



Horizontal to Incline Cleated Belt Conveyors

Installation, Maintenance & Parts Manual



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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.




Dorner's Limited Warranty applies.

Dorner LPZ Series conveyors are covered by patent numbers 5156260, 5156261, 5203447, 5265714, 5875883 and patent applications in other countries.

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

Warnings – General Safety

⚠ WARNING	The safety alert symbol, black triangle with white exclamation, is used to alert you to potential personal injury hazards.
⚠ DANGER	
	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. REPLACE ALL GUARDS BEFORE RUNNING CONVEYOR.

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

Product Description



Figure 1

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

Conveyor
Gearmotor Mounting Package
Gearmotor
Mounting Brackets
Knuckle
Support Stand
Caster Assembly
Drive End
Idler/Tension End

Models

75006673 – 2.5' long infeed, 6.0' long incline

75006674 – 2.5' long infeed, 5.0' long incline

75006675 – 2.5' long infeed, 4.0' long incline

Specifications for All Models

Motor – 1/2 hp, 115VAC, single phase, 60V, 7.4A

NEMA 56C totally enclosed fan cooled

Belt Speed – 51 ft/min

Conveyor load – 100 pounds max.

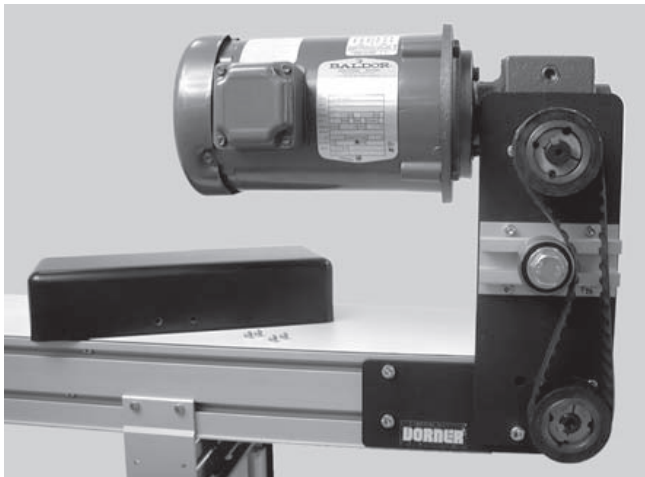


Figure 2

Refer to **(Figure 2)** for typical components

Gearmotor
Drive Pulley
Timing Belt
Driven Pulley
Mounting Bracket
Timing Belt Tensioner
Conveyor
Cover

Installation

Required Tools for Conveyor

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

Recommended Setup Sequence

- Remove conveyor from crate and unwrap
- Temporarily support upper discharge end of conveyor, and lock the swivel locking casters on the support stand
- Loosen support stand fasteners, swing stand down so 2.5' long conveyor section is level to floor
- Tighten support stand fasteners



Figure 3

- Remove the T-bar from the diagonal brace assembly, place T-bar into T-slot on conveyor, attach and tighten diagonal brace to T-bar



Figure 4

CONVEYOR IS SHIPPED FROM FACTORY WITH BELT UNTENSIONED

Belt must be tensioned before running conveyor!

- Tension belt by turning pinion screw, and tighten pinion locking screw. Tighten two tail screws on each side.



Figure 5

- Edge of tail plate window on frame on 2.5' long conveyor section should be in line with edge of aluminum frame.



Figure 6

Horizontal to Incline Cleated Belt Conveyor

Installation

- Do not overtension belt. Overtensioning the belt will cause bowing in transition area.

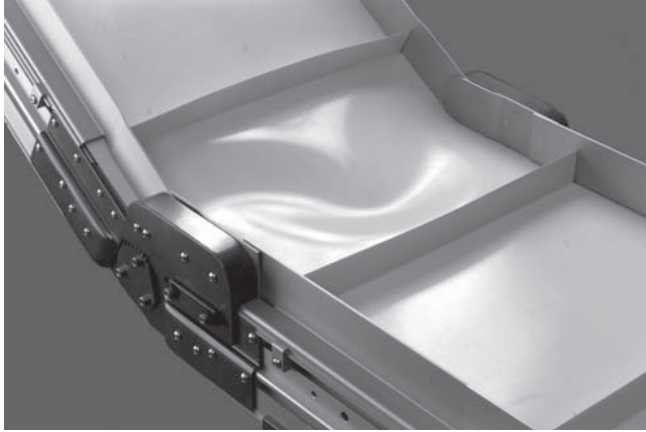


Figure 7


Installation

Drive Package Installation

Required Tools

- Hex key wrenches:
2 mm, 2.5 mm, 3 mm, 5 mm
- Straight edge
- Torque wrench

Mounting

⚠ WARNING

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

Installation Component List

- | |
|------------------------------|
| 1 Timing Belt |
| 2 M6 Socket Head Screws (4x) |
| 3 M8 Socket Head Screws (2x) |
| 4 Driven Pulley |
| 5 Key |
| 6 M4 Socket Head Screws (4x) |
| 7 Cover |
| 8 Top Mount Assembly |
| 9 Drive Pulley |

1. Typical components (Figure 8)

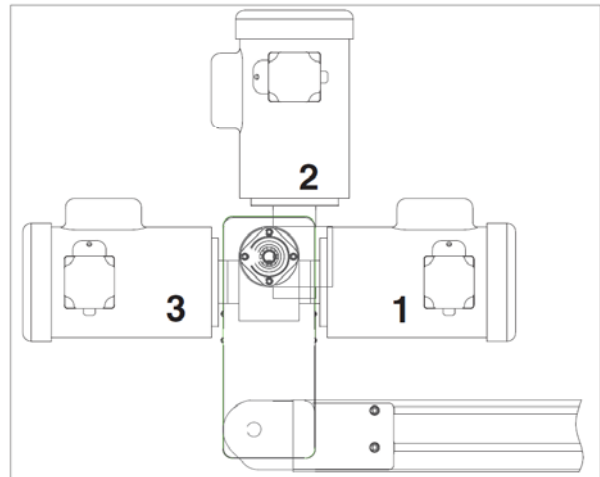


Figure 8

Horizontal to Incline Cleated Belt Conveyor

NOTE

Gearmotor may be operated in positions 1, 2 or 3 (Figure 3).



2. If required, change gearmotor position by removing four (4) screws. Rotate gearmotor to other position and replace screws. Tighten to 110 in-lb (12 Nm).

3. Locate drive output shaft. Remove two (2) M8 screws and four (4) M6 screws and discard.



Figure 9

Installation

4. Attach mount assembly with two (2) M8 screws and four (4) M6 screws. Tighten M6 screws to 146 in- lbs (16.5 N- m) and M8 screws to 288 in- lbs (32.5 N- m).

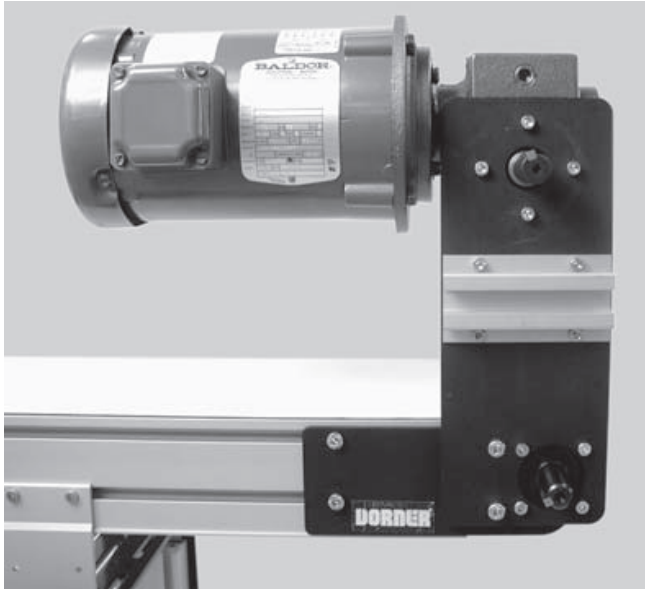


Figure 10

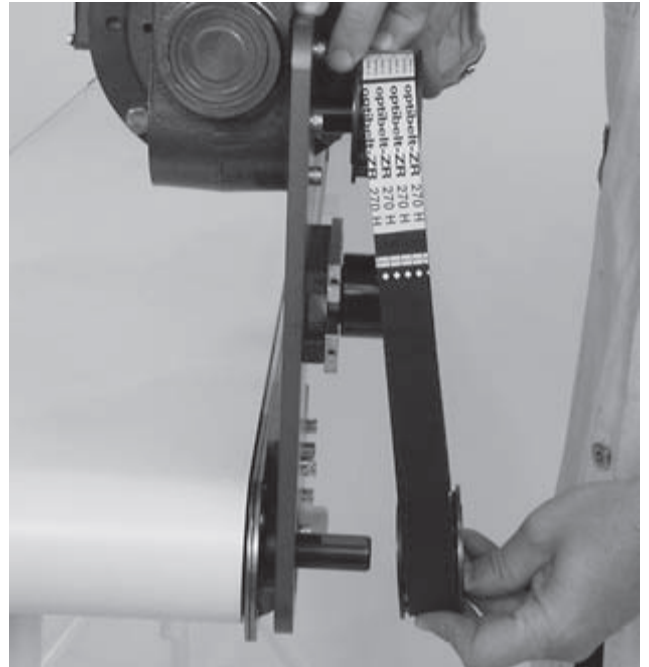


Figure 11

6. Wrap timing belt around driven pulley and drive pulley. Install driven pulley onto conveyor shaft.



5. Install key

7. Using a straight edge, align driven pulley with drive pulley

Installation

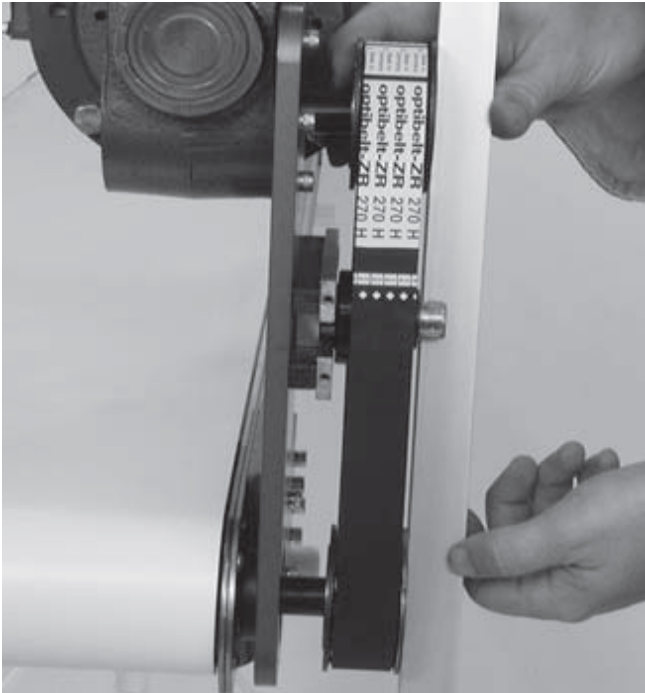


Figure 12

8. Tighten driven pulley taper-lock screws

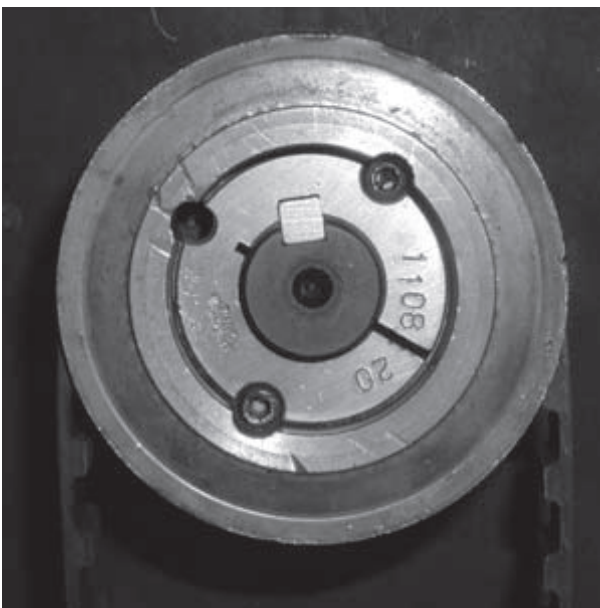


Figure 13

9. Locate timing belt tensioner as shown. Tension timing belt to obtain 1/8" (3 mm) deflection for 6 lb (3 Kg) of force

at timing belt midpoint. Tighten tensioner screw to 110 in-lb (12 Nm).

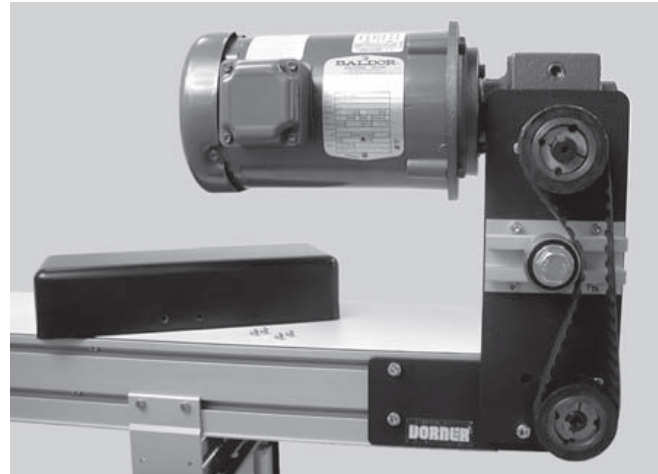


Figure 14

10. Install cover with four (4) screws. Tighten screws to 35 in-lb (4 Nm).

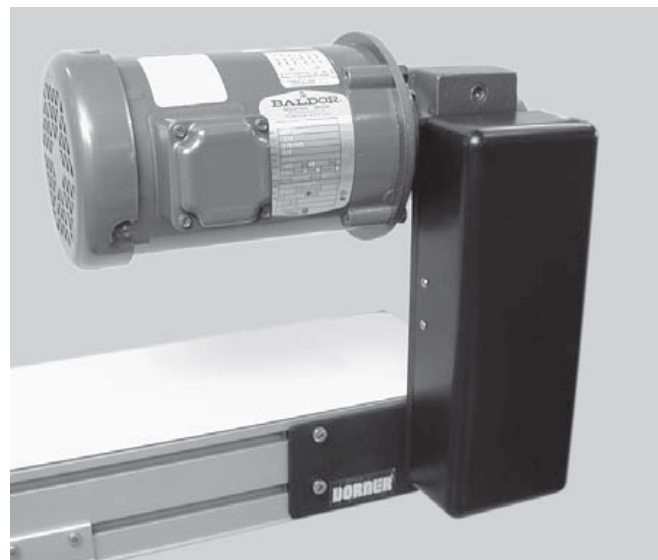


Figure 15

Preventive Maintenance and Adjustment

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

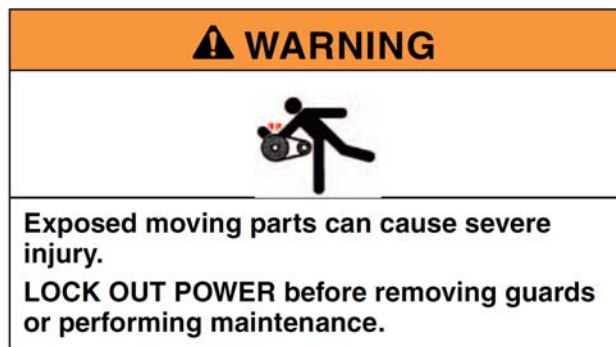
Damage to V-guide indicates:

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

Required Tools

- Hex key wrenches: 2 mm, 2.5 mm, 3 mm, 5 mm
- Adjustable wrench (for hexagon head screws)
- Straight edge
- Torque wrench

Timing Belt Tensioning



1. Remove four (4) screws and remove cover
2. Loosen tensioner

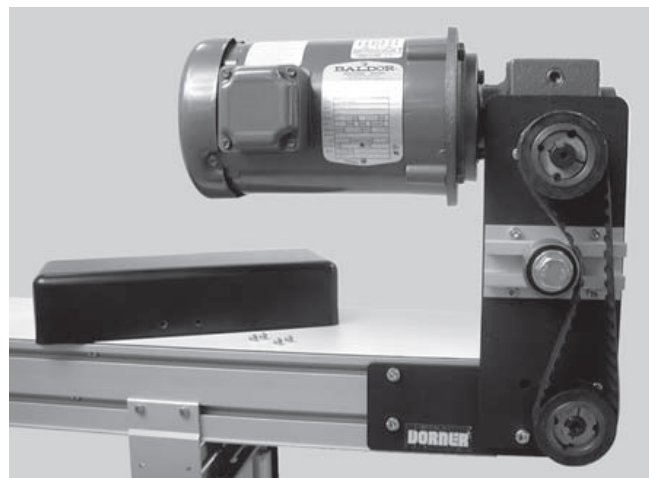



Figure 16

3. Tension timing belt to obtain 1/8" (3 mm) deflection for 6 lb (3 Kg) of force at timing belt midpoint. Tighten tensioner screw to 110 in-lb (12 Nm).
4. Install cover with four (4) screws. Tighten screws to 35 in-lb (4 Nm).

Installation

5. Install cover with four (4) screws. Tighten screws to 35 in-lb (4 Nm).

Timing Belt Replacement

⚠ WARNING

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

1. Remove four (4) screws and remove cover 2. Loosen tensioner.
2. Remove timing belt

NOTE
<i>If timing belt does not slide over pulley flange, loosen driven pulley taper-lock screws and remove pulley with belt</i>

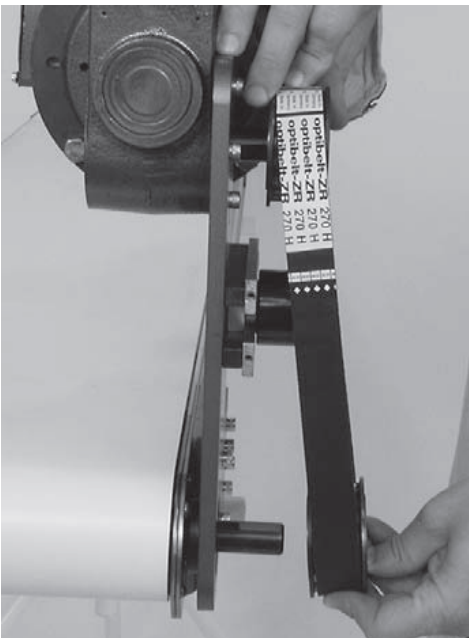



Figure 17

3. Install timing belt.
4. Tension timing belt to obtain 1/8" (3 mm) deflection for 6 lb (3 Kg) of force at timing belt midpoint Tighten tensioner screw to 110 in-lb (12 Nm).

Preventive Maintenance and Adjustment

Drive or Driven Pulley Replacement

⚠ WARNING

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

1. Complete steps 1 & 2 of “Timing Belt Replacement” section.
2. Remove taper-lock screws. Insert one (1) of taper lock screws in remaining hole. Tighten screw until pulley is loose. Remove pulley and taper hub assembly.

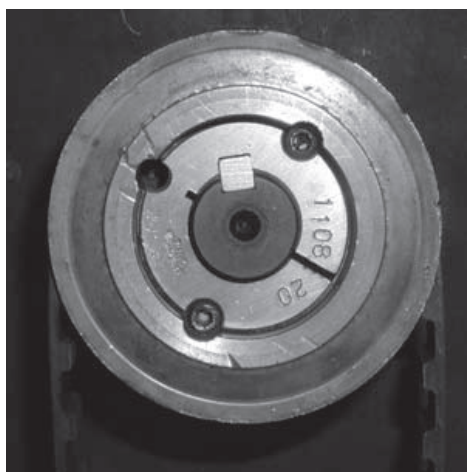



Figure 18

NOTE
<i>If drive pulley is replaced, wrap timing belt around drive pulley and complete step 3.</i>

3. Complete steps 6 through 10 of “Installation” section.

Gear Reducer Replacement

⚠ WARNING

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

1. Remove four (4) screws and remove cover 2. Loosen M10 shaft locking screw.

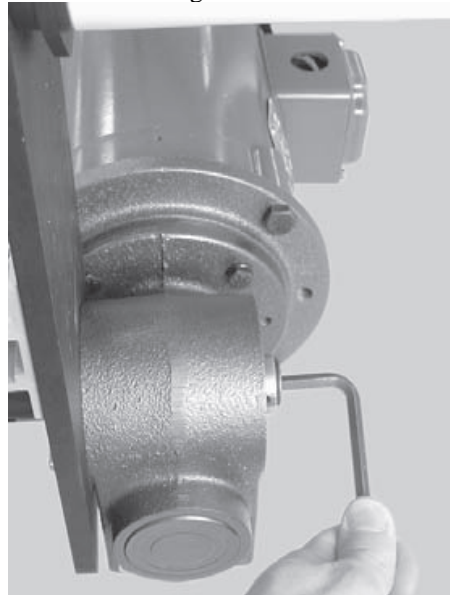


Figure 19

3. Loosen tensioner.
4. Loosen taper-lock screws and remove drive pulley: Insert one (1) of taper lock screws in remaining hole. Tighten screw until pulley is loose.

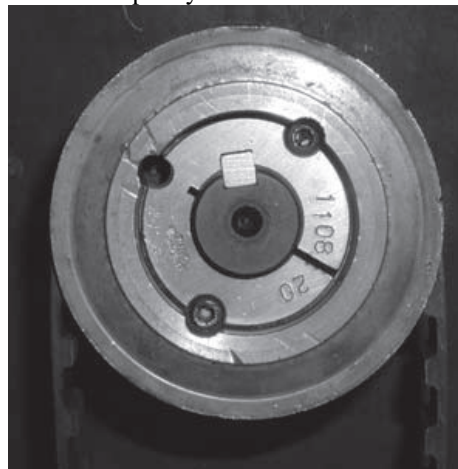


Figure 20

Horizontal to Incline Cleated Belt Conveyor

Preventive Maintenance and Adjustment

5. Remove drive pulley, taper hub assembly, and timing belt

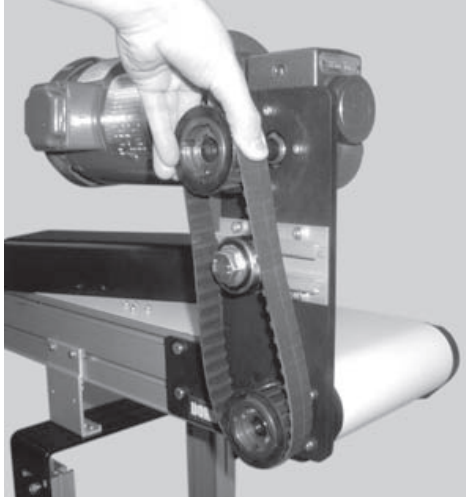


Figure 21

6. Remove four (4) gear reducer mounting screws. Remove gearmotor.

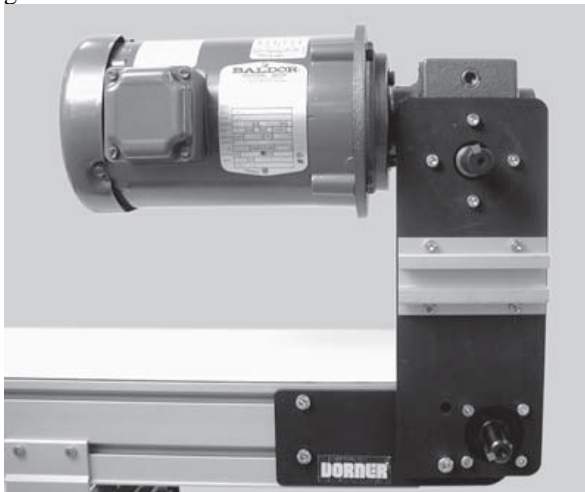


Figure 22

7. Remove four screws. Detach motor from gear reducer. Retain motor output shaft key

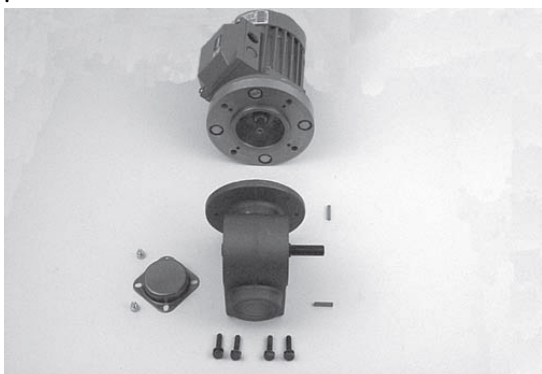


Figure 23

8. Remove two (2) screws and detach output shaft cover

9. Remove M10 shaft locking screw, remove gear reducer output shaft and key.

NOTE

Output shaft is held in Gear Reducer with a tapered press fit. Removal may require use of an arbor press.

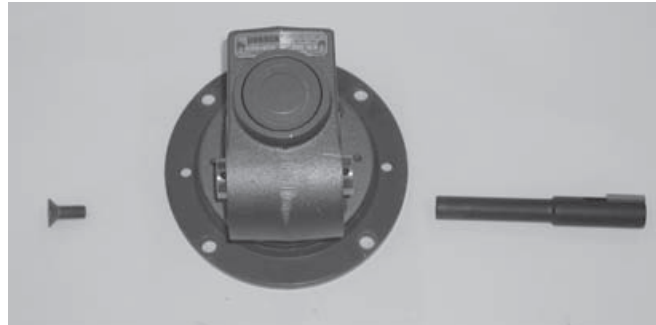


Figure 24

10. Insert the new shaft with key into new gear reducer.

Tighten M10 shaft locking screw to 300 in- lbs (34 N- m).

IMPORTANT

Be extremely careful when coupling motor to gear reducer. Avoid misalignment and forcing the connection causing possible permanent gear reducer seal damage.

11. With key in keyway, slide motor) and gear reducer together. Install screws and tighten.

12. Install gearmotor to mounting bracket and tighten screws to 110 in-lb (12 Nm).


NOTE

Drive pulley is removed. Wrap timing belt around drive pulley and complete step 13.

13. Complete steps 6 through 10 of “Installation” section.

Preventive Maintenance and Adjustment

Motor Replacement

⚠ WARNING

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

⚠ DANGER

Hazardous voltage will cause severe injury or death. LOCK OUT POWER BEFORE WIRING.

1. Unplug motor power cord from outlet.
2. Remove four (4) screws. Detach motor from gear reducer. Retain motor output shaft key.

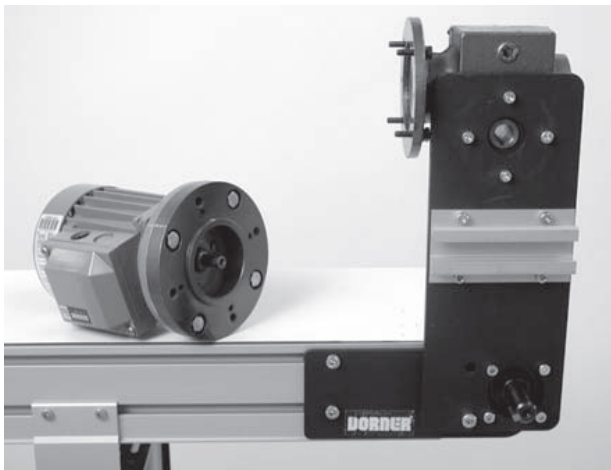


Figure 25

IMPORTANT
<i>Be extremely careful when coupling motor to gear reducer. Avoid misalignment and forcing the connection causing possible permanent gear reducer seal damage.</i>

3. With key in keyway, slide motor and gear reducer together. Install screws and tighten.

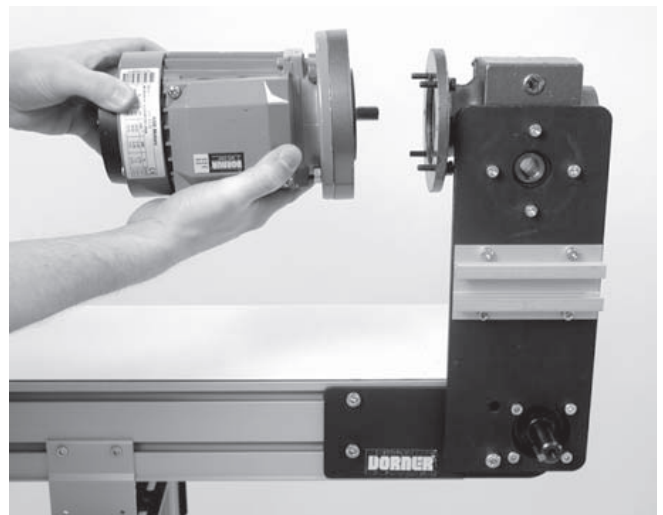



Figure 26

4. Replace motor power cord in outlet:

Preventive Maintenance and Adjustment

Belt Removal and Installation

⚠ 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

On tension end of the conveyor, identified by the pinion locking screw, loosen the pinion locking screw, adjust the pinion torque screw.

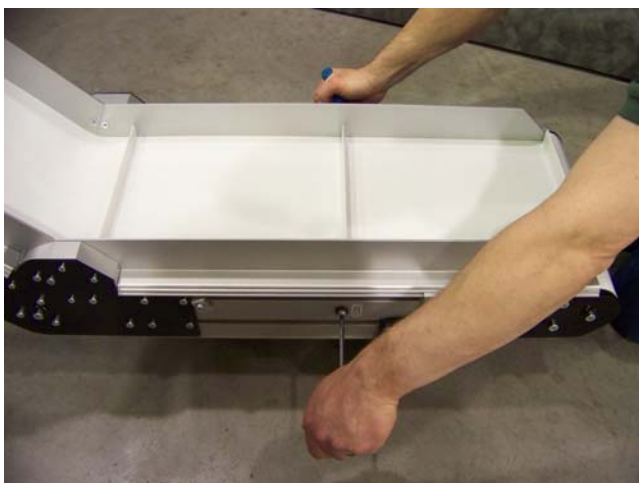


Figure 27

On both sides of conveyor, loosen the two tail clamp bolts, and push head plate assembly inward.



Figure 28

Remove guides off non-drive side of conveyor



Figure 29

Make sure conveyor is supported by temporary stand under gearmotor. Remove conveyor stand bracket. Remove knuckle roller guard and roller. Remove belt off side of conveyor.

Preventive Maintenance and Adjustment



Figure 30

Install belt by reversing steps for belt removal. Be sure that belt is on top of return rollers on underside of inclined conveyor section

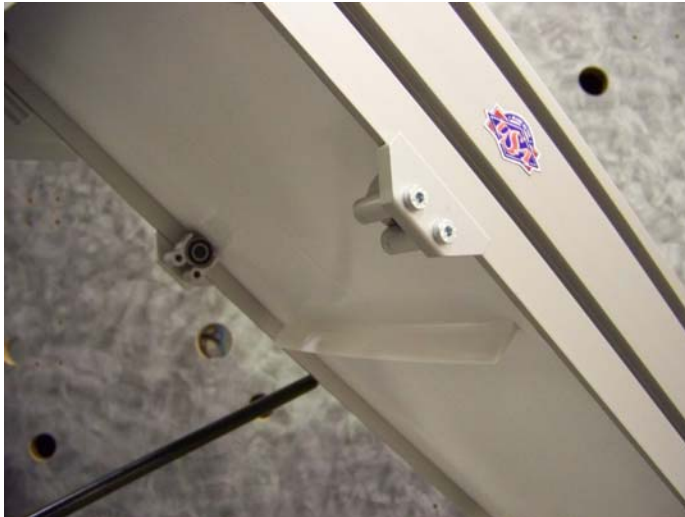


Figure 31

Tension belt by turning pinion screw, and tighten pinion locking screw. Tighten two tail screws on each side.



Figure 32

Edge of tail plate window on frame on 2.5' long conveyor section should be in line with edge of aluminum frame.



Figure 33

Preventive Maintenance and Adjustment

Do not overtension belt. Overtensioning the belt will cause bowing in transition area.

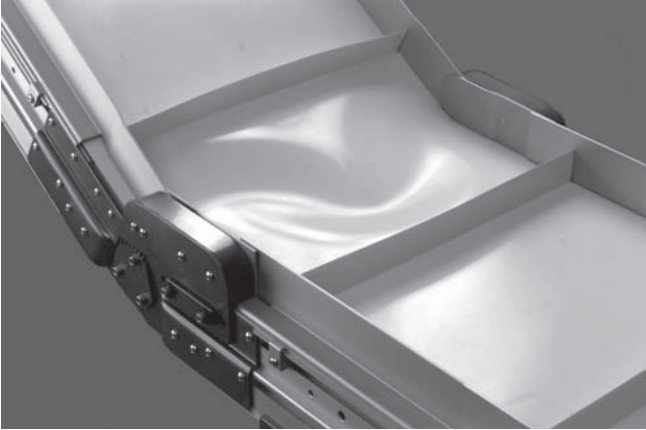


Figure 34

If belt tracking is necessary, refer to “Conveyor Belt Tracking” section

Preventive Maintenance and Adjustment

Conveyor Belt Tracking

V-guide on belt helps maintain proper belt tracking. Track as needed to keep belt centered on conveyor.

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

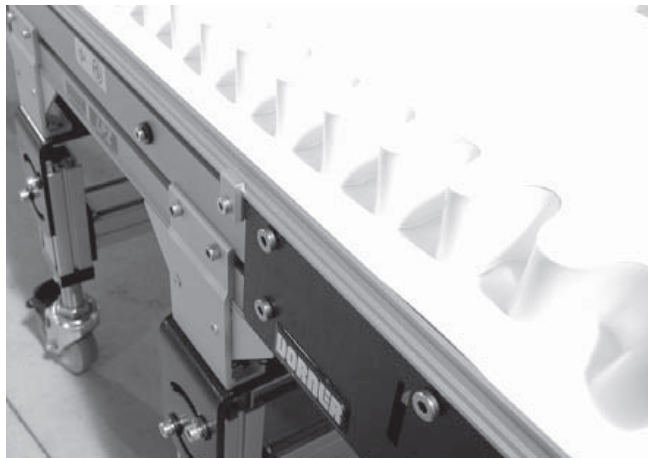


Figure 35

3. With the conveyor running, use wrench to rotate the tracking screw in small increments until the belt tracks in the center of the conveyor.

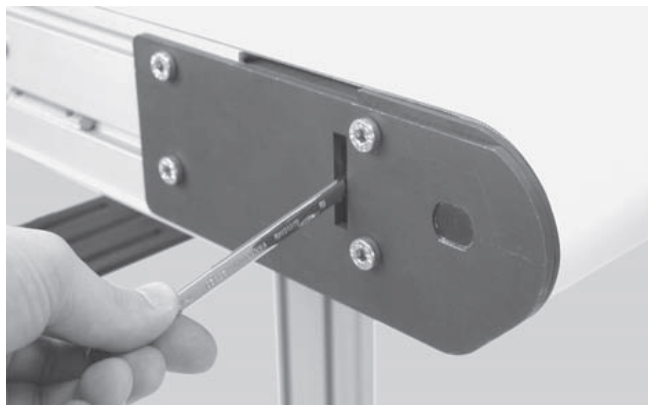


Figure 36

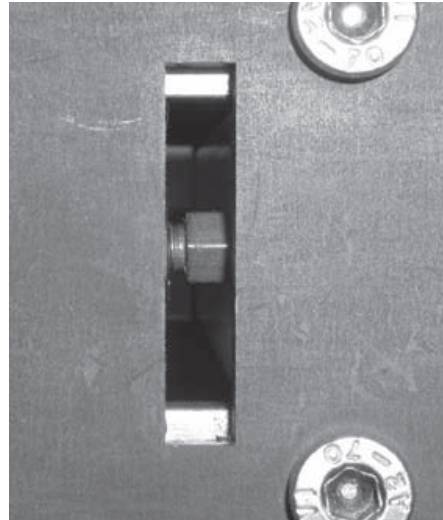


Figure 37

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

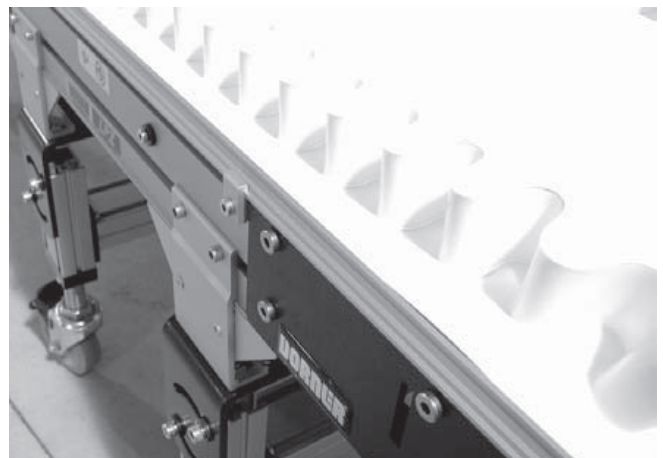



Figure 38


Preventive Maintenance and Adjustment

Stand Height Adjustment

Required Tools

- 6 mm Hex Key Wrench

⚠ WARNING

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

⚠ 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.

- Using a fixed support raise conveyor and stand off the floor.
- Raise or lower stand to the required height. Level stand from side to side using a level

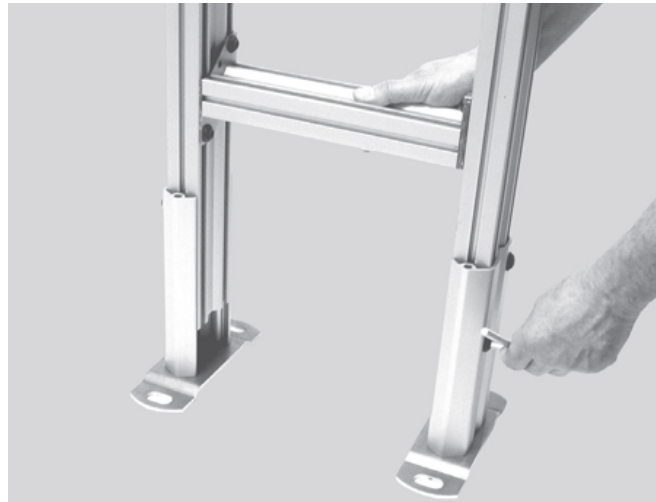



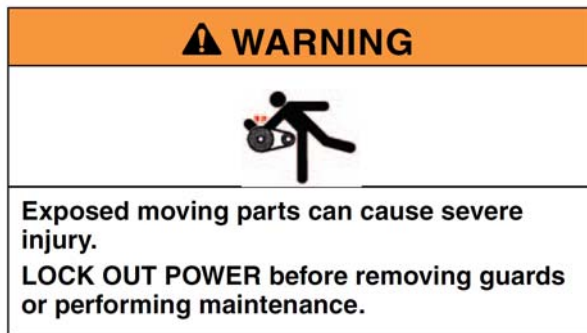
Figure 39

⚠ WARNING

Failure to secure screws may cause conveyor sections to drop down causing severe injury. TIGHTEN SCREWS AFTER ADJUSTMENT.

- Tighten button screws to 150 in-lb (17 N-m).
- Repeat on opposite stand leg.

Preventive Maintenance and Adjustment

Pulley Removal



Remove conveyor belt to access pulley(s). Remove the desired pulley following the corresponding instructions below:

- A - Idler Pulley Removal
- B - Drive Pulley Removal
- C - Knuckle Idler Pulley Removal

A – Idler Pulley Removal

1. Temporarily support the idler pulley.
2. On one side of conveyor, loosen the two (2) back fastening screws and remove two (2) front fastening screws.



Figure 40

3. Pull back the outer headplate and remove the inner spacer.



Figure 41

4. Slide the idler pulley assembly out of the headplate on the opposite side.



Figure 42

Preventive Maintenance and Adjustment

5. Remove the pulley shaft assembly: remove the clip ring and washer from one side of the pulley assembly.

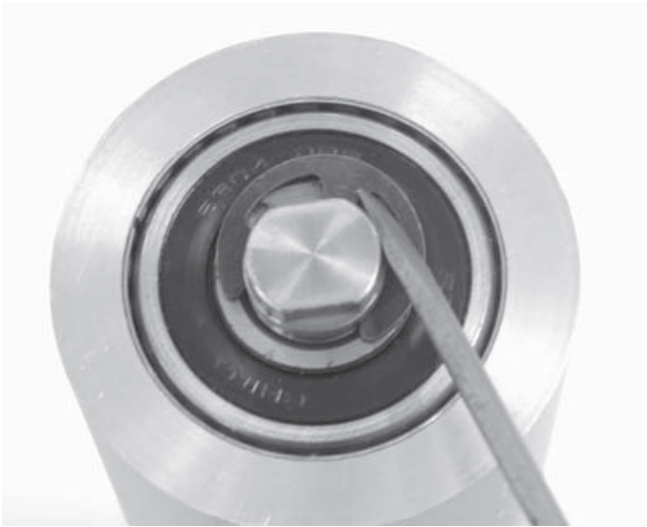


Figure 43

Slide the shaft assembly out of the pulley.



Figure 44

B – Drive Pulley Removal

Use a temporary support to support gearmotor. Remove conveyor drive assembly.

1. Temporarily support the drive pulley.



Figure 45

2. Remove four shaft cover screws. Remove the shaft cover.

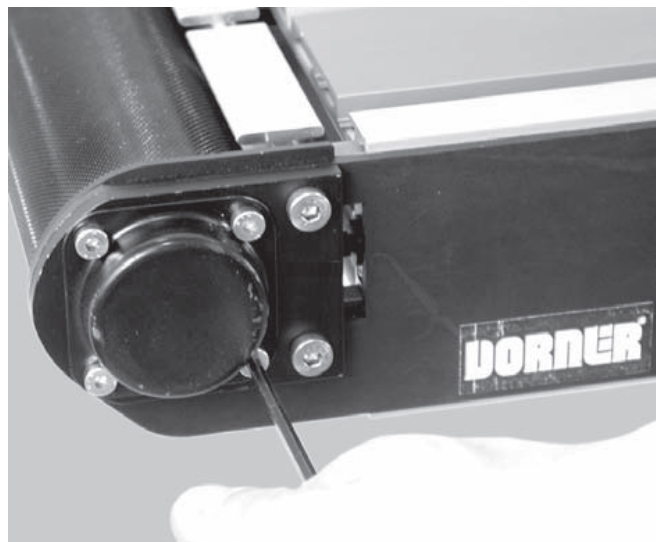


Figure 46

Preventive Maintenance and Adjustment

3. Loosen the bearing collar set screw and remove bearing collar. Repeat on drive shaft side of pulley



Figure 47

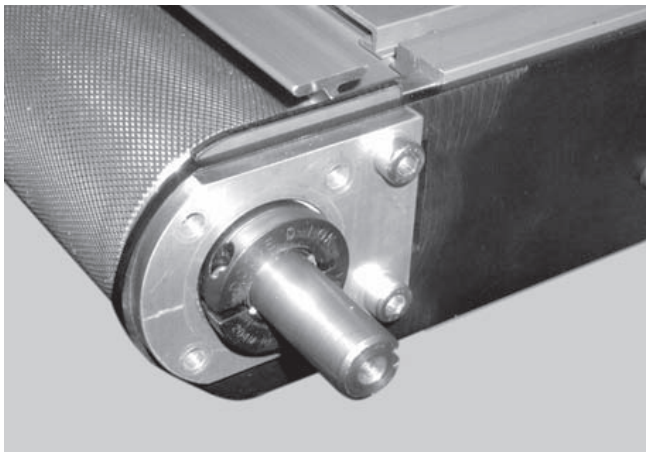


Figure 48

On the drive headplate, remove two (2).



Figure 49

Remove the outer headplate assembly and inner spacer.



Figure 50

Slide the drive pulley out of the headplate on the opposite side.

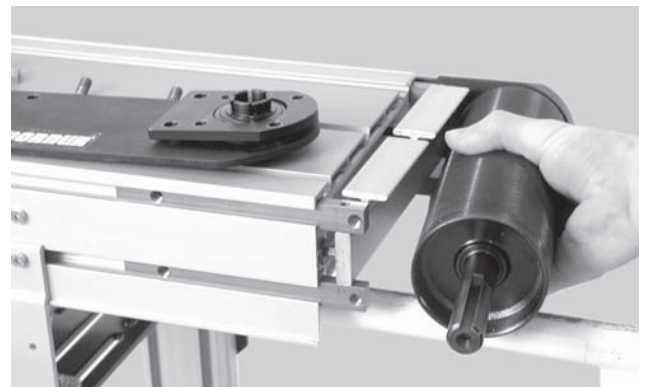


Figure 51

Preventive Maintenance and Adjustment

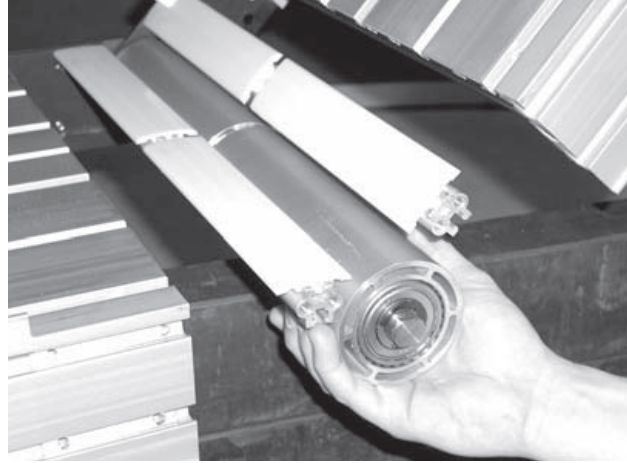


Figure 53

C – Knuckle Pulley Removal

Remove screws and remove outer plate from knuckle return roller assembly.

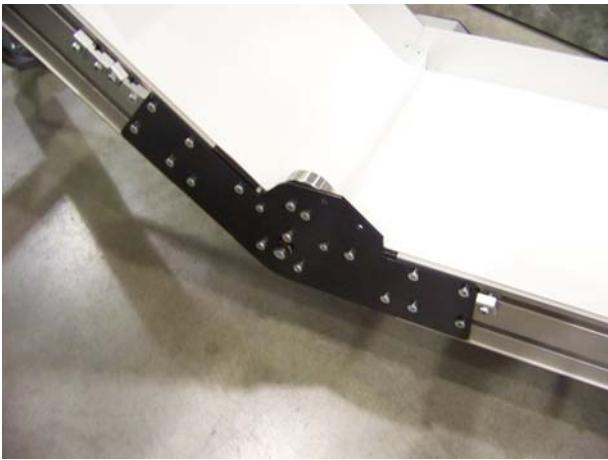


Figure 52

Slide the idler pulley assembly out of the knuckle plate on the opposite side.



Figure 54

Preventive Maintenance and Adjustment

Slide the shaft assembly out of the pulley.



Figure 55

A – Idler Bearing Replacement

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

B – Drive Bearing Removal and Replacement

Removal

1. Turn bearing to align with slots in bearing housing. Then remove bearing.

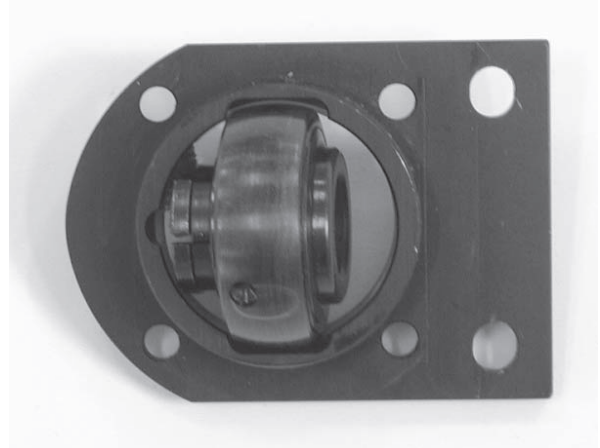



Figure 56

Bearing Replacement

⚠ WARNING

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

Replacement

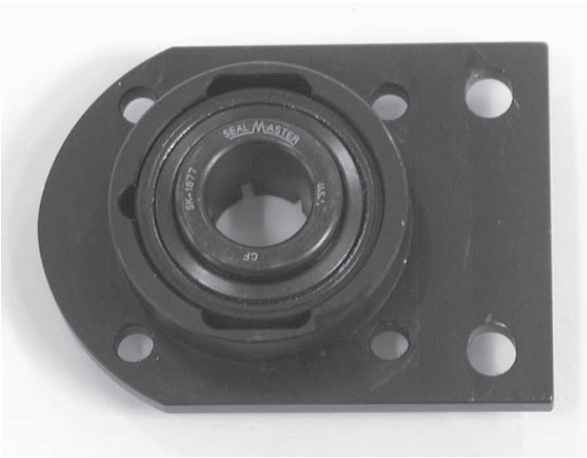
1. Inspect bearing housing bearing surface. If worn or damaged, replace.

2. Insert bearing into housing slot

Locate anti-rotation nub to align with slot and twist bearing into housing.

- A – Idler Bearing
- B – Drive Bearing
- C – Horizontal to Incline Knuckle Idler Bearing
- D – Belt Hold Down Roller Bearing Assembly

Preventive Maintenance and Adjustment



C – Nose Over Knuckle Idler Bearing Replacement

The bearings in the Horizontal to Incline Knuckle Idler Pulley can not be removed. Replace the entire pulley assembly when worn.

D – Belt Hold Down Bearing Assembly

Remove screws, replace entire axle/nut bearing assembly.



Notes

Return Policy

Returns must have prior written factory authorization or they will not be accepted. Items that are returned to Dorner without authorization will not be credited nor returned to the original sender. When calling for authorization, please have the following information ready for the Dorner factory representative or your local distributor:

1. Name and address of customer.
2. Dorner part number(s) of item(s) being returned.
3. Reason for return.
4. Customer's original order number used when ordering the item(s).
5. Dorner or distributor invoice number (if available, part serial number).

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

Conveyors and conveyor accessories

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

Parts

Standard stock parts	30%
Plastic chain, cleated and specialty belts	non-returnable items

Returns will not be accepted after 60 days from original invoice date. The return charge covers inspection, cleaning, disassembly, disposal and reissuing of components to inventory. If a replacement is needed prior to evaluation of returned item, a purchase order must be issued. Credit (if any) is issued only after return and evaluation is complete.

Dorner has representatives throughout the world. Contact Dorner for the name of your local representative. Our Customer Service Team will gladly help with your questions on Dorner products.

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

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



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