw, M6-1.00 x 16 mm
13	9206150M	Socket Head Screw, M6-1.00 x 150 mm
14	990601M	Hex Nut

Item	Part Number	Description
15	834-238-LLLLL	Guide Rail
	GTB13A04	Guide Rail 1219 mm long
	GTB13A08	Guide Rail 2438 mm long
16	834-241	33 mm UHMW Guiding (per foot)
	GTB13B04	33 mm UHMW Guiding 1219 mm long
	GTB13B08	33 mm UHMW Guiding 2438 mm long
	206683	51 mm UHMW Guiding (per foot)
	GTB13C04	51 mm UHMW Guiding 1219 mm long
	GTB13C08	51 mm UHMW Guiding 2438 mm long
17	206686	Adjustable Bracket Assembly (Includes Items 1 through 14)
LLLLL = part length in inches with 2 decimal places		
Length Example: Length = 35.25 inches LLLLL = 03525		

Service Parts

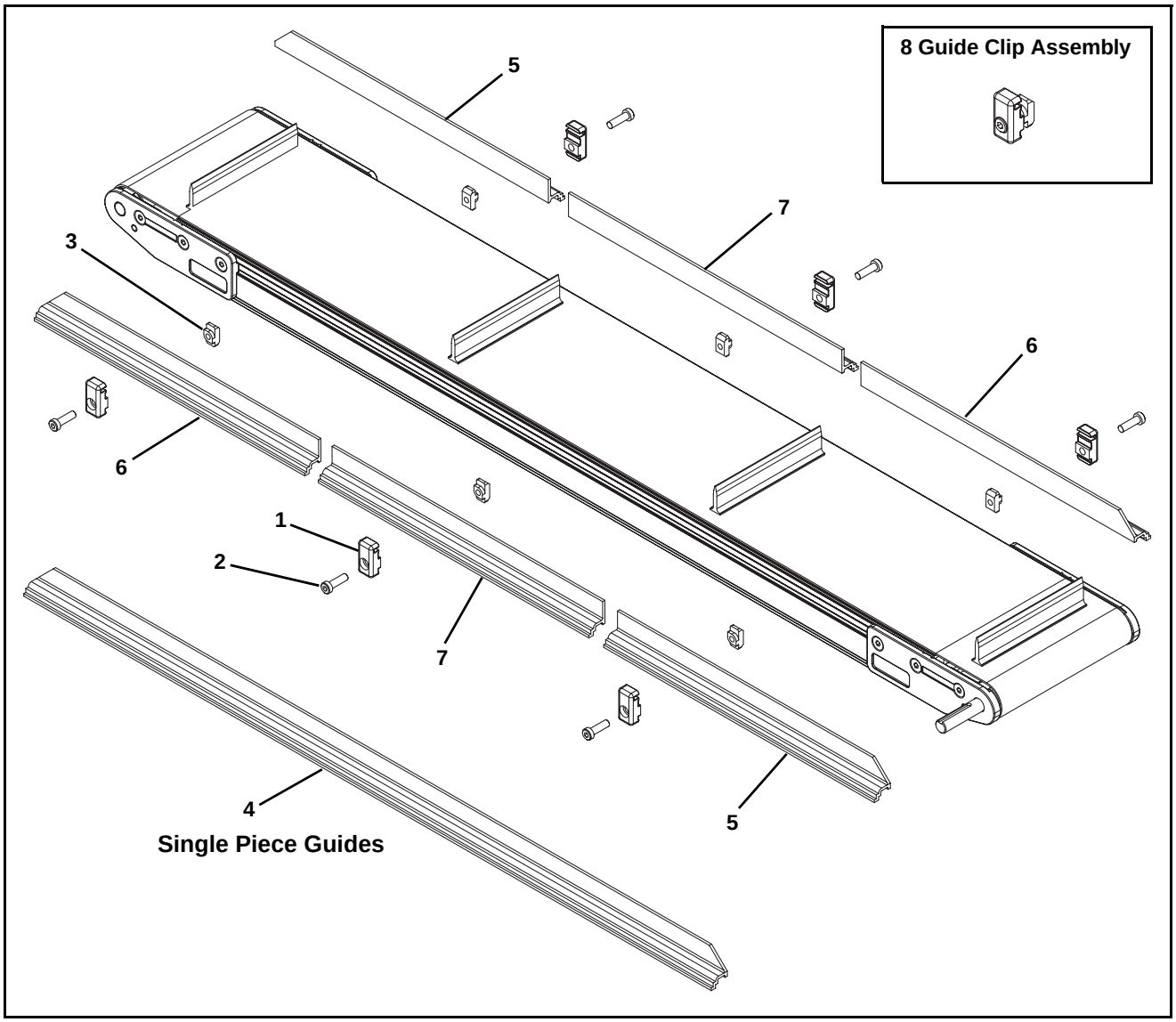
#14, 34 & 44 Profile - Tool-Less Adjustable Guiding



Item	Part Number	Description
1	206380	Base
2	206381	Base Clamp
3	206382	Insert Clamp
4	206383	Guide Ring
5	206385	Tube
6	206397	Clip
7	206685	T-Nut
8	206692	Guide Tube
9	807-2859	Nylon Cap Screw, N6 x 16 mm
10	807-920	Square Nut, M6-1.0
11	911-710	Washer
12	206698	Knob, 12 mm
13	206697	Knob, 150 mm
14	990601M	Hex Nut

Item	Part Number	Description
15	834-238-LLLLL	Guide Rail
	GTB13A04	Guide Rail 1219 mm long
	GTB13A08	Guide Rail 2438 mm long
16	834-241	33 mm UHMW Guiding (per foot)
	GTB13B04	33 mm UHMW Guiding 1219 mm long
	GTB13B08	33 mm UHMW Guiding 2438 mm long
	206683	51 mm UHMW Guiding (per foot)
	GTB13C04	51 mm UHMW Guiding 1219 mm long
	GTB13C08	51 mm UHMW Guiding 2438 mm long
17	206687	Tool-Less Adjustable Bracket Assembly (Includes Items 1 through 14)
LLLLL = part length in inches with 2 decimal places		
Length Example: Length = 35.25 inches LLLLL = 03525		

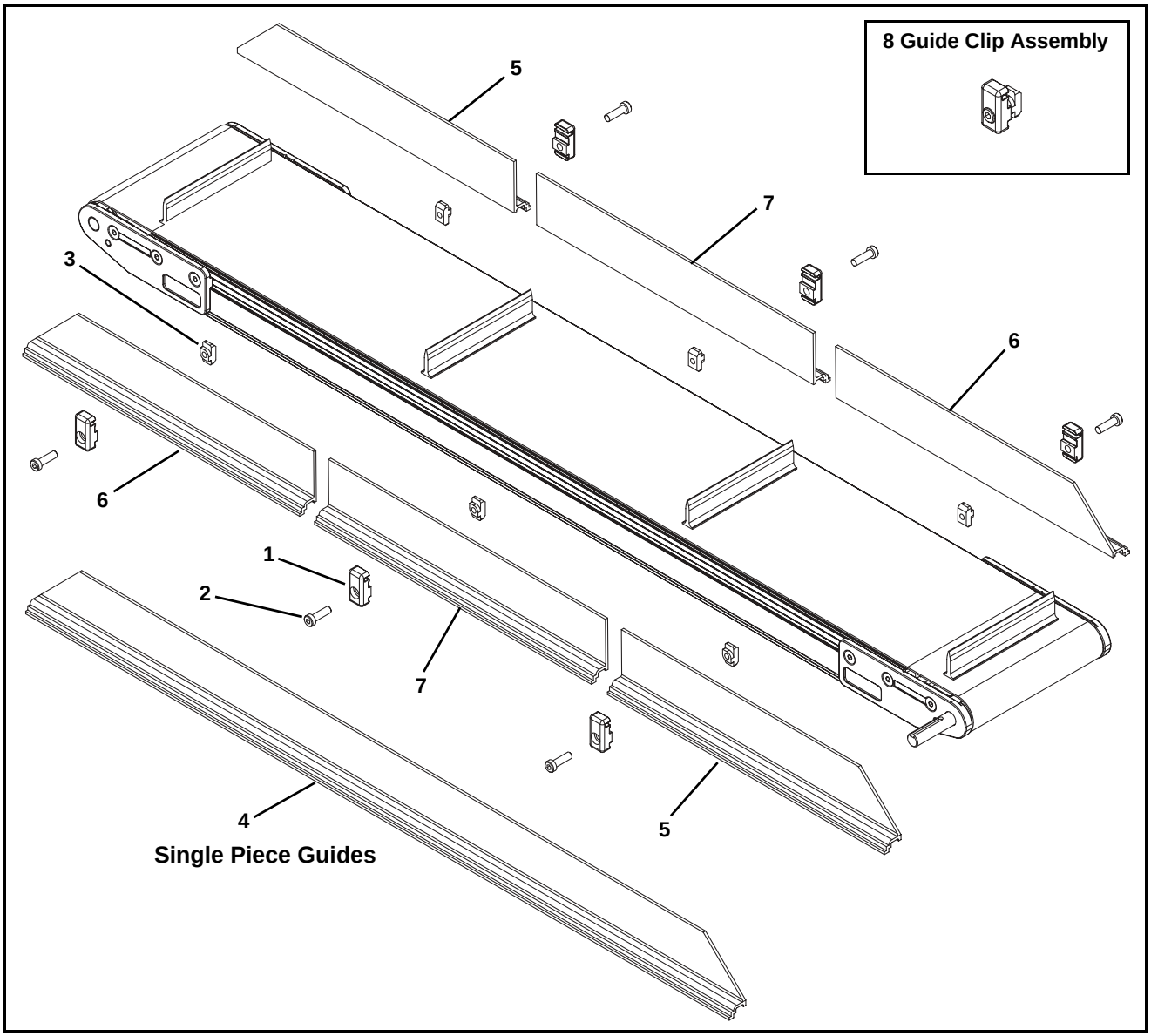
#2 Cleated Profile - 25 mm High Side



Item	Part Number	Description
1	206503	Guide Clip
2	807-2878	Low Head Cap Screw, M6-1.00 x 16 mm
3	206685	T-Nut
4	280203-LLLLL	25 mm Cleated Guiding for Single Piece Guides
5	280202-LLLLL	25 mm End 1 Section Cleated Guiding for Multi Piece Guides
6	280201-LLLLL	25 mm End 2 Section Cleated Guiding for Multi Piece Guides
7	206515-LLLLL	25 mm Mid Section Cleated Guiding for Multi Piece Guides
8	203661	Guide Clip Assembly (Includes items 1, 2, and 3)
LLLLL = part length in inches with 2 decimal places		
Length Example: Length = 35.25 inches LLLLL = 03525		

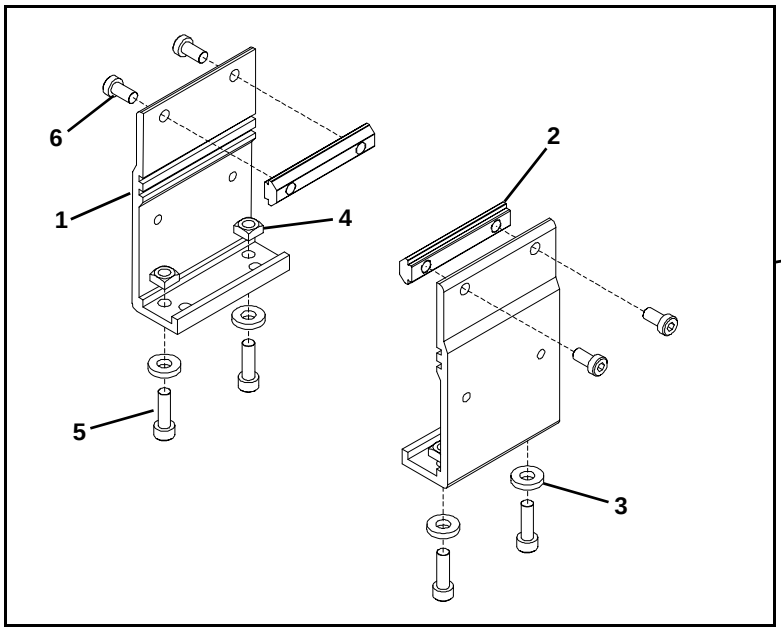
Service Parts

#3 Cleated Profile - 64 mm High Side



Item	Part Number	Description
1	206503	Guide Clip
2	807-2878	Low Head Cap Screw, M6-1.00 x 16 mm
3	206685	T-Nut
4	280303-LLLLL	64 mm Cleated Guiding for Single Piece Guides
5	280302-LLLLL	64 mm End 1 Section Cleated Guiding for Multi Piece Guides
6	280301-LLLLL	64 mm End 2 Section Cleated Guiding for Multi Piece Guides
7	206516-LLLLL	64 mm Mid Section Cleated Guiding for Multi Piece Guides
8	203661	Guide Clip Assembly (Includes items 1, 2, and 3)
LLLLL = part length in inches with 2 decimal places		
Length Example: Length = 35.25 inches LLLLL = 03525		

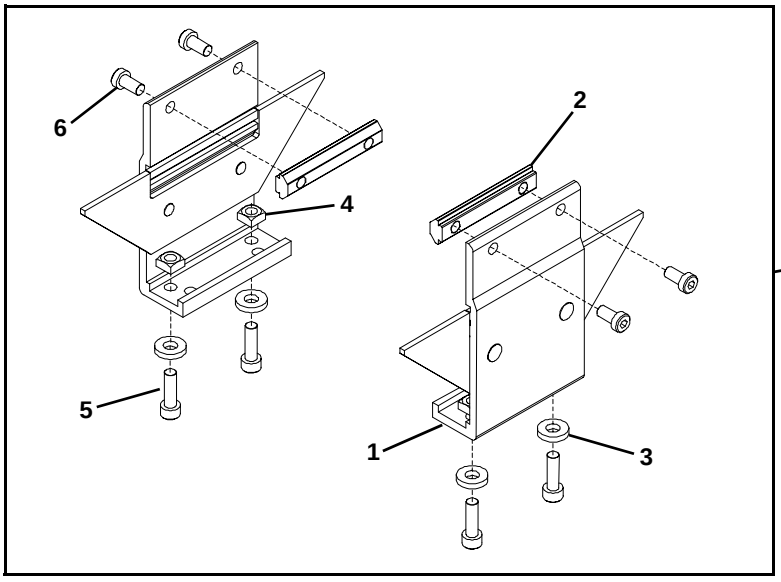
Flat Belt Mounting Brackets



Item	Part Number	Description
1	240831	Stand Mount
2	300150MK4	Drop–In Tee Bar (x4)
3	605279P	Washer
4	807–920	Square Nut M6

Item	Part Number	Description
5	920620M	Socket Head Screw M6 x 20 mm
6	950616M	Low Head Cap Screw M6 x 16 mm
7	240839	Flat Belt Stand Mount Assembly

Cleated Belt Mounting Brackets

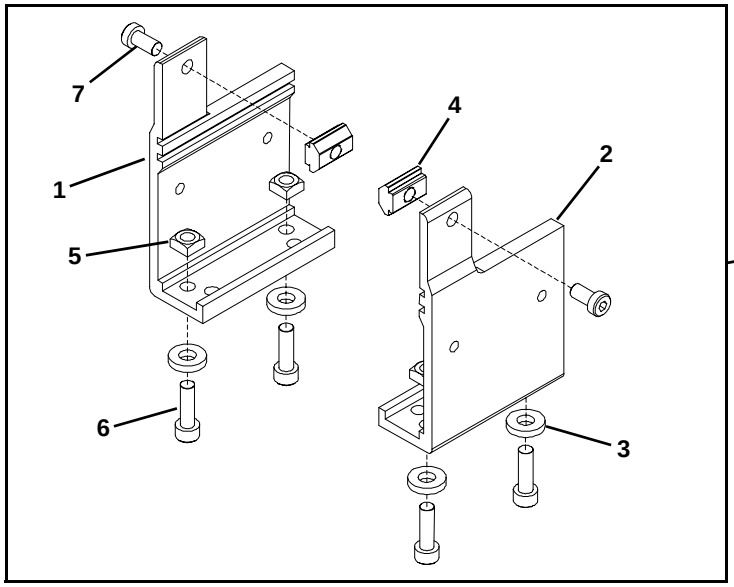


Item	Part Number	Description
1	240836	Cleated Mount Assembly
2	300150MK4	Drop–In Tee Bar (x4)
3	605279P	Washer
4	807–920	Square Nut M6

Item	Part Number	Description
5	920620M	Socket Head Screw M6 x 20 mm
6	950616M	Low Head Cap Screw M6x16 mm
7	240838	Cleated Stand Mount Assembly

Service Parts

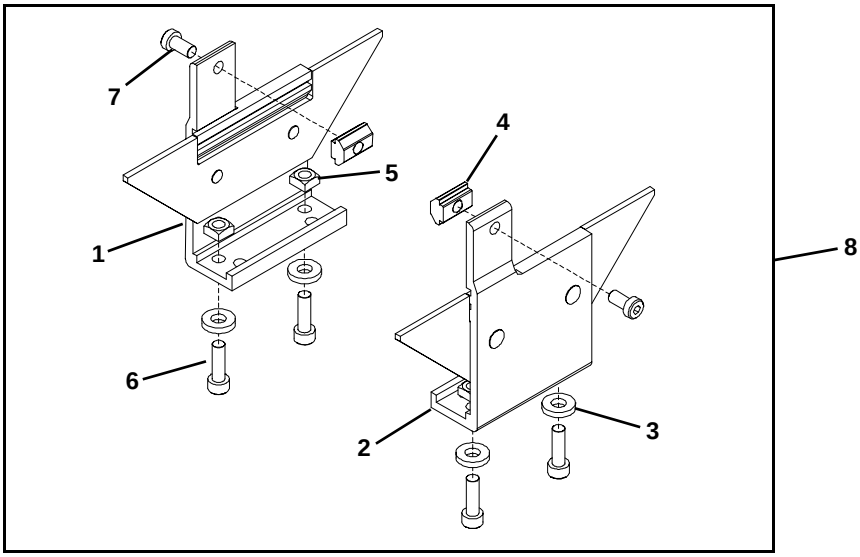
Flat Belt Mounting Brackets for Short Conveyors



Item	Part Number	Description
1	240833	Stand Mount, Left Hand (610 mm)
2	240834	Stand Mount, Right Hand (610 mm)
3	605279P	Washer
4	639971MK10	Drop–In Tee Bar (x10)

Item	Part Number	Description
5	807–920	Square Nut M6
6	920620M	Socket Head Screw M6 x 20 mm
7	950616M	Low Head Cap Screw M6 x 16 mm
8	240847	Flat Belt Stand Mount Assembly for 610 mm Conveyors

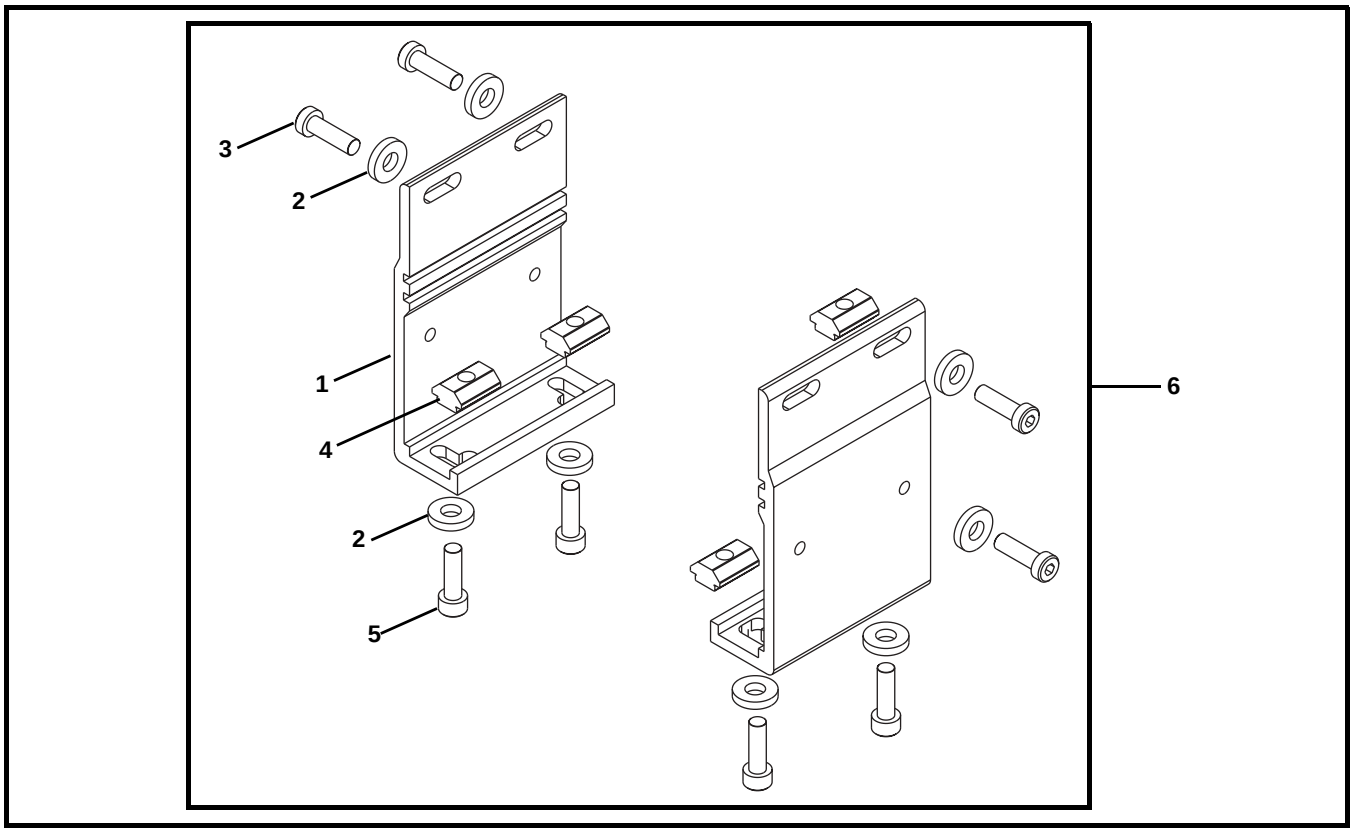
Cleated Belt Mounting Brackets for Short Conveyors



Item	Part Number	Description
1	240852	Cleated Stand Bracket Assembly Left Hand for 610 mm Conveyor
2	240853	Cleated Stand Bracket Assembly Right Hand for 610 mm Conveyor
3	605279P	Washer
4	639971MK10	Drop–In Tee Bar (x10)

Item	Part Number	Description
5	807–920	Square Nut M6
6	920620M	Socket Head Screw M6 x 20 mm
7	950616M	Low Head Cap Screw M6 x 16 mm
8	240851	Cleated Belt Stand Mount Assembly for 610 mm Conveyors

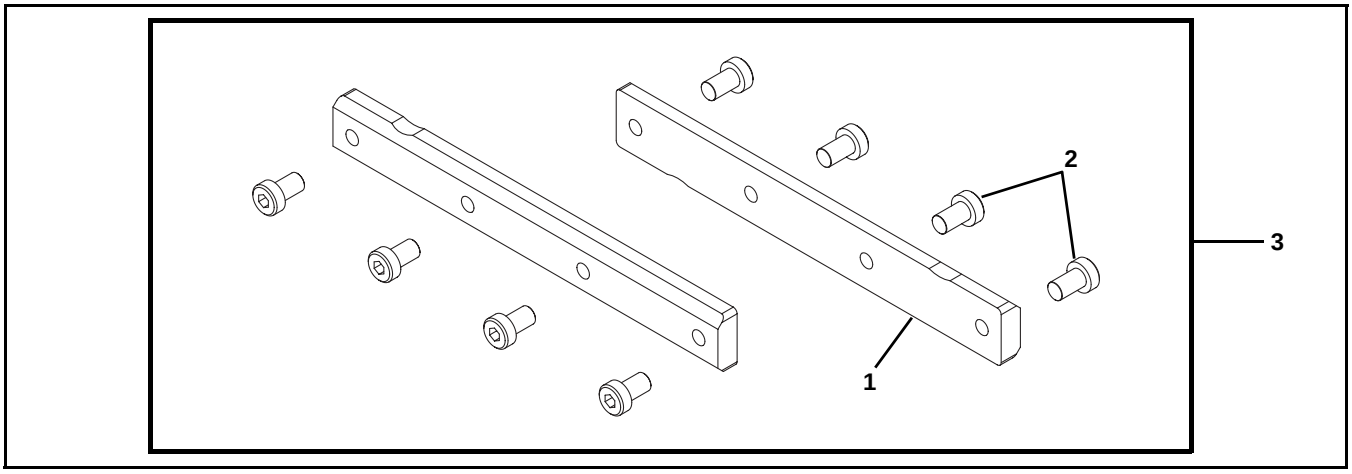
Flat Belt Mounting Brackets Assembled to the Tail



Item	Part Number	Description
1	240850	Stand Mount
2	605279P	Washer
3	950620M	Socket Low Head Screw M6 x 20 mm

Item	Part Number	Description
4	639971MK10	Drop–In Tee Bar (x10)
5	920620M	Socket Head Screw M6 x 20 mm
6	240854	Flat Belt Stand Mount Assembly for Tail Mounts

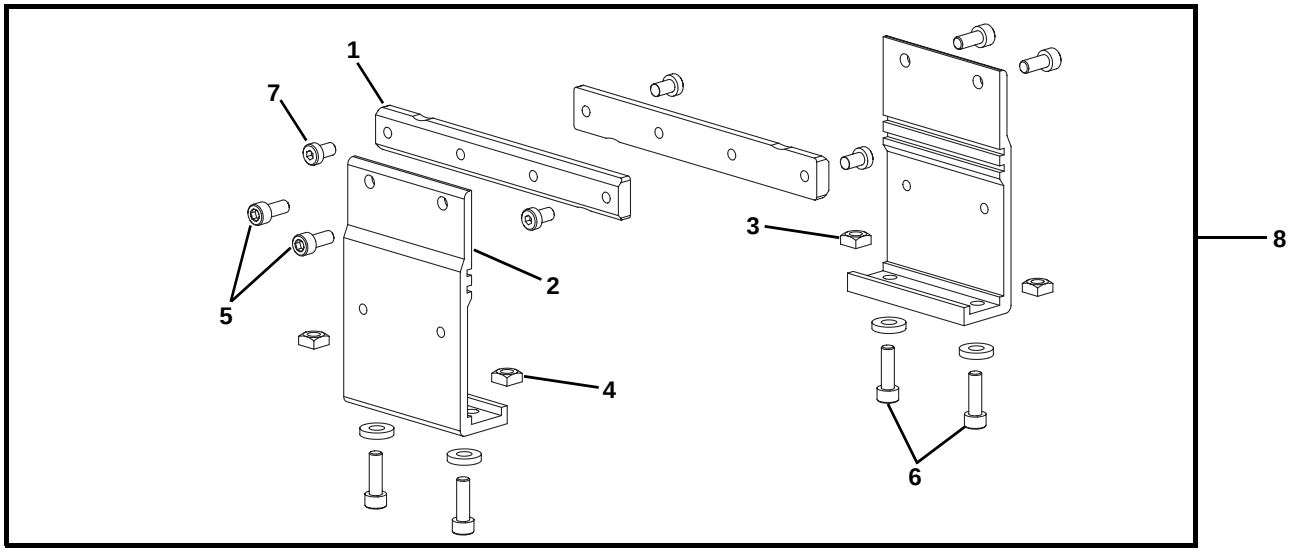
Connecting Assembly without Stand Mount



Item	Part Number	Description
1	206520	Connecting Bar
2	950610M	Low Head Cap Screw, M6-1.00 x 10 mm
3	206519	Connecting Assembly

Service Parts

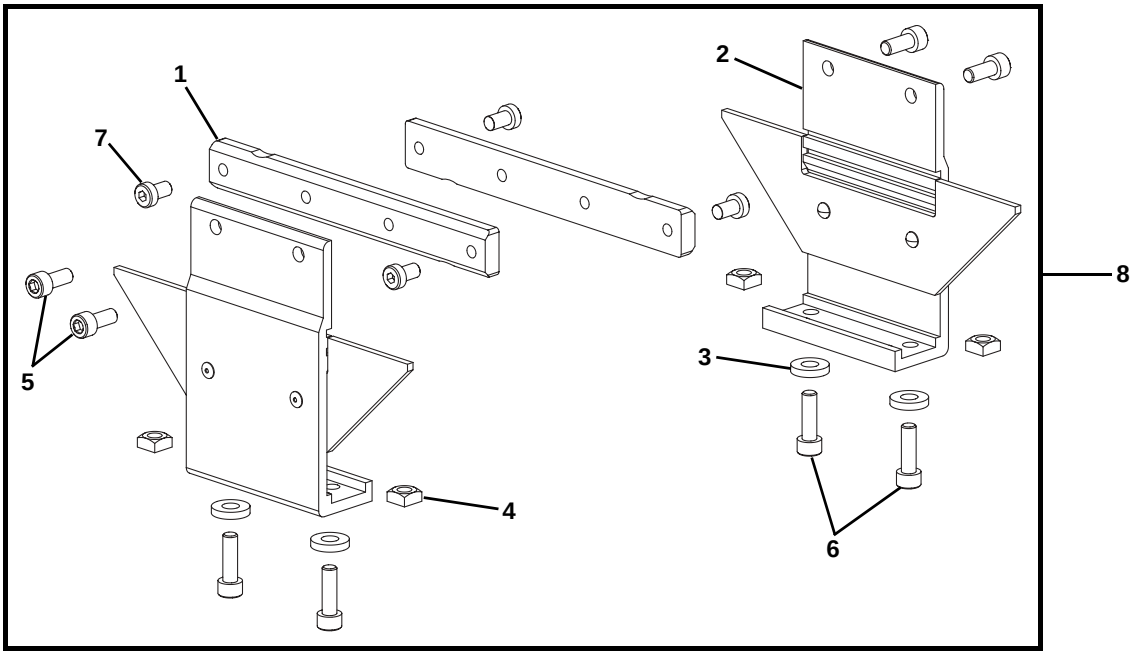
Flat Belt Connecting Assembly with Stand Mount



Item	Part Number	Description
1	206520	Connecting Bar
2	240831	Stand Mount
3	605279P	Washer
4	807-920	Square Nut M6

Item	Part Number	Description
5	920614M	Socket Head Screw, M6-1.00 x 14 mm
6	920620M	Socket Head Screw, M6-1.00 x 20 mm
7	950610M	Low Head Cap Screw, M6-1.00 x 10 mm
8	206518	Connecting Assembly

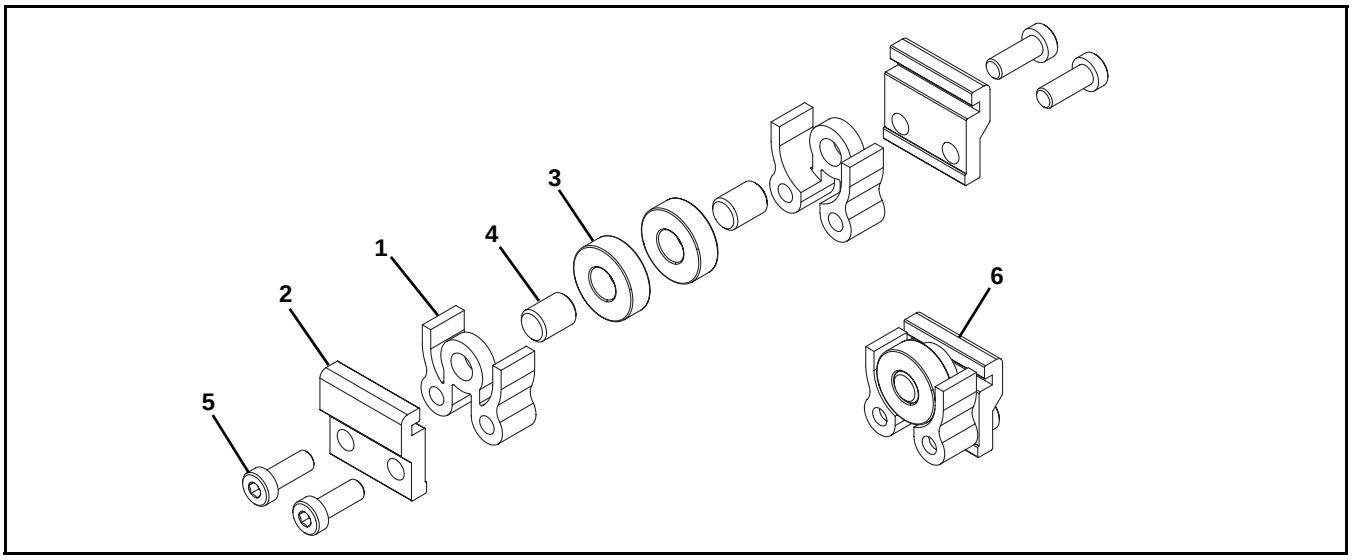
Cleated Belt Connecting Assembly with Stand Mount



Item	Part Number	Description
1	206520	Connecting Bar
2	240836	Cleated Stand Mount Assembly
3	605279P	Washer
4	807-920	Square Nut M6

Item	Part Number	Description
5	920614M	Socket Head Screw, M6-1.00 x 14 mm
6	920620M	Socket Head Screw, M6-1.00 x 20 mm
7	950610M	Low Head Cap Screw, M6-1.00 x 10 mm
8	240929	Connecting Assembly

44 mm to 152 mm Flat Belt Return Roller

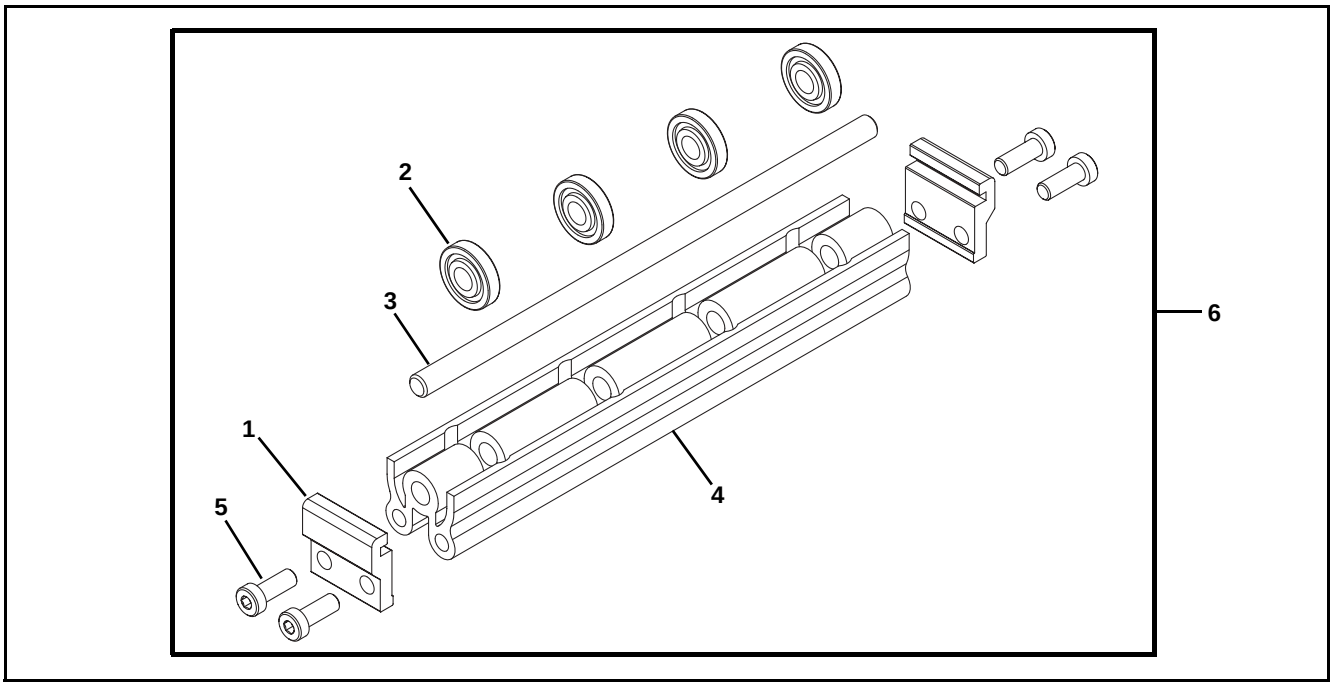


Item	Part Number	Description
1	240825	Return Roller Guard – Short
2	205978	Flat Return Roller Clip
3	802–027	Bearing
4	913–100	Dowel Pin

Item	Part Number	Description
5	950616M	Low Head Cap Screw M6-1.00 x 16 mm
6	206522	Return Roller Assembly

Service Parts

203 mm to 610 mm Flat Belt Return Roller

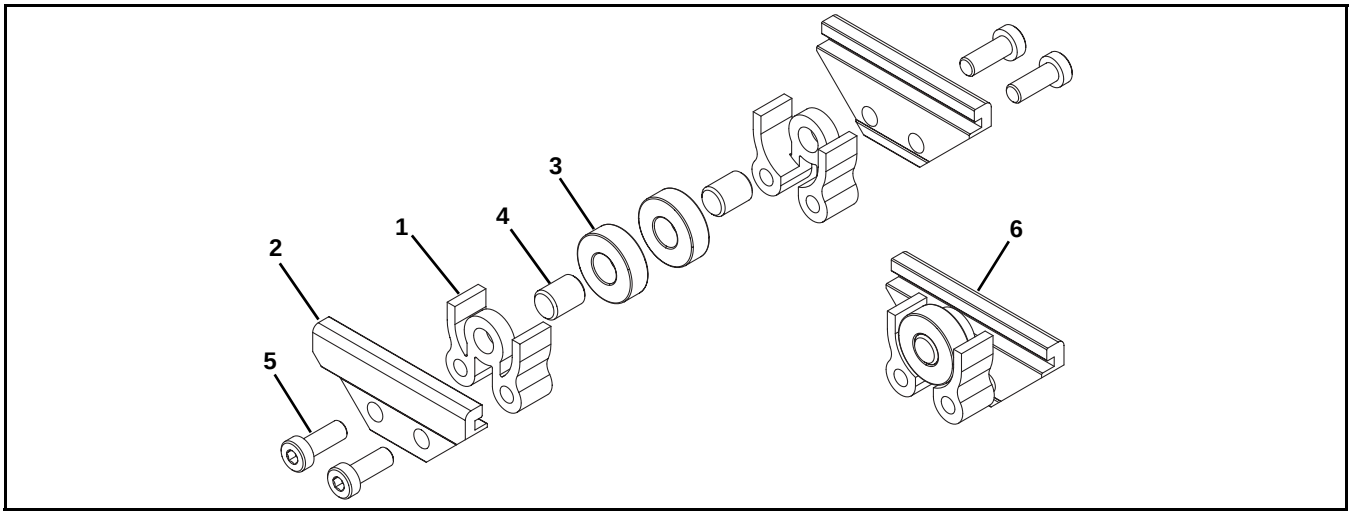


Item	Part Number	Description
1	205978	Flat Return Roller Clip
2	240826	Return Roller
3	2410WW	Return Roller Rod
4	2436WW	Return Roller Guard
5	950616M	Low Head Cap Screw, M6-1.00 x 16 mm

Item	Part Number	Description
6	206523-WW	Return Roller Assembly
*WW = Conveyor width reference: 08, 10, 12, 14, 16, 18, 20, 22, & 24		

* See pages 8 and 9 for cross-reference to width reference and conveyor width.

Cleated Belt Return Roller



Item	Part Number	Description
1	240825	Return Roller Guard – Short
2	205979	Cleated Return Roller Clip
3	802–027	Bearing
4	913–100	Dowel Pin

Item	Part Number	Description
5	950616M	Low Head Cap Screw M6-1.00 x 16 mm
6	206521	Cleated Belt Return Roller Assembly

Conveyor Belt Part Number Configuration

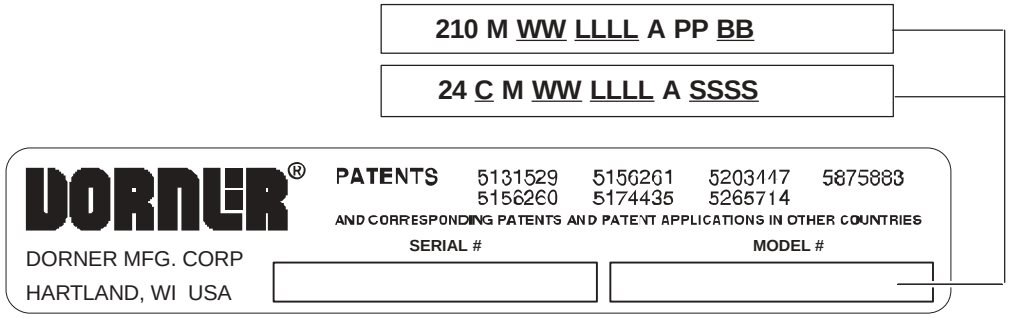


Figure 100

Flat Belt Part Number Configuration

Refer to Dorner patent plate **(Figure 100)**. From the model number, determine conveyor width (“WW”), length (“LLLL”) and belt type (“BB”). Use data to configure belt part number as indicated below. *Add “V” for V-guided belts.

22 - WW LLLL / BB V *

22 – __ __ __ __ __ __ / __ __ V*

(Fill In)

Cleated Belt Part Number Configuration

Refer to Dorner patent plate **(Figure 100)**. From the model number, determine conveyor type (”T”), width (“WW”), length (“LLLL”), cleat type (“C”) and cleat spacing (“SSSS”). Use data to configure belt part number as indicated below. *Add “V” for V-guided belts.

2T - WW LLLL C SSSS V *

2 __ – __ __ __ __ __ __ / __ __ __ __ V*

(Fill In)

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. Include part serial number if available.

A representative will discuss action to be taken on the returned items and provide a Returned Materials 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><td></td><td colspan="9">Product Type</td></tr>
<tr><td></td><td colspan="8">Standard Products</td><td>Engineered to order parts</td></tr>
<tr><td>Product Line</td><td>Conveyors</td><td>Gearmotors & Mounting Packages</td><td>Support Stands</td><td>Accessories</td><td>Spare Parts (non-belt)</td><td>Spare Belts - Standard Flat Fabric</td><td>Spare Belts - Cleated & Spec. Fabric</td><td>Spare Belts - Plastic Chain</td><td>All equipment and parts</td></tr>
<tr><td>1100 Series</td><td colspan="6" rowspan="7">30% return fee for all products except:
50% return fee for conveyors with modular belt, cleated belt or speciality belts

All Electrical items are assigned original manufacturers return policy.</td><td colspan="2" rowspan="11">non-returnable</td><td rowspan="11">case-by-case</td></tr>
<tr><td>2200 Series</td></tr>
<tr><td>3200 Series</td></tr>
<tr><td>Pallet Systems</td></tr>
<tr><td>FlexMove/SmartFlex</td></tr>
<tr><td>GAL Series</td></tr>
<tr><td>All Electrical</td></tr>
<tr><td>7100 Series</td><td colspan="6" rowspan="4">50% return fee for all products</td></tr>
<tr><td>7200/7300 Series</td></tr>
<tr><td>AquaGard 7350 Series Version 2</td></tr>
<tr><td>GES Series</td></tr>
<tr><td>AquaGard 7350/7360 Series</td><td colspan="8" rowspan="2">non-returnable</td></tr>
<tr><td>AquaPruf Series</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 Dorner, an authorized sales channel or visit our website: www.dorner.com.

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

www.dorner.com

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