CONVEYOR ACCESSORIES
BELT FASTENERS & TOOLS

RIV-NAIL

Technical Bulletin

Bulletin # 1010

Riv-Nail Compression of Fasteners

The comparative advantage of the CAI design yields superior compression of fastener strips on conveyor belt. As a practical matter, conveyor belt thickness varies in thickness in both length and width of the belt. A new belt may have a variance as small as 1/32”; however, belt in service may have differences as great as 1/8”. A rivet and installation systems to install rivets must accommodate such large variances, yet compress and maintain compression of the fastener on the belt throughout the service life.

CAI recognized this need when designing the tooling to build the fastener strips, rivets and pilot nails used when splicing conveyor belts. A unique installation system was designed and patented (US Patent 5,680,790 date October 28, 1997) to assist in yielding the strongest possible fastener holding ability.

Drawings included with this bulletin illustrate cross sectional views of the CAI splice and a competitive product. The upper plate design is coined to a depth to allow the rivet head to sit with the dome of the head just above the surface of the upper side of the plate. Every rivet will be struck on the dome of the head to concentrate the driving force through the central axis of the rivet and pilot nail. The leading edge of the fastener and the rivet coin are pulled into the top cover of the belting.

The lower plate has a deeper coin to allow more space for the rivet to form and retain the fastener. The lower coining punch strikes the strip .015 deeper, yielding a deeper, under cavity for the rivet to flow as it is set. A side benefit is that the aperture creates a funnel shape hole to help the pilot nail and rivet to enter during initial driving. The second benefit is that because the vortex is slightly larger than the upper plate hole, the rivet can enter the cavity prior to

beginning to swell into a larger diameter as the semi tubular rivet receives its final clinching blows.