

Take-Up Mechanism

- If the conveyor design does not allow the belt to be stretched on after removing approximately 1–2% of belt from the “hand tight length”, you will need to rely on the conveyor’s integrated take-up mechanism. First, make sure the mechanism is adjusted to minimum position to allow for maximum adjustment of the belt. Next, determine the hand tight length of the belt. Then remove as many links as possible that still allows you to assemble the belt and get it onto the pulleys. After the appropriate number of links is removed assemble the belt and install the belt on the pulleys. Finally, use the integrated take-up mechanism to apply final tension to the belt.

- ✓ All Manufacturers
- ✓ Straights and Curves

Belt Performance

- If noise is a problem, typically the belt will become quieter after a day or two of running. Some other things that may affect noise are: proper tensioning; idlers adjusted too high; and/or the type of idlers (typical B groove idlers give the best performance for noise; single flange and flat idlers have increased noise levels).

- ✓ All Manufacturers
- ✓ Straights and Curves

- Belt tension is important for proper performance and longevity of the belt. Once the belt is installed the majority of the elongation in the belt will occur within the first 24 hours. Re-tensioning after 24 hours is recommended to keep the belt properly tensioned.

- ✓ All Manufacturers
- ✓ Straights and Curves

- Due to the placement of the horizontal idlers in the take-up mechanism, PowerTwist Roller Drive may roll off the head or tail pulley. This can usually be alleviated by adjusting the problem pulley. In Fig. 13 the belt is rolling off the pulley to the right of the tensioning mechanism; adjusting the idler closest to the problem will correct the problem.

- ✓ Hytrol, Roach
- ✓ Curves

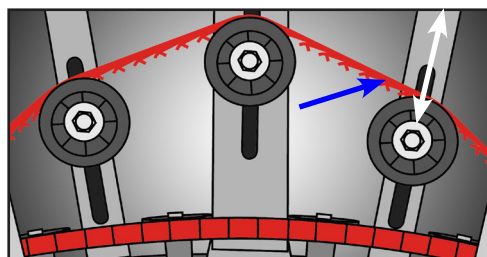


Fig. 13

US Patent 7,449,079 and 7,004,311

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Installation Instructions

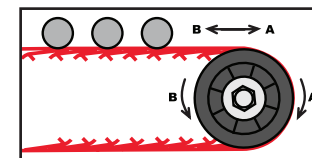
WARNING

When installing or removing PowerTwist® Roller Drive™, always adhere to the following safety standards:

1. Be sure that the system is de-energized using proper lockout/tagout procedures.
2. Wear proper personal protective equipment.

Note: For tips and techniques for an easier installation please see pages 3 and 4.

To determine whether PowerTwist Roller Drive is suitable for your conveyor, check the rotation of the drive pulley. The pulley is pulling the belt if it rotates so that the belt moves away from the rollers (A). The pulley is pushing if the belt is moving toward the rollers (B). PowerTwist Roller Drive should only be used on conveyors that pull the belt.



- 1 Remove old belt and adjust the take-up idler(s) to minimum travel position to accommodate later belt adjustment and retensioning.

Note: If snubber pulleys are adjustable, lowering them will allow for easier belt installation. After installing the belt, readjust snubber pulleys to apply pressure to belt for proper roller operation. See installation tips on page 3.

- 2 Determine direction of drive rotation (CW or CCW). Belt must travel with tabs trailing (Fig. 1)

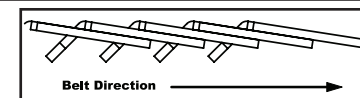


Fig. 1

- 3 Work the belt through the system, going from pulley to pulley.
Note: the belt should be installed with as little slack as possible, leaving just enough length to allow the belt to be installed on the pulleys.

- 4 Determine hand tight length by pulling belt tight around all pulleys and overlapping the last two tabs with two holes in matching links. Remove approximately 1–2% of belt from the “hand tight length” to assure proper installation tension. To disassemble, hold belt upside down. Twist one tab 90° so that it is parallel with the slot (Fig. 2). Pull end of link over tab (Fig. 3). Rotate belt end with tab 90°. Pull belt end through two links (Fig. 4).

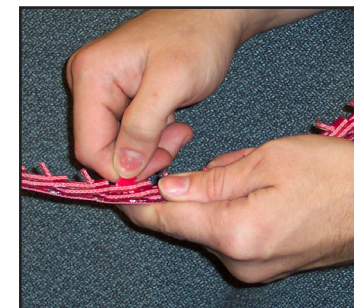


Fig. 2

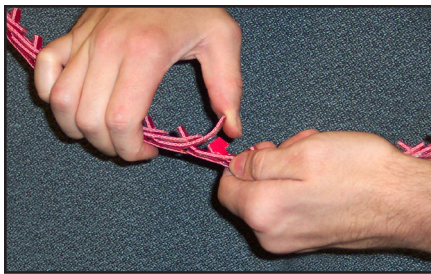


Fig. 3

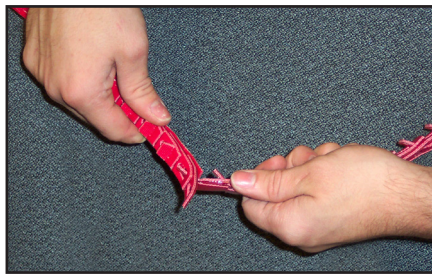


Fig. 4

Note: To make belt assembly easier it is suggested to cut a notch in the top pad (Fig. 5 and Fig. 6).

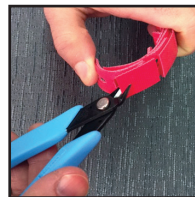


Fig. 5



Fig. 6

5 Flex the links to enlarge the slot (Fig. 7) and assemble the belt by placing the tab through two links at once (Fig. 8). Flex belt further and insert second tab through end link and twist 90° to secure (Fig. 9).

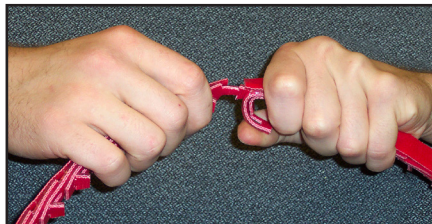


Fig. 7

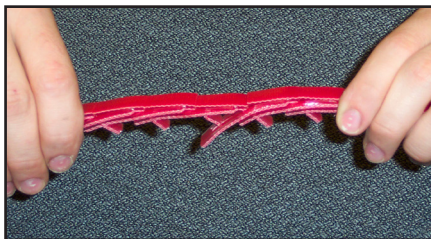


Fig. 8

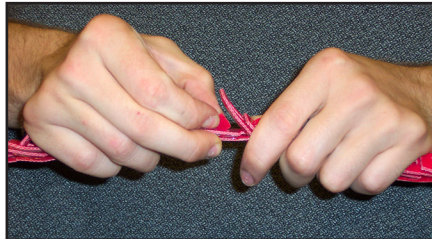


Fig. 9

6 Install and tension the belt using the adjustment mechanism present (Fig. 10).

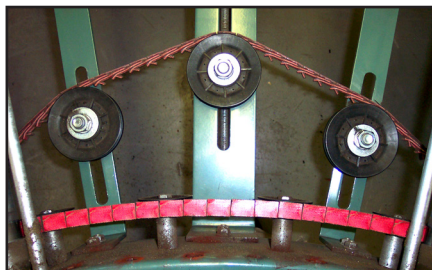


Fig. 10

Installation Tips

Belt Installation

- Removing the rollers above the head and tail (driveR and driveN) pulleys will make it easier to work the belt through.
 - ✓ All Manufacturers
 - ✓ Straights and Curves
- If adjustable, lowering the idlers that hold the belt against the rollers will make it easier to work the belt through.
 - ✓ Hytrol, Mathews, Automated, Roach
 - ✓ Straights and Curves
- Once the belt is installed, readjust the idlers so the belt slightly lifts the rollers (Fig. 11 and Fig. 12). Try to avoid raising the idlers so the belt “snakes” between the idlers and rollers; this can cause premature wear on the belt, increased noise from the conveyor, and the roller is less likely to slip on the belt in an accumulating application.
 - ✓ Hytrol, Mathews, Automated, Roach
 - ✓ Straights and Curves



Good

Fig. 11



Too High

Fig. 12

Tensioning the Belt

There are two methods to achieve proper tension in the belt: Remove 1–2% of belt from the “hand tight length” and the conveyor’s take-up mechanism. Depending on the particular configuration of the conveyor, either one of these methods or a combination of the two may be appropriate to tension the belt.

Remove 1–2%

- If the conveyor design allows the belt to be stretched on (as if cocking a crossbow) you can use the 1–2% link removal method to tension the belt. First, determine the hand tight length of the belt. Next, remove approximately 1–2% of the belt from the “hand tight length”. Finally, assemble the belt and stretch it over the pulleys.

- ✓ Hytrol
- ✓ Curves