Remount Spot Grinding of Posterior Teeth

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INTRODUCTION

The multitude of variables of materials and operator techniques preclude the possibility of making the perfect casting.1 As a result, it has always been necessary to refine castings by fitting them on dies and then in the month. In addition, there may be minor shifts in teeth bucco-lingually, mesio-distally, or vertically. This can be the result of temporization. The shifts can be due to edema or different tensions of the periodontal ligament of the prepared teeth at the time of impressions or when the castings are fitted. Therefore, an ideal occlusion created in wax may not be present in the cast gold state.

An ideal restored occlusion of posterior teeth, sans third molars, will have 136–144 points of occlusal contact if all of the A B & C contacts and the closure stoppers and equalizers are created. These are composed of 5 points on each bicuspid and 12 or 13 points on each molar with their companion contacts on the opposing teeth (Fig. 1). An equal number is included for the opposite side of the mouth.

It is generally accepted that the occlusion should be refined to 0.0005" of tolerance. To keep track of 136–144 points to this dimension, especially as more and more come in contact, defies human abilities, except for those gifted few with fantastic memory capabilities.

Simplification of selective spot grinding can be accomplished by using one of the transfer procedures described by this author.2 In this technique, each individual casting has the potential of being removed and replaced with fidelity.

The procedure can be used for spot grinding either centric or eccentric prematurities first. However, it is more expeditious to spot grind centric first as long as the anterior teeth can be coupled.
Fig. 1. Ideal number and location of occlusal contacts in cusp-fossa occlusion.

Fig. 2. Anterior vertical pin stop raised.

Fig. 3. Right second molars are first castings in contact.

Fig. 4. A primary occlusal contact casting placed in #1 position on lab bench.

Fig. 5. Next primary occlusal contact casting identified with .0005" shim stock.

Fig. 6. Second primary occlusal contact casting placed in #2 position on lab bench.
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The anterior vertical pin stop is raised (Fig. 2). Zero degree controls and side shifts are placed in the articulator. Initially, 0.0005" shim stock* is used to feel opposing occlusal contacts or lack of contacts on each pair of opposing teeth. If, as an example, the upper and lower right second molars are the only teeth in contact (Fig. 3), then one of them is removed and placed in a #1 position on the lab bench (Fig. 4). The next point that holds the shim stock is then removed, e.g. upper or lower left first molar (Fig. 5). This casting is placed in the #2 position on the lab bench (Fig. 6). One of each successive pairs of castings that holds the shim stock is removed and placed in its respective, #3, #4, etc. position on the lab bench until the last pair of opposing castings remain. Occasionally two or more pairs will contact simultaneously. With a Class II or Class III relationship, different pairs of castings may be removed if they reflect the tooth to two teeth relationship (Fig. 7).

As the last pair of opposing castings are tested, it now becomes necessary to refine their occlusion to the 5 points on bicuspidas or 12–13 points on molars. Using a combination of shim stock, articulating paper or other disclosing media, the highest point or points are refined until all of the points on that pair of castings are holding the shim stock.

Judgment should be used in this selective spot grinding. If one or two of the contacts appear to be significantly out of contact to the extent that gross grinding would be necessary to bring them in, then discretion would indicate an intentional loss of that point(s) (Fig. 8). Minimally, although certainly not ideally, as long as an

*Artus Corp., Box 511, Englewood, New Jersey 07631
"A" and "B" or "B" and "C" contact exist on pairs of teeth, there will be stability in the bucco-lingual dimension. At least one closure stopper and one equalizer will provide the necessary stability in the mesio-distal dimension.

At this stage, the anterior vertical pin stop can be placed on the flat of the anterior vertical pin stop table so that it holds shim stock with the same tension as the castings (Fig. 9).

The last casting that was originally removed is replaced on the cast (Fig. 10). The points of occlusal contact are refined until they hold the shim stock with the same tension as the initially adjusted castings as well as the anterior vertical pin stop against the flat table (Fig. 11).
Regressively each succeeding casting is replaced and refined to the same tolerance as the first adjusted casting and the anterior vertical pin stop and table (Fig. 12).

Programmed controls for the patient are placed back in the articulator and the appropriate data dialed in. A pair of opposing castings is placed in the articulator. With different colored articulating papers, right lateral, right latero-protrusive, left latero-protrusive, left lateral and protrusive excursions are checked and adjusted to verify that no residual posterior eccentric contacts remain as anterior disclusion occurs. The remainder of the castings are sequentially adjusted as pairs to recover organic occlusion.

If eccentric contacts are to be spot ground before the centric contacts, the vertical height of the lowest pair of castings is established with "zeroed" controls. Instrument data is then programmed into the articulator. The eccentric contacts are selectively spot ground until organic occlusion is restored. Spot grinding for centric relation is then completed.

Each opposing pair of castings is treated in the same sequence.

**SUMMARY**

A procedure has been described that will materially simplify remount selective spot grinding to perfect occlusion and articulation.

**REFERENCES**


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