

Duplex Honeycomb Conveyor Belt Installation Guidelines

Tools you will need:

- Safety glasses
- Flat end pliers
- Mallet or hammer
- 13mm A/F Spanner(s)
- Cable ties/wire/rope (optional)
- Necessary tools for conveyor belt take up adjuster
- Welding set to weld nut to join rod after assembly

Preparation

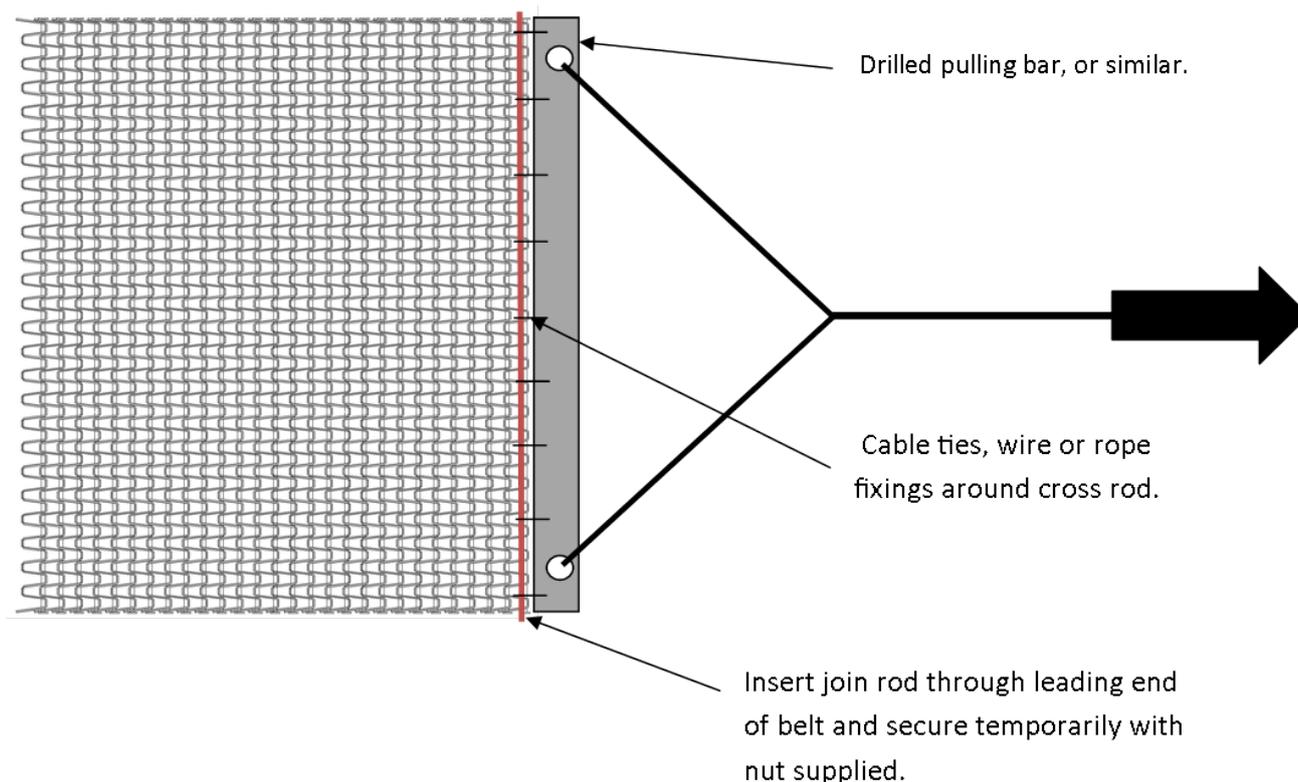
Before installing a new belt, always check the conveyor structure;

- All shafts to be at 90° to direction of travel and horizontal.
- Rollers and idle infeed to be free to rotate
- Sprockets to be correctly positioned, and aligned with the appropriate belt openings.
- Belt supporting surfaces are smooth and level. Check that there are no parts of the structure that can catch the belt.
- If a take-up mechanism is fitted, ensure that it is functioning correctly.

Installation Procedure

1. First ensure that the electrical supply to the conveyor is turned off and the power supply locked out.
2. Release any conveyor belt tension take up mechanism to allow maximum adjustment during use.
3. There is no top or bottom side to the belt – either side can be up, but the direction of travel should be noted.
4. Direction of travel – the tail edges of the castellated flat strip are to lag the direction of travel and not lead for fear of catching any part of the conveyor structure. See diagram below. The belting should be pulled through the conveyor circuit until the two ends meet.

5. **New Belt Installation:** For a new installation the belt roll can be positioned at the discharge end of the conveyor. A pulling rope or cable can then be attached to the lead end of the belt with a reinforcing cross bar.

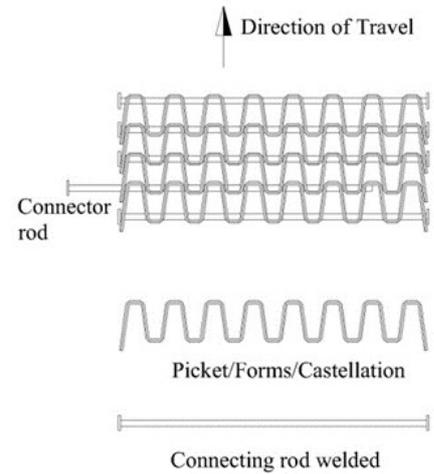


The cable/rope is then fed through the return way circuit around the infeed shaft and then back to the main drive shaft at discharge. The cable/rope can then be multiple wrapped around the drive shaft to assist in pulling the belt – acting as a powered winch. Switch the power supply to the conveyor back on to pull the new belt through the circuit. Ensure that the conveyor is operated manually on a start/stop operation at slow speed. It may also be necessary to guide the leading end of the belt through the circuit to avoid edge damage to the belt. When the leading end of the belt approaches the drive shaft disconnect and remove the pulling bar & cable/rope assembly. Then lap the other end of the belt (lagging end) up over the drive shaft to meet the leading belt end. Cut to length and join as per the instructions below. As an alternative to using the drive shaft to pull the belt, use a stand-alone portable powered winch.

6. **Existing Belt Installation:** When replacing a used existing belt the new belt can be pulled into the circuit using the existing belt. First break the existing belt in the return way (at the discharge end of the conveyor) by means of cutting or grinding off a cross rod head and withdrawing the rod. Then attach the leading end of the replacement belt to the trailing end of the existing used belt, using the join rod supplied with the belt. Then with the power to the conveyor switched back on operate the conveyor at slow speed on a start/stop operation to pull the new belt into circuit. During this operation the used belt should be pulled from the conveyor and layered onto a pallet or on to a roller for disposal. To ensure that positive drive engagement of the sprockets is maintained it may be necessary to install on a temporary basis a free rotating snubbing roller supporting the return way belt close to the drive shaft.

When the leading edge of the new belt has been pulled through the circuit and approaches the discharge drive shaft - stop the operation, withdraw the join rod, and fully remove the old belt for disposal. Then lap the other end of the new belt (lagging end) up over the drive shaft to meet the leading end. Cut to length and join as per the instructions below.

7. **Joining Instructions:** Splicing cross rods are supplied with the belt. The apertures of both ends of the belt can then be aligned and, if necessary, tied together temporarily using cable ties, wire or rope. The splicing rod is then pushed through the holes of the intermeshing belt end castellated forms. The join rod is supplied with a welded washer or nut one end and a threaded end with nut on the other. The length of threaded section allows for the inclusion of a nut inside the belt edge as well as at the outside. Once assembled with the nut(s) fitted it should then be cut to length and welded. Take care not to weld to the castellated flat strip of the belt. If no welding facility is available cut rod to length and peen the rod head over at the outside nut position. Variations in installation can be used but always ensure that the belt ends and edges are not damaged when being installed.



8. **Belt Tension Adjustment:** With the new belt fully installed any excessive slack belt should be removed by adjusting the conveyor belt tensioning system. Ensure that only the minimum tension is applied to the belt to maintain positive drive over the sprockets without producing any excessive slack loops in the belt. If at any time excessive slack belt occurs with the take-up at the maximum travel position then the belt will require to be shortened by removing a section and re-joining as per the instructions above. In high temperature applications where expansion of the belt will take place always ensure that the adjuster is set so that excessive tension is not applied to the belt in a cold state and that there is plenty of take-up adjustment left when operating at high temperature.
9. **Test Running – Without Product:** After new belt installation and the tension adjustment then the belt should be run at slow speed for a period of at least 3 complete conveyor circuit revolutions to ensure the belt is tracking and driving correctly. Check along the full conveyor circuit at this time to ensure there is no catching of the belt on any part of the conveyor structure and the belt runs smoothly. Then gradually increase the speed in small steps until the operating speed is reached – continually checking for smooth belt operation. If the belt is used in a high temperature application then increase the temperature in steps of 100°C from ambient every 30 mins until the operating temperature has been reached. During this process check for the smooth operation of the belt and that any automatic take-up mechanism has not reached its maximum travel and is operating correctly.
10. **Loading the Belt:** Once the above procedures have taken place then product should be applied to the belt in a gradual and uniformly distributed way across the belt. Try to prevent 'spot' loading as this will have an impact on the wear to both the underside of the belt and the surface of the wear strips that support the belt. Once fully loaded adjustment of the belt take-up may be required. At all times ensure that when loaded the take-up does not reach its maximum travel position – adjust as above if necessary.

Note; Sometimes a belt can show signs of surging, hunting or jerking. What could be happening may be an effect sometimes referred to as "slip-stick" which can afflict some longer conveyors (with any type of belt). The belt can act something like a spring. The idle end of the belt can remain stationary until belt tension increases to the point that static friction is overcome; the belt can then surge ahead and the resulting drop in tension may then allow the belt to slow, or even stop. The cycle of surging can then become repetitive; if this problem persists then consult the designer or manufacturer of the conveyor.