Comet Class Association

How to Repair Gelcoat Scratches

Andrew Simmons, Comet Dinghies. Perihelion 97

Firstly, you have to decide what you want to achieve

In theory it is possible to make the oldest and scruffiest dinghy look brand new but at what cost? Done by a professional, it can be very expensive and, in many cases, not worthwhile or even necessary. Do it yourself, it can be quite rewarding and satisfying if it all goes well but frustrating and disappointing if it doesn't!

Over the last 30 years I have developed a "system" and if you follow this closely then you will have the best chance of success.

Let's start with an explanation of what the once beautiful shiny skin of the dinghy is:

It is called gelcoat, a coloured polyester resin that might only be 0.5mm thick, that's right, half a millimetre or 1150th of an inch. The only reason it's shiny and smooth is because the dinghy is moulded in a mould which basically is an "inside out" boat. The real structure of the dinghy is GRP or resin and fibreglass. The resin on dinghies is clear, but on bigger boats the first layer of GRP might be coloured to match the gelcoat.

Scratches show up more on darker colours and seem to look lighter. Technically, the way to "remove" scratches is to sand the area of the scratch down until it's just below the level of the deepest part of the scratch, and the scratch has disappeared. Smoother or finer "wet or dry" sandpapers are then used and finally a "rubbing polish" is used to bring back the gloss.

Right, let's go through the whole process step by step:

Wash the boat thoroughly to remove all traces of sand and salt. We use "Cif'. We just hose the boat all over and while its wet squirt Cif on and then give a good rub with a carwash brush or even a scrubbing brush in the non-slip areas. Give it a really good rinse. It will need two of you to lift and put the Comet upside down, supported on each corner by a chair. The Comet needs to be at a correct height to be able to work on it comfortably. Now the dinghy is upside down, make sure it is really clean and there is no grit etc in the gunnels. Believe me,

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this can get caught under your finest Wet & Dry paper and add more scratches. A wet small towel rung out as tight as possible is great for a final clean up.

Have a look at what you have revealed. I would take stock, rather than go mad and start sanding the whole hull. A "waterline" colour scheme with a light grey hull bottom hides the scratches well but a nasty scratch on the hull side near the bow can look awful. As well as scratches, what you might also find are a few gelcoat cracks, faded gelcoat and chalking.

Chalking is common on some colours and can usually be sanded out. Fading on a Comet is usually confined to the bottom of the transom and the lower sides at the bow, in other words the area not covered by the deeper than usual top cover. A certain amount of fading will go with sanding but sometimes the fade is all the way through the gelcoat. Gelcoat cracks are another story but at this stage could be sanded a bit to smooth them up if they seem a bit pronounced.

What I would do at a first attempt is to identify a particular scratch that is spoiling the look of the dinghy and finish that one first, see if you enjoyed doing it and see if it’s successful.

Firstly I would attempt to remove the scratch by sanding only. I would start with a 180 grade sandpaper, course enough to remove gelcoat fairly quickly but not too rough. We stock 3M brand that I know and trust and would be very wary of using anything else. A cheap sandpaper brand might do more damage than good. All sandpapers and wet & dry sheets are folded in half along their length, then cut in half, then folded into three. This makes a nice stiff piece to hold about 4" square. Hold the folded sandpaper with three fingers on the top and the thumb underneath. Sand along the length of the scratch keeping the sanded area within I" either side of the scratch. After a bit of sanding (maybe 1 minute for a 6" scratch) dust the area off and see if the scratch has gone.

Sometimes one end of the scratch will go first but the other end will take longer, due to the scratch being deeper one end. If necessary, carry on sanding. It's difficult to put a time on it but there comes a point when you have to decide the scratch is too deep and needs filling with gel coat.

How to assess when (and where) sanding alone is not enough

If we carried on sanding a deep scratch there is a risk that the gelcoat will get so thin that you will begin to see the GRP which will show up as a darker patch.

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Gelcoat is more translucent than paint and some colours like Yellow and White are worse than others. The deck grey is quite good though. One word of warning. If there is evidence of previous sanding and polishing by an earlier owner or you're working close to an earlier repair, be careful. The thickness of the gelcoat might only just be enough to cover and wouldn't be thick enough for a lot of sanding. A typical place to watch out is around the deck edge or gunnel, where previous owners might have removed previous scratches.

To fill any deep scratches, you need to fill them with a matching gelcoat. Firstly, using a piece of coarse sandpaper sharply folded, the end of a round file or the tip of a knife, scratch along the scratch to make it a bit bigger and make sure it is clean and fresh. Dust off the scratch with a dry paintbrush.

Stir the gelcoat in its tub and then dollop a blob about 25mm x 5mm thick onto a clean piece of unprinted cardboard. Add 2 drops of Hardener and 2 drops of the MW liquid to the resin and mix well. Using the end of an old screwdriver which must be clean, blob the resin into the scratch. Don't worry about trying to make it flush. Its better if it’s a few millimetres above the surface. It will go on wider than the actual scratch but don't let it go on too wide, 5mm at the most. When the gelcoat has "gone off' or set, which depends on the temperature but we usually leave it overnight, the gelcoat blob should be rock hard with a matt finish. The MW liquid is a mixture of a wax in styrene. This wax rises to the surface and forms an airtight skin over the resin enabling it to set rock hard. If you were dealing with a deeper repair then you would need two coats of gel and you would only add MW to the second coat and make sure it covers all the first coat.

To remove the excess gelcoat, I would avoid using sandpaper to sand the gelcoat blob down. We carefully use a tool like a Surform or a coarse file to quickly make the repair flush with the surrounding area. If you've filled the scratch before any sanding, the file should slide over the glossy original surface and not scratch it. If you've sanded with 180 sandpaper before filling you have to be a bit more careful to avoid extra scratches. Try and get the repair as flush as possible but we might use 180 sandpaper on a 2" x 1" plywood sanding block. What you're trying to see is the gelcoat repair only as wide as the actual scratch rather than a "smoothed over" wider area of new gelcoat.

Let's assume the scratch is gone and continue the process.

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Wipe the sanded area to make sure all the scratch has definitely gone. Don't be tempted to think that the smoother wet & dry grades will get rid of the scratch, it would take ages. Smoother grades are really used to convert the sanding marks to finer sanding marks!

Define the area you will sand by using a permanent marker pen like a Sharpie. Draw a line around the outside limit of the sanded area. You could also draw a few lines across the sanded area. Now it's time to use the 400 grade wet & dry paper.

With a bucket of clean warm water, hold the wet & dry in the same way as the sandpaper and sand the area back and forth in a direction at right angles or 90 degrees to the earlier sanding. The marked outline will help you sand a slightly bigger area than before. As for actual sanding technique, I would recommend being quite precise and rub back and forth over a 6-9" band moving sideways as you go. If you're doing a large area, make sure the next band overlaps the first one a bit. I know it sounds a bit silly, but after a while you almost hear and feel when the 400 grade has got through all the 180 grade sanding.

Obviously, all the black marker pen lines should have gone. Wipe the area clean and dry and have a really good look at your handiwork!

If the scratch was 6" long say, you should be looking at a uniform sanded area about 4" x 10" but could be as big as 6" x 12". Look really carefully and all the sanding lines should be at right angles to the line of the original scratch and 180g sanding. If any earlier 180 marks are visible, mark them with the marker pen and do a bit more sanding with the 400. If you are sanding a large area, the wet & dry paper will soon lose its' edge so I would get into a routine and turn it around 90 degrees after each sanded "band". After you've done this four times you've got 2 other unused wet & dry sides to use, so it can last a reasonable time.

The water in the bucket will have gone a bit cold by now so I would change the water and start using the 800 paper. Don't forget to mark around the edge of the sanded area. The process is just the same as before. Rather than sand "opposite" the previous grade, you could try sanding on the diagonal. Never sand in a circular motion or in a random manner.

When you think you've finished, wipe the area and let it dry. The sanded area should be quite a bit bigger now and all the sanding marks should definitely be in this new diagonal direction. Pay particular attention near the edges of the

area. There is nothing worse than seeing some 400 "marks" after the final high gloss polishing.

If you're really keen, change the water again and now repeat with 1500 grade. I don't know why but these sheets are a different size so we just fold them and not cut them first. I usually flick water on the area to sand with the wet & dry and start sanding at the top of the area, dipping the wet & dry in the bucket now and then. 1500 grade can seem to "stick" and slip out of your hand a bit. Don't forget to sand at right angles to the 800 grade.

Wipe it all down and have a good look. What you hope to see is a satin almost semi-gloss finish with no 800 marks at all. Here we would now use a powerful electric polisher with a lambs wool head and a fine polishing compound. If what you've got is a genuine 1500 finish, you can quite easily get a good gloss with a rubbing polish like T cut and a bit of elbow grease!

With a bit of experience, you will find that you don't need to always start with 180 grade, and can start with 400. Sometimes what looks like a scratch is a rub of paint from another boat or buoy. This might rub out with just polish but is usually easier to remove with 800 and 1500.

I ought to mention the use of "tinted polish/waxes". These are available in various colours and are quite clever as they leave a coloured wax in any tiny pinprick holes or gelcoat cracks.

Sometimes after extensive sanding and polishing on a dark colour, you might see tiny dots in the surface which fill up with polishing compound which is usually white. These dots are tiny air bubbles trapped inside the gelcoat. Wash the area with warm soapy water, dry thoroughly and try a coloured polish. I think it's good for gelcoat cracks because although they can be ground or sanded out down to the GRP, converting them into deep scratches, and then filled, it is often best to leave them especially if they are on an inside corner like the cockpit floor/side one. They can be sanded and polished to make them smooth, then washed and dried out and a few coats of white tinted polish/wax rubbed in. If you're lucky this will disguise the crack and also keep the water out and making it worse if it freezes. The crack is usually just limited to the gelcoat, and the GRP is still sound underneath. If the area is cracked because of a real bash then it will feel soft and require a proper GRP repair.

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