Making Your Own Drybags

by Chuck Holst

SOMETIMES IT SEEMS LIKE YOU NEVER HAVE THE RIGHT DRYBAG. This is especially true for sea kayakers, who have to fit a lot of stangely shaped items into strangely shaped spaces through some exceedingly small holes. Outdoor stores stock drybags in a wide assortment of sizes, shapes, materials, and prices, but they are mostly general purpose drybags, not the sizes and shapes you *really* need to keep your powder dry. However, you can now make custom drybags to fit any piece of gear for less than you would pay for ready-made ones. All you need is heat-sealable nylon fabric, polypropylene webbing, Fastex buckles, an old iron, a sewing machine, and possibly some Velcro.

Materials. Heat-sealable fabric, available from Seattle Fabrics, is nylon fabric with a special waterproof coating that can be sealed with a household iron. The resulting seam is waterproof and strong. Heat-sealable fabric is available in two weights: 420 denier packcloth for heavy duty drybags, and 200 denier oxford for light duty drybags, spraskirts, and cockpit covers. Both fabrics come in a range of colors, though you may find only one or two available at a time. One-inch-wide polypropylene webbing, more UV-resistant than nylon webbing, is available in several colors. Buy it in two or three colors for mix-and-match color coding. Velcro or one-inch Delrin side release buckles, such as those sold under the Fastex brand, will keep your drybags closed.

Planning your drybag. You can make drybags for just about anything—clothing, tents, sleeping pads, sleeping bags, stoves, etc. The formulas at the end of this article will help you find the right dimensions. They assume that the object you want to enclose is cylindrical, like a rolled-up tent or a Therm-a-Rest pad; you will have to make allowances for other shapes. If you want a long, narrow shape for your sleeping bag, measure it in its present stuff sack and use the formula for the volume of a cylinder to find the bag's volume, then apply the new radius and calculate backwards to find the length of the new cylinder.

Making your drybag. Except for size, shape, and a few other variations, all drybags are made the same way. As an example, let's make one for a full-length Therm-a-Rest pad.

Use the lighter weight oxford fabric. Lay out the pattern on the fabric according to the dimensions in the "Selected Dimensions" table. Using a fiber tip pen and a straight-edge, mark the outside (solid) lines of the pattern on the coated side of the fabric. To make sure all the edges are square, use a carpenter's square or a combination of straight-edge and T-square. Cut out the pieces.

The top flap on the shorter piece stiffens the mouth of the bag to help it stay open. (You can make it from a separate piece, if you like.) Fold it, coated side to coated side, and seal it by pressing it with an old iron set to the cotton or linen setting. Since iron settings are not always accurate, practice first on fabric scraps. Protect your work surface from the

heat with a piece of corrugated cardboard. The sealing process causes the fabric to shrink and curl a little, so do about four inches at a time. Press the fabric with the iron until the fabric darkens slightly, indicating that the coating has melted. Then press a magazine or other insulating object on the seam until it has cooled a little. This will ensure that you have a good, flat bond. Move on to the next section and repeat. Be careful not to touch the coating directly with the iron.

Place the front and back pieces of fabric together, coated side to coated side. If necessary, use paper clips to hold them together. Seal the bottom edges together using the same techniques you used on the flap. To get a straight, uniform seam, lay a one inch wide ruler on the fabric so that one edge of the ruler coincides with the fabric edge. Butt a straight piece of cardboard, such as that from a writing tablet, up against the other edge of the ruler, then remove the ruler. Use the cardboard as the guide for your iron. When the bottom is finished, do the sides in the same way. If you like, press 45-degree diagonal seams into the bottom corners.

Now trim uneven and mismatched fabric from the seam edges. A straight-edge and X-acto blade works well. Use a scissor to round the bottom corners slightly, and the top corners, if you have not already done so. You may also wish to sear the edges to minimize fraying. Do this by passing the fabric edge close to the side of a candle flame so that the edge fuzz shrinks and melts a little, but do not get it too close, for the oxford fabric, especially, catches fire easily. If you haven't done this before, practice first on a piece of scrap. If the fabric catches fire, it can be blown out easily, but the scar will be unsightly.

Fold the top of the bag over the mouth, making the fold line 1-1/8 inch from the mouth. To make it lie flat, lightly seal the fold 1/4 inch to 1/2 inch deep for its entire length. Cut a length of one-inch-wide polypropylene webbing the length of dimension D. Melt the ends slightly to prevent fraying. Separate the two parts of a one-inch side release buckle and slide them over opposite ends of the webbing. Center the webbing along the top fold so that one edge of the webbing coincides with the fold edge or overlaps it slightly, then fold the ends of the webbing so that they meet in the center of the opposite side, trapping the buckle halves in the loops. Butt the webbing ends against each other, then sew the webbing together with the top fold inside. Your drybag is finished.

To use the drybag, deflate your Therm-a-Rest pad, roll it up tightly, and stuff it inside. (You may find it slips in easier if you stuff the pad into a Therm-a-Rest stuff sack first.) Fold the top of the drybag over once or twice towards the flap. Press as much air as possible out of the bag, and continue folding the top until you can fold it no further. Then bring the ends of the folded section together and buckle them to keep the top from unrolling. While not perfectly watertight, this seal will keep out all but the slightest trickle of water in the most severe conditions (try it in your tub or shower!).

Variations. The coating on heat sealable fabric is waterproof and strong, but it is not as slippery as nylon, so you might have trouble stuffing a Therm-a-Rest pad or sleeping bag into a long, narrow, unlined drybag. To make stuffing easier, make a lining of *uncoated*

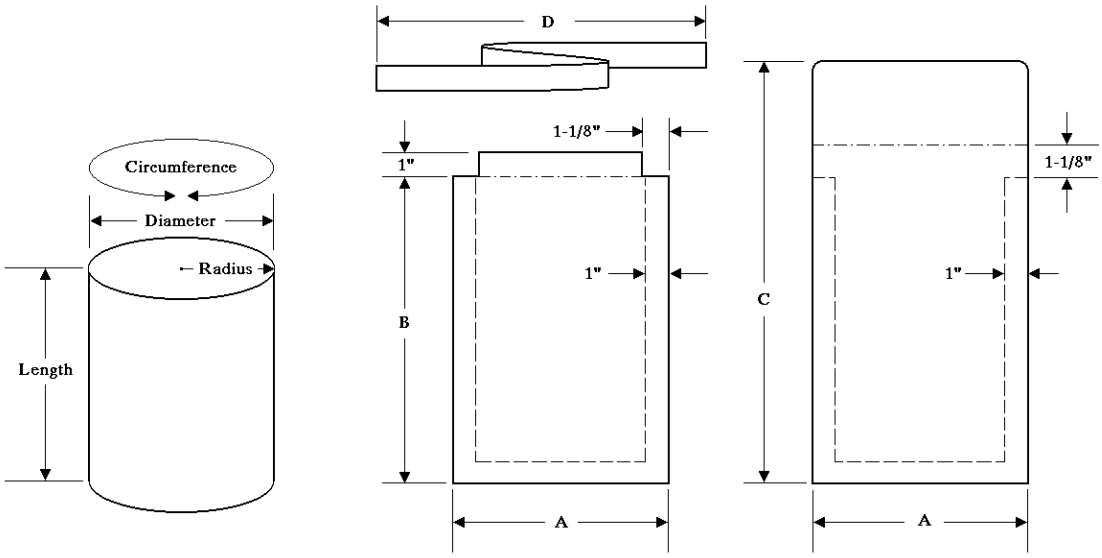
nylon ripstop or taffeta and sew it to the mouth of the drybag. Make the seams about 3/4 inch wider than the interior of the drybag to keep from trapping excess air inside. If you use 3/8-inch seam allowances, you can use dimension A as the total width of the fabric. Add 3/8 inch to dimension B for the total length of the fabric, which includes a 3/8-inch bottom seam allowance. Sew the sides and bottom of the lining together, starting and ending 3/4 inch from the mouth. Before you seal the two halves of the drybag together, make a 3/4-inch fold on the front side of the lining mouth, and topstitch it to the top inside edge of the front piece of the drybag, being careful not to intrude on the one inch seam allowances at the edges of the piece. The length of the lining, from bottom seam to the mouth of the drybag, should exceed the inside length of the drybag by 1/4 inch. Seal the two halves of the drybag together, then fold the drybag top over the top edge of the back piece of the lining, so that the latter is trapped in the fold when you sew on the webbing and buckle.

As an alternative to the above procedure, you could line the bag by ironing the lining fabric onto the coated side of the heat sealable fabric. Try it first with some scrap fabric. If you are satisfied with the results, cut out a couple pieces of lining to fit inside the dashed lines in the drawing, then iron them on before sealing the two halves of the bag together. Note that this method might make the bag stiffer than you would like.

Buckles are the easiest way to keep a drybag mouth closed, but for some drybags, particularly ones like the WhisperLite drybag that are wider than long when closed, Velcro sewn to the sides works better. When using Velcro, divide the polypropylene webbing into two pieces, one the width of the bag, and the other eight inches longer. Center the webbing on the top edge of the bag and sew it together on the fold. Then roll down the top of the bag with the intended contents inside. Pull the webbing ends down alongside the side seams to see where to place the Velcro. Unfold and empty the bag, and sew matching strips of Velcro on the webbing and on the side seam flaps, being careful to keep the needle at least 1/4 inch from the inside edge of the heat sealed seam.

Other variations are limited only by your imagination. Try making cone-shaped drybags for the ends of your kayak, or make a bag to fill the space between your kayak's footbraces and the front bulkhead (use packcloth for this one). It's up to you.

Note: See the Spring, 1990 issue of Sea Kayaker *for more ideas in do-it-yourself drybags.*



Formulas

Drybag Dimensions	General
A = (Circumference ÷ 2) + 2″	Diameter = 2 × Radius
B = Length + Diameter + 9″	Circumference = 3.14 × Diameter
C = B + 5.5″	Area = 3.14 × $Radius^2$
D = 2A + 4″	Volume = 3.14 × $Radius^2$ × Length
	Length = Volume ÷ (3.14 × $Radius^2$)

Selected Dimensions

Drybag design	A	B	C	D	Other
Full length Therm-a-Rest bag	10.75″	34.0″	39.5″	25.5″	
WhisperLite bag (packcloth)	13.5″	17.0″	22.5″	35″	2 3″ lengths Velcro

Materials

Material	Price	Source
Heat sealable packcloth, 420 denier, 45″	$9.00/yd.	Seattle Fabrics
Heat sealable oxford, 200 denier, 45″	$6.50/yd.	8702 Aurora Ave. North
Polypropylene webbing, 1″	$.45/yd.	Seattle, WA 98103
Side release delrin buckle, 1″	$.75 each	(206) 525-0670
Velcro, 1″	$1.00/yd./side	

Prices are from the Seattle Fabrics 1991 price list; they are doubtless higher today. Because availability of colors varies, it is best to order by telephone.