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# RUDDER



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# CLASSICAL REGLOSS: Restoration of a 1961 Power Cat 18DC

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*As interest in classic fiberglass boats grow, I thought it would be a good time to chronicle the restoration of one of these fine boats. The issues, repairs, and materials I will deal with will be common to many fiberglass projects. I'll cover this in two parts. First, surveying a project boat, deconstruction and handling, repair materials and use. Next time I'll discuss repairs, reconstruction, finishes and finishing.*

I've been searching for a classic fiberglass cruiser for some time and this past summer finally found one; a 1961 Power Cat 18DC. This is one of about six known to exist based on the website devoted exclusively to Power Cat Boats, [www.powercatboat.com](http://www.powercatboat.com). I learned from the owner that this was a California boat that was damaged in a storm in the mid-

1960s. Somehow it made its way to a marina in Rochester, New York, where the owner's father purchased it 40 years ago. Nothing was ever done with it, and finally, after his father passed away, he wanted it off the property.

The first challenge I faced was finding a trailer. The Power Cat 18DC is a true catamaran hull. You can't haul it on a conventional trailer. You need a special one set up for a cat. But the 18DC is a huge cat. It's about 16 1/2' long, a full 8' wide at the gunwales and 6' wide at the outer edges of the sponsons. Also, while I am able to get the boat in my garage bays, it will not fit through my shop doors (92"). Luckily, a nearby friend is restoring a Power Cat 14T runabout and had JUST finished building a trailer for it that I borrowed for its maiden run. With the aid of two 4x4s, I was able to carry the 18DC without motors on the 14T trailer, raising it high enough to just clear the fenders.

The boat was covered in moss, and the inside was very dirty from years of outside storage. But luckily, it had remained bow up with the drain plugs out so, even filled with leaves and debris, it drained thoroughly after rain and snowmelt. The first order of business was to clean it so it could be inspected. Inside the boat was the upper windshield for the boat, broken badly. I washed down the interior of the boat with a scrub brush and water, and was amazed at how the original finish, white background with black and yellow splatter paint, looked. It is near perfect; not even any wear on the floor. I also discovered that the forward bulkhead panel with two access ports to forward storage was in good condition. I also found was a connecting bar for twin engines, plus a nice Ride Guide steering wheel in good condition.

Next I tackled the outside. Moss hates bleach. First, I sprayed the sides with Tilex® (2.5% sodium hypochlorite, or half strength bleach), letting it sit for a few minutes, and then hit it with a scrub brush and plenty of water. Washing the transom and the starboard side reminded me of the glass repairs that lay ahead. This boat had MANY up and down deep scratches in the gelcoat where it rose and fell during the storm. There were several holes in the side, and the transom



on the starboard side was broken open about two-thirds of the way up from the bottom. The port side on the other hand, was nearly perfect. The yellow top looked the worst, but after a bleach treatment, the beautiful butter yellow color of the gelcoat, generally in good condition, was revealed. Washing down the starboard side of the top showed me how much

damage had occurred to this area, too. The gunwale was severely damaged, and a poor attempt at repairs had to be dealt with. The end of the starboard fin was missing the last six inches, but the port fin was fine.

Many fiberglass boats use wood as a core material. Often, plywood is used but balsa is also common. The Power Cat 18DC uses plywood. The core material is only on top of the tunnel and in the bottom of the two sponsons running surface. It is flat and easy to replace if need be. Luckily, this core is perfect.

The transom I knew had to be replaced because of the split at the starboard corner. In addition, though not rotten, the 1 1/2" thick plywood core was very wet and portions were getting soft, so it had to go. Because most fiberglass boats are built in two pieces—the hull and a top—in order to replace a transom core usually the boat needs to be split in two. This is pretty much like taking the cover off a Tupperware® container. The top is built to fit over the hull and is fastened with staples, screws, rivets, bolts, and/or fiberglass. Rub rail is installed over the joint to hide it.

Power Cat Boats tried building fiberglass fuel tanks for a short period of time. Danny Ledger, son of Ray Ledger, the founder of Power Cat Boats, told me that they had so many problems they stopped making them. Especially today with 10% ethanol fuel, the fiberglass tanks would not hold up. Unfortunately the 18DC had them, and they still had fuel, and probably water, and oil in them. They absolutely reeked. Some people suggested I de-fuel them, then cut them open and insert standard fuel tanks. I chose to remove them from the boat for several reasons, mainly because I have to install a new transom. They had to come out to give me access to the transom from inside the boat so I could free it from the top to split the boat. I also didn't think I could successfully eliminate the smell, nor did I want to lose all that space under the splash well. I used a Japanese pull saw to carefully cut the fiberglass cloth that held the tanks in place and removed them from the boat.



Moss never sleeps...the Power Cat is looking pretty funky after years of neglect during outside storage. View of the shattered transom and missing starboard fin. Molded fiberglass fuel tanks under the splash well—the water pump installed through the floor. After a thorough cleaning, the inside, amazingly, was in near-to-perfect condition. Shot of the manufacturer's plate.

With the fuel tanks out, the boat cleaned, the survey completed and the work list generated, it was time to start deconstructing the boat. The top overlaps the hull by about an inch and a half and is attached using rivets. A rub rail of polished aluminum is installed using T-bolts inserted in a channel molded in its back side. When built, the joint between the top and hull is completely hidden. I began by removing the rub rail T-bolts on the inside of the boat—actually they were all severely corroded and most of them just snapped when I put a wrench on them. With the rub rail off, I drilled out and removed all the rivets. Around the front of the boat on the inside a strip of fiberglass tape had been installed, probably to keep water out when under way. I sharpened the side of a strong scraper and from the outside of the boat inserted this between the hull-deck joint. Using a hammer, I drove the scraper around the front of the boat to cut the fiberglass tape, a total distance of about 16 ft.




Finally, and this is the hard part of top removal, the splash well had to be broken free from the transom. There is no easy way to do this as these boats weren't originally built with the idea that 40 to 50 years hence anyone would be interested in restoring them. For the 18DC I found it easiest to cut off the fiberglass on the top of the transom as this then gave me good access to the plywood resin joint. It takes brute force, saws, and wedges, and more to break an 8-foot-long, 6-inch-wide, fiberglass resin joint. But once broken, the top was free of the bottom.

The next step was to lift the top off. Instantly you go from 128 square feet of space to twice that. You need to plan ahead where you're going to land the hull and top, and you especially need to plan to properly support the top since without the hull the top has little rigidity. I built a 2x4 frame, 8' wide by 12' long on a flat bed trailer. This provided mobility once the top was off. I placed the boat and the trailer in our garage, and then used a pair of come-alongs and lifting straps to remove the top from the hull. One strap was inserted through the side windows, and the second was inserted through the fuel fill holes. I used the come-alongs to lift the top straight up, keeping it even. Then I pulled the hull and trailer out of the garage leaving the top suspended. I backed the flatbed trailer into the garage and the top was lowered onto the frame. I took the top to the shop driveway and placed it on a work rack with the 2x4 frame. Then I brought the hull into the shop and off-loaded it onto the ground. Using a steel wire suspended 15' overhead together with come-alongs I lifted the hull and it rolled over, and placed it on a work rack. Sounds easy, but is not for the faint hearted.

With the hull upside down and the top properly supported I was ready to begin fiberglass repairs. There are two basic repair materials used: liquid resin with a base material for structural strength, and filler with various additives. These two basic repair materials have many choices within them. The first is fiberglass resin or epoxy resin. I use fiberglass resin for most repairs. It is quite a bit cheaper than epoxy resin and bonds well. Also, it is what these boats were built with originally. There are also many structural base materials and weights to choose from. Weight is actually the heaviness of a square foot of the material; the heavier the weight the more strength, and the more resin it will take to saturate and fill the material.

For strong repairs like transom installations I use what is called MAT. MAT is randomly arrayed long fiber strands, so when set up it is strong in any direction. Woven cloth, also available in different weights, is used for finishing work and is typically the very first layer under a boat's gelcoat. You'll see this material used on many kit boats, kayaks, and canoes. When laid on properly the cloth is invisible in the resin. And finally there is woven roving. This is woven material, but a much heavier material than cloth, again available in different weights. Roving is used to provide structural strength and rigidity to a project, and then finished with MAT and lighter cloth. There are other specially materials like carbon fiber, Kevlar, and Dynel that I won't go into.

The collage photo shows some of the products one I use in fiberglass repair projects. Next time I'll chronicle fiberglass repairs and finishing of the boat. 



Starboard transom corner; note the transom's core is showing. Popping off the top—just like Tupperware®. Instantly you double the necessary floor space. You need to plan ahead. This boat has a true catamaran hull...and it's huge! Note the come-alongs attached to aerial steel wire. Below: a collage of fiberglass repair materials.

