DORNER®

Installation, Maintenance & Parts Manual

3200 Series Flat Belt LPZ Conveyors

Table of Contents

Warnings − General Safety

WARNING

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

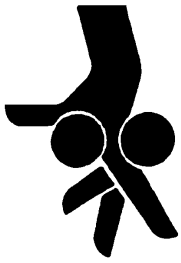
DANGER

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

KEEP OFF CONVEYORS.

DANGER

DO NOT OPERATE CONVEYORS IN AN EXPLOSIVE ENVIRONMENT.



WARNING

LPZ Series Conveyors are not reversible. Reversing creates pinch points which can cause severe injury.

DO NOT REVERSE LPZ SERIES CONVEYORS.

WARNING

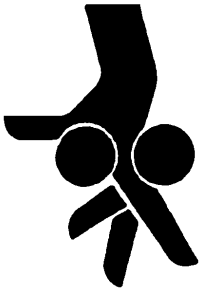
Gearmotors may be HOT.

DO NOT TOUCH Gearmotors.

WARNING

Exposed moving parts can cause severe injury.

LOCK OUT POWER before removing guards or performing maintenance.



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	Knuckle
G	Support Stand
H	Drive End
I	Idler/Tension End

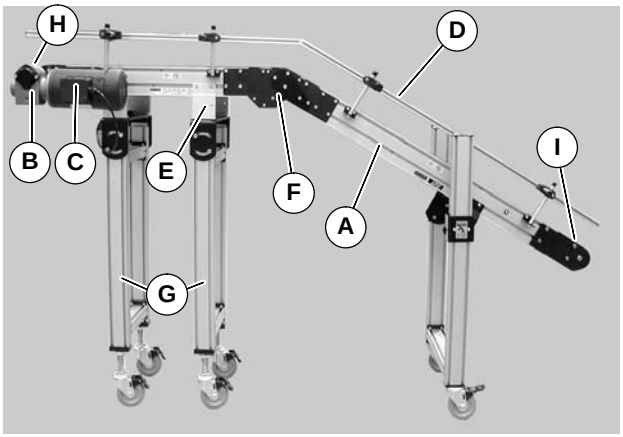


Figure 1

Specifications

Models:

Flat Belt LPZ Series End Drive Conveyor

3 E 1 0 M WW LLLL−LLLL−LLLL A PP BB

- **Belt Type***
- **Conveyor Profile***
- **Output Shaft Position***
- **Conveyor Section Length Reference**
- **Conveyor Section Length Reference**
- **Conveyor Section Length Reference**
- **Conveyor Width Reference**
- **Document Language, M = English**
- **0 = 3” tails**
- **1 = 1” tails**
- **1 = Manual tracking and supports**
- **2 = V-guide tracking and supports**
- **3 = Manual tracking**
- **4 = V−guide tracking**
- **E = Elevating**
- **D = Declining**

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

Conveyor Supports:

Maximum Distances:

J = 24¨ (610 mm) (Drive End)

K = 12 ft (3658 mm)

L = 36¨ (914 mm) (Idler End)

Maximum Angle:

M = 0 to 35 degrees

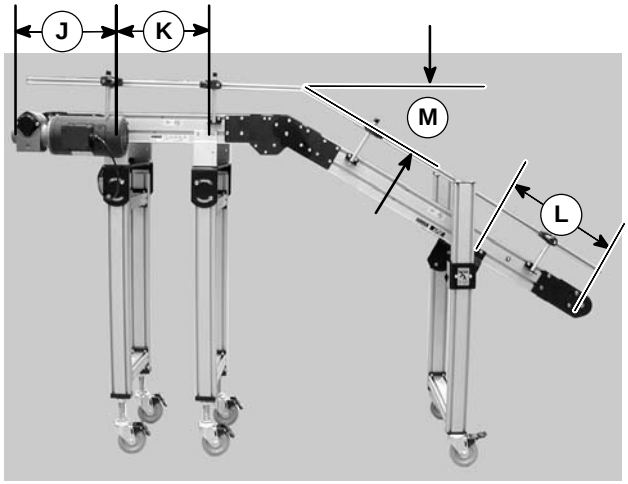


Figure 2

Specifications

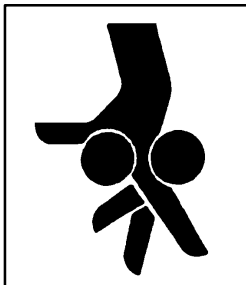
Specifications:

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 Section Length Reference (LLLL)	0200 to 3800 in 0001 increments (2 ft to 38 ft in 0.12" increments)										
Total Conveyor Length	4 ft (1219mm) 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										

NOTE: Maximum conveyor loads based on:

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

Installation



WARNING

LPZ Series Conveyors are not reversible. Reversing creates pinch points which can cause severe injury.

DO NOT REVERSE LPZ SERIES CONVEYORS.

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

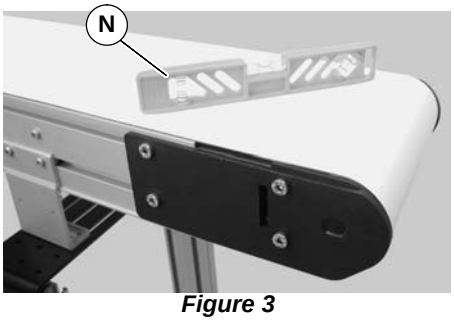


Figure 3

Required Tools

- Hex-key wrenches: 4 mm, 5 mm
- Level
- Torque wrench
- 8mm hex, open end wrench

Recommended Installation Sequence

- Install support stands (see accessory instructions)
- Assemble conveyor (if required)
- Attach mounting brackets to conveyor (see page 6 for instructions)
- Adjust angle (see page 13 for instructions)
- Attach conveyor to stands
- Install return rollers on conveyor (see page 6 for instructions)
- Mount gearmotor mounting package (see accessory instructions)
- Attach guides/accessories (see page NO TAG through NO TAG 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 6.

Conveyors Longer Than 13 ft (3962 mm)

1. Locate components (see Figure 4).

Installation Component List	
O	Conveyor frame with knuckle
P	Conveyor frame with idler end
Q	Belt
R	Knuckle
S	Intermediate Conveyor Frame (required for conveyor sections over 13’ (3962 mm) long)

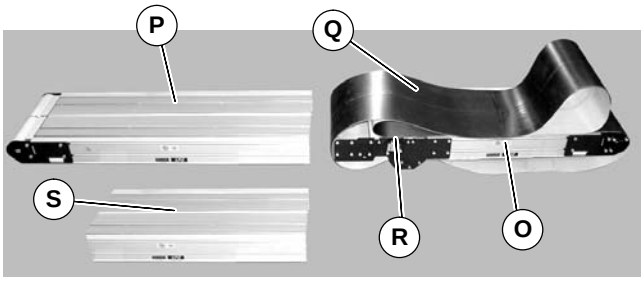


Figure 4

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

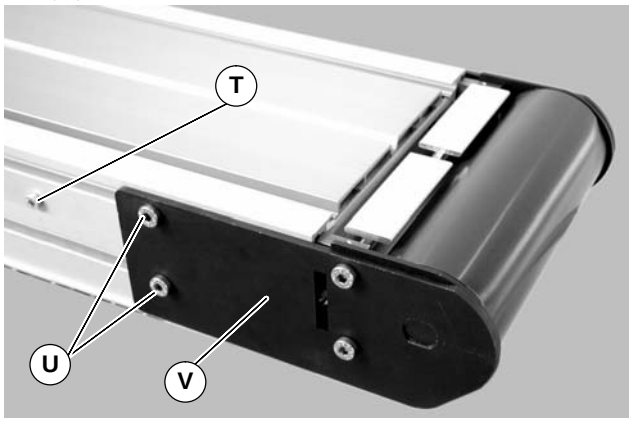


Figure 5

Figure 6

3. Roll out conveyor belt (Q of Figure 7). Loosen (4) screws (X) on both sides of knuckle (R). Slide frame (P) into knuckle (R). Tighten screws (X) to 60 in-lb (7 N−m) on both sides of conveyor.

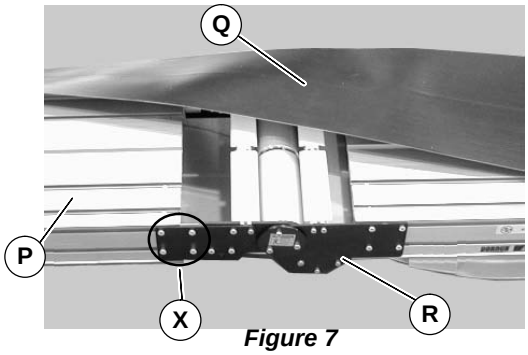


Figure 7

4. Join additional conveyor sections if necessary and install connector brackets (Y of Figure 8) or connector/mount brackets (YA) and screws (Z) on both sides as indicated. Tighten screws to 60 in-lb (7 Nm).

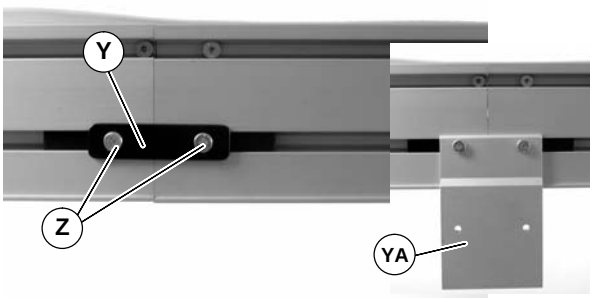


Figure 8

5. Slide belt (Q of Figure 9) over assembled conveyor sections (AA).

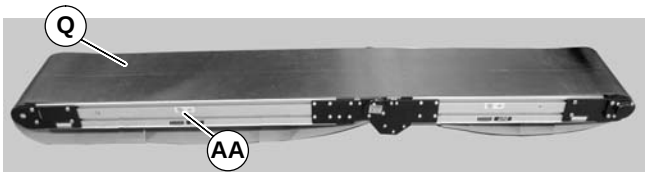
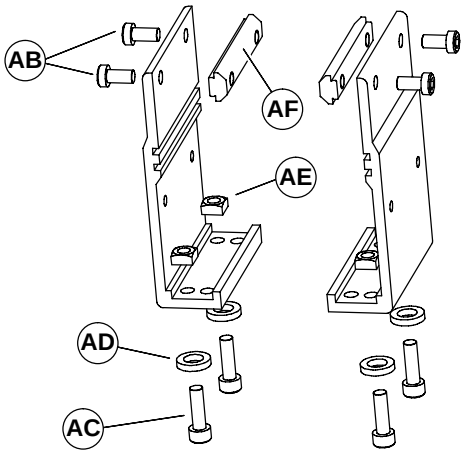


Figure 9

6. Tension conveyor belt, refer to "Conveyor Belt Tensioning" on page 11.
7. Install mounting brackets and return rollers. Refer to "Mounting Brackets" on page 6 and "Return Roller" on page 6.
8. Adjust conveyor angle. See "Conveyor Angle Adjustment" on page 13.

Mounting Brackets

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



Mounting Brackets for Flat Belt Conveyor

Figure 10

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

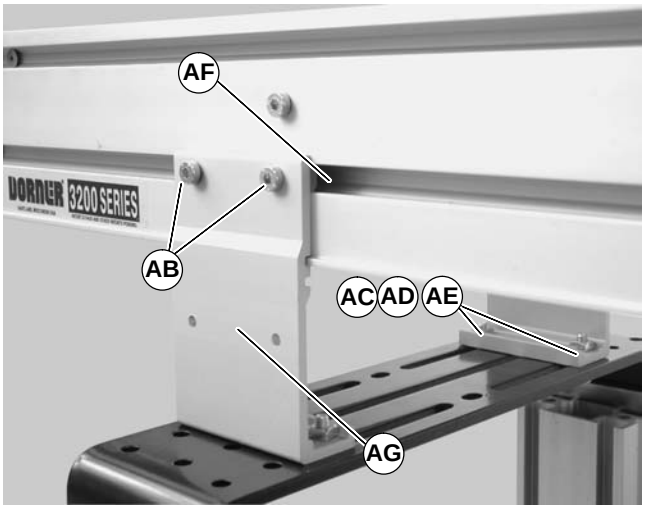


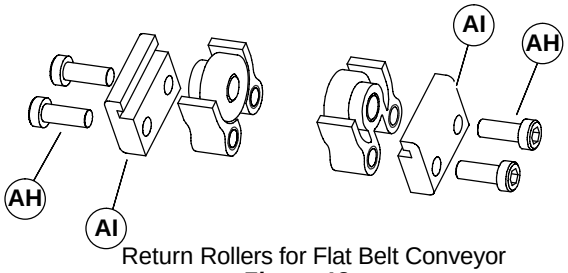
Figure 11

4. Fasten brackets to support stand with mounting screws (AC of Figure 11), washers (AD) and nuts (AE).
5. Tighten screws (AB & AC of Figure 11) to 60 in-lb (7 Nm).

Return Rollers

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

1. Locate return rollers. Exploded view shown in Figure 12.



Return Rollers for Flat Belt Conveyor

Figure 12

2. Remove screws (AH of Figure 12) and clips (AI) from roller assembly.
3. Install roller assemblies (AJ of Figure 13) as shown. Tighten screws (AH) to 60 in-lb (7 Nm).

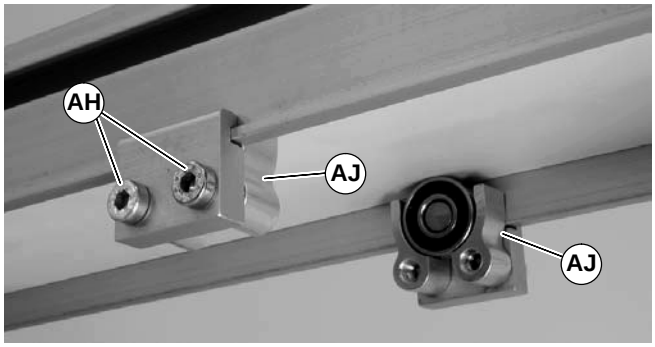


Figure 13

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

1. Locate return rollers. Exploded view shown in Figure 14.

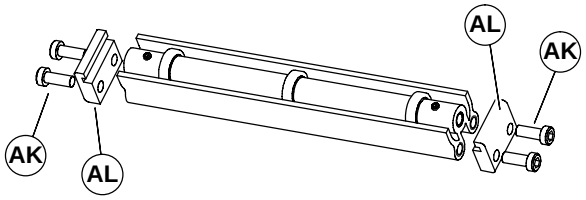


Figure 14

2. Remove screws (AK of Figure 14) and clips (AL) from roller assembly.
3. Install roller assembly as shown (AM of Figure 15). Tighten screws (AK) to 60 in-lb (7 Nm).

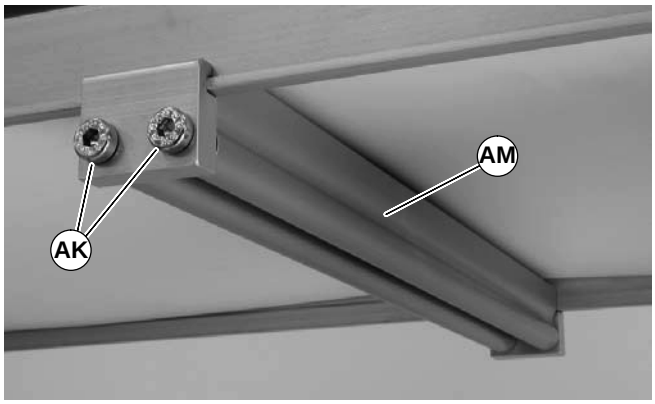


Figure 15

Preventive Maintenance and Adjustment

Required Tools

Standard Tools

- Hex-key wrenches: 2.5 mm, 4 mm, 5 mm
- 8mm hex, open end wrench

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.

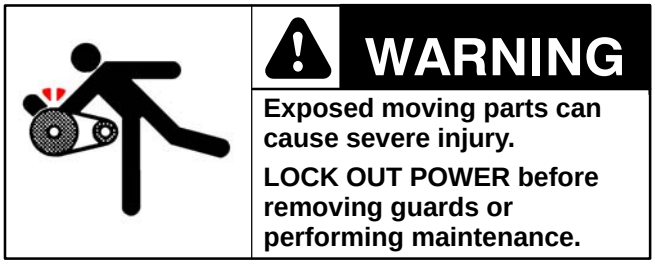
Cleaning

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



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 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 (T of Figure 16), push in head plate assembly (V): Loosen the pinion locking screw (T), adjust the pinion torque screw (W of Figure 17). On both sides of conveyor, loosen the two tail clamp bolts (U of Figure 16), and push head plate assembly (V) inward.

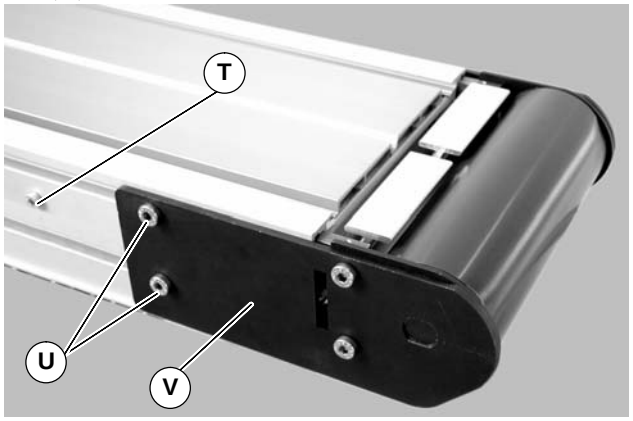


Figure 16

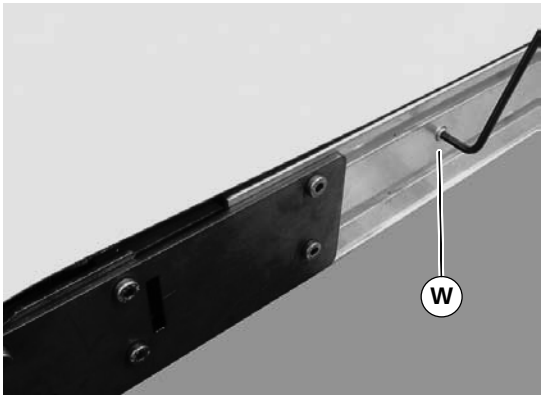


Figure 17

3. Remove screws (AN of Figure 18) on both sides of knuckle and remove guard (AO).

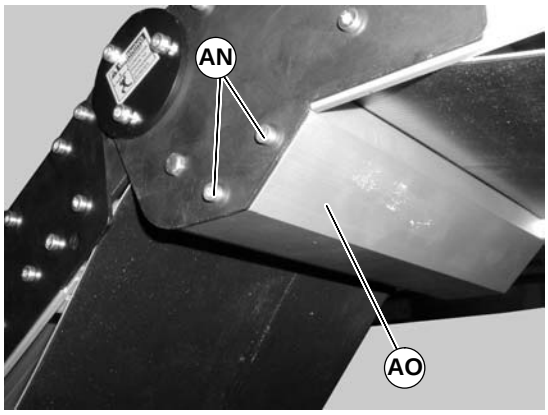


Figure 18

4. Push in hex posts (AP of Figure 19) and remove roller (AQ).

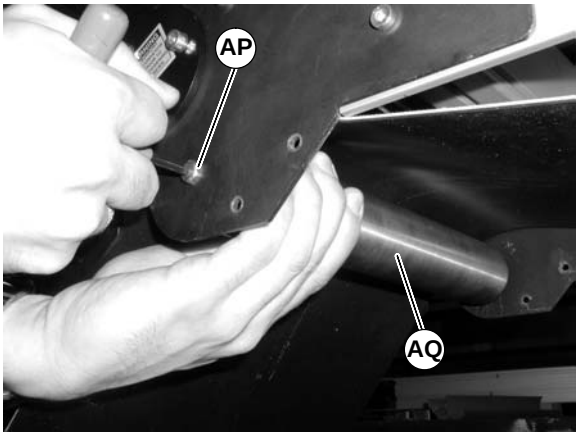


Figure 19

5. Remove belt (AR of Figure 20) from conveyor.

Figure 20

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 (AS of Figure 21) at both ends of the conveyor. Place an additional support stand under the drive motor (AT), if equipped. See **WARNING**.

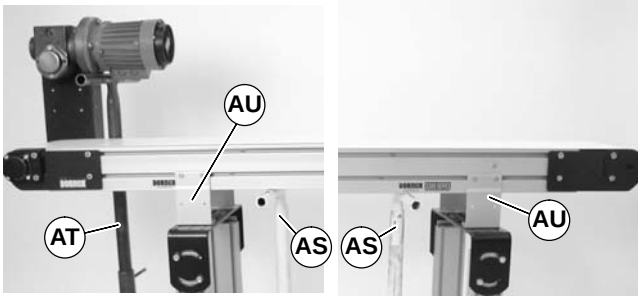


Figure 21

2. Remove mounting brackets (AU of Figure 21) 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 (T of Figure 22), push in head plate assembly (V): Loosen the pinion locking screw (T), adjust the pinion torque screw (W of Figure 23). On both sides of conveyor, loosen the two tail clamp bolts (U of Figure 22), and push head plate assembly (V) inward.

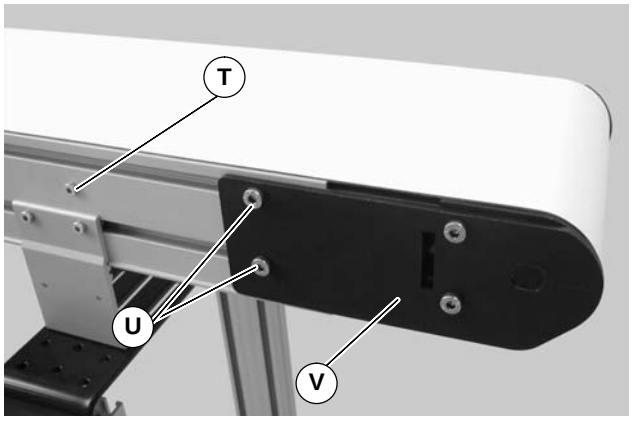


Figure 22

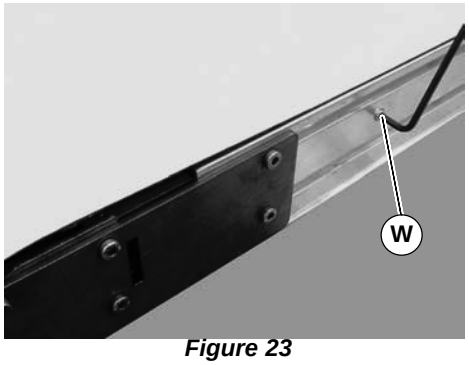


Figure 23

5. Remove screws (AN of Figure 24) on both sides of knuckle and remove guard (AO).

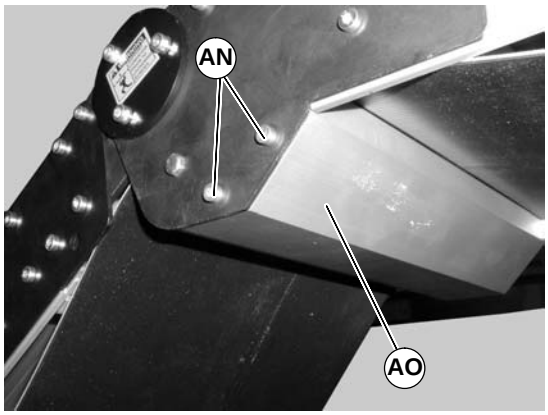


Figure 24

6. Push in hex posts (AP of Figure 25) and remove pulley (AQ).

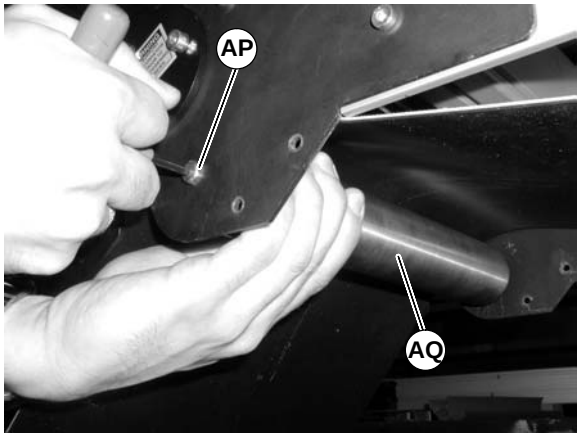


Figure 25

7. Remove belt (AR of Figure 26) from conveyor.

Figure 26

Belt Installation for Conveyor without Stands or Gearmotor Mounting Package

1. Orient belt so splice leading fingers (AV of Figure 27) point in the direction of belt travel as identified by the conveyor directional label (AW).

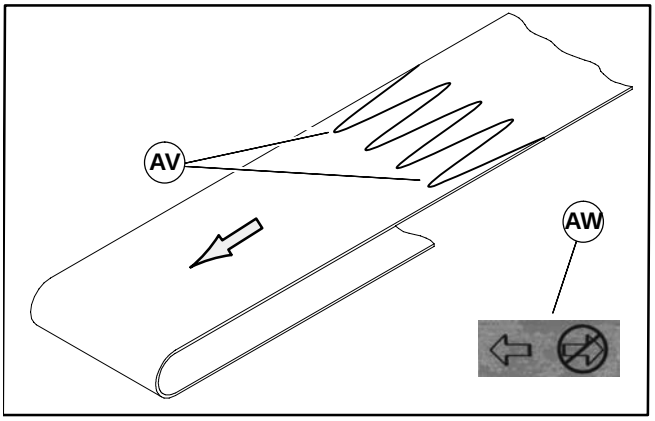


Figure 27

2. Slide belt onto the conveyor frame assembly.
3. Install spring loaded return pulley (AQ of Figure 28) into knuckle plate (AX).

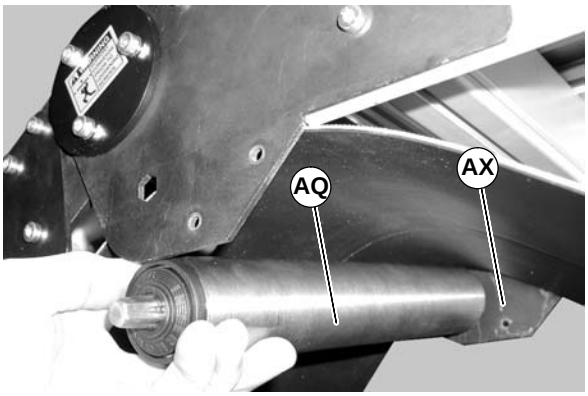


Figure 28

4. Install knuckle guard (AO of Figure 29) with screws (AN) on both sides of knuckle. Tighten screws to 25 in−lbs (3 N−m).

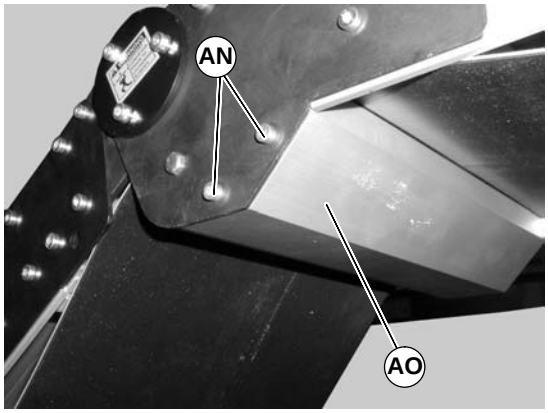


Figure 29

5. Tension belt. Refer to "Conveyor Belt Tensioning" on page 11.
6. 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 (AS of Figure 21) are placed at both ends of the conveyor. Place an additional support stand under the drive motor (AT), if equipped. See **WARNING**.

2. Orient belt so splice leading fingers (AV of Figure 27) point in the direction of belt travel as identified by the conveyor directional label (AW).
3. Install belt (AR of Figure 30) on conveyor. Lift conveyor slightly to avoid pinching belt on temporary support stands.

Figure 30

4. Re-install conveyor mounting brackets. Refer "Mounting Brackets" on page 6, steps 3 through 5.
5. Install spring loaded return pulley (AQ of Figure 31) into knuckle plate (AX).

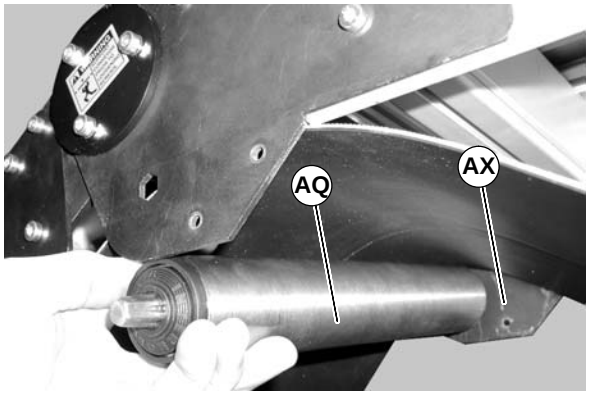


Figure 31

6. Install knuckle guard (AO of Figure 32) with screws (AN) on both sides of knuckle. Tighten screws to 25 in−lbs (3 N−m).

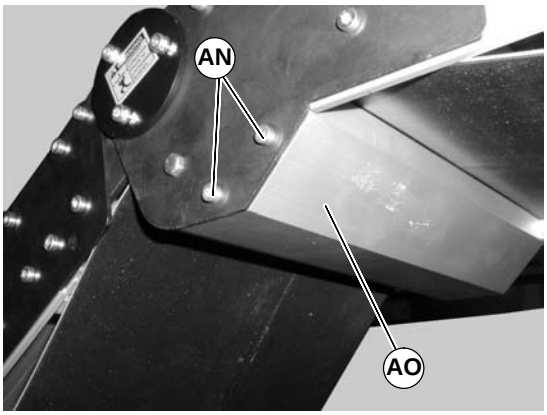


Figure 32

7. Tension belt. Refer to "Conveyor Belt Tensioning" on page 11.
8. 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.

1. On tension end of the conveyor, identified by the pinion locking screw (T of Figure 33), loosen the two tail clamp bolts(U), on both sides of conveyor.

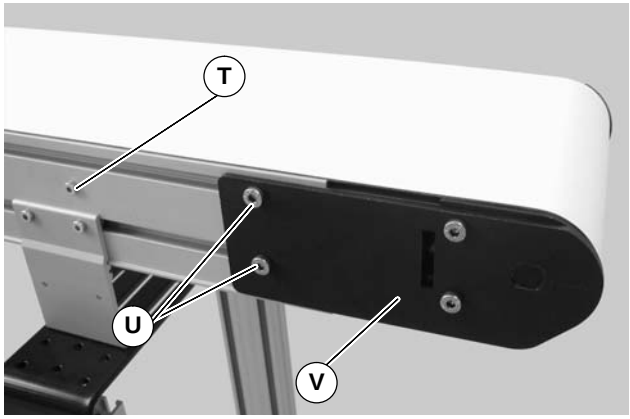


Figure 33

2. With 5mm hex wrench, hold pinion torque screw (W of Figure 34). Loosen the pinion locking screw (T of Figure 33) and turn the pinion torque screw(W) to extend head plate assembly.

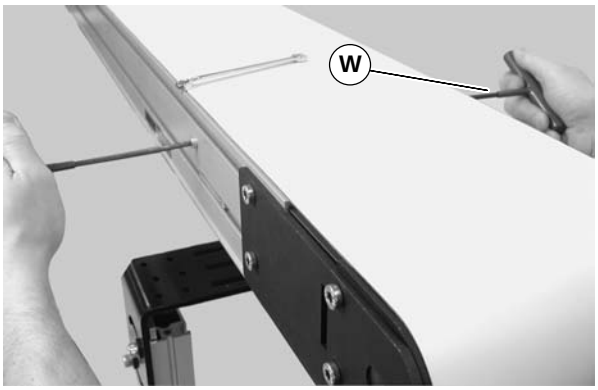


Figure 34

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 achieved. If proper tensioning can not be obtained before the belt life indicator is all black (BA of Figure 35) the belt must be replaced.

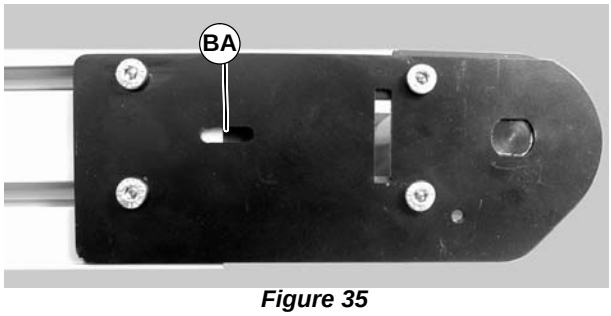


Figure 35

4. After adjusting proper tensioning, tighten the pinion locking screw (T of Figure 33) to 69 in−lbs (7.8 N−m), and tighten tail clamp bolts (U of Figure 33) on both sides of conveyor to 146 in-lb (16.5 N−m).
5. If belt tracking is necessary, refer to “Conveyor Belt Tracking” on page 12.

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 (T of Figure 33) and rotate the pinion torque screw (W of Figure 34) clockwise until contact with the head plate is made, then tighten the pinion locking screw (T) to 69 in−lbs (7.8 N−m)
2. On the side of conveyor to be adjusted, loosen two (2) tail clamp screws(U of Figure 36).

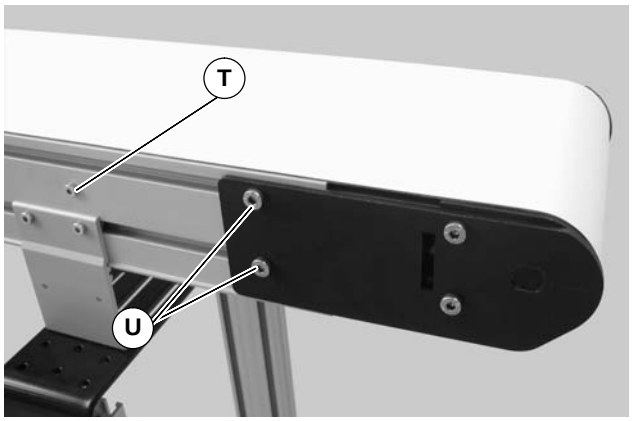


Figure 36

3. With the conveyor running, use wrench (BB of Figure 37) to rotate the tracking screw (BC of Figure 38) in small increments until the belt tracks in the center of the conveyor.

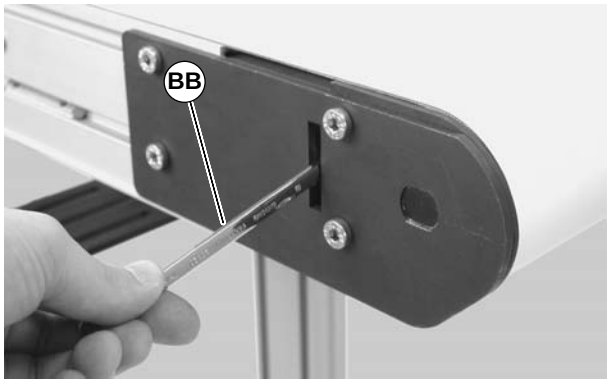


Figure 37

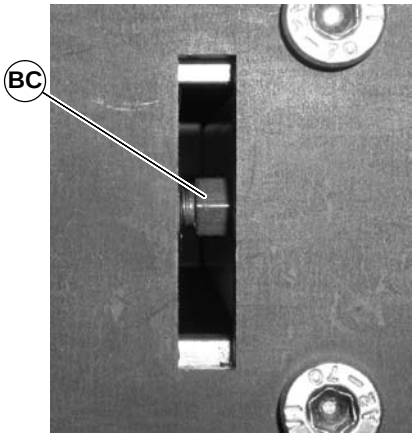


Figure 38

4. Re-tighten the head plate fastening screws (U) with a 5 mm hex-key wrench to 100 in-lb (12 Nm).

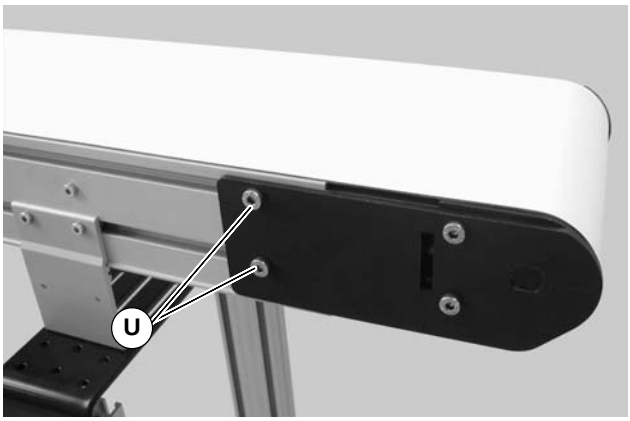


Figure 39

Conveyor Angle Adjustment

WARNING

Removing mounting brackets or adjustment screws without support under gearmotor and conveyor will cause conveyor to tip or drop, causing severe injury.

PROVIDE SUPPORT UNDERNEATH THE GEARMOTOR WHEN ADJUSTING THE CONVEYOR ANGLE

WARNING

Exposed moving parts can cause severe injury.

LOCK OUT POWER before removing guards or performing maintenance.

1. Place temporary support (BD of Figure 40) under conveyor sections.

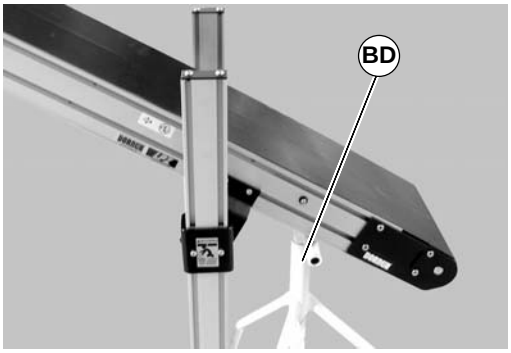


Figure 40

2. Loosen screws (BE of Figure 41) on both sides of knuckle.

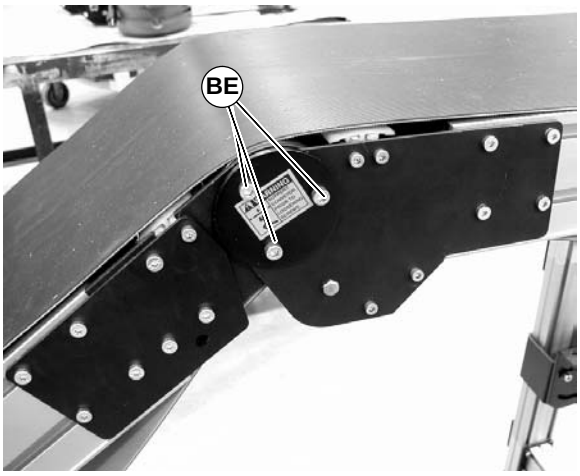


Figure 41

3. Move conveyor to desired angle as indicated by angle label (BF of Figure 42).

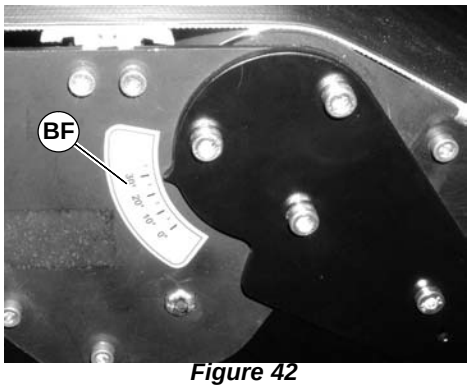


Figure 42

4. Tighten screws (BE of Figure 41) on both sides of knuckle to 100 in−lbs (12 N−m).

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
- D − Knuckle Idler Pulley Removal
- E − Knuckle Return Roller Removal

A – Idler Pulley Removal

1. Temporarily support the idler pulley.

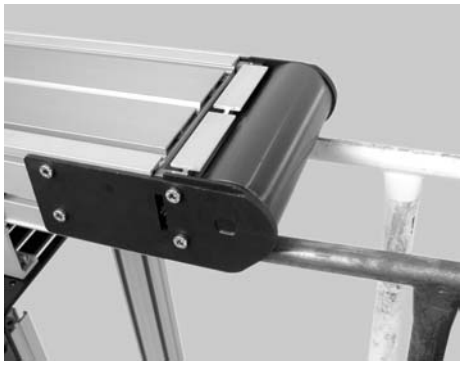


Figure 43

2. On one side of conveyor, loosen the two (2) back fastening screws (U of Figure 44) and remove two (2) front fastening screws (BG).

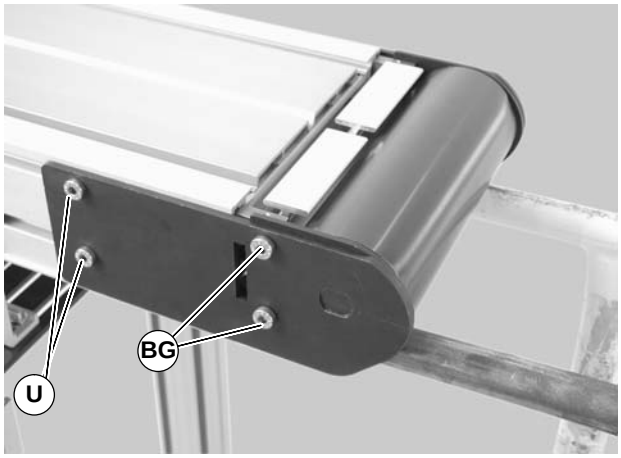


Figure 44

3. Pull back the outer headplate (V of Figure 45) and remove the inner spacer (BH).

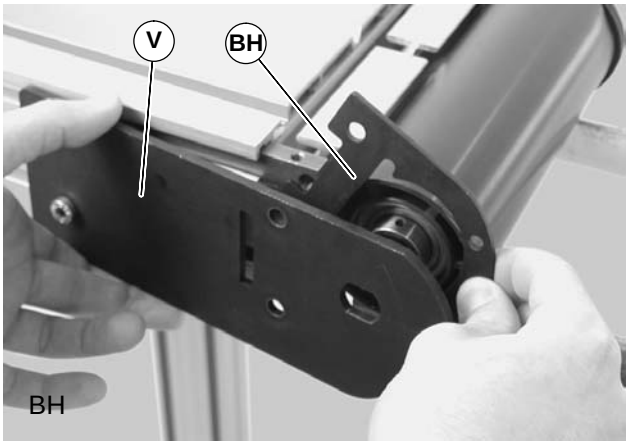


Figure 45

4. Slide the idler pulley assembly (BI of Figure 46) out of the headplate on the opposite side.

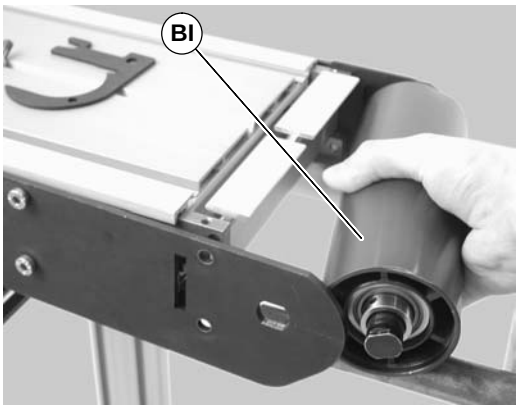


Figure 46

5. Remove the pulley shaft assembly: remove the clip ring (BJ of Figure 47) and washer (BK) from one side of the pulley assembly.

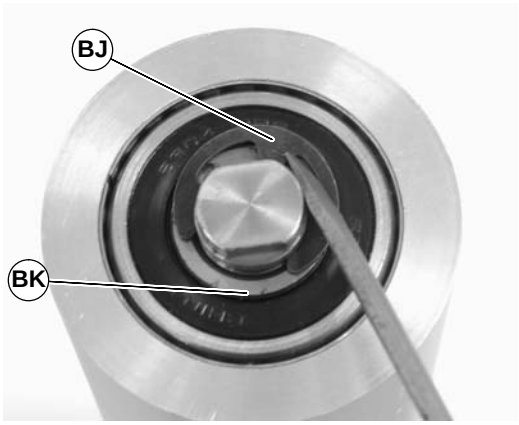


Figure 47

6. Slide the shaft assembly (BL of Figure 48) out of the pulley (BI).

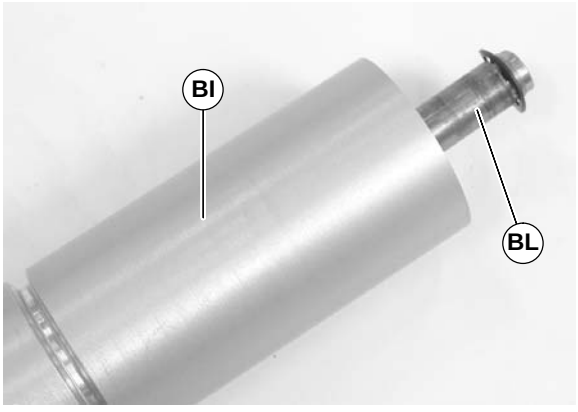
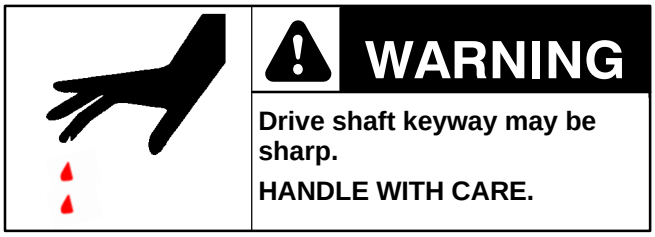


Figure 48

B – Drive Pulley Removal



1. Remove the gearmotor mounting package:
a − Top and Bottom Mount Drives
b − Side Mount Drives

a. Top and Bottom Mount Drives

1) Use a temporary support (BM of Figure 49)to support Gearmotor.

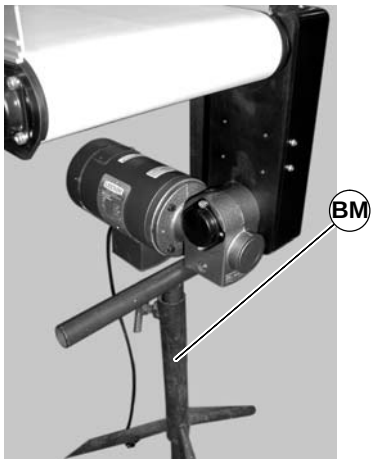


Figure 49

2) Remove four (4) screws (BN of Figure 50) and remove cover (BO).

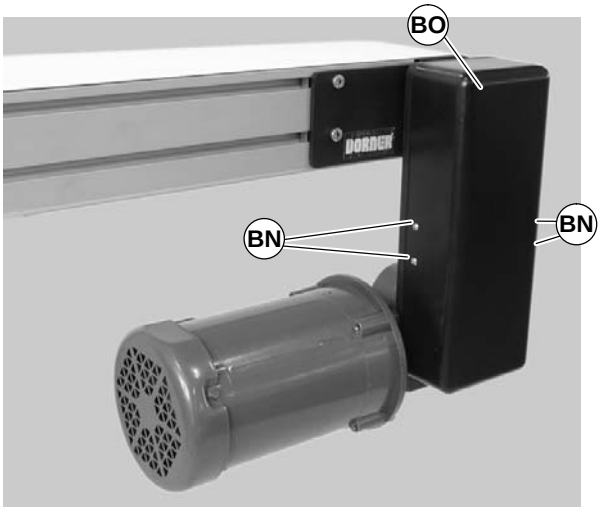


Figure 50

3) Loosen tensioner (BP of Figure 51).

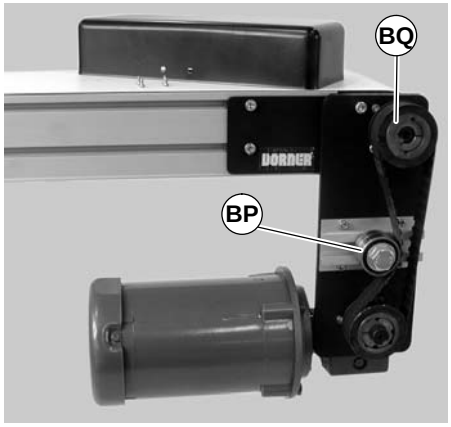


Figure 51

4) Remove taper-lock screws (BR of Figure 52) on the driven pulley (BQ of Figure 51). Insert one (1) of taper lock screws (BR of Figure 52) in remaining hole (BS). Tighten screw (BR) until pulley is loose. Remove pulley, taper hub assembly and timing belt.

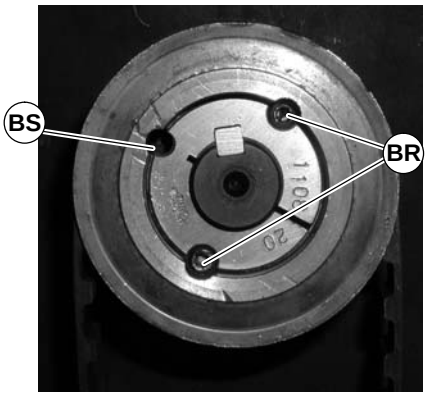


Figure 52

5) Remove four (4) M5 mounting screws (BT of Figure 53) and two (2) M8 mounting screws (BU).

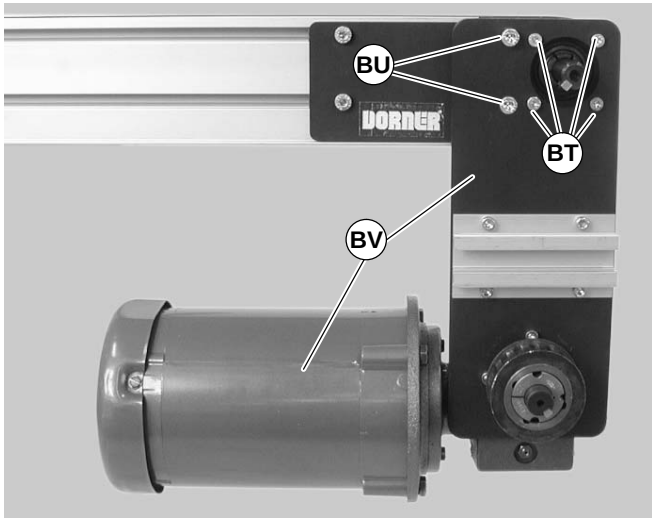


Figure 53

6) Remove gearmotor and mounting plate assembly (BV of Figure 53).

b. Side Mount Drives

1) Temporarily support Gearmotor

2) Loosen the four (4) lock screw (BW of Figure 54).

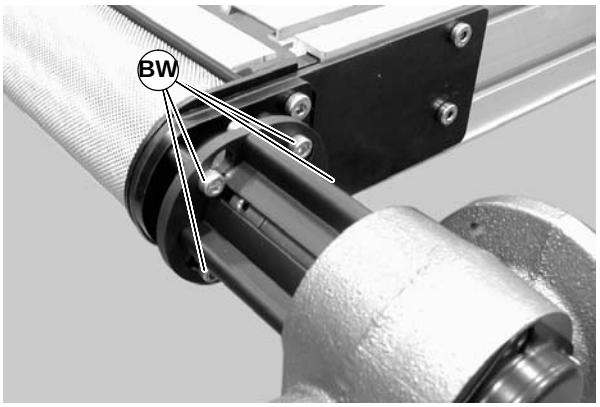


Figure 54

3) Rotate and remove the gear motor and guard assembly (BX of Figure 55).

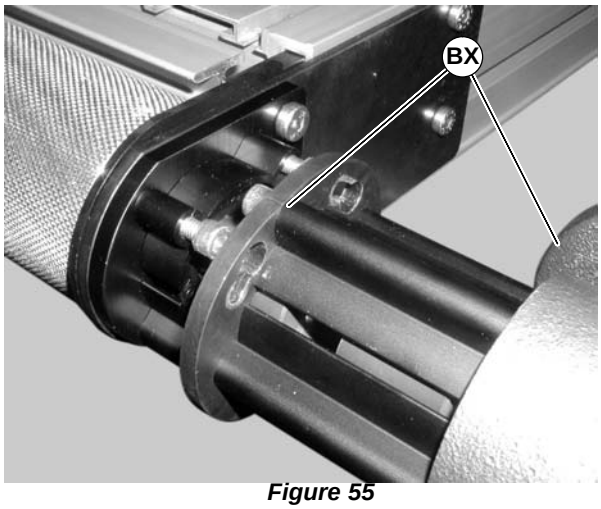


Figure 55

4) Remove the four (4) lock screws (BW of Figure 56)and the short side drive guard (BY).

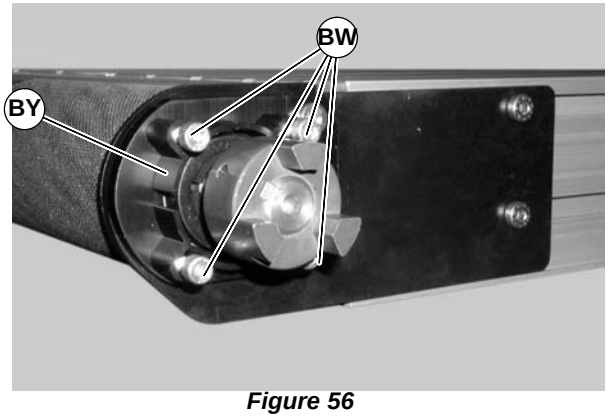


Figure 56

2. Temporarily support the drive pulley.

Figure 57

3. Remove four shaft cover screws (BZ of Figure 58). Remove the shaft cover (CA).

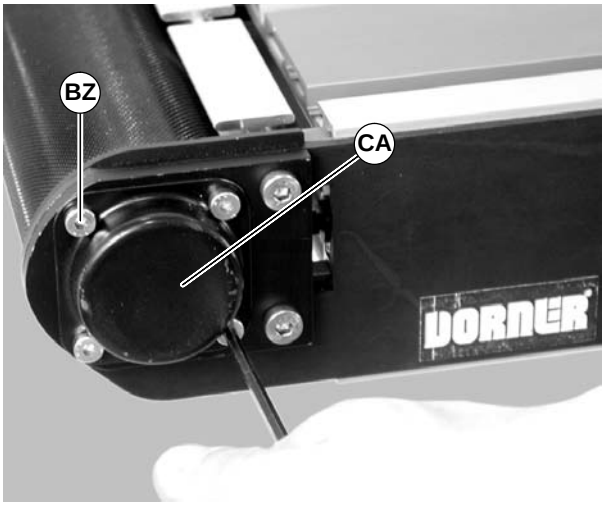


Figure 58

4. Loosen the bearing collar set screw (CB of Figure 59) and remove bearing collar (CC). Repeat on drive shaft side of pulley (CB and CC of Figure 60).

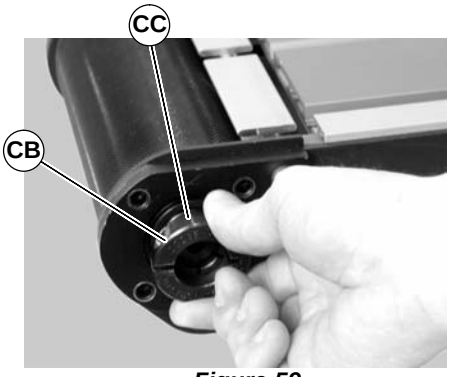


Figure 59

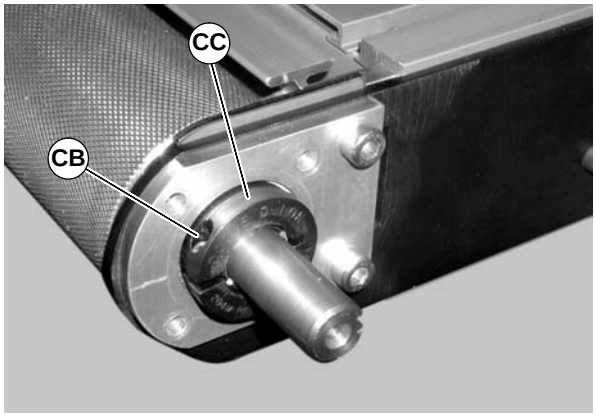


Figure 60

5. On the drive headplate, remove two (2) screws (U of Figure 61).

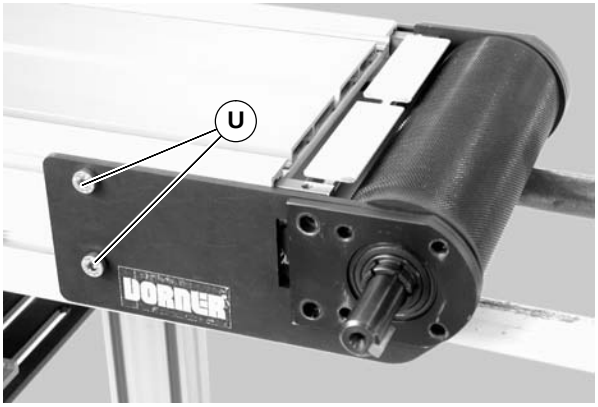


Figure 61

6. Remove the outer headplate assembly (CD of Figure 62), and inner spacer (BH).

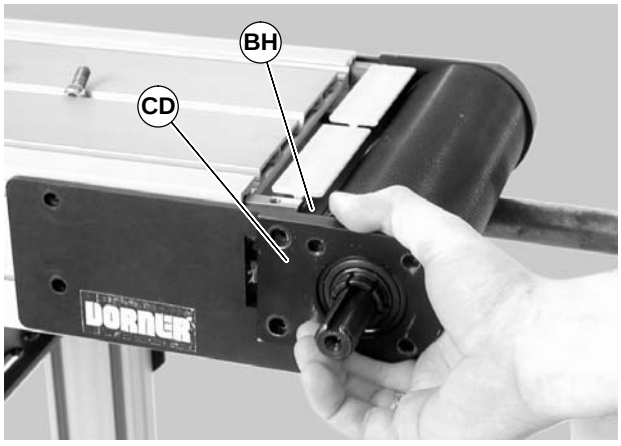


Figure 62

7. Slide the drive pulley (CE of Figure 63) out of the headplate on the opposite side.

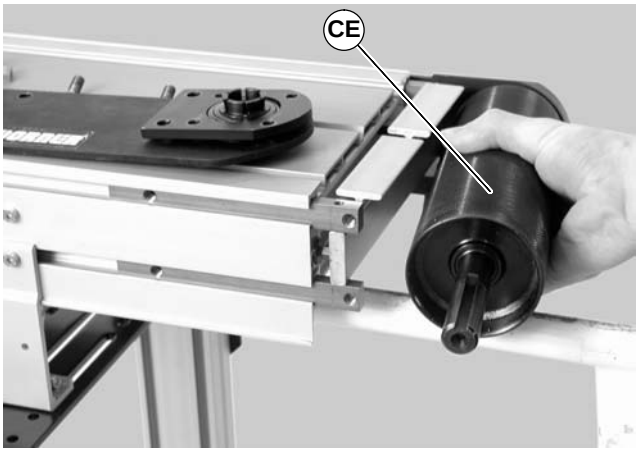


Figure 63

C – Transfer Tail Pulley Removal

1. Temporarily support the transfer tail assembly.

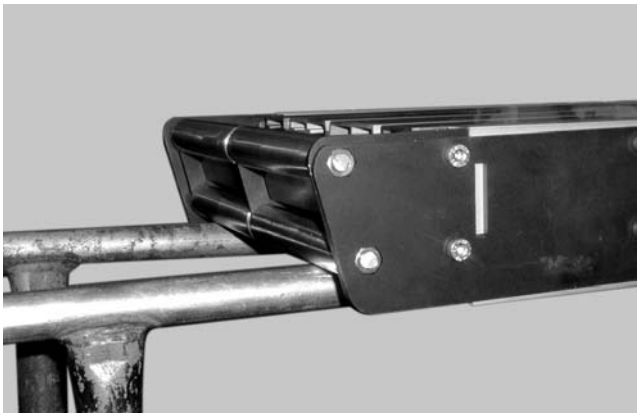


Figure 64

2. On one side of conveyor, loosen the two (2) back fastening screws (U of Figure 65), and remove the two (2) front fastening screws (BG).

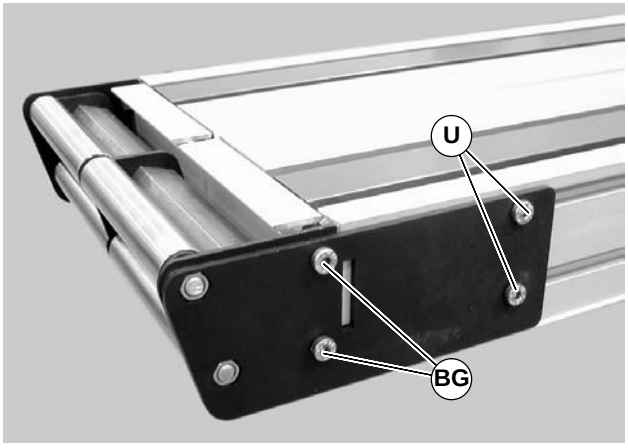


Figure 65

3. Pull back the outer headplate (V of Figure 66) and remove the inner spacer (BH).

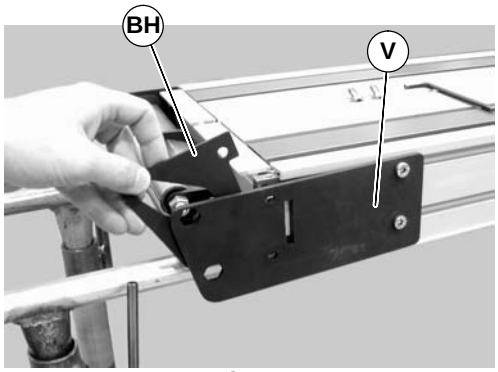


Figure 66

4. Slide the transfer tail pulley assembly (CF of Figure 67) out of the headplate on the opposite side.

NOTE: Transfer tail assembly must be removed as on piece. Removal may require removing screws U of Figure 65 and headplate V of Figure 66 as shown in Figure 67

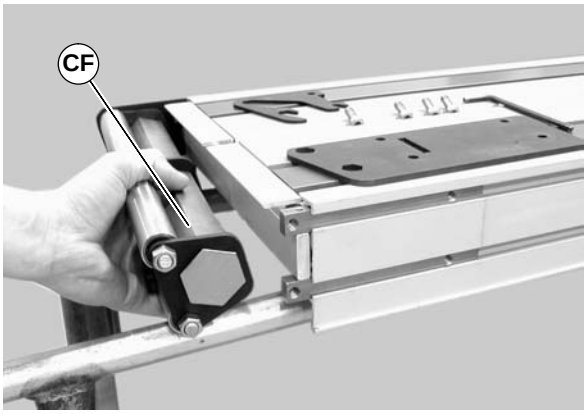


Figure 67

5. Remove hex nuts (CG of Figure 68).

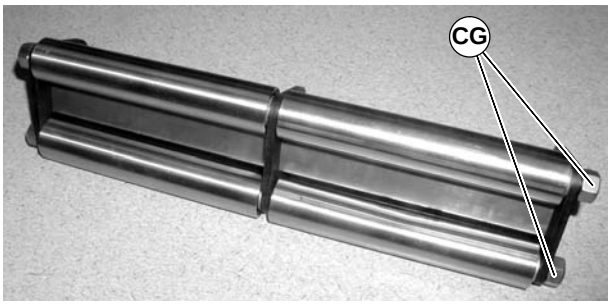


Figure 68

6. Remove support plates (CH of Figure 69) and washers (CI).

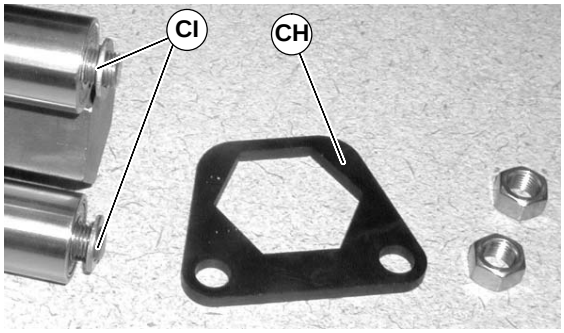


Figure 69

7. Remove pulleys (CJ of Figure 70) and additional washers (CK).

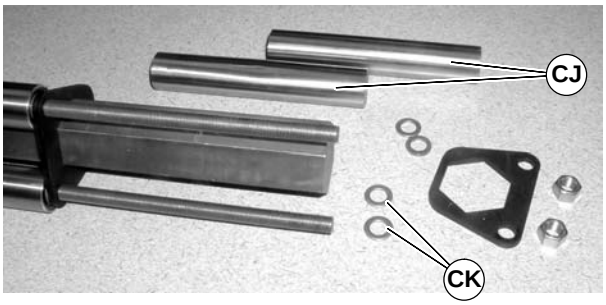


Figure 70

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

D – Knuckle Idler Pulley Removal

1. Remove knuckle return roller and guard see “Knuckle Return Roller Removal” on page 19.
2. Temporarily support the knuckle idler pulley.

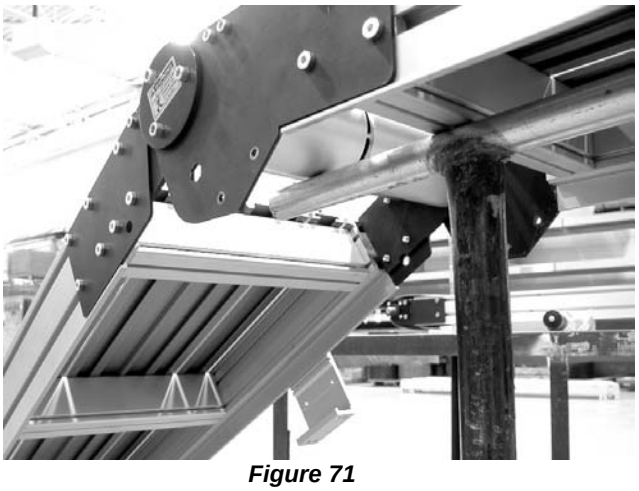


Figure 71

3. On one side of knuckle, remove screws (CL of Figure 72) and knuckle plate assembly (CM).

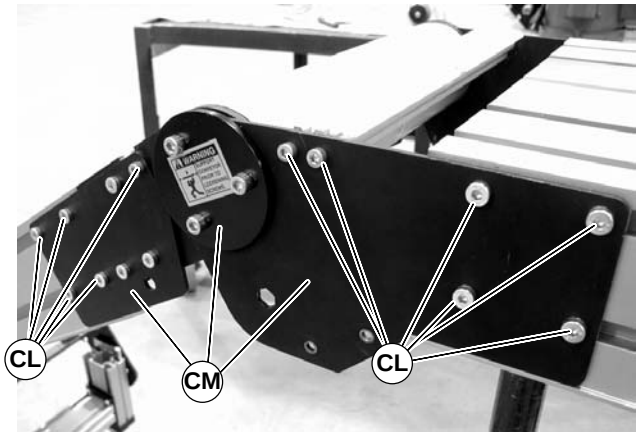


Figure 72

4. Slide the idler pulley assembly (CN of Figure 73) out of the knuckle plate on the opposite side.

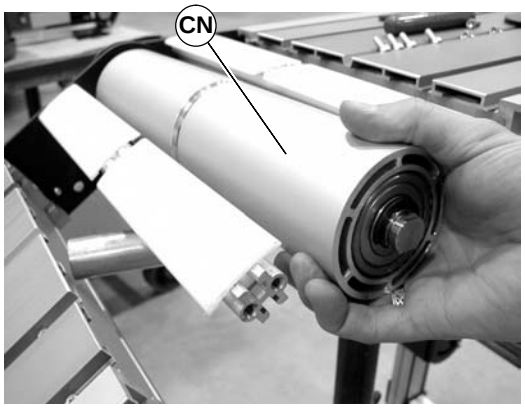


Figure 73

5. Remove the pulley shaft assembly: remove the clip ring (BJ of Figure 74) and washer (BK) from one side of the pulley assembly.

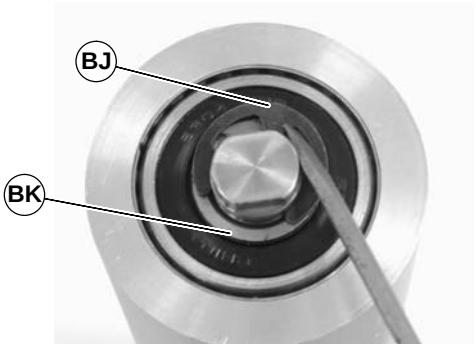


Figure 74

6. Slide the shaft assembly (BL of Figure 48) out of the pulley (CN).

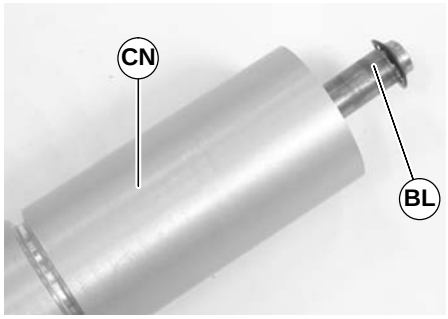


Figure 75

E – Knuckle Return Roller Removal

1. Remove screws (AN of Figure 76) on both sides of knuckle and remove guard (AO).

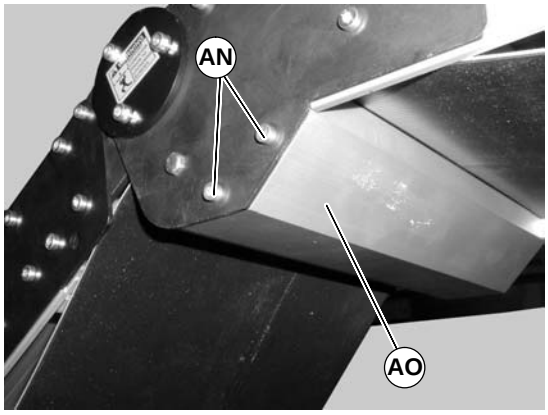


Figure 76

2. Push in hex posts (AP of Figure 77) and remove pulley (AQ).

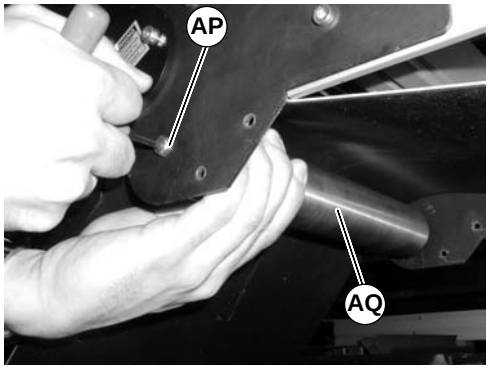
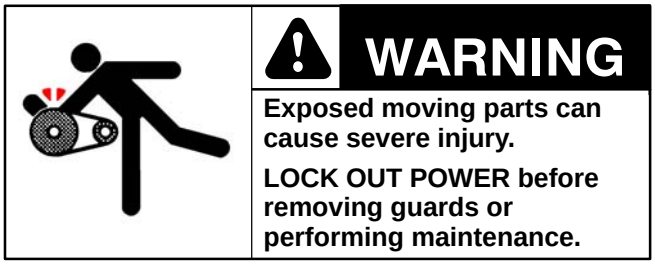


Figure 77

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
- **D** − Knuckle Idler Bearing
- **E** − Knuckle Return Roller 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 (CO of Figure 78) to align with slots (CP) in bearing housing. Then remove bearing.

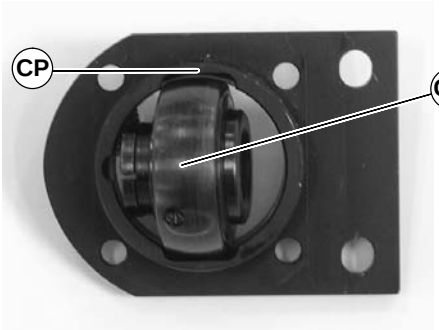


Figure 78

Replacement

1. Inspect bearing housing bearing surface. If worn or damaged, replace. See “Service Parts” on page 22.
2. Insert bearing (CO of Figure 79) into housing slot (CP). Locate anti−rotation nub (CQ) to align with slot (CR), and twist bearing into housing.

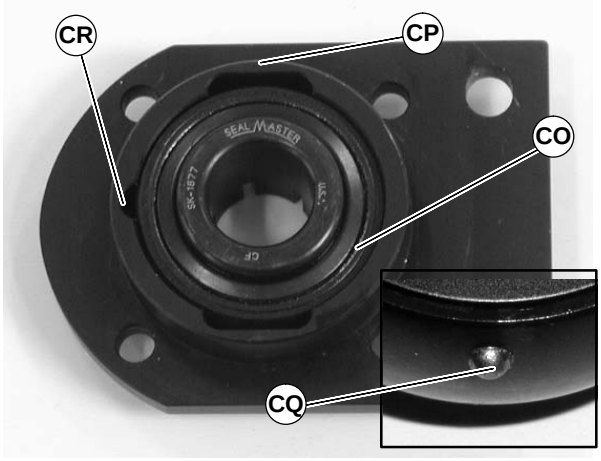


Figure 79

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.

D − Knuckle Idler Bearing Replacement

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

E − Knuckle Return Roller Bearing Replacement

The bearings in a 3200 Series Knuckle Return Roller can not be removed. Replace the entire roller assembly when worn.

Pulley Replacement

Idler Pulley

To replace the idler pulley, reverse the “Idler Pulley Removal” procedure on page 14.

Drive Pulley

To replace the drive pulley, reverse the “Drive Pulley Removal” procedure on page 15.

Transfer Tail Pulley

To replace the transfer tail pulley, reverse the “Transfer Tail Pulley Removal” procedure on page 17.

Knuckle Pulley

To replace the knuckle pulley, reverse the “Knuckle Pulley Removal” procedure on page 15.

Knuckle Return Roller

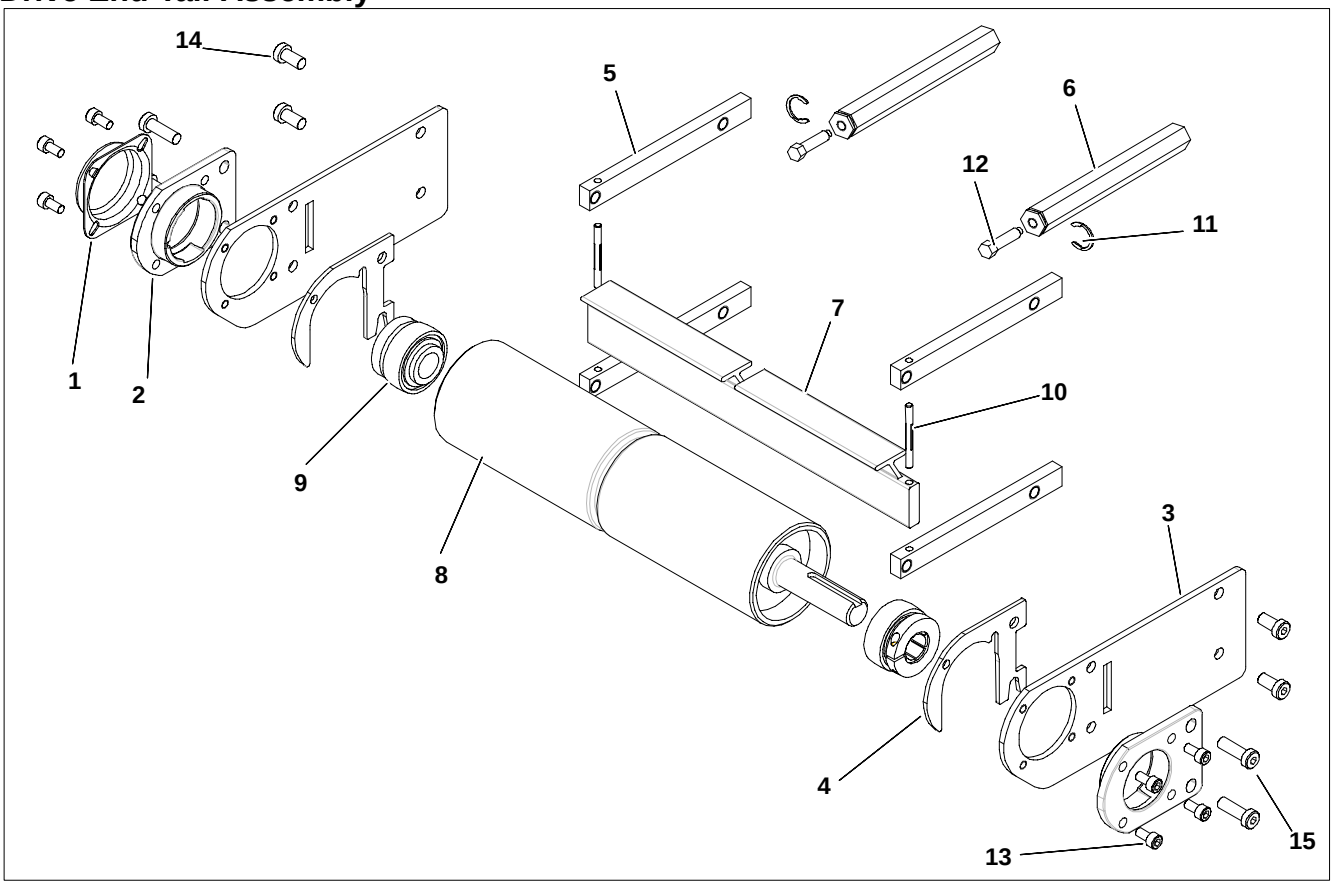
To replace the knuckle return roller, reverse the “Knuckle Return Roller Removal” procedure on page 19.

Notes

Service Parts

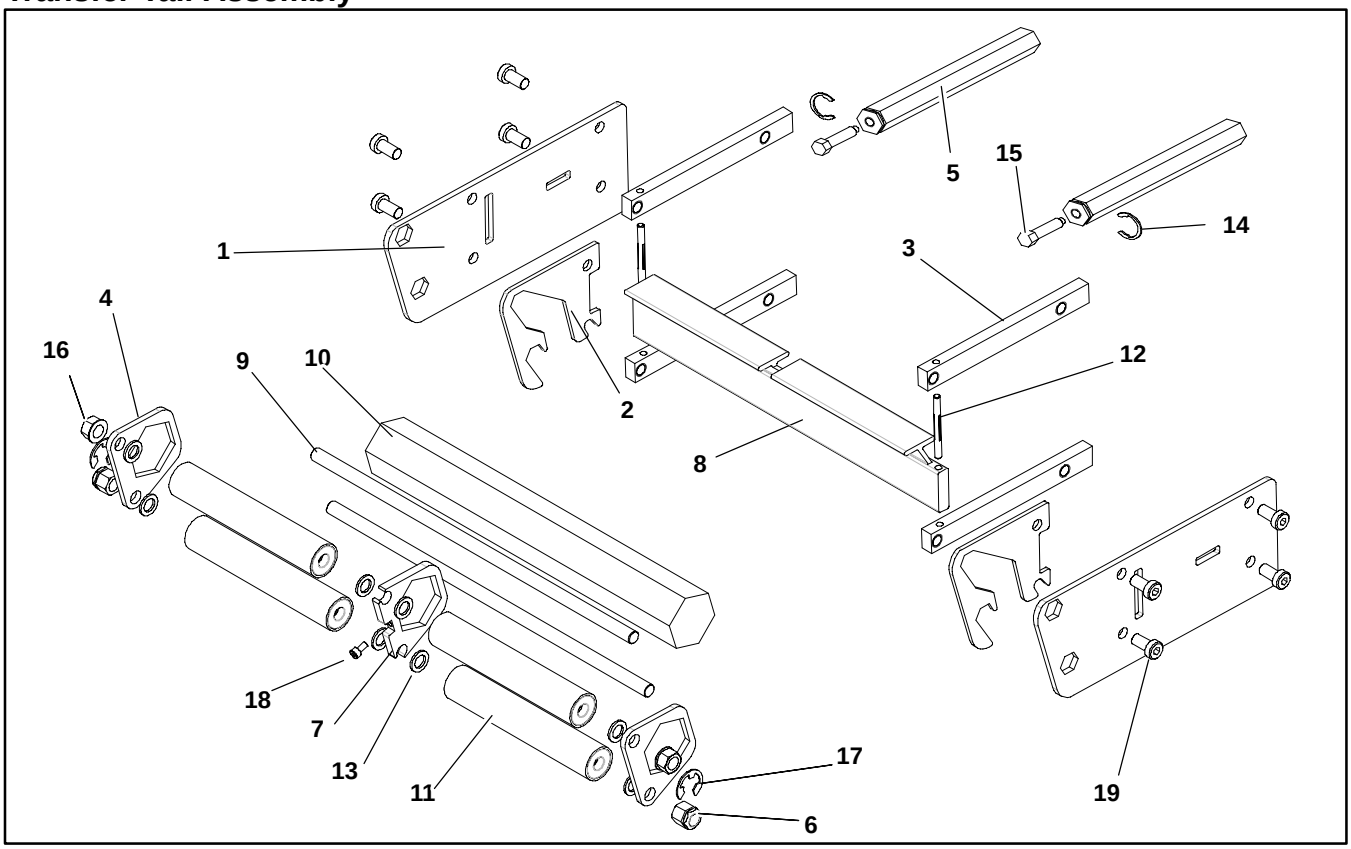
NOTE: For replacement parts other than those shown in this section, contact an authorized Dorner Service Center or the factory.

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		

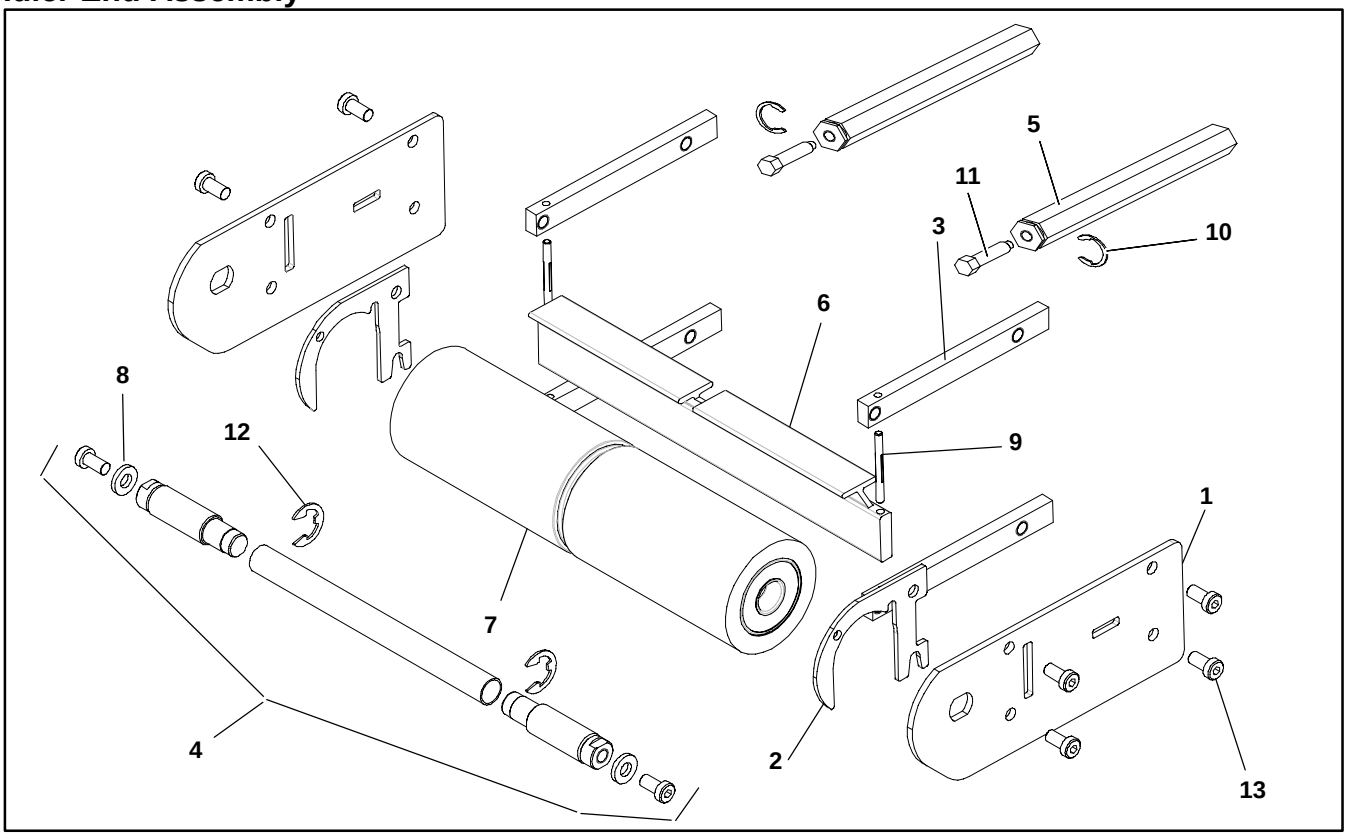
Transfer Tail Assembly



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 Axle Shaft
10	3235WW	Support Bar
11	3237WW	Transfer Tail Roller − (Qty. = 4 for 04−24 Wide, 8 for 26−48 Wide)
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		

Service Parts

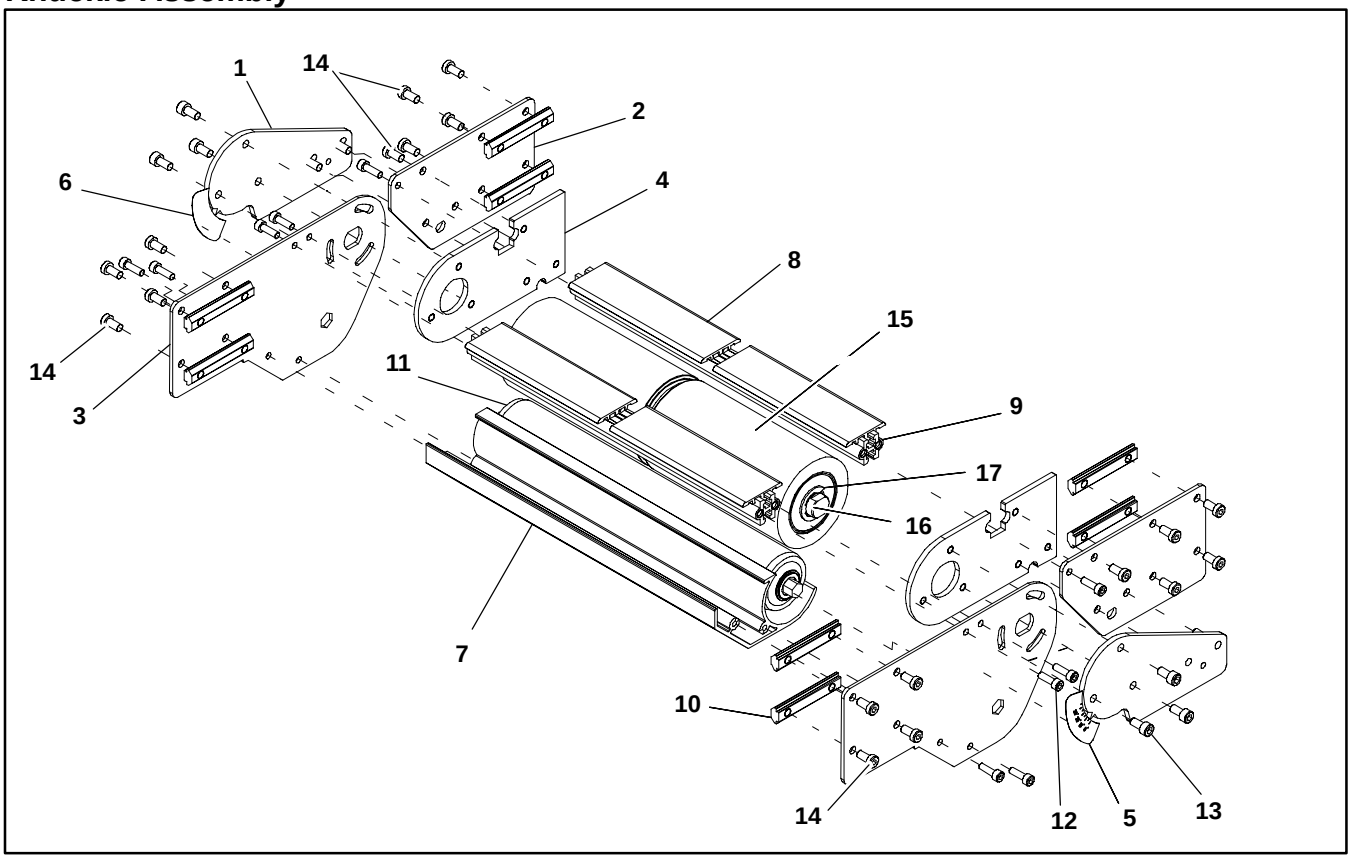
Idler End Assembly



Item	Part Number	Description
1	301049	Idler Cover Plate
2	301083	Inner 3” Tail Plate
3	301088	Tail Bar Clamp
4	3282WW	Idler Spindle Wand Assembly
5	301196	Hex Tension Tracking Shaft
6	3202WW	Tail Articulation Bar
7	3289WW	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		

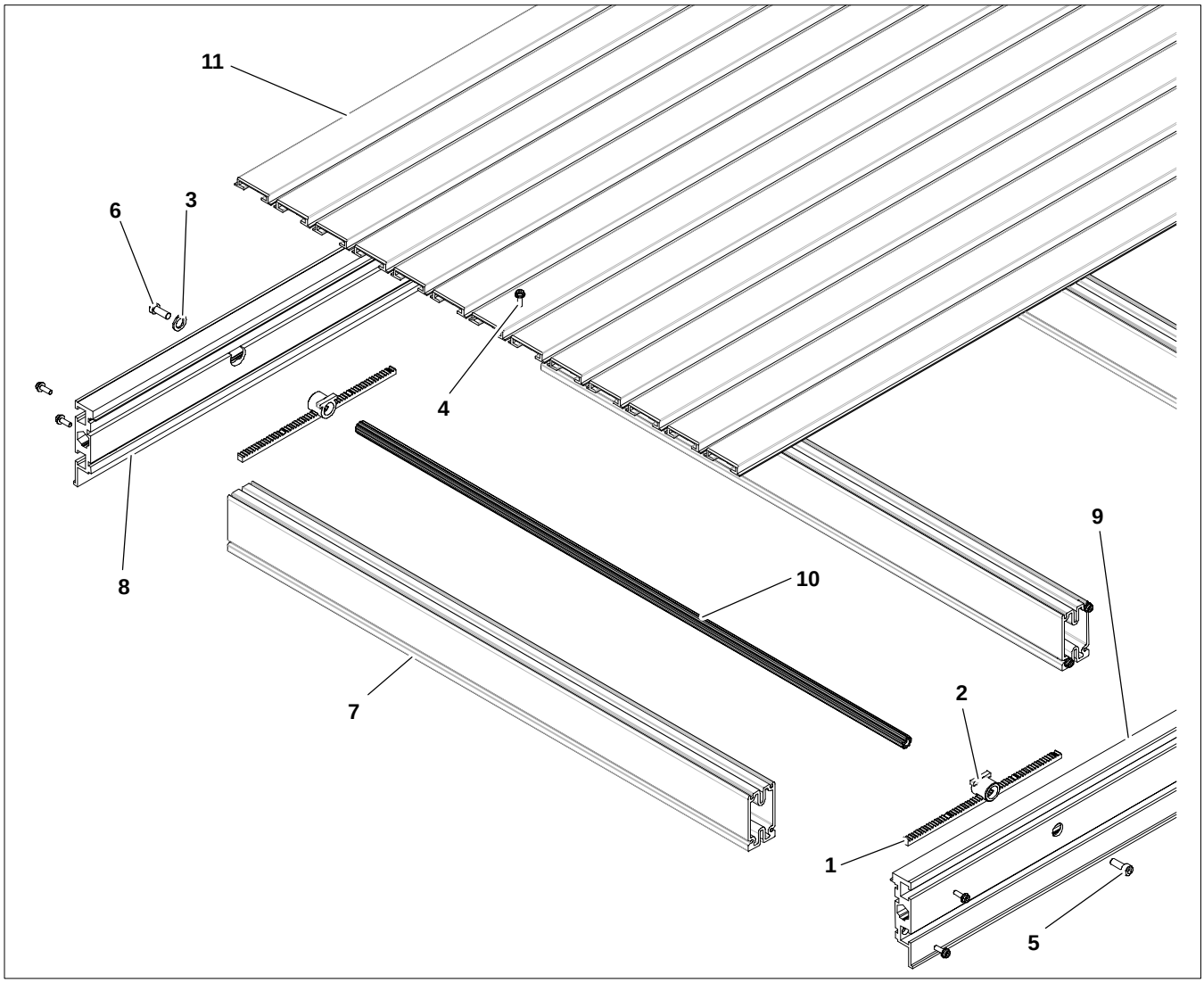
Knuckle Assembly



Item	Part Number	Description
1	300657	Slots Pointer Cover Disc
2	301155	Short LPZ Cover Plate
3	301156	Flat Upper Outside Plate
4	301160	LPZ Inside Pivot Plate
5	301223	LH Angle Label 0−35
6	301224	RH Angle Label 0−35
7	3225WW	Return Roller Cover
8	3276WW	Belt Support Rail Assy
9	3285WW	LPZ−CD Idler Pulley Assy
10	300150M	Drop In Tee Bar
11	3252WW	Return Roller
12	920516M	Socket Head Screw M5 x 16mm
13	920612M	Socket Head Screw M6 x 12mm
14	920692M	Socket Low Head Screw M6 x 12mm
15	3289WW	3” Idler Pulley
16	3283WW	Idler Shaft Assembly
17	915−235	Retaining Ring
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	605279P	Washer
4	920483M	Flange Socket Screw M4 x 16mm
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

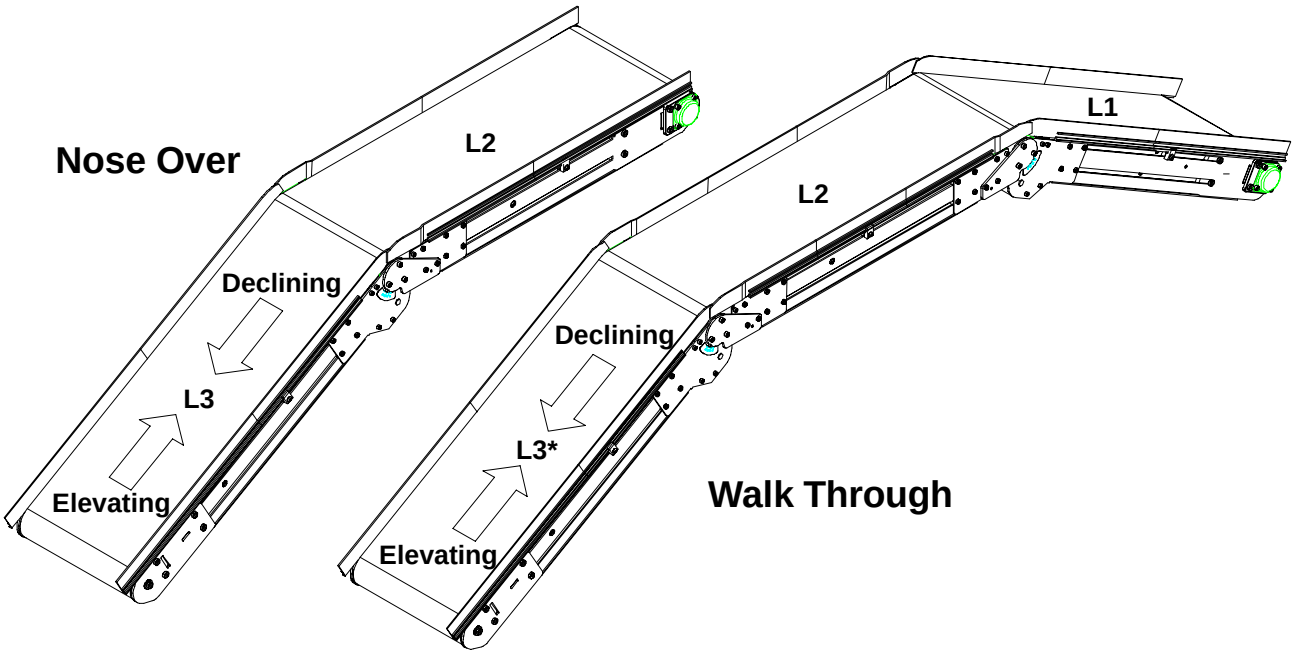
Frame LLLLL = (Conveyor Length LLLL X 12 − Tail Adder) / # of Sections of Conveyor

Tail Adder =
00600 for each Tension End
00425 for each Non−Tension End
00600 for each Knuckle Attachment

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”

Service Parts

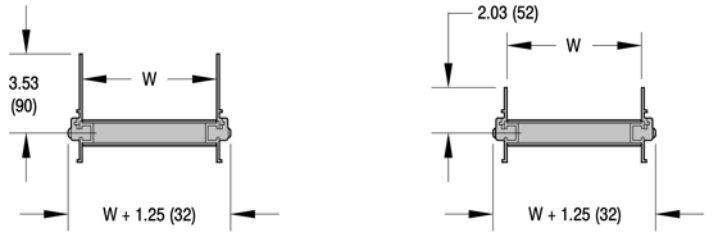
Conveyor Configurations



*** L3 on a walk through conveyor is determined using the model number:**

- **Reference the Elevating/Declining character (see "Section and Length Determination" section below)**
- **L3 section is the section where the belt Elevates or Declines product according to model number**

Guiding Options (TT)



TT = -04*
3" (76 mm) Aluminum Side

TT = -05*
1.5" (38 mm) Aluminum Side

Section and Length Determination

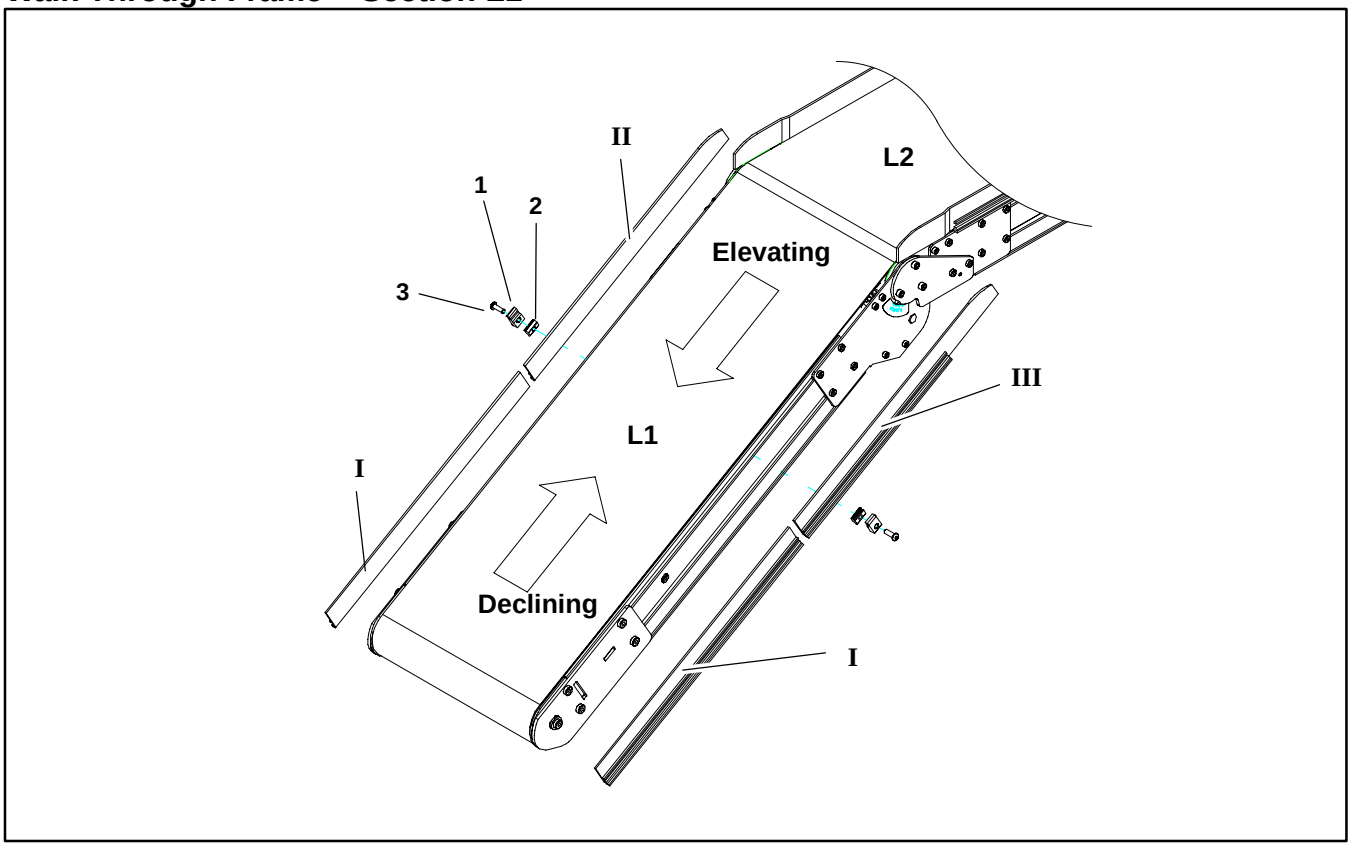
Model Number

3 E 1 0 M WW LLLL–LLLL–LLLL A PP BB

- **Conveyor Section L3 Length Reference**
- **Conveyor Section L2 Length Reference**
- **Conveyor Section L1 Length Reference**
- **E = Elevating**
- **D = Declining**

LLLL = Section length in feet from model number
LLLLL = Guiding Length in inches (see pages 29 thru 33 for length formulas per section)

Walk Through Frame − Section L1



Item	Part Number	Description
1	200121	Guide Retaining Clip
2	639971M	Single Drop−in Tee Bar
3	920694M	Socket Head Screw M6 x 20mm

Elevating Belt Travel

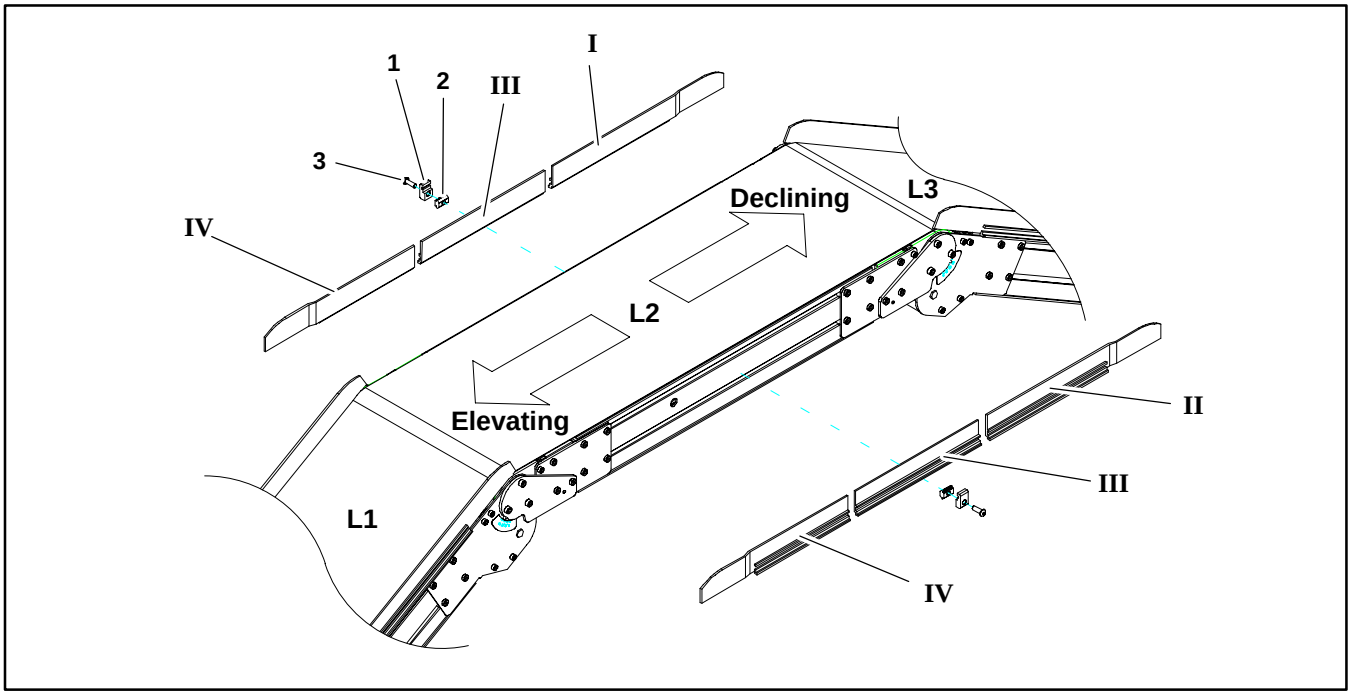
Section L1 Length − LLLL	I	II	III
0200	No Guiding Section	38TT17	38TT18
0201 − 0399	38TT00−LLLLL LLLLL = (LLLL x 6) + 00038	38TT17−LLLLL LLLLL = (LLLL x 6) + 00038	38TT18−LLLLL LLLLL = (LLLL x 6) + 00038
0400 and up	38TT00−LLLLL LLLLL = (LLLL x 12) − 02400	38TT17	38TT18
For TT options see “Guide Options” section on page 28			

Declining Belt Travel

Section L1 Length − LLLL	I	II	III
0200	No Guiding Section	38TT15	38TT16
0201 − 0399	38TT00−LLLLL LLLLL = (LLLL x 6) + 00038	38TT15−LLLLL LLLLL = (LLLL x 6) + 00038	38TT16−LLLLL LLLLL = (LLLL x 6) + 00038
0400 and up	38TT00−LLLLL LLLLL = (LLLL x 12) − 02400	38TT15	38TT16
For TT options see “Guide Options” section on page 28			

Service Parts

Walk Through Frame − Section L2



Item	Part Number	Description
1	200121	Guide Retaining Clip
2	639971M	Single Drop−in Tee Bar
3	920694M	Socket Head Screw M6 x 20mm

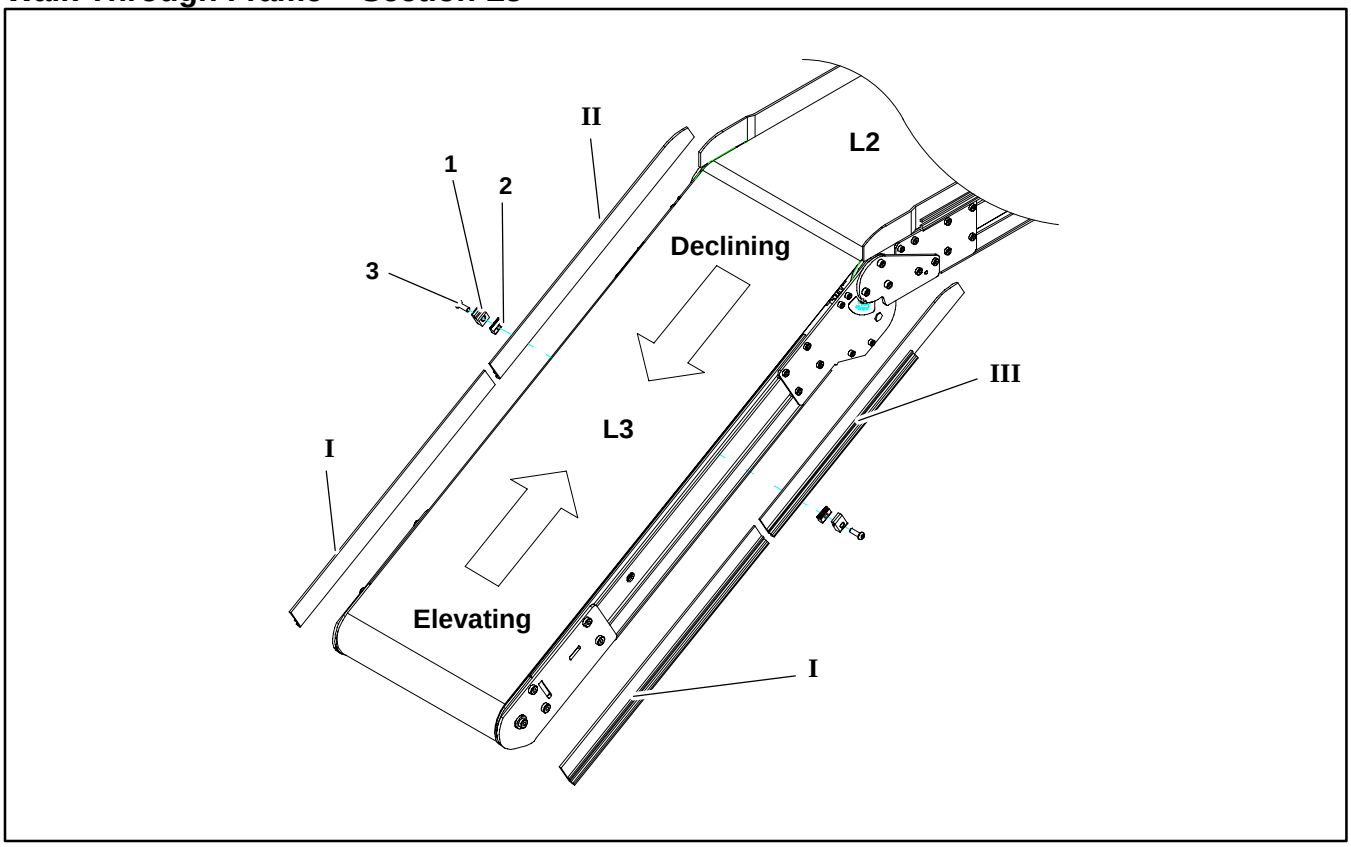
Elevating Belt Travel

Section L2 Length − LLLL	I	II	III	IV	V
0200 − 0383	38TT17−LLLLL LLLLL = (LLLL x 6) + 00075	38TT18−LLLLL LLLLL = (LLLL x 6) + 00075	No Guiding Section	38TT15−LLLLL LLLLL = (LLLL x 6) + 00075	38TT16−LLLLL LLLLL = (LLLL x 6) + 00075
0384 − 0600	38TT17−LLLLL LLLLL = (LLLL x 4) + 00050	38TT18−LLLLL LLLLL = (LLLL x 4) + 00050	38TT00−LLLLL LLLLL = (LLLL x 4) + 00050	38TT15−LLLLL LLLLL = (LLLL x 4) + 00050	38TT16−LLLLL LLLLL = (LLLL x 4) + 00050
0601 and up	38TT17	38TT18	38TT00−LLLLL LLLLL = (LLLL x 12) − 04600	38TT15	38TT16
For TT options see “Guide Options” section on page 28					

Declining Belt Travel

Section L2 Length − LLLL	I	II	III	IV	V
0200 − 0373	38TT15−LLLLL LLLLL = (LLLL x 6) + 00075	38TT16−LLLLL LLLLL = (LLLL x 6) + 00075	No Guiding Section	38TT17−LLLLL LLLLL = (LLLL x 6) + 00075	38TT18−LLLLL LLLLL = (LLLL x 6) + 00075
0373 − 0600	38TT15−LLLLL LLLLL = (LLLL x 4) + 00050	38TT16−LLLLL LLLLL = (LLLL x 4) + 00050	38TT00−LLLLL LLLLL = (LLLL x 4) + 00050	38TT17−LLLLL LLLLL = (LLLL x 4) + 00050	38TT18−LLLLL LLLLL = (LLLL x 4) + 00050
0601 and up	38TT15	38TT16	38TT00−LLLLL LLLLL = (LLLL x 12) − 04600	38TT17	38TT18
For TT options see “Guide Options” section on page 28					

Walk Through Frame − Section L3



Item	Part Number	Description
1	200121	Guide Retaining Clip
2	639971M	Single Drop−in Tee Bar
3	920694M	Socket Head Screw M6 x 20mm

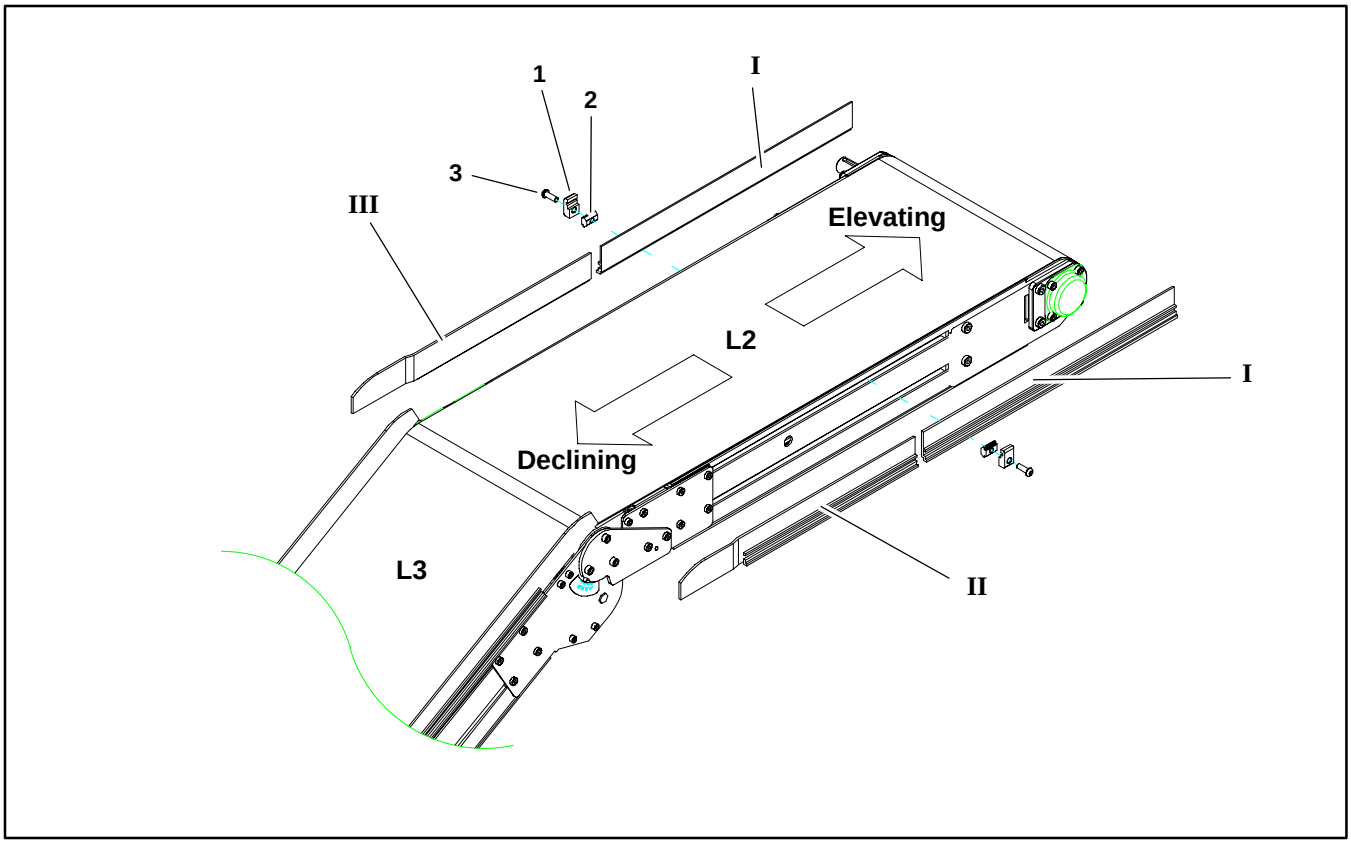
Elevating Belt Travel

Section L3 Length − LLLL	I	II	III
0200	No Guiding Section	38TT15	38TT16
0201 − 0399	38TT00−LLLLL LLLLL = (LLLL x 6) + 00038	38TT15−LLLLL LLLLL = (LLLL x 6) + 00038	38TT16−LLLLL LLLLL = (LLLL x 6) + 00038
0400 and up	38TT00−LLLLL LLLLL = (LLLL x 12) − 02400	38TT15	38TT16
For TT options see “Guide Options” section on page 28			

Declining Belt Travel

Section L3 Length − LLLL	I	II	III
0200	No Guiding Section	38TT17	38TT18
0201 − 0399	38TT00−LLLLL LLLLL = (LLLL x 6) + 00038	38TT17−LLLLL LLLLL = (LLLL x 6) + 00038	38TT18−LLLLL LLLLL = (LLLL x 6) + 00038
0400 and up	38TT00−LLLLL LLLLL = (LLLL x 12) − 02400	38TT17	38TT18
For TT options see “Guide Options” section on page 28			

Nose Over Frame − Section L2



Item	Part Number	Description
1	200121	Guide Retaining Clip
2	639971M	Single Drop−in Tee Bar
3	920694M	Socket Head Screw M6 x 20mm

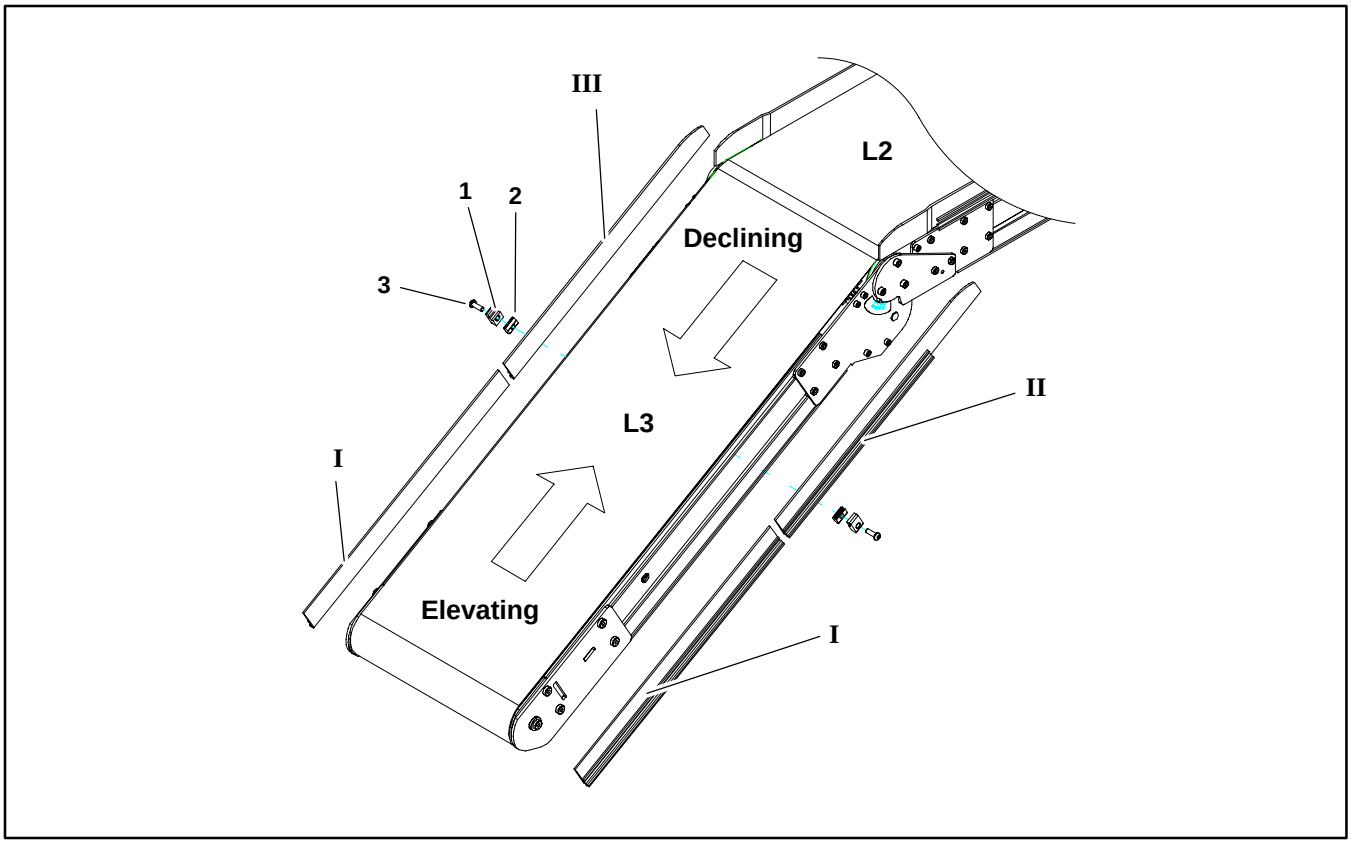
Elevating Belt Travel

Section L2 Length − LLLL	I	II	III
0200	No Guiding Section	38TT17	38TT18
0201 − 0399	38TT00−LLLLL LLLLL = (LLLL x 6) + 00038	38TT17−LLLLL LLLLL = (LLLL x 6) + 00038	38TT18−LLLLL LLLLL = (LLLL x 6) + 00038
0400 and up	38TT00−LLLLL LLLLL = (LLLL x 12) − 02400	38TT17	38TT18
For TT options see “Guide Options” section on page 28			

Declining Belt Travel

Section L2 Length − LLLL	I	II	III
0200	No Guiding Section	38TT15	38TT16
0201 − 0399	38TT00−LLLLL LLLLL = (LLLL x 6) + 00038	38TT15−LLLLL LLLLL = (LLLL x 6) + 00038	38TT16−LLLLL LLLLL = (LLLL x 6) + 00038
0400 and up	38TT00−LLLLL LLLLL = (LLLL x 12) − 02400	38TT15	38TT16
For TT options see “Guide Options” section on page 28			

Nose Over Frame − Section L3



Item	Part Number	Description
1	200121	Guide Retaining Clip
2	639971M	Single Drop−in Tee Bar
3	920694M	Socket Head Screw M6 x 20mm

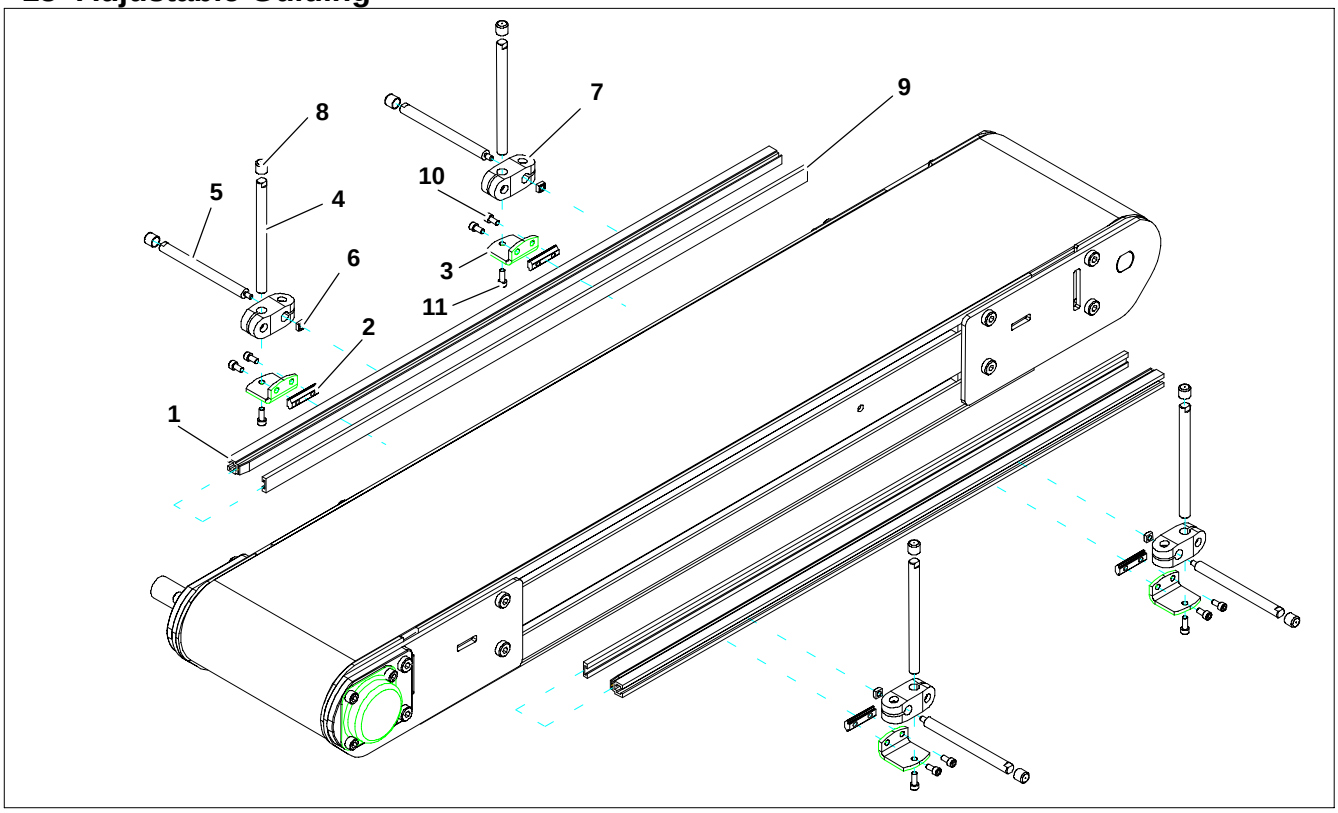
Elevating Belt Travel

Section L3 Length − LLLL	I	II	III
0200	No Guiding Section	38TT15	38TT16
0201 − 0399	38TT00−LLLLL LLLLL = (LLLL x 6) + 00038	38TT15−LLLLL LLLLL = (LLLL x 6) + 00038	38TT16−LLLLL LLLLL = (LLLL x 6) + 00038
0400 and up	38TT00−LLLLL LLLLL = (LLLL x 12) − 02400	38TT15	38TT16
For TT options see “Guide Options” section on page 28			

Declining Belt Travel

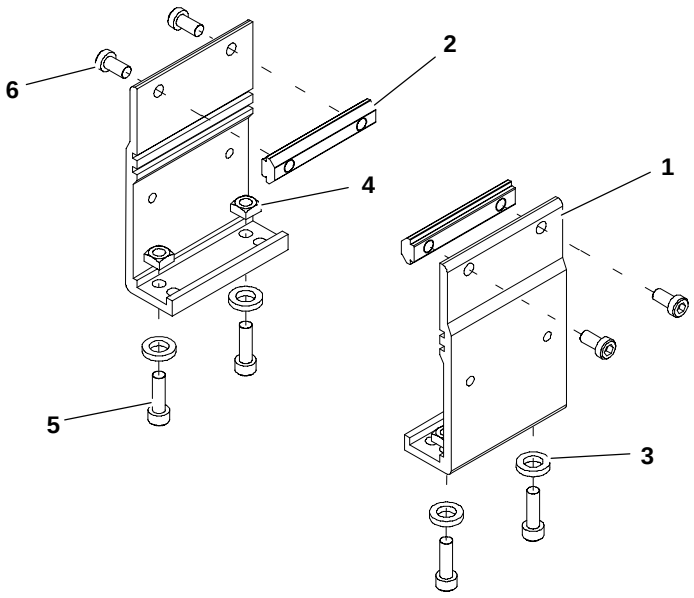
Section L3 Length − LLLL	I	II	III
0200	No Guiding Section	38TT17	38TT18
0201 − 0399	38TT00−LLLLL LLLLL = (LLLL x 6) + 00038	38TT17−LLLLL LLLLL = (LLLL x 6) + 00038	38TT18−LLLLL LLLLL = (LLLL x 6) + 00038
0400 and up	38TT00−LLLLL LLLLL = (LLLL x 12) − 02400	38TT17	38TT18
For TT options see “Guide Options” section on page 28			

−13 Adjustable Guiding



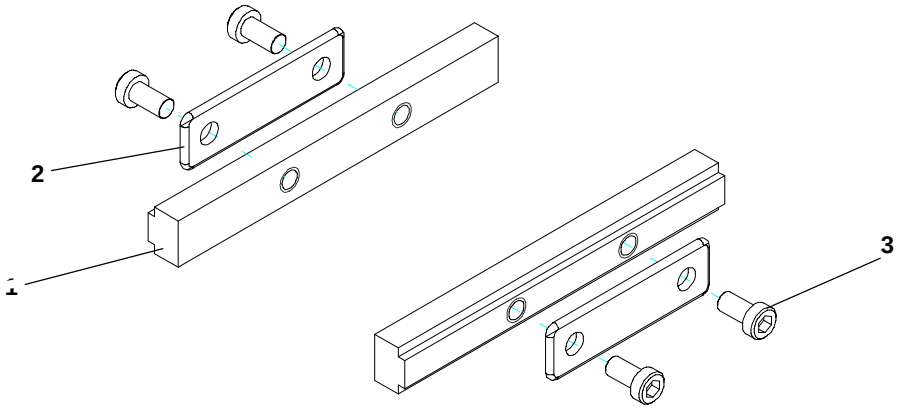
Item	Part Number	Description
1	202983	Aluminum Profile Guide 2’ (610mm)
	202984	Aluminum Profile Guide 3’ (914mm)
	202985	Aluminum Profile Guide 4’ (1219mm)
	202986	Aluminum Profile Guide 5’ (1524mm)
	202987	Aluminum Profile Guide 6’ (1829mm)
	202988	Aluminum Profile Guide 7’ (2134mm)
	202989	Aluminum 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 Mounting 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

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

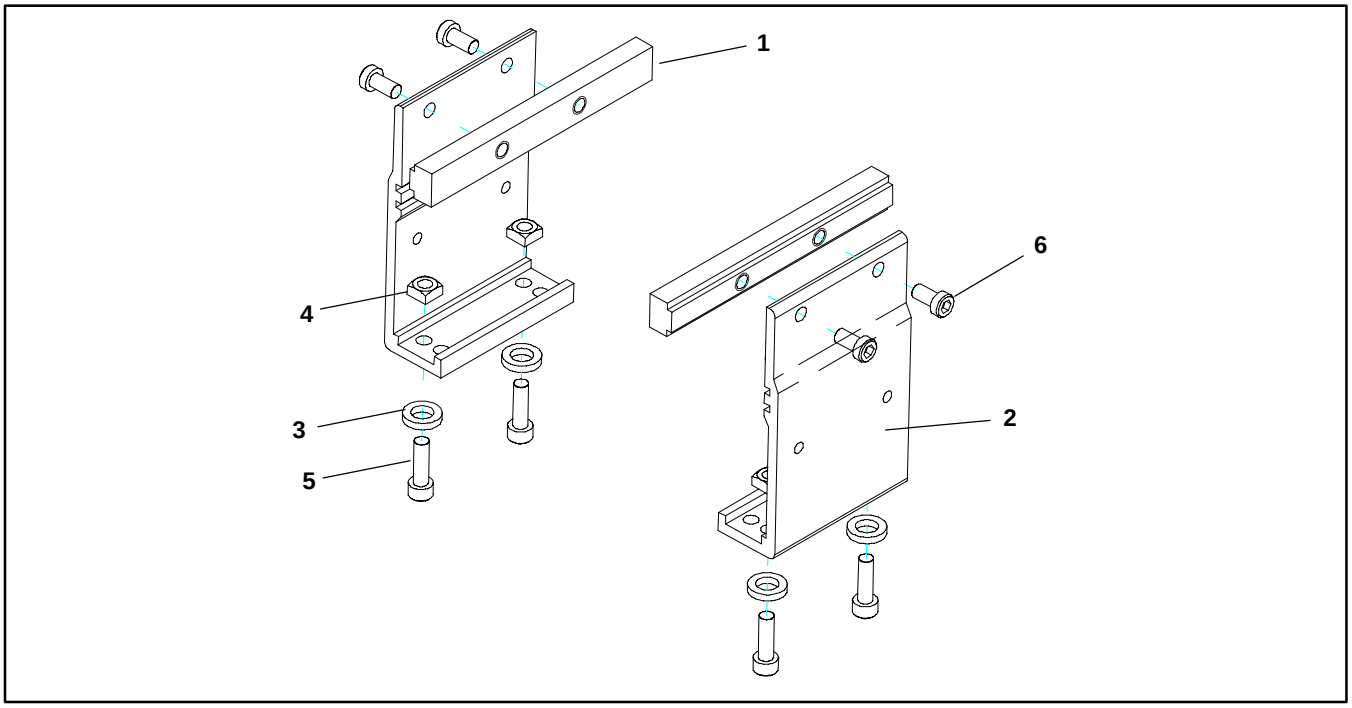
Connecting Assembly without Stand Mount



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

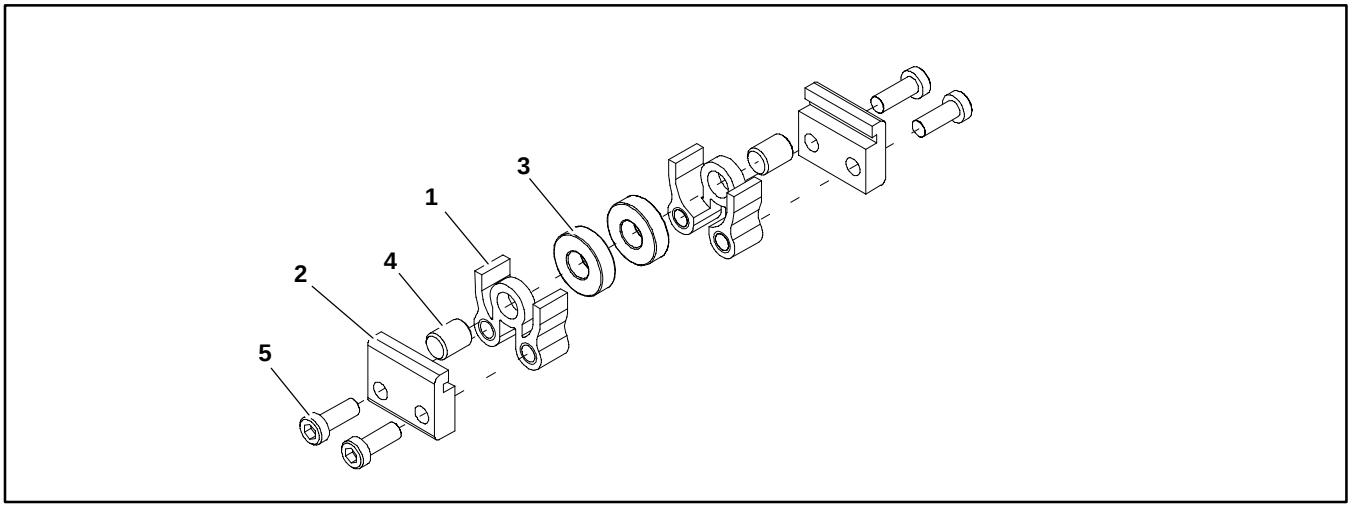
Service Parts

Flat Belt Connecting Assembly with Stand Mount



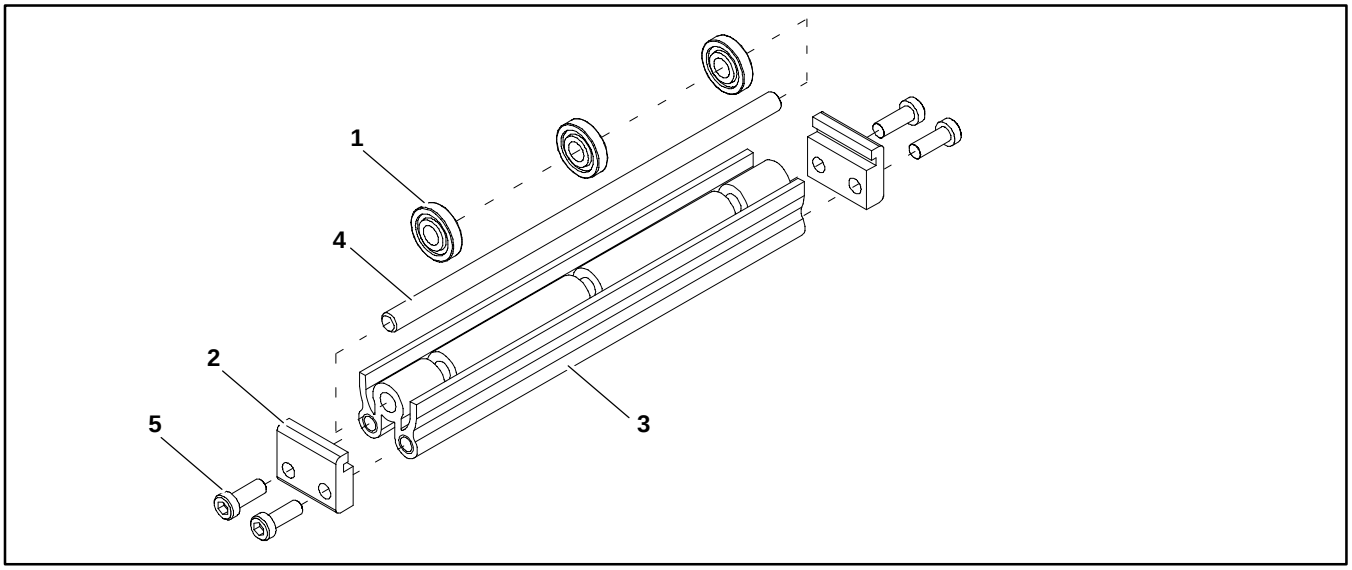
Item	Part Number	Description
1	240858	Frame Connector Bar
2	240837	Stand Mount Joint
3	605279P	Washer
4	807−920	Square Nut M6 5mm x 10mm
5	920620M	Socket Head Screw M6 x 20mm
6	920692M	Socket Head Screw M6 x 12mm

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		

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**

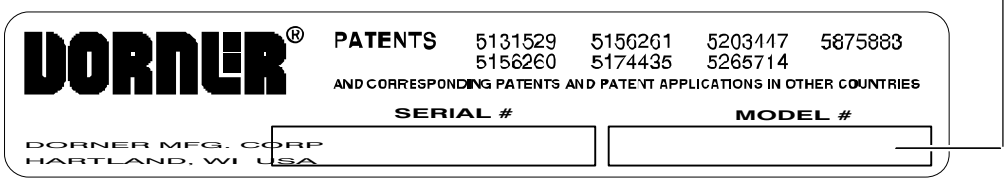


Figure 80

Flat Belt Part Number Configuration

Refer to Dorner patent plate (Figure 80). 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 80). 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*

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®

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

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

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