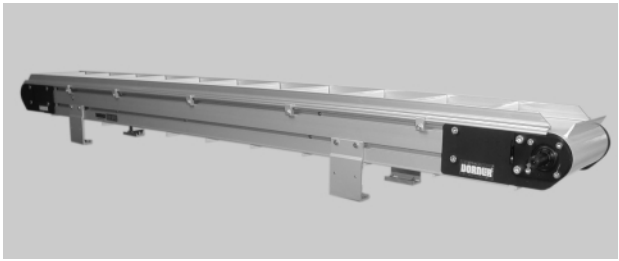
Installation, Maintenance & Parts Manual

3200 Series End Drive Flat and Cleated Belt Conveyors



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Warnings – General Safety

WARNING

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

DANGER

Climbing, sitting, walking or riding on conveyor will cause severe injury.

KEEP OFF CONVEYORS.

DANGER

DO NOT OPERATE CONVEYORS IN AN EXPLOSIVE ENVIRONMENT.

WARNING

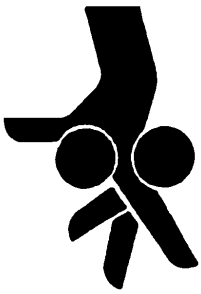
Exposed moving parts can cause severe injury.

LOCK OUT POWER before removing guards or performing maintenance.

WARNING

Gearmotors may be HOT.

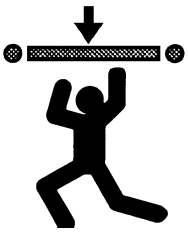
DO NOT TOUCH Gearmotors.



WARNING

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.



WARNING

Loosening stand height or angle adjustment screws may cause conveyor sections to drop down, causing severe injury.

SUPPORT CONVEYOR SECTIONS PRIOR TO LOOSENING STAND HEIGHT OR ANGLE ADJUSTMENT SCREWS.

Introduction

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 3200 series conveyors are covered by Patent Numbers 5,156,260, and corresponding patents and patent applications in other countries.

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

Product Description

Refer to Figure 1 for typical conveyor components.

Typical Components	
A	Conveyor
B	Gearmotor Mounting Package
C	Gearmotor
D	Guiding & Accessories
E	Mounting Brackets
F	Return Rollers
G	Support Stand
H	Variable Speed Controller
I	Drive End
J	Idler/Tension End

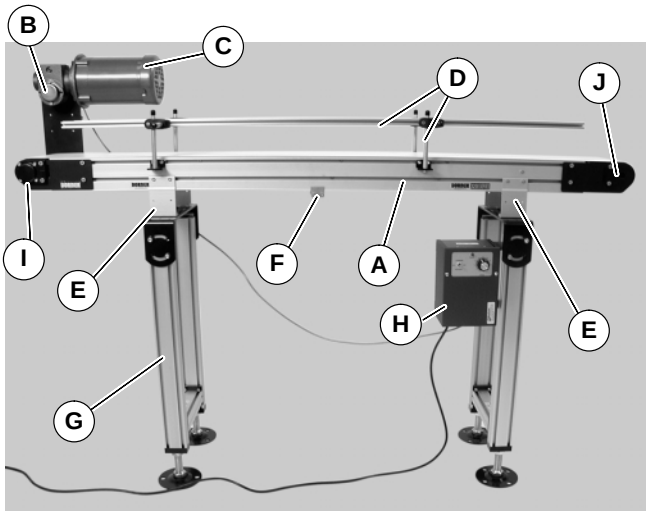


Figure 1

Specifications

Models:

Flat Belt 3200 Series Conveyor

3 1 0 M WW LLLL A PP BB

- **BB** — Belt Type*
- **PP** — Conveyor Profile*
- **A** — Output Shaft Position*
- **LLLL** — Conveyor Length Reference
- **WW** — Conveyor Width Reference
- **M** — Document Language, M = English
- **0** — 0 = 3" tails; 1 = 1" tails
- **1** — 1 = Flat belt with tracking cams and supports; 2 = Flat belt with V-guide tracking and supports; 3 = Flat belt with tracking cams; 4 = Flat belt with V–guide tracking

Cleated Belt 3200 Series Conveyor

3 1 C M WW LLLL A SSSS

- **SSSS** — Cleat Spacing*
- **A** — Output Shaft Position*
- **LLLL** — Conveyor Length Reference
- **WW** — Conveyor Width Reference
- **M** — Document Language, M = English
- **C** — Cleat Type*
- **1** — 1 = Flat belt with tracking cams and supports; 2 = Flat belt with V-guide tracking and supports; 3 = Flat belt with tracking cams; 4 = Flat belt with V–guide tracking

*** See Ordering and Specifications Catalog for details.**

Conveyor Supports:

Maximum Distances:

K = 24¨ (610 mm) (Drive End)

L = 12 ft (3658 mm)

M = 36¨ (914 mm) (Idler End)

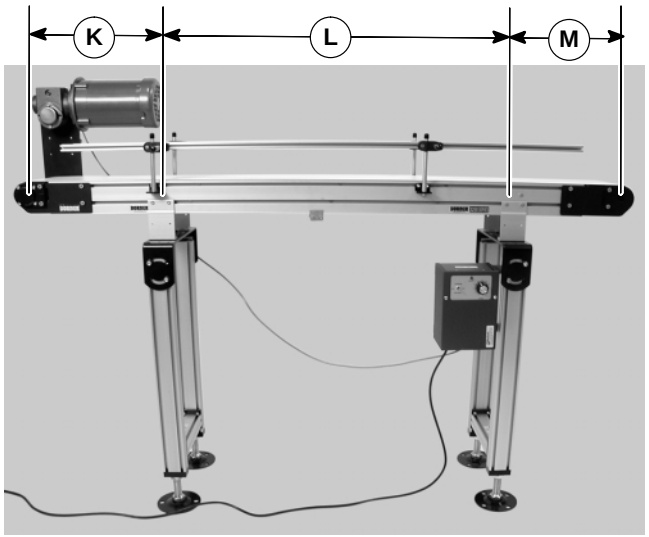


Figure 2

Specifications

Specifications:

Conveyor Width Reference (WW)	04	06	08	10	12	18	24	30	36	48	
Conveyor Belt Width	3.75" (95mm)	6" (152mm)	8" (203mm)	10" (254mm)	12" (305mm)	18" (457mm)	24" (609mm)	30" (762mm)	36" (915mm)	48" (1220mm)	
Maximum Conveyor Load* (See NOTE Below)	200 lb (91kg)	250 lb (113kg)	300 lb (136kg)	350 lb (159kg)	400 lb (181kg)	400 lb (181kg)	400 lb (181kg)	400 lb (181kg)	400 lb (181kg)	400 lb (181kg)	
Conveyor Startup Torque*	7 in-lb (0.8Nm)	8 in-lb (0.9Nm)	10 in-lb (1.1Nm)	13 in-lb (1.5Nm)	15 in-lb (1.7Nm)	25 in-lb (2.8Nm)	30 in-lb (3.9Nm)	35 in-lb (3.9Nm)	38 in-lb (4.2Nm)	40 in-lb (4.4Nm)	
Conveyor Length Reference (LLLL)	0300 to 4000 in 0001 increments										
Conveyor Length	3 ft (914mm) to 40 ft (12192mm) in 0.12" (0.31mm) increments										
Belt Travel	9.7" (246 mm) per revolution of pulley										
Maximum Belt Speed*	421 ft/minute (128 m/minute)										
Belt Takeup	1.62" (41 mm) of Belt Takeup on Conveyors Under 20' Length 3.24" (82 mm) of Belt Takeup on Conveyors Over 20' Length										

*** See Ordering and Specifications Catalog for details.**

NOTE: Maximum conveyor loads based on:

- **Non-accumulating product**
- **Product moving towards gearmotor**
- **Conveyor being mounted horizontal**

Installation

NOTE: Conveyor MUST be mounted straight, flat and level within confines of conveyor. Use a level (N of Figure 3) for setup.

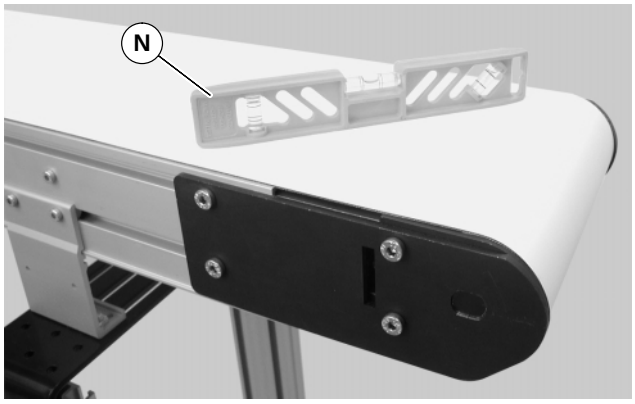


Figure 3

Required Tools

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

Recommended Installation Sequence

- Install support stands (see accessory instructions)
- 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 page 24 through 32 of "Service Parts" section for details)

Conveyors Up to 13 ft (3962 mm)

No assembly is required. Install mounting brackets and return rollers. Refer to “Mounting Brackets” on page 6 and “Return Rollers” on page 7.

Conveyors Longer Than 13 ft (3962 mm)

1. Locate conveyor sections (O Figure 4)

Installation Component List	
O	Conveyor frame with drive end
P	Conveyor frame with idler end
Q	Belt
R	Connector bracket

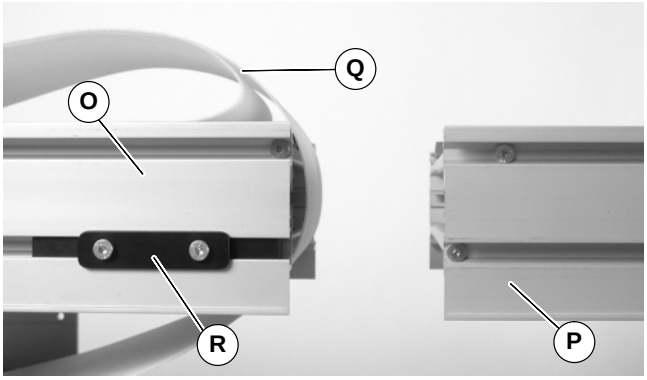


Figure 4

2. On tension end of the conveyor, identified by the pinion locking screw (S of Figure 5), push in head plate assembly (U): Loosen the pinion locking screw (S), adjust the pinion torque screw (V of Figure 6). On both sides of conveyor, loosen the two tail clamp bolts (T of Figure 5), and push head plate assembly (U) inward.

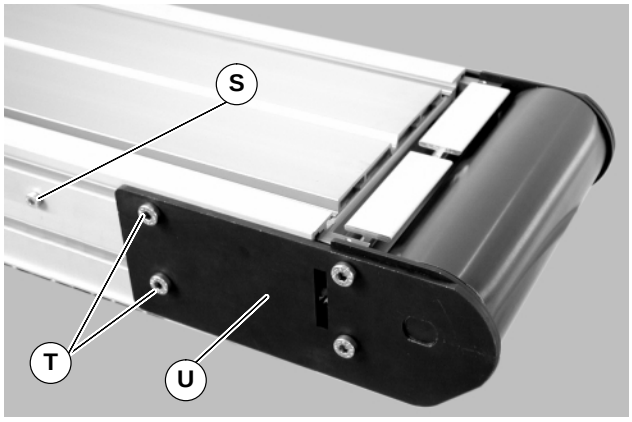


Figure 5

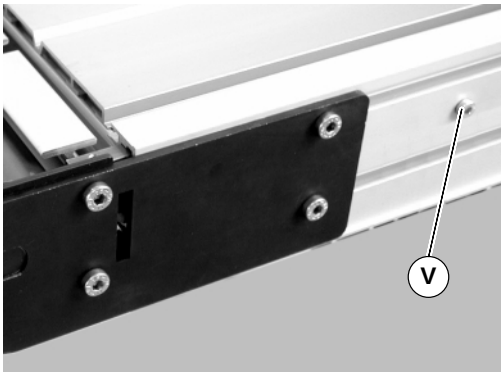


Figure 6

3. Roll out conveyor belt and place conveyor frame sections (O of Figure 7) into belt loop.

Figure 7

4. Join conveyor sections and install connector brackets (W of Figure 8) or connector/mount brackets (WA) and screws (X) on both sides as indicated. Tighten screws to 60 in-lb (7 Nm).

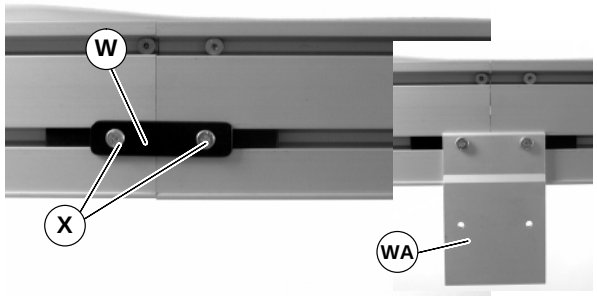


Figure 8

NOTE: For Conveyors longer than 20 ft (6096 mm) use the process outlined in the "Conveyor Belt Tensioning" section on page 10. Extend the Drive End Tail Assembly to the zero mark of the tension indicator (AR of Figure 9) before proceeding to step 5. The zero mark for the tension indicator is when the indicator begins to turn black.

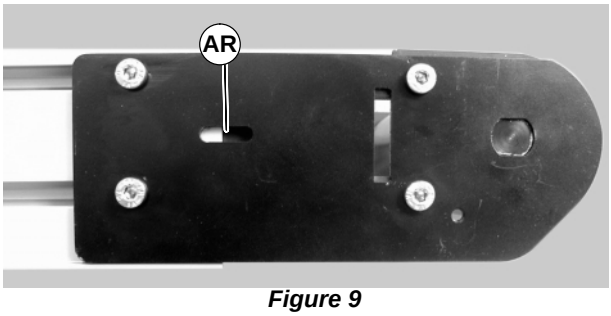
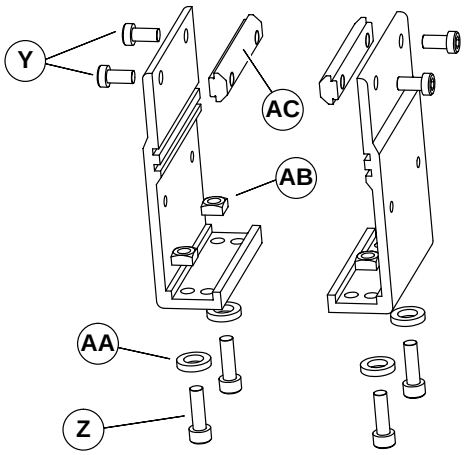


Figure 9

5. Tighten conveyor belt, refer to "Conveyor Belt Tensioning" on page 10.
6. Install mounting brackets and return rollers. Refer to "Mounting Brackets" on page 6 and "Return Roller" on page 7.

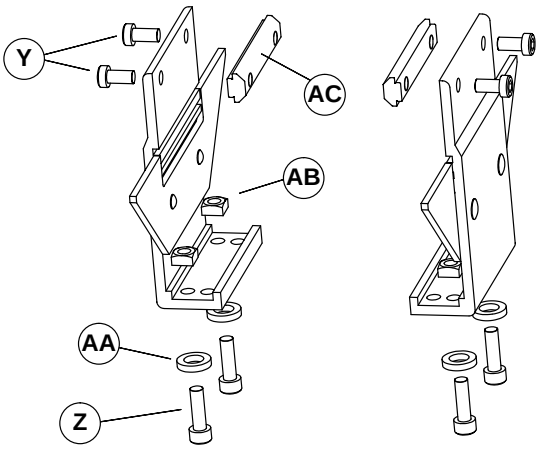
Mounting Brackets

1. Locate brackets. Exploded views shown in Figures 10 & 11.



Mounting Brackets for Flat Belt Conveyor

Figure 10



Mounting Brackets for Cleated Belt Conveyor

Figure 11

2. Remove screws (Y & Z of Figures 10 & 11), washers (AA), nuts (AB) and T-bars (AC) from brackets.
3. Insert T-bars (AC of Figures 10 & 11) into conveyor side slots (AC of Figure 12). Fasten brackets (AD of Figure 12) to conveyor with mounting screws (Y).

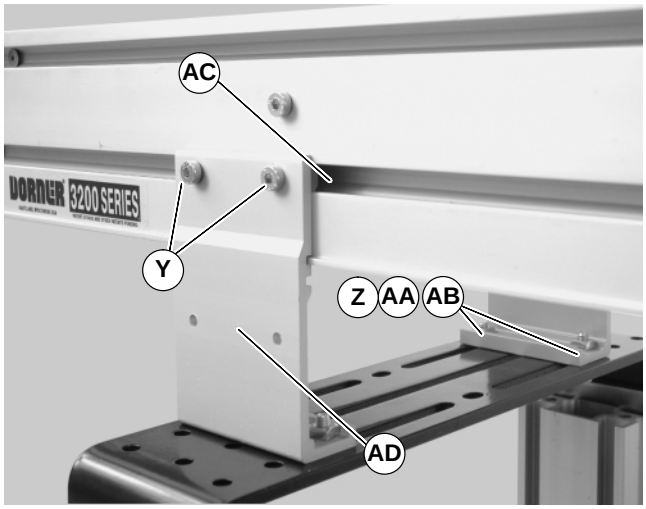


Figure 12

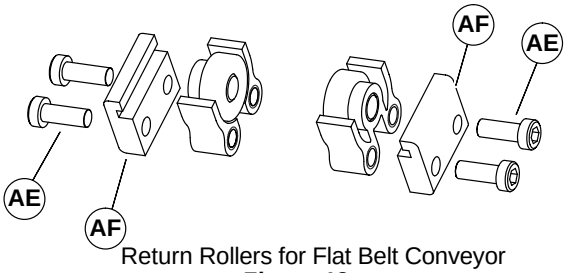
NOTE: Mounting brackets for flat belt conveyors shown.

4. Fasten brackets to support stand with mounting screws (Z of Figure 12), washers (AA) and nuts (AB).
5. Tighten screws (Y & Z of Figure 12) to 60 in-lb (7 Nm).

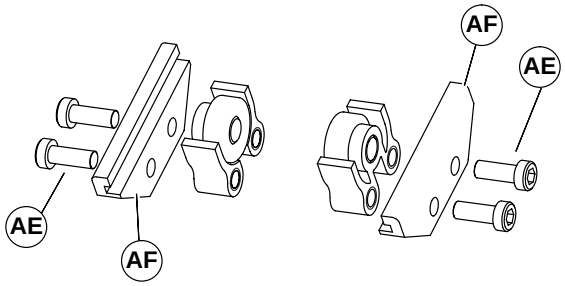
Return Rollers

Cleated Belt and 4–6¨ (51–152 mm) Wide Flat Belt Conveyors

1. Locate return rollers. Exploded views shown in Figures 13 & 14.



Return Rollers for Flat Belt Conveyor
Figure 13



Return Rollers for Cleated Belt Conveyor
Figure 14

2. Remove screws (AE of Figures 13 & 14) and clips (AF) from roller assembly.
3. Install roller assemblies (AG of Figure 15) as shown. Tighten screws (AE) to 60 in-lb (7 Nm).

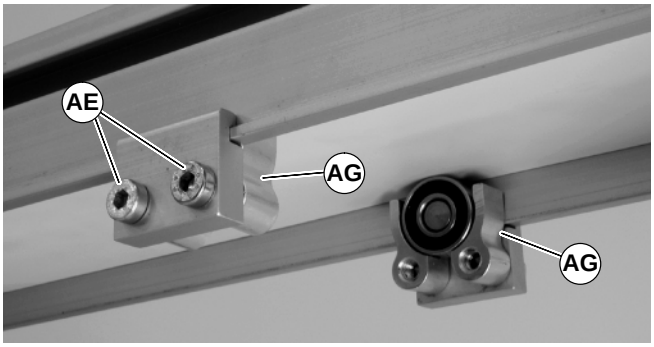


Figure 15

8–48¨ (203–1219 mm) Wide Flat Belt Conveyors

1. Locate return rollers. Exploded view shown in Figure 16.

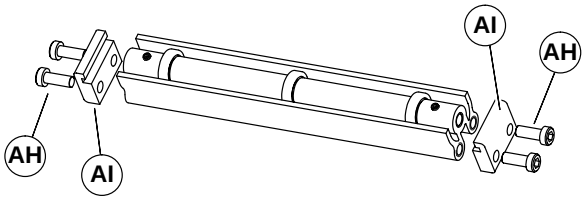


Figure 16

2. Remove screws (AH of Figure 16) and clips (AI) from roller assembly.
3. Install roller assembly as shown (AJ of Figure 17). Tighten screws (AH) to 60 in-lb (7 Nm).

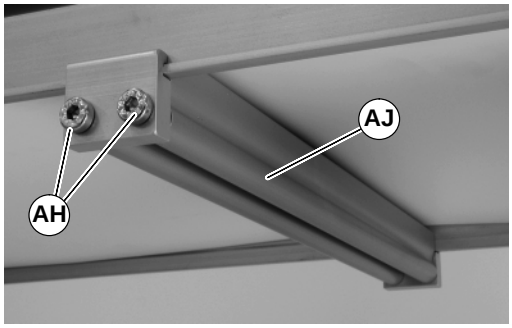


Figure 17

Preventive Maintenance and Adjustment

Required Tools

Standard Tools

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

Checklist

- Keep service parts on hand (see “Service Parts” section for recommendations)
- Keep supply of belt cleaner (part # 625619)
- 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

NOTE: Visit www.dorner.com for complete list of troubleshooting solutions.

Cleaning

IMPORTANT: Do not use belt cleaners that contain alcohol, acetone, Methyl Ethyl Ketone (MEK) or other harsh chemicals.

Use Dorner Belt Cleaner (part # 625619). Mild soap and water may also be used. 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

- 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 Conveyor 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 by the pinion locking screw (S of Figure 18), push in head plate assembly (U): Loosen the pinion locking screw (S), adjust the pinion torque screw (V of Figure 19). On both sides of conveyor, loosen the two tail clamp bolts (T of Figure 18), and push head plate assembly (U) inward.

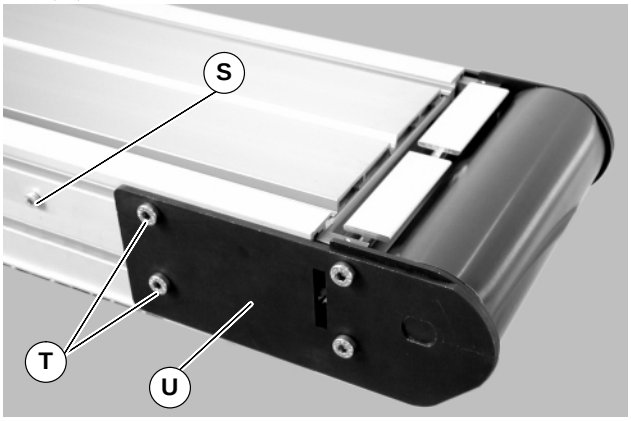


Figure 18

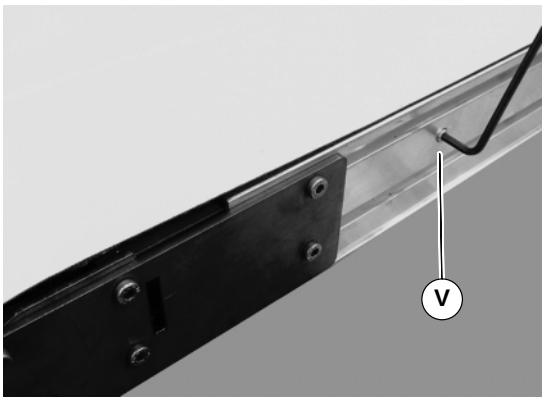


Figure 19

3. Remove conveyor belt.

Belt Removal for Conveyor 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 (AK of Figure 20) at both ends of the conveyor. Place an additional support stand under the drive motor (AL), if equipped. See **WARNING**.

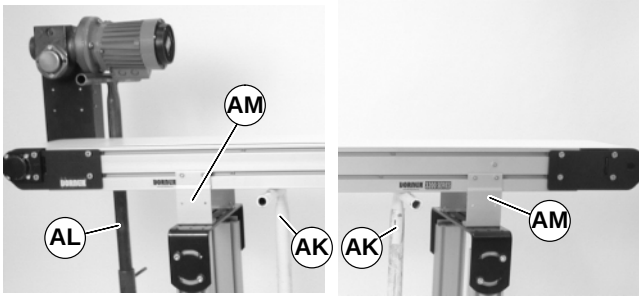


Figure 20

2. Remove mounting brackets (AM of Figure 20) from one side of conveyor. (Reverse steps 3 & 4 of "Mounting Brackets" section on page 6).
3. If equipped, remove return rollers, guiding and accessories from side opposite drive cover.
4. On tension end of the conveyor, identified by the pinion locking screw (S of Figure 21), push in head plate assembly (U): Loosen the pinion locking screw (S), adjust the pinion torque screw (V of Figure 22). On both sides of conveyor, loosen the two tail clamp bolts (T of Figure 21), and push head plate assembly (U) inward.

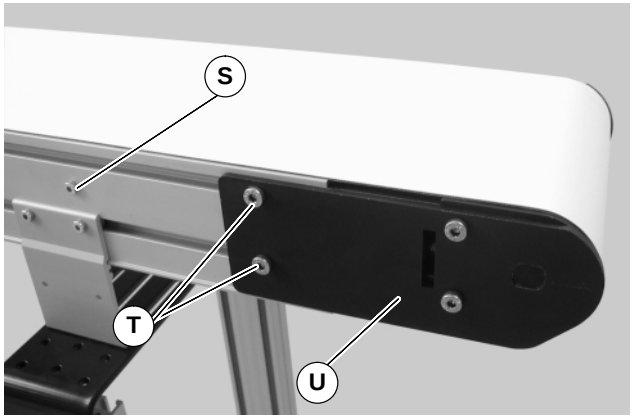


Figure 21

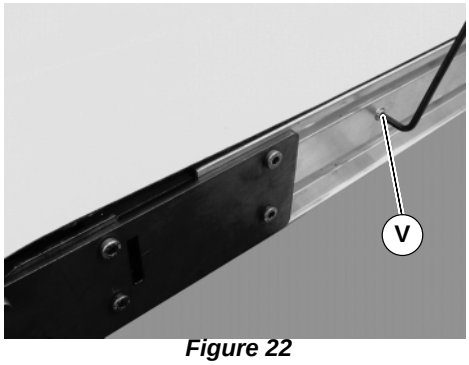


Figure 22

5. Remove belt (AN of Figure 23) from conveyor.

Figure 23

Belt Installation for Conveyor without Stands or Gearmotor Mounting Package

1. Orient belt so splice leading fingers (AO of Figure 24) point in the direction of belt travel as identified by the conveyor directional label (AP).

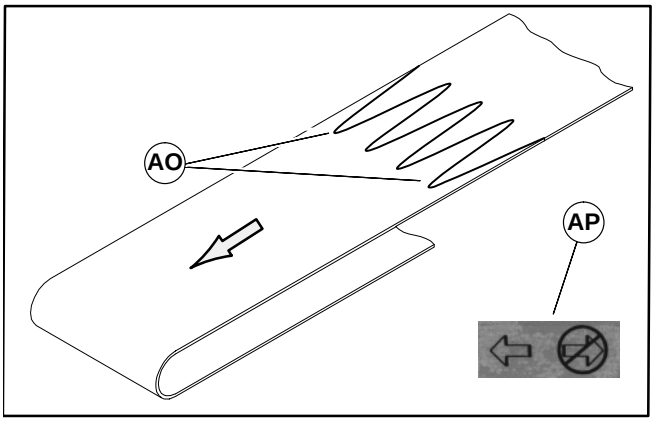
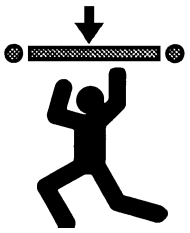


Figure 24

2. Slide belt onto the conveyor frame assembly.
3. Tension belt. Refer to "Conveyor Belt Tensioning" on page 10.
4. If equipped, install wipers, return rollers and guiding.

Belt Installation for Conveyor with Stands and Gearmotor Mounting Package

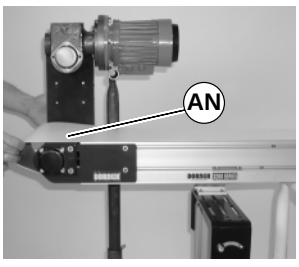


WARNING

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 (AK of Figure 20) are placed at both ends of the conveyor. Place an additional support stand under the drive motor (AL), if equipped. See **WARNING**.
2. Orient belt so splice leading fingers (AO of Figure 24) point in the direction of belt travel as identified by the conveyor directional label (AP).
3. Install belt (AN of Figure 25) on conveyor. Lift conveyor slightly to avoid pinching belt on temporary support stands.



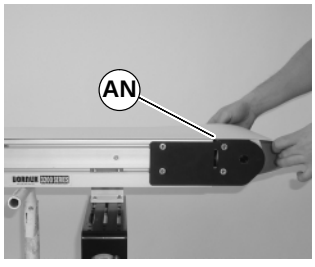


Figure 25

4. Re-install conveyor mounting brackets. Refer "Mounting Brackets" on page 6, steps 3 through 5.
5. Tension belt. Refer to "Conveyor Belt Tensioning" on page 10.
6. If equipped, re-install return rollers and guiding.

Conveyor Belt Tensioning

WARNING

Exposed moving parts can cause severe injury.

LOCK OUT POWER before removing guards or performing maintenance.

NOTE: For conveyors longer than 20 ft (6096 mm) the belt tensioning proceedure outlined below may be preformed on both the Drive and Idler Ends of the conveyor.

1. On tension end of the conveyor, identified by the pinion locking screw (S of Figure 26), loosen the two tail clamp bolts(T), on both sides of conveyor.

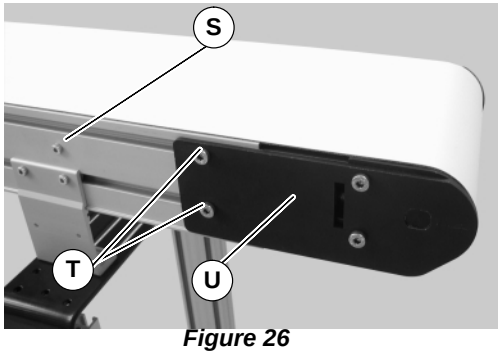


Figure 26

2. With 5mm hex wrench, hold pinion torque screw (V of Figure 27). Loosen the pinion locking screw (S of Figure 26) and turn the pinion torque screw(V) to extend head plate assembly.

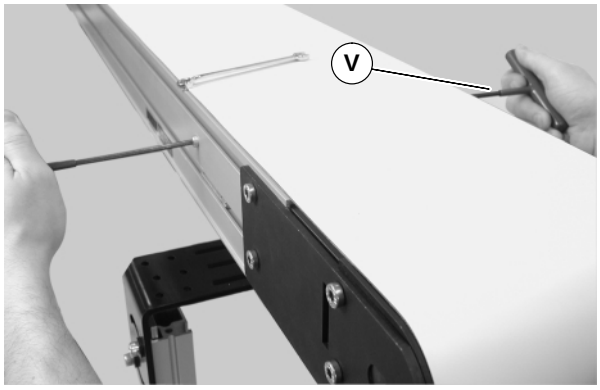


Figure 27

NOTE: On pinion gear, do not exceed a torque of 100 in-lb (11.3 N–m). Over tensioning the conveyor belt could cause excessive pulley bearing load and early failure.

3. Extend head plate assembly until proper tension in the belt is achived. If proper tensioning can not be obtained before the belt life indicator is all black (AR of Figure 28) the belt must be replaced.

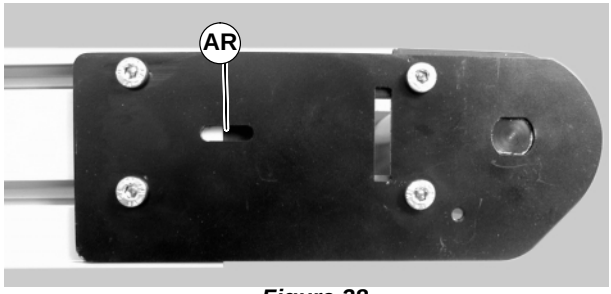


Figure 28

4. After adjusting proper tensioning, tighten the pinion locking screw (S of Figure 26) to 69 in–lbs (7.8 N–m), and tighten tail clamp bolts (T of Figure 26) on both sides of conveyor to 146 in-lb (16.5 N–m).

5. If belt tracking is neccesary, refer to "Conveyor Belt Tracking" on page 11.

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 assemblies.

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

1. Ensure tensioning racks are extended and touching the idler pulley headplates: loosen the pinion locking screw (S of Figure 26) and rotate the pinion torque screw (V of Figure 27) clockwise until contact with the head plate is made, then tighten the pinion locking screw (S) to 69 in–lbs (7.8 N–m)

2. On the side of conveyor to be adjusted, loosen two (2) tail clamp screws(T of Figure 29).

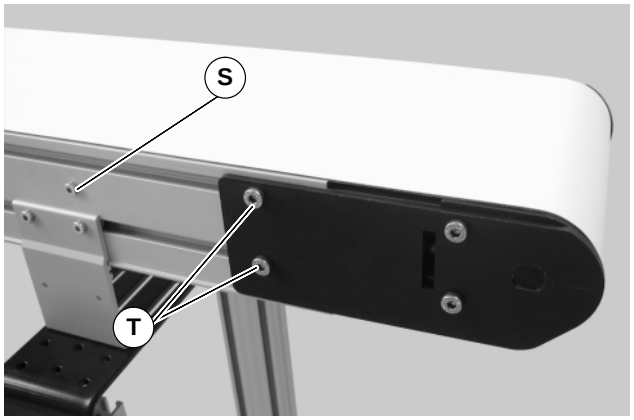


Figure 29

3. With the conveyor running, use wrench (AS of Figure 30) to rotate the tracking screw (AT of Figure 31) in small increments until the belt tracks in the center of the conveyor.

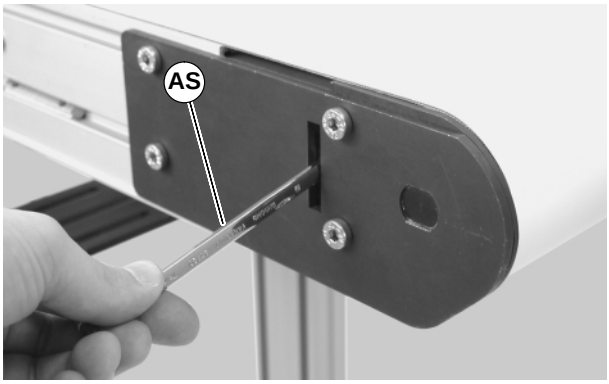


Figure 30

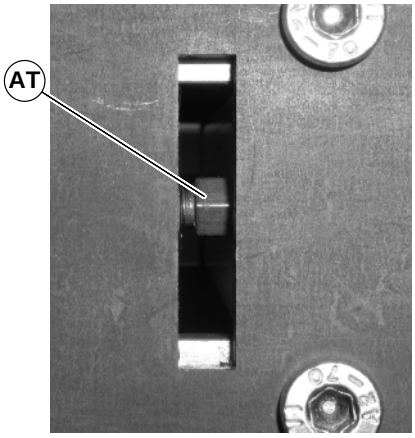


Figure 31

4. Re-tighten the head plate fastening screws (T) with a 5 mm hex-key wrench to 146 in-lb (16.5 Nm).

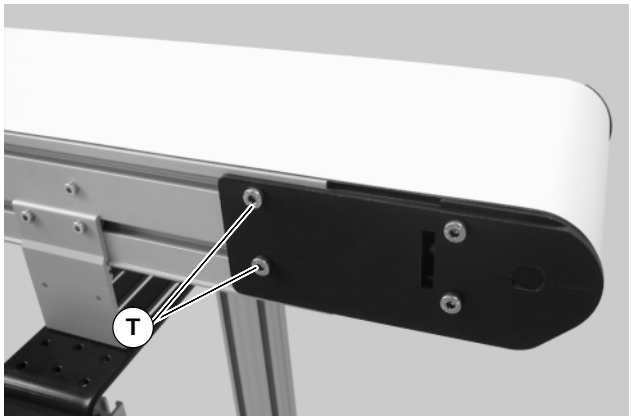


Figure 32

Pulley Removal

WARNING

Exposed moving parts can cause severe injury.

LOCK OUT POWER before removing guards or performing maintenance.

Remove conveyor belt to access pulley(s). See "Conveyor Belt Replacement" on page 8. Remove the desired pulley following the corresponding instructions below:

- A – Idler Pulley Removal
- B – Drive Pulley Removal
- C – Transfer Tail Pulley Removal

A – Idler Pulley Removal

1. Temporarily support the idler pulley.

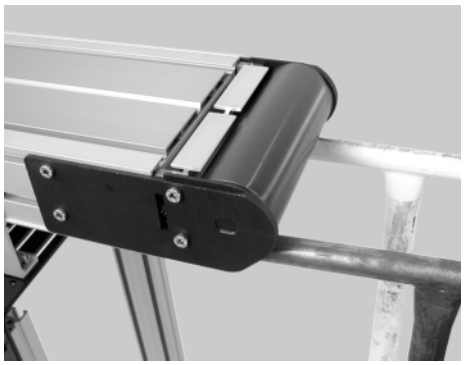


Figure 33

2. On one side of conveyor, loosen the two (2) back fastening screws (T of Figure 34) and remove two (2) front fastening screws (AU).

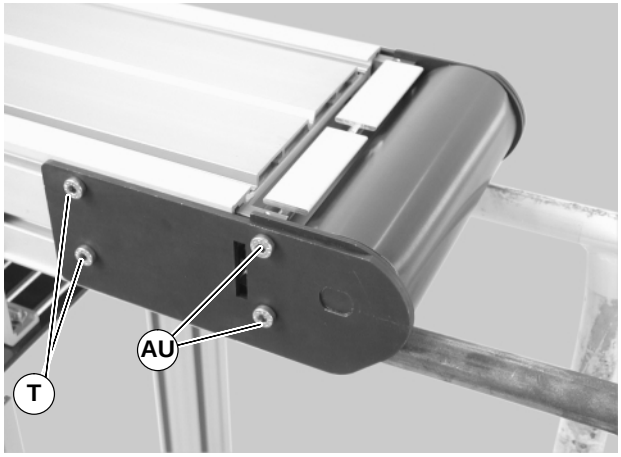


Figure 34

3. Pull back the outer headplate (U of Figure 35) and remove the inner spacer (AV).

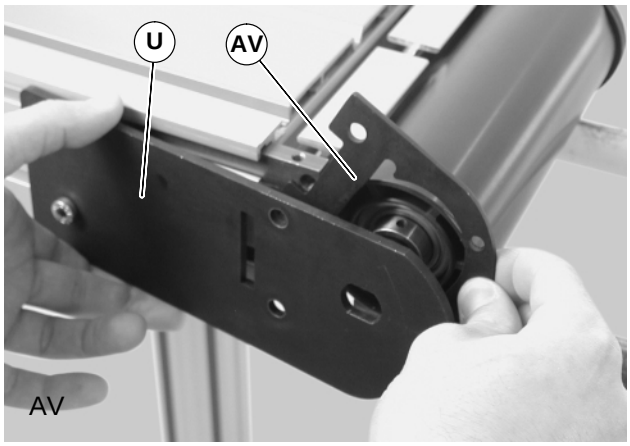


Figure 35

4. Slide the idler pulley assembly (AW of Figure 36) out of the headplate on the opposite side.

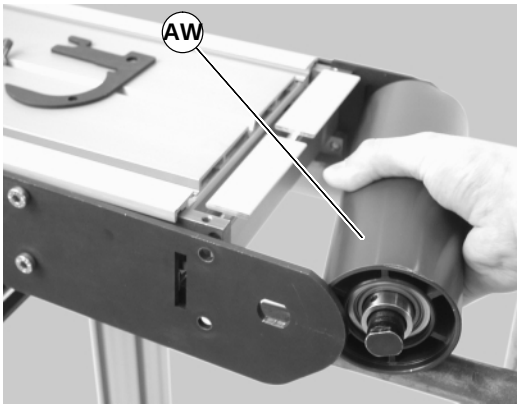


Figure 36

5. Remove the pulley shaft assembly: remove the clip ring (AX of Figure 37) and washer (AY) from one side of the pulley assembly.

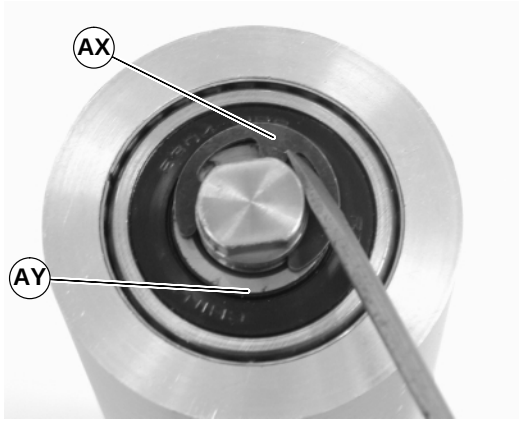


Figure 37

6. Slide the shaft assembly (AZ of Figure 38) out of the pulley (AW).

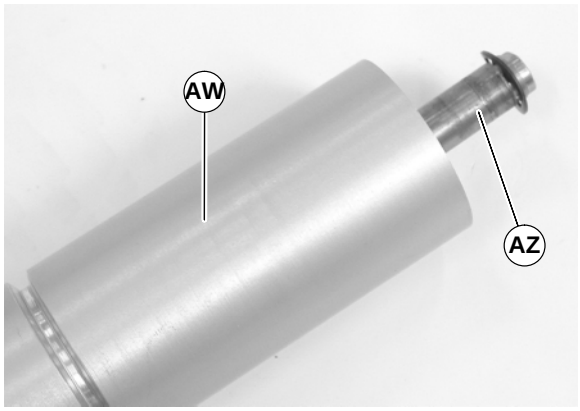


Figure 38

B – Drive Pulley Removal

WARNING

Drive shaft keyway may be sharp.

HANDLE WITH CARE.

1. Remove the gearmotor mounting package:
a – Top and Bottom Mount Packages
b – Side Mount Packages

NOTE: Bottom Mount Package shown, Top Mount Package similar.

a. Top and Bottom Mount Packages

1) Use a temporary support (BA of Figure 39)to support Gearmotor.

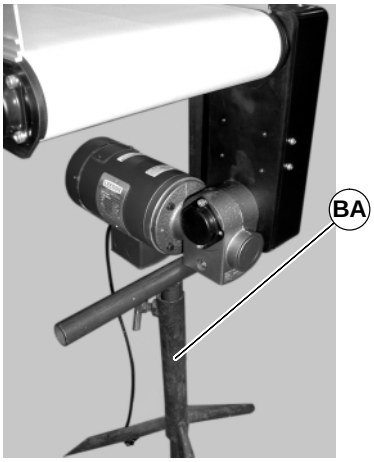


Figure 39

2) Remove four (4) screws (BB of Figure 40) and remove cover (BC).

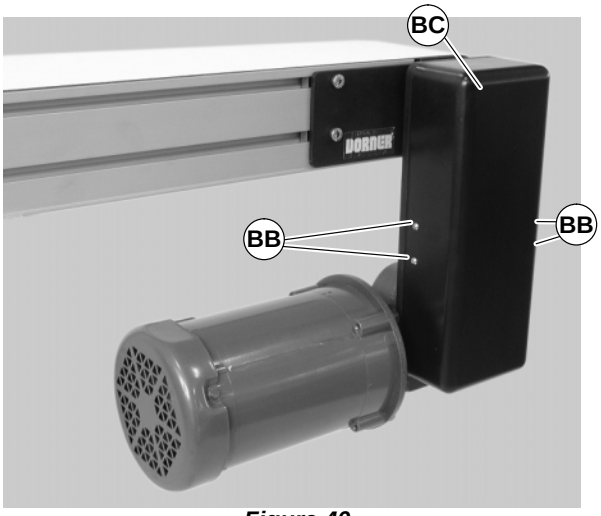


Figure 40

3) Loosen tensioner (BD of Figure 41).

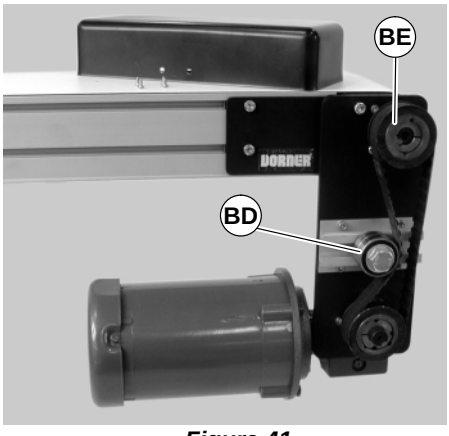


Figure 41

4) Remove taper-lock screws (BF of Figure 42) on the driven pulley (BE of Figure 41). Insert one (1) of taper lock screws (BF of Figure 42) in remaing hole (BG). Tighten screw (BF) until pulley is loose. Remove pulley, taper hub assembly and timing belt.

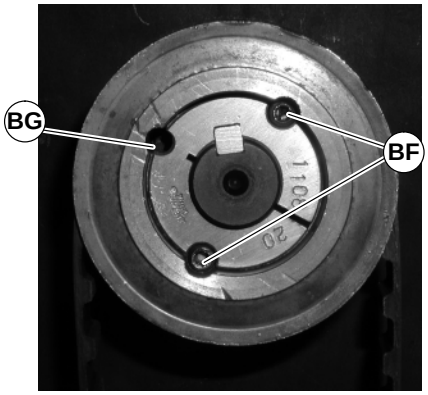


Figure 42

5) Remove four (4) M5 mounting screws (BH of Figure 43) and two (2) M8 mounting screws (BI).

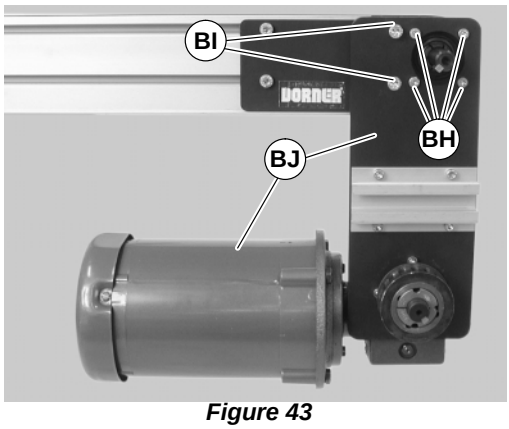


Figure 43

6) Remove gearmotor and mounting plate assembly (BJ of Figure 43).

b. Side Mount Package

1) Temporarily support Gearmotor
2) Loosen the four (4) lock screws (BK of Figure 44).

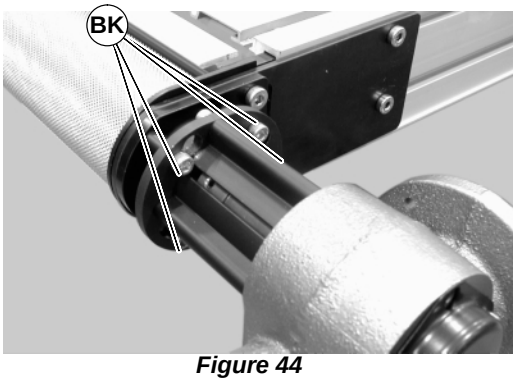


Figure 44

3) Rotate and remove the gear motor and guard assembly (BL of Figure 45).

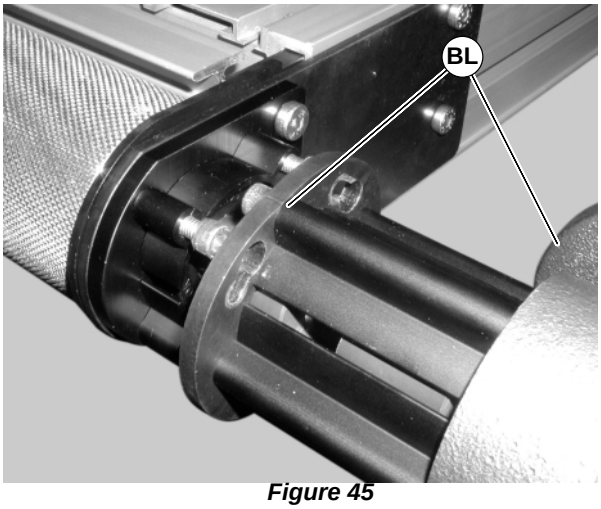


Figure 45

4) Remove the four (4) lock screws (BK of Figure 46) and the short side drive guard (BM).

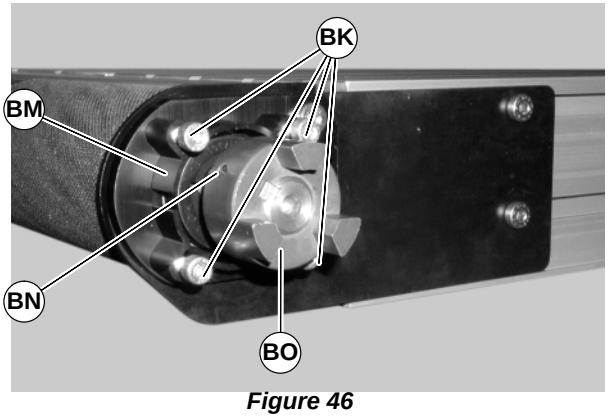


Figure 46

2. Loosen set screw (BN of Figure 46) and remove 3–jaw coupling (BO).

3. Temporarily support the drive pulley.

Figure 47

4. Remove four shaft cover screws (BP of Figure 48). Remove the shaft cover (BQ).

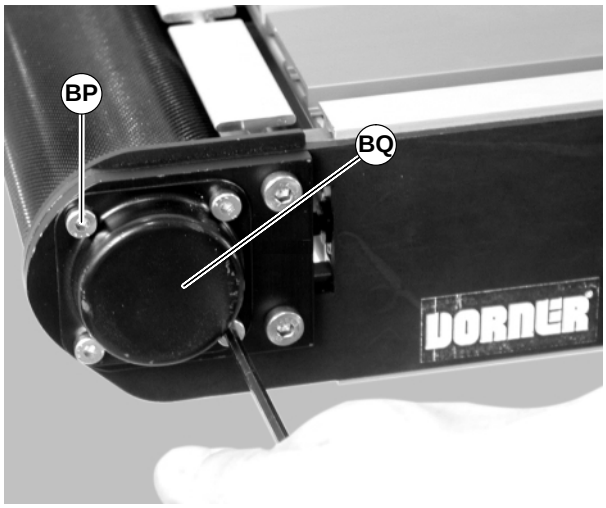


Figure 48

5. Loosen the bearing collar set screw (BR of Figure 49) and remove bearing collar (BS). Repeat on drive shaft side of pulley (BR and BS of Figure 50).

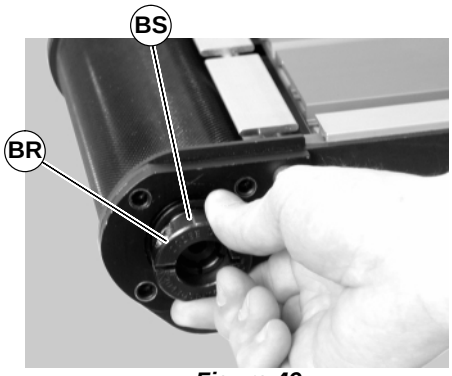


Figure 49

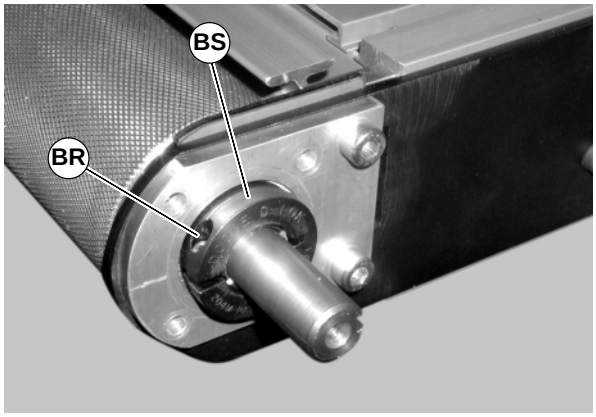


Figure 50

6. On the drive headplate, remove two (2) screws (T of Figure 51).

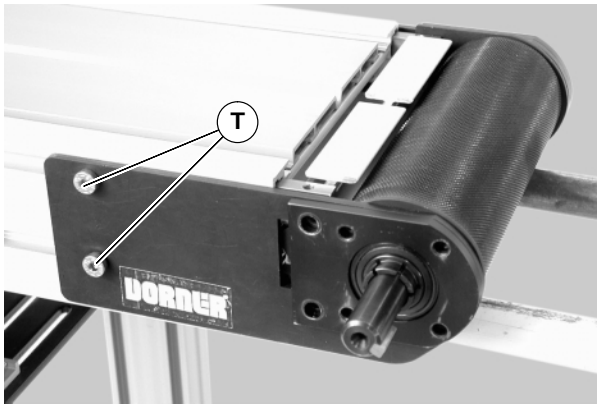


Figure 51

7. Remove the outer headplate assembly (BT of Figure 52), and inner spacer (AV).

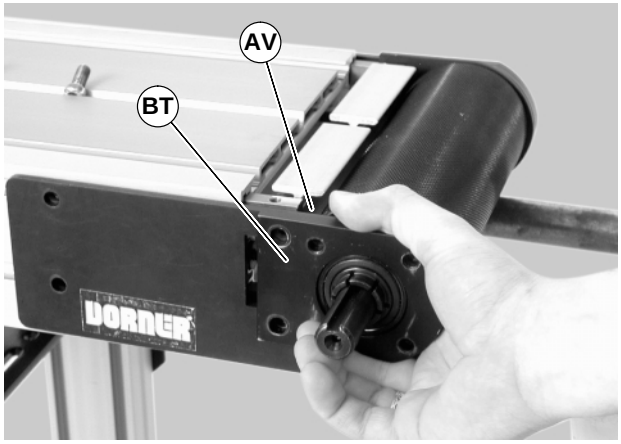


Figure 52

8. Slide the drive pulley (BU of Figure 53) out of the headplate on the opposite side.

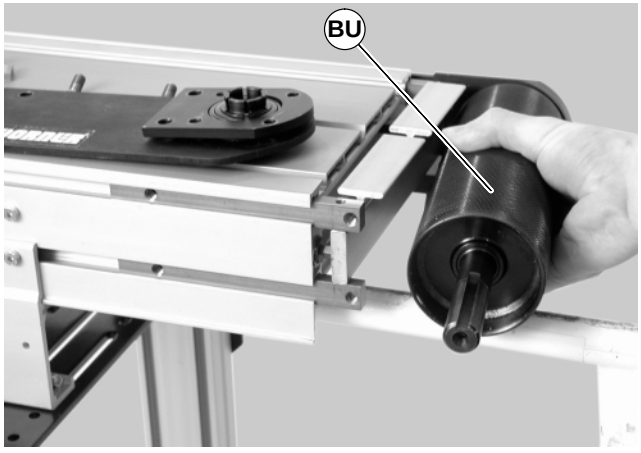


Figure 53

C – Transfer Tail Pulley Removal

1. Temporarily support the transfer tail assembly.

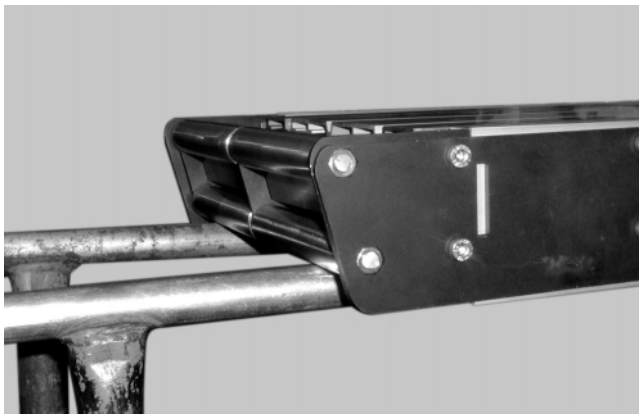


Figure 54

2. On one side of conveyor, remove the two (2) back fastening screws (T of Figure 55), and the two (2) front fastening screws (AU).

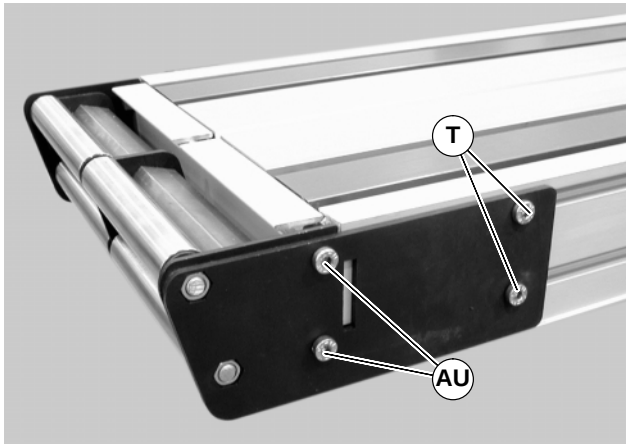


Figure 55

3. Remove the inner spacer (AV of Figure 56).

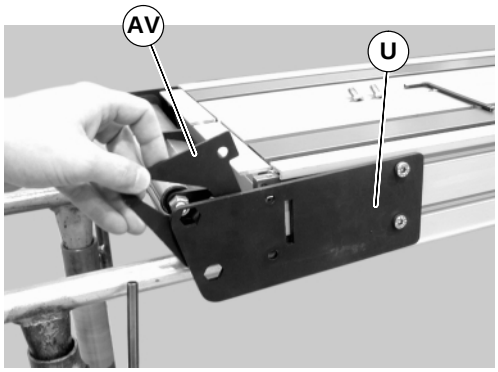


Figure 56

4. Slide the transfer tail pulley assembly (BV of Figure 57) out of the headplate on the opposite side.

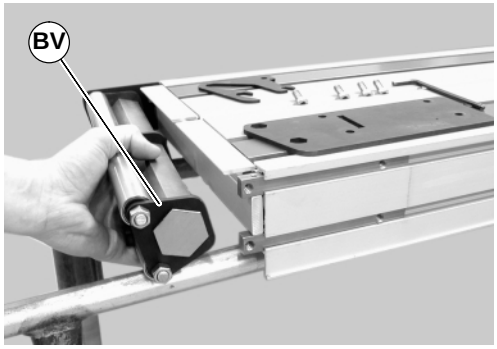


Figure 57

5. Remove hex nuts (BW of Figure 58).

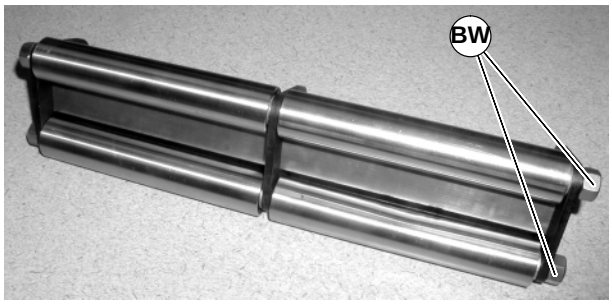


Figure 58

6. Remove support plates (BX of Figure 59) and washers (BY).

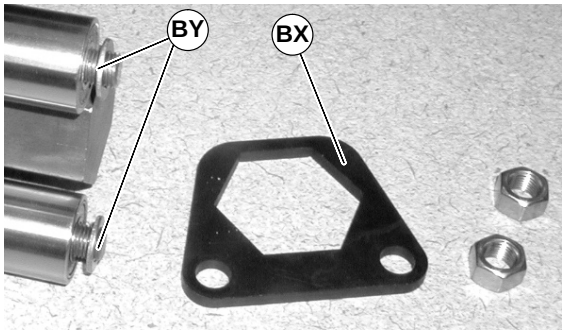


Figure 59

7. Remove pulleys (BZ of Figure 60) and additional washers (CA).

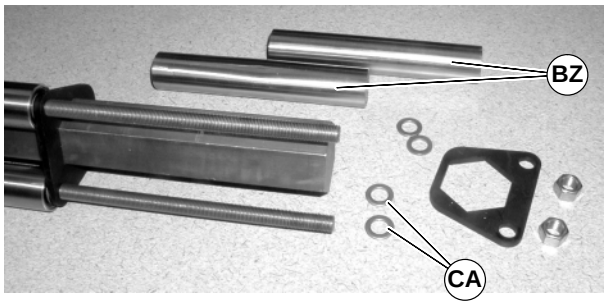


Figure 60

8. To remove additonal pulleys, repeat steps 6 through 7.

Bearing Replacement

WARNING

Exposed moving parts can cause severe injury.

LOCK OUT POWER before removing guards or performing maintenance.

- A – Idler Bearing
- B – Drive Bearing
- C – Transfer Tail Bearing

A – Idler Bearing Replacement

The bearings in a 3200 Series Idler Pulley can not be removed. Replace the entire pulley assembly when worn.

B – Drive Bearing Removal and Replacement

WARNING

Drive shaft keyway may be sharp.

HANDLE WITH CARE.

Removal

1. Turn bearing (CB of Figure 61) to align with slots (CC) in bearing housing. Then remove bearing.

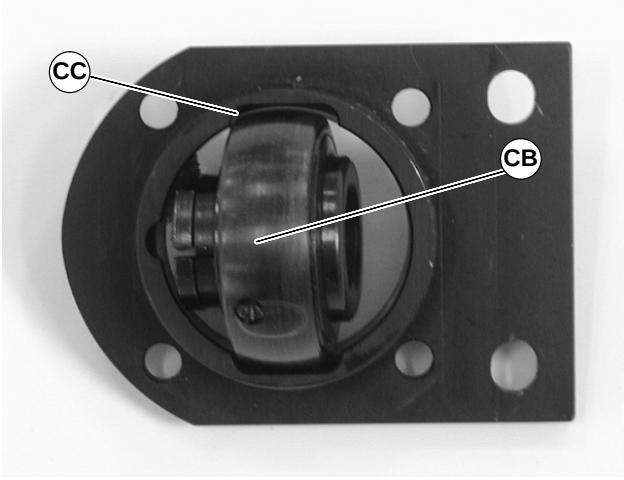


Figure 61

Replacement

1. Inspect bearing housing bearing surface. If worn or damaged, replace. See “Service Parts” on page 19.
2. Insert bearing (CB of Figure 62) into housing slot (CC). Locate anti–rotation nub (CD) to align with slot (CE), and twist bearing into housing.

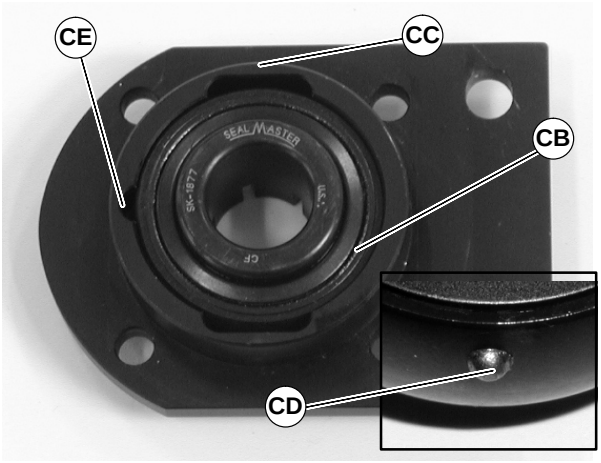


Figure 62

C – Transfer Tail Bearing Replacement

The bearings in a 3200 Series Transfer Tail Pulley can not be removed. Replace the entire pulley assembly when worn.

Pulley Replacement

Idler Pulley

To replace the idler pulley, reverse the “Idler Pulley Removal” proceedure on page 12.

Drive Pulley

To replace the drive pulley, reverse the “Drive Pulley Removal” proceedure on page 13.

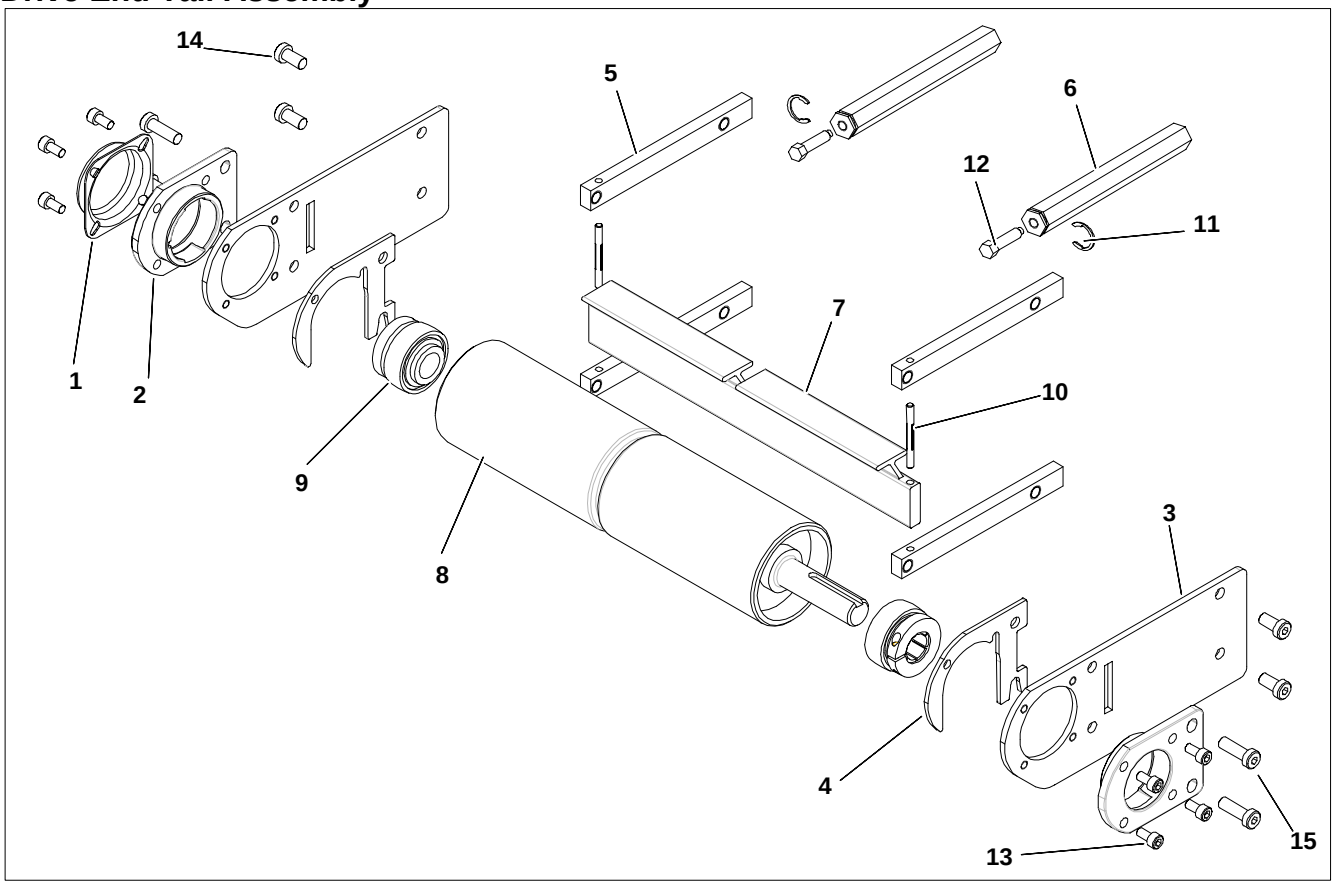
Transfer Tail Pulley

To replace the transfer tail pulley, reverse the “Transfer Tail Pulley Removal” proceedure on page 16.

Notes

NOTE: For replacement parts other than those shown in this section, contact an authorized Dorner Service Center or the factory.

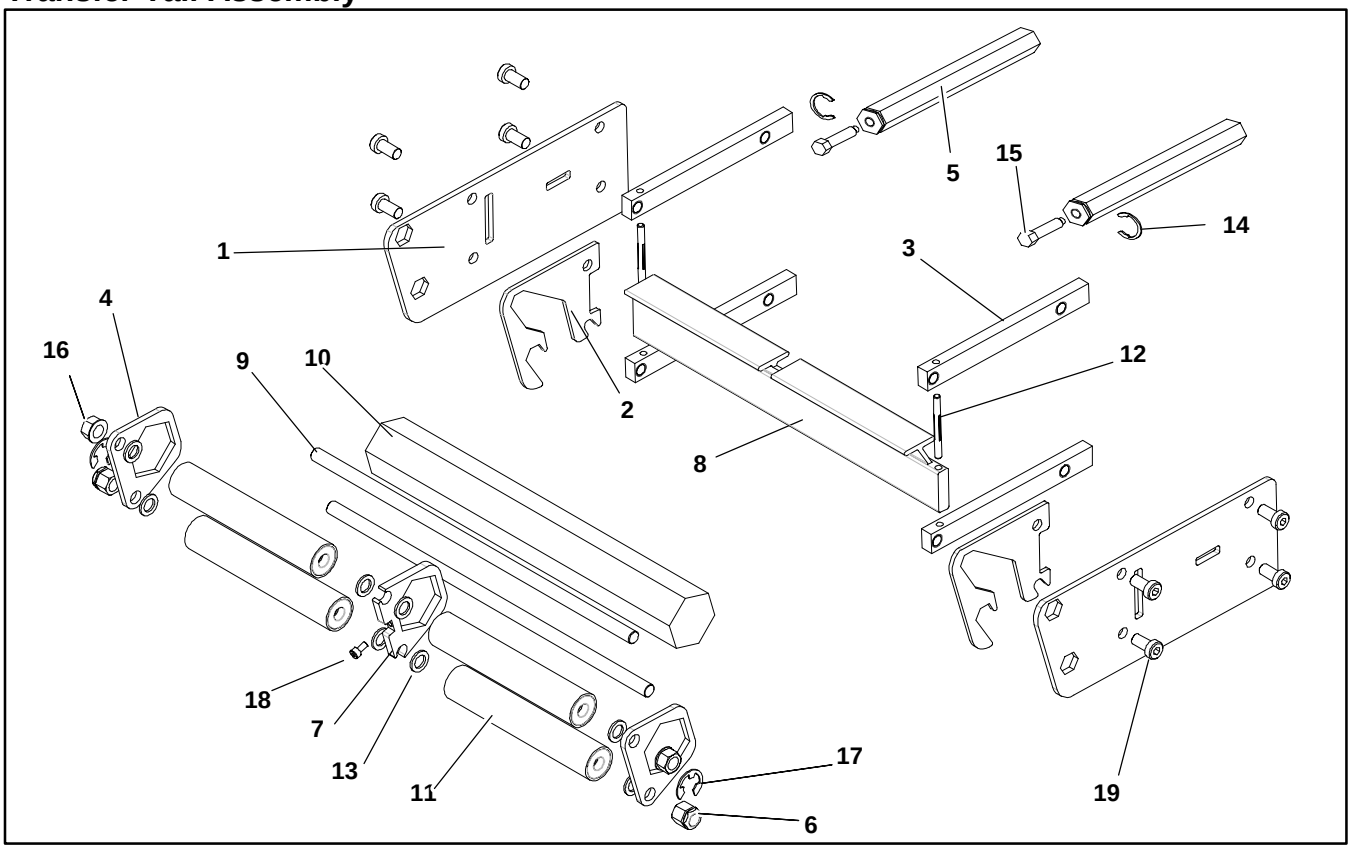
Drive End Tail Assembly



Item	Part Number	Description
1	300139	Shaft Cover
2	300885	Bearing Retainer
3	301048	Drive Tail Cover Plate
4	301083	3” Inner Tail Plate
5	301088	Tail Bar Clamp
6	301196	Hex Tension Tracking Shaft
7	3202WW	Tail Articulation Bar
8	3216WW	Drive Spindle Assy
9	802–135	D–Lok Bearing
10	807–1125	Groove Pin
11	807–1151	Retaining Ring
12	807–1152	Hex Head Cap Screw M6 x 20mm
13	920612M	Socket Head Screw M6 x 12mm
14	920893M	Low Head Socket Screw M8x16mm
15	920895M	Low Head Socket Screw M8x25mm
WW = Conveyor width reference: 04 – 48 in 02 increments		

Service Parts

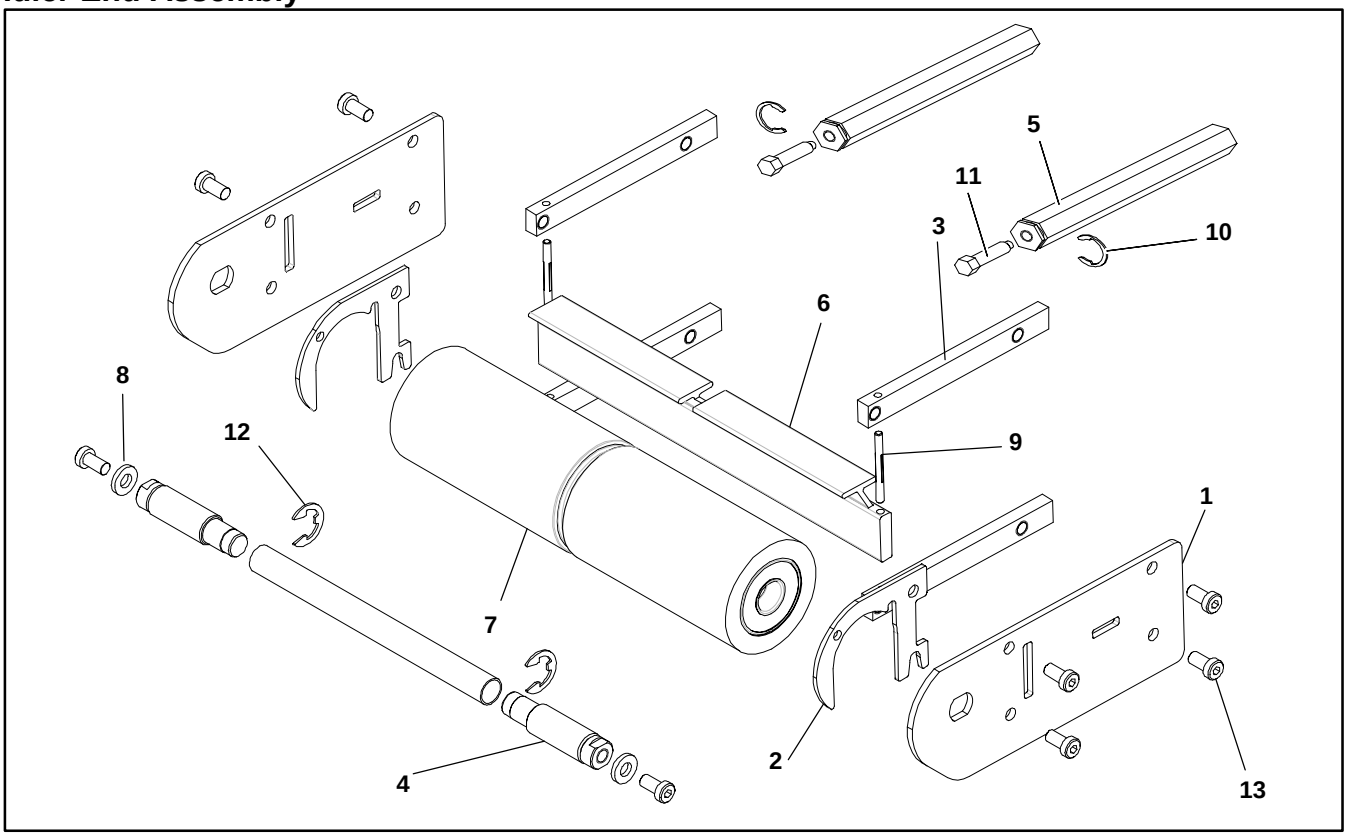
Transfer Tail Assembly



Item	Part Number	Description
1	301082	Nosebar Cover Plate
2	301084	1” Inner Tail Plate
3	301088	Tail Bar Clamp
4	301090	Transfer Tail Support Plate
5	301196	Hex Tension Tracking Shaft
6	301352	Nut, E–ring, Brace
7	301354	Inner Transfer Tail Support Plate
8	3202WW	Tail Articulation Bar
9	3217WW	1” Idler Tail Axel Shaft
10	3219WW	Roller Assy Support Bar
11	3237WW	Transfer Tail Roller
12	807–1125	Groove Pin
13	807–1136	Washer
14	807–1151	Retaining Ring
15	807–1152	Hex Head Cap Screw M6 x 20mm
16	910–203	3/8” Hex Nut
17	915–319	Retaining Ring
18	920408M	Hex Head Cap Screw M4 x 8mm
19	920893M	Low Head Socket Screw M8 x 16mm

WW = Conveyor width reference: 04 – 48 in 02 increments

Idler End Assembly

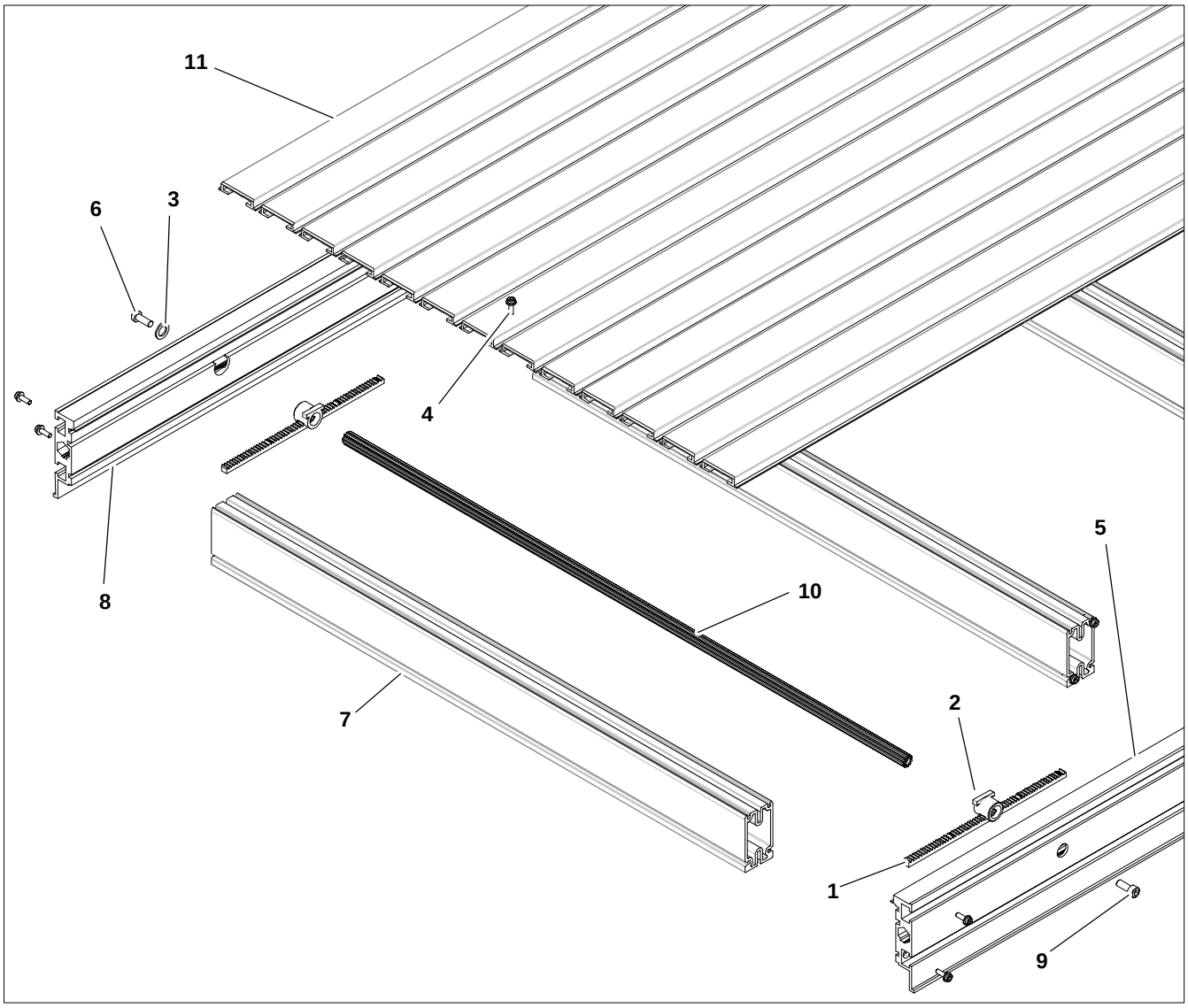


Item	Part Number	Description
1	301049	Idler Cover Plate
2	301083	Inner 3” Tail Plate
3	301088	Tail Bar Clamp
4	301353	Idler Tail Stub Shaft
5	301196	Hex Tension Tracking Shaft
6	3202WW	Tail Articulation Bar
7	3284WW	3” Idler Pulley

8	605280P	Hard Washer
9	807–1125	Groove Pin
10	807–1151	Tracking Shaft Retaining Ring
11	807–1152	Hex Head Cap Screw M6 x 20mm
12	915–235	Stub Shaft Retaining Ring
13	920893M	Low Head Socket Screw M8 x 16mm
WW = Conveyor width reference: 04 – 48 in 02 increments		

Service Parts

Frame Assembly



Item	Part Number	Description
1	240420	Rack Gear
2	301091	Pinion Bearing
3	807–1136	Washer
4	920482M	Flange Socket Screw M4 x 12mm
5	920616M	Socket Head Screw M6 x 16mm
6	920693M	Low Head Socket Screw M6 x 16mm
7	3245WW	Cross Support Rail
8	301041–LLLLL	RH Side Rail
9	301042–LLLLL	LH Side Rail
10	3229WW	Pinion
11		Bed Plate Rail
WW = Conveyor width reference: 04 – 48 in 02 increments LLLLL = Frame Length (see Bed Plate & Frame Formulas)		

Item 11: Bed Plate Rail	
Width	Part Number
1.75” (mm)	300887–LLLLL
2” (54mm)	300888–LLLLL
4” (102mm)	300889–LLLLL
6” (152mm)	300890–LLLLL
LLLLL = Bed Plate Length (see Bed Plate & Frame Formulas)	

Bed Plate and Frame Formulas

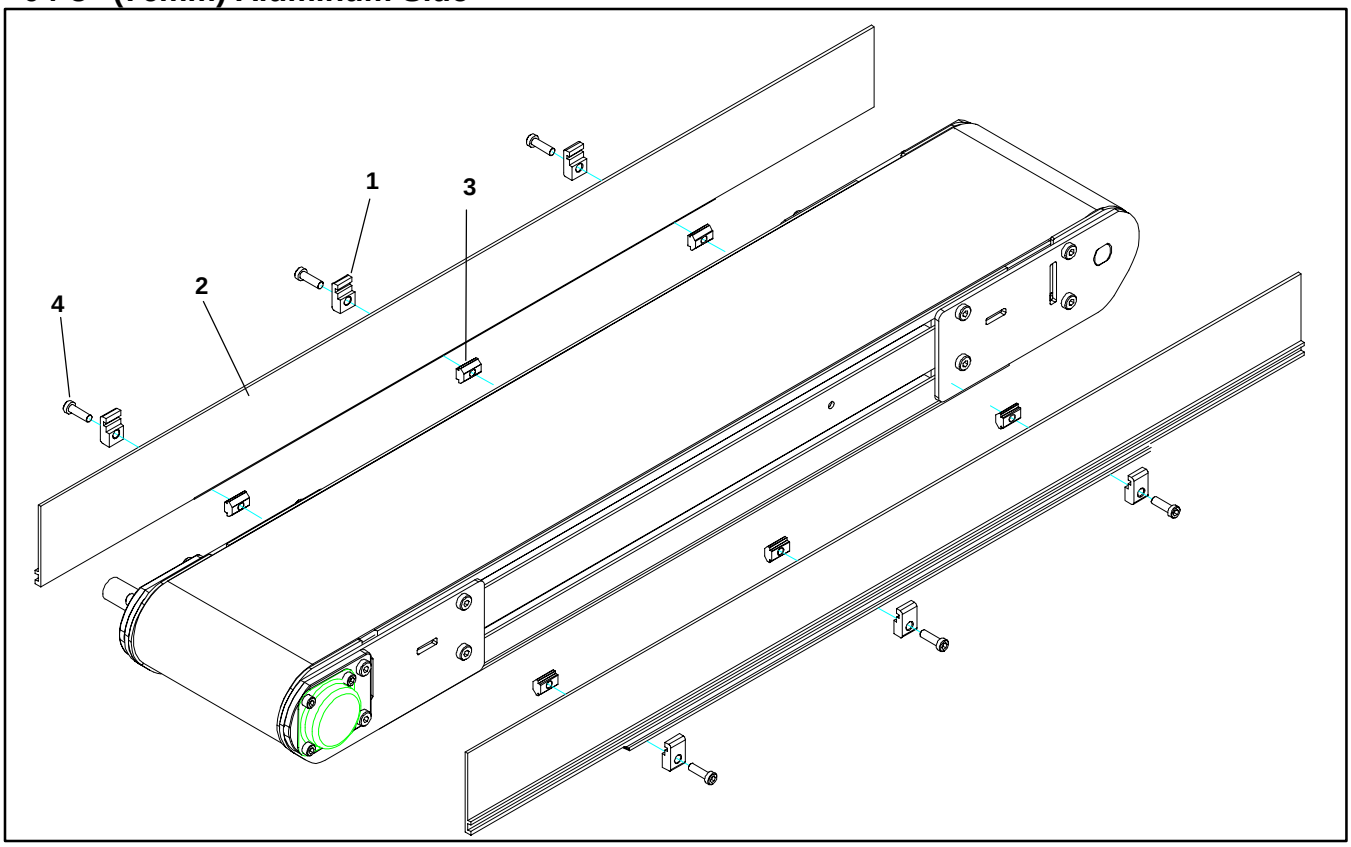
Bed Plate LLLLL = Frame LLLLL – 00013

Frame LLLLL = (Conveyor Length LLLL X 12 – Tail Adder) / # of Sections of Conveyor

Tail Adder = 00600 for each Tension End
00425 for each Non–Tension End

Width	Bed Plate Configuration												
4”							1.75”						
6”							4”						
8”							6”						
10”						2”	4”	2”					
12”						2”	6”	2”					
14”						4”	4”	4”					
16”						4”	6”	4”					
18”						6”	4”	6”					
20”						6”	6”	6”					
22”					4”	4”	4”	4”	4”				
24”					4”	4”	6”	4”	4”				
26”					6”	4”	4”	4”	6”				
28”					6”	4”	6”	4”	6”				
30”					6”	6”	4”	6”	6”				
32”					6”	6”	6”	6”	6”				
34”				4”	4”	6”	4”	6”	4”	4”			
36”				4”	4”	6”	6”	6”	4”	4”			
38”				4”	6”	6”	4”	6”	6”	4”			
40”				4”	6”	6”	6”	6”	6”	4”			
42”				6”	6”	6”	4”	6”	6”	6”			
44”				6”	6”	6”	6”	6”	6”	6”			
46”			4”	4”	6”	6”	4”	6”	6”	4”	4”		
48”			4”	4”	6”	6”	6”	6”	6”	4”	4”		
50”			4”	6”	6”	6”	4”	6”	6”	6”	4”		
52”			4”	6”	6”	6”	6”	6”	6”	6”	4”		
54”			6”	6”	6”	6”	4”	6”	6”	6”	6”		
56”			6”	6”	6”	6”	6”	6”	6”	6”	6”		
58”		4”	4”	6”	6”	6”	4”	6”	6”	6”	4”	4”	
60”		4”	4”	6”	6”	6”	6”	6”	6”	6”	4”	4”	
62”		4”	6”	6”	6”	6”	4”	6”	6”	6”	6”	4”	
64”		4”	6”	6”	6”	6”	6”	6”	6”	6”	6”	4”	
66”		6”	6”	6”	6”	6”	4”	6”	6”	6”	6”	6”	
68”		6”	6”	6”	6”	6”	6”	6”	6”	6”	6”	6”	
70”	4”	4”	6”	6”	6”	6”	4”	6”	6”	6”	6”	4”	4”
72”	4”	4”	6”	6”	6”	6”	6”	6”	6”	6”	6”	4”	4”

–04 3” (76mm) Aluminum Side



Item	Part Number	Description
1	200121	Guide Retaining Clip
2	380400–LLLLL (see Formulas)	3200 Guide 3” (76mm) HS
3	200695P	Single Drop–in Tee Bar
4	920694M	Socket Head Screw M6 x 20mm

Length Formulas

LLLLL = (Conveyor Length XXXX) X 12 – Tail Factor / # of Sections of Conveyor

Tail Factor =

- **00000** for center drive with transfer tail both ends
- **00100** for end drive with one transfer tail
- **00200** for end drive and center drives with standard tails
- **00325** for All Cleated Conveyors

# of Conveyor Sections = (Conveyor Length XXXX – 0100) / 1200

XXXX = Conveyor Length (XX.XX ft)

Example

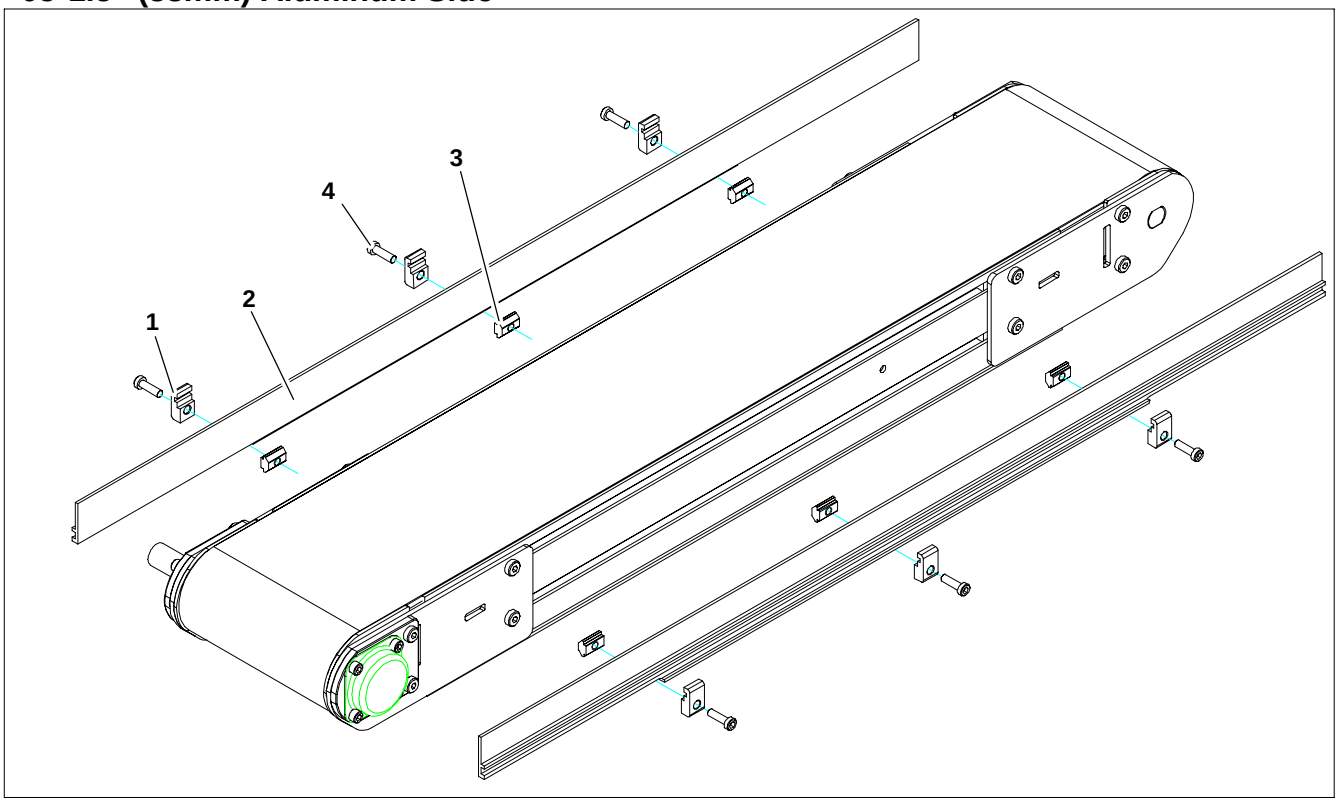
17’4” End Drive Conveyor with Standard Tails

Conveyor Length = 1733
Tail Factor = 00200

# of Sections (round up)= (1733 – 0100) / 1200 = 1.36 = 2 Sections

LLLLL = (1733 x 12) – 00200 / 2 = 10298

–05 1.5” (38mm) Aluminum Side



Item	Part Number	Description
1	200121	Guide Retaining Clip
2	380500–LLLLL (see Formulas)	3200 Guide .5” (13mm) HS
3	639971M	Single Drop–in Tee Bar
4	920694M	Socket Head Screw M6 x 20mm

Length Formulas

$$\underline{\text{LLLLL}} = \frac{\text{(Conveyor Length } \underline{\text{XXXX}}\text{) X 12 – Tail Factor}}{\text{\# of Sections of Conveyor}}$$

Tail Factor =

00000	for center drive with transfer tail both ends
00100	for end drive with one transfer tail
00200	for end drive and center drives with standard tails
00325	for All Cleated Conveyors

$$\text{\# of Conveyor Sections} = \frac{\text{(Conveyor Length } \underline{\text{XXXX}}\text{ – 0100)}}{1200}$$

XXXX = Conveyor Length (XX.XX ft)

Example

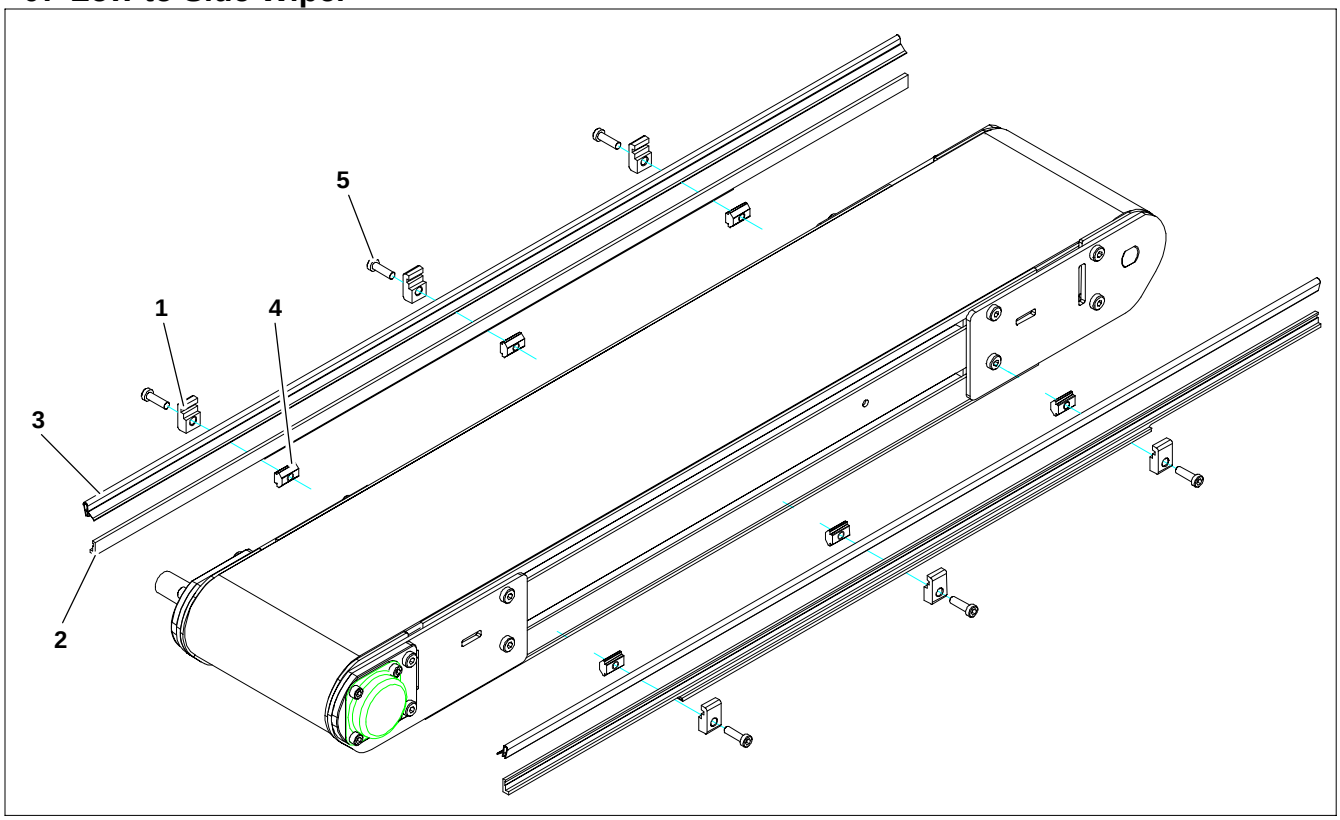
17’4” End Drive Conveyor with Standard Tails

Conveyor Length = 1733
Tail Factor = 00200

$$\text{\# of Sections (round up)} = \frac{(1733 - 0100)}{1200} = 1.36 = 2 \text{ Sections}$$

$$\underline{\text{LLLLL}} = \frac{(1733 \times 12) - 00200}{2} = 10298$$

–07 Low to Side Wiper



Item	Part Number	Description
1	200121	Guide Retaining Clip
2	380900–LLLLL (see Formulas)	3200 Guide .5" (13mm) HS
3	41–00–24	Side Wiper Nylatron (per foot)
4	639971M	Single Drop–in Tee Bar
5	920694M	Socket Head Screw M6 x 20mm

Length Formulas

LLLLL = (Conveyor Length XXXX) X 12 – Tail Factor / # of Sections of Conveyor

Tail Factor =

- **00000** for center drive with transfer tail both ends
- **00100** for end drive with one transfer tail
- **00200** for end drive and center drives with standard tails
- **00325** for All Cleated Conveyors

# of Conveyor Sections = (Conveyor Length XXXX – 0100) / 1200

XXXX = Conveyor Length (XX.XX ft)

Example

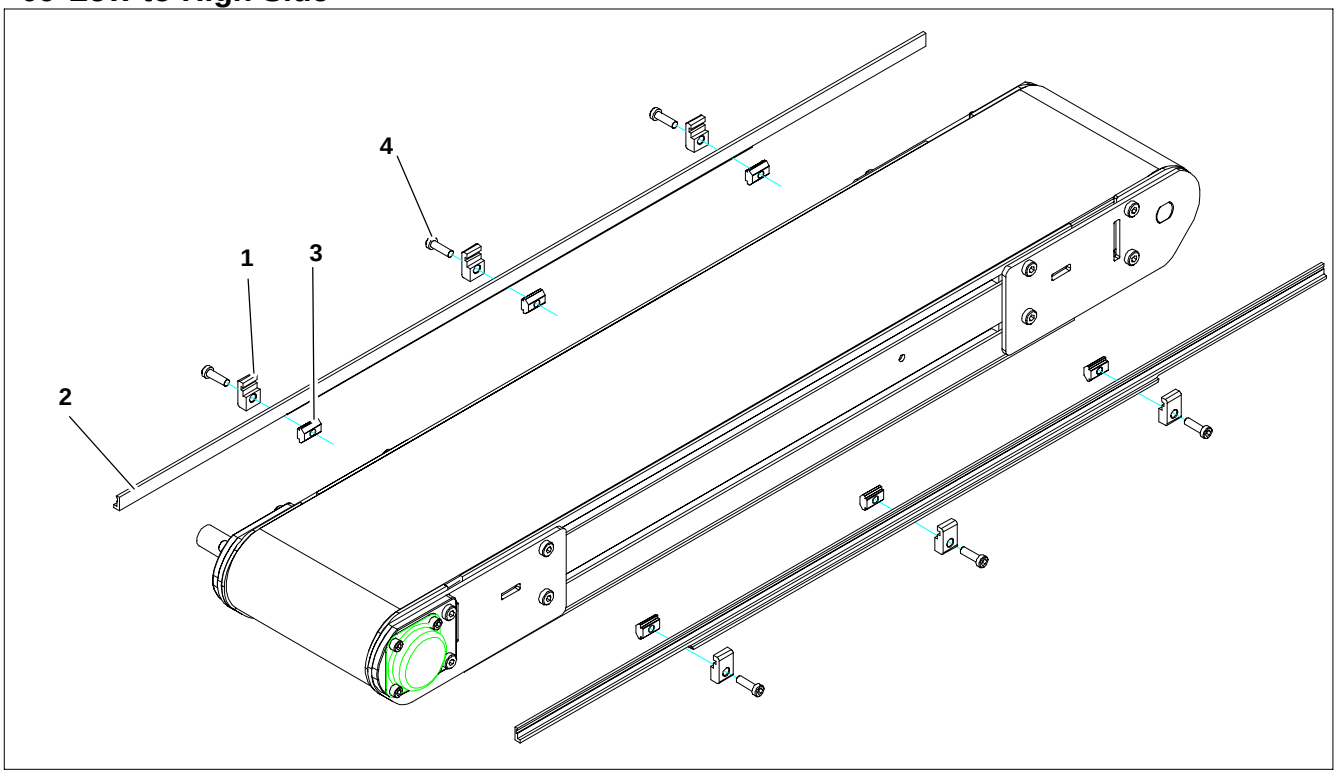
17'4" End Drive Conveyor with Standard Tails

Conveyor Length = 1733
Tail Factor = 00200

# of Sections (round up)= (1733 – 0100) / 1200 = 1.36 = 2 Sections

LLLLL = (1733 x 12) – 00200 / 2 = 10298

–09 Low to High Side



Item	Part Number	Description
1	200121	Guide Retaining Clip
2	380900–LLLLL (see Formulas)	2200 Guide .5" (13mm) HS
3	639971M	Single Drop–in Tee Bar
4	920694M	Socket Head Screw M6 x 20mm

Length Formulas

$$\underline{\text{LLLLL}} = \frac{\text{(Conveyor Length } \underline{\text{XXXX}}\text{) X 12 – Tail Factor}}{\text{\# of Sections of Conveyor}}$$

Tail Factor =

00000	for center drive with transfer tail both ends
00100	for end drive with one transfer tail
00200	for end drive and center drives with standard tails
00325	for All Cleated Conveyors

$$\text{\# of Conveyor Sections} = \frac{\text{(Conveyor Length } \underline{\text{XXXX}}\text{ – 0100)}}{1200}$$

XXXX = Conveyor Length (XX.XX ft)

Example

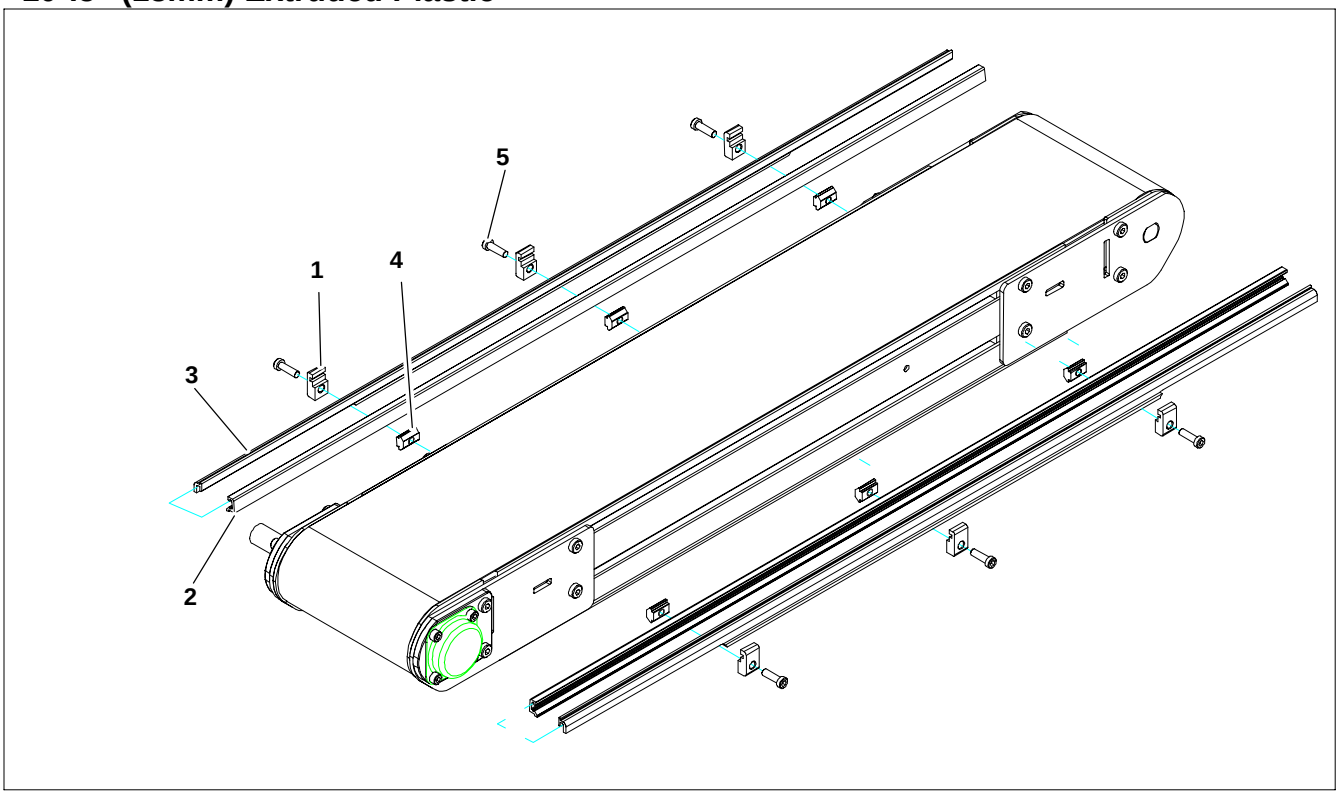
17'4" End Drive Conveyor with Standard Tails

Conveyor Length = 1733
Tail Factor = 00200

$$\text{\# of Sections (round up)} = \frac{(1733 - 0100)}{1200} = 1.36 = 2 \text{ Sections}$$

$$\underline{\text{LLLLL}} = \frac{(1733 \times 12) - 00200}{2} = 10298$$

–10 .5” (13mm) Extruded Plastic



Item	Part Number	Description
1	200121	Guide Retaining Clip
2	200054P	Snap–On Guide (per foot)
3	3810000–LLLLL (see Formulas)	2200 Guide
4	639971M	Single Drop–in Tee Bar
5	920694M	Socket Head Screw M6 x 20mm

Length Formulas

LLLLL = $\dfrac{\text{(Conveyor Length XXXX) X 12 – Tail Factor}}{\text{\# of Sections of Conveyor}}$

Tail Factor =

00000	**for center drive with transfer tail both ends**
00100	**for end drive with one transfer tail**
00200	**for end drive and center drives with standard tails**
00325	**for All Cleated Conveyors**

# of Conveyor Sections = $\dfrac{\text{(Conveyor Length XXXX – 0100)}}{1200}$

XXXX = Conveyor Length (XX.XX ft)

Example

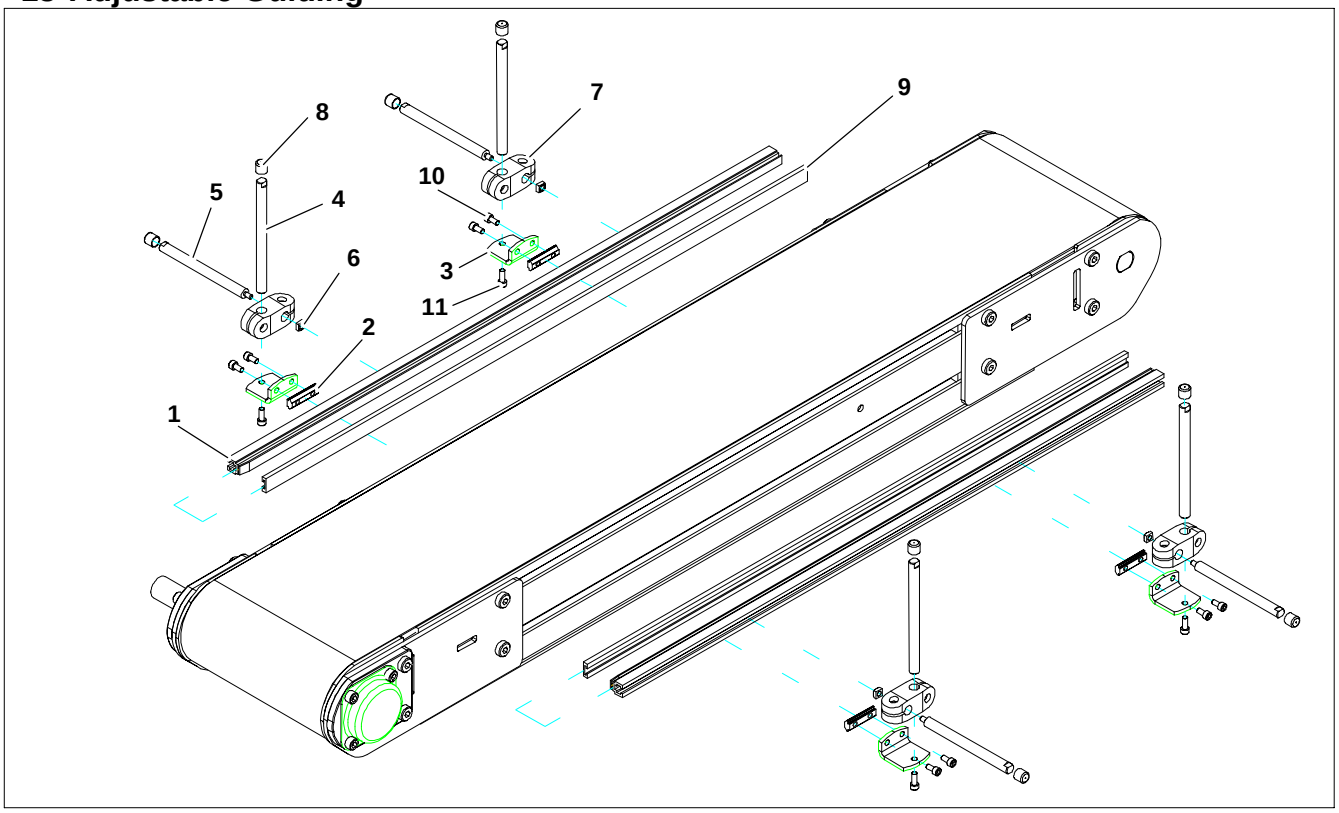
17’4” End Drive Conveyor with Standard Tails

Conveyor Length = 1733
Tail Factor = 00200

# of Sections (round up)= $\dfrac{(1733 - 0100)}{1200}$ **= 1.36 = 2 Sections**

LLLLL = $\dfrac{(1733 \times 12) - 00200}{2}$ **= 10298**

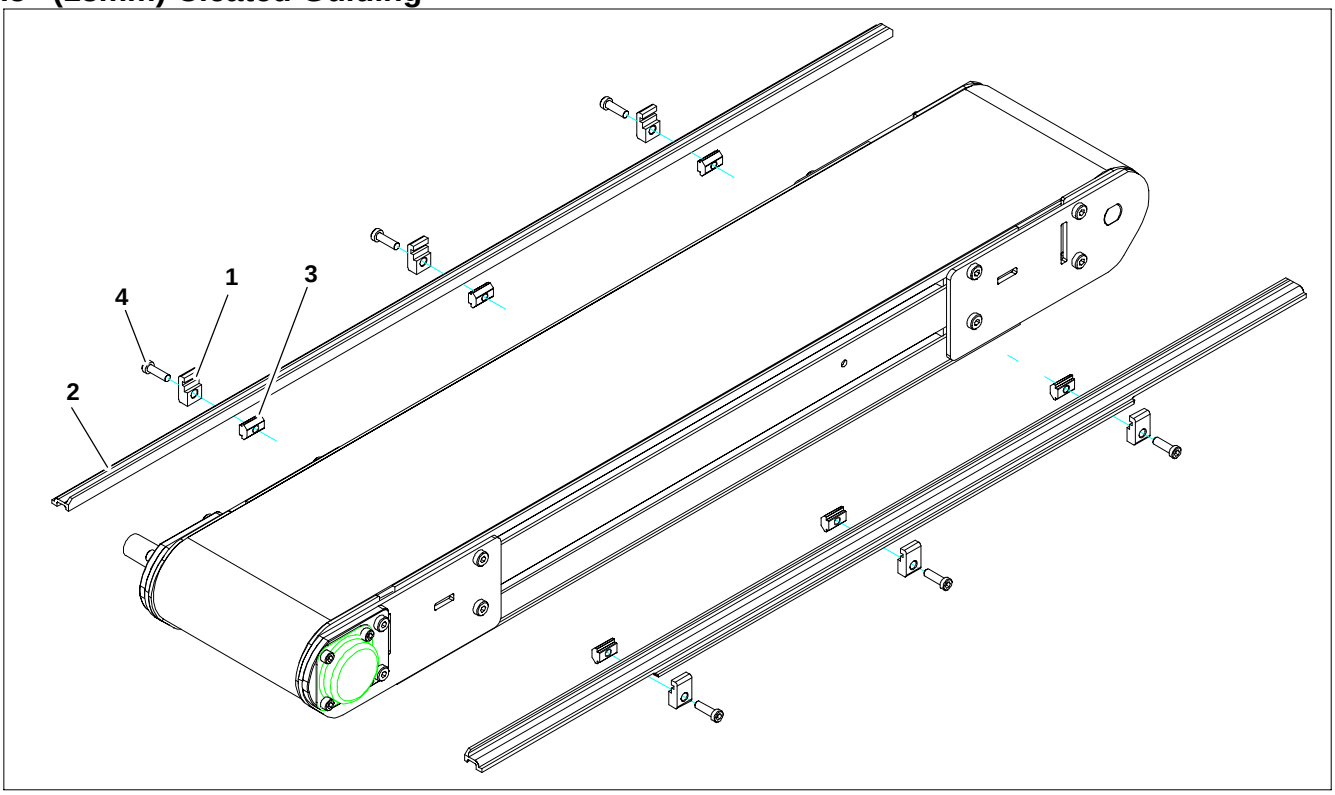
–13 Adjustable Guiding



Item	Part Number	Description
1	202983	Aluminum Profile Guide 2’ (610mm)
	202984	Aluminum Profile Guide 3’ (914mm)
	202985	Aluminum Profile Guide 4’ (1219mm)
	202986	Aluminum Profile Guide 5’ (1524mm)
	202987	Aluminum Profile Guide 6’ (1829mm)
	202988	Aluminum Profile Guide 7’ (2134mm)
	202989	Aluminum Profile Guide 8’ (2438mm)
	202990	Aluminum Profile Guide 9’ (2743mm)
	202991	Aluminum Profile Guide 10’ (3048mm)
	202992	Aluminum Profile Guide 11’ (3353mm)
	202993	Aluminum Profile Guide 12’ (3658mm)
	202994	Aluminum Profile Guide 13’ (3962mm)

2	200830M	Drop–In Tee Bar
3	202004	Mounting Bracket
4	202027M	Guide Mounting Shaft Vertical
5	202028M	Guide Moutning Shaft Horizontal
6	674175MP	Square Nut
7	807–652	Cross Block
8	807–948	Vinyl Shaft Cap
9	614068P	Flat Extruded Guide (per foot)
10	920612M	Socket Head Screw M6 x 12mm
11	920616M	Socket Head Screw M6 x 16mm

.5” (13mm) Cleated Guiding



Item	Part Number	Description
1	200121	Guide Retaining Clip
2	381600–LLLLL (see Formulas)	2200 Guide .47” (13mm) Cleated
3	639971M	Drop–In Tee Bar
4	920694M	Socket Head Screw M6 x 20mm

Length Formulas

LLLLL = $\dfrac{\text{(Conveyor Length XXXX) X 12 – Tail Factor}}{\text{\# of Sections of Conveyor}}$

Tail Factor =

00000	**for center drive with transfer tail both ends**
00100	**for end drive with one transfer tail**
00200	**for end drive and center drives with standard tails**
00325	**for All Cleated Conveyors**

# of Conveyor Sections = $\dfrac{\text{(Conveyor Length XXXX – 0100)}}{1200}$

XXXX = Conveyor Length (XX.XX ft)

Example

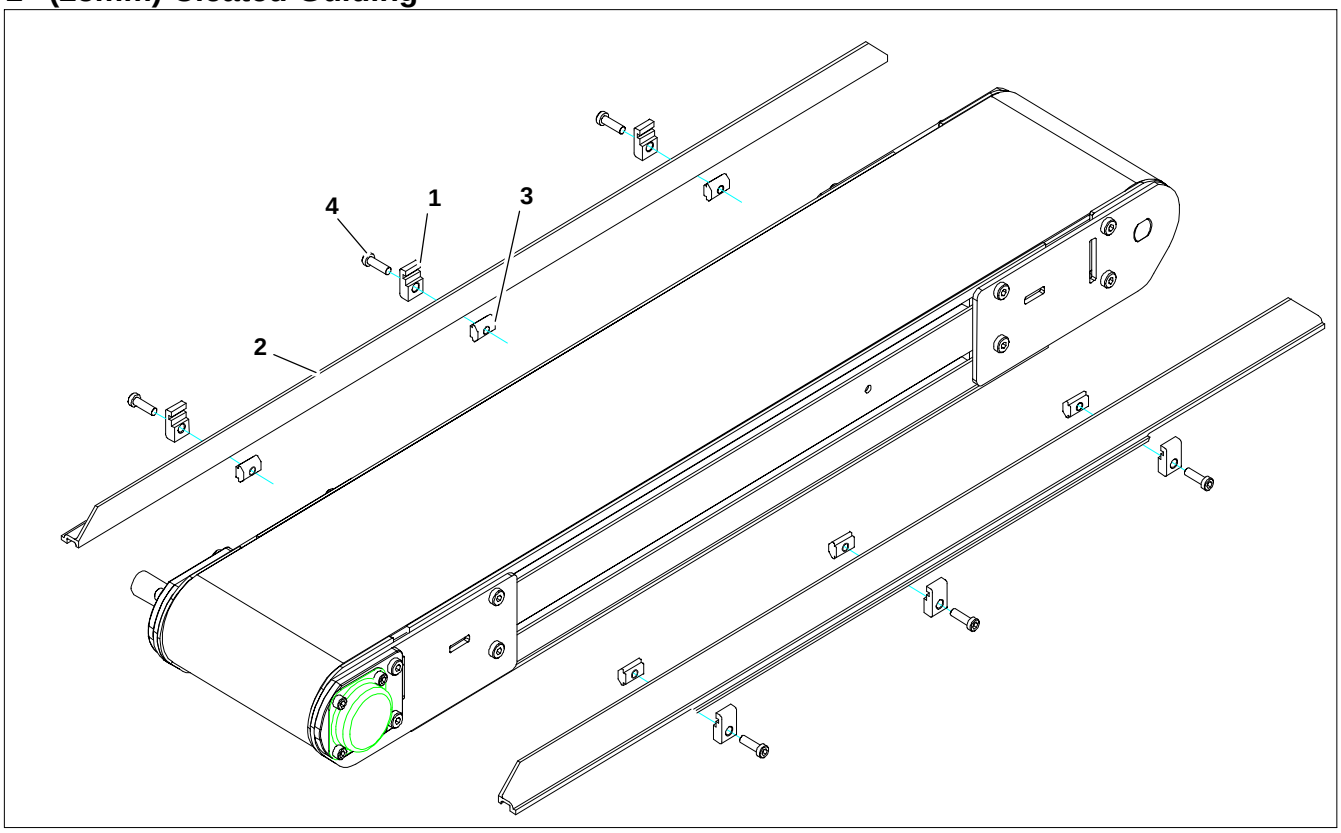
17’4” End Drive Conveyor with Standard Tails

Conveyor Length = 1733
Tail Factor = 00200

# of Sections (round up)= $\dfrac{(1733 - 0100)}{1200}$ **= 1.36 = 2 Sections**

LLLLL = $\dfrac{(1733 \times 12) - 00200}{2}$ **= 10298**

1” (25mm) Cleated Guiding



Item	Part Number	Description
1	200121	Guide Retaining Clip
2	See Chart Below	3200 Guide 1” (25mm) Cleated
3	639971M	Drop–In Tee Bar
4	920694M	Socket Head Screw M6 x 20mm

Item 2: 3200 Guide		
# of Sections (see Formulas)		End Guide (for LLLLL See Formulas)
1	Each Side	381735–LLLLL
2	Left Hand	381736–LLLLL
	Right Hand	381737–LLLLL
3 or More	Left Hand	381736–LLLLL
	Middle Sections	381700–LLLLL
	Right Hand	381737–LLLLL

Length Formulas

LLLLL = $\dfrac{\text{(Conveyor Length XXXX) X 12 – Tail Factor}}{\text{\# of Sections of Conveyor}}$

Tail Factor =

- **00000** for center drive with transfer tail both ends
- **00100** for end drive with one transfer tail
- **00200** for end drive and center drives with standard tails
- **00325** for All Cleated Conveyors

# of Conveyor Sections = $\dfrac{\text{(Conveyor Length XXXX – 0100)}}{1200}$

XXXX = Conveyor Length (XX.XX ft)

Example

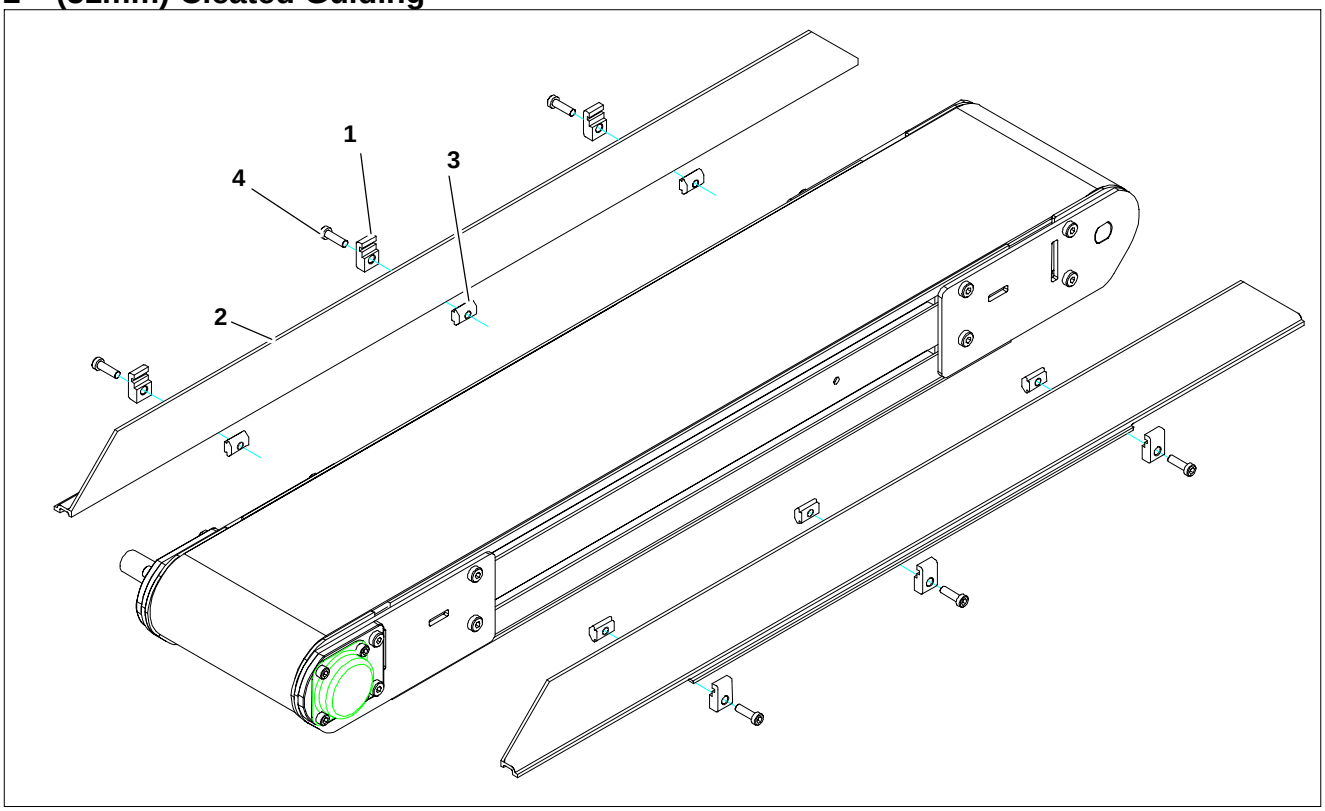
17’4” End Drive Conveyor with Standard Tails

Conveyor Length = 1733
Tail Factor = 00200

# of Sections (round up)= $\dfrac{(1733 - 0100)}{1200}$ **= 1.36 = 2 Sections**

LLLLL = $\dfrac{(1733 \times 12) - 00200}{2}$ **= 10298**

2” (51mm) Cleated Guiding



Item	Part Number	Description
1	200121	Guide Retaining Clip
2	See Chart Below	3200 Guide 2.3” Cleated
3	639971M	Drop–In Tee Bar
4	920694M	Socket Head Screw M6 x 20mm

Item 2: 3200 Guide		
# of Sections (see Formulas)		End Guide (for LLLLL See Formulas)
1	Each Side	381935–LLLLL
2	Left Hand	381936–LLLLL
	Right Hand	381937–LLLLL
3 or More	Left Hand	381936–LLLLL
	Middle Sections	381900–LLLLL
	Right Hand	381937–LLLLL

Length Formulas

$$\underline{\text{LLLLL}} = \frac{(\text{Conveyor Length } \underline{\text{XXXX}}) \text{ X } 12 - \text{Tail Factor}}{\text{\# of Sections of Conveyor}}$$

Tail Factor =

00000	for center drive with transfer tail both ends
00100	for end drive with one transfer tail
00200	for end drive and center drives with standard tails
00325	for All Cleated Conveyors

$$\text{\# of Conveyor Sections} = \frac{(\text{Conveyor Length } \underline{\text{XXXX}} - 0100)}{1200}$$

XXXX = Conveyor Length (XX.XX ft)

Example

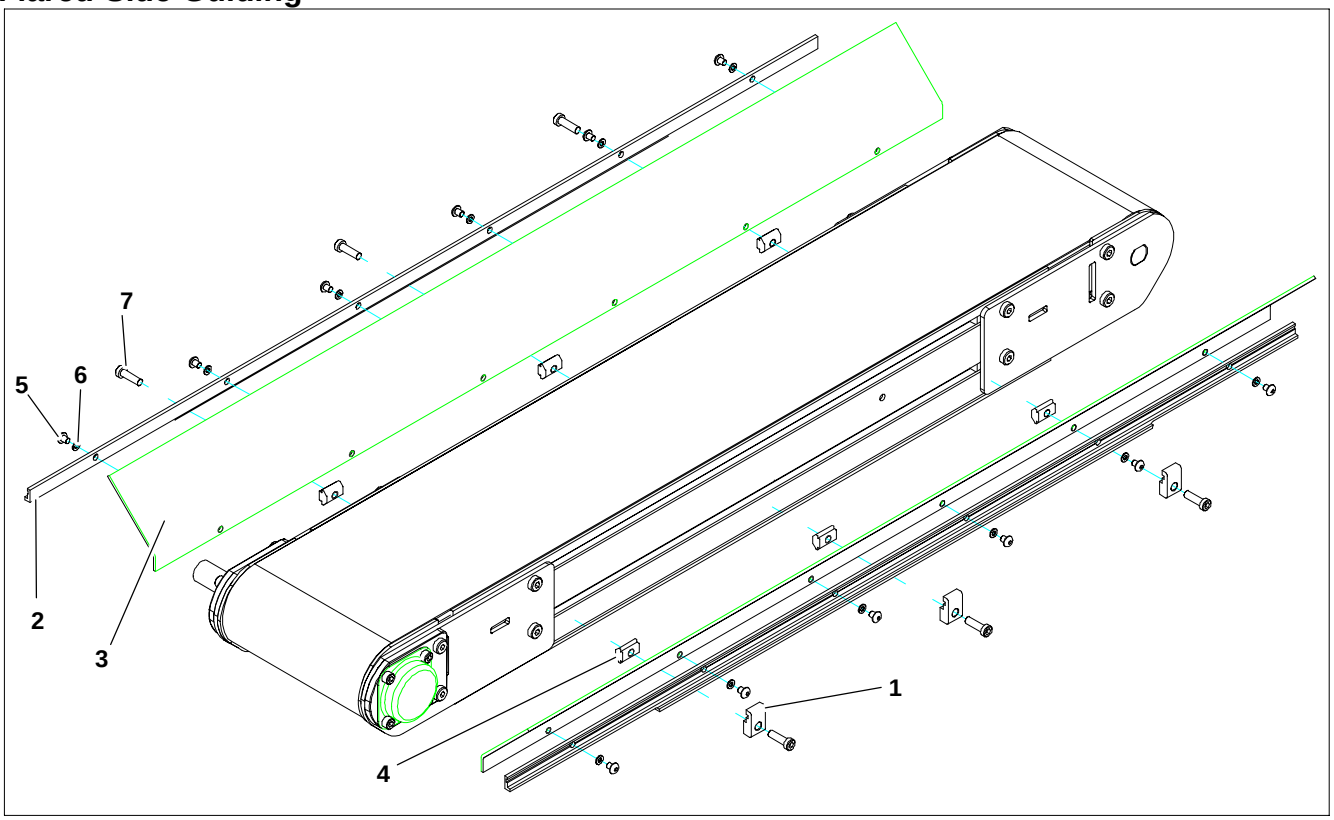
17’4” End Drive Conveyor with Standard Tails

Conveyor Length = 1733
Tail Factor = 00200

$$\text{\# of Sections (round up)} = \frac{(1733 - 0100)}{1200} = 1.36 = 2 \text{ Sections}$$

$$\underline{\text{LLLLL}} = \frac{(1733 \times 12) - 00200}{2} = 10298$$

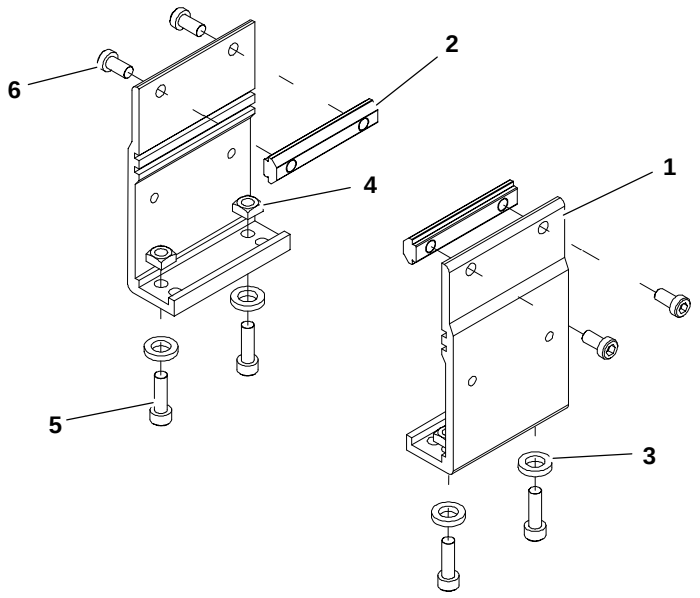
Flared Side Guiding



Item	Part Number	Description
1	200121	Guide Retaining Clip
2	202212	Side–Flare Mounting Guide 2' (610mm)
	202213	Side–Flare Mounting Guide 3' (914mm)
	202214	Side–Flare Mounting Guide 4' (1219mm)
	202215	Side–Flare Mounting Guide 5' (1524mm)
	202216	Side–Flare Mounting Guide 6' (1829mm)
3	202522M	Flared Guide 45° 2' (610mm)
	202523M	Flared Guide 45° 3' (914mm)
	202524M	Flared Guide 45° 4' (1219mm)
	202525M	Flared Guide 45° 5' (1524mm)
	202526M	Flared Guide 45° 6' (1829mm)
4	639971	Drop–In Tee Bar
5	910506M	Button Head Screw M5 x 6mm
6	911–512	Washer
7	920694M	Cap Low–Head Screw M6 x 20mm

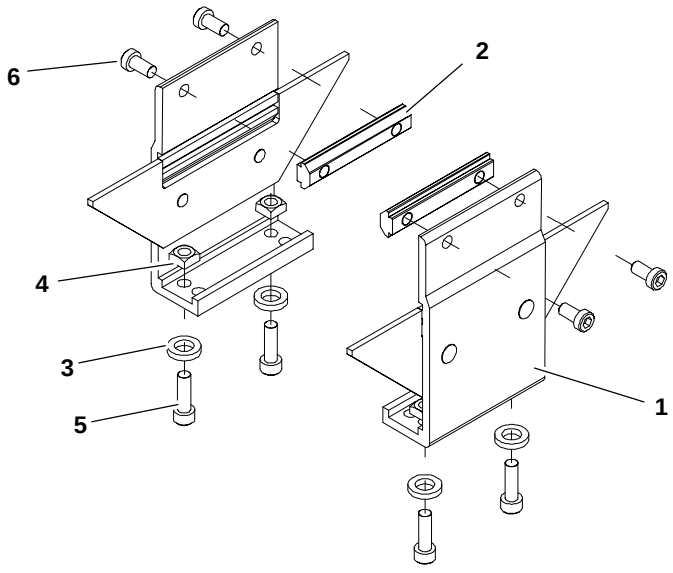
Service Parts

Flat Belt Mounting Brackets



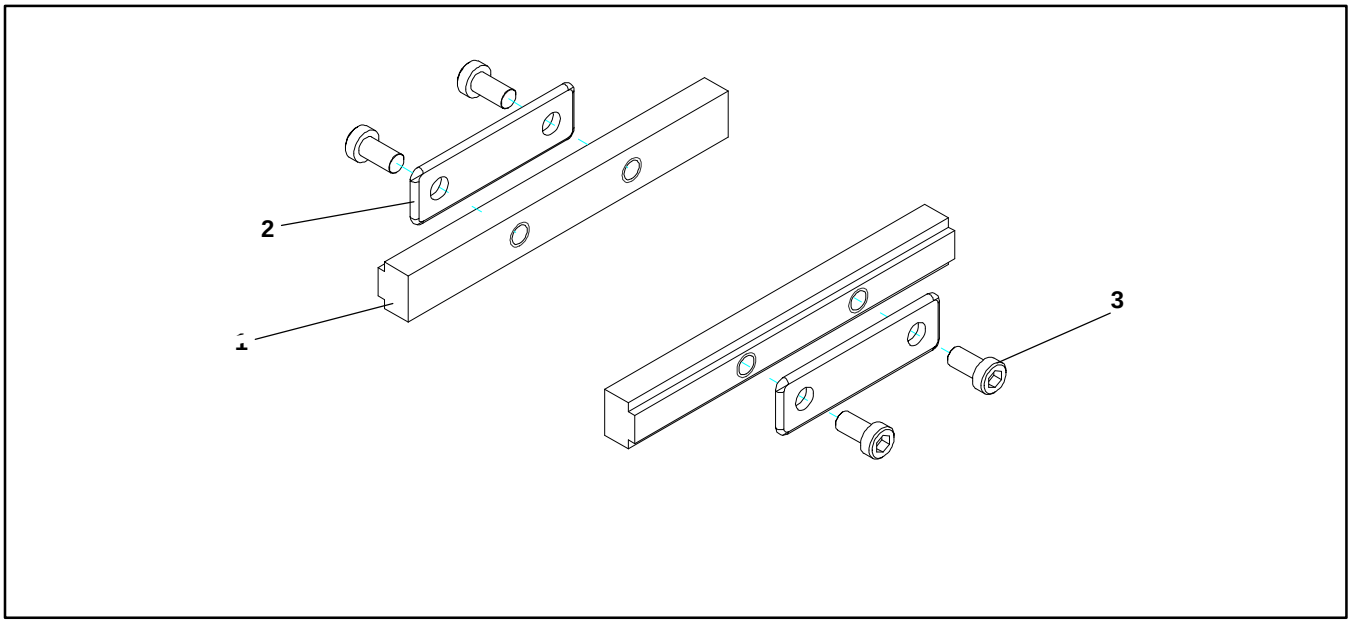
Item	Part Number	Description
1	240831	Stand Mount
2	300150M	Drop–In Tee Bar
3	605279P	Washer
4	807–920	Square Nut M6 5mm x 10mm
5	920620M	Socket Head Screw M6 x 20mm
6	920692M	Socket Head Screw M6 x 12mm

Cleated Belt Mounting Brackets



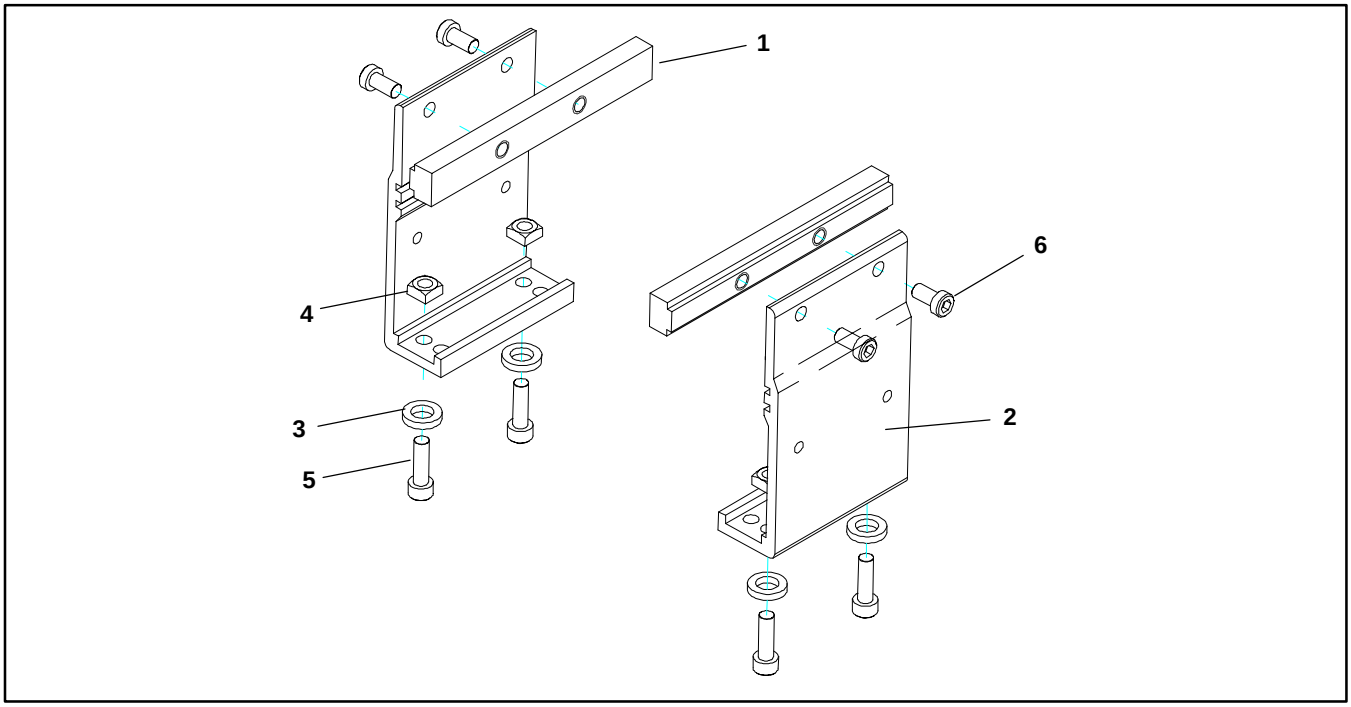
Item	Part Number	Description
1	240836	Cleated Mounting Assembly
2	300150M	Drop–In Tee Bar
3	605279P	Washer
4	807–920	Square Nut M6 5mm x 10mm
5	920620M	Socket Head Screw M6 x 20mm
6	920692M	Socket Head Screw M6 x 12mm

Connecting Assembly without Stand Mount



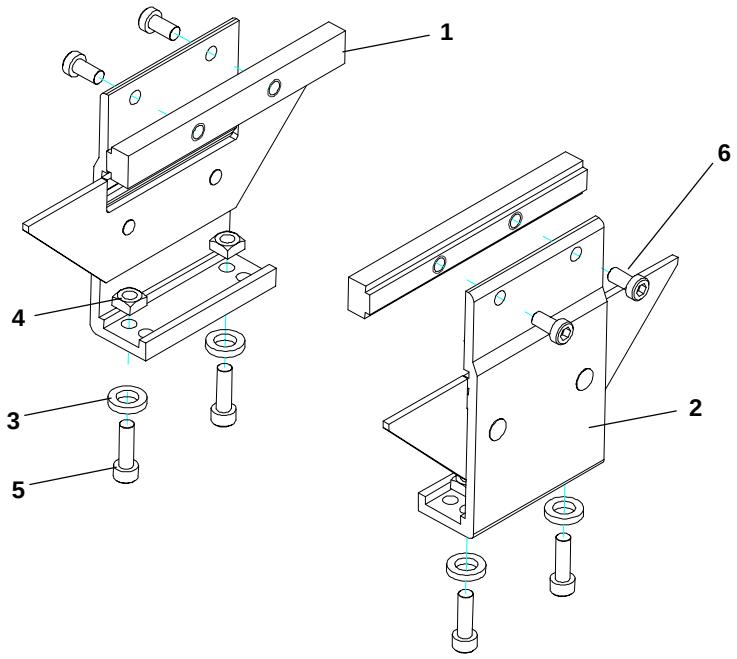
Item	Part Number	Description
1	240858	Frame Bar Connector
2	240859	Intermediate Clamp Plate
3	920692M	Socket Head Screw M6 x 12mm

Flat Belt Connecting Assembly with Stand Mount



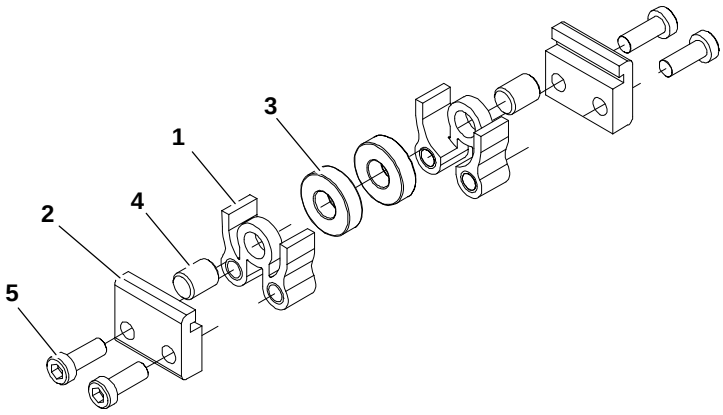
Item	Part Number	Description
1	240858	Frame Connector Bar
2	240837	Stand Mount Joint
3	605279P	Washer
4	807–920	Square Nut M6 5mm x 10mm
5	920620M	Socket Head Screw M6 x 20mm
6	920692M	Socket Head Screw M6 x 12mm

Cleated Belt Connecting Assembly with Stand Mount



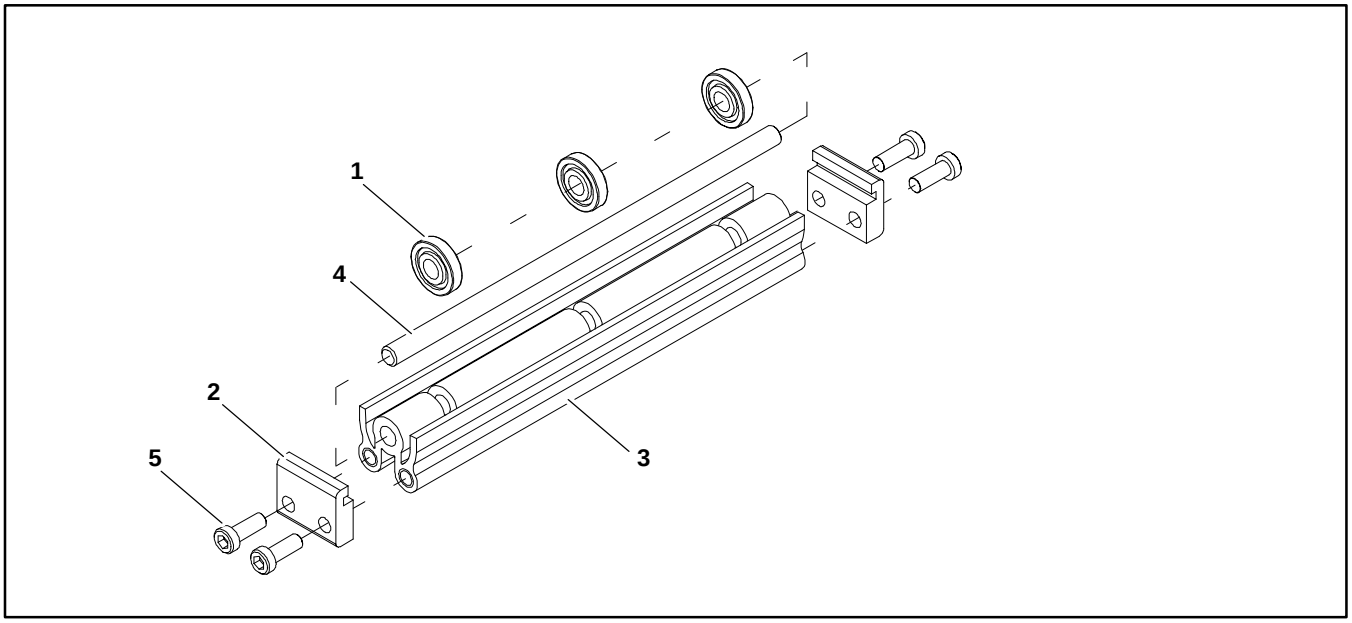
Item	Part Number	Description
1	240858	Frame Connector Bar
2	240846	Cleat Stand Bracket Assembly
3	605279P	Washer
4	807–920	Square Nut M6 5mm x 10mm
5	920620M	Socket Head Screw M6 x 20mm
6	920692M	Socket Head Screw M6 x 12mm

4” (102mm) to 6” (152mm) Flat Belt Return Roller



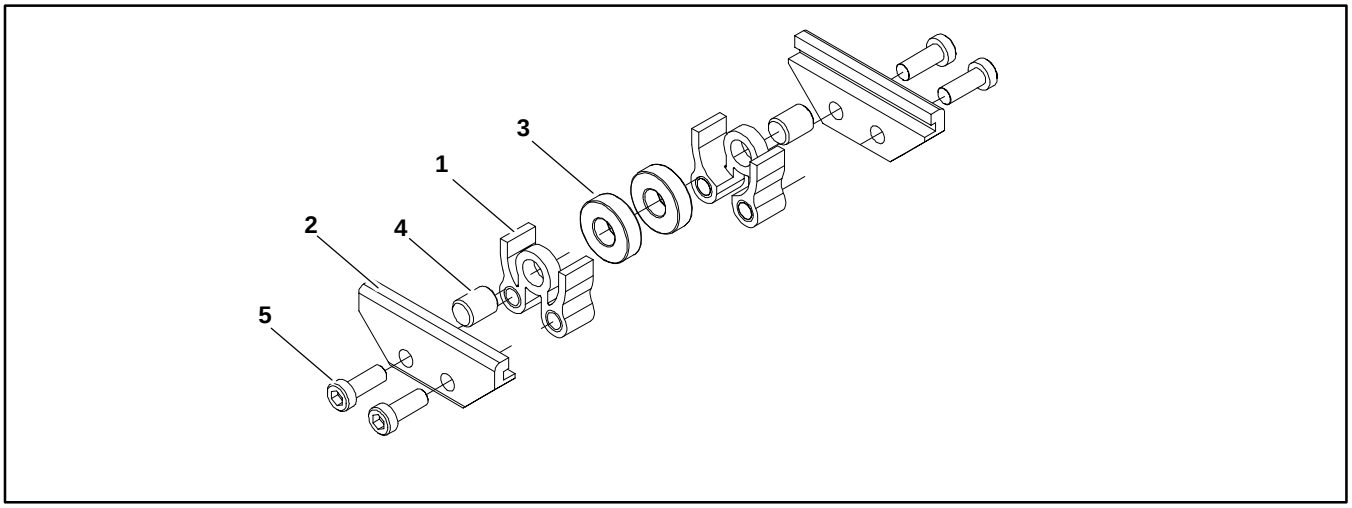
Item	Part Number	Description
1	240825	Short Return Roller Guard
2	240827	Return Roller Clip
3	802–123	Bearing
4	913–100	Dowel Pin
5	920693M	Socket Head Screw M6 x 16mm

8” (203mm) to 48” (1219mm) Flat Belt Return Roller



Item	Part Number	Description
1	240826	Return Roller
2	240827	Return Roller Clip
3	2409WW	Return Roller Guard
4	2410WW	Return Roller Rod
5	920693M	Socket Head Screw M6 x 16mm
WW = Conveyor width reference: 08 – 48 in 02 increments		

Cleated Belt Return Roller



Item	Part Number	Description
1	240825	Short Return Roller Guard
2	240828	Cleated Return Roller Clip
3	802–123	Bearing
4	913–100	Dowel Pin
5	920693M	Socket Head Screw M6 x 16mm

Conveyor Belt Part Number Configuration

Flat Belt Conveyor Model Number **3 T D M WW LLLL A PP BB**

Cleated Belt Conveyor Model Number **3 T C M WW LLLL A SSSS**

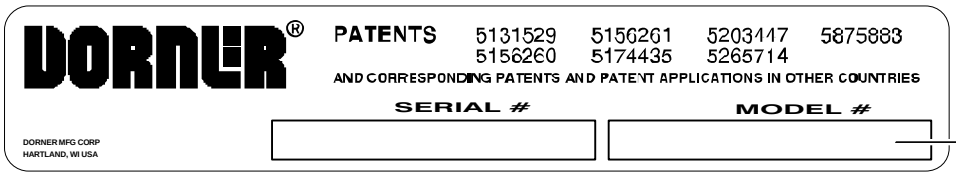


Figure 63

Flat Belt Part Number Configuration

Refer to Dorner patent plate (Figure 63). From the model number, determine conveyor tracking (”T”), drive/tail type (”D”), width (“WW”), length (“LLLL”) and belt type (“BB”). Use data to configure belt part number as indicated below.

3 T D M WW LLLL / BB

(Fill In)
3 _ _ M __ ____ / __

Cleated Belt Part Number Configuration

Refer to Dorner patent plate (Figure 63). From the model number, determine conveyor tracking (”T”), cleat type (”C”), width (“WW”), length (“LLLL”), and cleat spacing (“SSSS”). Use data to configure belt part number as indicated below. *****Add “L” for low friction cleated belt.

3 T C M WW LLLL / SSSS L*

(Fill In)
3 _ _ M __ ____ / ____ L*

Notes

Return Policy

No returns will be accepted without prior written factory authorization. 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. Item(s) being returned.
3. Reason for return.
4. Customer's original order number used when ordering the item(s).
5. Dorner or distributor invoice number.

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

There will be a 15% restocking charge on all new items returned for credit where Dorner was not at fault. These will not be accepted after 60 days from original invoice date. The restocking charge covers inspection, cleaning, disassembly, and reissuing 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. Feel free to contact Dorner for the name of your local representative. Our technical sales and service staff will gladly help with your questions on Dorner products.

For a copy of Dorner's Limited Warranty, contact factory, distributor, service center or visit our website at www.dorner.com.

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

DORNER®

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