

# PROCESSING OF THE COMPLETE DENTURE

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# PROCESSING THE DENTURE

After the trial dentures (Acrylic base, wax and teeth) have been waxed, they are prepared for denture processing to substitute the acrylic record base and the wax with a hot cure denture base attached to the teeth.

This is done in the following steps:

- 1- Flasking.
- 2- Wax elimination.
- 3- Mixing.
- 4- Packing.
- 5- Curing.
- 6- De-flasking.



**FLASKING**



# Flasking

The process of investing the cast and a waxed denture in a flask to make a sectional mold used to form the acrylic resin denture base.

## Flask:

Is a metal tube used in investing procedures, in which a mold is made of artificial stone or plaster of Paris for the purpose of processing denture or other resinous restorations.

# Flask consist of:-

- 1-Lower half: that holds the cast with waxed denture.
- 2-Upper half: that invest teeth of waxed denture.
- 3-The cover or lid.





# Flasking techniques

1-Compression technique.

2-Injection technique.

3-Microwave technique.

# Compression technique





# Injection technique



# Microwave technique





... Seal the periphery of the denture flange to the inner edge of the land of the cast.



Both dentures  
are sealed  
onto their  
respective  
casts



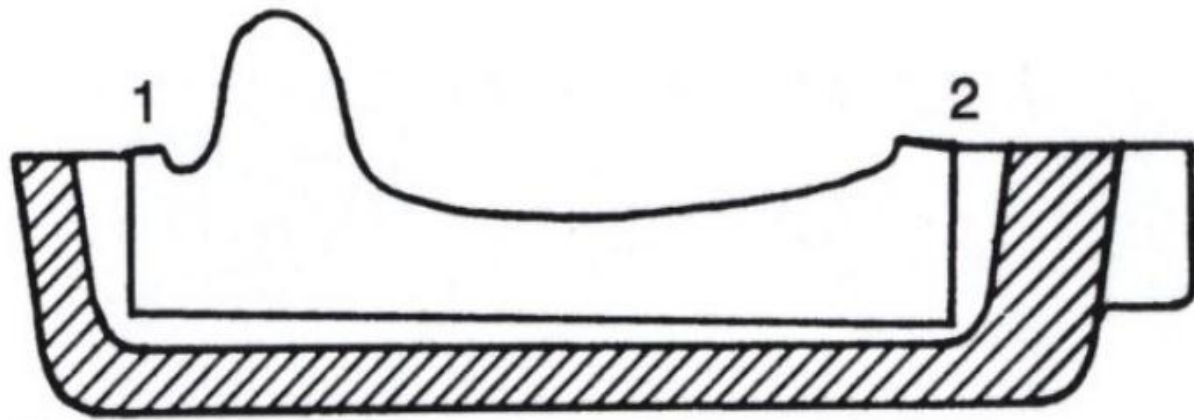
After soaking the master casts and mountings in water for a few minutes, gently remove the casts from the mountings.





Invest the trial dentures in the lower half of the flask with dental plaster





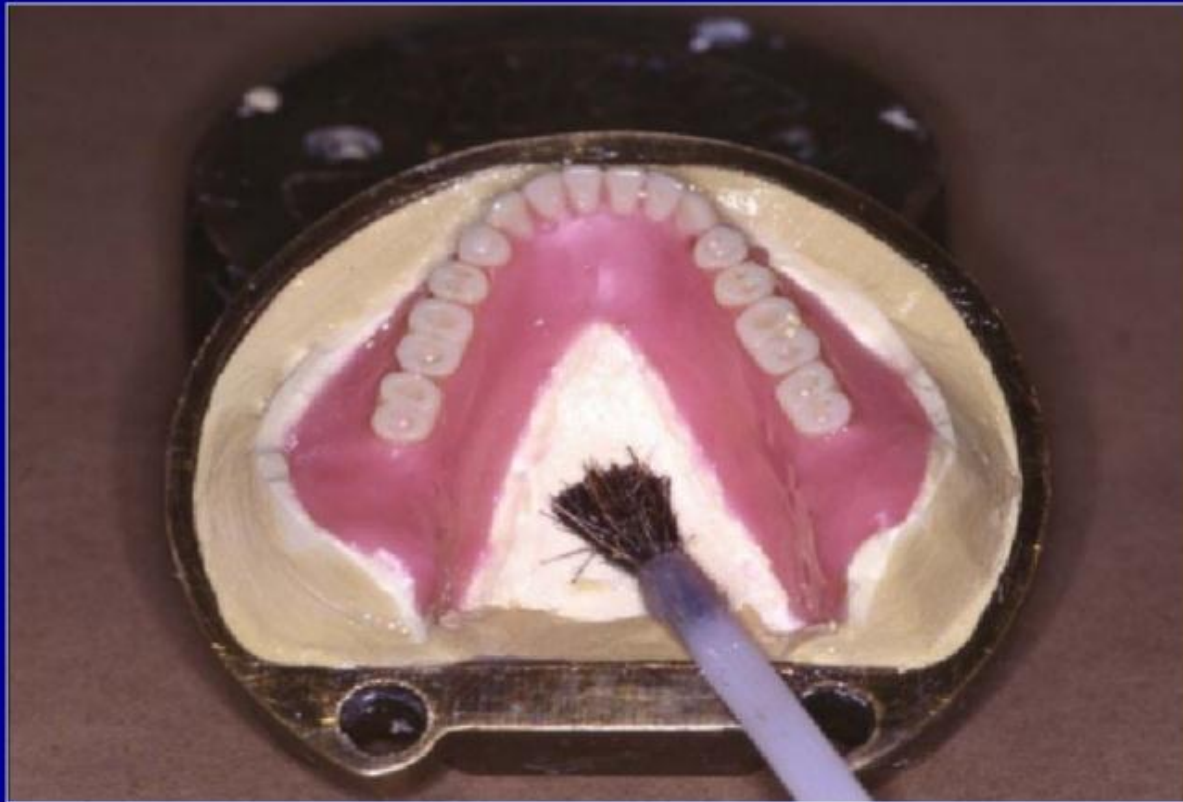
**B**



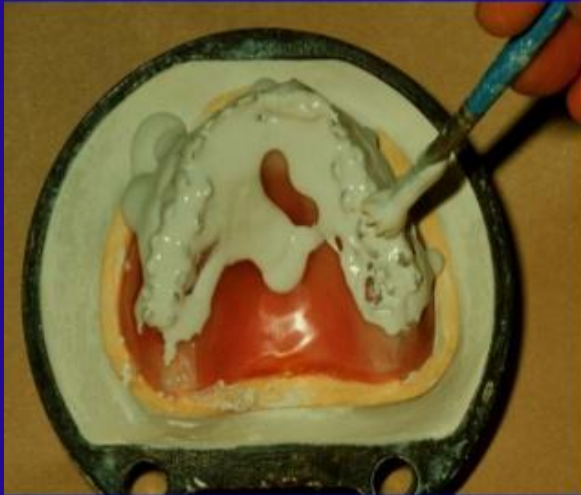
Smoothen  
the dental  
stone

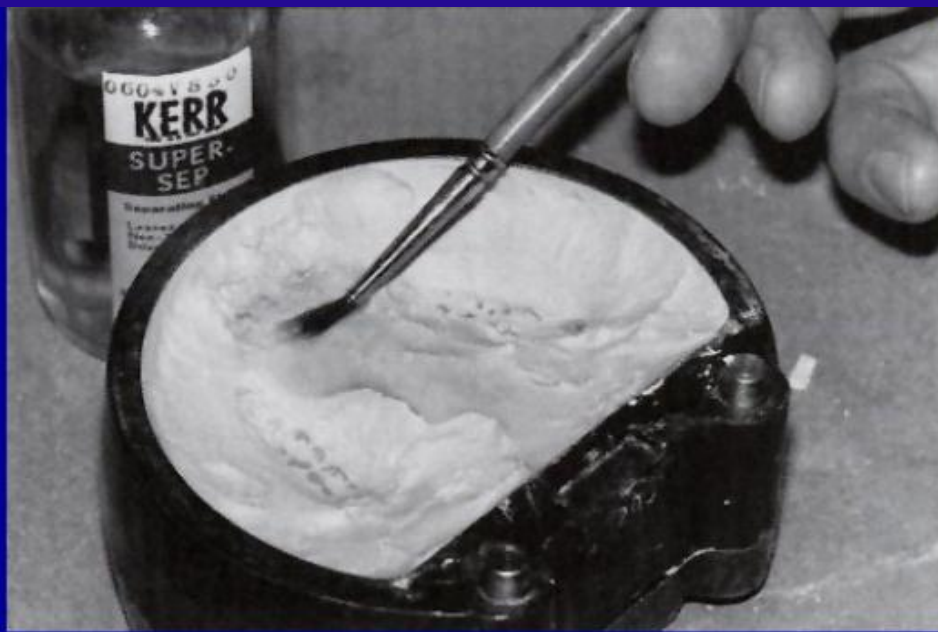


# Apply separating media to the dental stone

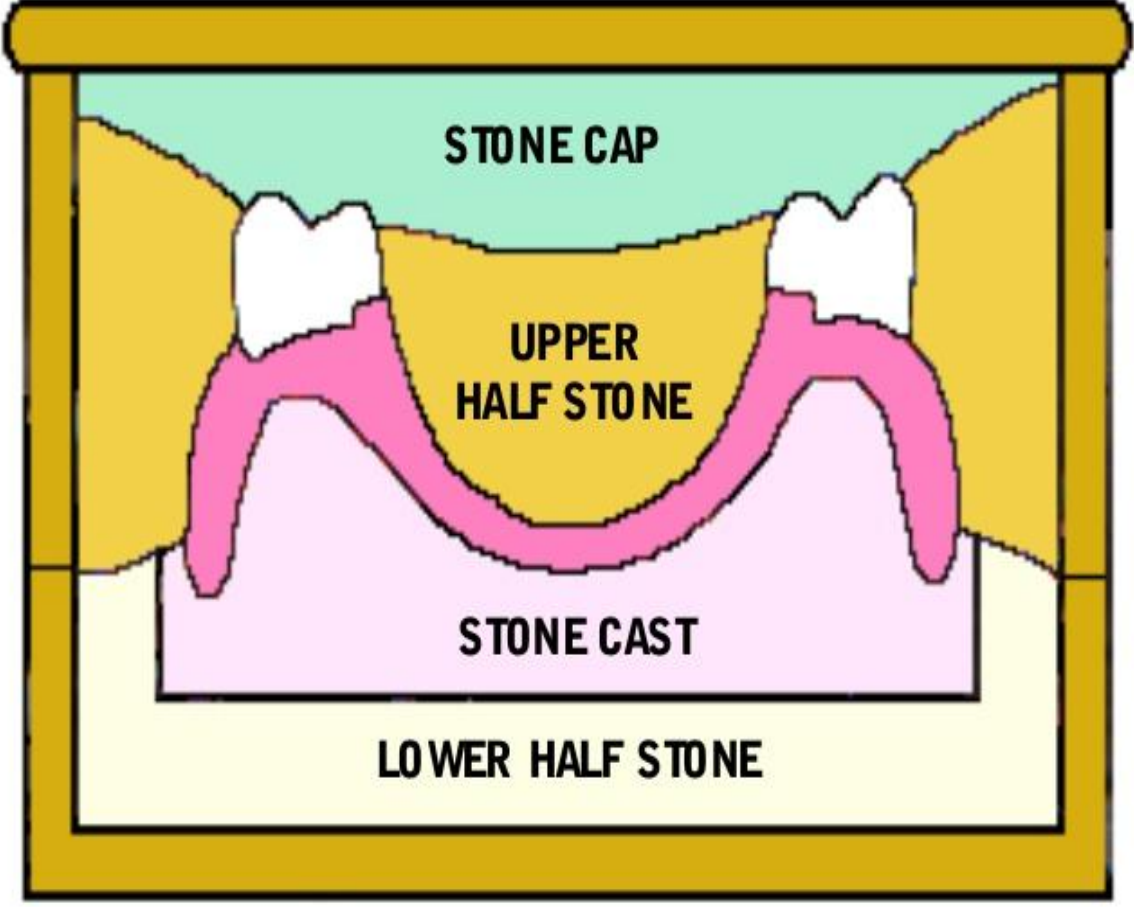


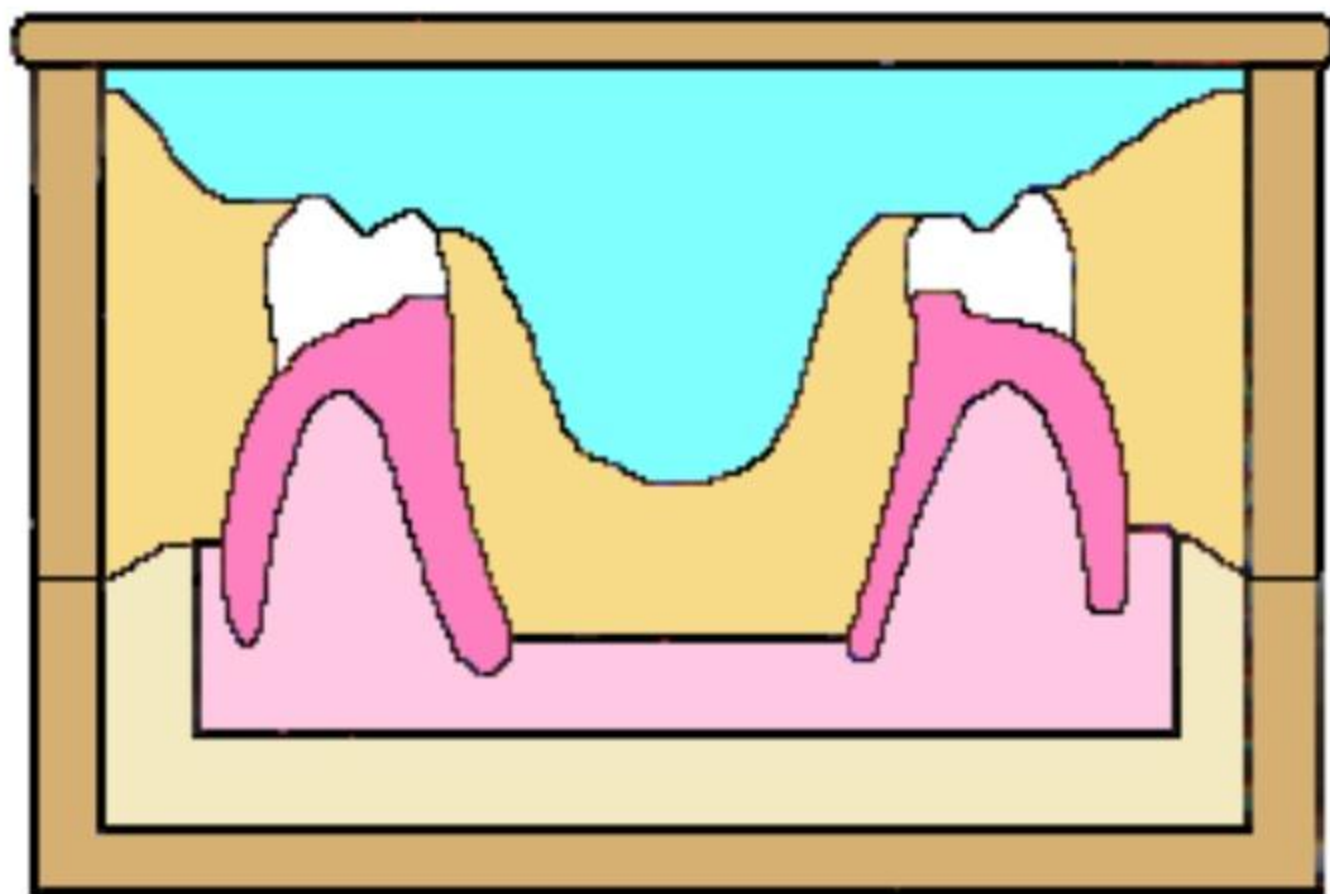
Pour dental stone till the incisal and occlusal surfaces





- Separating medium is painted on the dental stone.
- Dental stone is used to fill the remainder of the flask. The lid of the flask is pressed into place while the investing stone is still soft.





**COMPLETED FLASKING FOR  
THE MANDIBULAR  
COMPLETE DENTURE.**

Clamp







**Wax elimination: the removal of wax from a mold, usually by heat**





A



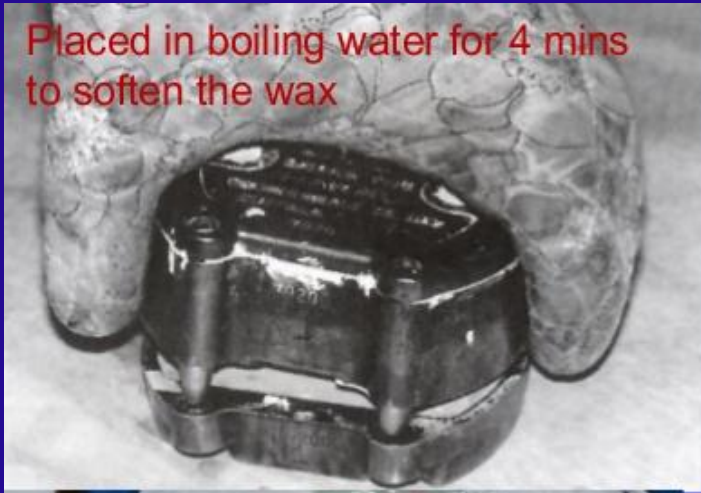
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C



Placed in boiling water for 4 mins  
to soften the wax



- Open the flask. The softened wax is removed from the mold. Remaining wax is flushed from the mold with a stream of boiling water. The mold is then cleaned with a soft brush.



Remove wax completely



# Teeth locked in stone



Apply separating media while  
the casts are still warm



- Failure to place an separating medium can lead to two major difficulties:
- (1) If water is permitted to diffuse from the mold surface into the denture base resin, it can affect the polymerization rate as well as the optical and physical properties of the resultant denture base.



- (2) If dissolved polymer or free monomer is permitted to soak into the mold surface, portions of the investing medium can become fused to the denture base. These difficulties often produce compromises in the physical and esthetic properties of processed denture bases.

## Mixing heat cure acrylic

A polymer-to-monomer ratio of approximately 3 : 1 by volume. This ratio provides sufficient monomer to thoroughly wet the polymer particles but does not contribute excess monomer that would produce increased polymerization shrinkage.

# Mixing acrylic



# Packing Acrylic Resin

- The placement and adaptation of denture base resin within the mold cavity are termed *packing*.



- The placement of too much material produces a denture base that has excessive thickness and resultant malpositioning of teeth.
- On the other hand, the use of too little material leads to denture base voids or porosity.

# Steps in resin packing (compression molding technique)

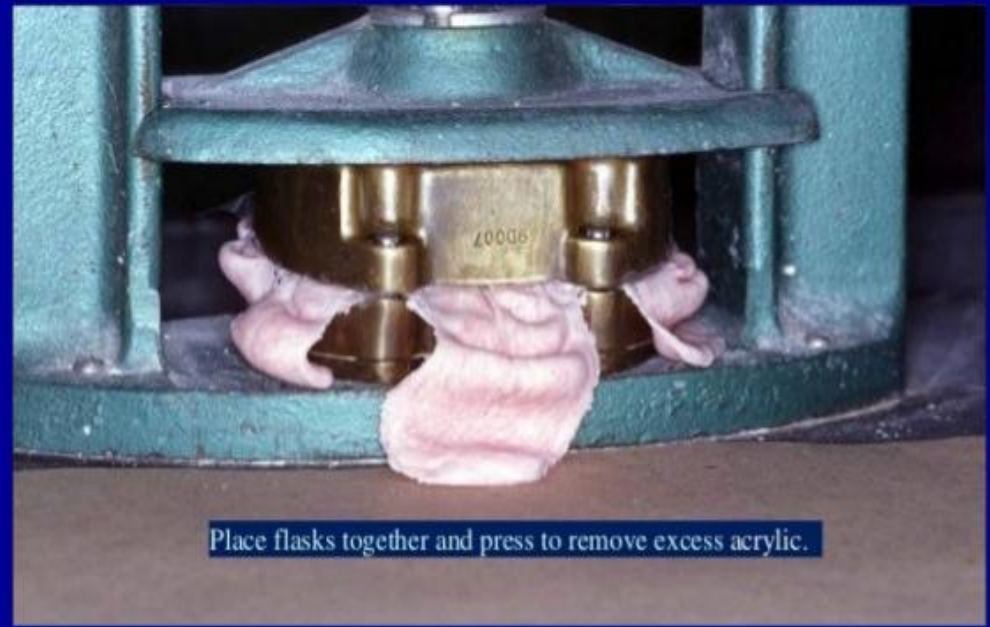
- Properly mixed resin is placed into the mold cavity.



# Thin polyethylene separator sheet



- Trial flask closure: any preliminary closure made for the purpose of eliminating excess material and making sure that the mold is completely filled.



Place flasks together and press to remove excess acrylic.



- The flask assembly is placed into a flask press, and pressure is applied.



- Excess material is carefully removed from the flask (flash).



The flask is transferred to a flask carrier, which maintains pressure on the flasks during processing.



A cross-sectional representation of the denture flask and its contents.



# Curing cycle

- It is the process of polymerization of the heat acrylic resin by heating in water bath and pressure.



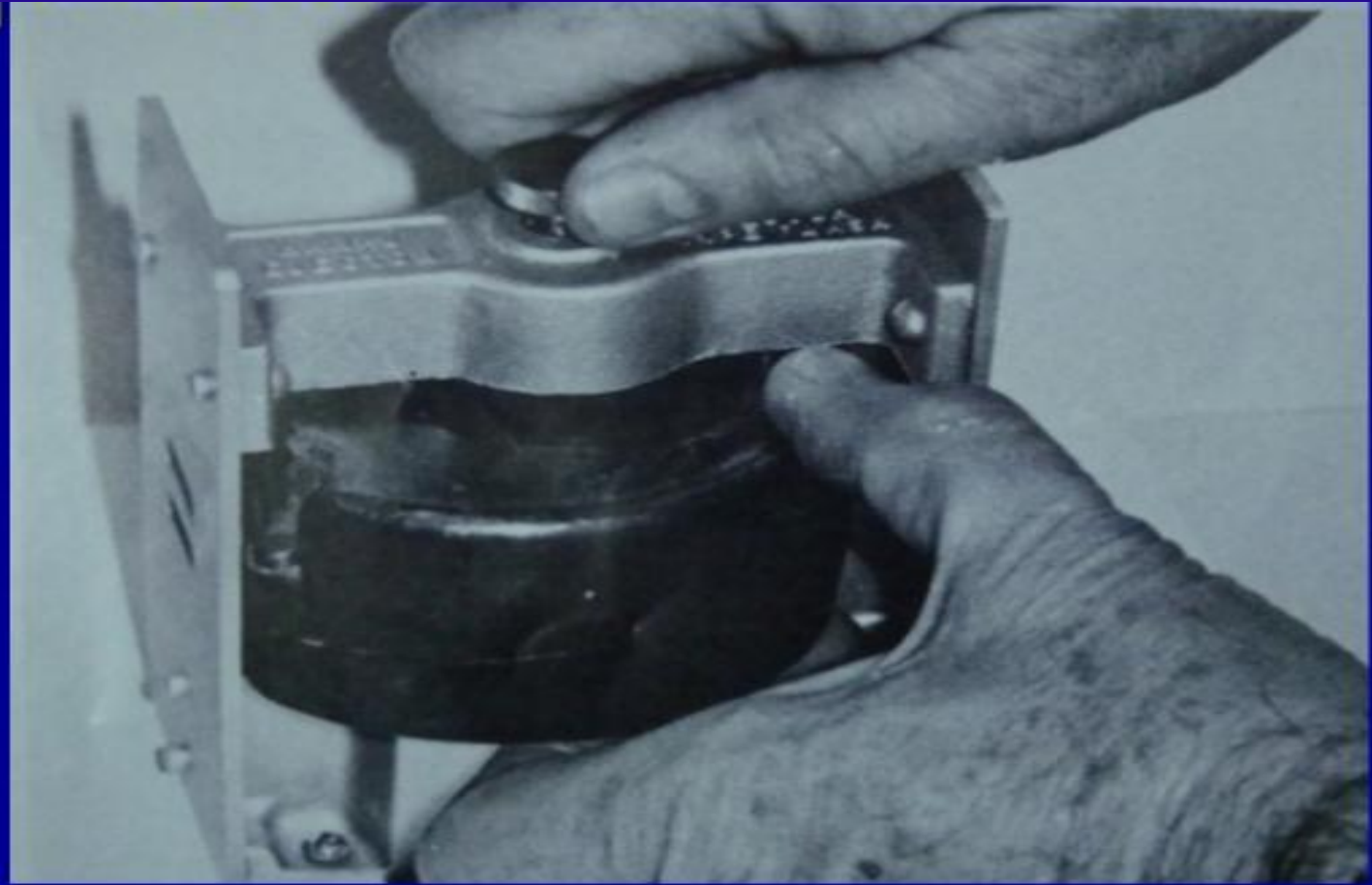
1-Rapid curing cycle:-

140c for 10minutes with pressure 40 psi.

2-Slow curing cycle:-

70c for 7hours and rise to 100c for 3hours,or heated to 75c for 6 hours then100c for 1 hours or 74c for 8 hours.

# Deflasking











THANK YOU!