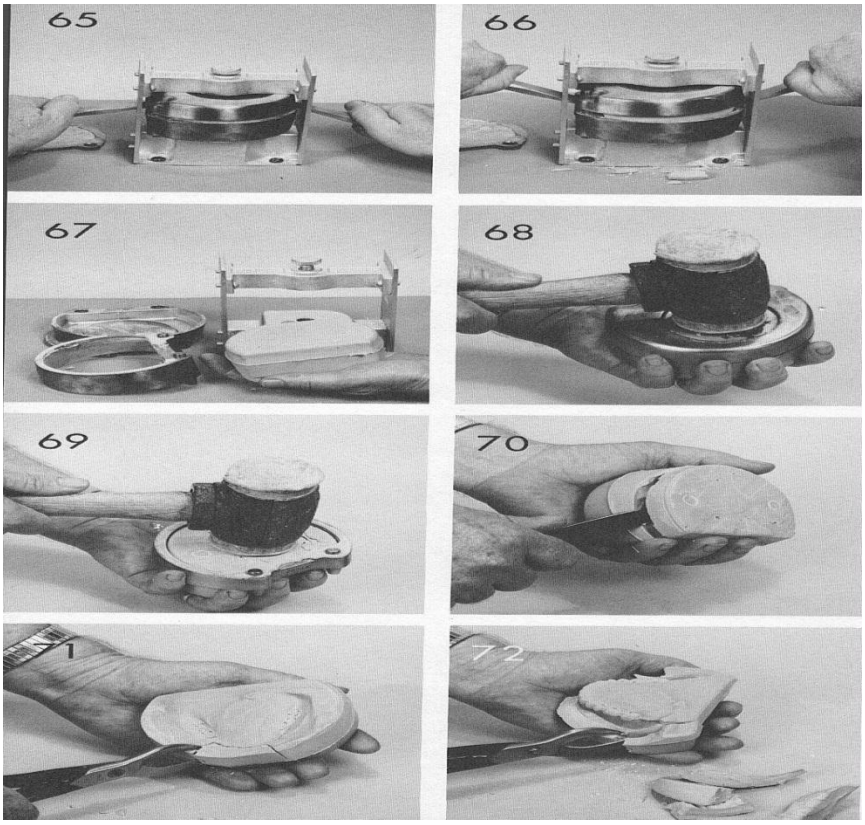
Deflasking and Laboratory Remounting

Deflasking

After the acrylic resin of a denture base has been processed, the flasks must be cool slowly to room temperature before they are removed from the clamp.

The mold removes from the flask by using minimum pressure and slowly force, either by using flask ejector or an alternate method by using a rawhide mallet.

The cured dentures and their casts have been removed from the mold. Special care must be taken to insure that the casts are not broken, and to avoid breaking any tooth. They will be remounted on the articulator to remove occlusal errors; this remount procedure cannot be done in the laboratory if the casts are broken. Clean all the stone from the exposed acrylic and teeth, scrub the denture and casts thoroughly before starting laboratory remounting. It is better not to remove the dentures from the casts



Laboratory Remounting:

Artificial teeth move about to a minor degree during denture festooning and while the wax denture base is being converted into resin.

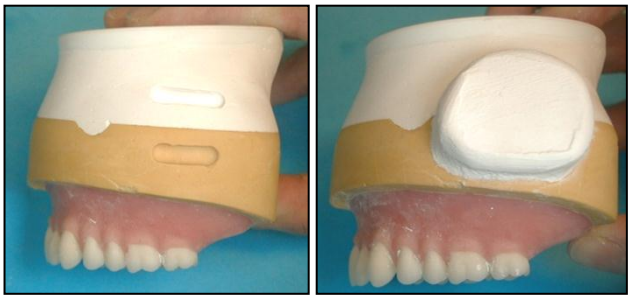
This teeth movement due to dimensional changes in the wax denture base, dimensional changes in the investing material "setting expansion of the stone", slight movement of the

teeth due to excessive or improper pressure during packing, and dimensional changes in the denture base resin during processing.
In general, if all the steps are performed scientifically, errors resulted will be small and their corrections will be simple.
The processing errors are then removed by selective grinding in the laboratory remounting procedure.

Purpose of laboratory remounting:

1. To correct errors in occlusion that have occurred during processing
2. To return dentures to the correct vertical dimension of occlusion
3. To restore centric and bilateral balanced occlusion

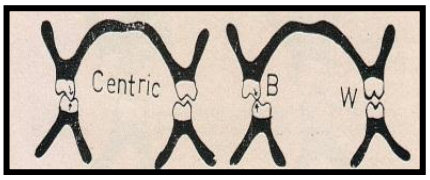
The processed dentures are removed from the flasks. Reposition the stone casts on the original plaster mountings.
Carefully inspect the plaster mountings and the underside of the casts. Remove any stone particles or debris before joining the two together.
Place each cast on its plaster mounting and check that it goes into place exactly. If the casts do not seat on the mountings properly look for particles of plaster which may be adhering to the mounting or the cast.
The master cast with the polymerized denture must be effectively secured to the articulator mountings.
Begin by placing notches in both the mounting and the master cast with an acrylic bur. Soak the cast and mountings in water for 5 minutes and place a plaster around the junction between the cast and the plaster mount.
Plaster maintains a better bond and is quicker and easier to use than sticky wax.

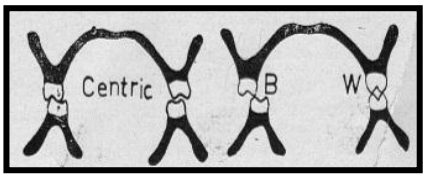


Selective Grinding:
Is defined as modification of occlusal surfaces of the teeth by grinding at selected places marked by spots made by articulating paper, this procedure done to correct minor errors and establish proper smooth occlusion during centric and eccentric relations.
The portions of the teeth maintaining centric occlusion will not be destroyed.
Some dentists prefer to do corrections of occlusal errors in the clinic at the time of denture insertion ***(clinical remount this is done after the dentures are polished)***, this is also correct, but it might take time and some patients may think that these errors could be due to work, therefore it is advisable to do correction in the laboratory on the articulator

(laboratory remounting this is done before the denture are polished), and if further adjustments are required, dentist can do it in the clinic.
Now the casts and their plaster mounts are returned to the articulator close the articulator and check the amount of pin opening that has occurred secondary to processing and when the dentures are remounted. Usually there will be 1 to $1^1/2$ **mm** of opening, if the proper techniques have been followed throughout the investing and packing procedures.
Excessive pin opening is an indication that the flasks were not closed before the dentures were processed. If the pin touches, the dentures may have under packed.
After closing the articulator, if the incisal pin does not touch the incisal table, this mean that the occlusal vertical dimension has been altered and must be reestablished.
A piece of articulating paper is inserted between the teeth and they are tapped tighter gently but firmly. This repeated on both sides.

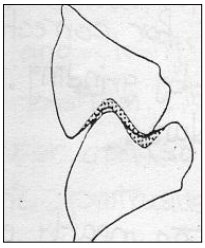
Establish the occlusal vertical dimension by removing the occlusal prematurities until the pin is closed against the incisal guide table.
If the cusp is high in centric and eccentric relation; the cusp height must be reduced. If the cusp is high in centric but not eccentric, deepen fossa.



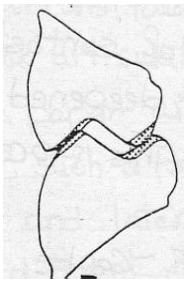


Occlusal vertical dimension is maintained by occlusion of palatal upper cusp and the buccal lower cusp (in normal occlusion).

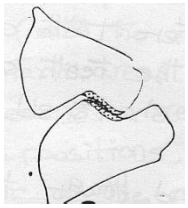
<u>Errors in Centric Occlusion and Their Correction</u>
a) Premature contacts, holding remaining teeth out of occlusion, any pair of opposing teeth can be too long and hold other teeth out of contact. **Solution:** Fossae of the teeth in question are deepened.
<u>The cusp tips should not be shortened</u>.



b) The cusp tips of opposing teeth appear to be nearly tip to tip. **Solution:** Grind on the inclines so as to move the upper cusp inclines buccally and the lower cusp inclines lingually.
The cusp tips should not be shortened.
(The grinding done only on the cusp inclines)

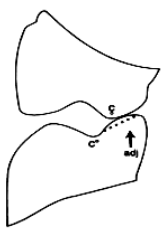


c) Upper teeth too buccal in relation to the lower. **Solution:** Broaden the central fossae, and the buccal cusps of the lower teeth are moved buccally by broadening the central fossae.
The cusp tips should not be shortened.

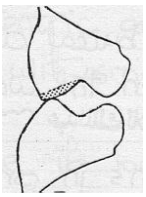


Equilibration in centric
Initially most prematurities are found in the posterior region. Confine your initial reductions to cusp inclines, central fossae and marginal ridges. Avoid the upper lingual and lower buccal cusp tips unless absolutely required in order to reduce the incisal pin opening to zero.
Centric contacts are now appearing on most posterior teeth. If the incisal guide pin is still open, you may need to grind on the cusp tips in order to restore the vertical dimension of occlusion to the level determined ideal for the patient during the trial denture appointment.
Equilibration in centric is completed. The incisal pin is at zero and in contact with the incisal guide table. The vertical dimension has been restored.
We are now ready to begin equilibrating in working, balancing and protrusive.

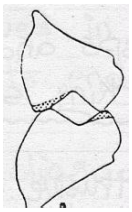
Equilibration in working side
Most occlusal discrepancies found on the working side can be corrected by reducing premature contacts on the buccal cusps of the maxillary teeth and the lingual cusps of the mandibular posterior teeth (non-centric holding cusps) known as the rule of BULL (buccals of the uppers and linguals of the lowers).
Errors and corrections on working side
a) Begin by the equilibrating the right working side.
Slide the articulator through right working with articulating paper between the denture teeth. If lingual cusp made contact but the buccal is not, begin grinding by removing any contacts that are present on the **inclines** of the lower right lingual cusps as shown in the diagram.



b) Check the contacts on the buccal inclines of the upper buccal cusps. During working, if buccal cusp made contact but the lingual is not, make the appropriate adjustments, the upper buccal cusps are shorten.



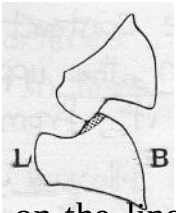
c) Both of upper cusp and the lower lingual cusp are too long. For correction the cusp's length must be reduced.



d) No contact between teeth on the working side, the cause of this error, is excessive contact on the balancing side.

Equilibration in balancing side

Bull rule does not work. Reduce interceptive cusp. Slide the articulator through working again and observe the contacts on the balancing side, the lingual inclines of the lower buccal cusps.



Premature balancing side contacts are reduced by grinding on the lingual inclines of the lower buccal cusps.

If there are no balancing side contacts, the working side contacts should be reduced until balancing side contacts appear. Continue until working and balancing contacts are about equal. Repeat the same sequence on the opposite side

Equilibration in protrusive

This may require grinding <u>of the anterior teeth as shown</u> (We grind the labial surface of the lower teeth and lingual portion of the upper anterior teeth, this grinding should be done carefully to prevent any damaging to the shape or form of the teeth and destroy esthetic requirements) and selective reduction <u>of the posterior teeth as shown</u> (distal inclines of upper buccal cusps and mesial inclines of the lingual cusp of the lower teeth) until free smooth balanced protrusive movement is resulted.

After the teeth are selectively ground, there are some small rough areas which are removed by a process called milling in which abrasive paste placed between their occluding surfaces, the articulator moved in centric occlusion to the lateral or protrusive position. *Not* on the return movement. This movement repeated several times to remove scratches or roughness to end with smooth occlusal surface.
Milling paste used for porcelain teeth is a composition of glycerin and fine carborundum. This formula does not work well with plastic teeth, and special milling pastes containing different abrasives are available for plastic teeth.
Upon completion the articulator should slide easily from working to balancing to protrusive and back, this indicates perfect balanced occlusion is established, otherwise further corrections.

Finishing and polishing of the denture

All dental restorations must be smooth to promote comfort and cleanliness. After the selective grinding and milling are completed, the casts are removed from the dentures piece by piece so that the cast may be removed from the denture without breaking the denture or causing distortion.
The finishing of dentures consists of perfecting the final form of the denture by removing any flash of acrylic resin at the denture border, any flash and stone remaining around the teeth, and any nodules of acrylic resin on the surfaces of the tissue side of the dentures resulting from processing with a small sharp instrument or with a brush wheel.
If the denture was packed carefully, there will be a minimum of flash.

The flash: is the acrylic resin that was forced out between the two halves of the flask by pressure applied during the processing procedure.

Trim all gross excess acrylic, being careful to preserve and not to remove the following:

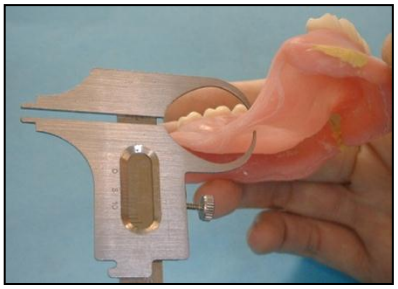
- Buccal, facial and lingual fold contour.
- Post-dam area.
- Gingival festooning around the teeth.
- Surface contour and root eminences.

If the impression was correctly boxed and the trial denture was carefully waxed, the outline of the denture can be determined easily & little finishing will be necessary.
The flash around the borders of the denture is removed with an arbor band on a lathe. An alternate but less satisfactory method is to use a stone or acrylic bur mounted in a straight hand piece, be careful to preserve the border width & contour.



Carefully remove any flash and any remaining small particles of stone from around the neck and from the proximal areas of the teeth with a small sharp instrument or with a brush wheel.
Inspect the tissue side of the dentures for any nodules due to voids in the casts, and if they are present, carefully remove them with small stone or with acrylic carbide burs that are made for denture finishing.


The posterior area of the palate has been thinned to its proper thickness and the dentures are now ready for polishing.



The polishing of dentures consists of making a denture smooth and glossy by removing scratches without changing its contour.

The first step in polishing is to use pumice and a wheel. Pumice is used as wet slurry placed on the denture. Borders are not reduced in height or width during polishing. The tissue surface of a denture is never polished because polishing destroys the details necessary for good fit and retention. A brush wheel mounted on a lathe is used to polish around the necks of the teeth and the interproximal areas.

Do not over polish in order not to loose the contours that were developed during festooning.

Care must be exercised when using pumice, as this material is very abrasive and may obliterate the details placed on denture when they were waxed. A well waxed denture will have a smooth surface and require little pumicing.

The next stage in polishing is to give a high shine to the polished surfaces with the use of Tripoli.

After the denture is completely polished with Tripoli, it is scrubbed thoroughly; Tripoli is a somewhat greasy material and must be removed from the denture before the final polishing.

After each stage of polishing the denture should be dried and inspected to make certain that all areas of the denture are polished completely to that particular stage.

Final polishing with a high shine material which composed of fine particles which impart a glossy surface to the work being polished.

Store the polished dentures in water until they have been delivered to the patient with high gloss, the borders are rounded and smooth, and the palate is highly polished and the proper

thickness, compatible contour, and natural appearance. Store the denture in water all the time otherwise it will undergo dimensional changes and shrinkage.