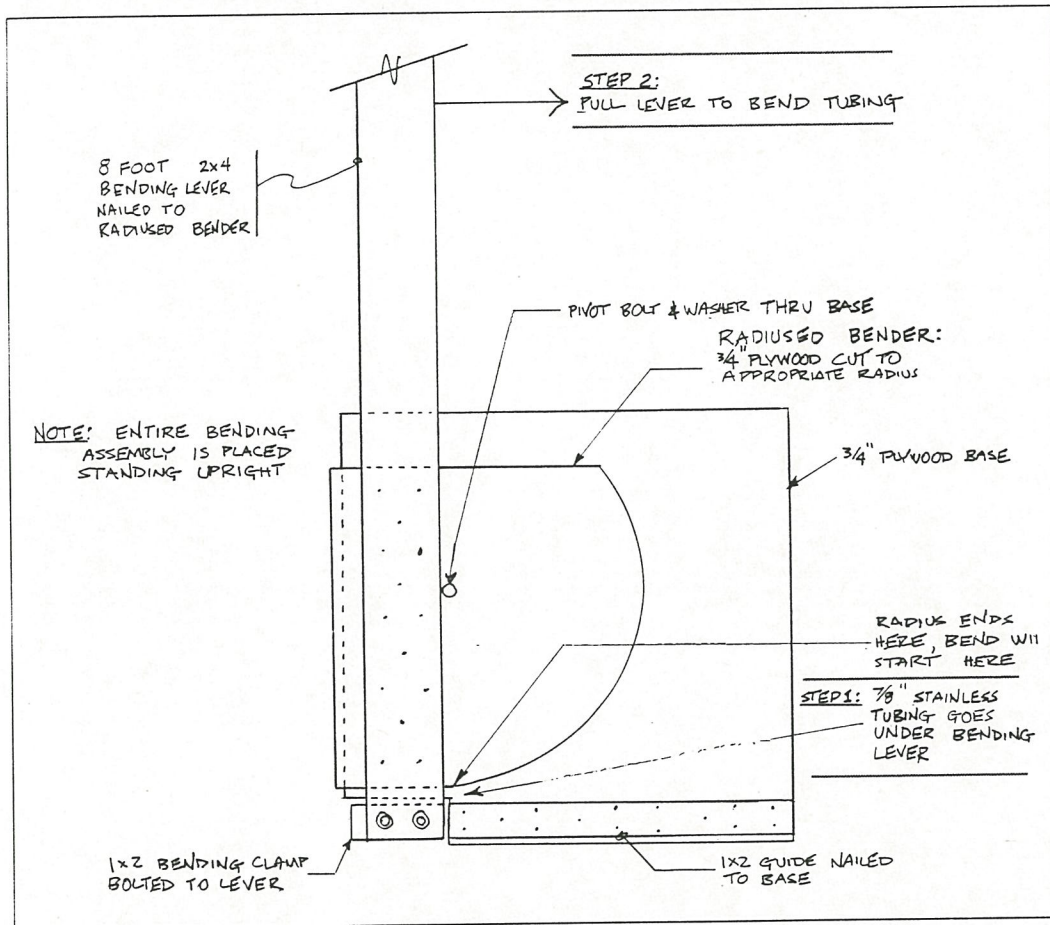


# PROJECTS

By Tonnae K. Hennigan

## Homespun Canvas Work

Tailor-made canvas enhances any boat—doing it yourself isn't as difficult as you think; knowing how also makes it easier to commission.



*"Of all the traditional marine crafts, canvas work is my personal favorite. I love to sew...It is a creative, artistic, and therapeutic activity."*

DON CASEY,  
THIS OLD BOAT

If you enjoy putting your genius and your hands to work, and relish a challenge, consider crafting your own boat canvas. Major items such as biminis, dodgers and winter covers, or perks like weather cloths, deck cushions, lee cloths or tool rolls are all possible. We made our own dodger—one of the more complicated projects by all accounts. It cost \$700 in materials (and 50 hours in time). A comparable professionally-made one would have been \$1,500-\$2,000. We got exactly what we wanted, perfectly tailored to our boat. On the other hand, a first project should probably be a little less ambitious. To get started, consult experts. The books

recommended here all cover canvas work in a clear, step-by-step fashion.

**TOOLS, SUPPLIES:** Your home likely has most of the equipment needed: scissors, seam ripper, measuring tape, ruler and hammer. A good grommet tool and die set, a snap-setter kit, fabrics and other supplies are easily acquired. However, checking suppliers near Vancouver, Nanaimo and Victoria, we found some wide variations in price and quality. For example, there was a 60% range in price for the same Sunbrella (acrylic canvas) fabric.

Virtually all boaters have transferable skills they can apply to canvas work. If you can manage a screwdriver or pocket wrench, you can master a grommet tool and die. If you can drive a car or bike, you can run a sewing machine.

Trust me. My husband Garrett had never crossed paths with a sewing machine, but mastered it promptly.

All author/experts insist you don't need an industrial sewing machine for these jobs. Our 15-year-old Sears Kenmore did just fine. Use V-69 polyester thread with U.V. inhibitors and size 16 or 18 ballpoint needles. You'll need lots of needles—they bend, break and get dull. If your machine acts up, first change the needle. Also be sure your belt—the one from the motor to the sewing machine head—is tight.

**MATERIALS:** You have a basic choice of natural or acrylic canvas. Natural treated canvas is

heavier, harder to work with, and prone to shrinkage—its only real advantage is price. Acrylic canvas is also available in a far wider variety of colors. According to Don Casey, “the best fibre, by far, for maintaining its strength and color despite constant exposure to the sun and other elements is acrylic.” For any project (except indoor items close to heat, which should be natural canvas treated with fire retardant), we’d pay the premium for acrylic.

Windows are an option for many outdoor items. Unless you want to roll them up when under way, we strongly recommend Lexan (polycarbonate) over vinyl. Clear vinyl is not very clear—Lexan is far superior. Be sure to make covers to protect the windows from grit and sun. Scratches are noticeable, so wash very carefully with soft, clean cloths and clear, fresh water.

For frames, aluminum may be cheaper, but it won’t stand up like stainless! If you’re thrown against an aluminum-framed bimini or dodger, it will likely bend or buckle. Stainless, on the other

hand, is incredibly strong—Garett does chin-ups on our dodger—and will maintain its looks for a lifetime. Stainless tubing doesn’t cost much more, but the stainless fittings are considerably more expensive than the plastic ones used with aluminum tubing. Again, pay the premium out of the money you’ll save by supplying your own labor.

*If you can drive a car or bike, you can run a sewing machine.*

**FOR STARTERS:** Weather cloths are a good first project. They add considerably to cruising comfort, and they’re downright easy to make:

- Cut canvas to the exact dimensions and shape of the opening you are covering—lifeline (or guard rail) to coaming, and stanchion to stanchion. The shape


may not be a perfect rectangle.

- Make a 1/2" hem on all four sides of each piece by ironing in a fold and sewing a straight seam a 1/4" in from the folded edge.

- Now fold over all four a further 1" and iron the fold in place. Stitch one seam a 1/4" from the outer edge of the cloth, and a second seam an eighth inch from the inner folded edge. Hint: to sew around corners, leave the needle in the fabric while lifting the presser foot, rotate the material, let the foot back down, and continue.

- Using a grommet tool, cut holes and insert grommets every 5" on all four sides.

- Cut three-sixteenth-inch synthetic twine twice the perimeter of the weather cloth. Secure one end around a stanchion, then loop through all grommets, over and around lifeline or rail, and back through the grommets, pulling taut, until you’re back where you started. Tie off securely.

Presto! You now own weather cloths which will look great and last a long time. You’ll also enjoy job satisfaction and gain inspiration to tackle bigger projects. 

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## Expert Help

*The Complete Canvasworker's Guide*, Second Edition by Jim Grant. Most essentials covered, good instruction.

*The Big Book of Boat Canvas* by Karen S. Lipe.

Good instructions for most projects and valuable design assistance. Clear step-by-step explanation of sewing machine and basic technique.

*This Old Boat* by Don Casey.

All aspects of refitting an old sailboat, but includes 70 pages on canvas work. Very easy to follow. Valuable points on biminis, awnings and dodgers, plus specs for metal bender to make your own frames (See Tips).

## Tips for Dodgers and Biminis

**DESIGN:** Consider function as well as aesthetics. Study examples on other boats, and decide which look you prefer. If the canvas color more or less matches the cabin top and sides, you'll get a nicer look than with a contrasting colour. Determine how many windows you'll need, and whether you want zip-out sections and a collapsible or removable frame.

**FRAMES:** Once you've determined your basic look and dimensions, build a mock-up using 1/2" PVC pipe and duct tape. Re-check mounting points and heights before cutting expensive stainless tubing, then use the PVC frame as a pattern for bending the tubing.

**TUBING BENDER:** Because 7/8" stainless is extremely stiff, we modified Casey's metal bender by lengthening the lever arm for more mechanical advantage, and by using bolts instead of nails, and more of them. The bender can be made cheaply from scraps of 3/4" plywood, 2 x 4s and 1 x 2s.

**FABRIC WORK:** Position large sheets of medium-weight construction paper over the frame, trace shape of the pieces and cut out. Tape these patterns onto the frame aboard boat to ensure an exact fit. When tracing pattern on fabric, add 1-1/2" to allow for finishing. ☺

## Charter News

**NEW BOATS:** Desolation Sound Yacht Charters has added a Bayliner 4388 twin-diesel power yacht and a Beneteau 37 twin-cabin to its bareboat fleet. Call 339-7222/4914 for information.

**B.C. BASE:** Womanship, the sailing school for women, marks its tenth year with cruise-and-learns departing Vancouver for the Gulf Islands and Desolation Sound. Seven-day cruises continue through October 16. Call 1-800-342-9295 or 410-267-6661.

**VIRGIN TERRITORY:** Sunsail Charters has a new base at the Bitter End YC on Virgin Gorda, BVI, with a fleet of Beneteau Oceanis 351s, 400s and 440 Centre Cockpits...CYOA Yacht Charters has moved to new quarters at Saga Haven Marina on the east end of St. Thomas, USVI.

**BOAT SWAP:** WhyCharter Boat Exchange, a California operation, offers boat owners the opportunity to trade use of their boats for a short period of time with boaters in areas where they would like to cruise. The company maintains listings, introduces owners and helps them exchange boating privileges. Current listings are in areas such as Newport, Rhode Island; La Paz, Mexico; British and U.S. Virgin Islands; San Francisco Bay, San Diego, Long Beach and King Harbor, California. For details, call 1-800-WHY-CHARTER (1-800-949-2427) or 714-951-5002. ☺



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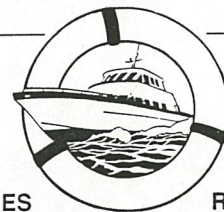
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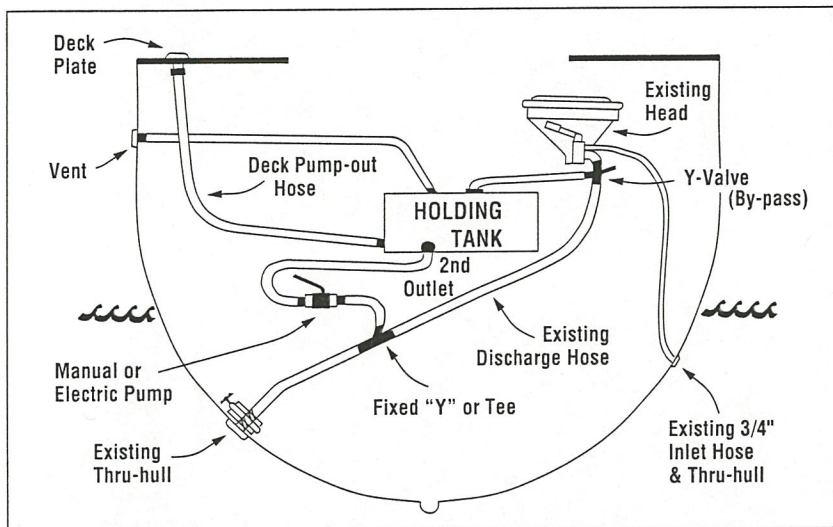
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# PROJECTS

By Tonnae K. Hennigan

## The Holding Tanks Are Coming (Well, Maybe...)

With no-dump zones just around the corner, holding tanks could soon be a fact of life for coastal boaters. Make yours a trouble-free experience.



The secret is to keep the system "flushed" with clear water, which means daily forays from the anchorage into open water.

THE PROVINCIAL GOVERNMENT is poised to designate no-dump zones along our coast, so holding tanks will become an unpleasant reality. Too often, you know when a boat has a holding tank—your nose tells you so. But if you do it right, you won't have the problem, and you should be able to complete the installation yourself in just a couple days.

**TANK TYPES** Basically, your choice is rigid or flexible. Most experts agree that although fabric tanks are popular because they'll conform to any space and are easily installed, leaks are more likely, and odors are apt to permeate the fabric.

Most rigid tanks are made of linear, low-density polyethylene and come in a variety of shapes, from triangular to fit under V-berths to standard rectangular. SeaLand, Kracor and Todd manufacture them. Rectangular tanks come in eight sizes from 3 to 55gals. The SeaLand tank apparently has much smoother outer surfaces and thicker walls. It's probably best to avoid tanks with optical inspection ports (arghh!) due to possible sealing problems. The fewer fittings, the less chance of leaks.

The ultimate tank is stainless steel, but it is

more expensive (custom-fabricated), heavier, and more difficult to install.

**PLUMBING** An efficient, simple plan which will work well with B.C.'s proposed no-dump zones is as follows. Immediately after the toilet, position a Y-valve (two-way diverter valve), connecting one length of sanitation hose to the holding tank, and a second length to the thru-hull. The tank should of course be vented, using  $\frac{5}{8}$ " plastic hose, to a thru-hull vent located well above the waterline.

Standard tanks come with one discharge outlet. Either have the manufacturer install a second outlet, or use another Y-valve downstream of the single outlet. The second option is probably more desirable, involving fewer openings in the tank. In either case, one hose leads to the deck pump-out fitting, the other to a manual pump or electric maceration pump. The latter then joins the existing head discharge hose at a T-fitting so sewage can be pumped out the existing thru-hull in open water.

With this configuration, you can frequently discharge waste directly, thus minimizing build-up in your tank. But it also allows use of a deck pump-out when facilities are available.

Use double clamps at every fitting; they're low-cost insurance against the horrors of clamp failure in this critical system. And don't scrimp on sanitation hose. When installing the holding tank, replace all pre-existing sanitation hoses just to be safe. The best is about \$3.25/ft. Don't use rubber, odors can permeate it. Derek Frampton of Kits Marine says odor problems can usually be traced to a hose. Connections may leak, but you will generally notice them.

The holding tank must be absolutely secure and evenly supported to avoid a catastrophic rupture. Strap it down or build a box for it. You don't want it resting on one corner, which could result in cracking or splitting.

**FURTHER OPTIONS** An electric macerator pump is basically a blender that chops waste into a man

## MATERIALS

(approximate costs)

Stock rigid tank, good quality	\$80-200
Custom tank ) (sheet metal or plastic	\$3-400
1 or 2 Y-valves	\$80 each
T-connector	\$10
1 1/2" sanitation hose \$3.25/foot	
12-20 double hose clamps	\$1.25 ea.
Manual pump	\$135
Deck waste fitting	
Stainless	\$40
Plastic	\$13
Thru-hull vent fitting	
Chrome or plastic	\$4-4.50
5/8" vent hose \$0.85/foot	
<b>Options</b>	
Electric maceration pump	\$180
Type 1 MSD	\$1,000

ageable mush and pumps it out. They also draw about 15 amps and are not strictly necessary given the natural "blender action" of a boat in motion. A back-up manual pump of the diaphragm-type should be installed in any case.

•**Marine-sanitation device (MSD)** A Type 1 MSD such as Raritan's popular Lectra/San collects and treats about 5gals of waste. The resulting discharge is low in live-coliform bacteria and acceptable in some jurisdictions. It is costly—about \$1,000—and draws around 40 amps. Its applicability in Canada is questionable because, according to the Federal Pleasure Craft Sewage Discharge Regulations, only holding tanks are to be used in designated no-dump zones. (The provinces are responsible only for determining where the regulations apply.)

Though we won't have "poop police," as good boaters we will be expected to observe and abide by the no-dump rules when they come into effect. The sooner we attend to this rather unpleasant little task, the better. Do it right, and you won't regret the day you installed a holding tank. ☛

## HOLDING TANK TIPS

**TRACING ODORS** If you have a problem, your cabin will probably stink all over—so, just putting "nose to the hose" won't pinpoint the source. The best way to find the problem hose is to rub a fresh piece of paper towel over each section, then take it outside in the fresh air and smell it. Check the intake hose too, because stale sea-water can emit a strong "rotten egg" odor.

**IN GENERAL** If it's a rough day, be sure your tank is empty before you go out. Pumping your tank after even one or two uses if open water is available is strongly recommended. This helps avoid problems and reduces the likelihood of full-tank difficulties in no-dump zones. Residue can build up quickly in hoses and tank, increasing the risk of clogging or odors. To prevent this, flush the system frequently with fresh water. Fill the holding tank through the deck fitting every time you fill your fresh water tanks, then pump it out again.

**THE BOTTOM LINE** The less time that waste sits in the system, the less grief it's likely to cause. Pump it out ASAP! To avoid the dreaded "smelly boat syndrome", follow the above rules, and replace all sanitation hoses every two years. ☛

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