

To Skive Or Not To Skive: Things To Know Before Splicing Your Belt

By Kevin Finnegan, [Flexco](#) [1] mechanical fastener application specialist
Specially designed to help ensure quick, safe and accurate conveyor belt cover removal at various depths, belt skivers remove a conveyor belt's cover to prepare a belt for countersunk fasteners. It eliminates imprecise and potentially dangerous cuts that can result from hand-knife skiving.

It is also a cleaner and faster alternative to a router, since the skiver removes the top cover as one continuous strip and in only a few minutes. This makes skivers an invaluable tool for the belt repair process.

Mechanical conveyor belt splicing (usually with hinged- or solid-plate fasteners attached to the belt with bolts or rivets) is widely used in heavy-duty operations because of its relatively low cost, plus ease and speed of installation. However, abrasiveness and density can vary wildly, increasing the potential for premature splice wear and failure.

Why Skive A Belt Prior To Fastener Installation?

There are many reasons why it is important to skive a belt. In most cases, skiving can save both time and money throughout the production process, and it does not weaken a conveyor belt. All of the strength is found in the carcass, while the cover is in place to simply protect it.

When you skive a belt, you replace this protective rubber with the belt fasteners, which can protect the belt and keep it moving to maximize production. You do not want to remove all of the cover, so leave 1/16" in place to provide protection from the elements, water, sun, etc.

Major benefits from skiving a belt can include:

- A reduced chance of the fasteners catching on any belt components or the conveyor itself because the process leaves room for the fasteners to lie evenly with or below the rest of the belt surface.
- Longer splice life through achieving a lower profile, which prevents excess fastener wear.

- Compatibility with cleaners.
- A relatively smooth surface on which the belt fasteners and cleaners can work effectively together.

Manufacturers who produce both fasteners and cleaners are often in an advantageous position to advise on the interfacing between fasteners and cleaners.

Similarly, a skived belt can reduce wear to which the skirting and fasteners are subjected, resulting in prolonged operation and reduced maintenance. By placing the top of the fasteners beneath the lower edge of the skirt rubber, you can eliminate excessive wear on both items.

Stronger Splices

When a belt is skived, the top rubber layer from the belt is removed, placing the top and bottom plates of each fastener closer together, which ensures the teeth are properly engaged into the carcass. This improves the belt splice strength.

For all of the above reasons, skiving is highly recommended when splicing your belt. However, there are some situations in which skiving should not be chosen, such as:

- If the top cover is thin or worn.
- If using the wrong size fasteners because skiving your belt would adversely affect them. (Remember belt thickness is but one of several factors used to determine fastener size.)
- If in a time crunch as the proper skiving of a belt may be overlooked in an attempt to minimize downtime, which is generally counter-productive.

Choosing The Right Tool

Traditional skiving tools typically employ a wide cutting head, which are drawn across the belt by a manual winch and guided by a lightweight aluminum track. A stirrup-shaped blade, mounted in the cutting head, adjusts in 2-mm (1/16-in.) increments to a maximum depth of 14 mm (1/2 in.).

Adjustment allows the blade to remove the desired amount of belt top cover cleanly, smoothly and uniformly in one pass. This leaves a flat-bottom trough with rounded lower corners to prevent the adjacent belt cover material from tearing along the bottom edge.

With some skivers, the cutting head also features a cut-off blade that adjusts vertically for belts up to 35-mm (1-3/8-in.) thick. A second pass of the head with this

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blade extended makes a clean, square and straight cut along the bottom of the skived area, establishing a finished belt end by trimming the trough for the selected fastener size.

Newer compact belt skivers eliminate the guide track and winch, as well as the need to nail down the belt, while enabling fast and easy removal of conveyor belt cover material. Employing an integral ratchet-driven roller design, these hand-operated tools carve a flat-bottomed trough as deep as 10 mm (3/8 in.) in a single pass. The multiple-pass capability of these skivers allows for deeper skiving in rubber and synthetic belts up to 32-mm (1-1/4-in.) thick. A range of user-selected widths accommodates varying belt-fastener sizes.

Operation & Care

Operating begins with simple manual adjustments for desired skive depth and width. With the skiver properly positioned and secured on the belt end, you can ratchet the tool across the width of the belt with one hand while guiding the tool with the other. With a serrated upper and smooth lower roller, two pairs of rollers lamp the belt as the serrated rollers grip the top cover and drive the skiver, pulling a special steel blade through the belting. The skived belt cover comes off in one continuous strip.

Easy hand-screw adjustment of roller tension allows optimum operation, preventing water and dirt from affecting the drive. The resulting flat-bottom trough is characterized by a rounded inside corner to prevent the belt cover from splitting.

For maximum, ongoing performance, skivers should be cleaned after each use and kept in a clean, dry area. Although the tools are durable, care should be taken to avoid dropping or tossing them. Both the top and bottom edges of the blades should be examined before use, making sure they are sharp and undamaged. Some skiver designs enable the blade to be sharpened while it is attached to the tool.

Properly selected and used, skivers represent a sound investment. They provide precise and uniform cuts, while eliminating the perils and injury potential associated with hand knives.

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[1] <http://www.flexco.com/>