



SPLICE PROCEDURE FINGER OVERLAP TECHNIQUE

RHS 3-200TW BBxBB

1. Square both belt ends so the cut ends are perpendicular to the belt centerline.
2. Establish a bias angle on both belt ends. We recommend a bias angle of about 10 to 15 deg. Once the bias angles are established, make sure both belt ends fit together properly before proceeding.
3. Split the bias cut belt ends between the three fabric plies using a ply separator/splitter (or by hand) to a depth of 5 1/4" (133mm). Belt ends should be uniformly split within the polymer layer (rubber) taking care not to damage the fabric plies. We recommend splitting samples of the same type belt that is to be spliced prior to splitting the belt being spliced to be sure the ply separator splitter is correctly set.
4. Once the belt ends have been correctly slit, you will have three separate layers per belt end. Establish the direction of belt travel and then proceed to remove the bottom ply of the leading belt end (see Fig, #1). Remove the top ply of the trailing belt end (Fig. #2). This establishes the correct overlap layout of the splice. The top ply that was removed from one belt end should be the same length as the bottom ply that was removed from the other belt end in order for the splice to fit together with little or not gap at the transition seams (top and bottom). Note: We recommend the transition laps be cut slightly longer, then, trim to fit snug once the fingers are cut and the prepared ends are fitted together.
5. The center ply layer of each belt end is now ready to prepare. The mid ply (or center ply) will have fingers prepared in them (see Fig #3A & 3B). Cut the finger pattern by hand or by use of a bias punch/die if available. We recommend finger dimensions (Fig. #3B) should be 3" long x 1"wide – (75mm x 25mm) or similar. When cutting fingers by hand, make all cuts vertical and as straight as possible. A slight gap between each finger is recommended in order to allow rubber flow between them and can be achieved by cutting to the inside of the line of the fingers that will remain.
6. Note: A overlap/transition distance of between 3/4 to 1 inch of the outer plies beyond the fingers is recommended at both transitions to prevent flex fatigue. (See Fig. #3A & 3B for example)
7. Place belt ends together and check for correct alignment. Lock belt ends together so that no movement will occur during vulcanization.



8. Apply a thin uniform coating of adhesive on all surfaces of the prepared belt ends. Coat all layers of both belt ends including sides of the fingers. Also apply adhesive on the top and bottom of both bare back surfaces where the belt ends will meet. Once the adhesive is dry to the touch, cut and fit one .040 layer of tie gum rubber splice compound between the bottom lap and fingers. With the fingers of one belt end raised slightly, lay a 2.0" wide strip of the .040 gauge tie gum rubber splice compound across the center of the fingers of the one belt end, then, lay the fingers of the other belt end back in place. This will serve to wrap rubber between each finger to separate them and allow for rubber flow between them during cure. Next, cut and fit another .040 layer of tie gum rubber splice compound between the fingers and top lap.
9. Vulcanization Parameters:
 - 300 deg F X 20 min X 30 PSI
 - 150 deg C X 20 min X 2 BAR
10. Note: In order to limit any possibility of movement within the splice area prior to vulcanization, it is recommended that the raw rubber be allowed to warm up and soften before applying full pressure to the splice. This is best accomplished by applying contact pressure (2-10 PSI) during the beginning of the cure cycle.
11. Once the splice is placed in the vulcanizer, apply contact pressure and once the temperature reaches about 175 deg F, apply the full 30 PSI pressure. When the platens reach 300 deg F, begin timing the cure cycle. After the splice has seen 300 deg F x 20 minutes, turn the heat off and rapidly water cool the press. Allow the temperature of the press the drop below 150 deg F before removing pressure and the belt and trim excess flow as needed.

