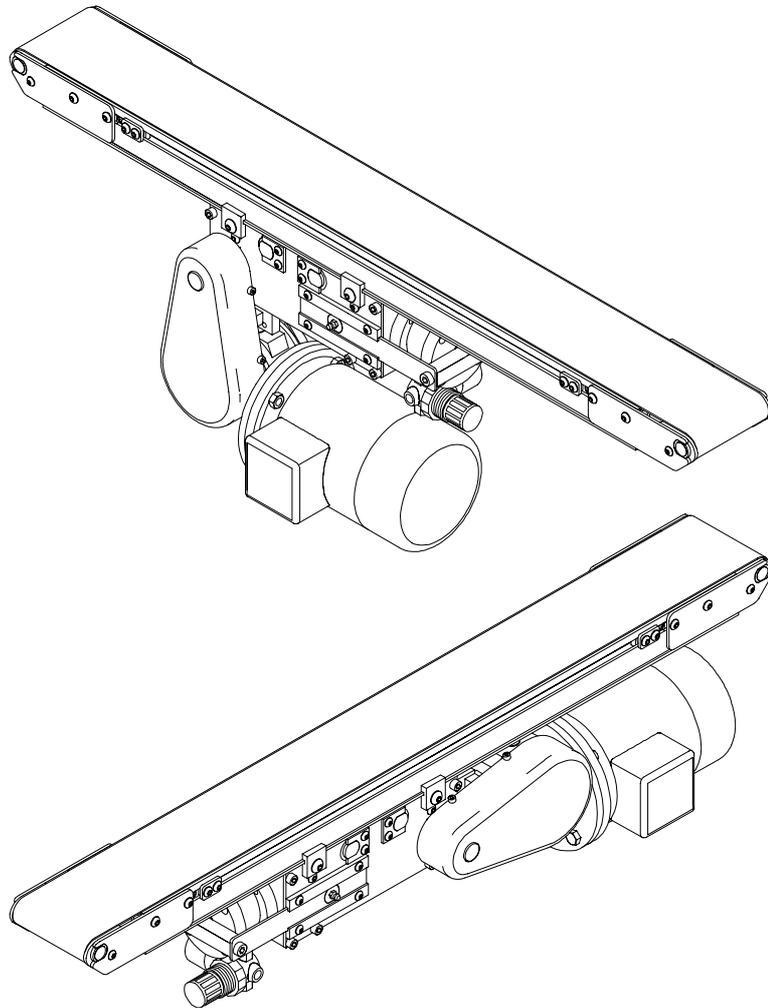


## **2100 Series Center Drive Conveyors**

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### **Set-up, Operation & Maintenance Manual**



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## Safe Practices

**WARNING**

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

**WARNING**

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. Because Dorner Mfg. Corp. cannot control the physical installation and applications of multiple conveyor systems, taking protective measures is the responsibility of the user.

**WARNING**

Operating Dorner conveyors in an explosive environment is prohibited.

**WARNING**

Standing on a conveyor or transporting people is prohibited.

**WARNING**

Before proceeding to loosen hardware that locks-in the selected stand height, be sure that all related Conveyor sections are securely supported to prevent them from moving suddenly and dropping-down which may pinch or strike you, causing serious personal injury.

**WARNING**

These gearmotors operate at an elevated temperature which may cause people to be startled if they accidentally touch the motor housing.

**WARNING**

NEVER operate equipment without guards or other protective devices properly secured in place. In addition, to prevent injury, make sure all electrical and pneumatic power sources have been disconnected and locked-out before you perform any maintenance, make any adjustments or replace any components.

## Foreword

By following the maintenance and adjustment instructions in this manual, you will prolong the life of your conveyor and maintain its maximum efficiency.

When ordering replacement parts, always give the serial and model numbers. These numbers are on the plate (Figure 1) which is located on the conveyor side rail. Record these numbers in the spaces provided for future reference.

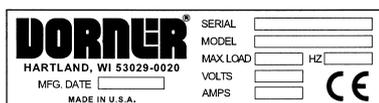


Figure 1: Typical Model & Order Number Nameplate

Specified "MAX. LOAD" is based on conveyor being in a horizontal position with a non-accumulating and evenly distributed load.

Serial Number \_\_\_\_\_  
(Fill In)

Model Number \_\_\_\_\_  
(Fill In)

The Timing Belt has a length designation stamped onto it. Also, the Gear Reducer and Electric Drive Motor have Dorner part number tags affixed to them. Use the spaces provided to record these numbers:

Timing Belt ( \_ \_ \_ L )  
Gear Reducer (820- \_ \_ \_ )  
Electric Drive Motor (826- \_ \_ \_ )

For pictorial clarity, some illustrations in this manual may show guards or other protective devices open or removed. Under no circumstances should the conveyor be operated without these devices securely in place.

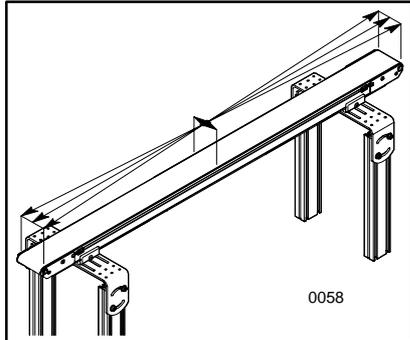
**NOTE:** All technical data in this publication is based on the product information available at time of printing. Dorner reserves the right to make changes at any time without notice or obligation to install those changes on units previously delivered.

# Installation Instructions

Using appropriate lifting means, carefully remove the conveyor assembly or section from the shipping container and place it in its correct operating position and direction.

Use Dorner stands and compatible mounting hardware or your own mounting provisions to securely mount the conveyor. Refer to the Support Stands Set-up, Operation & Maintenance Manual for appropriate mounting details.

The conveyor must be mounted straight, flat and level, within the confines of the conveyor. Use a straight edge and a level for initial set up (Figure 2).



**Figure 2: Conveyor Alignment Reference Detail**

**IMPORTANT:** Do not bend or twist the conveyor frame when mounting the conveyor.

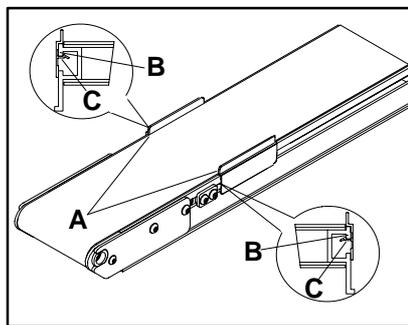
All low side conveyors without optional guiding, have factory installed belt tracking guides (A of Figure 3) installed on both ends of conveyor. Each guide is an 89 mm long piece of formed plastic which snaps onto a portion of the conveyor sidewall (B) above the T-slot channel.

**To remove the guide** from the conveyor sidewall, apply a slight outward and downward finger-pressure on one of the

top corners of the guide and gradually peel it off the portion of the conveyor sidewall (B).

**To install the guide** onto the conveyor sidewall, first place the lower lip (C) of the guide against the upper edge of the conveyor or sidewall T-slot channel. Then, apply inward and upward pressure to completely snap it into place.

**NOTE:** Use the belt tracking guides (A of Figure 3) during initial conveyor startup for tracking conveyor belt, as necessary. Guides may be left on or removed, after startup. Be sure to save the belt tracking guides for start-up after belt cleaning or replacement.



**Figure 3: Conveyor Low Side Belt Tracking Guide Installation Detail**

## Conveyors - 3,962 mm to 7,315 mm Long

Conveyors measuring 3,962 to 7,315 mm long consist of two sections and are split for shipping. Use the following instructions for re-assembly:

Position connecting hardware (E of Figure 4) and mounting brackets with return rollers (I) in proper locations.

Place the section (J) with the drive unit (F) attached into position on the stands. The conveyor belt should be over the top of the return rollers.

If the bottom wiper/guard was installed on the second section (D), it must be removed before installing the section. The bottom wiper/guard must be outside of the belt. Refer to the "bottom wiper removal" procedures associated with Figure 10 on page 5.

Unroll the conveyor belt (H of Figure 4) and slip it over outside of second section (D).

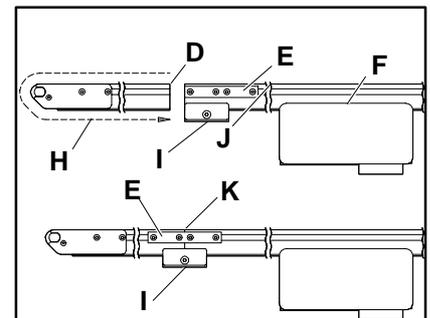
Place the second section (D) into position on the stand mounting brackets with return rollers assemblies (I). Push the lower return run of the belt up into the conveyor frame when lowering the section onto the stand to prevent pinching the belt.

Fasten the two sections together by centering and tightening the connecting hardware (E).

Secure to the stands.

Assembled connection (K) should appear as shown in Figure 4 with the connecting hardware (E) and the stand mounting bracket with return rollers assembly (I) centered at the split between the two sections.

Take-up extra belt slack. Refer to "Conveyor Belt Slack Take-up Adjustment" topic on page 7 and set the conveyor belt tension.



**Figure 4: Conveyor Alignment Reference Detail**

# Maintenance

## Lubrication

**⚠ WARNING ⚠**

To prevent injury, make sure all electrical and pneumatic power sources have been disconnected and locked-out before you perform any maintenance, make any adjustments or replace any components.

## Drive Module

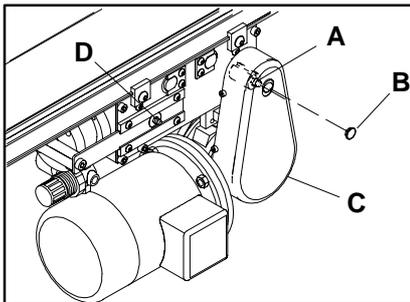
### Pulley Bearing on Outboard Shaft Side

**NOTE:** Bearing in 44 mm wide conveyors have shields and do not require lubrication.

On 70 mm and wider conveyors, lubricate the pulley bearing on the drive side through the outboard drive shaft grease fitting (A of Figure 5).

Remove the cap (B) from the drive belt guard (C).

When lubricating the pulley bearings *for the first time*, the outboard shaft assembly must be filled with grease before the bearings will get any lubrication. Use a maximum of two pumps. *Do not over-lubricate.*



**Figure 5: Type 1 Center Drive Shown**

When lubricating any of the pulley bearings anytime after the initial lubrication, use a maximum of one pump per application. *Do not over-lubricate.*

After lubrication is completed, replace the cap (B).

### Pulley Bearing on Opposite Side of Outboard Shaft

For the pulley bearing on the side opposite the outboard shaft (end opposite A), install Dorner greasing adapter, part number 200046M (G of Figure 7).

Make sure the adapter shoulder (I) is seated against the module side plate. Proper seat-

ing assures alignment of the internal lubrication passages (H).

### Take-up Idler Pulley

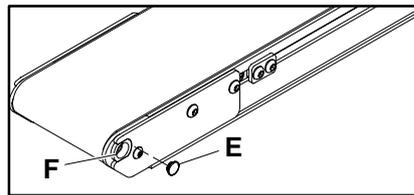
A permanent grease fitting (D of Figure 5) is provided on each side of the take-up idler pulley.

## Conveyor Pulley Bearings

**NOTE:** When lubricating pulley bearings, use a conventional hand grease gun, with a maximum of one pump per application, unless otherwise specified. *Do not over-lubricate.* To prevent damage to the bearing, do not use a power grease gun which creates pressure that may unseat the bearing. In addition, 44 mm wide conveyors use shielded ball bearings and do not require lubrication.

Use Dorner Red Grease 397 gram cartridge, part number 829-002 or 397 gram can, part number 829-003. Lubricate pulley bearings every 750 hours or more frequently depending on operating conditions.

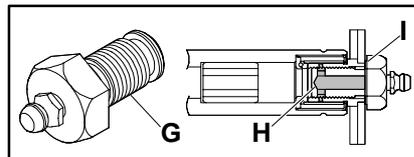
All non-driven positions have a plastic plug (E of Figure 6) installed into the end of the pulley retaining sleeve (F). Use a small flat screwdriver to remove this plug.



**Figure 6**

Install Dorner greasing adapter, part number 200046M (G of Figure 7).

Make sure the adapter shoulder (I) is seated against the conveyor tail plate. Proper seating assures alignment of the internal lubrication passage (H).



**Figure 7**

When lubrication is finished, the grease adapter (G) can be left in place or can be replaced with the plastic plug (E of Figure 6).

## Conveyor Belt

### Inspection

Inspect the conveyor belt for:

- Surface cuts or wear
- Tracking problems
- Worn edges
- Stalling or slipping
- Stretching or breaking
- Belts that walk to one side
- Non-uniform movement of the conveyor belt
- Lines or rough edges on belt

## Problem Identification

Belts that walk to one side indicate:

- Belt tracking incorrectly. Refer to “Conveyor Belt Tracking Adjustment” topic beginning on page 7.
- Twisted or damaged conveyor frame
- Dirt accumulating on the outside diameter of the pulleys
- Side load on belt.

Non-uniform movement indicates:

**NOTE:** When a problem is identified, be sure to perform the necessary corrective maintenance.

- Excessive load on conveyor belt
- Intermittent jam or drive train problems
- The Conveyor belt or drive timing belt is not properly tensioned

Lines or rough edges on belt could indicate:

- Belt tracking incorrectly. Refer to “Conveyor Belt Tracking” topic on page 7.
- Jammed part
- Accumulated dirt in wipers
- Foreign material inside the conveyor
- Improperly positioned accessories

## Cleaning

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

For most conveyor belts, use Dorner Belt Cleaner part number 625619 or equivalent. Mild soap and water may also be used. Do not soak the belt.

Due to the texture of woven polyester and black anti-static belts, use a small semi-stiff bristled brush to improve cleaning.

# Component Replacement and Adjustments

## Conveyor Repair Preparations

### Tools

Use Dorner Tool Kit Part Number 2500M-ENG for proper maintenance. Follow instructions accompanying the tool kit.

### Checklist

To avoid costly delays in repair, use the following checklist:

- Have complete pulley assemblies, replacement belts, return rollers, drive components, gearmotors and fasteners in stock and ready for use.
- Inspect the entire conveyor while it is disassembled.
- Thoroughly clean the conveyor, inside and outside, during repair. Remove any impacted dirt from the knurls on the outside diameter of the drive pulley.
- Replace all worn and damaged parts.
- Check all bearings for smooth operation.
- To minimize downtime when multiple conveyors of the same size are used, stock a complete conveyor that can be exchanged for the damaged conveyor. The damaged conveyor can then be repaired as needed.

## Conveyor Belt Replacement Procedure

**! WARNING !**

**To prevent injury, make sure all electrical and pneumatic power sources have been disconnected and locked-out before you perform any maintenance, make any adjustments or replace any components.**

Disconnect and lock-out all pneumatic and electrical power sources.

To facilitate re-assembly, mark critical locations on conveyor frame and remove guiding, controls, stops and other attached accessories which will interfere with belt removal.

### Conveyor Belt Removal

To change the conveyor belt on a center drive conveyor, the center drive module with conveyor belt must be separated from the conveyor frame.

The first step in this process is to remove the drive mounting package from the center drive module.

Remove the screws (A of Figure 8) securing the belt guard (B) to the back guard plate.

Remove the belt guard.

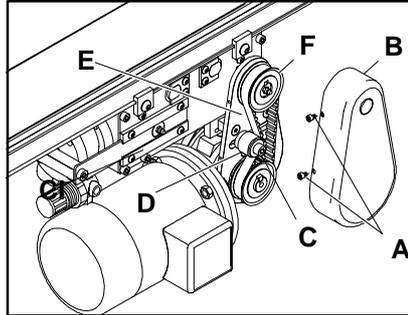


Figure 8

Loosen the cap screw (C) which secures the tensioning bearing assembly (D) to the back guard plate. This will allow enough slack in the timing belt (E) for removal. Remove and retain the timing belt.

Remove the outboard drive shaft with the timing belt pulley (F of Figures 8 & 9). Refer to the procedures under the "Removal" subtopic described under the "Outboard Drive Shaft Replacement" topic on page 8.

Carefully and adequately support the gearmotor and remove the two (2) flat head screws (G of Figure 9) which secure the gearmotor and drive sub-assembly (H) and spacer (I) to the center drive module (J). Then, place the gearmotor and drive assembly to the side.

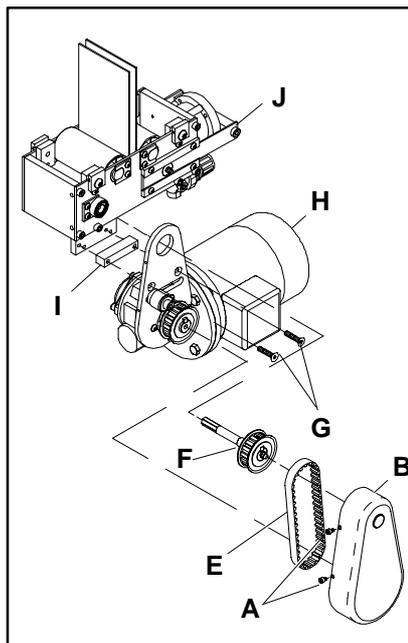


Figure 9

If you are working on a high-side conveyor, remove filler plate (K of Figure 10), from each side of the conveyor, by removing screw (L).

If engaged, loosen the belt tracking cam assemblies (P) on both sides of the tensioning end (M) identified with a label (V) and slide assemblies toward the middle of the conveyor.

Loosen the tail cover plate screws (O) on both sides at the tensioning end.

Position the tensioning end (M) of conveyor by pushing it back into the conveyor frame using the heel of your hand. This loosens the conveyor belt sufficiently for removal.

Find the bottom wiper (T) at the discharge end of the conveyor. Remove the tail cover plate screws (Q and R) on one side of the conveyor. Remove the tail cover plate (S) and slide out the bottom wiper (T) through hole in pulley plate (U).

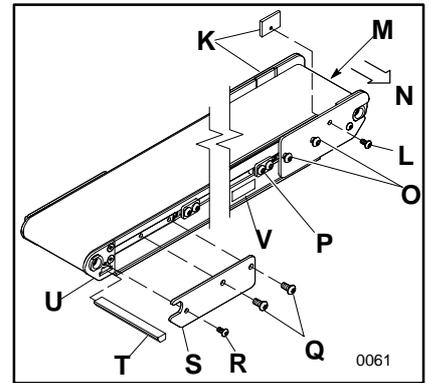


Figure 10

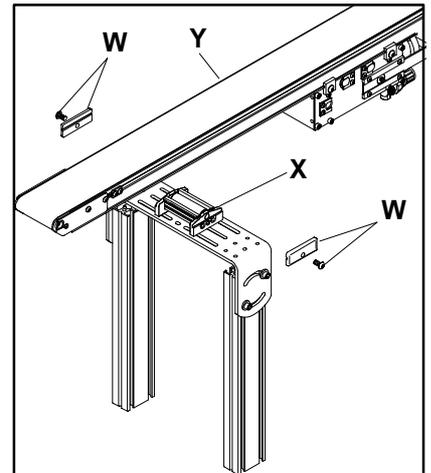


Figure 11

Temporarily remove the screws and mounting clamps (W of Figure 11) from all support stand mounting brackets and return roller assemblies (X) from both sides of the conveyor (Y).

Lift up on the conveyor frame (Y) and slide the existing conveyor belt out and off of the conveyor frame. Then, re-attach the conveyor to each stand by replacing and securing the mounting clamps (W).

# Component Replacement and Adjustments

After the old belt has been removed from the conveyor, remove the center drive module with conveyor belt by loosening the drive clamp plates (Z of Figure 12). Only loosen the screws far enough for the clamp plates to rotate past the conveyor frame. Then, remove the center drive module with belt to a clean work bench for partial disassembly to remove the old conveyor belt (AB) using the following procedures.

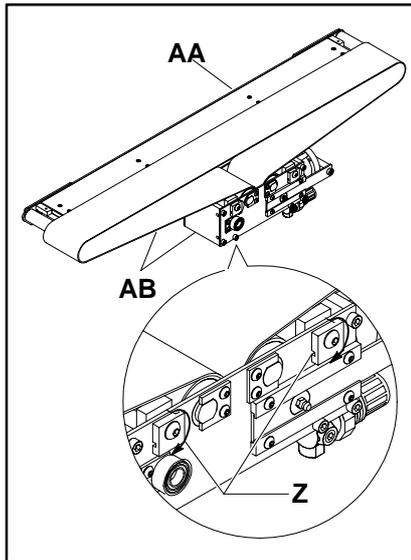


Figure 12

Remove the idler pulley assembly (AC of Figure 13) closest to the tension end (AF) of the center drive module.

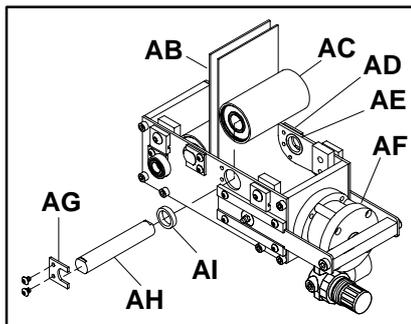


Figure 13

Remove one of the shaft retaining clips (AG) from one end of the idler shaft (AH).

Loosen (but do not remove) the screws securing the retaining clip (AD) on the opposite end of the idler shaft (AH).

Push the shaft (AH) and spacer (AI) out toward the end which has the retaining clip (AG) removed.

Then, push the other spacer (AE) far enough in the opposite direction so that the idler pulley (AC) can be lifted out.

Remove the screws and bottom take-up slide bar (AJ of Figure 14) from one side of the center drive module.

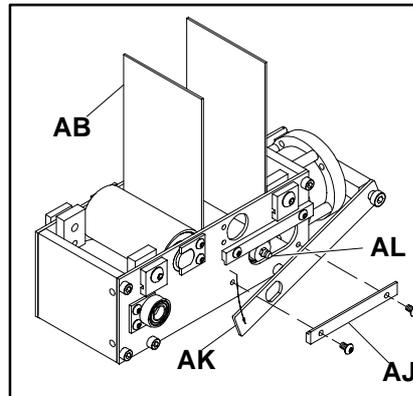


Figure 14

Pull out on the side take-up plate (AK) until it clears the grease fitting on the take-up pulley assembly (AL). Allow the plate (AK) to hang down for now.

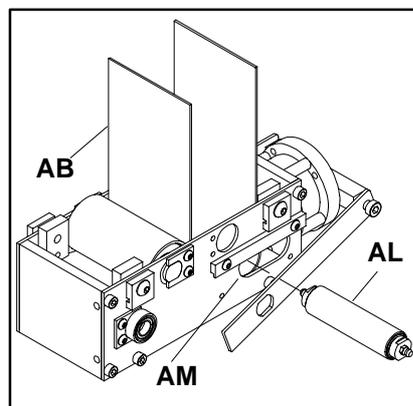


Figure 15

Remove the take-up pulley assembly (AL of Figure 15) through the access hole (AM) in the center drive module.

Remove the drive pulley assembly by removing the shaft retaining clips (AN of Figure 16) on both sides of the drive pulley.

Pull the outboard shaft retaining sleeve (AO) and the pulley retaining sleeve (AP) from the pulley. Refer to "Pulley Removal" topic on page 8. Allow the drive pulley to drop inside of the center drive module.

Lift the old belt (AB) from the center drive module. The drive pulley will come out with the old belt.

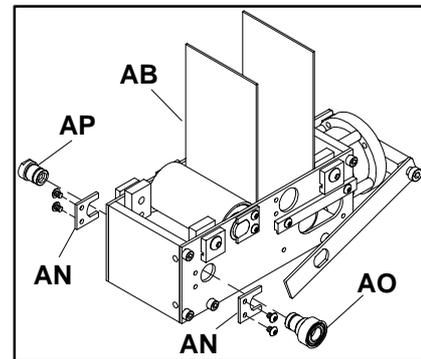


Figure 16

**NOTE:** After the drive pulley is out of the module, check and determine the hex bore orientation and be sure to replace the pulley in the same orientation as it was when removed.

## Belt Replacement

Orient the replacement belt (AU) so the belt splice leading fingers (AQ of Figure 17) point in the direction of belt travel (AR) towards the bottom wiper end (AS) of the conveyor and the outside fingers (AT) are positioned as shown.

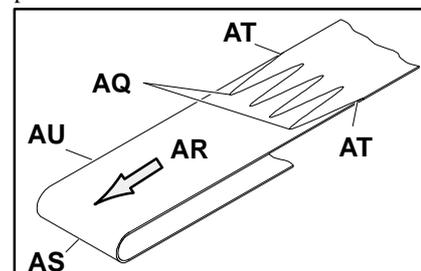


Figure 17: Replacement Belt Orientation Detail

Refer to the Belt Flow Diagram of Figure 18, the direction of belt travel (AR) and the preceding figures for the following procedures.

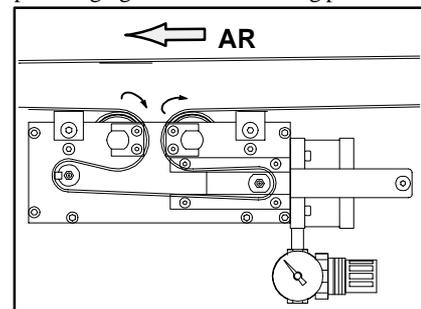


Figure 18: Belt Flow Diagram

**On conveyors measuring 127 mm and wider, properly orient the drive pulley (with respect to positioning the hex bore toward the drive side). Place the drive pulley inside of the loop of the new belt (AU) and place it into the center drive module.**

# Component Replacement and Adjustments

Re-align the pulley assembly with the hole in the side plate.

Re-install the outboard shaft retaining sleeve (AO of Figure 16) and the pulley retaining sleeve (AP) through the side plate and into the pulley.

Re-install the take-up pulley assembly (AL of Figure 15) through the access hole (AM) in the center drive module.

Rotate the side take-up plate (AK of Figure 14) back into position over the take-up pulley grease fitting (AL).

Re-assemble the lower take-up slide bar (AJ) and screws.

Press the idler spacer (AI of Figure 13) into the side plate just far enough so that it is flush with the inside of the plate.

Re-install the spacer (AE) into the opposite side plate on the center drive module. This spacer should be flush with the inside of the plate.

Drop the idler pulley (AC) into the center drive module with the belt between it and the take-up pulley.

Line up the idler pulley (AC) with the spacers (AI and AE) and reinstall the shaft (AH) through the spacers and the pulley.

Re-install and tighten all shaft retaining clips (AG of Figure 13 and AN of Figure 16) removed or loosened during belt removal.

Slide the conveyor frame (AA of Figure 12) inside the new conveyor belt loop on the top of the center drive module.

Rotate the center drive module clamps opposite the direction shown by the arrows (Z) back into position and tighten the screws to secure the conveyor to the center drive module.

Temporarily remove the screws and mounting clamps (W of Figure 11) from all support stand mounting brackets and return roller assemblies (X) on both sides of the conveyor (Y).

Lift up on the conveyor frame (Y) and slide the new conveyor belt in and onto the conveyor frame. Then, re-attach the conveyor to the stands by replacing and securing the mounting clamps (W of Figure 11).

Refer to Figure 10 on page 5 and replace the bottom wiper (T) through hole in pulley plate (U). Replace the tail cover plate screws (Q and R) on the side of the conveyor that the wiper was removed from; tightly secure screw (R) but leave the screws (Q) loose for now.

Refer to Figure 9 on page 5 and replace and re-secure the gearmotor and drive sub-assembly (H of Figure 9) and spacer (I) to the center drive module (J) using the two (2) flat head screws (G).

Replace the outboard drive shaft assembly with the timing belt pulley (F). Refer to the procedures under the "Installation" subtopic described under the "Outboard Drive Shaft Replacement" topic on page 8.

Make sure all the hardware you removed or loosened is fully tightened except the tail

cover plate screws (O of Figure 19) on the tensioning end (M) of the conveyor.

## Conveyor Belt Slack Take-up Adjustment

The following procedure is used to take-up conveyor belt slack and achieve proper overall conveyor length on Center Drive Conveyors.

To adjust belt tension/slack:

Locate the tension end (M of Figure 19) of the conveyor identified with a label (V).

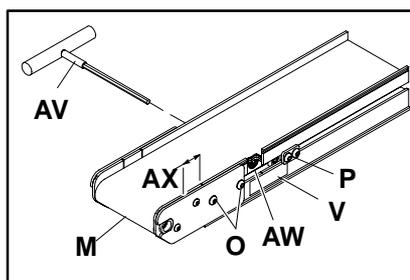


Figure 19

If engaged, loosen and slide belt tracking cam assemblies (P) towards the center of the conveyor on both sides of the tension end (M).

Loosen tail cover plate screws (O) on both sides of the tension end (M).

Insert a 5 mm hex key wrench (AV) into either end of the pinion (AW).

Rotate the pinion (AW) to extend the tensioning end until the gap (AX) between the pulley plate and the conveyor frame measures 30 mm.

**NOTE:** Over-tensioning adds unnecessary loading to the pulley bearings.

While holding the pinion (AW) in position, tighten the cover plate screws (O) on both sides of the conveyor. Tighten the screws with 2 Nm of torque.

If you are working on a high side conveyor, replace the filler plates following procedures associated with Figure 10 on page 5.

Position the belt tracking cam (P) against the slide bar while making sure groove is correctly oriented (see Figure 20 on page 8).

The pneumatic belt take-up system will tighten the belt when air pressure is applied. The gauge pressure is set at the factory for start-up tensioning pressure. Do not use excessive pressure.

Refer to the following "Preliminary Belt Tracking Check" information.

## Preliminary Belt Tracking Check

**IMPORTANT:** Stop the conveyor immediately if the belt does not track properly. Refer to the following "Conveyor Belt Tracking Adjustment" topic. In addition, long conveyors may require a person at each end to observe the belt tracking and a person to control the drive.

Make sure the conveyor length is set properly. Refer to the "Conveyor Belt Slack Take-up Adjustment" topic on this page.

Install the belt tracking guides on each side of both ends of a low side conveyor if not already installed. Refer to Figure 3 on page 3.

Turn on the supply air to the take-up cylinder. Proceed as follows:

**On fixed speed conveyors,** jog the conveyor on and off in very short cycles, a maximum of 6 starts per minute. Observe the belt tracking on both ends. Gradually increase the run cycle.

**On variable speed conveyors,** set the control at its lowest speed. Run the conveyor and observe the belt tracking at both ends. Gradually increase the speed.

Make tracking adjustments following information under the following "Conveyor Belt Tracking" topic.

## Conveyor Belt Tracking Adjustment

Make sure the belt is properly tensioned and that the conveyor is straight and level in all directions within the confines of the conveyor.

This conveyor is equipped with an articular linkage which allows the pulley to be positioned at a slight angle to facilitate belt tracking.

If you are working on a low side conveyor, re-install the belt tracking guides following the details related to Figure 3 on page 3.

Check both ends of the conveyor for proper belt tracking. The belt should track centered between the tail plates on both ends of the conveyor. Conveyor belt tracking should always be adjusted on the discharge end of conveyor first. Then, check the tracking on the opposite (infeed) end of the conveyor and readjust it if necessary.

Before proceeding to adjust the belt tracking, make sure the cover plate screws (O of Figure 20) on both sides of the conveyor are tightly secured. Then, adjust belt tracking as follows:

# Component Replacement and Adjustments

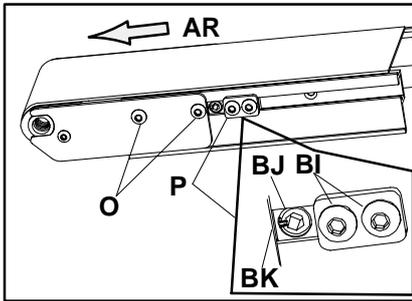


Figure 20

Loosen (but do not remove) the two (2) cam clamping plate screws (BI) on both sides of the conveyor discharge.

Slide both belt tracking cam assemblies (P) as far as they can slide toward the end of the conveyor.

The belt tracking cam (BJ) must be set to the low point at the point of contact as illustrated. The slot (BK) in the belt tracking cam should be horizontal and pointing towards the end of the conveyor.

Tighten the two (2) cam clamping plate screws (BI) on both sides of the conveyor.

**Only loosen the two tail cover plate screws (O) on the side of the conveyor that the belt is tracking toward.**

With the conveyor running, use the 5 mm hex key wrench (AV of Figure 19) to slowly rotate the belt tracking cam (BJ of Figure 20). Rotate the cam in small increments in either direction to cause the belt to track away from the conveyor side until the belt tracks in the center of the conveyor. Always allow the conveyor belt to make several revolutions between adjustments.

**IMPORTANT:** Rotate belt tracking cam very slowly and in small increments to prevent the belt from moving beyond the desired centered position.

Tighten the tail cover plate clamp screws (O) and re-check the belt tracking.

Re-check belt tracking on opposite end of the conveyor and adjust it if needed.

**NOTE:** Carefully feel the conveyor ends for hot spots and belt edge wear which would indicate that the conveyor belt is rubbing against the conveyor frame and thus tracking improperly. Repeat the tracking adjustment, if necessary.

## Outboard Drive Shaft Replacement

### Removal

Removal of the outboard drive shaft (BS of Figure 21) requires use of Dorner hex key wrench extension tool (BR), part number \*25-08.

Remove the outboard drive shaft assembly (BS) by inserting the blunt end (BQ) of the hex key wrench extension tool (BR) into the pulley (BV) end opposite the outboard drive shaft assembly (BS).

While pushing in the spring-loaded plunger (BT) with the hex key wrench extension tool (BR), pull out the outboard drive shaft assembly (BS).

### Installation



For outboard drive shaft assembly (BS) installation, the pulley (BV) may have to be turned around in the drive module.

The hex bore (BW) is off center on pulleys measuring 127 mm and wider. Be sure to properly orient the pulley before placing it back into the drive module.

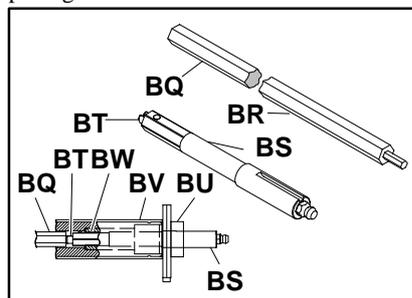


Figure 21

### Pulley Hex Bore Orientation

Conveyor Width	Insert Shaft at Pulley End
44 mm to 95 mm	Either
127 mm & Wider	Closest to Hex Bore

Install the outboard bearing retaining sleeve in the desired drive location. Be sure the pulley hex bore (BW) is properly located as indicated in the previous chart.

Insert the blunt end (BQ) of the hex key wrench extension tool (BR) into the end of the pulley (BV) opposite the outboard bearing retaining sleeve (BU).

Exert inward pressure on the hex key wrench extension tool (BR) to release the spring-loaded plunger (BT) while pushing inward on the outboard drive shaft assembly (BS) until it is fully seated.

The hex key wrench extension tool (BR) may now be removed. Make sure outboard drive shaft assembly (BS) is locked in position by pulling outward on the assembly.

## Tail Pulley Removal Procedure

Slide conveyor belt from side of tail. Refer to the "Conveyor Belt Replacement Procedure" beginning on page 5.

Remove the tail cover plate screws (BX of Figure 22) and tail cover plates (BY) on both sides of the conveyor.

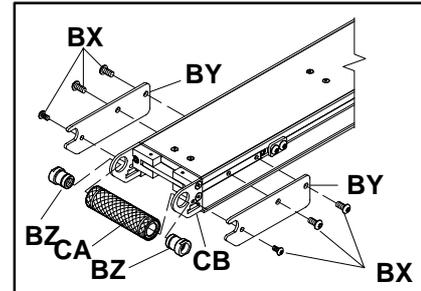


Figure 22: Tail Pulley Replacement Detail (Replacement Pulley is Knurled, as shown)

Remove the retaining sleeves (BZ) and pulley (CA). If retaining sleeves are frozen, continue with the following procedures.

All non-driven positions have a plastic plug (CC of Figure 23) installed into the ends of the pulley retaining sleeves (CD). Use a small flat screwdriver to remove this plug.

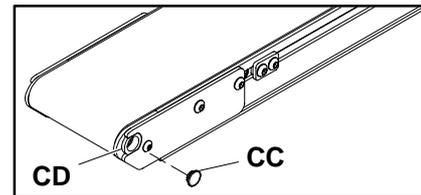


Figure 23

Position the bearing anvil/sleeve removal tool (CE of Figure 24), part number \*25-09 over the retaining sleeve (BZ of Figure 22).

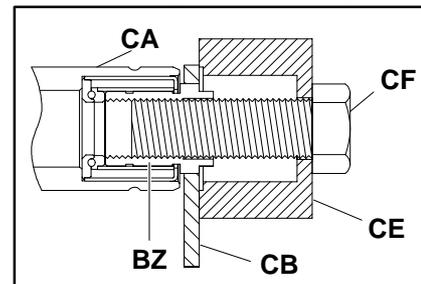


Figure 24

# Component Replacement and Adjustments

Insert the threaded bolt (CF of Figure 24), part number ☆906-278 through the bearing anvil/sleeve removal tool (CE) and into the retaining sleeve (BZ).

Tighten the bolt (CF) until the retaining sleeve (BZ) is free of the tail pulley plate (CB).

Remove the retaining sleeve (BZ) from the bolt (CF) and repeat on the other side.

Take pulley (CA) out of the conveyor frame.

## Tail Pulley Replacement Procedure

Refer to Figure 22 and proceed as follows:

Insert pulley (CA of Figure 22) between the tail pulley plates (CB).

Slide the retaining sleeves (BZ) through the openings in the tail pulley plates (CB) and into the pulley (CA) on each side.

Install the plastic plug (CC of Figure 23) into the ends of the pulley retaining sleeves (CD).

Secure the tail cover plates (BY of Figure 22) to the conveyor with tail cover plate screws (BX).

Install the conveyor belt. Refer to the "Conveyor Belt Replacement" procedure on page 5, the "Conveyor Belt Slack Take-up Adjustment" procedure on page 7, and the "Conveyor Belt Tracking Adjustment" procedure on page 7.

## Timing Belt Tension Adjustment

**! WARNING !**

**To prevent injury, make sure all electrical and pneumatic power sources have been disconnected and locked-out before you perform any maintenance, make any adjustments or replace any components.**

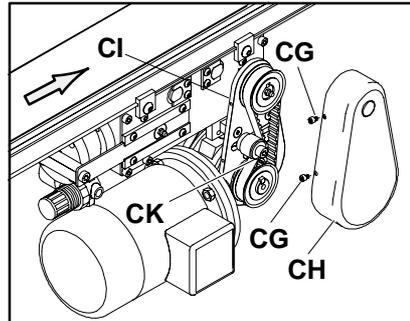


Figure 25

Disconnect power. Remove the screws (CG of Figure 25) securing the belt guard (CH) to the back guard plate (CI). Remove the belt guard (CH). Before proceeding, check the timing belt for wear. Replace belt if worn.

Determine which direction the conveyor belt is traveling and position the tensioning roller assembly (CJ of Figure 26) on the appropriate slack side of the timing belt (CL), as shown.

Make sure the timing belt is centered with respect to all three components before adjusting tension in the next step.

Adjust the timing belt tension by sliding the belt tensioning roller assembly (CJ) against the belt. Timing belt tension can be measured at the mid-point (CM) on the tension side of the belt. At this point, tension should be adjusted for a 3 mm belt deflection with 0.5 kilograms of force applied.

**NOTE:** Do not over-tension the timing belt. Over-tensioning may cause reduced belt life or bearing and drive damage. Every timing belt application exhibits its own individual operating characteristics. The optimum timing belt tension should be determined experimentally. If necessary, continue to slide the tensioning roller assembly (CJ) against the timing belt (CL) until belt is tensioned so as to prevent jumping the teeth under the most severe conditions or heaviest load that the drive will encounter.

Tighten the M8 x 40 mm socket head cap screw (CK of Figure 25) with 24 Nm of torque.

Re-attach belt guard (CH) using all four (4) M4 x 6 mm socket head cap screws (CG).

☆ - Part of Tool Kit, Part Number 2500M-ENG.

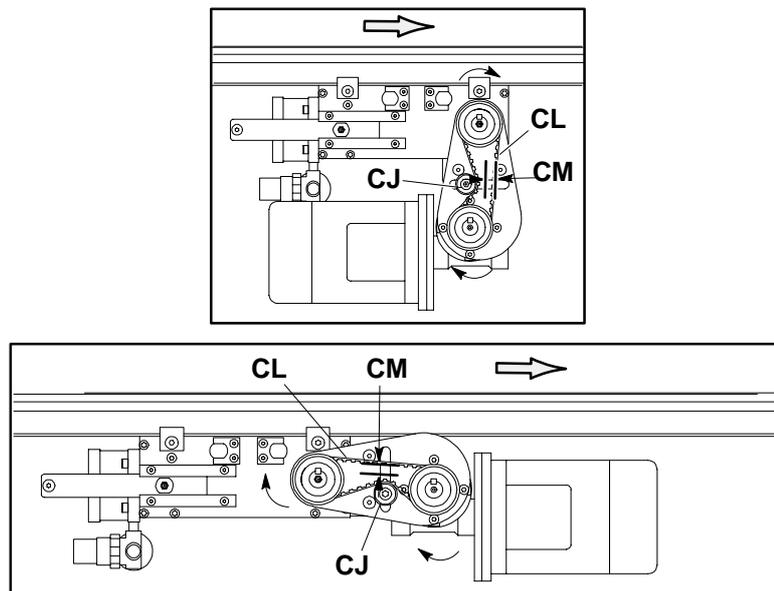
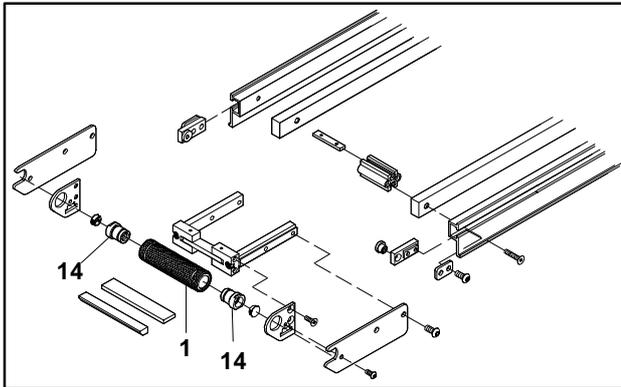


Figure 26: Type 1 (above) & Type 2 (below) Drives

# Replacement Parts

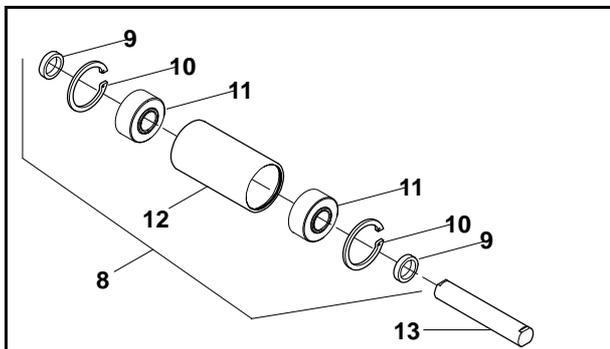
# 2100 Series Center Drive Conveyors

## Replacement Component Part Numbers



Item	Part No.	Part Description
1	See Chart	Pulley Assembly
14	200035	Pulley Retaining Sleeve

**50 mm Diameter Idler Assembly (8)** Includes Two 200528 Shaft Spacers (9), Two 915-051 Snap Rings (10) & Two 802-050 Bearings (11)

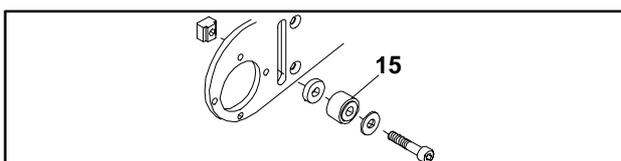


Width	Part No.		
	Idler Assembly Complete Set (8)	Machined Pulley (12)	Idler Shaft (13)
44 mm	200943	200550	301902
70 mm	200944	200551	301903
95 mm	200945	200552	301904
127 mm	200946	200553	301905
152 mm	200947	200554	301906
203 mm	200949	200556	301908
254 mm	200950	200557	301910
305 mm	200951	200558	301912

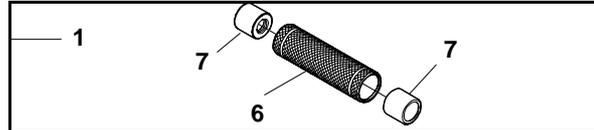
**NOTE:**

For replacement parts, other than those shown on this page, contact the factory.

For replacement **Drive Belt Tensioning Idler Bearing (15)**, order part number 802-046. See (CJ) on page 9, for access and disassembly details.

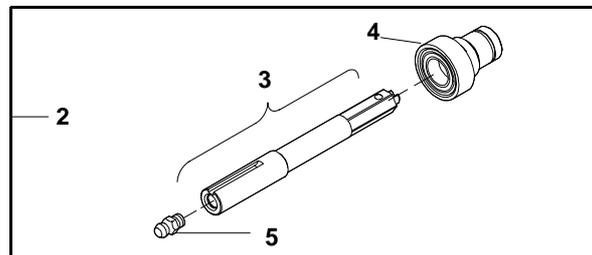


## 25 mm Diameter Drive/Idler Pulley Assembly (1)



Nominal Conveyor Width	Part Number	
	Drive/Idler Pulley Assembly (1) with 21-33 Bearings (7)	Drive/Idler Pulley Only (6)
44 mm	204802	Not Applicable
70 mm	204803	204703
95 mm	204804	204704
127 mm	204805	204705
152 mm	204806	204706
178 mm	204807	204707
203 mm	204808	204708
254 mm	204810	204710
305 mm	204812	204712

**Adapter Assembly (2)** [Includes Shaft (3) (see Table), Outboard Bearing Retaining Sleeve 200223 (4) and Fitting (5) (see Table)]



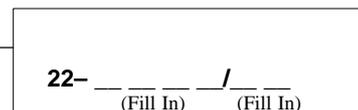
Conveyor Width	Adapter Assembly (2)	Drive Shaft Assembly (3)	Grease Fitting (5)
44 mm	204003M	204732M	Not Applicable
70 mm	204004M	204733M	810-292
95 to 305 mm	204005M	204734M	810-292

## Configuring Conveyor Belt Part Number

To configure a part number, for ordering an identical replacement conveyor belt, refer to your serial and model number plate and fill in the same original "WW", "LL" & "BB" numbers into Figure 27.

The following information is stamped onto the conveyor serial number and model number plate which is also recorded on page 2 of this manual.

**22- WWLL/BB**



**Figure 27: Configuring Conveyor Belt**

<b>DORNER</b> HARTLAND, WI 53029-0020 MFG. DATE <input type="text"/> MADE IN U.S.A.	SERIAL	<input type="text"/>
	MODEL	2120MWWLL-00/BB
	MAX LOAD	<input type="text"/> HZ <input type="text"/>
	VOLTS	<input type="text"/>
	AMPS	<input type="text"/>

**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.

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