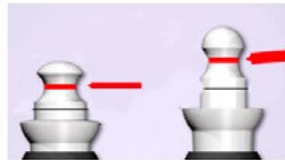
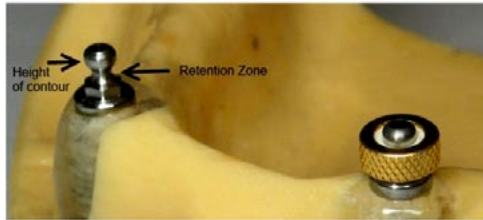




## O-Ring Cast Coping Instructions



The internal diameter needs to match the retention zone (red line)--or area on the male post the O-Ring rests--to assure proper fit.

		Internal Diameter (ID)	Outside Diameter (OD)	
	Sizing	mm	mm	Price
<b>Black #2</b> <b>Pkg 12</b>	Micro	1.00 mm	3.60 mm	\$27.00
<b>Black #2M</b> <b>Pkg 6</b>	1.8 Mini Implant	1.20mm	3.60mm	\$27.00
<b>White #3</b> <b>Pkg 12</b>	Standard	1.40 mm	4.50mm	\$23.00
<b>Black #3</b> <b>Pkg 12</b>	Standard	1.40 mm	4.50mm	\$27.00
<b>Black #4</b> <b>Pkg 6</b>	Large	2.00 mm	5.20 mm	\$30.00
<b>Black #5</b> <b>Pkg 6</b>	Extra Large	2.40 mm	6.25 mm	\$30.00
<b>Combo Pack</b> <b>2 of each ring (10 total)</b>		Micro (2) Mini Implant (2) Standard (2) Large (2) Extra Large (2)	2 of each size (black)	\$45.00
<b>Servicing Kit</b> <b>2 of each ring (10 total) plus O-ring Insertion Tool</b>		Micro (2) Mini Implant (2) Standard (2) Large (2) Extra Large (2) Insertion Tool	2 of each size (black) Insertion Tool	\$100.00
		Metal Retainer Ring #2 (fits both #2 and #2M) Metal Retainer Ring #3 (ea)		\$16.00
			Metal Retainer Rings #4 (ea)	\$27.00
			Metal Retainer Rings #5 (ea)	\$27.00

# The Original O-Ring System



## O-Ring Components



**Castable Male overdenture pattern**

- 5.2mm height, may be reduced to 2.5mm
- 2.0mm Ø



**Metal Housing (#3)**

- 2.0mm height
- 5.2mm outer Ø



**O-Ring Overdenture Paralleling Mandrel**

One per package.



**Black O-Ring**

[OSO O-Ring size chart available](#)

- 

### **Benefits:**

- Economical and easy to use
- May be used with post copings, cast copings, or bar constructions



**O-Ring insertion Tool**

For #2, #2M, and #3 O-rings



**O-Ring Overdenture Analog**

One per package.

For indirect processing.

## Instructions

### Attachment technique for Overdentures

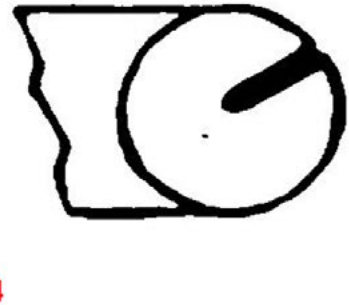
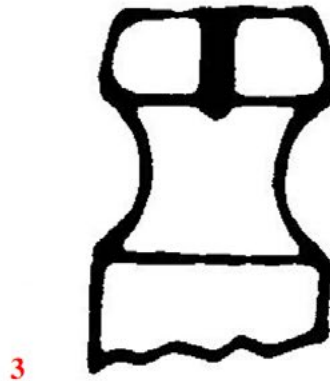
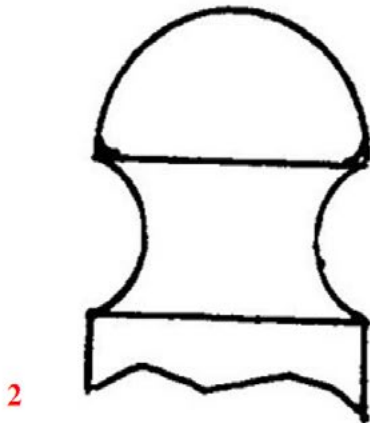
1. Conventional preparations are made for root cap post copings.
2. Full arch impressions are taken so that the male posts may be paralleled in the wax up.
3. Models and dies are prepared and copings waxed.



4. Plastic male posts are shortened to the desired height.

The hemispherical head of the male post should be maintained to provide the torque-free ball and socket action between the denture and the attachment. The head may be shortened but the effectiveness of the stress relieving action will be reduced (**FIG 1**).

5. Lute the plastic male posts to the waxed copings using the paralleling mandrel to parallel multiple attachments and to establish the best path of insertion in relation to the configuration of the ridge and tissue undercuts.



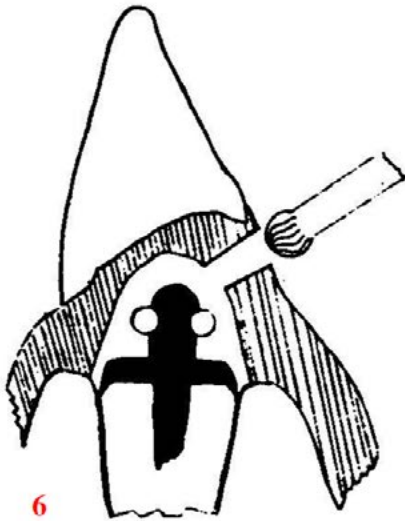
6. Sprue and cast the male plastic patterns. An auxiliary sprue should be carefully connected to the top of the male post to assure a complete casting. Finish and fit copings to the master model. Remove any imperfections from the attachments. Rubber wheel and polish the junction of the O-Ring groove and the hemispherical head to a slightly smaller diameter than the body of the post (**FIG 2**).

Cut the pressure relief groove (The head must be reduced in this manner because it is slightly larger than the body of the post to allow for this reduction). With a disc, cut the pressure relief groove in the head of the male post from the O-Ring groove to the topmost point of the hemispherical surface (**FIG 3 & 4**). This will prevent compression of air and fluids in the chamber beyond the O-Ring as the prosthesis is being seated.



7. Cover copings and attachments with O-Rings in place with plaster, stone, or silicone putty (**FIG 5**). Set-up, try-in and finish in a normal way.

8. The dentist seats the denture. The space created by the stone or plaster over the copings during processing will allow the denture to seat without contacting the copings or the attachments.



9. The dentist allows the patient to wear the denture for several days until the denture is well seated and most adjustments have been made and the patient is comfortable.

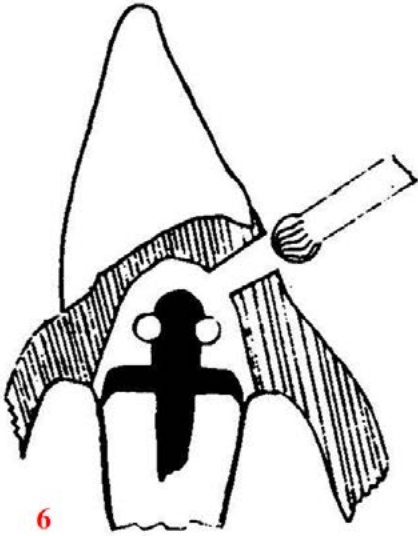
10. The dentist drills a hole from the lingual of the denture through to the void area around the attachment (**FIG 6**).

11. The dentist decides whether the denture is to be immediately root supported or tissue resilient and to what degree.

## For root supported overdentures

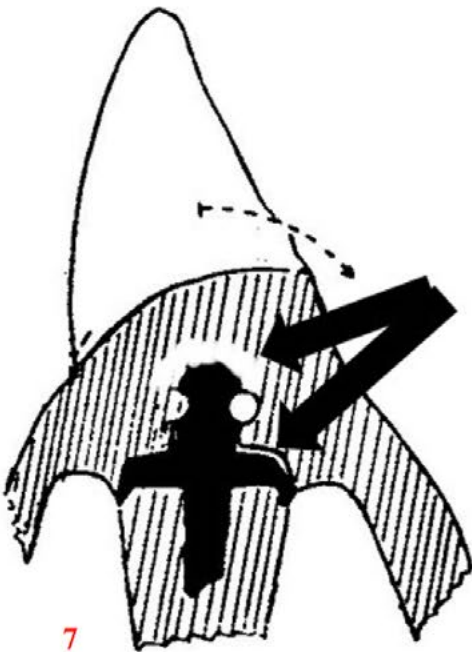
The surgical stainless steel retainer ring for the OSO attachment aids in the seating and replacement of the rubber O-Ring and helps to preserve the acrylic around the opening. The Retainer Ring can be placed flush with the gingival of the denture, thereby reducing the height necessary for the male post, if so desired.

After casting or after cementing the Male Post, seat the red processing Ring into the Retainer Ring and put in place on the male attachment. Block out the gingival portion of the Retainer Ring down to the coping or base. The balance of the processing is as usual.



12. Use the red O-Ring for processing. Place the red processing O-Ring on to the male post into the O-Ring groove. Fill the pressure relief groove in the head of the male post with **soft wax**. Place self curing acrylic into the void from the tissue side and seat the denture carefully, holding firmly in the rest position without undue pressure until acrylic is set. A piece of rubber dam should be cut to size, a hole punched and placed over the male post to cover the surface of the coping and adjoining tissue. This will protect the tissue and provide a little freeway space between the denture base and the coping.

The hole drilled in the lingual will allow the excess acrylic to escape, or it can be used for adding more acrylic after the denture has been seated (**FIG 6**).



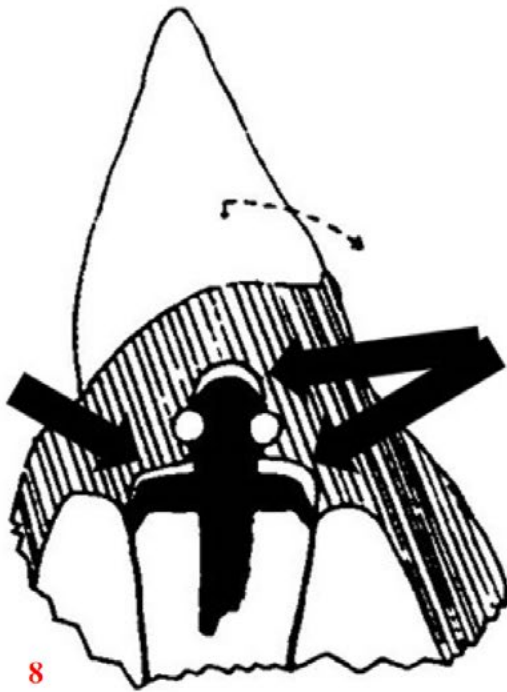
13. After processing remove the O-Ring from the denture and with a sharp bur of the right size enlarge the chamber very slightly, just gingival to the O-Ring groove (see top arrow). If rubber dam was not used to create freeway space between the denture base and coping (see lower arrow), then the area of the denture contacting the coping should be relieved with a bur only on the part lingual of the male post. This will provide freeway space for the ball and socket action of the denture on the hemispherical head of the male post under posterior occlusal load and prevent torquing of the abutments.

The part of the coping labial to the male post will remain in contact with the denture and help to resist unseating forces in the posterior area, much like an indirect stabilizer (**FIG 7**).

## For Tissue Supported Overdentures

The surgical stainless steel retainer ring for the OSO attachment aids in the seating and replacement of the rubber O-Ring and helps to preserve the acrylic around the opening. The Retainer Ring can be placed flush with the gingival of the denture, thereby reducing the height necessary for the male post, if so desired.

After casting or after cementing the Male Post, seat the red processing Ring into the Retainer Ring and put in place on the male attachment. Block out the gingival portion of the Retainer Ring down to the coping or base. The balance of the processing is as usual.



14. Follow the same procedures as above, except place **sticky wax** on the head of the male post of the desired thickness. The sticky wax will adhere better than other wax. The thickness of the wax applied will determine how far the denture will move **tissueward** under load before it will contact the head of the male post and become abutment supported.

When the denture base does come in contact with the male post, the abutment will start supporting the denture, but will allow the ball and socket rotation under posterior occlusal load to prevent or reduce torquing of the abutments (**FIG 8**).

Notice the free space for rotation and support, as shown by the arrows.

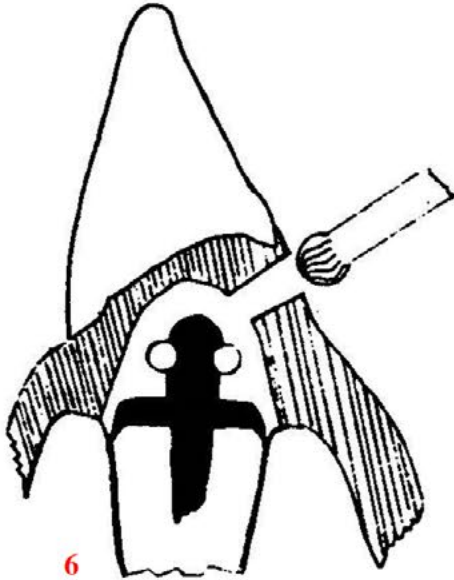
The freeway space may be provided over the head of the male post by using a round bur of the proper size to remove the acrylic in the chamber beyond the O-Ring, instead of covering the post with hot sticky wax. This should be done after the processing O-Ring has been removed and before the new O-Ring is inserted.

### **Optional: In Lab Processing of the O-Ring into Dentures**

1. Process denture on a duplicate model with the area around attachment with O-Ring in place blocked out. Return to master model to check fit and make occlusal adjustments. Undercut areas on master model may be cut away but retain adequate landmarks to seat and secure denture accurately.
2. Follow steps **10-14** of the previous overdenture section.
3. The denture may not seat completely back on the model, but tissue resiliency will let it seat in the mouth.
4. The spare O-Rings should be delivered in the PREAT box with completed denture for future replacements.

### **Optional: Processing of O-Rings into Overdentures on a Analog Model**

1. The denture is seated and the void areas around the male post and coping should be free of contact.
2. The denture is worn for several days and normal adjustments are made.



3. When a patient is comfortable with the denture and you are ready to process the O-Ring into the denture, drill a hole from the lingual of the denture through to the void area around the attachment (**FIG 6**). Fill the pressure relief groove in the head of the male post with soft wax.

4. Fill the void area with rubber base impression material and reseat the denture.

5. Remove the denture and place the processing jigs into the impression of the male posts. Block out with soft wax any undercut areas of the denture so that it can be easily removed from the stone model after it sets.

6. Pour the stone model and separate from the denture after it has set. The jigs will be retained in the model in exactly the same position as in the mouth. Remove the impression material from the denture.

7. Follow steps 10-14 for processing O-Rings.

## Metal Retainer Rings

The surgical stainless steel retainer ring for the OSO attachment aids in the seating and replacement of the rubber O-Ring and helps to preserve the acrylic around the opening. The Retainer Ring can be placed flush with the gingival of the denture, thereby reducing the height necessary for the male post, if so desired.

After casting or after cementing the Male Post, seat the red processing Ring into the Retainer Ring and put in place on the male attachment. Block out the gingival portion of the Retainer Ring down to the coping or base. The balance of the processing is as usual.

## O-Ring Insertion Tool Instructions



Micro O-Ring Ferrule

O-Ring Insertion Tool Handle

Standard O-Ring Ferrule

The O-Ring Insertion Tool is designed to insert O-Rings into a Metal Housing.

The Micro O-Ring Ferrule is used with the OSO O-Rings sizes #2 and #2M.

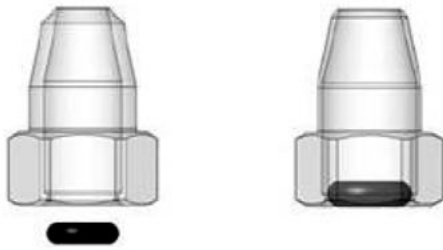
The Standard O-Ring Ferrule is with the OSO O-Rings size #3.

**Sterilization:** O-Ring Insertion Tool, disassemble prior to sterilization, may be sterilized using a liquid chemical sterilant following manufacturer's recommendations to achieve sterilization. **Please Note: Liquid Chemical Sterilant must be approved for Sterilization, not just High-Level Disinfection, and must be compatible with Polysulfone material.**

### Procedure

**Lubrication:** Lubricate the O-Ring Insertion Tool prior to use by dipping each end of the Insertion Tool Handle Tip into the lubricant (Water Based KY Jelly), and insert the Insertion Tool Handle Tip into its respective ferrule, and sliding the ferrule back and forth to lubricate the inside of the ferrule.

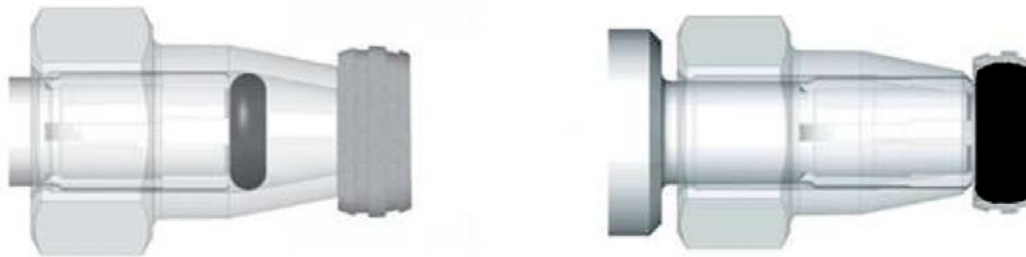
Place the appropriate O-ring on a flat surface. Remove the correct size ferrule from the O-ring Insertion Tool Handle. Place the wide base of the ferrule over the O-ring. The O-ring should be flat in the ferrule as shown below



Place the ferrule with the loaded O-ring onto its respective end of the Insertion Tool Handle. Slowly turn the Insertion Tool Handle and press forward as the O-ring “inches” towards the narrow end of the ferrule.



When the O-ring is just inside the narrow end of the ferrule it is ready to be inserted into the Metal Housing. Place the Metal Housing on a flat surface. Place the narrow end of the ferrule flush against the Metal Housing so that the ferrule lines up with the internal circumference of the Metal Housing.



Push the Insertion Tool Handle to “punch” the O-ring through the ferrule and into the Metal Housing.

T0048.REV.04

*\*thanks to Brian Carson at Signature Dental Laboratory, Fayetteville, NC*