

How to change the cones on a GF95-GF97

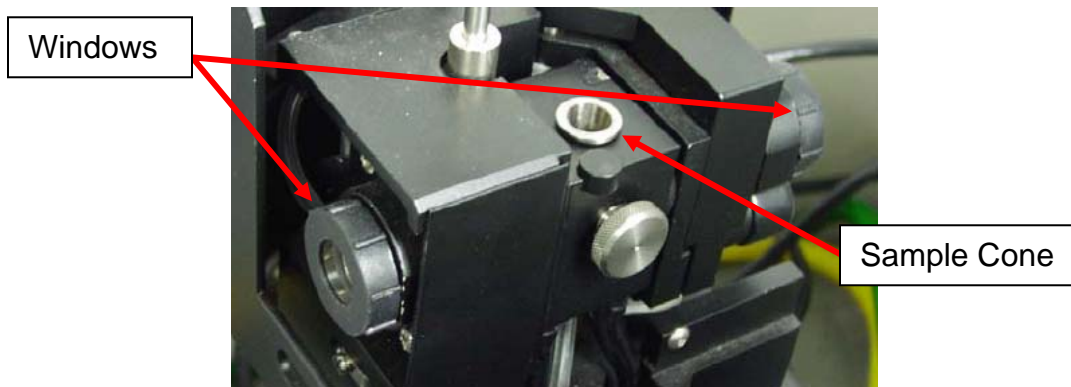
The contact cones in a furnace will need to be changed when there is sufficient damage or wear to the surface of the cone where the cuvette does not make good contact to the cone. Chips on the outside edge of the cone that do not go far enough into the cone to where the cuvette contacts the cone may be disregarded. Once the decision to change the cones is made you will need the following items.

P/N 942339395011 Graphite contact cones for GF95/GF97

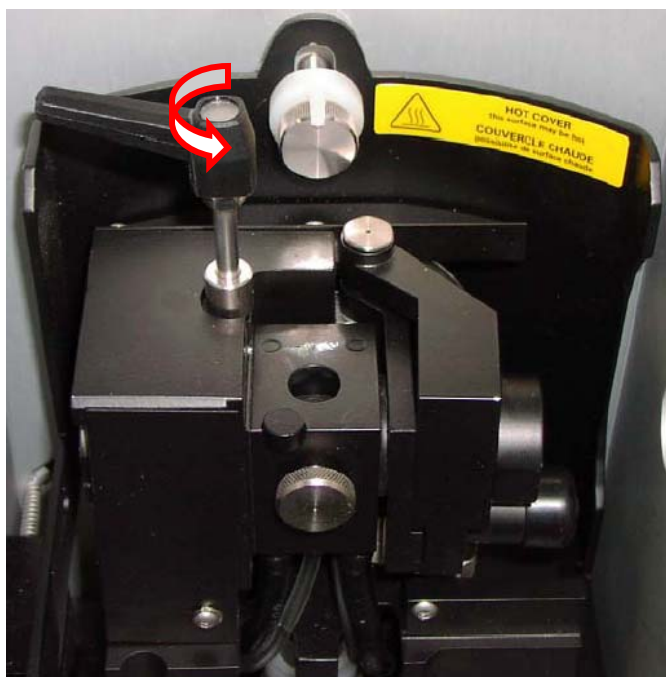
P/N 942339395101 Contact Cone Replacement Tool for GF95/GF97
(pictured below)



Pictured below is the standard furnace head as found in the GF95, GF97, GFS33 and GFS35.

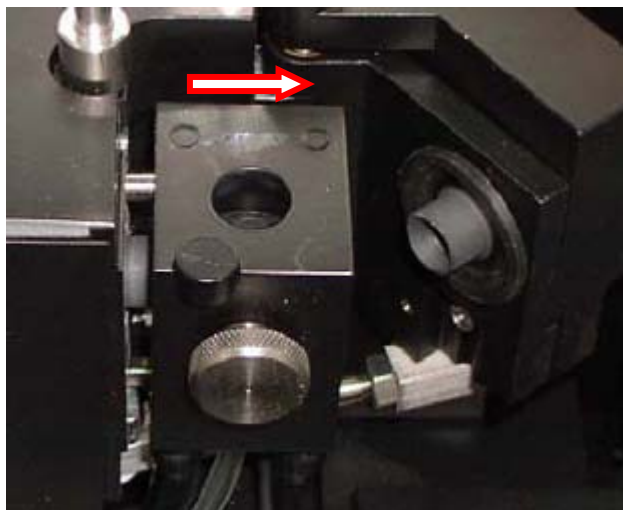


Remove the two windows and the sample cone from the furnace.



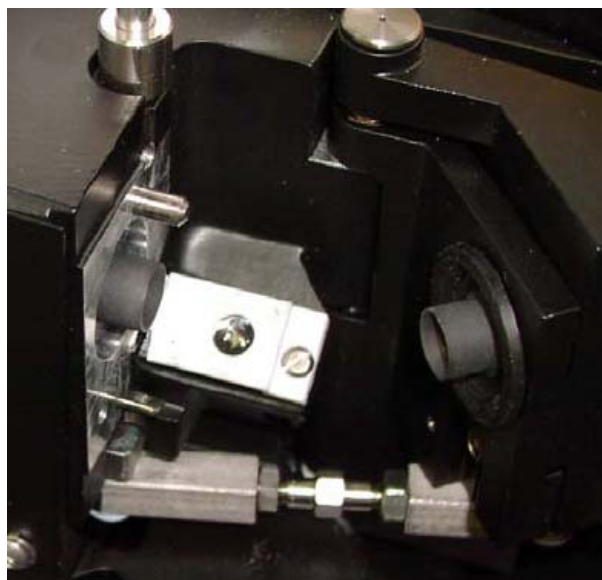
Rotate the handle to open the furnace. If the cuvette is still present in the furnace, remove it from the furnace.

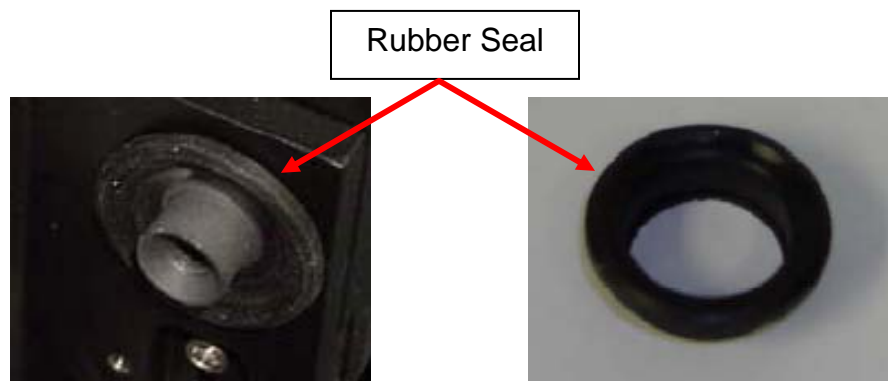




Slide the center block to the left. It is not held in place, but is mounted on two pins. Once the block is off of the pins it can be gently laid down forward. There is no need to disconnect the hoses to the center block.

NOTE: At this time it would also be good to clean the center block window, the fiber optic lens and the inside of the center block.





Locate and carefully remove the rubber seal around the right hand cone.



Assemble the screw and two washers from the cone removal kit as shown in the picture above.



Locate the large cap in the cone removal tool kit as pictured above and below.



For reference only the screw, cone and cap will be in the orientation shown in the picture above

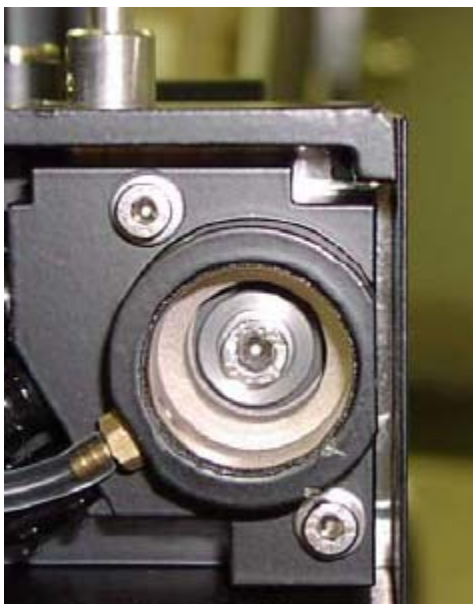


Insert the screw into back of the cone so as shown in the picture above. The screw head should be facing where the window would be.

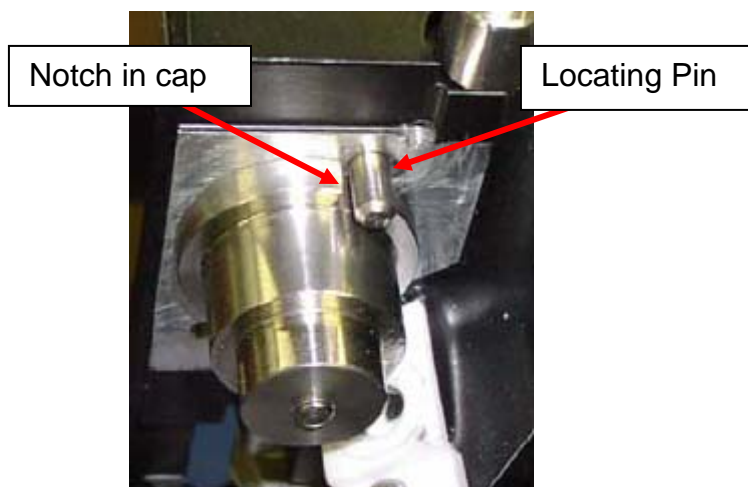


The cap should fit over the cone from the opposite side. Now using the Allen wrench supplied tighten the screw to draw the cone from in the electrode into the cap. Continue until the cone is free of the electrode. Remove the screw from the cap. The cone has now been removed.

Next the cone will be removed from the left electrode. The process is similar to that for the right cone. The screw with it's washers are inserted into the cone from the back side (side towards where the window would be). See the picture below.



The major difference between the right and the left side removal is the position of the cap is such that the pin will fit into a notch cut into the cap. See the picture below.





Assemble the screw, washer and insertion cap as shown in the picture above. The flat side of the insertion cap should be towards the head of the screw.

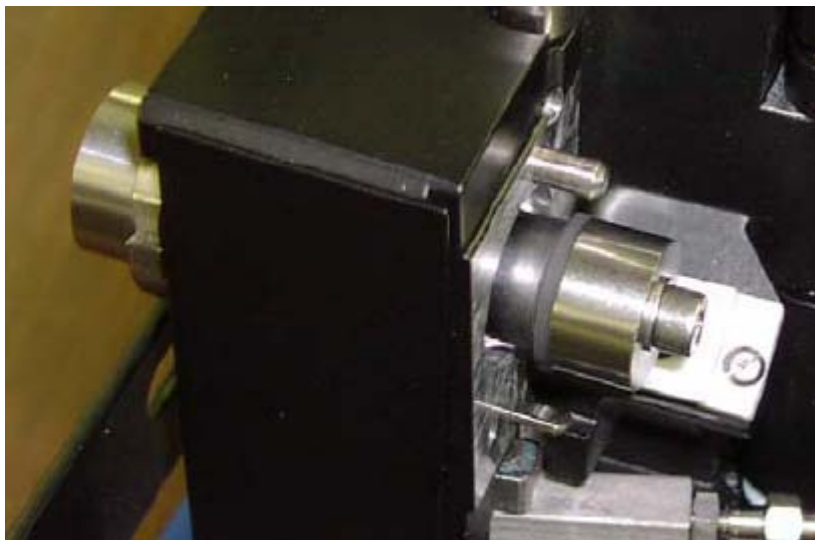


The new cone is put on the screw and the end of the cone will fit into the insertion cap as shown in the picture above.



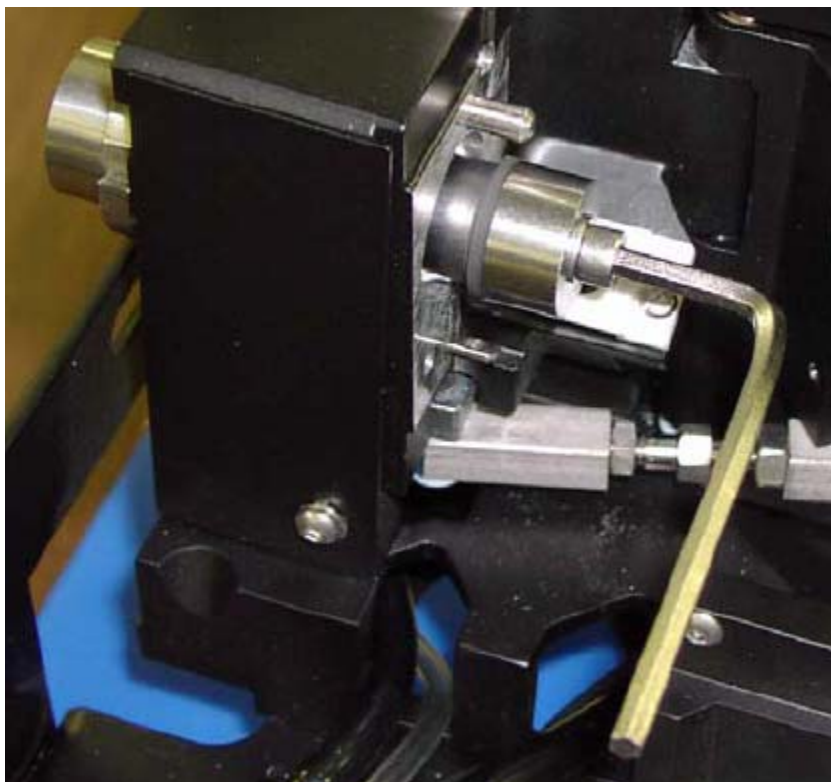
This picture is shown for referencing the orientation that the cone parts of the insertion tool will be assembled.

The next two pictures show how the cone insertion tool and cone are to be assembled in the electrode.



Make sure the cone is started straight in the hole. If the cone enters the electrode mis-aligned the cone can be damaged and made unusable.

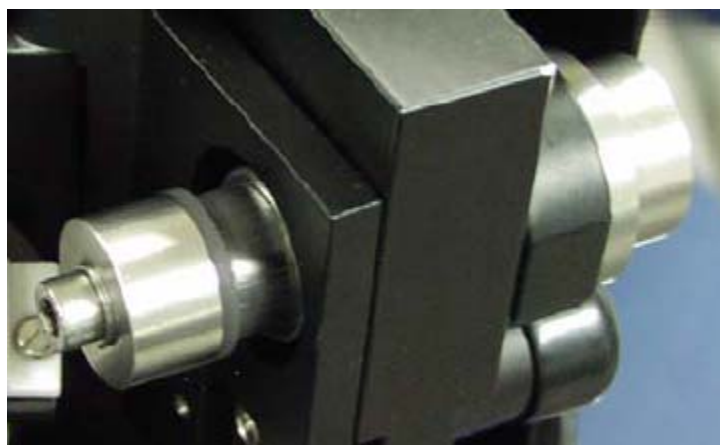
Using the Allen wrench supplied slowly tighten the screw which will draw the cone into the electrode. The cone will appear to be too large but it is designed that way so that a very thin layer of graphite is scraped off as the cone enters the electrode and it forms a very tight fit. This scraping of the electrode is the reason that once a cone has been removed it can not be re-inserted back into the electrode.



The cone should be inserted until the shoulder ring is snug against the metal surface of the electrode. The screw will show a very large resistance to turning at that point.

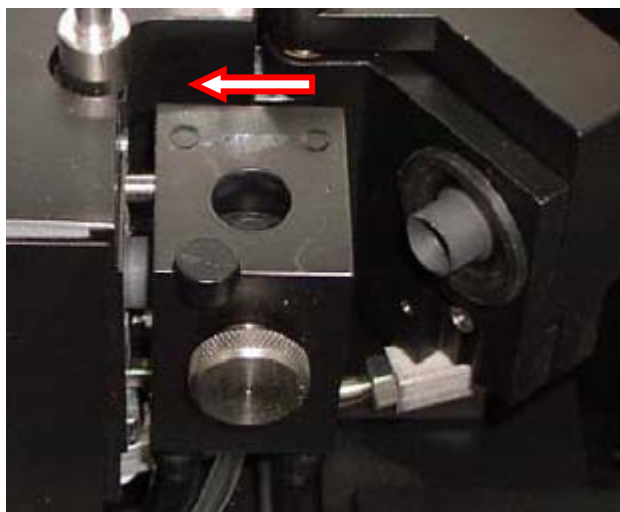
NOTE: Do not over tighten the cone as it might break.

Once the cone is fully inserted remove carefully loosen the screw and remove the insertion tool.



Now repeat the process for the right hand cone. Replace the rubber seal around the right hand cone once the insertion tool has been removed.

Once both cones have been installed replace the center block by sliding it onto the guide pins.



Replace the sample cone in the block. Insert a new cuvette and the furnace is now ready for operation.