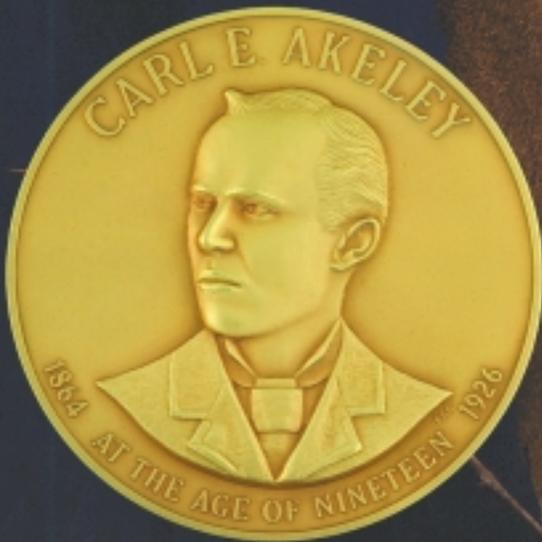


# COMPETITION OPEN-MOUTH DEER

PART 3 OF A FOUR-PART SERIES:  
UPPER PALATE PREPARATION AND PLACEMENT

*by Dan Rinehart*

*With Paul Cales*



*Paul Cales won Best in World Whitetail Deer with this mount at the  
1997 World Taxidermy Championships®.*

**T**HANKS FOR COMING BACK FOR THE CONTINUATION of competition open-mouth whitetail instructions. We are already halfway through this comprehensive four-part series that started with a fresh whitetail carcass and continued through the original creation, placement, and coloration of upper/lower palates and tongue. In simple language, we show you how to re-create the mouth detail of an open-mouth whitetail from A to Z. Better yet, these are the techniques that Paul Cales used to win Best in World Whitetail Deer the 1997 World Championships. Years of research have resulted in a very detailed and efficient series of procedures that yield the highest quality reproduction interior mouth ever. As I'm sure you are aware, for every one technique that works, you have tested five (at least) techniques that don't achieve the desired result. Thus, the direction that can be gained through an instructional series of articles, such as this, can put you years ahead in your developments of techniques for re-creating a competition open-mouth whitetail deer.

As they say at the track, "Gentlemen, ladies, and taxidermists—start your engines!" It's time for the third running of a four-event championship series that will help you land in the winner's circle at your next taxidermy championship. Buckle-up and hit the gas because here we go!



**1-2.** The upper palate created in Part 1 still has the mold-release agent on the outside surface of the cast. If this mold release agent is not removed, it will be impossible to apply paint and finish to the surface. The release agent will cause "fish-eyes," puddling, and running of paint colors. It is necessary to thoroughly clean the surface of the palate cast prior to placement in the mannikin. Simply use warm water and a dish washing soap to remove the greasy release agent from the surface of the palate cast. A stiff-bristled toothbrush works well for reaching and cleaning the smallest detailed areas.



**3.** Here is the rough-cast upper palate freshly washed in preparation and ready for placement in the mannikin. Similar to the lower jaw cast, we will be combining the front half of one upper palate cast with the back part of another upper palate cast. If you can recall, the reason for combining parts from

two castings is that more attention was given to the front part of one casting while attention on the other casting focused on the back part of the palate. The result of combining the two is a casting as close to perfect as is possible. This photo shows a upper palate cast freshly out of the mold. Much trimming is needed to prepare the palate for a secure placement in the mannikin. In this photo, I am pointing to the front lip area to which we will trim. I actually save between  $\frac{1}{8}$  to  $\frac{1}{4}$  inch of the nose pad. So in the frontlip area, the full lip and a little of the nosepad are saved.



**4.** The sides of the lip are another story. We want to save half the width of the cast lip. The lip will be trimmed, saving approximately  $\frac{1}{8}$  to  $\frac{1}{4}$  inch of the lip, out from where the papillae (bumpy texture) along the inner lip ends. Simply speaking, we could draw a line down the center of the lip and trim to that point. It is at the center of the lip that the cast lip and the lip skin will be placed together during mounting with Apoxie Sculpt, which will smooth the skin/cast juncture after drying.



**5.** On this cast we will be using the front half of the upper palate, ending at the molar teeth. The detail on the front half of this cast is excellent while the detail of the back half is mediocre. Swapping the back half of the cast with a better back half from another cast will result in an overall excellent upper palate.



**6.** The hair-like papillae on the inner lip in front of the first molar are another consideration. The small detail of these papillae seem to attract and trap small air bub-

bles during casting. Tiny air bubbles usually destroy many of the papillae. Since an air bubble can destroy an entire papilla, I usually remove this hair-like papillae area and rebuild each papilla individually. Although this is very time consuming, the resulting papillae are free from air bubbles. (I'll show you how to re-create these papillae toward the end of this article.) These air bubbles are small and you might think that they will not be noticed. Well, judges know what to look for in this area and are experienced in locating air bubbles in casting. Remember, judges have had the same problems you have and they know what to look for. As a result, *all air bubbles* must be repaired.



**7.** I have used a Dremel tool to thin and trim the lip line as I described in Photos 3 and 4. Notice the slight bit of nose pad saved in the front lip area. Also notice the side lip line which has been trimmed along the center of the lip (approximately 1/4 inch out from the papillae).



**8.** The front half of the palate has been trimmed and is ready to be separated from the back half. To separate, I simply use a hacksaw to make a cut in front of the first molar.



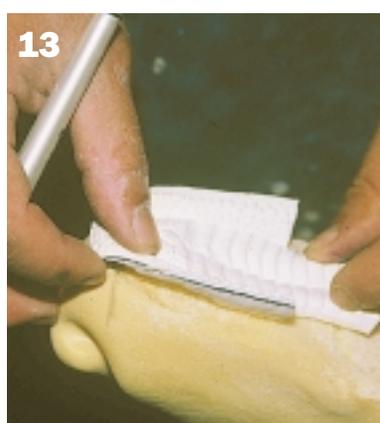
**9.** Now I have the front half separated and placed alongside another full upper palate. The back half of the full upper palate will now be trimmed and secured to the prepared front palate to create an exceptional full upper palate. With the two placed side to side, it is easy to see where the cut must be made on the full upper palate.



**10.** I use a Dremel tool to smooth the back edge which was just cut free from the back part of the palate.



**11.** Remember those hair-like papillae that I pointed to in Photo 6 and said we would re-create due to air bubble damage? Well, now is the time to use the Dremel to remove the bubble-damaged areas on both sides in preparation for rebuilding them by hand.



**12.** Once the hair-like papillae area is removed, I use a scalpel to clean the edge of the "Dremeled" area and carve between the rounded papilla. By carving around and between the rounded papillae, a flowing edge is created between the papillae. If we were to leave the straight "Dremeled" edge through the rounded papillae, it would be much more difficult to smooth and hide the seam with Apoxie Sculpt later. If we carve around the rounded papillae, however, eliminating the partial papillae cut into by the Dremel bit, it will be much easier to feather a flowing line that a straight line.

**13.** Now we are ready to alter the mannikin to accept the front half of the upper palate. This is where the little extra nose pad that you saved in the front part of the lip will come

in *very handy*. This extra little nose pad helps you place the upper palate in the proper place. By placing the lip and extra nose pad over the front lip of the mannikin, you will know the exact placement (forward or back ) of the palate.



**14.** Everything should line up so that the back part of the front lip on the mannikin matches the back part of the front lip on the cast palate. For the purpose of this photo, I have aligned the palate and mannikin and placed a straight edge across the two in order to illustrate how they should match.



**15.** Now that we know the exact position of the palate, we need to remove some foam to account for the depth of the palate placement. *Note:* Do not remove the lip line as it will act as a reference for aligning the upper palate.



**16.** Remove foam from the full length of the upper palate to accommodate for both the front and back palate halves.



**17.** Once the proper depth has been established, I use a Dremel to smooth the inner edge of the lip line and foam areas.



**18.** Now I work back and forth between removing material and aligning the upper palate. The palate and mannikin never fit right the first time, so it is necessary to go back and forth between removing more foam and placing to the palate to see how things fit. Continue until you have the palate placement and depth that you desire. *Note:* The lip line of the upper palate will dictate the depth of the palate. Once the lip line of the palate aligns with the lip line of the mannikin, you have the palate at the proper depth.



**19.** Once placement and depth have been established, place a good amount of hot glue on the back side of the upper palate and place it in mannikin.



**20.** Press the upper palate in place, making sure that the lip line is positioned properly, and hold it until the hot glue has cooled and bonded.

21



**21.** Once the upper palate has been positioned, press a single T-pin up through the center of the palate to ensure that it will not move during cooling and placement of the back half of the upper palate.

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**22.** To prepare the back half of the upper palate, wash it in warm water with soap and blow dry thoroughly.

23



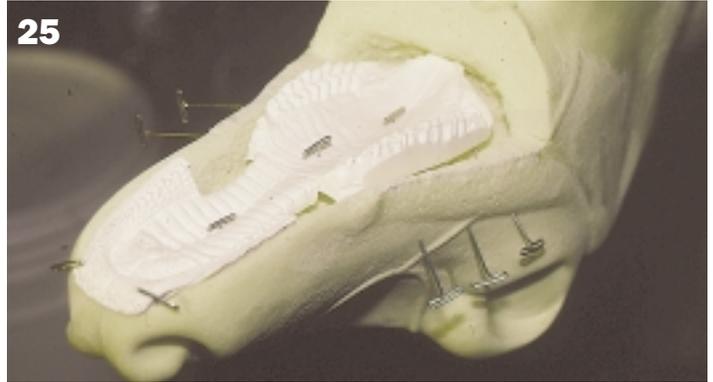
**23.** The part of this upper palate that we want is from the first molar on back. Use a hacksaw to separate the back upper palate.

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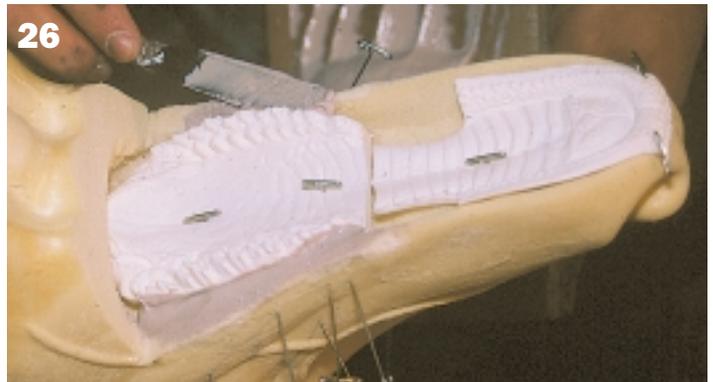
**24.** Now we are ready to place and secure the back half of the upper palate. Achieving the proper placement is easy. Simply consider it a continuation of the front upper palate and create a smooth and flat juncture of the front and back palate halves. If the juncture is smooth and straight, the depth and placement of the back upper palate will be correct.

25



**25.** Once the back upper palate is positioned, push a couple of T-pins through the center of the palate to hold it in position. Notice the pins pushed in through the side cheek. These pins help move the back upper palate back and forth in order to assure the back palate is level with the front palate.

26



**26.** Bondo is pushed in along the sides of the back palate to secure it to the mannequin. Take caution and keep Bondo off the teeth.

27



**27.** Once the Bondo has set, place the completed lower jaw along the upper jaw to view how they fit together. Carefully trim any areas that are preventing the upper and lower jaw from fitting together properly. When a proper fit has been achieved, it is time to do the finishing epoxy work on the inner mouth.

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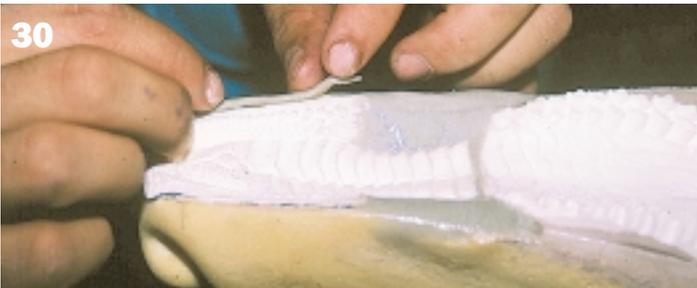
**28.** Use Apoxie Sculpt to model the inner mouth detail. Mix part A and B (by volume) until the mix is complete. I use Lifetone Safety Solvent for mixing and smoothing Apoxie.

29



**29.** Sculpt a smooth base where the papillae were cut out. This will be the base where the papillae will be rebuilt. Here I have rebuilt one side and will model and smooth the other side.

30



**30.** The base for the papillae has been rebuilt on both sides, and now I will use Apoxie Sculpt to smooth the juncture between the cast lip and mannikin lip. Roll a thin coil of Apoxie and place it along lip juncture. Once the Apoxie is placed along the juncture, I smooth it with my finger dipped in Safety Solvent.

31



**31.** The base modeling work has been completed in the papillae and lip juncture area. Notice that I have used Apoxie Sculpt to smooth the juncture between the front and back palates. Now we need to let the Apoxie Sculpt cure before we start rebuilding the papillae.

There is only one more part of this series remaining. Part 4 is going to wrap it all up and show how the papillae are created, the tongue is molded and cast, and the inner palates are colored. It is sure going to be an exciting end to an enjoyable and informative series of articles. I hope you will join us for Part 4 and complete your educational experience. ■

*PAUL CALES (left) won Best in World Whitetail Deer at the 1997 World Taxidermy Championships®. DAN RINEHART (right) sculpts for Whitetail Specialists, a two-year old taxidermy supply company in Janesville, Wisconsin. He offers weekend training courses and a wholesale fish service. Contact him at 1-800-FOR-DEER.*

