Copy Chrome

by Joel Justin

When you restore a car, there will undoubtedly be things that need to be rechromed. Living in California, finding a shop who will do chroming is challenging enough, and when you do, the cost will likely be astronomical.

While restoring Pam's GT6, there are three things that needed rechroming: 1) the bumpers, 2) the petrol cap and 3) the bezel for the windscreen wiper/washer switch. For the bumpers, I opted for new stainless steel ones out of Vietnam. They fit well and are beautiful. For the petrol cap, I found a NOS one on eBay. The windscreen wiper/washer switch bezel was another story. No one sells a new one, and in all the years I've been looking on eBay, I've never seen one offered.

What to do? I could send it out to get rechromed, which would most likely be expensive. But it's also a small part and I'd be concerned it would get lost also. So I started researching DIY chrome kits. They are available, but use all the same nasty chemicals that require special tanks and power supplies that a chrome shop uses. And they probably aren't legal to ship to California anyway. I didn't want to go that route. Then I stumbled across Caswell Plating.

They have a process called Plug N' Plate (https://caswellplating.com/electroplating-anodizing/plug-n-plate-brush-plating-kits.html) and a product called Copy Chrome. It looks and feels like chrome, but is suited for the DIYer as it doesn't use any of the nasty chemicals real chrome does. With a little more research, I determined that to properly Copy Chrome my pot metal bezel, I'd need their Flash Copper, Nickel and Copy Chrome solutions.

QR code for Caswell's Plug N' Plate webpage

The best path for me was to purchase their Plug N' Plate Nickel/Flash Copper Kit and a bottle of their Copy Chrome solution. This provided me with all the things I needed to rechromed my bezel. The cost with shipping was $115. I don't know how that would have compared to sending it out to a chrome shop. But I'm guessing it's cheaper plus I get to have fun doing it myself!

It had to ship ground from New York, so it took a little over a week to arrive. Here's what I got:

Flash Copper, Nickel and Copy Chrome solutions, 2 wands with bandages and the power supply

The hardest part was prepping the bezel. I started by using a media blaster to carefully remove what was left of the original chrome. I then used a wire wheel on my rotary tool to cleanup anything the media blast didn't. Finally, and I can't stress this enough, sand the part to remove any imperfections. I used 500 grit sandpaper on some of the rougher areas, then 2000 grit all around for the final prep, but didn't do this until after the copper, which caused me to start over.

I'm not sure why the bezel was as rough as it was, but I decided not to make it perfectly smooth as I felt I'd be removing too much pot metal. In hindsight, I probably could have gotten it a bit smoother. The bottom line is the smoother the piece is to start with, the better the final result will be.

The bezel after media blasting and wire wheel cleanup (no sanding yet)

The next step is to dip the piece in Metal Prep for 30-60 seconds. This removes any oils and light corrosion. It also makes the surface slightly rough for better plating adhesion. Metal Prep is a phosphoric acid solution. I used Klean Strip Concrete & Metal Prep that can be purchased at Home Depot and many other places. After soaking my bezel for 60 seconds, I rinsed it with water, then washed it with dish soap and water.

The bezel after 60 seconds in Metal Preo (no sanding yet)

Now to start the 3-step plating process. Each step is basically the same. You pour a small amount of solution in the bottle lid or a small glass bowl. You then wrap the bandage loosely around the wand and secure it with a rubber band. If you wrap it too tightly, it won't allow the solution to penetrate all the way to the wand.

After plugging the banana plug into the wand and clipping the alligator clip to the part, you dip the wand into the bottle of solution for 30 seconds to allow the bandage to become thoroughly saturated. Now plug in the power supply and start brushing. The instructions say to keep the wand in continuous motion with light to medium pressure. The analogy they use in like petting a cat.

You'll want to apply a uniform coating to all surfaces. And you'll want to keep the bandage full of solution. That's where the solution you poured into the cap or bowl comes it. The wand gets contaminated, so you don't want to dip it in the bottle and contaminate your good solution.

For the Flash Copper process, you use the copper wand. The copper took the longest to appear for me. I'd say I brushed for several minutes before I started to see the copper plating appear. I then brushed for another 5 minutes or so to get what felt like a good even coating.

I was unhappy with the smoothness of the finish. That's when I decided to use the 500 and then 2000 grit sandpaper as described above. This took off most of the copper, so I repeated the Flash Copper process again. When finished, I polished it with 0000 steel wool to achieve the finish shown below. Note it's still not perfect.

The bezel after Flash Copper plating AND sanding and steel wool polishing

Next is the nickel finish. I repeated the same process except I used the steel wand this time. I rinsed the bandage I used for the Flash Copper and blotted it dry, and reused it for the nickel plating. After the first 5 minutes of brushing, followed by a rinse and steel wool polish, I decided to give it a second "coat" of nickel. I don't know if that really made a difference, but it certainly didn't hurt anything. You can see the results in the photo below.

The bezel after nickel plating and steel wool polishing

Finally the Copy Chrome step. Again, I followed the same process as above, using the steel wand and the rinsed and blotted dry bandage. I only did one pass of approximately 5 minutes of brushing, followed by a rinse and light polishing. The results are below. The main thing the Copy Chrome did was change the finish from a warmer tone to a cooler blue tone like real chrome. You can see that between the two photos.

The bezel after Copy Chrome and steel wool polishing

I think the final product looks better than the photo. How does it compare to real chrome? As you can see, it's not as smooth and thus doesn't have that mirror-like finish. That is mostly my fault. If I had started with a completely smooth surface, it would look much better. But even then, I don't think it would still be as shiny as real chrome, but close.

For my application, being a small object that isn't front and center, it was perfect. You'll have to decide if it's right for your project or not. But if you're like me and like to do things yourself, it was fun and satisfying.