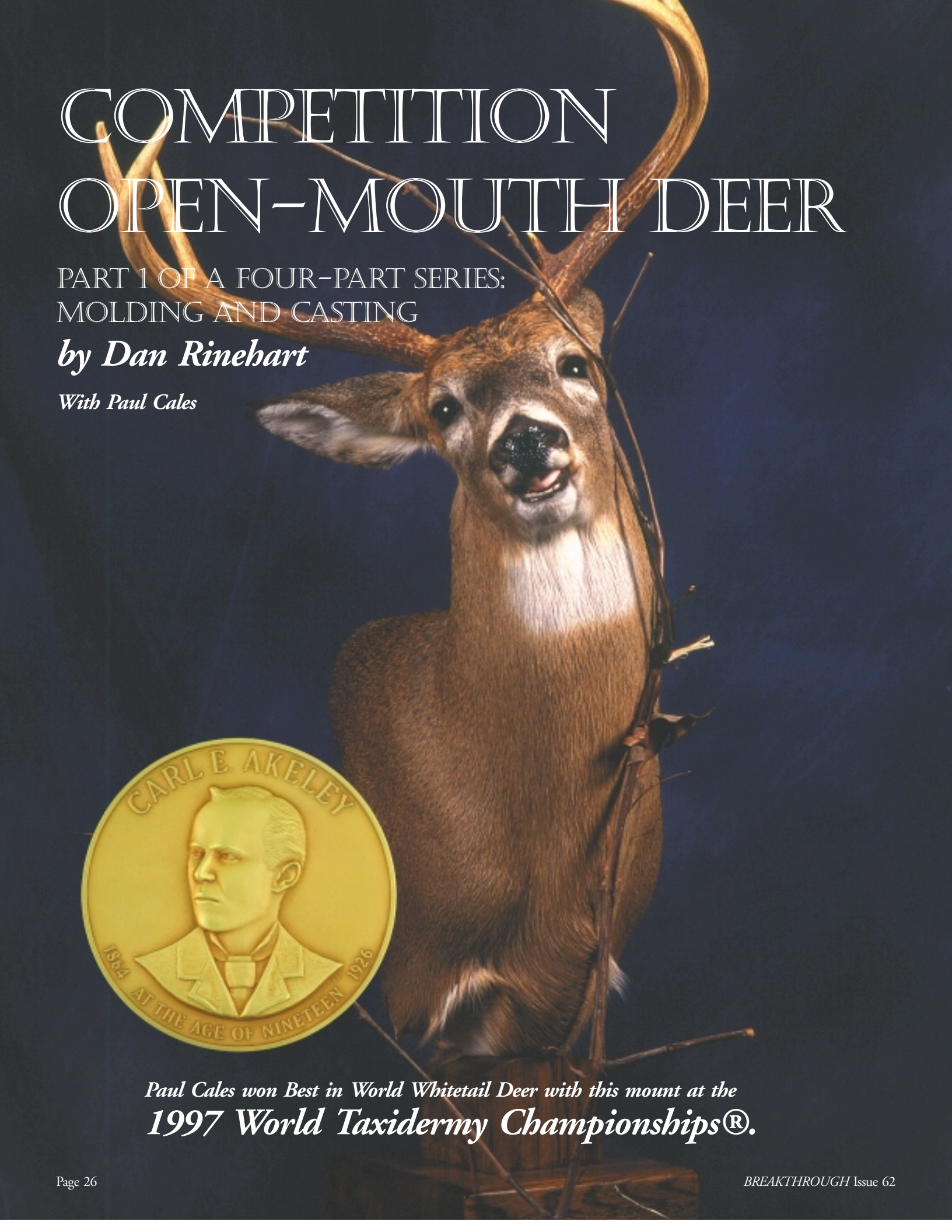
COMPETITION OPEN-MOUTH DEER

PART 1 OF A FOUR-PART SERIES: MOLDING AND CASTING

by Dan Rinehart

With Paul Cales



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

IF YOU HAVE SEEN THE MOUNTS AT A RECENT World Taxidermy Championships®, or NTA or IGT competitions, you would have noticed the incredibly high level of detail and quality. It seems that every year someone raises the level of quality at these shows—and wins. Taxidermists are taking control of every aspect of their mounts, from an original sculpture of a mannikin, to the creation of original cast mount and tongue inserts. Judges have respect for an individual who has the talent and dedicates the time to produce a mount with *all* originally created parts. Most judges have been involved in the development of products (mannikins, jaw sets, etc.) and appreciate the knowledge required to create such products. As a result, the difficulty and originality points that you see on a score sheet are usually awarded to those individuals who have produced *everything* originally. Because a World, National, or International Championship is always decided by only one or two points, these difficult originality points often become the difference between winning and placing second.

In 1997, Paul Cales achieved what every whitetail deer taxidermist dreams about. He won the Best in World Whitetail at the World Taxidermy Championships, and positioned himself among the world's finest whitetail deer taxidermists. Since that time, I have been fortunate enough to get to know and work with Paul. Paul is a man of precise detail, who is satisfied with nothing short of perfection. Paul is also an intelligent man who quickly recognizes how to win at the game of taxidermy competitions. Paul recognized the importance of performing and documenting a mount 100 percent, the original creation of the artist. As a result, Paul originally cast all the mouth and tongue detail involved in the 1997 World Champion. Documenting this original work for the judges to see consisted of a step-by-step photo album showing the casting, installation, and painting of the original mouth detail. The photo album provided a visual medium for the judges to see and appreciate all the original work involved in the mount. The resulting World Championship signified the importance that judges associate with original work.

But how do you gain the knowledge of creating your own original casting? Well, you could purchase a week of individual training from a past World Champion, or you could spend years testing and perfecting your own techniques. Either way, you will have to dedicate your finances as well as an incredible amount of personal time to attaining such knowledge. That is, unless you find someone open enough to share his award-winning techniques, with the only desire being to help you do better work. Paul has always been very open and informative with me, and together we would like to show you the casting, installation, and painting techniques that he used to win the 1997 World Championships. In other words, your knowledge of casting is about to be advanced years into the future, saving you the money and time you would have to spend gaining the knowledge on your own. These are tried and true techniques that are backed up by a World Championship. So get ready. You're about to get your subscription value in one article! Let's start by preparing the carcass.

1. Creating an original mouth castings requires *two spare deer heads.* The spare heads should be approximately the same size as the head that you intend to mount. From these two heads we will create four castings that will fit together to finish the mouth interior. It is not possible to cast the interior mouth of the exact deer that you will be mounting, due to the cuts that are required to prepare the upper and lower palates for casting. Here you can see a deer head ready for tongue removal and cleaning. First, use a bone cutting saw to cut down through the skull plate. Be sure that the cut is back far enough to avoid damaging the throat and upper palate. Then use a scalpel to remove the tongue through the back.

2. We will be casting the entire lip line (upper and lower). The hair along the lip line can get caught in the casting materials and cause problems. Therefore, shave the hair approximately a half-inch away from the lip line.

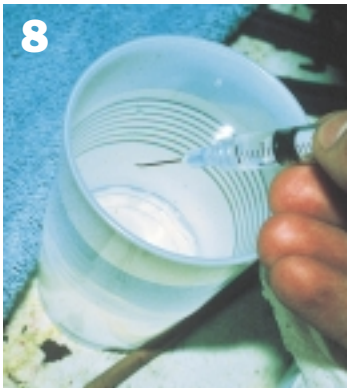
3. Here you can see that we have continued shaving past the lower front lip.

4. Once the tongue is removed and the lip line is shaved, wash the entire head and inner mouth in water and Dawn dish washing soap. Be sure that the surface areas of the upper palate, lower palate, and lip line are completely clean and free from debris. It is very important to clean them as thoroughly as possible because any blood, slime, or debris that is not removed will show in the casting.

5. One final look to make sure everything is cleaned completely.

6. Place the head on a work bench and dry it thoroughly with a towel.

7. Here you can see the papilla and palates. They are completely clean and ready for casting. However, freezing and handling the head has resulted in some shrinkage and dehydration along the lip line.



8. Therefore, we will use a syringe and water to rehydrate the lip line.

9. Work in ¼-inch increments along the lip line and inject water back into the lip line. Work slowly as over-injecting can cause damage and an over-injected "fat-lip" area. Just insert the syringe, slowly inject water and watch the lip line regain the desired fullness. Reference photos of live deer can be very helpful in gauging the desired rehydration of the lip.

10. Once the lower lip is fully injected, move on to the top and inject in the same procedure.

11. Next, use an air nozzle to blow-dry the surface of the lip line and inner mouth. We will be positioning the head and freezing it prior to casting. Any moisture remaining on the lip and inner mouth will result in frost and decrease the detail of the cast. Blow it completely dry.

12. The inner mouth is dry and we are ready to position the lip and mouth for freezing. This is the stage at which you decide of the degree to which the mouth is open and start forming the lip line to the desired shape. Because the lip line is still soft, it will not hold its shape well. However, as it begins to freeze we will be able to form and shape as we desire.

13. Place a string around the muzzle and tighten it until the mouth is po-

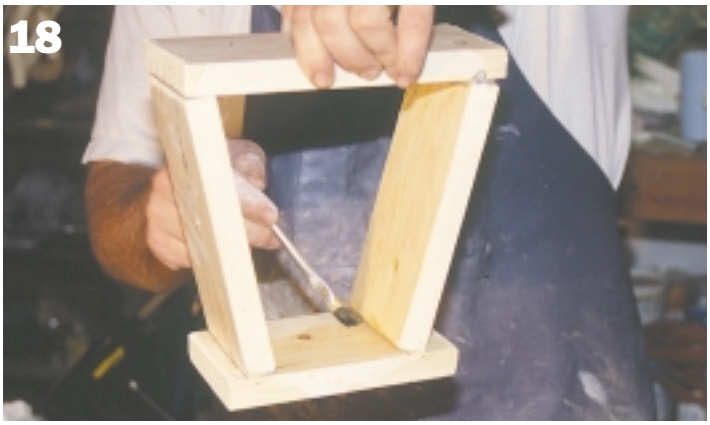
sitioned open the degree you desire. You can see that the head has been placed on a platform. From now until the head is completely frozen, we will move the head in and out of the freezer by handling this platform.

14. Prior to placing the muzzle in the freezer, start moving the lip line to the expression you are trying to achieve. Again, the lip will not hold a shape well at this point. However, forming the lip line now starts the shaping process that results in the desired expression later.

15. Place the deer muzzle in the freezer and shape it one last time before closing the freezer.

16. After one hour, take the muzzle out of the freezer and shape the lip line. The one hour of freezing should stiffen the muzzle enough for the lip to start holding shape. Continue this sequence in one-hour increments until the muzzle and lip line are completely frozen.

17. Once the muzzle is completely frozen, use a handsaw to cut the upper and lower palates apart. Start your cut at the back corner of the mouth and continue back until the palates separate. This photo shows the upper palate. Place the frozen upper and lower palates back in the freezer and prepare the bedding materials for casting.



18. First we created a dam for the edge of the mold. This dam was created for the upper palate. To get the correct size and shape of the dam, we simply placed the frozen upper palate on a piece of cardboard and traced about 1 or 2 inches out from the edge of the palate to be cast. We then used those lines as reference for creating this wooden dam. Finally, the dam is completed by applying a coat of Johnson's paste wax to the inner wood surface to act as a release.

19. Here you can see that the high-fiber bedding material has been mixed and ready to be used to place the upper palate into. Also notice how the upper palate fits nicely into the wooden dam.

20. We now form the bedding material to fit within the entire area within the wooden dam. As we form the bedding material, we need to make the surface smooth so we have a neat and smooth outer mold once the mold is poured.

21. Here we have both the front halves of the lower and upper palates. I'm sure you are probably wondering, "Why aren't you casting the entire palates back the throat?" The answer is simple. In order to achieve the minute detail that we desire, we must dedicate full attention to the front upper and lower palates. After all, these are the areas which contain the most visible detail. So, we will actually be casting the half upper palate, half lower palate, and later the full upper and lower palates. The half palates almost always capture more detail that the full palate casting. Again, this is attributed to being able to focus attention on a smaller area. Once we have all four castings completed, we will piece the half upper and lower palates together with the back half of the full casts. It sounds a little confusing now, but as we move along you will see how easy and beneficial it is to do it this way. Note: As I stated at the beginning, two muzzles will be needed to get the four required castings.

22. Prior to placing the upper and lower half palates in the bedding material and molding, it is necessary to *quickly* wash the palates in a rinse of lacquer thinner. This quick rinse removes and eliminates any frost that may have developed on the surface of the palates. If frost exists and is not removed with a lacquer thinner rinse, the frost will show in the final casting and decrease detail.

23. After the quick lacquer thinner rinse, use an air nozzle to blow off any thinner that remains on the palates. The palates needs to be completely dry before placing in bedding material and casting.

24. Position the palate on the bedding material and outline the edge of the muzzle.

25. Carve out the area within the muzzle outline and create a place for the muzzle to be recessed. You want the muzzle to be recessed to the point that the edge of the shaven lip line is elevated approximately ¼ inch from the bedding surface.

26. The upper muzzle has been placed in the bedding material. Notice that we have a little more than ¼ inch between the bedding surface and the beginning of the shaven lip line. This will require a little more buildup of bedding material.

27. If you have good high-fiber that easily forms into position, it is possible to simply push more high-fiber up to the edge of the shaven lip line.

28. Here is the high-fiber sculpture up toward the shaven lip line. There is still a little exposed hair.

29. To ensure that this

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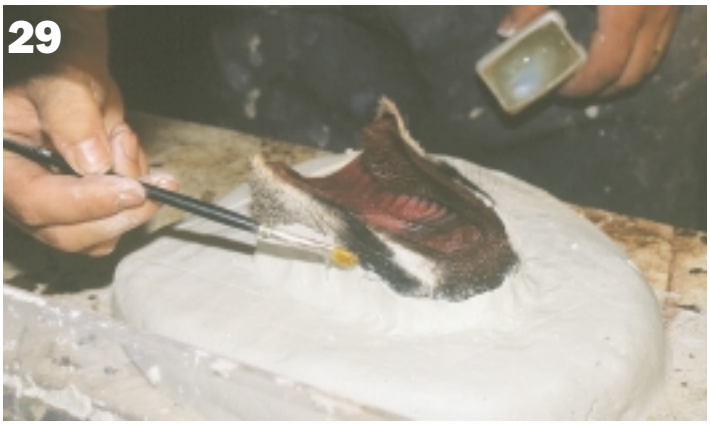

hair does not cause a problem in the poured mold, use a paint brush and apply Vaseline up to the edge of the shaven lip line.

30. Once the bedding material is ready and the muzzle has been properly placed, push the wooden dam into the bedding material. Be sure that *all* areas where the dam and bedding material juncture are completely sealed. If there is an area where they are not sealed, the silicone molding material will slowly but surely escape.

31. The dam and bedding are ready. Now the silicone rubber must be mixed and poured. We use RTV Silicone rubber from Polytek. You can get the slow- or fast-setting RTV. The slow-setting provides the best detail due to the fact that the longer set time enables more air bubbles to escape. I don't think I mentioned it, but air bubbles are the enemy when casting. Any air bubbles caught on the surface of the lip or palate cause an air bubble in the final casting and have to be fixed. Therefore, eliminating air bubbles is important. We'll give you some tips on how to eliminate air bubbles as we move along. Anyway, back to the RTV Silicone Rubber. The RTV is mixed by weight one part A to 10 parts B. To weigh the two parts, I use a simple, cheap kitchen scale (nothing fancy but does the job). Be sure that the weight of the containers that you pour part A and B into are identical or it will throw off your weight ratio.

32. It is *very important* that the two parts are thoroughly mixed. Purchase one of the drill mixers at a hardware store and mix with an electric drill. Do not try to hand mix with a stir stick. The mixture will not be complete and areas of non-catalyzed RTV will occur on the palate surface, causing a ruined mold. So, stir well!

33. Begin pouring the RTV over the palate. Pour slowly and focus your pouring point at one place on the palate, letting the RTV slowly run out into all the

details and crevasses of the palate and mold. Pouring slowly with a small stream allows for air bubbles to release prior to flowing over the palate. Do not move the stream of RTV around. Keep the stream in one place on the palate and let it slowly flow around by itself. Moving the stream around will only trap air bubbles.

34. Continue the stream and the RTV will do the work. Note: After all RTV rubber has been poured, place all on a vibrating surface, such as a dehumidifier, to assist in the release of air bubbles. Any surface that will vibrate while the RTV is catalyzing will do the job.

35. The RTV has set and the mold has been pulled apart. This shows the wooden dam, the palate in high-fiber bedding, and the RTV rubber mold. Prior to pouring casting material into this RTV mold, it is necessary to wash the mold in water and Dawn dish detergent to clean it out. After the wash, be sure to remove all surface water from the mold with a towel, then blow dry. Once the RTV mold is clean and dry, release silicon can be sprayed on the mold and casting material can be poured.

36. Evenly apply Polytek silicone release spray to the RTV mold. Be

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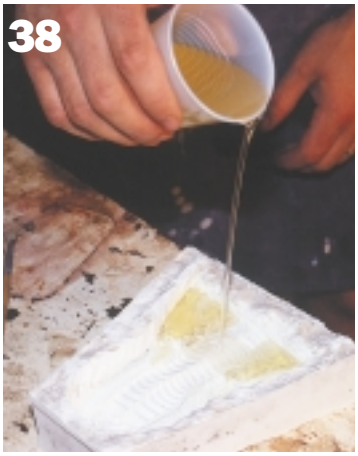
careful not to over-apply the release spray as build up will decrease palate detail.

37. Now we are ready to mix the casting plastic. Here we are using Easyflo 60 liquid plastic from Polytek. The mixture is 1 part A to 1 part B by volume. Mix thoroughly with a mixing stick.

38. Again, pour slowly in an even stream targeted at one area, allowing the material to fill as it flows.

39. This is the time to work fast



yet precisely. Air bubbles can be released by pushing them free with a stiff bristle brush. In particular, release bubbles from the papilla area because this is the place where bubbles cause the most trouble. You can use either slow- or fast-casting plastic. We prefer the slower setting as it provides more time to release the air bubbles.

40. The casting plastic has completely set and the palate cast can be carefully removed from the RTV mold. The first casting from

an RTV mold is always the best due to the fact that damage occurs during the pull of each plastic cast. However, you can use the RTV mold many more times to create plastic casts for your customer work.

41. You will need four separate castings: 1) half upper palate, 2) half lower palate, 3) full upper palate (back to throat), and 4) full lower palate (back to throat). The previous steps have shown the sequence in making a single mold and corresponding palate. Use the same techniques and sequence to create the remaining three molds and casting.

Okay—I think we've thrown enough stuff your way to study until the next issue. This article is the first of a four-part series that *BREAKTHROUGH* will run consecutively, so don't let your subscription run out because you just might miss the most important part! ■

PAUL CALES (left) won Best in World Whitetail Deer at the 1997 World Taxidermy Championships. DAN RINEHART (right) owns Whitetail Specialists, a two-year old taxidermy supply company in Janesville, Wisconsin.