

- WARNINGS**
1. Heating element becomes extremely hot during operation. Use caution to prevent burns.
  2. Allow unit to cool completely before servicing or storing to prevent fire and burns.
  3. Do not allow welder to overheat belt material; doing so may produce hazardous fumes.
  4. Do not use welder in the presence of highly flammable or explosive materials or atmospheres.
  5. Use the Fenner Drives Overlap Welder only with Fenner Drives Eagle Belts. Using this welder with other materials or belts may result in a hazardous situation.

Fenner Drives' Overlap Welder is designed exclusively to produce an overlap joint in Eagle® Reinforced Belting. A proper overlap weld will yield 100% of the belt's maximum working load. Note: A clean environment is necessary for a good weld. Make sure area is well ventilated and free of dust, dirt and draft. Practice makes perfect. We strongly encourage getting familiar with the welder and practicing a weld on a short piece of belt before making a final weld on the belt.

1. Securely fasten welder to mounting surface.
2. If this is a new welder, proceed to step 4.
3. Examine light green coated surface of heating element for scratches. A scratched or damaged coated surface can affect weld results; heating element may need replaced.
4. On the front of control box is an ON/OFF switch, indicator light and fuse holder. Plug power supply line and thermocouple from welder into left side of control box. On the right side of control box is the main power cord that is plugged into either a 110/120 V or a 240 V AC electric power source, depending on unit.
5. On top of control box is the digital temperature controller. Turn power to the controller ON by flipping switch on control box to ON position. Using the up or down arrows, set temperature at 230°C/440°F for all reinforced polyurethane belts including Red LCF Can Cable belt or 260°C/500°F for all other Can Cable belts. The large red indicator light will stay on. On the temperature controller, an indicator light will come on and remain on while element is heating. **Important: Do not start welding until this light goes out the first time. This indicator light will then fluctuate on and off as the heating element maintains the correct welding temperature.**  
Note: If light green coated surface contains polyurethane residue use a clean, dry cloth to remove it. To avoid scratches, do not use any object to scrape polyurethane from surface.  
**Warning: Surface will be hot; use caution to avoid burns.**

6. Turn large wing nut several turns counterclockwise until it stops. Pull back on red knob on front (sliding) die. Push down on black knob on top of welder and pull brass pin out to release coated heating element. Swing heating element away from die area.
7. Remove black star-shaped thumbnuts from welder. Select and position the correct vee or round dies in welder. Insert a black star-shaped thumbnut into each die and finger-tighten as in Fig. 1. When welding V-belt, the split die fits into front (sliding) section of welder.
8. Using cutting shears provided, cut each end of a round belt at a 15° angle, or V-belt straight as in Fig. 2.
9. For round belt, continue to step 9a; uncogged V-belt, continue to step 9b; cogged V-belt, to step 9c.
  - a. Slide end of round belt into the rear die until it overhangs approximately 1.6mm (1/16") and angle on belt is parallel with angle on die. Clamp belt into position by lightly tightening the knurled thumbnut finger tight. See Fig.3.

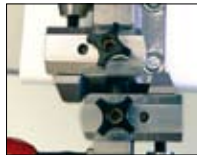


Figure 1



Figure 2



Figure 3  
Holding Clamp

On the front (sliding) die, the flat side of the holding clamp must face up. If not, turn knurled thumbnut counterclockwise and remove. Push holding clamp from base and rotate clamp 180° until flat side is up. Reassemble knurled thumbnut. Slide end of belt into front die and position exactly same as rear die. Lightly finger-tighten knurled thumbnut. Note: Make sure belt does not contain any twist.

b. Slide end of uncogged V-belt into rear die until it overhangs approximately 1.6mm (1/16"), but not more than 3.2mm (1/8"). Clamp belt into position by lightly tightening knurled thumbnut finger tight. On front (sliding) die, flat side of holding clamp must face up. If not, turn knurled thumbnut counterclockwise and remove. Push holding clamp from base and rotate clamp 180° until flat side is up. Reassemble knurled thumbnut. Slide end of V-belt into front die and position exactly the same as rear die. Lightly finger-tighten knurled thumbnut. See Fig. 4.

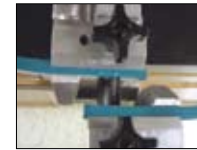


Figure 4

Note: Make sure belt does not contain any twist.

c. Slide end of the cogged V-belt into rear die until one cog overhangs. Clamp belt into position by lightly tightening knurled thumbnut finger tight. On the front (sliding) die, flat side of holding clamp must face down. If not, turn knurled thumbnut counterclockwise and remove. Push holding clamp from base and rotate clamp 180° until flat side is down. Reassemble knurled thumbnut. Slide end of cogged V-belt into front die and position exactly the same as rear die. Lightly finger-tighten thumbnut. See Fig. 5. Note: Lip on holding clamp must be engaged in notch on V-belt. Note: Make sure belt does not contain any twist.



Figure 5

10. Swing coated heating element into position above and between dies. Pull out on brass pin, push down and hold black knob (on top of welder) and release brass pin. This locks heating element into position.

11. Turn large wing nut clockwise, moving it forward until both overlapping surfaces contact the coated heating element. Continue turning large wing nut as belt ends melt and material is squeezed out of weld area. Continue turning large wing nut until it stops. Do not over tighten. See Fig. 6.



Figure 6

12. **Important: This sequence must be done very quickly.** After a maximum of 20 seconds (less for smaller profiles), turn large wing nut counterclockwise 3-4 full turns. Pull back on red knob until front (sliding) die stops. Push down on black knob on top of welder; on back of welder, slightly push on the two guide rods to move coated heating element. Pull brass pin out and release coated heating element. Swing heating element away from die area. Immediately push red knob forward and quickly spin large wing nut clockwise until stop is reached. See Fig. 7.



Figure 7

13. While weld is cooling, use a clean, dry cloth to wipe excess polyurethane material from coated heating element. It is important that heating element be cleaned between every weld. On completion of final weld, flip power switch on control box to the OFF position.

14. After a minimum of one minute, turn large wing nut counterclockwise several turns. Loosen both knurled thumbnuts several turns and pull back on red knob on front (sliding) die. Remove belt from welder, Fig. 8, and using special flash cutters trim weld flash from belt, Fig. 9. Note: The flash cutters have been designed specifically for trimming polyurethane and are not to be used for cutting metal, wire, etc. Important: Allow belt to cure for a minimum of 1/2 hour prior to installing, tensioning or putting strain on belt weld.



Figure 8



Figure 9