

## 2.5, 3.2 & 4.0mm Rotor Cap Remover User Instructions.

Part Number:

2.5mm, RS-301-2180; (Now Capable of removing the caps and plugs from 1.3, 1.5 & 1.7mm ID 2.5mm OD rotors)

3.2mm, RS-301-3180;

4.0mm, RS-301-4180.



Front View (2.5mm in this example)



Rear View (2.5mm in this example)

The most difficult part of this procedure is to move the end cap or base plug if applicable relative to the rotor, even if only a few tenths of a mm. Once this is achieved, two things occur: The gap is now bigger between the rotor and the cap, and as the molecular bond between the cap shaft and the inner wall of the rotor is temporarily disturbed, the cap shaft can move easier.

- I. Completely unscrew the finger part of the tool relative to the clamp part of the tool.
- II. Insert the rotor from the rear of the finger section of the tool until the gap (if at all visible) between the rotor and the cap is positioned under the fingers. Slightly depress the fingers carefully until the gap can be 'felt' using your own fingers to hold the rotor. Once the spot is clearly found apply significantly more pressure on the fingers of the tool until a 'click' is heard, or you can actually see the cap move, or the gap widen or appear. Some gaps are so small they are hardly if at all be visible to the naked eye. Using a large scale magnifying glass may help here or a low cost pair of low magnification reading glasses, even if you have good sight, can help quite some.
- III. Remove the rotor, re-assemble the tool and re-insert the rotor from either end so that the gap achieved in step II above is just a little higher than the tips of the fingers as viewed from the front. (See example in Front view above.)

- IV. Tighten the two thumb screws at the rear of the cap remover fairly tightly, ensuring the gap between the top and bottom (or left & right) of the tool as viewed from the rear is symmetrical. If it's offset the clamp will not have enough grip to hold the rotor firmly. Once this is done, the rotor is gripped by a specially designed polymer sleeve to evenly distribute the clamping effect over the rotor body. The exact amount of clamping force is best achieved empirically, i.e. make it as tight as you feel is required. You will soon see if it was tight enough or not. If not, make it just a little tighter on the next attempt. A small flat blade screw driver may assist if you are unable to achieve enough clamping force using your fingers alone due to the small size of the clamping actuators.
- V. Grip the rear section in one hand and slowly rotate the front section of the cap remover in a counter clockwise manner using your other hand.
- VI. Apply a little tension to the two fingers in the front to 'feel' the gap between the rotor body and either the turbine blade cap as shown in this example or the base cap plug which can just as easily be removed. The gap can still be very small and can hardly be seen with the naked eye on either cap or base plug, but it should now be quite easily 'felt' with something as sharp as the semi spherical blades on the end of the cap remover fingers
- VII. Once you are certain the cap remover fingers are indeed in the gap you can now increment the force on the fingers of the cap remover to the point where the fingers in the tool are back in the gap between the cap (or base plug) and rotor, so you can now 'unscrew' the cap from the rotor under total control and at exactly zero degrees relative to each other. Viewed another way you are holding the cap and unscrewing the rotor from the cap. All things are relative.

Should you have any comments about this or any of our other products, be they good or bad, we would greatly appreciate hearing from you!