

RIBBON REPLACEMENT INSTRUCTIONS
WATER COOLED BURNERS

To install a new ribbon assembly in an Ensign Water Cooled Burner, this procedure should be followed.

1. Loosen/Remove flanges from ends of the burner.
2. Loosen hex head bolts on the side of the burner, two per section.
3. Drive up ribbon assembly on open end of burner until 2" or 3" of ribbon is above casting. Put a piece of flat cold rolled steel 6" or 8" long x 3/4" or so wide (1/8" thick) under ribbon assembly (at right angle), and drive or push it along the top of the burner, forcing the ribbon up as you move along. Pry ribbon out at end of burner. Opening the casting slightly with a tapered wedge aids in removal of the ribbon assembly.
4. There is a 1-1/4" SS Flat on either side of the ribbon, protecting the edge of the casting from erosion caused by the flame. This flat may need to be replaced. Using a file, or some sort of abrasive material, remove any build-up of foreign material from sides of slot. **Blow out the Casting** with a high pressure air stream. This is the best time to loosen any material that may have built up inside the casting. If possible, pressurize the water passage to search for leaks.
5. The new ribbon assembly which is welded at one end should be started from the infeed end. Before starting to install ribbon, place two SS flats on the side of the slot, with a piece of 3/8 stock between them (it should stick out the end to be easily removed), to hold them apart. Drive a wedge in the slot approximately 6" from the end in order to open up the slot just enough to insert the ribbon with ease. Then start the ribbon in the slot with the inside end of the weld just flush with the end of the casting. Drive ribbon in slightly along the casting, continuing to use the wedge as you go along. Just as you get the ribbon almost installed the entire length of the burner, trim the ribbon to fit flush with the flange on the return bend end. Be careful not to cut the return bend. Drive the entire assembly down about half way, then start at the end and drive down level with the top of the casting. Then tighten all hex head bolts on side of casting just snug. Take a piece of 1/8" flat stock, 5" or 6" long and slightly narrower than the width of the slot (.406", and starting at one end, drive the ribbon assembly down until the piece of flat stock is flush with the top of the burner casting. Continue along the length of the burner until the entire assembly is recessed the 1/8" depth.
6. **Blow out the assembly well** with a high pressure air stream, then tighten all hex head bolts until they feel firm. Extreme pressure may pull the lug out of the inside or crack the casting. 15-20 FT LBS RECOMMENDED (30 FT/LBS CRACKS CASTING)
7. Reinstall end flanges and burner is ready for use.
8. A 7/16 rod may be passed through the water passages, to help clear mineral deposits, but you must be careful to either unsolder the return bend, or use a counterflowing water stream to avoid packing up the water passage. (Turning the rod with a drill motor helps).

NOTE: During installation, the main ports in the assembly may start to run slightly off. This can be corrected by inserting four #55 drill blanks or .052" Dia. wire across the assembly all in the same line. Then continue to drive ribbon down and repeat if necessary. Care should be taken when removing the blanks. Using a wedge with 2 aluminum or brass angles to open the casting slightly. This facilitates the installation and helps to keep the main ports aligned, as the ribbon is being installed.