Chapter 2: Setting Up Shop

Your Boatbuilding Shop

Your comfort is a consideration, since you'll be spending a good bit of time in your shop. But the Teardrop Camper's needs come first. Realistically, you need a space where you can maintain the temperature between 60 and 90 degrees F (15 and 32 degrees C). This is for the simple reason that none of the epoxy brands perform well outside of those temperature extremes, notwithstanding what their marketing materials may claim.

Since the Teardrop Camper derives all of its strength from epoxy, you risk ruining your project if you try to work in marginal conditions. In cold temperatures, epoxy simply won't activate completely, so being willing to wait days or weeks for cures isn't a working strategy. If it's super hot, it will be beyond the skills of even the most seasoned professional to do good work with fiberglass fabric and epoxy. You just can't work fast enough to stay ahead of the epoxy.

In North America, and during the winter boatbuilding season, cool temperatures are more of a challenge than heat. On our website we have an excellent article on safe and inexpensive ways to heat workspaces, small or large. Go to www.clcboats.com/shoptips

Building outside in the open, without a roof, simply isn't practical. Applying epoxy coatings in direct sunlight can be a challenge, and epoxy doesn't have any UV stability so your project could be damaged over the weeks it will spend unprotected by paint or varnish. And you can't pull a tarp over uncured epoxy or a carefully-aligned-but-not-yet-cured assembly. If you're building in your driveway or back yard, acquire a sturdy tent with a roof and walls. As of this writing, a 10' x 20' "car shelter" that you can put up and take down easily doesn't cost more than a few hundred dollars, and would just fit a Teardrop Camper.

Wooden floors are great, but all you need is a small area that's absolutely solid and level for a pair of sturdy sawhorses.

Tools

Power Tools

A determined and resourceful craftsman could build the CLC Teardrop Camper with a circular saw, saber saw, router, sanders, and a jack plane. But there's plenty of woodworking, especially if you're building from scratch. So you should think hard about getting some good equipment. Here are some thoughts on tools for a home boat shop:

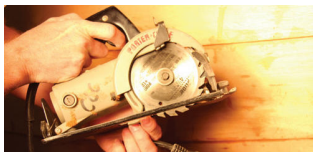
Table Saw: Kit builders can get by without a tablesaw. A 10-inch "contractor's saw" is perfect and you'll use it for the rest of your life. Delta makes a good one and they can be had fairly inexpensively. In all my years, I have observed that tablesaws are the most difficult tool in the shop to use, and the most dangerous. Use eye protection always, never push anything up to the blade without a proper "push stick," and keep your body out of the firing line of the blade.

Band Saw: Definitely optional for kit builders, not really for plans builders. Get a bandsaw that's 14" or larger. If you don't have one, after a few sessions you'll wonder how you managed all those years. You'll use it throughout construction. There are innumerable brands. Larger ones with no more than two wheels tend to work better. It's more about getting the blade tension and tracking right than about cost. At CLC we have some big, expensive bandsaws. But just a few hours ago as I write this I was milling parts on an ancient, battered 14" Grizzly that we bought used for $75. Given a sharp blade, it does first-class work.

Stationary Sander: This is a luxury, but since they aren't expensive, you should indulge. This is a large disc sander that sits on a table. You can perform miracles of woodworking sculpture with one of these. Or, you can just use it to grind a round end into a stick for filleting. Some of them come as a combination disc and sanding belt; these are especially helpful. CLC's is a real piece of junk: it came from a mainland Chinese discount catalog and we expected it to work for a few months while we shopped for a fancy one. That was 20 years ago now and it still gets used every day.

Random-orbital sander: You will need a good 5-inch random orbital sander. I endorse the Porter-Cable, Makita, and DeWalt brands. Here's the essential part: throw away the silly little dust collection bag they come with, and attach the hose of a powerful shop-vac to the dust port. (There are adaptors, but a ball of duct tape works, too.) This will change your entire outlook on the monotonous task of sanding. With a powerful vacuum, VERY little dust will escape into the air. Your sandpaper will also stay sharp longer, as the dust is evacuated from the surface instead of clogging the paper. After years of using dust collection with my sanders, sanding without a vacuum feels like driving without a seatbelt.

Router: A necessity for plans builders, and a very good idea for kit builders, a router is used throughout construction. You'll work a lot harder for lesser work without a router. Get a 1.5 horsepower router and a selection of "roundover" bits with 1/2" roller bearings. You'll want roundover bits in 1/4", 3/8", and 1/2" sizes. Plans builders will need either a rabbeting bit or an end-mill bit to cut the rabbets in the door sills and other components.



Small Circular Saw: Also known as a "Skilsaw." We used a 4-1/2" panel saw for cutting out parts of the doors and galley hatch, though a larger 7-1/4" circular saw will work fine, too.

Saber Saw: An ordinary saber saw, equipped with fine-toothed blades, is used for cutting out doors.

Hand Tools

You don't need a lot of fancy tools to build a stitch-and-glue project. Here's a list. Many of these items are available from Chesapeake Light Craft. Check out our boatbuilder's store at ***clcboats.com.***

- Tape measure and a yardstick/straightedge
- Pencils
- Small handsaw – Best are the Japanese-style saws that cut on the pull stroke. A small back saw or dovetail saw will also work.
- Block plane – Make sure it is sharp.
- Drill and bits – Buy an extra 1/16" drill bit, the size needed for drilling wire stitch holes. You'll break them.
- A standard collection of screwdrivers, wrenches, and sockets
- Pliers – The best are "lineman's pliers," specifically for working with wire.
- Wire cutters –These are for cutting stitches; the diagonal cutter type is by far the best.
- Sharp scissors
- A selection of wood rasps
- Razor knife – A regular utility knife with a box of new blades.
- Sawhorses – Three pairs wouldn't be too many.
- Sanding mask and/or respirator
- Safety glasses – Wear them!
- Clamps – You'll need at least 30 clamps. 60 is better. We use inexpensive 2-inch (50mm) spring clamps throughout.
- More clamps

Essential Consumable Supplies:

- Sandpaper – 80-grit, 120-grit, 220-grit
- Hand-sanding block
- "Scotch-Brite" pads, such as 3M 7447, for finish work
- Drywall screws in various lengths from 1" to 3" (25 to 75mm)
- 2" masking tape
- Disposable foam brushes – with wooden, not plastic, handles. About 36.
- Disposable bristle brushes – so-called "chip brushes," about 36 for this project.
- Disposable foam rollers – Buy only the short nap yellow type that are also used for applying lacquer. About 24.
- Masking tape – both solvent-proof and ordinary paper varieties are recommended.
- Epoxy metering pumps – These pumps are included in our kits.
- Epoxy mixing sticks
- Epoxy filleting tools
- Plastic epoxy spreaders
- Disposable gloves – It's economical to buy boxes of 100.
- Polyethylene (plastic) sheeting
- One-gallon freezer bags (for epoxy fillet dispensers)
- Scrap wood – A variety of dimensional lumber scraps for clamping puzzle joints and other miscellaneous chores.
- Denatured alcohol (not isopropyl)
- Clean rags
- Marine-grade clear silicone caulk (3 ounces or 100ml)
- Marine-grade black adhesive caulk such as 3M 4200 or BoatLife Life Seal