

Document LMEC003

Our popular ChangeDisk style RRDE tips allow the disk material to be changed easily. These tips can be taken apart into several pieces (see below). The photos shown in this document depict the E6 Series ChangeDisk RRDE tips; however, some of the information in this document also applies to the earlier MT136 and MT134 Series RRDE tip designs.



## Electrical Connectivity

The ring itself is a permanent part of the ring assembly and cannot be changed. Electrical contact with the ring is made by means of the main screw threads on the ring assembly which mate with threads inside the shaft.

Electrical contact between the disk material and the disk core is typically accomplished via a small spring loaded contact probe located at the end of the disk core. In some designs, the disk material is actually permanently soldered to the disk core (see HandsOff Disk Assembly discussed below). When the RRDE tip is fully assembled, the disk core nut is threaded on to the disk core. A second contact probe within the shaft itself provides electrical contact between the disk core nut and the shaft.



## The U-Cup

ChangeDisk RRDE tips have an insulating seal between the disk material and the ring electrode which is called the U-Cup. The U-Cup is typically made from Teflon. **After repeated use the U-Cup will wear out and need to be replaced.**

**WARNING!**  
Damaged U-Cups may lead to ring separation due to solder weld corrosion!  
Replace worn U-Cups immediately!



**DON'T LET THIS HAPPEN TO YOU!**

## HandsOff Disk Assembly Option

Contact with the electrode surface during assembly is often undesirable. For example, if a glassy carbon disk insert has been coated with an electrocatalyst, touching the surface might disturb the catalyst layer. To help solve this problem, Pine also offers a special HandsOff disk assembly. This option allows the disk to be pulled into the ring from behind because the disk material is permanently attached to the disk core (see photo). HandsOff disk assemblies are available for carbon, gold, platinum, and other materials as well.



## Installing a ChangeDisk RRDE Tip on to the Shaft



The RRDE tip is designed to thread up inside the shaft. There is a slightly tapered surface on the RRDE tip that should slide easily up into the shaft, forming a seal against the outer insulation of the shaft.

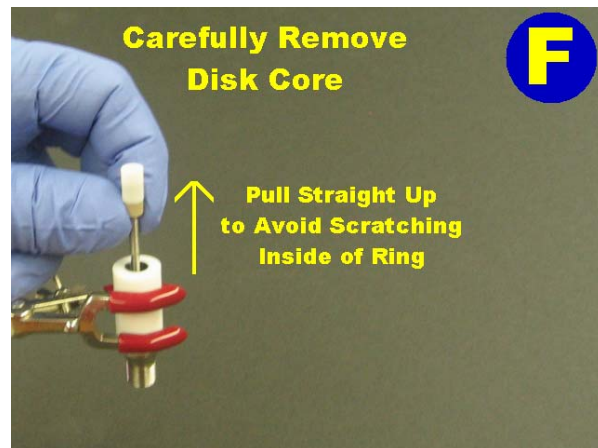
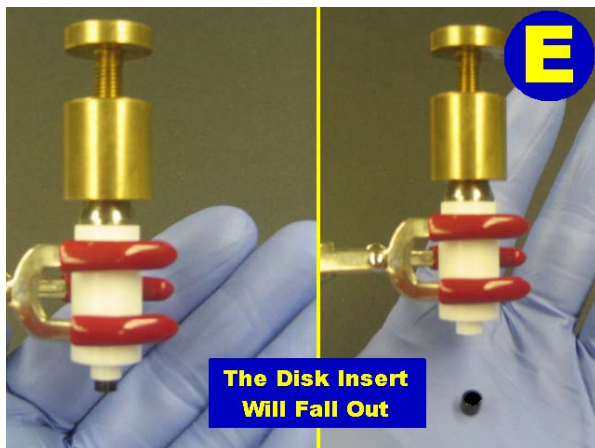
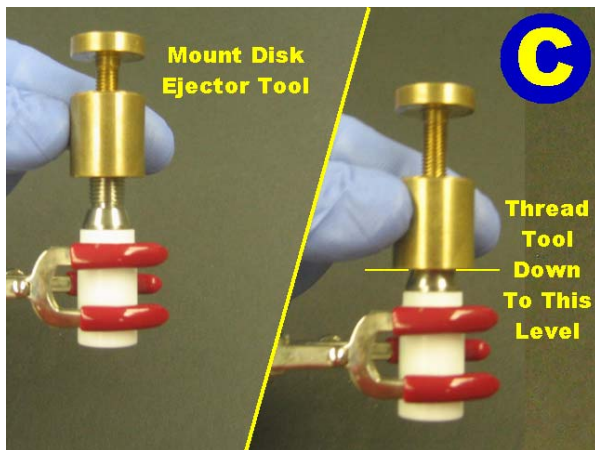
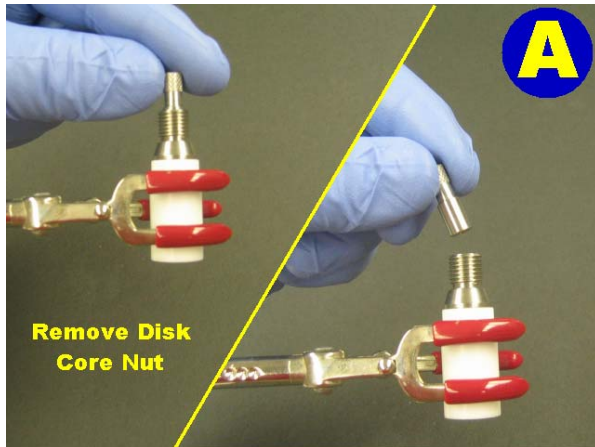
Failure to properly create this seal may allow corrosive chemicals to damage the internal metal components of the shaft and/or tip.

## Replacement Parts for Popular ChangeDisk Style RRDE Tips

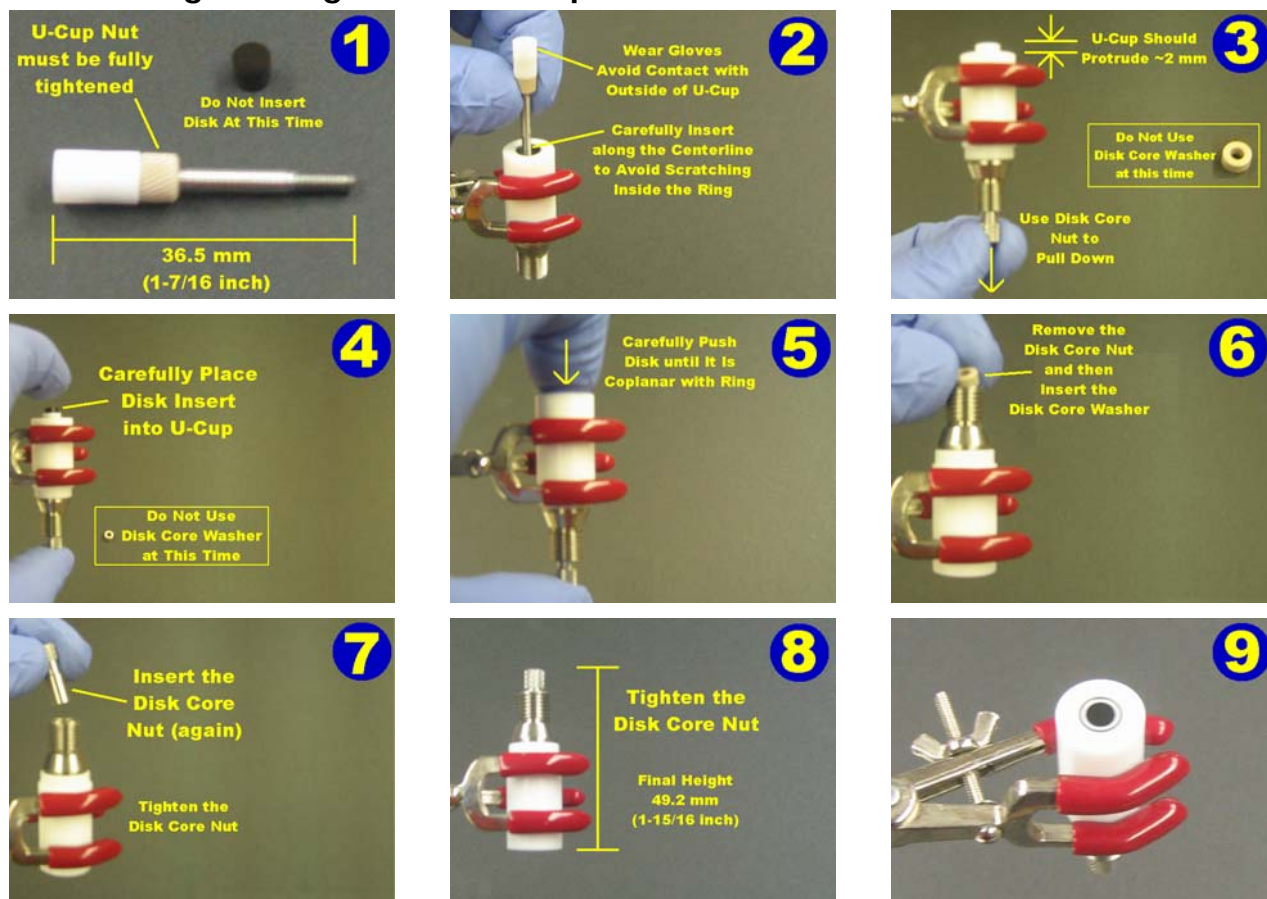
	MTI34 Series Tips for MSR rotators	MTI36 Series Tips for MSR rotators	DTI60 Series Tips for ASR rotators	E6 Series Tips (for ASR and MSR rotators)
<b>Shafts</b>				
shaft for ASR shaft for MSR contact spring	ACMTI3550 KAS008B7	ACMTI3550 KAS008B7	ACDI3650 KAS26B12	<b>AFE6A AFE6M EKCSS17G</b>
<b>Ring Assemblies (includes internal hardware)</b>				
glassy carbon gold platinum	AFMTI3490AUTDH AFMTI3490PTTDH	AFMTI3690AUTDH AFMTI3690PTTDH	AFDI3690AUTDH AFDI3690PTTDH	<b>AFE6R1GC AFE6R1AU AFE6R1PT</b>
<b>Disk Inserts</b>				
	(6.0 mm OD)	(5.0 mm OD)	(6.0 mm OD)	(5.0 mm OD)
glassy carbon gold platinum	ACDI3481GCT ACDI3481AUT ACDI3481PTT	AFED050P040GC AFED050P040AU AFED050P040PT	ACDI3481GCT ACDI3481AUT ACDI3481PTT	<b>AFED050P040GC AFED050P040AU AFED050P040PT</b>
<b>Tools (for removing and polishing disk inserts)</b>				
disk tools	AFE6K050	AFE6K050	ACDI4606	<b>AFE6K050</b>
<b>Internal Hardware (replacement parts)</b>				
complete	ACMTI3480DCT	ACMTI3680DCT	ACDI6080DCT	<b>ACE6R1DH</b>
disk core nut	ACMTI3544	ACMTI3544	ACDI3644	<b>ACE6DN ACE6DW ACE6DNU AKUCUP ACE6DC050 EKCSS17G</b>
disk core washer	ACMTI3542	ACMTI3542	ACDI3642	
U-Cup nut	AC01NUC66	AC01NUC66	AC01NUC5	
U-Cup	ACUC75	ACUC5	ACUC75	
disk contact core	ACMTI3404DC	ACMTI3604DC	ACDI6004DC	
contact spring	KAS008B7	KAS008B7	KAS008B7	

## Taking Apart a ChangeDisk RRDE Tip

A toolkit is provided to help eject the disk assembly from the ring assembly.



## Assembling a ChangeDisk RRDE Tip



**Note:** The procedure (above) requires direct contact with the surface of the electrode in step 5. Such contact should be made as gently as possible to avoid damaging the electrode surface.