Ask Dr. Gel

by Dave Weakley

Dave Weakley is the owner of American Boat Restoration and has been helping Northeastern boaters keep their boats in fine trim and good repair for over 40 years.

"Email me or call me with your questions! I'll be happy to help you out"

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Here comes the sun...

the sunscreen, hat, compound, sealer glaze & wax!

"Dr Gel, Can you offer some advice on how to compound and wax my boat? What materials should I use?" **------ Ryan**

"If you are going to compound and wax your boat you need the right materials and equipment"

Here's what you need; a good particle mast; compounds dry out your sinus and skin, eye protection and light weight gloves, micro fiber rags, a variable speed buffer, not an orbital buffer! Orbital buffer is good for polishing but not for compounding because you won't get the heat from it necessary to get a shine. Be sure to get a buffing pad; different from polishing pads. Use a good quality wool pad, I use a 3M doubled sided pad. The pads are pricey, but you get what you pay for. Don't bother using a foam buffing pad as they build up static electricity and will not produce a good shine.

"As a general rule; buffing without a little heat you're not going to get the shine"

Start with using a product I have found to be excellent called Presta Supercut, course compound. Apply to the boat using a micro fiber rag. Put enough on to keep it moist; too much will sling all over and make a mess. All buffers spin clockwise so put compound on the boat and work right to left in small areas so the compound stays moist and it will avoid loading up your buffing pad. Be careful buffing around registration numbers, vinyl graphics and stripping tapes!

After using Presta Super Cut wipe the residue off the boat. Clean the pad with a tool called a spur. I do not recommend the side of a screw driver as it tends to pull the buffing pad apart and turns the pad black. Repeat the process using Mirka 35 compound to get rid of swirl marks and minor scratches caused by the coarse compound. Again wipe off the residue and clean the pad. Next apply the TR-301 Sealer Glaze. It can be applied and removed by hand but for best results use the buffer. Wipe the boat down one last time and apply a good marine UV protecting wax. Wax is essential because the Sealer Glaze does not have UV protecting properties.

If the gelcoat has become badly chalked and it comes off onto your hands and clothes when you rub against it wet sanding and compounding will be required to bring the shine back.

Here is the basic wet sanding process;

I test spot an area starting with a professional grade gelcoat compound. If that does not remove the fade then I will wet sand using a sanding block starting with 1000 gt. During the process the sandpaper is completely saturated with water. I work 1 sq. ft at a time all the way around the boat being very consistent on how much sanding is done. The gelcoat must be sanded evenly otherwise the boat will look like a leopard. Depending on finish desired 1500 and 2000 gt is used. Final applications are professional grades of compound mentioned above, sealer glaze and UV protecting wax.

"Hello Doctor Gel, I purchased a new boat last summer and had it winterized and bottom cleaned. I was told an acid wash was used on it. Do I need to do anything to the hull before I put it in the water" **-------- Dan S.**

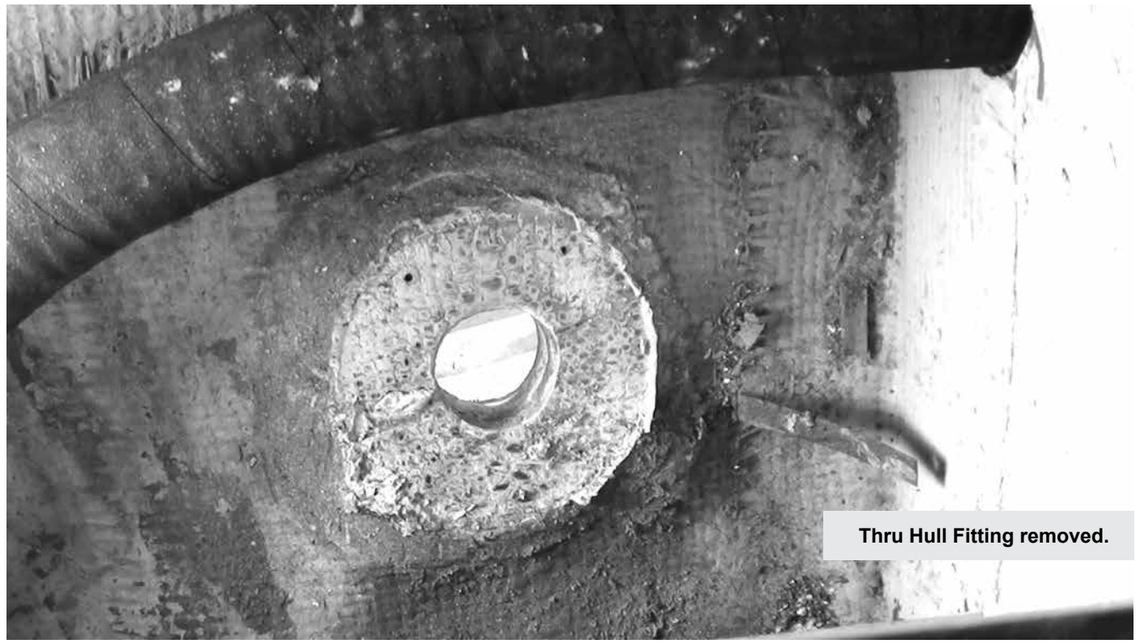
As mentioned in many of my previous articles;

A new boat comes from the factory with sealer glaze on the gelcoat. If the hull is acid washed the protection has been removed. Gelcoat is porous and you need to re-apply sealer glaze. This also helps to prevent but will not eliminate the possible development of osmotic blisters. The best way to protect the hull and avoid having to apply sealer glaze every year after acid washing is to apply epoxy barrier paint from the water line down. You can acid wash the epoxy barrier every year. Epoxy barrier paint is the best protection against osmotic blistering. It is impervious to water where as polyester gelcoat is not. I have seen osmotic blisters on brand new boats that were in the water just one season.

*Email us - boatrepair@aol.com other questions and/or product purchasing info.

"Once the gelcoat is refurbished back to a nice shine it is very important to keep it waxed!"

"Waxing today will keep the Doctor away!"



Thru Hull Fitting removed.

Eliminating Unwanted Holes

"Dr. Gel, I really enjoy reading your articles in Boating on The Hudson and Beyond. Thank you for sharing your knowledge.

I have a question for you. I have several sea cocks that I am removing and I need to "plug" the holes. Some background, 1978 Grand Banks 36 classic, 1' and 1.5' holes, the hull goes from a about 1 1/8" thick to 3/4" solid glass! (I was very pleased to see that!). I have read several versions of filling these holes and I need to do this right. I have the tools and have done epoxy and glass mat work before.

If you could provide some guidance, it would be greatly appreciated."

J. J. FSO-MT
U. S. Coast Guard Auxiliary

The fiberglass repair has to be as strong as the rest of the hull. Begin with assembling the proper safety and repair equipment.

Good quality respirator, Safety glasses, Tyvek suit, Nitrile gloves, Air compressor, Air hose, Small 90∞ Angle grinder to hold 1½" 36 grit grinding discs,a good shop vacuum, Rags, Acetone, Razor knife, Fiberglass matting, Epoxy or Vinyl Ester resin, Hardener, Mixing cups, 2" Chip brushes,3/4" Masking tape, Cardboard, Wax paper & Stir stick and Plastic spreader.

Don't attempt the repair with a big grinder; it's important to keep the repair area small and be surgical. This will help to keep dust down to a minimum; especially helpful if you are working inside the boat. A tyvec suit will protect your skin so you won't have fiberglass particles feeling like tiny arrows sticking in your skin.

Repairing holes has to be done correctly otherwise there will be a risk of taking on water.

Through the years I have had to repair previous repairs that failed. Most were "plug" repairs and not tapered.

When a boat is first manufactured all the resin and fiberglass chop/layers cure as a single component. It is at its strongest state. Once a hull has been damaged all repairs become secondary bonds so it is important to use the proper resin type for a strong repair that will withstand time. Never use a weaker resin than what the boat was built with. I recommend using epoxy resin to repair the Grand Banks which was built using polyester resins. Epoxy resin adheres to polyester better than polyester adheres to itself. But! You cannot use epoxy resins if you intend to apply new gelcoat.

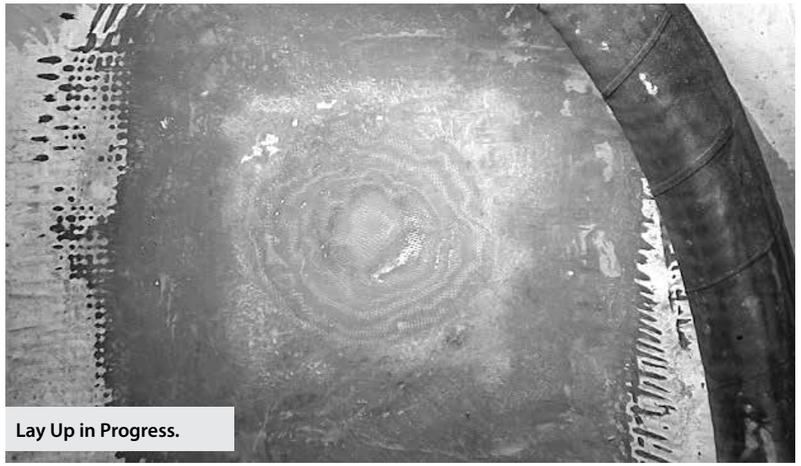
You must use vinyl ester resins for the repair.

If you can access the inside of the boat to do the repair it will be a stronger repair and gravity will be in your favor during the process.

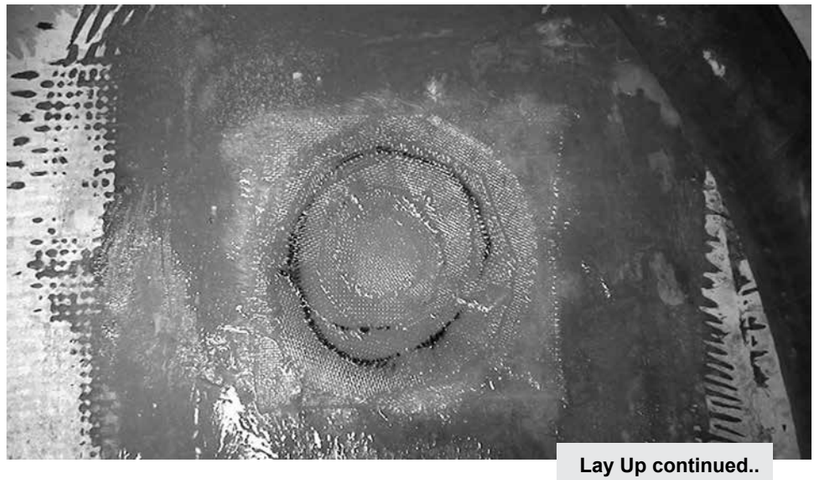
- Start the repair by grinding out the inside (if accessible) of the hole at a nice taper using the vacuum held close to the grinder recouping the dust. Grind all the way around the hole for a minimum diameter of four times the thickness of the hull. The more gradual the taper the better the strength of the repair and bond will be.
- Cut out round pieces cut out pieces of biaxial mat a little larger than the size of the hole. Cut another piece ½" larger than the first and repeat attempting to replicate the thickness of the original laminate. Lay the cut pieces one on top of each other ending with the first, smallest piece on top.
- Go under the boat and tape a piece of wax paper larger than the size of the hole over the hole.
- Cover a piece of cardboard much larger than your largest piece of fiberglass mat and cover one side with wax paper using tape to secure the wax paper tightly. Mix the epoxy resin and hardener; Next using a 2" chip brush immediately proceed to wet out your smallest piece of fiberglass cloth on the wax paper sided cardboard with resin. After applying use a plastic squeegee lightly run the edge of the squeegee across to remove the excess resin. Amount to mix will depend on size of hole.
- Go inside the boat
- Brush an even coat of activated resin around the inside of the tapered hole; apply enough to be tacky and be careful not to use an excessive amount.
- Carefully lift the first wetted piece of fiberglass cloth and lay on the hole leveling out using a chip brush; check for air bubbles and flatten out gently if needed. Air bubbles will weaken the repair.
- Repeat procedure; it is not necessary to add additional resin to the previous layer applied.
- It's not necessary to use an excessive amount of resin; the strength of the repair is in the mat. Too much resin will create a large amount of heat and may crack.
- Let set over night
- Get your grinder back out and grind flat again using the vacuum assist. As you grind you will see nice rings like you see on a cut tree stump.
- On the outside of the boat pull the wax paper off.
- It is likely you will need to apply a couple of layers of fiberglass cloth or mat and epoxy resin on the outside of the hull.
- To do this, begin with grinding a slight "belly like" indentation into the repair. Then apply the cloth and resin as you did inside.
- Let set over night; Grind flat
- Finish with barrier coat or gelcoat.

This method of repair can be used to repair tears, punctures, crushed fiberglass and delaminating areas.

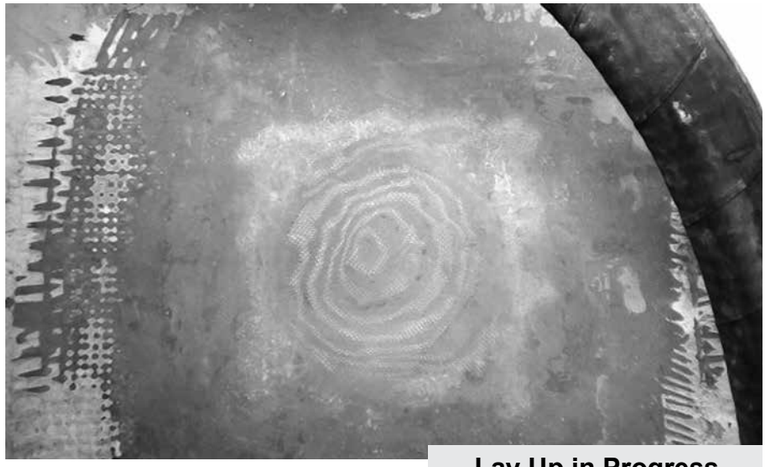
Jeff has had some experience in fiberglass work which is helpful. I am confident he can do a good repair following these procedures.



Lay Up in Progress.



Lay Up continued..



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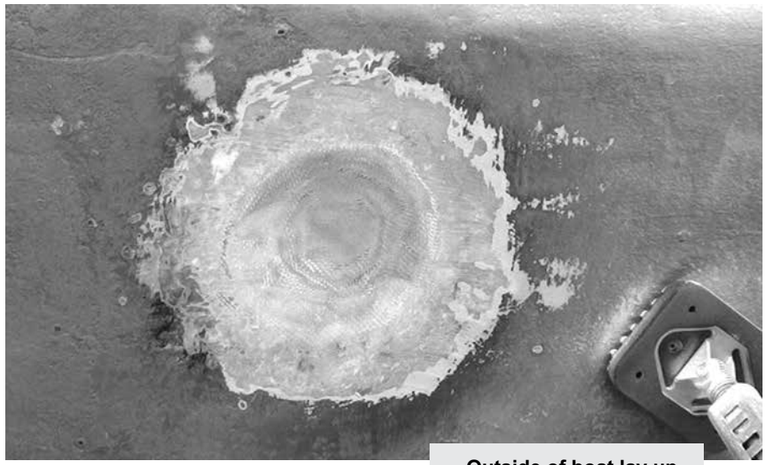
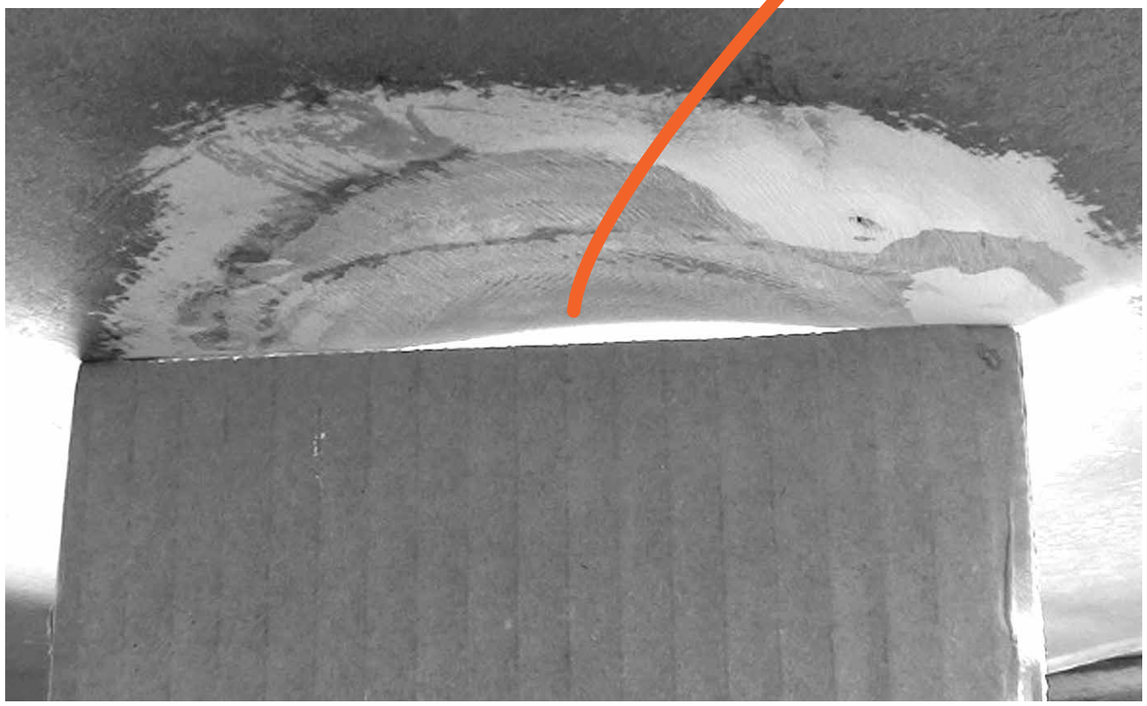


Outside of boat lay up in progress.



Indentation shows additional lay up needed.