

## Kevlar Crisis



A gust of wind slams your canoe against a cedar and a shot-like crack rolls across the water. You paid a lot for your Kevlar canoe and that rifle-crack sound is sickening.

Don't worry. You bought one of the most repairable canoes on the planet. Mending a hole, tear or stress crack in your Kevlar / fiberglass canoe starts with a damage assessment. The following sequence leads to a more and more complex repair.

- Broken chipped gel coat
- White lines inside, opposite the point of impact
- Damaged area softer than the surrounding hull
- Breaks, cracks in resin but the Kevlar is not torn
- Exposed, ragged (fabric) misaligned edges
- Fabric and foam layers sheered, pieces of hull missing

Start on the interior Fixing serious damage often means trimming ratty edges to allow realignment. Don't be afraid to use wire or splints to get a fair shape back.

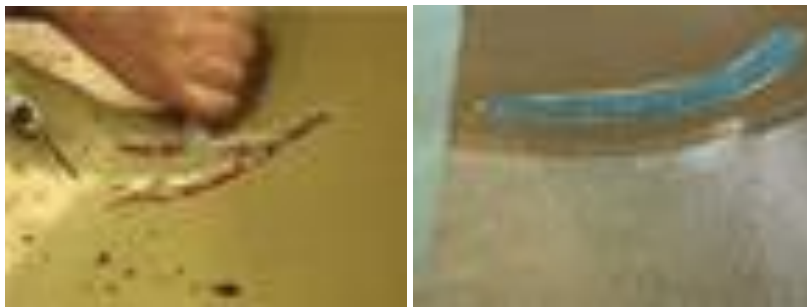
The next step is bar-tacking the edges with [CanoeFix Adhesive](#) or strips of resin saturated fiberglass between the wires, like butterfly bandages on a cut. High density structural foam or marine filler works to fill deep voids.

Remove any splints and wires. Apply a Kevlar and/or fiberglass patch to the interior, Kevlar first, then a larger fiberglass patch, followed by an even larger patch of peel ply. Pull the peel-ply off tomorrow.

With natural Kevlar, non-gel coat canoes, you can often stretch a piece of micro-perf film tight over the exterior wound and backfill with resin when you make the interior repair. The outside will be done when the film comes off. The [NWC Composite Repair Kit](#) includes a piece of micro-perf film and peel-ply.

This method of repairing holes and tears provides a solid foundation for exterior gel coat or cosmetic repairs.

## Royalex Gash



Heat and vibration can do bad to Royalex. Over time, a 100-watt bulb will melt a neat round hole, a rub on a canoe trailer can cut a clean trapezoid. Little wonder the engine cowling on the ferry across Lake O-my-Gosh left a ragged eight-inch gash.

Royalex is very fixable. Royalex consists of a multi-layer vinyl-ABS-foam sandwich. The two part epoxy adhesive filler included in our [Royalex Repair Kit](#) makes a durable repair. The steps to fix a hole, slash or frost crack are pretty much the same.

Preparation is critical. Remove dirt, grease, oil and surface accumulation with a detergent and water. [partially] Remove the gunwale if you're fixing a frost crack that runs underneath the gunwale.

Cut away crushed, spongy core or deformed edges. Widen a frost crack and drill a hole at the end to prevent it from progressing. A saw blade, coarse file and a utility knife will open the wound. You need a solid foundation for new fillers/resins to adhere too.

Work a wide gash or larger hole in stages. Back the exterior side (plastic or stretch film first) to keep filler from sagging through. Add layers of filler to replace missing core material.

Most of the patch work takes place on the inside of the hull. Spread a thin layer of the flexible epoxy filler onto the previously sanded and cleaned surface. Immediately, place a strip of fiberglass cloth in the wet epoxy, press into the resin, top it with another thin layer of blue resin, just enough to fill the weave of the cloth.

Finally, you can sand and paint the both sides of your repair. The Krylon Fusion spray paint found at many hardware stores will adhere nicely to the vinyl skin of your Roaylex canoe. The colors are generally a close match. Give your canoe a coat of [303 Protectant](#) and you're done.