

To Soda Blast or Not?

IN DECEMBER OF 2004, I purchased a Laguna Blue '66 coupe from a dealer that I had found via the Internet. The car was advertised as having original paint, but by the time I became involved with trying to purchase it, the car was in a body shop getting a repaint. Since the car was a long way away from me, I asked one of our NCRS colleagues to look the car over. He reported that the car was what I was looking for and I ultimately bought it. His inspection took place in the body shop where the car was being repainted. The first observation was that they had painted the car Marina Blue instead of Laguna Blue. As you might expect, this caused considerable consternation between the dealer and the body shop. When the car was completed the salesman called to tell me the paint job was marginal and they actually lowered the price of the car. The truth is, my experience with the dealer was quite good but I think I'd really go somewhere else for a paint job. In January of 2005 the car was delivered to me in New Mexico.

For the most part, the car was what I was hoping for. It was clean, fairly original, a beautiful body and a very nice 327 (350 HP) small block. It did have added side pipes but since I was building a driver, that wasn't a crisis (at least to me). The paint was another story. The car was now the correct color but it was buffed unevenly, exhibited several fisheyes and had many runs in the clear coat. Just looking at the paint, it appeared to be thick. The body edges weren't sharp and other details had a softened appearance. When informed of the wrong color, my guess is the body shop simply painted the car once again.

I spent a happy six months working on the mechanical side of the car, driving it to Park City on the 2005 Road Tour. The car performed well and I enjoyed the trip enor-

mously. This fall, I decided to do something about the thick paint. I took off the rear valance and began to apply chemical strippers to see what I would find. From the outside in I found Laguna Blue, primer, Marina Blue, non-factory primer and bare glass. I also worked about an hour to get one end of the valance stripped to bare glass. The primer was especially resistant to the chemicals. It was thick and although it softened it really didn't want to let go of the glass. Even on the rear valance, there was probably 0.025 inch of paint on the car. I began to look for an alternative to chemical stripping.

There is really only one alternative and that is media blasting of some sort. Plastic media, walnut shells and soda (sodium bicarbonate) are typical blast agents. I did considerable reading; spoke with numerous people both pro and con, and finally decided to try the soda blasting process. There is no question the choice was controversial and I thought this report might be helpful to others.

There are a number of factors that are important to consider with regard to the blasting process and good





Here's how I set the car up for the blasting process. The doors, hood and back valance were removed from the car. While the doors were off to facilitate replacing the hinge pins, it did allow the blaster easy access to the jamb. As you can see, I taped over the openings. It wasn't enough. See the text for more information.

information is hard to find. You will hear that soda will get everywhere. The blaster will tell you that there will be no damage whatsoever to the fiberglass. You might have concerns about the window glass and the stainless steel trim. Soda blasters generally blast at your site and leave a residue of soda. Another concerning factor is operator skill. The blast pressure, the angle of incidence and the distance of the gun to the surface all play a role in a good outcome. Operator experience here is important.

Soda blasting is considerably less intense than sand blasting. Sand particles are at least 20% heavier than sodium bicarbonate particles and thus for the same sized particles, sand will deliver 20% more energy at the same speed. Furthermore, the soda particles are much softer than the silica particles. They behave like a collapsible front end in a vehicle collision and as the soda crystals crush, they dissipate energy. The net result is much reduced surface impact with the energy principally focused on the topmost layer. The impact chipping associated with sand blasting is vastly reduced.

I parked the car in an open area in the rear of my property. As I began to prepare the car for the process I attempted to minimize the access of the soda to the engine compartment, the dash area and the interior generally. I had removed the doors to re-bush the hinges and the blaster suggested I leave them off. Using duct tape instead of masking tape to get good adhesion, I taped 6-mil plastic over and under the dash. I taped the hood ledges, which I had chemically stripped, and down the front to the underside of the car. I masked the door openings with the plastic and I thought I had eliminated the prospect of soda getting everywhere.

On a temporary table, I laid out the rear valance, the hood, the doors, the metal parts and other minutia. The soda blast operator showed up towing the unit. He dumped



Once a car is soda blasted, you will get exposure of some glass fibers (although with a skilled operator, not as much as you might think). This photo shows the typical exposure of the glass fibers. The exposure was most pronounced at bonding strips.

a bag of blast medium into the pot, dialed the pressure to 75-80 PSI and started a timer. He blasted on my coupe for 3-7 hours and used 6 bags of medium. The cost was \$95/hour and \$50/bag for a total of \$650. I watched the entire process and felt the operator was quite skilled. I thought there might be clouds of soda during the stripping process but the blast is barely visible (see the first photo). You'll also note in the photo, the car is nearly complete and the soda build-up on the ground is minimal.

My car has original fiberglass panels and they are somewhat brittle after all these years. Even the soda can etch or roughen the surface of this glass (see the accompanying photos). Chemical stripping does leave a smoother more satisfying finish. On the rear valance, which was changed when the side pipes were added, the glass was newer and more resistant to surface damage. I asked the blaster to try not to go completely through the last layer of primer on the car to minimize surface damage and most of the time he was able to do this. While cleaning up the vent grills there was some fiberglass damage that occurred. While this will be easy to repair, it shows the potential of the blasting technique to cause significant damage. Any blasting process is going to be more aggressive on inside corners. This was clearly visible on the internal corners on the rear valance surrounding the license plate area. I asked the operator to be especially careful on the internal corners of the body and he left some paint along features like the edges of the hood rise and on the corners where the fastback body feature rises out of the rear deck to avoid etching those areas.

After the blasting process, I removed the tape and plastic and found soda absolutely everywhere. There was at least a quarter inch on the intake manifold, less in the interior



Here's a close up of the corner of the grille opening (left front side). You can see a small spot of significant blast damage at left front grill opening. Typically, this damage only occurs in tight quarters (although I've had a complete panel destroyed during the soda blast process, and it was due to operator incompetence—Ed).



In this photo, you can see a bit of paint remaining at inside corner. The idea here was to leave the paint as-is in order to avoid damage from the blast. A small amount of chemical stripper was then used to complete the process (but it was slow).

but even some on the dash, which was behind two layers of the plastic. The good news is that it vacuumed up with no difficulty and any minor residue rinsed or wiped away. I'd still try to limit the soda access but the cleanup only took about ten minutes. The ground in the area where we blasted was covered with a thin layer of soda but it won't

survive a reasonable rain and soda is both environmentally and physiologically benign.

Blasting the metal parts such as the vent grills or the headlight bezels was nearly instantaneous because the blaster could work much closer to the parts with the gun. I had screwed these parts down to a piece of plywood to keep them stable in the blast and they came out sparkling clean. Since I was replacing the windshield anyway, we were pretty direct with the blast gun and there was no damage to the glass at all. I was also replacing the stainless steel trim around the windshield and it came through the process with virtually no damage. This good trim result could have been due to operator experience.

The top surfaces of my car had as much as 0.040-0.050-inch of paint on them and the blast process stripped it away with little difficulty. When I went back with chemical stripper to remove the paint left in inside corners, I had to leave wet stripper in place for over an hour and use aggressive abrasion to remove the residue. In fact, it will take sanding to completely remove the paint residue shown in the last photo. I believe that on this car, I would have been stripping for days. By profession, I'm a chemist and I was very surprised that the paint was so resistant to the chemical strippers but I tried several products including aircraft paint stripper with very slow progress. The initial primer coat, which was probably epoxy, was the hardest to strip.

When I took the car to the body shop I expected to hear the final word on how the soda blasting worked out. I went back to the shop after they had the car for about ten days and they were very happy with the soda blasting process and the body in general. They said there were no repairs required as a consequence of the soda blasting (although they did apply a little filler to the damage shown in the accompanying photos, I don't think they thought it was from the soda.) There was minor work required at some stress cracks, at the bonding strips and a bit of repair at the right rear, quarter panel bumper attachment point. Otherwise the body was an undamaged original.

So, would I blast the car again? Yes, I believe that in my situation, with as much paint as I had on the car, the blasting was clearly the best. On the other hand, for one of my chapter mates who has an old lacquer paint job that has been color sanded and polished within an inch of its life, I think chemical stripping will be the right answer. Each car is going to require an individual decision and I would make this decision on the basis of trial chemical stripping, an estimate of paint thickness and what you think your labor is worth. I hope some of this information helps to minimize any agony you may feel in baring your next body. ♦♦