

Bird in a Bubble

Text and Demonstration by Kari Chittenden

Photography by Angela Ridenour

Effetre/Moretti

90 COE Stringers

Lime

Dark Yellow

Orange

Black

Blue-Green

Dark Blue

104 COE Full Rods

Crystal Clear

Rubino Oro

Pastel Pink

Transparent Emerald

Pastel Lime

104 COE Stringer

Black

Tools and Materials

1/6"-Diameter Mandrel or Hollow (Puffy) Mandrel

Needle Nose Pliers

Ultrasonic Cleaner



Preparing the Mandrel

I typically use a 1/16"-diameter mandrel, but a hollow (puffy) mandrel would make it easier. When you feel up for a challenge, try this on a regular mandrel. For hollow mandrels,

I get stainless steel tubing in a variety of diameters at a hardware store and drill the side hole myself. For regular mandrels, I buy stainless steel rod from a welding store in a variety of diameters and cut them to length with bolt cutters.

I like the mandrels to be about 12" long. The extra length is nice, since this bead will be worked in the flame for a full hour or more. If the mandrel is too short, your hand will start to sweat toward the end. Next you need to dip the mandrels in a bead release that will hold up to long torch times and heavy beads. I use Dirty Looie's Bead Release. Get about 3" of bead release to cover the end of the mandrel.

Plan for a few failures. Even I don't get it to come out perfectly every time. By "perfect," I mean a perfectly round bead with the bird being attached to the bubble with a very small connection—ideally with a thin, clear thread of glass at the tail and beak.

Now light the torch. I use a Hot Head torch for this bead, because it burns a little cooler than an oxygen/propane torch. I feel that I need the extra control. I burn Chemtane II instead of propane, because it burns cleaner and I get less scum on the clear bubble.

Making the Stringers

Start off by making the canes in 104 COE glass. I make Leah Fairbanks-style canes for the flowers and leaves.

This tutorial is an exercise in flame control and patience. It also safely combines COEs, which with this bead is essential. Creating the bird bead only requires an easy, sculptural technique. To put the bird in a bubble, however, is a challenge, because it requires combining a hollow bead with a sculptural bead inside.

I came up with this design for the 2010 *Surface* exhibit for the theme, "What lies beneath?" I had this bead idea in my head right away and had three months to make the idea into a reality before the entry deadline. My first few attempts were miserable failures. The bird would not hold its shape for the hour-plus that the bead needed to be worked in the flame.

Out of pure desperation, I tried making the bird with a stiffer glass—90 COE. It's ingrained in our heads to never mix COEs, but I was desperate to get my design to come out so I had to give it a try. Typically, the place where two different COEs touch each other will form a crack. I hoped that since the two glasses would touch only at a very small union, the connection might hold. I knew 96 COE frit could be used in small amounts so I thought it was worth a try—and it worked! So far, not one of my beads has shown even a miniscule crack at the union.

1

Pull a thick stringer of black or use commercial stringer.



2
Take the rod of pastel pink and encase about 1" with Rubino Oro, using the "around-the-world" method to encase the pink rod.

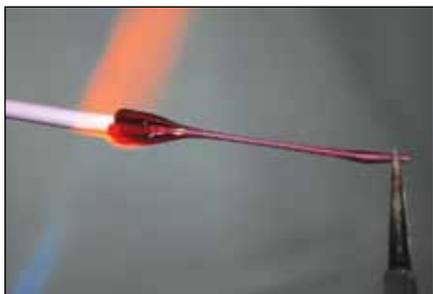


Melt the encasement as flush as possible and marver it smooth.

3
Stripe on the black stringer, about 6 evenly spaced lines, straight down the encasement.



4
Melt in the stringer, let the glass get really soft at the end, and pull.



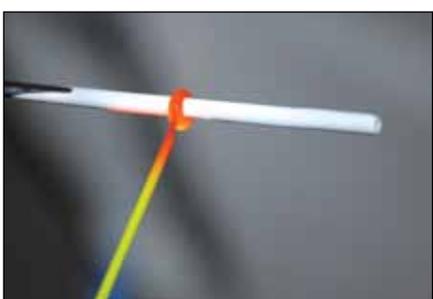
There are a few ways to do this, but I prefer to pinch the tip of the molten glass with the tip of my needle nose pliers and pull straight out without twisting. You will want to pull stringer that is approximately 3 mm thick.

Do the same with the Lime Green, encased with transparent Emerald and striped with Black. Pull one stringer about 3 mm thick and another about 1.5 mm thick. The thin one is for vines, and the thicker one is for leaves. Set the stringers aside for now.

Making the Bead

We will make the bird with 90 COE stringer. The key here is to make the bird in the center area of the bead release. You need for the bird to be very tiny.

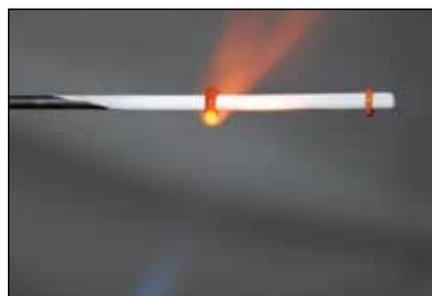
5
Make a small spacer bead with the Lime Green stringer.



The glass thickness needs to be about the same thickness as the mandrel.

6

Add one dot of Dark Yellow to the spacer bead and melt it in almost completely.

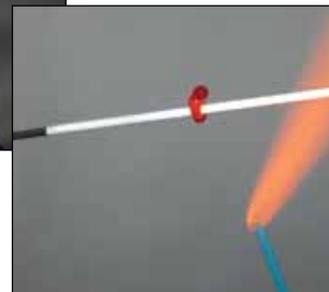


Add a smaller dot of Orange to the high side of the Dark Yellow dot. Leave it slightly raised.



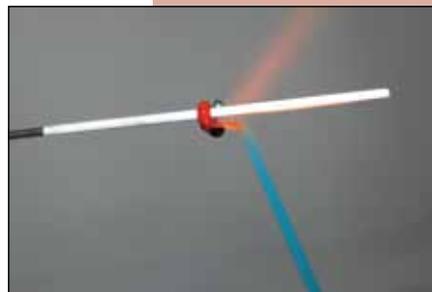
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Take the Black stringer and add a big dot on top of the Orange to form a head, round it up in the flame, and leave it raised.



8

Stack 2 dots of Blue-Green stringer on either side of the mandrel behind the head for the wings.



9

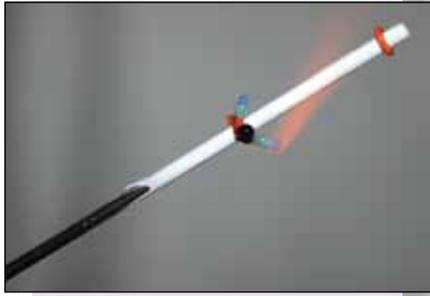
Stack 2 dots of Blue-Green stringer opposite the head and at the low side of the base bead for the tail.



Leave the dots raised but round them up a little in the flame. You will notice that I've made a thin wind of glass near the top end of the mandrel. I was just winding off a dirty looking bit of glass. You will notice me adding to it throughout this tutorial.

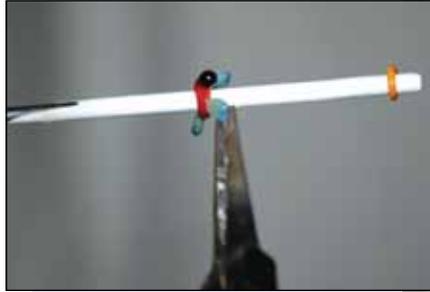
10

Add one dot of Dark Blue to the tip of each wing and at the end of the tail, rounding it up a little in the flame.



11

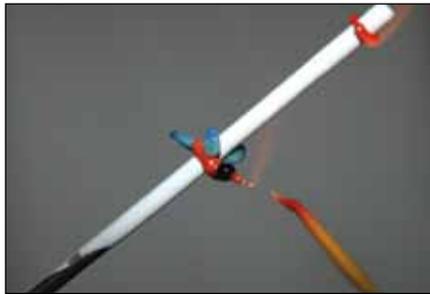
Reheat the wings one at a time, and while they are warm, take the bird out of the flame and flare out each wing with needle nose pliers.



Do the same for the tail. I also like to heat the tip of each wing and use the pliers to pinch a little point on the end of the wings.

12

Take the Dark Yellow stringer and add a small dot to the head for a beak.



Round it up in the flame a little and touch the end of the stringer to the glowing dot of glass, then pull it out to form a smooth point. Note that you may need to do this again later if the beak loses its point when you are making the bubble.

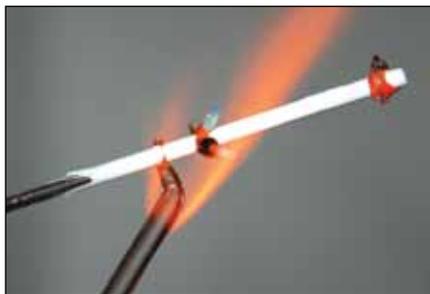
You could stop here if you want. This is a really darling bird bead all on its own. If, however, you feel that you have the patience for it, get ready to make the bubble!

Making the Bubble

We will make the bubble out of 104 COE glass. You will need 1 or 2 full rods of clear.

13

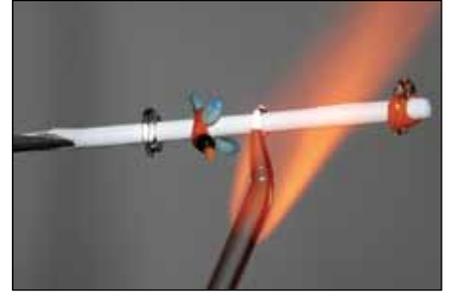
Start the bubble.



Heat the rod of clear while you keep the bird warm in the high part of the flame. Make a small spacer bead of clear on the mandrel, about 1/8" below the bird's tail.

14

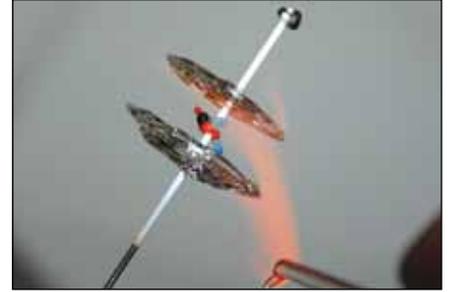
Add another spacer bead of clear about 1/8" above the wings.



These spacer beads will act as anchors for the bubble and ensure nicely formed bead holes. Round up both anchors, being careful to keep everything on the mandrel equally warm.

15

Build the walls of the bubble.



From here on out you will need to angle the mandrel so that the flame laps at both the top and bottom anchors. Work high in the flame so nothing gets too hot. Otherwise, the bird could melt into oblivion. Start at the low anchor and wind a coil of clear around it. Then go to the top anchor and wind a coil around that one too. Keep adding coils to alternate anchors to build up disks of clear, coiled glass on either side of the bird. Try to work the disks straight out from the anchor for as long as you can. Keep the flame lapping at both coils at the same time.

As you add coils, the disks will eventually start to angle inward. Before you get the walls built up, you can reach in with the pliers and touch up the bird if need be. You may need to flare out the wings or tail or put a new point on the beak.

My bottom coil always tends to curl up first. When it does, I start to work on the lower coil and build it up like a basket or bird's nest around the bird. Keep coiling the bottom only, but make sure your flame is lapping at both coils by the angle you hold the mandrel in the flame. Keep the rod of clear in the "sweet spot" of the flame so that you can continue your coil almost nonstop. Ultimately, the lower coil will come up to (or almost up to) the top coil, and the bead will resemble the size and shape of a marshmallow.

16

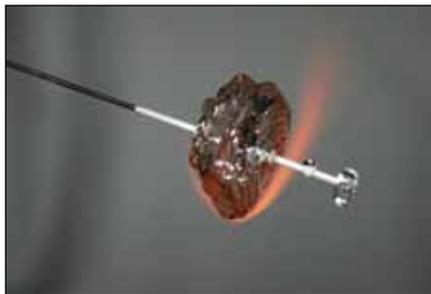
Seal the bubble.



It is time to connect the top and bottom coils. You can pinch them together or wrap another coil or two to cover the gap. I typically do a little of both. Look for any air holes in the coil and the union area and seal them up with a swipe of clear glass. Keep the bead high in the flame as you search for and seal all holes.

17

Melt down the bubble.



Now begins the somewhat boring task of melting all your coils smooth and even. This takes patience! Rotate the bead high in the flame until the surface starts to smooth out. The glass will condense a bit as you round it up. When it's obvious that the bubble has no leaks and seems to be smoothing out pretty well, you can work the bead lower in the flame or turn the torch up if you want to. Focus most of the heat on the union where the coils meet, because this will be the thickest area of glass and you'll want it to spread out.

Since this is a large bead, gravity will pull the bead out of round in a blink. If it starts to get out of control, take the bead out of the flame and let the glass stiffen up a bit before you go back to the flame. You can always turn the flame back down if you need to.

Another thing could happen if the bead gets out of control—the bead release could break. If this happens, you are done. Cool the bead and break it open later to save the bird.

18

Round up the bubble.



Let's go back to assuming that all is going pretty well. Your bubble will smooth out and round up, and you can see the little bird inside. Hopefully the bubble wall hasn't connected with the bird. In reality, it will take some practice to keep the wall from touching the bird.

If you are using a hollow mandrel and you can catch it before it touches, puff out the bubble. If the bubble has already touched the bird, it will be okay as long as the connection is tiny. If the connection is too heavy, the 90 COE and 104 COE will crack around the intersection after the bead is cool. If the bubble and bird are completely independent . . . Hooray!!!

19

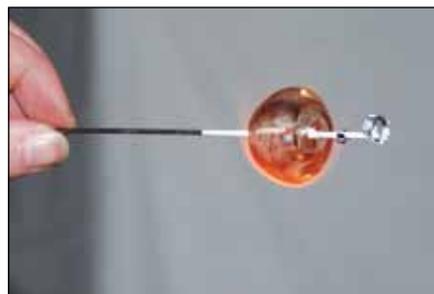
Connect the bubble to the bird.



Now you need to connect the bubble to the bird on purpose. Take the bead out of the flame and let it firm up a little. Spot-heat an area on the bubble directly behind the tail. Plunge in the steel poker until you just touch the tail. Turn the bead around and do the same thing at the beak.

20

Reheat the whole bead until it rounds up again.



If you have a hollow mandrel, you can help the process along by focusing the heat at the plunges and gently puffing it out. As the bubble gets round again, it will ideally leave behind thin threads of clear glass at the connections with the bird. If you are using a hollow mandrel, you can also puff out the bead to make the bubble slightly larger and the threads a bit longer. This takes some practice, but if you puff gently you should get good results. Never inhale while you have the hollow mandrel in your mouth! If you puff it out too big, reheat the bead and it may condense back in the flame.

21

Draw on the flowers.



Once you have a round bubble again, take the bead out of the flame and let it firm up a little. Now, apply the canes and add flowers and vines to the surface of the bead. Work the bead high in the flame and at the edge of the flame in order to have maximum stringer control. I start with the flowers first.

With the pink cane we made earlier, round up the end in the flame. Touch down and drag up to form a petal right over the place where the bubble connects with the bird's beak. Make another petal on either side in the same manner. Make 3 evenly spaced, 3-petal groupings around the bubble. Take the poker tool and drag the three petal ends into a point.

22

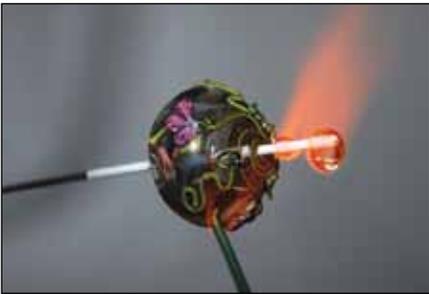
Take a thin cane of green, make the end rounded in the flame, and add the vines.



Touch down onto the point of one 3-petal grouping. Continue the vine in an arc around the bubble and sweep it up and around the mandrel hole as close as you can to the hole without touching the mandrel itself. Do the same at each flower.

23

Add a bit of scrolling vine at the halfway point of each arc.



Heat up the vine work in the flame to make sure it connects well with the bubble, still leaving it raised. I also heat up the vines that are wrapped around the bead hole and touch them up with my poker if need be.

Next add the leaves by taking the thick green cane and rounding up the end. Touch down on a vine and swipe the cane away to leave a pointy leaf. Put on as many leaves as you like in the same fashion.

Reheat the whole bead to flame-anneal and place it directly into the kiln. Viola! Relax and shake out the stress in your hand. Go outside and enjoy some real birds for a moment.

Cleaning the Bead

Believe it or not, we aren't done yet. When the kiln is cool, cleaning this bead is a whole other challenge. The bead release is fairly strong, and twisting off the bead may result in breaking the bird off the bubble. (Ask me how I know!) To solve this problem, I use an ultrasonic cleaner. I dip the whole mandrel with the bead still attached into the cleaner to loosen the bead from the mandrel safely.

Actually, the use of an ultrasonic cleaner may be the best tip I share with you. The investment will save you hours of cleaning your beads by hand. It is by far my favorite tool, because I hate to clean beads! The one I use is by L & R Manufacturing, Quantrex model #Q90H W/T.

Remove the mandrel from the bead, pop the bead back into the ultrasound, and let it gently vibrate off the remaining bead release. You can also clean it by hand. Blow out the water and bead release debris with your mouth (similar to blowing eggs). Refill the bead with water and blow it out again until the bead is completely clean. Prop up the bead (with the hole up) on top of an empty beer bottle or tiny vase for a day or two until it has air dried. Now you are *really* done. Yay!



www.etsy.com/shop/karibeads

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Kari Chittenden originally began making beads in 2000 as a fun way to stay connected with her daughter, Chelsea. The pair had always enjoyed making artistic crafts together, and Kari wanted to find ways to keep her teenage daughter interested in hanging out at home. When Kari saw an ad in the local newspaper about a beadmaking class, she signed up. Kari's plan worked like a charm!

Chelsea loved making beads with her mom. Kari would come home from her lesson, set up the equipment, and teach Chelsea what she had learned. They would take turns at the torch and found that it was really fun! Later, Chelsea invited her friends over to the house, and she would teach them too.

This hobby quickly turned into a passion for Kari. Her beads and buttons can be found in over a dozen stores, at her booth at the local Farmer's Market, or online at www.etsy.com/shop/karibeads.

Kari's bead journey has been so much fun, and she feels that she really owes it all to her daughter.



Variations on the Bird in a Bubble Dragonfly, Bee, and Fish in a Bubble