

## LIMBEROLLER IDLER INSTALLATION

It is essential that the brackets be installed in a straight line and square with the center line of the conveyor. **Upon installation, if the Limberoller idler does not contact the troughed belt completely across its width as illustrated at the top of (Figure 1), it is essential that one or more adjustments be made:**

1. The bracket can be shimmed.
2. Belt tension can be reduced.
3. If idler overload is not evident, the spacing between idlers can be increased to drop the belt.

When installing a Limberoller idler next to a conventional steel idler roll, the backing dimension, height of the center disc of the Limberoller idler, should be  $\frac{1}{2}$  inch to 1 inch higher than the center roll of the steel idler, as measured from the deck to the top of the roller (Figure 2).

Height of the head and tail pulleys also is important. Many conveyors are so designed that the tops of the pulleys are higher than the top center of the idlers. This must be avoided with Limberoller idlers. This can be corrected by shimming the bracket as illustrated in (Figure 3). **The top of the center Limberoller disc should be the same height as the top of the pulley.** The bracket next to the head and tail pulleys should be as far away as possible and still prevent spillage.

If the bracket is too close to the tail head pulley, the belt moving from or to the pulley is under too much tension to allow troughing at the initial Limberoller idler. See Transition Table Page 22 and refer to belt manufacturers recommendations.

Generally a lighter weight belt can be used with Limberoller idlers that can be employed with steel idlers because of excellent support and wear resistance of Limberoller idlers. If a belt is so stiff that it will not trough (Figure 4) a Crouse-Hinds Molded Products representative should be consulted before proceeding further with the installation.

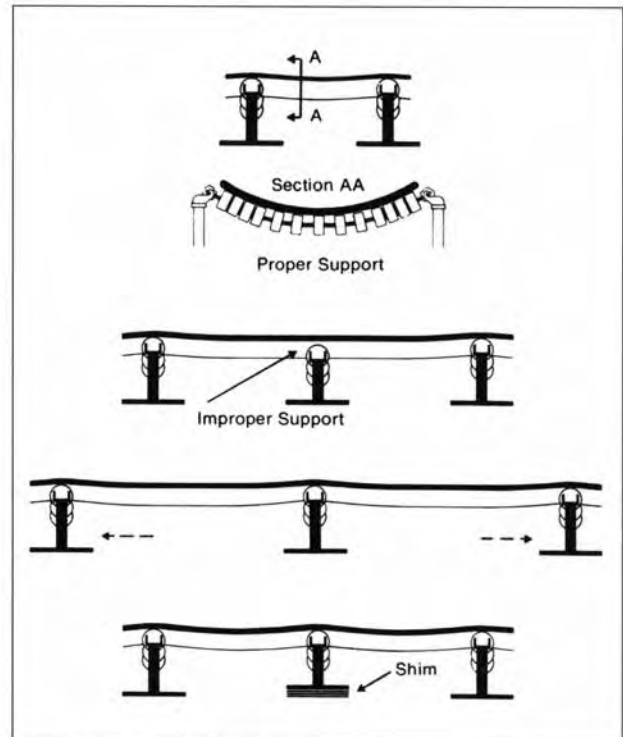


Figure 1 Belt contact correction

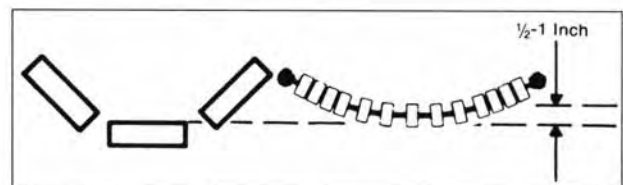


Figure 2 Position of Limberoller idler in relation to steel roll

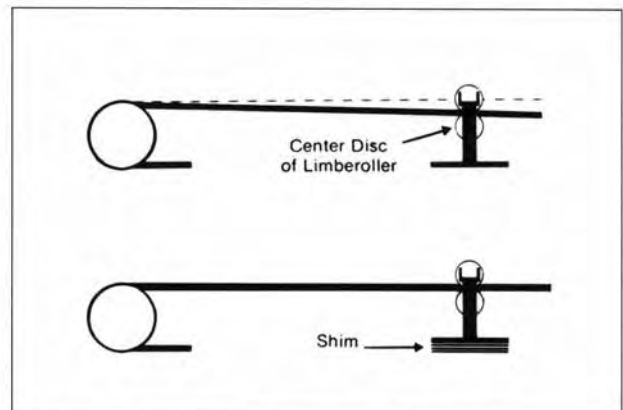


Figure 3 Relationship of Limberoller idler and pulleys

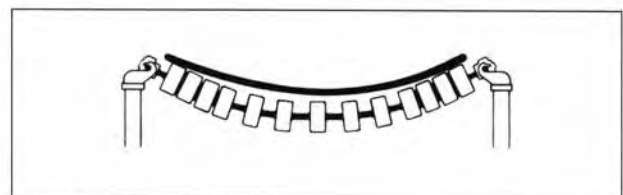


Figure 4 Stiff belt alignment



**Figure 5** Poor housekeeping practices

Bad housekeeping, poor loading, or poor design sometimes permits a large abrasive lump to lodge between a deck plate and the Limberoller idler (**Figure 5**) and machine off neoprene.

## VERTICAL CURVES

When the Limberoller is used in a vertical curve situation (both concave and convex), extra care must be taken to space the idlers in a manner so that the belt and belt load does not load the idlers in the curve beyond its rated capacity.

A convex vertical curve can easily load an idler beyond rated capacity if the idlers are not spaced closer in the vertical curve than on normal run. A normal rule would be to space the idlers at half the spacing through the convex vertical curve than on the rest of the conveyor. Sharp bends must be avoided when possible and belt tension should be reduced to avoid the belt edge digging into idlers. This can be done by reducing the troughing angle to 10°.

A concave curve that is too sharp or belt tensions too great, will cause the belt to lift off the Limberoller idler. If a limberoller is driven only by the edges of the belt and it does not support the belt across its entire width, it will cause the Limberoller idler to wear prematurely.

Refer to the CEMA handbook when designing vertical curves in conveyors and follow their recommendations.

## IMPACT AREAS

The relative capability of a conveyor system to handle impact loads is a function of many things. Limberoller idlers have impact capability. The limitations for Limberollers are a function of the following parameters: density of material (lbs./ft.<sup>3</sup>), lump size, belt speed, idler spacing, free fall height and bracket selection.

These parameters will affect the life of any conveyor system and obviously the idler. Typically, the idlers in impact zones should be spaced on one foot (1 ft.) centers and the free fall height should always be minimized (never to exceed 4 ft.), for optimum system and component life. Actual spacing and free fall height will vary with the density of the material, lump size, and belt speed. Impact brackets should always be applied in impact zones.

When considering Limberollers for impact duty, please consult the factory for guidance with the above mentioned parameters well defined.