

My Beautification Project

Situation,

I had a 2001 MC Maristar 210VRS that had started to show some serious oxidation on the starboard side. This is the side that gets 80% of the sun when docked for almost 5 months a year.

How I got started.

I did a lot of research on the web before starting this. The problem I ran into though was that there was good info on what oxidation was and how it forms. There was also good information on how to go about fixing it by compounding, polishing and waxing. But I had a hard time finding information that pulls it all together. I was looking for a one stop solution. I wanted information on the assessment, the process, the tools and execution.

What I ended up doing was basically reading as much info on each and making some decisions based on that education.

I read up on oxidation, compounding, polishing and waxing. What tools were needed for the job, and designing the process based on the collective information. Lastly Execution. This would have to be a fly-by-the-seat approach because no one I have read info from ever mentioned anything about this.

All in all though I did learn a thing or two. The nuances though are what most are looking for. I hope that I can relay this information so that others have a better understanding should they attempt this type of job.

Let's learn a little

What is Oxidation - Oxidation is the interaction between oxygen molecules and all the different substances they may contact, from metal to living tissue. Sometimes oxidation is not such a bad thing, as in the formation of super-durable anodized aluminum. Other times oxidation can be destructive, such as the rusting of an automobile or the spoiling of fresh fruit.

Wet Sand Paper – This is sand paper that is of a very high grit count per square inch. Normally in the 600-2000grit range.

Rubbing Compound – by definition rubbing compound is a polish that contains abrasives harsh enough to remove layers of "faded" paint/gel coat. It's normally used in conditions where extreme polishing is required.

My preference is for the 3M Super Duty Rubbing Compound. It's got an Almond color to it, and feels gritty to the touch. <http://www.boatersworld.com/product/177870052.htm>

Fiberglass Polish – This is the intermediary application that smoothes out the compound and preps and cleans the surface for the final wax application.

My preference is for the 3M Marine Fiberglass Cleaner & Wax. It's got a milky white color to it, and has a very light grit content. Strong smell too.

<http://www.boatersworld.com/product/177870169msk.htm>

Fiberglass Wax / (Marine Wax) – This is the final waxing application providing a top coat of protection against the elements and the sun.

My preference is for the Meguiar's Mirror Glaze Flagship Premium Wax. It has an orange/almond color to it, and is smooth feeling, not grit here, and there should not be, feels gritty to the touch.

<http://www.boatersworld.com/product/176650257.htm?bct=t13046503%3Bcimaintenance-boat%3Bcicleaning%3Bciwax-polish-compound>

I also used some additional waxes for different situations. I use the Turtle Wax 2001 (Green Bottle) for quick down-n-dirty jobs to freshen up the shine after a washing. It's light, simple and quick. I also use the 3M Marine Protective Liquid Wax for a more thorough wax job over the turtle Wax but not as deep a job as the Meguiar's, but still quick and easy. The 3M is the wax I'd use for every several week waxings.

Is there a difference in waxes? There is a difference from what I have found. Marine is a little longer lasting, it's usually thicker and costs more. The reality though is that they do perform better than the waxes used for the automobile. I have heard that the marine waxes have a higher UV rating, but I have found not evidence to support this).



Tools of the Trade

There are a few required tools for doing a job like this correctly. First you will need a 'professional' polisher. Yes there is a difference between the Craftsman \$59 machine and a real polisher, I know I have both! Until you have used both though, you don't realize how different they are.

Professional Polisher – You are going to need a high-speed 'Circular Polisher'. Some of the places I have found to get the basics were <http://www.superiorcarcare.net/how-to-use-circular-polisher.html> and <http://autogeek.net/bupo.html>. The 2nd link (Autogeek) also has a large assortment of quality polishers, bonnets, pads and applicators for different applications. This is where I currently acquire my equipment and have been very happy with the service and support. From Autogeek I purchased the **Makita 9227C Polisher** <http://autogeek.net/ma927po.html> & the

Advanced Curved Edge 8.5" Foam Pad Kit <http://autogeek.net/bfpc400.html>. The Makita 9227L rocks! I have never had a professional unit like this, but of course price in some situations does dictate quality. Controllable speed with a little dial right at your thumb was a new thing. It's amazing how well it holds speed regardless of the amount of pressure you place on it. There were a few times I put my whole 180lbs into it and it never slowed. It also has a slow startup feature to that if you are making contact with something it does not kick into full speed right away.

The pads. This was the first time I have ever used pads like this. I think the pads are AWESOME. They are smooth and soft, and have a large surface area that helps spread things out. No small concentrated areas.



Pictures of the Polisher variable speed controls, handle and Velcro easy change pad.



As you can see I have labeled the pads plastic covers so that I never get them confused. Simple and effective way to keep this neat and also helps keep the pads from drying out to quick in the bags. Be careful to clean the pads so they don't get mildew'd.

The Process

When I first starting researching this, I found this little tidbit of information;

#1.) If the fiberglass is faded and will not shine even after using professional grade products, you will need to do a wet sanding. (Professional grade products are those products found only at paint and body supply stores.) If you are not familiar with wet sanding it is suggested that you take the vehicle to a good body shop. Wet sanding or blocking takes time, patience and a lot of attention to detail. Sanding paper with grits in the 600 – 2000 or higher ranges are soaked for a 24 hour time period. Following the manufacturer's instructions, the paper is placed on a foam block and the sanding begins. Once the sanding sequence is complete and the surface is smooth to the touch it will then need to be polished. Using a professional grade super duty polishing compound purchased from a professional automotive paint supply store and a speed buffer the surface is buffed free of scratches. Most professional polishing products suggest a 3 or 4 step sequence to obtain the best finish. Be sure to read and follow all manufacturer instructions for best results. Again, do not be afraid to take this task to a good body shop. This is not a task for the amateur or faint of heart. **Source:** <http://www.protectall.com/artfiber.htm>. This was one of the building blocks for my 4 step in my process.

Before you begin... give the hull a fast washing to remove debris. Then gather a hose, your sand paper and a spray bottle.

At first glance, I was a little skeptical to begin to wet-sand so I decided to start small. I worked one-half of the rear of the boat.

Step 1: Wet Sanding

Wet sanding is a little weird at first but it's important to use ample amounts of water. Have the hose and a spray bottle handy to rinse the area you're working on. I ripped the sand paper into 4's.

I wet the area, and then wet the sand paper (in my case 2000 grit). I begin a back and forth motion doing a section at a time. I was doing 12"X12" then rinsing the residue away with the hose. In between I would spray the bottle to keep the heat down from the friction of the paper. The heat does build quickly, so the water helps big time. I then overlapped the next section and so-on till I had completed the 4 ft area in the rear of the boat. I then gave the area a good rinsing and quick re-sanding to remove all residue. I ran my bare hand over the area to try and feel for problems. I didn't find many but occasionally I found a davit or bump and gave that area a little extra attention to smooth it out. Once the water thinned, I noticed some of the deeper scratches I had. I individually sanded them using long strokes against the scratch to help blend them back into the hull. This is a pain in the butt process but helps the overall appearance. You don't want to neglect this as it set the stage to the remaining processes. You miss a scratch here and it will take 2x as long later to get it removed.

If you have a really bad oxidation problem, you might think about starting the wet sanding with 1500 grit then redo the process with 2000 grit. This will take to layers off the gel-coat and really set the stage for a deep new finish. I didn't opt for this and choose instead to go only with the 2000 and see what happens. I am only doing a small section so if I find I need to modify the process, not much time will have been lost.

Here are a few photos where you can see the sanding marks.



Step 2: Rubbing Compound.

This step was a new experience as well because I got to use the Makita polisher for the first time. Based on the reading I had done, I knew that the Orange pad in my pad kit should be the highest cutting pad and provide the best results against removing the scratches from the wet sanding. The amount of cutting the pad provides is important in reducing the amount of effort you have to put in with the polisher to get the same effect. This is a grunt effort process. I used a slow speed with the compound 700-800rpm. At this speed and the cutting the pad creates, the polisher literally tries to walk all over the place. After about 5 minutes of this I was ready to quit from the resistance I had to create. Ultimately I found that technique was a great factor in reducing fatigue. I started an Up-Down process over the entire area I was working on. Then repeat the process with a back-n-forth sweeping motion over a 1 foot section and moving continually down

the working area. I didn't use a lot of pressure letting the tool do the work; instead I used a multiple attack approach to cover the same area 2-3 even 4 times occasionally to get the job finished. I also found that loading up on the compound initially to get the pad wet helped. As the pad got more saturated, the easier it was to work it over the hull.

(NOTE: Not sure about anyone previous experience, but you should always wet the pad before applying any paste to it. It will help the application process. This goes for polishers and for orbital buffer bonnets. Just thought I would mention this)

Don't think that you only need one application, I did find that 2 applications of the rubbing compound helped to get some really stubborn areas fresh again w/o having to wet sand a 2nd time. (Hence the reason some people might want to start with 1500grit then move to the 2000grit as mentioned above.

- *Once the compound has dried to a haze, be sure to use a lint free cloth to buff and remove the compound. My preference is for flannel. I have a ton of this stuff sitting around from old bed sheets.*

Step 3: Cleaner Wax

The cleaner wax process is basically the same as the compound, only you change out the pad and increase the speed of the polisher.

I used the Yellow Pad for the cleaner wax and moved up to 1300-1400rpm. Using liberal amounts of cleaner wax will help the job go easier. I also found that going multiple directions as described earlier helps as well, only you keep going till all of the wax is distributed evenly and not thicker in any one spot.

- *Again, once the cleaner wax has dried to a haze, be sure to use a lint free cloth to buff and remove the wax.*

Step 4: Polishing Wax

This is the last step. The Polishing wax process is basically the same as the cleaner wax, only you change the pad again and increase the speed of the polisher even more.

I used the White Pad for the cleaner wax and moved up to a Medium-Hi speed around 2000rpm. This polisher only goes to 3000rpm so I didn't want to push it. Again using liberal amounts of wax will help the job go easier. The multiple direction principle again works to get good coverage and ensure your getting all areas at least 2 times. It will again also help get all of the wax distributed evenly.

- *After the polishing wax has dried to a haze, be sure to use a lint free cloth to buff and remove the wax.*

Completion Step: Review

Go over the boat with a keen-eye looking for problem areas. You should address them right away, plus you have everything out so it would not make sense to put additional work off for another day. Also, after some additional time drying, use another lint free cloth to buff and remove and residual wax or wax dust and give the hull its final shine.

Some truths I have come to believe!

Wet Sanding. It flattens out the surface so the pad doesn't see and high/low spots.

Speed. I am fairly certain that speed is the largest factor in accomplishing a quality job. The speed at which you run the polisher is crucial to each step and a proper speed-to-pad ratio is a science I will never learn 100% but I found specific speeds that seems to work better than others. This of course will vary from person to person, but see the steps above for the speeds I used.

Movement. Of course the most important thing with a job like this is to never let the polisher stand still. Each of the speeds though were funny. Slow with the compound is a fight. You fight the polisher every step. As the speed increases the fight gets less, but the risk increases. I did learn a little. I tried to polish around the lettering and burned some of the lettering. I can fix it but it just goes to show.

I am happy so far with the results but time will tell if it holds up this season.

Patience:

I found there is no concealed area to practice on, so less is sometimes more. Do small sections 4-5ft. Then complete all steps in this area before moving on. If you have to leave the job, at least you will have completed everything up to that point.

Here are some additional photos of my results.

Good luck,
K.G.

Original Pics



Wet Sanded



Cleaner Waxed



Final Polish



Additional Photos:





Wet Sanded



Final Result





1.



2.



3.



4.

