

Introduction to Sweater Design

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Sweater Design is really no big secret but most knitters doubt their own ability and have become dependent on books and magazines. My own knitting experiences created my knitting philosophy that sewn seams in knit garments are the weakest part...that the majority of commercial patterns contain errors...that especially with handspun yarn we are better off following a few very simple design concepts...and that it is all part of a learning experience.

First Step – Shape of Things to Come and Its Measurements

Very first step is to use a GOOD tape measure to measure the body that will wear the sweater. Measure snugly around the largest part of the chest, then measure the waist, and where on the hips the sweater will hit. Write these numbers down. Then dig a long-sleeve sweater or shirt out of the closet...one you really like the way it fits and feels. Lay that garment out flat on a table and measure from the center neck to the end of the sleeve. Record that number too. Draw an imaginary line from the top of the shoulder to the underarm to get the armhole depth and write that down. You could get carried away by measuring the neck, width of back between shoulders, length from back of neck to waist but for most knit garments those numbers are not necessary.

Second step is to grab some ordinary graph paper to draw a scale model of the planned sweater. I prefer the 10 squares per inch for ease in calculation. Knitter's graph paper isn't necessary because you will be using a tape to measure length rather than rows per inch.

You decide to knit a sweater for yourself and want it to be comfy...not too tight or too loose. Typical wearing ease is 2 – 6 inches so let's use 4. Your bust measurement is 36" + 4" = 40" total diameter or 20" for the front and 20" for the back. Mark two dots on the graph paper 20 squares (20") apart.

Now, how long do you want your sweater to be and what was the armhole depth you wrote down. Suppose the armhole depth is 10" and you want the sweater to be a total of 36" long. From the dots you already have on the graph paper, go down 26 squares (") and up 10 squares ("). Mark dots there too for both the left and right sides of the sweater.

Next come the sleeves. Locate the center back neck halfway between the shoulder dots. Suppose the measurement you took of a favorite garment was 58" from sleeve edge to sleeve edge. Mark a dot 29 squares from the center neck towards each sleeve edge and draw a straight line to connect the two sleeve edges. What shape do you want your sleeves to be...tapered to fit more closely around the wrist or straight from underarm to wrist more like a jacket. Put a dot straight down from the upper sleeve edge half of the diameter your sleeve should be. Now draw a straight line from the bottom sleeve edge to the underarm side seam.

For the bottom of your sweater, do you want a ribbed band? Indent a couple of squares at each side for 2 – 3 inches (squares) to indicate that ribbing. For a straight unfitted bottom such as a garter stitch or seed stitch hem, just leave the sides straight and draw a line connecting the bottom two side dots to finish your basic scale model.

Finishing Details to Your Scale Drawing

Do you want a cardigan? What style of neckline? If you plan a cardigan, simply draw a line down the center front and put a short dash at the buttonhole intervals. V-neck? Draw that in too, indicating how far down the Vee is to be so you know when to begin decreasing as you knit from the bottom up. Round neck? Boat neck? Turtleneck? Again, draw in the preferred style. If you have a really skinny neck or a really fat neck, draw your scale model accordingly.

Now to Begin Knitting...

Make a Swatch! Make a Swatch! Make a Swatch! I cannot put enough emphasis on this critical step. *Tip: Double the yarn you plan to use and poke it through the holes of your knitting needle size gauge to get an approximate needle size to start with.* Cast on 30 stitches and knit 3 – 4 rows in garter stitch. Change to the stitch pattern you plan to use, continuing the garter stitch for the first and last 3 – 4 stitches of the swatch, and knit in pattern for at least 3 or 4 inches. Lay the swatch out flat and measure. Look at the swatch and feel it. Is it too tight? Too loose? Just not quite right? Try another needle size or maybe even another stitch pattern. When you are satisfied with your swatch, divide the 30 stitches you cast on by the measured width of the swatch to get your stitch gauge.

Example: 30 stitches ÷ 5" on a #4 needle = 6 stitches per inch.

Back to your desired sweater diameter...6 stitches per inch x 40" = 240 stitches (120 in front and 120 in back). If you are making a cardigan, how many inches do you want for the overlap. That number of stitches will need to be added at the beginning and the end of your cast-on row.

Tip #1: When doing a cardigan, a K1 – P1 rib approximately 1- 1½" wide at both front edges creates a dandy band that can be knit as you go. Insert button holes at the appropriate spacing. Barbara Walker has a terrific one-row buttonhole in her Second Treasury of Knitting Patterns.

Tip #2: Use a 2 stitch purl rib at each side to create a fake seam...one of Elizabeth Zimmermann's priceless ideas.

Tip #3: When connecting both ends of the cast-on row to form a circle at the bottom of a pullover sweater, knit the cast-on tail in with the first stitch of the new row. This strengthens and tightens up the join.

My favorite sweater technique is to start at the bottom and knit up. If knitting a cardigan, you will be knitting back and forth on a circular needle but if knitting a pullover, you will be knitting round and round. Insert a stitch marker at each side seam to remind you of the two-stitch fake seam rib. If you plan a ribbed bottom band or a garter stitch band, I recommend doing that on only 90% of the body stitch count and then increase to the full stitch count for the body of the sweater.

What Happens As You Approach the Armhole?

When you have knit to the desired underarm measure, knit to within 1 – 2” of your side seam marker depending on how large you want the armhole to be and bind off the appropriate number of stitches on either side of the marker. Continue knitting around to the other armhole and repeat the bind off process. Continue knitting to the other bound-off armhole. Knit back and forth on the front of the sweater, ignoring the back stitches that are still on your circular needle and using whatever pattern stitch you have already been using until approximately 1½” short of armhole depth. Depending on the neckline you have selected, that shaping will also need to be incorporated as you finish knitting the sweater front which means you will end up knitting just on one shoulder and then the other. I’m not going into details on that at this time.

Easy Shoulder Shaping: I believe in keeping things simple yet recognizing a gentle slope on the shoulder seam makes garments fit better. I mentally divide the number of stitches of the front of the sweater into thirds...one-third for each shoulder and one-third for the neck. This is a rough rule of thumb so feel free to adjust as necessary. Knit to within one-third of the stitches for one shoulder, turn and go back to the neck edge. Again turn and knit one-third of the shoulder stitches, again knitting back to the neck edge. Break yarn and repeat the process for the other front shoulder leaving all shoulder stitches on the needle with the back stitches.

Now attach yarn and repeat the easy shoulder shaping on the back of the sweater. Basically you are using short rows to give a gentle slope to both shoulders without doing any shaping on the actual back neck stitches.

What About Shoulder Seams?

Back to my philosophy that sewn seams are the weakest part of any knit garment! A Gurnsey technique of KNITTING shoulder seams together to the rescue. Turn the garment inside out and scooch the stitches of one shoulder to the ends of a circular needle. Using another needle, KNIT one stitch from each needle together all the way across the shoulder to the neck edge. Then bind-off those shoulder stitches towards the armhole. Break off yarn and repeat process on the other shoulder seam. Take the neck stitches off onto a stitch holder and turn sweater right-side out again.

Now For Sleeves

Your preference...pick up or knit up the armhole stitches for one sleeve on a 16” circular needle or double point needles. Begin knitting down for the sleeve, again putting a stitch marker underarm and incorporating the same 2 stitch purl rib used as fake side seams. Knit in pattern down to approximately elbow length and then start decreasing as needed on each side of the fake seam to shape the sleeve. If you plan a ribbed cuff or a garter stitch cuff, start that at the appropriate length. Bind off one sleeve and repeat the process for the second sleeve.

Ideas To Finish the Neck

IF you decided to use a V-neck, the same K1 – P1 rib recommended for a cardigan front could be knit in as you did the sweater front. Simply decrease for the neck shaping between the band and the sweater body for one shoulder. Then pick-up stitches behind the K1 – P1 band before starting the second shoulder and repeat knitting to match the already knit shoulder. When knitting the shoulders together and binding off, DO NOT bind off those band stitches but take off onto a safety pin. Then when the shoulders are bound off, pick up the band stitches from one front and knit across back and forth in the rib pattern across the back neck stitches. Knit up one back neck stitch at a time in pattern until the other shoulder seam is reached. Use a Kitchner stitch to sew both ends of the band together.

IF you plan a round neck or a turtleneck, knit up or pick up the neck stitches and knit your favorite rib combination such as K2 – P2 for the desired length and then bind off.

Congratulations!

You’ve now knit your own personal creation that has no sewn seams and is ready for the final finishing touches. Weave in all loose yarn ends and sew on buttons if you did a cardigan. I prefer to wash my sweaters, wrap them in a towel to remove excess moisture and lay them out flat to dry to block. You may prefer to steam block yours. Enjoy!