

Deck Repair Grady White Runabout

An older Grady White runabout with pedestal mounted captains chairs had suffered a structural failure at one of the pedestal bases. The deck in this area was cored. Inadequate sealing of the fastener penetrations through the nonskid deck had allowed leakage to saturate and weaken the core. With collapse of the core, one of the pedestal bases sank and cut the decking. Pre-work investigation showed the base had been remounted. There were two sets of holes indicating the base had been removed, rotated and reinstalled in new holes.

After consultation with the owner about repair options and costs, the client elected for a simple deck peel and core replacement. The boat is an older vessel and the overall condition was far from pristine.

The deck construction was a layer of pattern nonskid, plywood core and a thin matte glass underdeck. After marking the centerline of the pedestal base outside the cut area, sounding the deck determined the extent of the deck core saturation and deterioration. Based on the extent of the damage, cut lines were marked forward and aft of the pedestal base. The side cuts followed the transition between the pattern nonskid and adjacent smooth gelcoat finish. A corded Dremel MultiMax with a semicircular blade was used to make the cuts. The MultiMax cuts a very thin line. The forward and aft lines were cut using a straight edge for a guide. The side cuts were cut free hand.

Two painter's tools (5 in 1 knife) were used to start the deck peel from the aft end. Once the deck was raised a bit, a wide prybar (WonderBar) was used to extend the peel. Extreme care was taken to remove the deck intact. However, about one third of the way through the peel, a seam in the pattern nonskid was encountered. Unfortunately, the overlap was aft over forward so the deck began to separate when the seam was reached. The peel direction was reversed and the peel was restarted at the forward end of the cut. This time the peel was successful. The cut out was removed intact.

The next step was to cut out the core leaving a ledge around the perimeter upon which the deck would be reinstalled. It is critical to try to maintain the ledge so the reinstalled deck will match the elevation of the existing decking. It was also deemed beneficial to leave a ledge of the underdecking upon which the new core plate would rest. Again, the MultiMax was used to cut the core. Care was taken to cut only the core and not the underdecking. Once the cut was made, the core was removed with a painter's tool leaving the underdeck.

The repair plan entailed installing a new core piece of marine plywood with layers of fiberglass on the underside as a backing plate. The layers of fiberglass would provide additional strength for the pedestal base fasteners to grip. The center portion of the exposed underdeck was cut out to allow for the extra thickness where the fiberglass backing plate was positioned.

Once the cut outs were removed, some longitudinal stringers were noted on the edges of the cut. These will support the downward weight of the plate once installed.



Figure 1 Cut out showing ledge and underdeck

The exposed core was sanded to remove any adhesive and splintered core. The underdeck was sanded to remove all traces of core. The replacement core plate was cut to fit the core cut out. Although not entirely necessary for a piece that won't be seen, masking tape was applied for the crosscut to minimize splintering.



Figure 2 Use masking tape on crosscuts to minimize splintering

The piece was marked to designate the up side and forward edge. Several layers of epoxy saturated roving were applied.



Figure 3 Roving was used to make a backing plate

After wet out, a laminating roller was used to remove trapped air.



Figure 4 A laminating roller removes trapped bubbles

Two additional pieces of marine plywood were cut to become cleats that would be installed under the existing deck. Attaching the new core plate to these cleats will prevent the forward and aft edges of the plate from lifting. All plywood was encapsulated with epoxy.

Thickened epoxy was applied to the cleats. The cleats were positioned under the existing uncut deck forward and aft of the cut out. Small screws were installed to pull the cleats against the underdeck until the epoxy cured. After curing, the screws were removed and the screwholes sealed with epoxy.



Figure 5 Close up of cleat under deck with screws to hold while epoxy cures

Thickened epoxy was applied to the underdeck ledge and the new core plate was installed using thickened epoxy. Screws were used to attach the plate to the cleats and to the longitudinal stringers. All screws were countersunk to provide a flat surface upon which to reinstall the deck. All exposed core was coated with epoxy.



Figure 6 New core plate in position with countersunk screws and epoxy.

The underside of the peeled deck was sanded to remove old adhesive and core splinters. Masking tape was applied to the edge of the peeled deck and the adjoining edge of the existing deck. The peeled deck was then dry fit in place. A thorough inspection of the joint was done to reveal any elevation differences with the existing deck. Vinyl ester putty was applied to low spots, high spots were sanded. Once good elevation matching was attained, thickened epoxy was applied to the ledge and plate and the peeled deck was installed. Numerous weights were used to keep the deck in place while the epoxy cured. Small wood shims were used under some weights to focus pressure on certain areas.

Extra epoxy applied at the edge of the cut out squeezed up through the cut. The epoxy cure was monitored closely. After about an hour, the epoxy squeezed out of the seam had begun to gel across the masking tapes. A painters tool was used to remove the excess epoxy. A cloth saturated with acetone was rubbed firmly up and down the seam to polish the exposed epoxy. Any areas of the seam where no squeeze out occurred were filled with epoxy using a syringe.



Figure 7 The finished repair with pedestal base installed

The pedestal base was reinstalled. It was positioned to hide the cut made by the deck collapse. There was a noticeable increase in torque required on the fasteners when they reached the fiberglass backing on the underside of the plate.