

# SKEETA AND NIKKI REPAIR GUIDE

Both Skeeta and Nikki are made from closed cell EPS foam and have a tough fibreglass and carbon fibre skin moulded over the outside, they are unsinkable. The outer finish the hull is 2 pack paint, the same as most cars.

They are relatively easy to repair if you stick to a few basic rules;

1. Be aware that resins and fibreglass are dangerous to your health, be sure to obtain the appropriate safety equipment and keep chemicals in a safe place away from others, especially children.
2. Be aware that fibreglass dust is dangerous to your health, always wear a mask and gloves to avoid inhaling dust.
3. Always use **EPOXY resin** when repairing the hull, polyester resin and thinners or acetone will severely damage the foam core.
4. Make sure you work in good conditions; the temperature should be between 13 and 25 degrees Celsius. A temperature colder than this will affect the cure of the resin, hotter than this the resin may cure too fast and make the repair difficult to complete in time.

Before you start read through this guide, if it all seems too difficult seek some advice from someone who has had some experience with repairs. Professional boatbuilders are usually very helpful and will guarantee their work. If you are in need large major repairs, they may be better done by professional boatbuilders.

Most small repairs should be covered by this guide, they are broken into 3 categories:

1. Dents
2. Holes
3. Finishing

# Dents

These are when something hits the hull but does not puncture the surface and leak. The surface should be carefully inspected, if there is any delamination, cracking or softness, the area should be treated as a hole.

## Equipment and Materials required

How much you need depends on the size of the repair

Face Mask	To protect your lungs from breathing in harmful particles
Gloves	Latex or Nitrile Gloves work well, better if they are disposable as washing epoxy off gloves is difficult
Goggles	To protect your eyes from dust
Masking tape	20mm and 50 mm
Masking paper	any clean paper that will not leave any residue on hull
Sandpaper	60 grit and 100 grit sheets
A sanding block	cork block works well
Plastic putty cards	
Polyester filler	Car body soft sanding filler
Soft cleaning rags	Cotton T-shirts work well
Epoxy laminating resin and hardener	For large dents
200gram E-glass plain weave fibreglass	For large dents
Paint brush (does not have to be an expensive one)	For large dents
Mixing containers	For mixing Epoxy
Mixing sticks	For mixing Epoxy
Acetone	For cleaning epoxy

## Steps

1. Using the 50mm masking tape put a layer of tape surrounding the hole a good 150 mm from the edge of the dent, this; will give you a border you can stay within. You are best to put masking paper around the damage outside the masking tape to protect the rest of the hull as well.
2. If the dent is small the area can be sanded with 60 grit sandpaper to the outer edges of the dent, (but no further) and filled with polyester filler using putty card.



3. Do not overfill the area, it is much better to fill several times and sand with 100 grit and sanding block lightly between fills than to try and over fill the area and then sand it to the right shape. Otherwise, you may end up sanding a lot bigger area and take longer to get the correct fairness and smoothness.
4. If the dent is large, it is better to sand with 60 grit and then mix up some epoxy resin and wet out several layers of fibreglass to build up the thickness rather than fill only with filler. After fibreglass is dry, then treat it the same as a normal small dent.
5. When smooth go to finishing section.

# Holes

A hole is anything that the fibreglass skin has been penetrated and is a little bit harder to repair than dents.

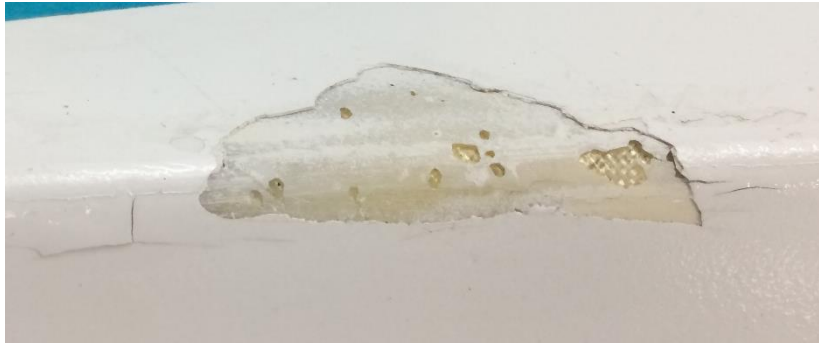
## Equipment and Materials required

How much you need depends on the size of the repair

Face Mask	To protect your lungs from breathing in harmful particles
Gloves	Latex or Nitrile Gloves work well, better if they are disposable as washing epoxy off gloves is difficult
Goggles	To protect your eyes from dust and resin
Masking tape	20mm and 50 mm
Masking paper	or any clean paper that will not leave any residue on hull
Angle grinder	with 60 or 80 grit discs
Sandpaper	60 grit sheets
A sanding block	cork block works well
Plastic putty cards	
Soft cleaning rags	Cotton T-shirts work well
Epoxy laminating resin and hardener	For large dents
200gram E-glass plain weave fibreglass	For large dents
Peel Ply	For smoothing out after glassing - don't worry about this if you can't get any
Piece of EPS foam	if you have a big hole to fill
Paint brush (doesn't have to be expensive)	For large dents
Mixing containers	For mixing Epoxy
Mixing sticks	For mixing Epoxy
Acetone	For cleaning epoxy
Q-cell filler powder or similar	
Polyester filler	Car body soft sanding filler (any good Auto store will have this)
High build surfacing primer	Any good Auto store will have this
Polyurethane or Acrylic topcoat, Toyota commercial van white (This is a close match to the hull paint colour)	Any good Auto store will have this

## Steps

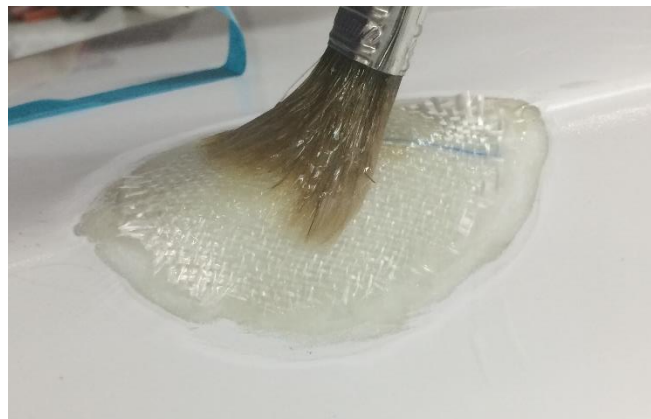
1. Firstly, using the 50mm masking tape put a layer of tape surrounding the hole a good 150 mm from the edge of the hole, this will give you a border you can stay within and protect the rest of the hull.
2. Then, preferably with a small grinder grind (although with some had sanding you can do this by hand) the damaged area through the layers of fibreglass right down to the foam core.

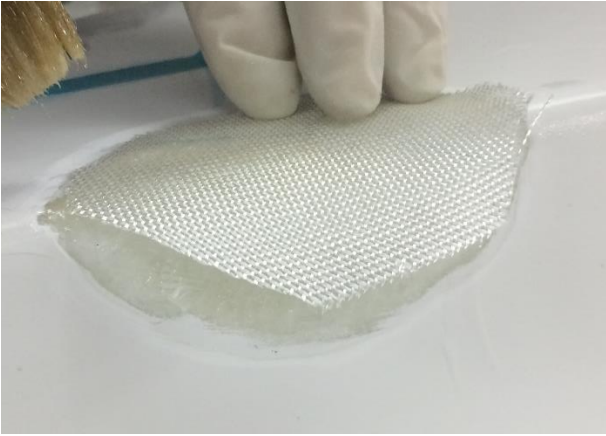


3. Grind all the broken areas away so there is only good unbroken fibreglass left around the hole, then taper the edge for about 50mm back into unaffected hull to create a scarf.

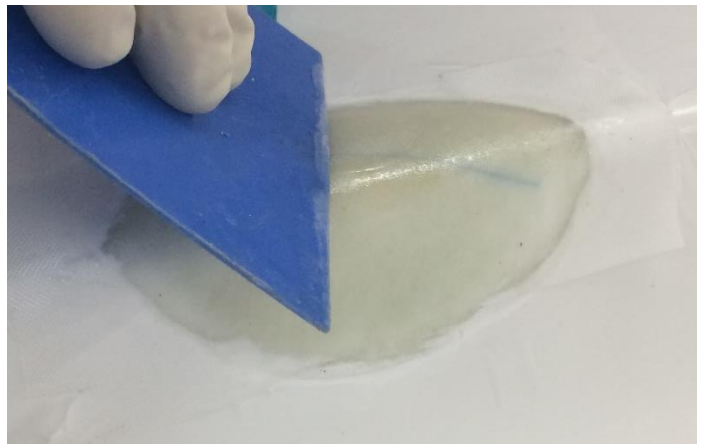


4. If there is a big puncture hole you will have to glue a piece of EPS foam in with epoxy, wait for it to cure and then smooth off to the correct shape.
5. If it still doesn't match the correct profile mix a small amount of Q-cell with epoxy and fill area till the correct profile is achieved, you will have to carefully sand using 60 grit sandpaper to get the right shape before glassing.
6. Then cut 3 pieces of 200gram fibreglass into shapes to match the grinded area, the first layer should match exactly the shape, the second layer should be 10mm smaller all around, and the third and top layer should be 10mm smaller again.
7. Mix some epoxy resin and carefully saturate the glass one layer at a time till all layers are in place. Be sure to not put too much resin on, you only need just enough to saturate the glass.





8. Add Peel ply on top of the layers, wet it out a little bit and use your putty card to squeeze excess resin out (you can skip this step if you don't have peel ply)



9. When thoroughly cured, sand glassed area with 60 grit sandpaper
10. Go to the finishing section of this guide.

# Finishing

## Equipment and Materials required

Face Mask	To protect your lungs from breathing in harmful particles
Gloves	Latex or Nitrile Gloves work well, better if they are disposable as washing epoxy off gloves is difficult
Goggles	To protect your eyes from dust
Masking tape	20mm and 50 mm
Masking paper	or any clean paper that will not leave any residue on hull
Sandpaper	100, 180 and 240 grit sheets
Wet and Dry Sandpaper	1000 Grit
A sanding block	cork block works well
Plastic putty cards	
Soft cleaning rags	Cotton T-shirts work well
Acetone	For cleaning epoxy
Polyester filler	Car body soft sanding filler (any good Auto store will have this)
High build surfacing primer	Any good Auto store will have this
Polyurethane or Acrylic topcoat, RAL 9016 Traffic White (This is a close match to the hull paint colour)	Any good Auto store will have this
Car cutting polish	Any good Auto store will have this

## Steps

1. After the repair is filled and is fair and relatively smooth, sand again using sanding block with 100 grit sandpaper.
2. Then you can apply some high build surfacing primer, be sure to cover all the sanding scratches.



3. When the primer is dry, use a plastic putty card to fill where needed with polyester filler, do not overfill the area. It is much better to fill several times and sand again with 100 grit and sanding block lightly between fills than to try and overfill the area and then sand it to the right shape. Otherwise you may end up sanding a lot bigger area and take longer to get the correct fairness and smoothness.





4. When the filler is dry sand with 180 grit sandpaper a little wider than before and apply another coat of high build surfacing primer, again making sure that all the sanding scratches are covered.



5. When dry, sand again with sanding block using 240 grit sandpaper, this time sanding even wider area again.
6. Topcoat can now be applied using a few thin coats if you are spraying with automotive repair spray can, be sure to cover all the sanding scratches.
7. Gradually build up a good thickness feathering out on the edges so it is easy to blend in with the rest of the paint.
8. When dry, sand without sanding block using water and 1000 grit wet and dry sandpaper. Dry off and check if surface is flat, if not carefully sand some more.
9. Be careful not to sand through topcoat, if you do, you will have to repeat the topcoat process.
10. When the surface is all smooth, flat, and even, polish with car polish to match the surrounding area.
11. On some boats the bottom finish is flat with little gloss. To match this very gently sand with 1000 grit sandpaper again.