

# VaR Butt Welding Instructions Using the F-51 Pliers

## TOOLS:

- F-51 Pliers - (shown with \*Adaptors for Narrow Flat Belts).
- WU-1 or WU-2 Universal Welder.
- D-11 Driller (shown with bit mounted).

The D-11 Driller is supplied with three bits of different diameters.

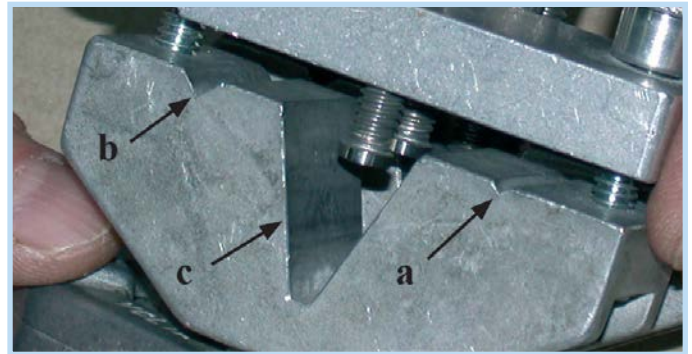
Refer to the relevant VOLTA Technical Data Sheet for the correct bit for each profile diameter to be welded.

- Lowe Belt Snipper (not shown).
- Adaptors for Narrow Flat Belts - These are not used when welding VaR belts.

\* Alternatively an Electrical Drill can be used. See below picture 3b.



**1.** Using the Lowe Belt Snipper, cut the belt to the desired length. Both ends should be cut straight.

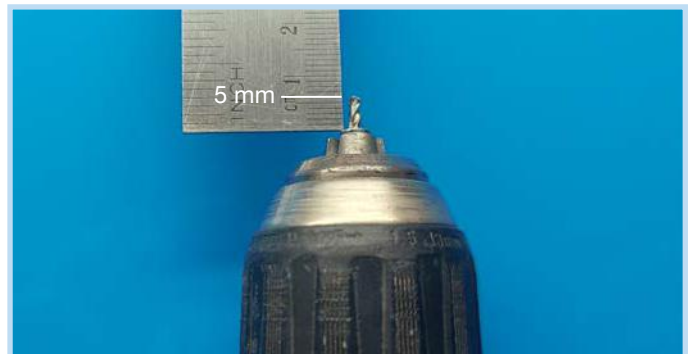


**2.** The F-51 Pliers have several grooves designed for different profiles and dimensions. Select the correct groove for the profile to be welded.

- a** - Round belts with diameter of 2- 4 mm/  $\frac{5}{64}$ " -  $\frac{5}{32}$ ".
- b** - Round belts with diameter of 5 - 8 mm/  $\frac{3}{16}$ " -  $\frac{5}{16}$ ".
- c** - Round belts with diameter of 9 mm /  $\frac{23}{64}$ " or larger, and all V profile belts Flat belts- any belt thickness with belt width of up to 50mm/2" by using the Adaptors for Narrow Flat Belt \*



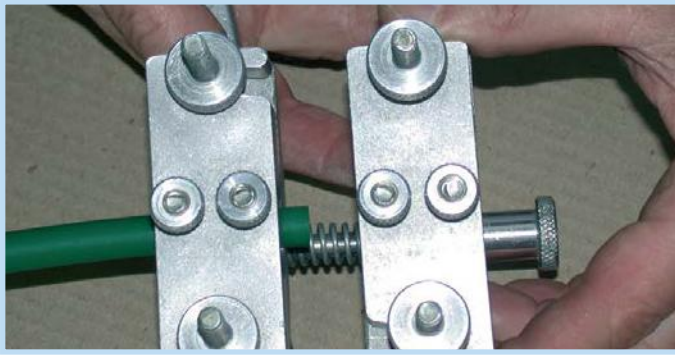
**3a.** When welding reinforced V and Round profiles, place one end of the belt in the Pliers (as shown above) so that it protrudes 5-10 mm from the Pliers. Using the D-11 Driller and correct diameter bit, drill out the reinforcement cord until it is at full depth. Repeat for opposite end of belt.



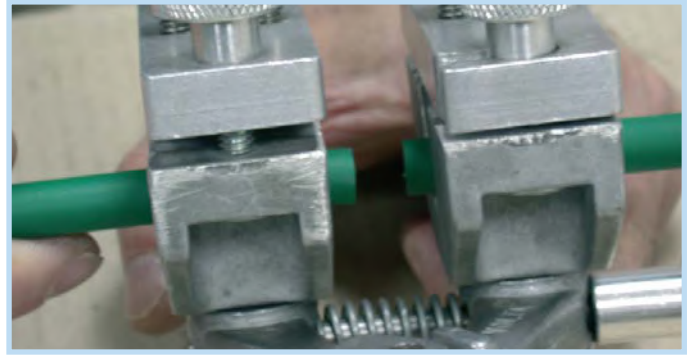
**3b.** If using an electric drill, lock the bits into the drill in sequence as shown in the picture.



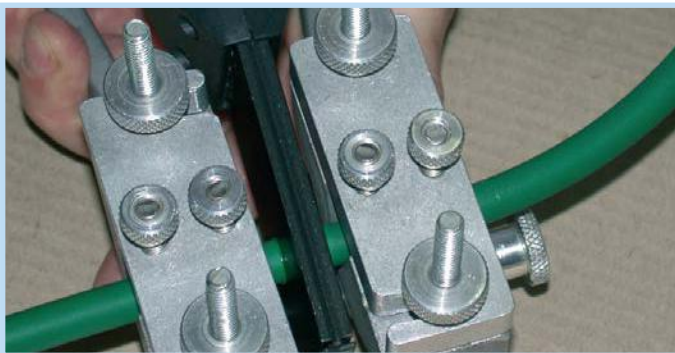
Make sure the Drill is secured safely, parallel to the reinforcement cord and that the profile is clamped in the Pliers. Start drilling at a low speed and increase slowly.



4. After removing the reinforcing cord from both ends of the belt mount the two belt ends in the F-51 Pliers. The Pliers are designed as 'normally open'.

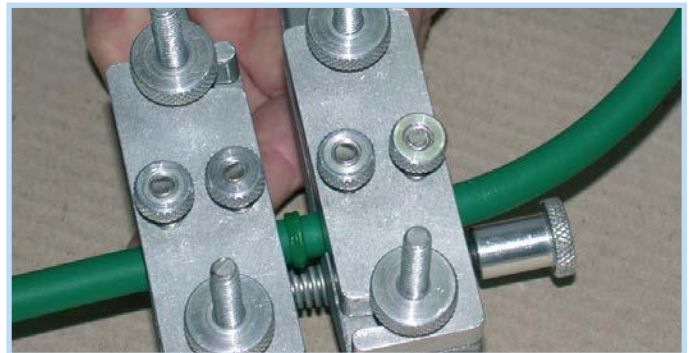


5. Check the positioning of the belt ends. They should be straight and match end to end when the Pliers are closed. The larger the belt diameter, the more the ends should protrude. The correct position can be determined by a small trial run.

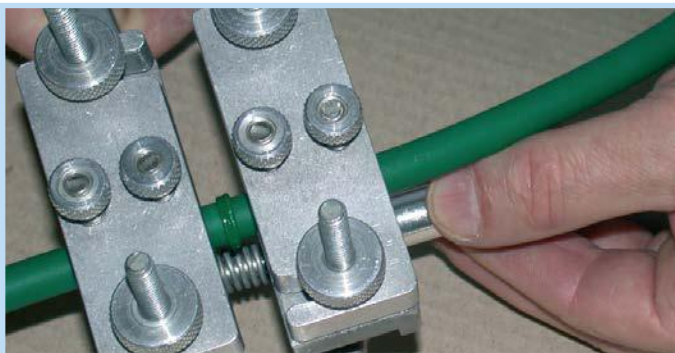


6. Plug the Welder in, and allow preheating for at least 5 minutes prior to welding. After the welder has preheated, set the Welder tip between the two belt ends and close the Pliers.

Apply slight pressure so that the belt ends melt and form a flash of equal size and shape on both belt ends.



7. When flash has developed on each belt end, open the Pliers, remove the welder and close the Pliers. This action should be performed in a smooth, gentle motion without any delay.



8. Lock the Pliers in the closed position with the side nut and allow the weld to cool to room temperature. This should take approximately 5 minutes. Compressed air can be used to cool the belt faster.



9. When the belt has cooled, remove it from the Pliers and trim the flash. (Photo at far left shows the welded belt before trimming.) It is possible to use a small sander or grinder to smooth and clean the joint surface.