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# Dinghy Chaps

by Marsha Petersen

Edited by Jim Grant & Cassie Jarrard

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## Assembly Instructions

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### Materials Needed:

- Sunbrella Outdoor Fabric
- Phifertex (vinyl mesh fabric)
- Vinyl Pattern Material
- Permanent Colored Markers
- Abrasion-Resistant Vinyl
- Leech Line
- Thread
- [Optional: Basting Tape, Spur Grommets, D-ring Patches, Masking Tape, and Glue]

Dinghy chaps are the protective cover for the inflatable tubes of a dinghy and add extra years of service to an important yachting accessory. The finished cover is constructed with Sunbrella outdoor fabric, Phifertex (vinyl mesh fabric), and exterior abrasion resistant vinyl that reinforces chafing areas.

The dinghy chaps are secured to the dinghy with a leech line drawstring around the outside hem and tie-downs that fasten to the inside. These instructions are equipped with some easy tips that will help generate professional results. Custom dinghy chaps can be completed by one person in six steps:

- 1) Get Ready
- 2) Pattern Material
- 3) Fabric Selection
- 4) Make the Pattern
- 5) Layout and Cut
- 6) Start Sewing

### GET READY

Fully inflate the dinghy, and then deflate slightly (Figure 1). When the finished cover is completed and in place, adding the air back in will create a snug and secure fit.

Look for the existing seams of the dinghy. These will serve as a guide in making the protective dinghy cover. Sewing smaller sections together will create a custom fit to the contour of your dinghy.



Figure 1

To estimate the amount of pattern material needed, measure first the overall length of the dinghy tubes and then the arc of the tube, from the inner side above the dinghy floor around the top of the tube to approximately 2 inches below the rub rail on the outer side (Figure 2). The arc of the tube determines the width of the chap panel.

For example, the length of my dinghy was 10 feet, the bow tube length was 4 feet, and the tube arc was 34 inches. The

pattern material is 54 inches wide, easily accommodating my width requirement. Pattern material is needed only for one side, so I calculated that I needed 4 and 2/3 yards (dividing 14 feet by 3 feet), and I ordered 5 yards. The actual yardage of fabric can be determined after you make the pattern pieces; however, the estimate for my dinghy was 8 yards of 46 inch Sunbrella (10 feet + 10 feet + 4 feet= 24 feet or 8 yards).



Figure 2

### PATTERN MATERIAL

Pattern-making is fast and simple when using clear, flexible vinyl material, even in wet and windy conditions. There is no need to wait for perfect weather to start this project. Select a clear transparent vinyl that is heavy enough to drape smoothly over the inflated tubes (Figure 3). Vinyl naturally clings to the tube and does not lose shape with manipulation. Any gauge between #8 and #16 works well for this project and can be purchased in most fabric stores, retail home centers, or from Sailrite (#102941). Vinyl can be cut easily with regular scissors.

Colored permanent felt tipped marking pens can be used to draw directly on the vinyl pattern. Use the pens to trace around mounted accessories, such as oar locks and hand grabs, and to draw the seam and cutting lines (Figure 4).

[TIP: Do not use these pens on Sunbrella. The ink will seep beyond the lines.]



Figure 3



Figure 4

## FABRIC SELECTION

Three different fabrics are combined in the construction of a durable and long-wearing cover.

1. Sunbrella, Sea Mark, or another UV and mildew resistant outdoor fabric is the best choice for the framework.
2. Select an exterior abrasion resistant vinyl to reinforce potential chafing areas of the framework fabric.
3. Use Phifertex or a vinyl mesh fabric for the aft ends of the tubes to allow drainage of captured water.

[TIP: Bright colors are easy to spot in the distance. For security purposes, do not use the same color for the cover as your yacht's canvas. A dinghy with T/T "Boat Name" advertises that you are not at home.]

## MAKE THE PATTERN

Since the port and starboard sides are mirror images, make patterns for the front and ONE side only. Flip the side patterns over to double check the placement of the hand grabs and other accessories for the other side. Color code port and starboard "outside" up to prevent confusion during pattern layout on the fabric (Figure 5).

[TIP: Use different colored marking pens on the pattern to mark seam lines, chafe patch placements, outside up, etc. Using black to mark the cutting line leaves a visible edge on the clear pattern when placed on top of the Sunbrella.]

Start at the front of the dinghy and drape the vinyl over tube, trimming away a piece of the vinyl that is slightly larger than necessary. Smaller pieces are easier to handle. Start by drawing identifying marks that can be used to exactly match and realign the piece if it happens to slip.

Smooth the vinyl from the inner side over the tube to the outer side. Extend the front section below the rub rail to capture the bow handle (Figure 6).

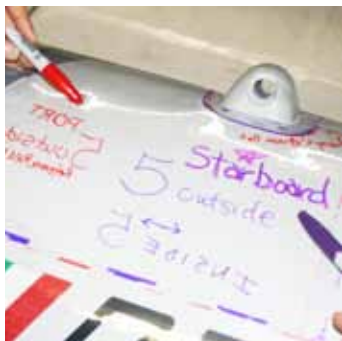


Figure 5



Figure 6

[TIP: Masking tape can serve as an extra hand to keep the pattern in place while you work. Avoid duct tape as it can be messy.]

Since the inner side of the bow tube is narrower, the vinyl will begin to quickly ride up as the tube curves aft. Mark along the smooth edge of the "valley." This is the best location for the seam line for the adjoining piece covering the side tube. Again, the dinghy seam lines can serve as a guide.

The front outer side of the tube will require darts to fold in extra fabric that will allow the cover to conform to the severe contour of the dinghy tube. Small clamps or clips (e.g., alligator clips) work great to pinch the excess vinyl material (Figure 7). When satisfied with the shape, use a permanent marker to draw a line across the top and the bottom of the clamped vinyl. This will be the actual sew line for the dart. When the clips are released, the marks will have an elliptical shape (Figure 7). The front center pattern piece will look like a wide bottom "hour glass" when laid flat (Figure 8).

[TIP: Try using small dots or dashes first before connecting them to make a continuous line.]

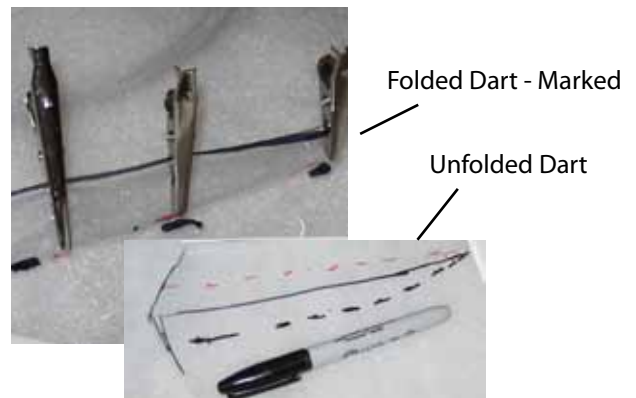


Figure 7

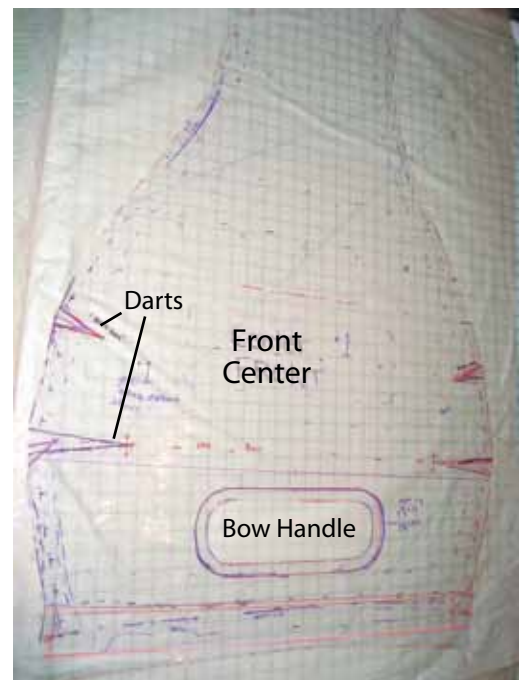


Figure 8

Remove the pattern from the dinghy and lay on a flat surface. Add and draw an additional 3/4 inch beyond all marked SIDE seam lines, a seam allowance for joining adjacent sections. Add and draw an additional 1 inch for the inner hem allowance (capture the raw edge by sewing along a double 1/2 inch fold) and add at least 2 inches below the rub rail to allow for the outer hem (the drawstring casing). Use the same seam and hem allowances on each pattern piece. These added dimensions will be the outer perimeters of the pattern, the cutting line.

[TIP: A continuous drawstring, captured under the rub rail, secures the outside edge of the dinghy chap. Adjust tension as needed to keep snug. Glue-On Velcro strips do not hold up as well in sun and salt compared to this simple drawstring method. Leech line or a strong weather resistant cord should be used as the drawstring.]

Continue making adjoining pattern sections along the side of the dinghy. Each new section will overlap the previous section's seam allowance. The actual overlap will be 1 1/2 inches when both seam allowances are taken into account (Figure 9). Remember to add the same seam and hem allowance for each adjoining section. Marked pattern pieces can be removed from the dinghy if a strip of masking tape is applied to the tube to mark the seam lines for that section.



Figure 9

Cut slits in the vinyl until it lays flat around oar locks and hand grabs (Figure 10). Once flat, mark the desired size of each cut out. If the cut out is too big, the fabric will flap in the breeze, and if too small, the cover may interfere with oar lock and hand grab use. The opening can always be trimmed more after a trial fitting. The rule of thumb is to cut out around the actual size of the accessory that was glued to the dinghy (Figure 11).



Figure 10



Figure 11

Each cut out should be surrounded with a vinyl chafe protection patch of any size and shape (Figure 12). These patches add weight, stability, and durability to the cover. The inner cut out for the chafe patch should be identical to the cut out markings on the pattern. Draw the patches directly on the pattern (to be sewn on the outside of the cover).

[TIP: Transfer paper can be placed between the pattern and Sunbrella to trace the marks directly onto the fabric. The marks will not show as patches will be sewn over them.]



Figure 12

Depending on the contour of your dinghy, a tube section may require two or more panels. If a hand grip lies between these panels (Figure 13), a vinyl chafe patch can be sewn on top of the fabric framework after the panels are sewn together (Figure 14). The patch will add strength and protection to the sewn seams.

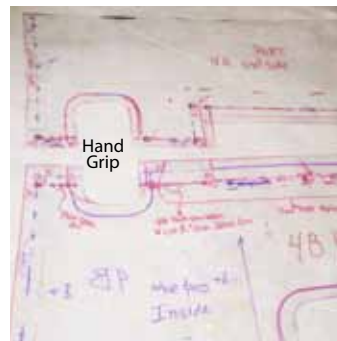


Figure 13



Figure 14

To make the pattern for the aft tube ends, hold the vinyl secure and smooth, and trace the circular or conical contour of the tube ends. Add the 3/4 inch seam allowance along the forward edge. This piece will be cut out of vinyl mesh fabric, which nicely accommodates small gathers when sewing a semi circular shape. The lower hem allowance for the leech line (drawstring) casing must also be added to this pattern piece (Figure 15).

Use the patterns to determine the actual yardage of all fabrics required in this project. The yardage of chafe fabric is dependent upon the number of protection points.

[TIP: Masking tape can be applied directly to the dinghy to serve as an outline guide for each pattern piece section.]

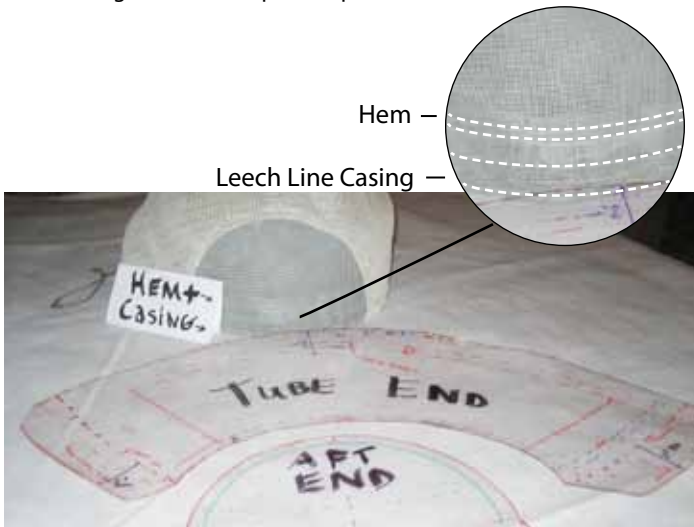


Figure 15

## LAYOUT AND CUTTING THE FABRIC

Lay the vinyl pattern pieces along either the length or width of the fabric to avoid bias stretching which leads to unsightly wrinkles. Trace the outer perimeter of the vinyl pattern with chalk, soapstone or lead pencil. If the pattern moves, just realign and trace again. Use transfer tracing paper to mark cut outs, patch placements, and darts. A permanent marker can be used to trace the perimeter of the end cap pattern directly on the Phifertex or vinyl mesh fabric. Since the seam allowance is always 3/4 inch, there is no need to mark the seam line itself. Remove the pattern and cut along the traced lines.

[TIP: Make a seam allowance mark on your sewing machine.]

Use a hot knife when cutting out Sunbrella to save time. If using regular scissors, carefully “burn” the raw edges with a butane lighter to melt the cut threads and minimize fraying. Either way, all raw edges should be finished by sewing a double folded hem or applying a binding.

The front section of the dinghy chaps can be cut from Sunbrella or from an abrasion resistant vinyl (Figure 16). If cut from Sunbrella, it will need chafe protection.



Figure 16

## START SEWING

Most dinghies will have a front section followed by three side sections and the end cap section.

1. Prepare each fabric section before sewing all the sections together. If a section consists of an inner and outer panel, sew them together.
2. Cut chafe patches for each panel from vinyl. These patches can be cut with scissors as they will not ravel.
3. Sew the vinyl chafe patches to the outer side of each cover piece where required (Figure 17). Sew close to the edge of the vinyl. Rotating smaller sections of fabric makes sewing ovals or circles easier.

[TIP: Use Sailrite's 3/8" basting tape (#129) to hold chafe patches in place while sewing.]

4. Bind the inner edge of each patch opening (Figure 18). Binding the inner edge of the cut outs is recommended as it will frequently rub against the mounted accessories. There is no benefit to binding the peripheral edges of the vinyl patches. Use Sunbrella binding tape or make your own bias binding tape. Secure these edges by running a second round of stitching approximately 1/4 inch from the first stitch all the way around.



Figure 17

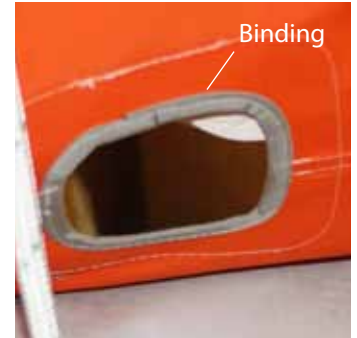


Figure 18

5. Sew the darts of the front section with the resulting fabric flange to the inside of the cover. Do not cut the fabric for the darts, rather pinch the fabric together and sew. The excess fabric will lay flat. Trial fit this piece and adjust the darts as needed. Wait until after the final trial fitting before cutting or trimming away extra fabric.

[TIP: Tailors chalk is great for marking sewing adjustments.]

## Side Seam Treatment

Sew the sides of each section together using a plain seam technique, what Sailrite often refers to as a semi flat-felled seam (Figure 19).

Create a plain seam by first placing the raw edges of the fabric together, right sides (“outsides”) of the fabric facing each other.

Basting tape or alligator clips can be used to hold the fabric together while sewing the seam. Stitch 3/4 inch from the raw edge. When the sections are opened, the seam allowance will be on the inside of the cover next to the tube. This seam can easily be taken in or out after trial fittings to accommodate the best fit.

[TIP: Trial fittings are helpful, but do not trim off any fabric until the entire side is ready for a final fitting.]

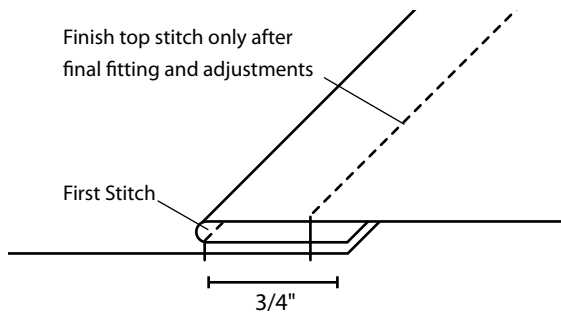


Figure 19



Trial Fitting

After a satisfactory trial fitting, finish the seam with a topstitch. Fold the seam allowances to one side and sew a straight stitch or zigzag through all three layers, 1/2 inch from the first seam. This second line of sewing strengthens the seam.

Optional enclosed seams (or full flat-felled seams) can be done by trimming one side of the seam allowance to 1/2 inch. Fold the longer seam allowance over the trimmed edge and sew close to the fold (Figure 20).

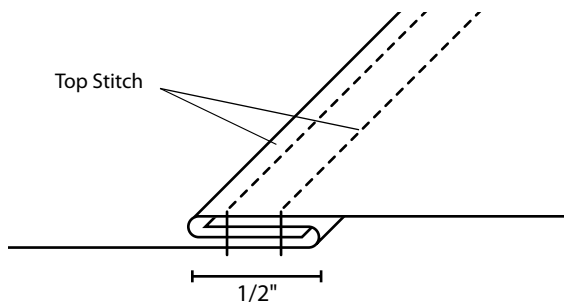


Figure 20

[TIP: For additional help with seam treatments, refer to *The Complete Canvasworker's Guide*, Second Edition. Jim Grant, Page 7-8.; and to *The Big Book of Boat Canvas*. Karen Lipe, page 11-12.]

### Inside Hem

The inside hem can be finished with a 1/2 inch double fold, sewing close to the fold while enclosing the raw edge. Acrylic basting tape can be used to hold a finger-pressed hem in place while sewing.

Intermittent tie downs can be made by adding fabric tabs or spur (not plain washer) grommets directly to the cover (Figure 21 & 22). Tie to a stationary point on the dinghy, such as D-ring patches that are glued to the dinghy (Figures 23). Leech line or shock cord may be used for tie downs.

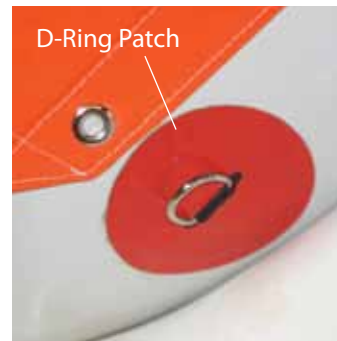


Figure 21



Figure 22

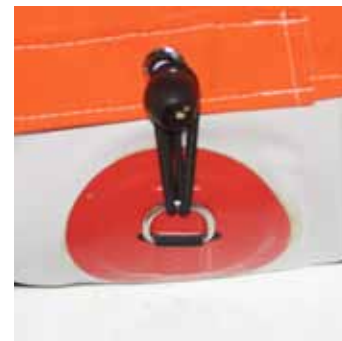


Figure 23

[TIP: Spur grommet kits size #2 and #5 are extremely useful additions to any onboard cruising tool chest. PVC or hypalon tie down patches and compatible adhesives are available through marine stores or from Sailrite (search dinghy patches at [www.sailrite.com](http://www.sailrite.com)).]

### Outer Hem and Drawstring Casing

The continuous outer hem serves as the drawstring casing. Fold under 1/2 inch, then fold under 1 inch and double sew (Figure 24). Leech line (5/32") is strong enough for a drawstring that can be tensioned and captured below the rub rail of the

dinghy. Tie the end of the leech line to a 12 inch length of flexible wire, such as coat hanger wire, and feed through the casing. Secure both ends to a stationery point on the transom (Figure 25).

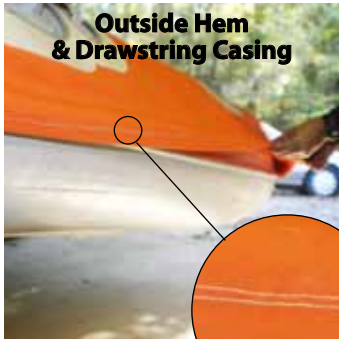


Figure 24



Figure 25

### Embellishments

Storage pockets can be sewn directly to the dinghy chap. Use Velcro attachments to the fabric framework for removable pockets (Figure 26).



Figure 26

New scuffs on your dinghy may indicate the need for additional chafe protection. It is a good idea to make the entire front section out of an abrasion resistant vinyl and to sew a strip of vinyl chafe fabric along the rub rail. Use chalk to outline the dimensions for additional chafe protection. Then prepare the new patch, remove, and sew.

[TIP: If an adventurous dinghy ride leaves a tear in the abrasion resistant vinyl, instead of sewing on a patch, glue on a piece of Shelter-Rite fabric with HH-66 adhesive (Sailrite #1129).]



Completed Dinghy Covers