

Paint Stripping with a Blasting Cabinet

Article & Photo's by: Peter McDowell

In restoring motors over the years one problem that took me a long time to solve was what to do with the powerhead. I disassemble all the other parts, gearcase, transom clamp assembly etc and strip them in my blasting cabinet. You cannot shoot blasting media at an assembled powerhead. If any was to get inside major damage would result. To disassemble it, strip and clean it, then reassemble pistons, rings, rods, crank and bearings, re-torque all bolts and seal the block is a huge amount of extra work. There had to be a better way.

Many people refer to blasting cabinets as “sand blasters”, but media blaster is the more correct term as many different kinds of “media” may be used. Sand may have been the most popular originally but is dangerous because the dust given off causes silicosis in your lungs. Glass beads and aluminum oxide are two of the most common types of blasting media. You have to match the outlet nozzle of the gun with the hardness of the media you are using. When I first bought my unit it contained glass beads and had a “di-carb” nozzle. I’m guessing it’s some kind of carbon but am not sure. The unit did not seem to be performing well so I took the gun into the dealer. He said the outlet nozzle was worn over size and needed to be replaced. These units work their best when the external nozzle and an internal air nozzle are matched sizes. When one is worn over size or the correct types are not installed the maximum suction is not developed and the unit will not perform as designed.

I asked the dealer how to get maximum stripping power from this unit and he suggested I switch to using aluminum oxide instead of glass.



Aluminum oxide is one of the hardest materials we know of. That’s why it is usually used on sandpaper. He said it was more aggressive than glass and lasted longer so was actually less expensive to use even though it cost more per pound to buy than the glass beads. I would have to change the outlet nozzle to a “Boron” nozzle because the “di-carb” was not hard enough for the aluminum oxide and would wear out very quickly. Mine was already worn and needed replacing anyway and the Boron nozzle was not that much more expensive than a new di-carb nozzle. I bought this complete unit used for the ridiculously low price of \$195. For those of you that have been around long enough to remember, it was Bob Kerr who sold it to me. It is worth about \$2500.00 when new. The new nozzle alone cost \$185. However 20 years later I’m still using the same nozzle and my stripping time has been drastically reduced, which also saves wear and tear on my compressor.

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There are 4 places where blasting media can enter the powerhead.

- 1-The spark plug holes.
- 2-the crankshaft at the top of the block.
- 3-the intake hole on the front where the carburetor mounts.
- 4-the bottom of the block with the lower end of the crankshaft and exhaust passage.

The spark plug holes are fairly easy to deal with. I keep an old set of plugs around. For the top end of the crankshaft I machined a piece on the lathe to fit over the crank with an o-ring at the bottom to seal out the blasting media and a set screw to lock it in place. (see picture #1) For the carburetor hole I cut the mounting flange off of an old carb and welded the hole closed. (see picture#2) For the bottom of the block I took an old mid-section and cut it off a couple of inches below the top of it where the powerhead mounts and welded a piece over the hole. I also welded the shift arm hole closed.(see picture#3) Picture #4 shows all four base units and the three carb pieces. Picture #5 shows the blasting cabinet. Picture #6 shows the assembled gun and picture #7 shows the gun with the front section removed. The nozzle is the part in the middle. The piece on the left is a protective cover for the nozzle.

There is another kind of blasting media – baking soda. Because it is not a hard grit it is suggested as an alternative way to strip engines and other pieces of equipment without having to dis-assemble them. This sounds like an excellent way to save time and reduce costs.



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When I had my shop a customer approached me wanting a restoration and asked that if he got it soda blasted would I reduce my price. I had never heard of soda blasting, but said I would do it if he accepted all responsibility for the outcome. So if anything went wrong I would not be fixing it for free, there would be no warranty. He agreed and I painted the motor.

The first thing that went wrong was that because the motor was never disassembled all the grease was still in the swivel tube, the part that lets the motor turn left and right.

Normally the grease is removed, the parts are reassembled dry, painted and then re-lubed afterwards. When I sprayed the motor with reducer to remove oil and grease etc, I ended up with a greasy goo dripping out of the bottom of the swivel tube that took a long time to stop. I set it aside for a couple of days to be sure it was done, wiped off the

bottom end and proceeded to paint the motor. A couple of days after paint I discovered another problem with soda blasting. The soda is shot at the item to be stripped under high pressure and it packs into all nooks and crannies. The soda is alkaline and if not removed will cause the paint to peel off. So everywhere there was a crack or crevice on this motor the paint peeled off. I found out later that it is recommended that after blasting you need to wash down all parts with a mild acid like vinegar to neutralize the soda. I not sure how much this guy saved after paying me to redo all the problem spots.

You can also use spray on or brush on chemical strippers. Be sure to buy one that says "made for Aluminum" on it. Otherwise the stripper will oxidize the aluminum beyond the ability of the etching primer to remove the oxide layer.



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#7