

**SINGER**

**LINKING BASICS**

**REFERENCE FOR THE SINGER DL1000**

**LINKING MACHINE**

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**REFERENCE FOR THE SINGER DL1000**

**LINKING MACHINE**

**BY**

**SUSAN GUAGLIUMI**

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BEFORE YOU LINK

As you knit your garment, plan ahead for linking it together. Whenever possible, knit the last row of the main knitting with a larger stitch size so that the stitches are easier to see and to hang on the point needles. Instead of binding off stitches that will be seamed, end with 8-10 rows of waste knitting. The waste yarn should contrast well with the main knitting so that the last row of stitches stands out. Also, it should be a smooth yarn that removes easily and doesn't leave a fuzzy residue. You can use one row of ravel cord or separation cord between the main knitting and the waste but be careful because some nylon separation cords tend to be stiff and catch in the stitches. Finally, steam all waste knitting to prevent raveling and to help set the linking stitches. Steamed stitches are much, much easier to hang on the point needles.

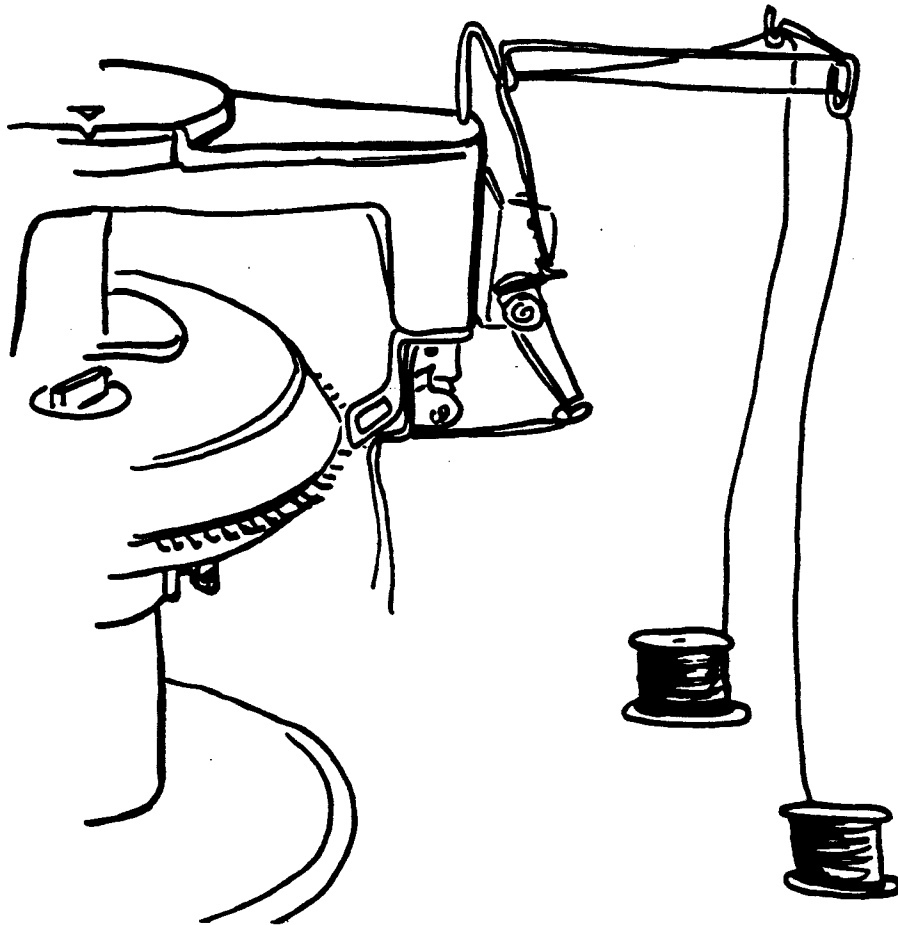


Fig. 1. Threading The Yarn Guide To Use Double Strands

### CHOOSING YARN

When you choose yarns to use for linking, you'll find the ones that are easy to knit with are also easy to link with; the ones that are difficult on the knitting machine will be tricky on the linker. For example, when it comes to wool/rayon dress yarns, the 70%/30% blend is much easier to work with than the 60%/40% because it has more wool and less rayon. Wool is stretchy and resilient, rayon and nylon yarns tend to "bounce" on the point needles and linens and silks have very little stretch. Good quality acrylics and blends should behave like wool does. If the yarn is one of the tricky ones, it may cause skipped stitches or split stitches and may cause the linker to jam. Some problems can be corrected by loosening or tightening the tension. You can also choose a different, but matching, yarn to link with. Wooly nylon is a possibility for acrylics and blends; two strands of sewing thread work well on cottons and linens (each strand passes through a separate guide at the start of the threading - see Fig. 1). Substitute lighter weight yarns for linking chunky gauge fabrics and standard gauge fabrics knitted at the top of the size range. Although the yarns that knit in the middle of the standard gauge stitch range (stitch sizes 4-8) are the easiest to link with, you do not have to limit yourself to them!

### HANGING LIVE STITCHES AND SIDE EDGES

Live stitches are hung on the point needles with the waste knitting extending above and the main knitting below, rather than folding the waste under as you do to rehang stitches on the needles of the knitting machine. It takes practice, but the point needles will pop right through the stitches if you hold the fabric taut, vertically and at the same time pull it towards the left (Fig. 2).

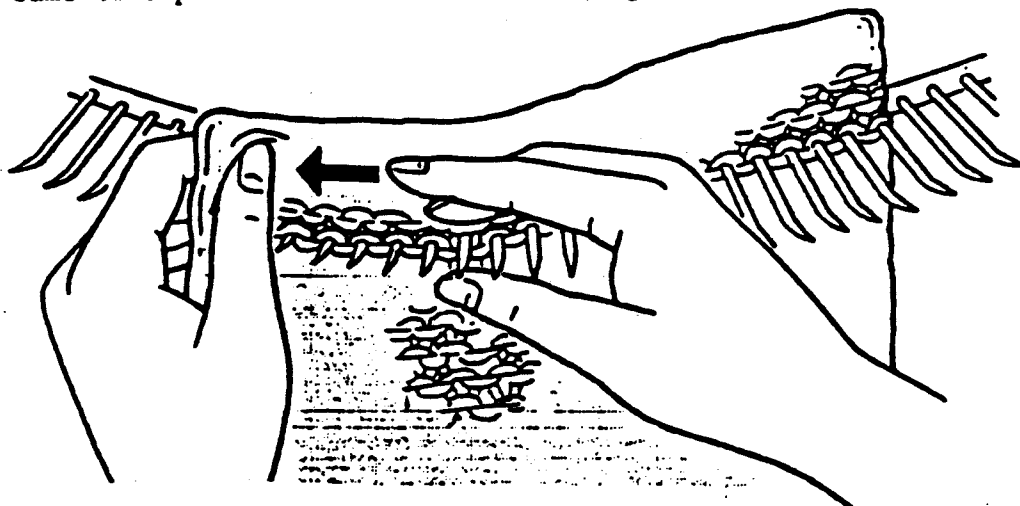


Fig. 2. Hanging Live Stitches On The Points

Stitches held on waste knitting are easiest to hang with the wrong side of the fabric facing you because you can see the top of each stitch (Fig. 3). With the right side facing you, it can be a little more confusing (Fig. 4). The point needles must be positioned in the  $\backslash /$  formed by each stitch, rather than the  $/ \backslash$  formed between stitches. Otherwise, the stitches will not be caught by the linking and will ravel when you remove the waste knitting.

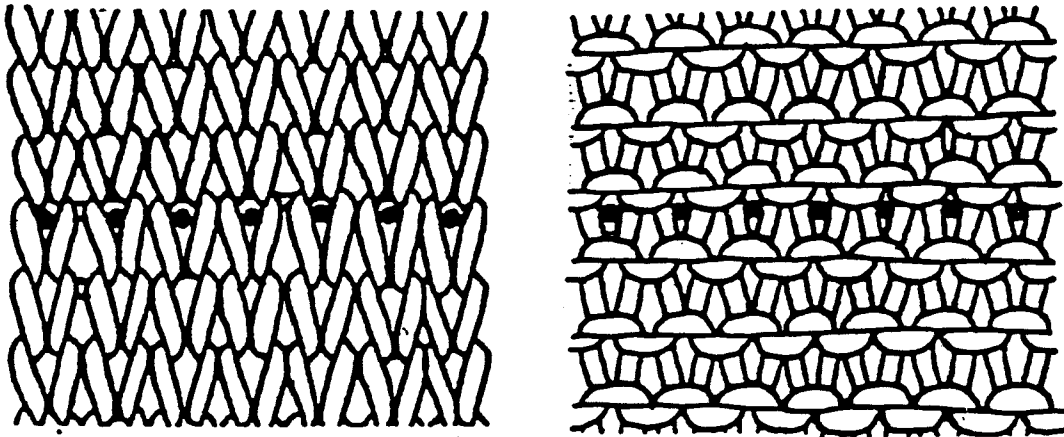


Fig. 4. Positioning Stitches On The Points

Side edges, on the other hand, will not ravel if they are incorrectly mounted on the points. The seam may not look exactly straight, but it will hold. With the right side facing you it is quite easy to follow a straight line between two columns of stitches. The wrong side is a little harder to see, but if you need help, you can provide a guide to follow by either using ravel cord and a yarn needle to hand sew a line of basting from the right side or leaving a needle out of work to form a ladder when you knit the fabric.

Because most seams are constructed by hanging two garment sections with right sides together, there will always be one piece that hangs easily and one that requires extra attention. This is true when hanging either live stitches or side edges: live stitches are easiest to hang with the wrong side of the fabric facing you; side edges are easiest to hang with the right side facing you.

You need to pay special attention to how much sideways stretch you introduce as you hang fabric edges. The pink scale on the drum is marked in centimeters and by tagging the fabric every 10cm. you can control the exact length of all four seams in a panel skirt, for example. If the garment sections have been blocked, you can use a tape measure to position yarn tags every 10cm. or, you can tag the

fabric as you knit. If you are working with a knit contour, the setting on the row dial tells you how often to tag the edge because it indicates the number of rows in 10cm. In other words, with the dial set to "42" the paper advances 42 times in 10cm. so you would tag the fabric every 42 rows. The contour sheets are marked every 10cm. on the edges of the plain sheets or by darker lines on the gridded sheets, so you can simply tag the edge stitch every time one of those markings rolls around. If you are knitting afghan sections or items that don't require the contour, simply keep an eye on the row counter to tag the edge. If your gauge is in inches, multiply the number of stitches in one inch X 4 inches to determine the number of rows between tags. Because four inches is equivalent to 10 centimeters, you will still be able to rely on the pink scale of the linker if you have tagged the fabric every four inches.

You can link chunky gauge fabrics on the linking machine, but because you cannot lengthen the chain stitch formed by the machine, the stitches (or side edges) have to be hung a little differently on the point needles. By spacing them as shown (Fig. 5) on every other point or every two points, chain stitches will form on the empty points, and help to space the stitches in the seam.

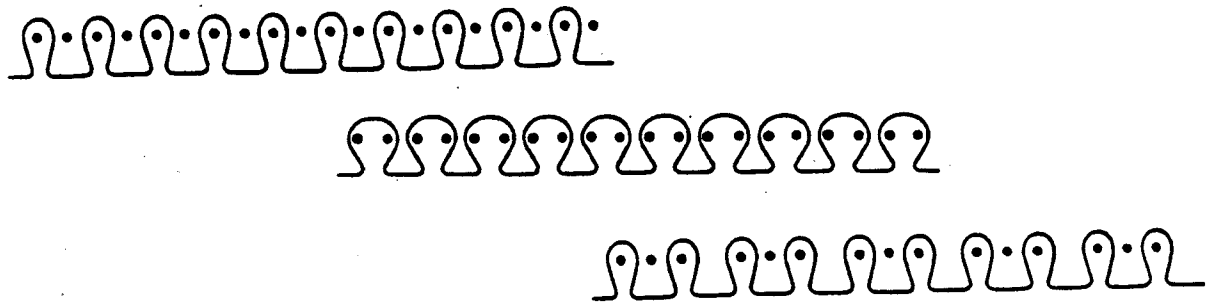


Fig. 5. Alternatives For Spacing Chunky Fabrics on the Points

Regardless of whether you are hanging live stitches or side edges, make sure they are pushed all the way back on the points. Styrofoam, like you'll find used for meat trays, can be pushed over the points to keep the stitches from slipping off when you need to handle several thicknesses together. Clothespins and claw weights are handy substitutes for a third hand, but make sure they are low enough to be clear of the hook needle and fabric presser or remove them before you actually start linking.

Linking is accomplished by means of a chain stitch that is different on both sides of the fabric. Depending on your needs and tastes, either side can be considered right or wrong. It doesn't matter how you mount fabrics for regular seaming, but it does matter when the linking is used for decorative applications or when it will show on

the outside of a garment. The side of the fabric that faces the drum will always have the chained effect (Fig. 6); the side that faces you will look like back stitch.

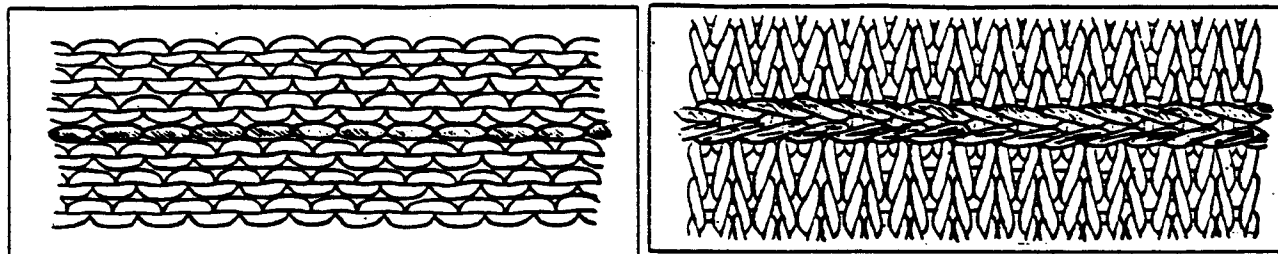
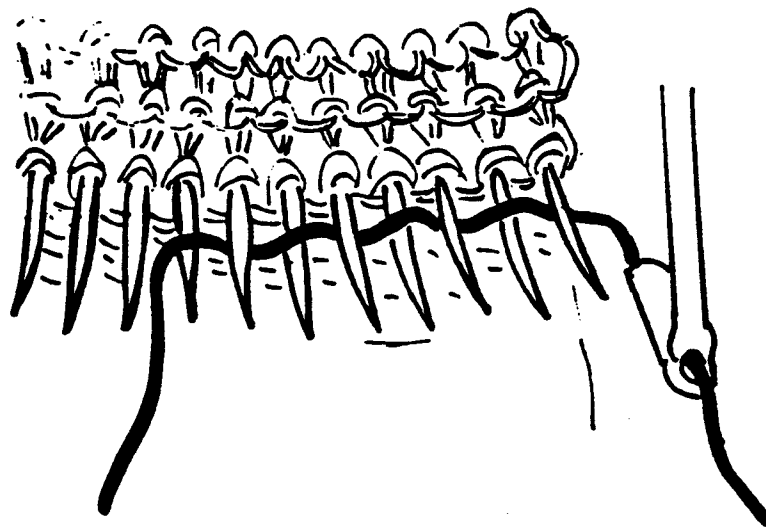


Fig. 6. Front And Back Of The Linked Stitch

### SEAMING

The linking machine can be used to assemble a variety of seams. The manual describes seaming open stitches to open stitches for shoulder seams; open stitches to side edges for drop shoulder seams and side edges to side edges for sleeve and garment seams. You can add knitted cording or purchased lace and trimmings to any seam by hanging them on the point needles between the two layers of fabric you are seaming. Make sure, however, that you position the lace so that it faces the garment and not into the seam allowance. Check your manual for directions for knitting cords and shop the local fabric stores for lace and trimmings that have a space that the point needles can slip through.

You can also seam raglans, piece afghans and construct patchwork sweater designs. To reduce the number of yarn tails that need to be finished off, begin linking by weaving the tail through the points as shown (Fig. 7).



7. Weaving The Yarn Tail To Begin Linking



## NECKBANDS AND COLLARS

Instead of attaching ribs to neckline edges on the knitting machine, you can join them on the linker using flat rib bands or sandwich bands.

### FLAT RIB BANDS

Flat rib bands are the same as the ones you have always joined on the knitting machine and can be applied to necklines and cardigan edges in two ways.

- (1) You can seam the two pieces together by hanging them on the point needles with right sides together, then link or
- (2) You can topstitch the band to the neckline.

Hang the neckline on the points with the right side facing you and the garment hanging below the points. Then hang the neckband stitches on the same points, with the band above the points and the waste knitting extending below them. When you link the two together, the backstitch effect will show on the right side of the garment. For an easy, decorative effect, lace, cording or other trim can be hung on the point needles between the two layers.

### SANDWICH BANDS

Sandwich bands totally enclose the raw edges of a garment, making the band equally attractive inside and out. They provide a beautiful finish on any sweater, and the ideal solution for cut and sew edges. Like the flat rib bands, they can be applied to necklines and cardigan fronts, but because they conceal edges and generally have more body, you will find that they are useful for binding afghans, jacket hems and attaching collars as well. It is also the easiest way to attach polo style collars to crew neck sweaters because you can sew both shoulder seams, then slip the neckline over the drum to link a continuous seam. In addition, the sandwich edge provides extra body and support for the weight of the collar. When applying sandwich bands to necklines, the stitches are usually bound off or serged (for cut and sew construction); it is not a good idea to apply these bands to open stitches or to unsecured edges. When you hang the neck edge, it should extend about 1/4" above the point needles.

To knit a stockinette sandwich band: Knit some rows of waste knitting. Change to the main yarn and knit twice the number of rows you need for the band; ending with more rows of waste knitting. Wide bands that will be used on hems and cardigan fronts need a turning row to help form a crease. After half the rows have been knitted, knit one row with an enlarged stitch size or turn the fabric twice for a

row of garter stitch. Narrow bands that will be applied to necklines and cuffs do not usually require a turning row. You can, of course, create a picot edge on wide or narrow bands by making a row of eyelets for the turning row.

The horizontal buttonhole described on pages 106-108 of the Singer Guide to Knitting Techniques is ideal for sandwich band application on the linker. Follow the directions in the book for knitting the band and making the buttonholes, but begin and end with waste knitting.

#### SANDWICHED MOCK RIB BANDS

Sandwiched mock rib bands look much nicer than those that are bound off with the neckline because they lie flatter and retain their shape better. Begin with some rows of waste knitting. Change to the main yarn and knit three or four rows of stockinette. Transfer stitches to adjacent needles for mock rib (11.11.11.11) and put the empty needles in non-working position. Knit twice the number of rows needed for the band, decreasing the stitch size every two rows for the first half of the band, knitting a turning row and then increasing the stitch size every two rows for the last half of the band. The changes in stitch size will help shape the band. Bring the empty needles back to working position and end with three or four rows of stockinette. Scrap off on waste knitting. When the empty needles are returned to working position they will cast on automatically, forming small holes. The only way to prevent this is to fill each empty needle with the purl bar from an adjacent stitch. However, if you hang this edge on the linker first, it will be on the inside of the garment and the holes won't show anyway.

#### RIBBED SANDWICH BANDS

Ribbed sandwich bands are knitted exactly like any ribbed band except that they end with several rows of circular knitting or, better still, with two separate layers of stockinette. Knit the required number of rows of ribbing for your neckband, collar or turtleneck. Then bring all the empty needles to working position and put the beds in half pitch. If you knit one plain row across all the needles, the empties will cast on. However, there will be small holes at the base of the rib. You can avoid the holes if you fill the empty needles on both beds with the purl bars from the stitches on the opposite needles, then knit one row. You can also try filling the needles on one bed and letting those on the other bed cast on and form holes; but you must be careful to position the band so that the holes are on the inside of the garment. A third method is faster, but not nearly as good. After bringing the empty needles to working position and putting the beds in half pitch, swing one full position to the left and knit one row; swing back to the right and knit the second row. While this doesn't close the holes caused by knitting on the empty needles, it does tend to camouflage them somewhat.

Once the empty needles have been brought into work and the first row knitted, you need to knit three or four rows of stockinette on each bed; make sure you increase the stitch size after knitting the rib. You can knit circular rows if the band is going to be applied to a cardigan neckline, but for closed, seamed necklines the ends of the band are bulkier to join. Instead, set the ribber carriage to slip in both directions (both Set Levers on 0) and knit four rows on the main bed alone. Cut the yarn so there is no loop carrying from one bed to the next. Set the knitter carriage to slip in both directions (SK560/580 use the carriage release lever) and knit four rows on the ribber. If the needles do not knit properly, use the "P" carriage to bring them out to C position before each row. Knit 8-10 rows of waste knitting on each bed, circular or separate, to scrap off.

You can knit these circular, stockinette rows on the beginning edges of ribbed turtlenecks and collars to give them better weight and to make them flare slightly. Immediately after casting on and hanging the comb and weights, knit eight circular rows (four on each bed) with a stitch size appropriate for stockinette. Then knit the required number of rows of ribbing and end with two flaps of stockinette (as above) for sandwiching the collar to the garment neckline.

#### ATTACHING A SANDWICH BAND

Hold the neckband above the points with the waste yarn below. Fold the rib itself back so that the wrong side of the stockinette flaps is facing you (Fig. 8).

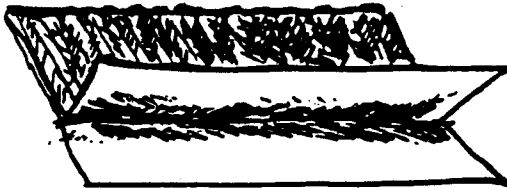


Fig. 8

Hang the stitches of one flap on the point needles. Then, with the right side of the garment facing you, hang the neckline on the same points. Fold the band down to hang the second flap. Remember, the first flap that you hang will be on the inside of the garment; the second one will be on the outside. With the right side of the garment facing you, the back stitch effect shows on the right side of the garment. Occasionally garments are hung with the wrong side facing you so that the chain stitch shows on the right side of the garment. It is more noticeable and is usually appropriate only as part of a design or to enhance a stripe sequence. There are three thicknesses on the points - push them all the way back against the drum.

### ADDITIONAL CONSTRUCTION METHODS

You can install zippers with the linking machine by pressing the zipper tape over the point needles and then, with the right side facing you, the edge of the garment. You must stretch the zipper tape slightly as you press it over the points, otherwise the zipper and the sweater front will buckle. Cotton twill zippers do not stretch so purchase a lightweight zipper intended for knits. Custom tailors may have tricot or net mounted zippers; fabric stores will probably have the "YKK Beulon" zipper.

Just as the linker can accommodate the zipper tape, it can also link through woven fabrics. You can combine your knitting and sewing projects by attaching ribbing to jackets or attaching fabric inserts between sweater sections.

Nylon netting is often used for soft shoulder padding and shaping and can be hung on the point needles and seamed with the garment pieces. You can also use bias cut tricot to reinforce shoulder seams so they do not stretch out of shape.

The same methods explained in the manual for hemming with the linker can be applied to closing skirt waistbands and decorative horizontal pleats.

### DECORATIVE LINKING

Shirring and decorative chain stitch are explained in the linker manual. Both of them require an enlarged row, ladder or column of slip stitches to position the fabric on the point needles and provide enough space for the chain stitch to form. Horizontal chain stitch can add stripes of color to a fabric or provide a base row for crocheted borders and surface accents; vertical chaining turns stripes into plaids. Shirring is most appropriate for gathering lightweight knits and the more rows of elastic, the more easily the fabric will shirr. Some elastic threads are too thin to be effective, so make sure the elastic you use is about the same weight/size as the yarn. When matching elastic is used, it barely shows. Also, the back stitch effect is less obvious than the chain stitch so pay attention to how you hang the fabric on the linker.

A lace ruffle can easily be added around an afghan or crib throw or to the edge of a sleeve in place of ribbing or a hem. To add (commercial) lace or trim to the body of a fabric, provide ladders and enlarged rows of stitches for positioning them.

Vertical pin tucks are constructed by knitting fabrics with ladders two or three stitches apart. When the fabric is folded so that a pair of ladders is hung sideways on the linker (Fig. 9), the chain stitch secures the tucks. To create a ladder, simply transfer a stitch to an

adjacent needle, put the empty needle in non-working position, and continue knitting. To end a ladder, bring the needle back into working position and fill it with the purl bar of an adjacent stitch; continue knitting. The example that follows would create a series of ladders for pin tucking in a "V" formation:

Knit 20 rows then use the chart and needle diagram to space the ladders for tucking:

- At row 20 transfer the stitches marked (^)
- At row 35 transfer the stitches marked (#)
- At row 50 transfer the stitches marked (\*)
- At row 65 transfer the stitches marked (+)

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 + + \* \* # # ^ ^ # # \* \* + +

You can use pin tucking in place of gathering and pleating because it narrows the fabric. So much, in fact, that you may have to knit wide panels of pin tucking separately and then seam them to other garment sections to satisfy the width you need. Seams can easily be hidden next to pin tucks.

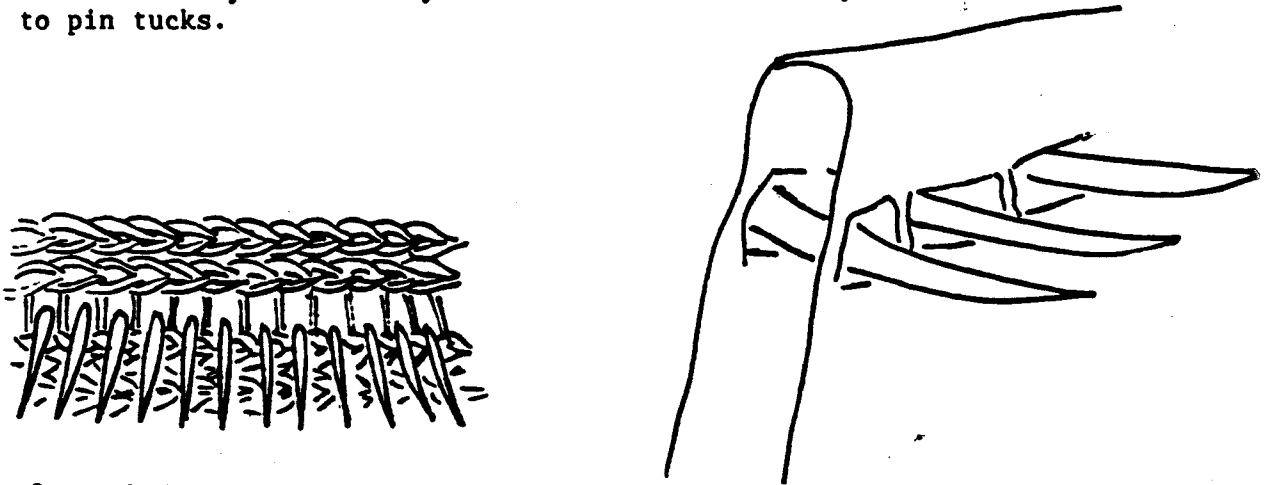


Fig. 9. Fabric Folded And Both Ladders Hung On Points For Pin Tucking

The linker can produce crochet type edgings in the first row of a fabric. You can hang either live stitches (held on waste yarn), or, better yet, the sinker loops of the automatic cast on edge. Link one row then remove the fabric from the points. Rehang above or below the previous row and link a second row next to the first. Repeat for a third row. You can also turn the fabric over from one row to the next. Loosen the tension somewhat for this technique so that the edge doesn't narrow. You can also create some interesting edgings by hanging a three-stitch circular cord on the points, in front of or behind the first row of stitches.

Simple shapes can easily be appliquéd to the surface of a knit by pushing the fabric onto the points with the right side facing you

and then pushing the appliqué onto the appropriate points and linking through the two thicknesses. Patch pockets require a bit more planning and preparation in order to mount straight. When knitting the fabric, mark the placement for the bottom of the pocket by manually weaving a strand of ravel cord over and under the needles in one row. Then mark the placement for the side edges of the pocket by forming ladders: transfer one stitch at each side to an adjacent needle and put the empty needles in non-working position. At the top of the pocket, return the empty needles to working position and pick up the purl bar of an adjacent stitch to fill them and prevent a hole from forming. Use the ladders and row of weaving to position the fabric on the point needles so that the pocket is mounted straight and evenly.

Surface texture can be added to fabrics by wrapping the points with heavier, more textured yarns. Hang the fabric on the points then weave the tail of the yarn over and under the first six points, from right to left so that the yarn is in the correct place to start on the left. Working from left to right, the diagram (Fig. 10) shows the yarn (for illustration purposes) wrapping once around four points. You should actually wrap the yarn around the same group of points four or five times. As you move over to include the next two points to the right, you are actually wrapping over six points, back under four; continue wrapping around the last four points.

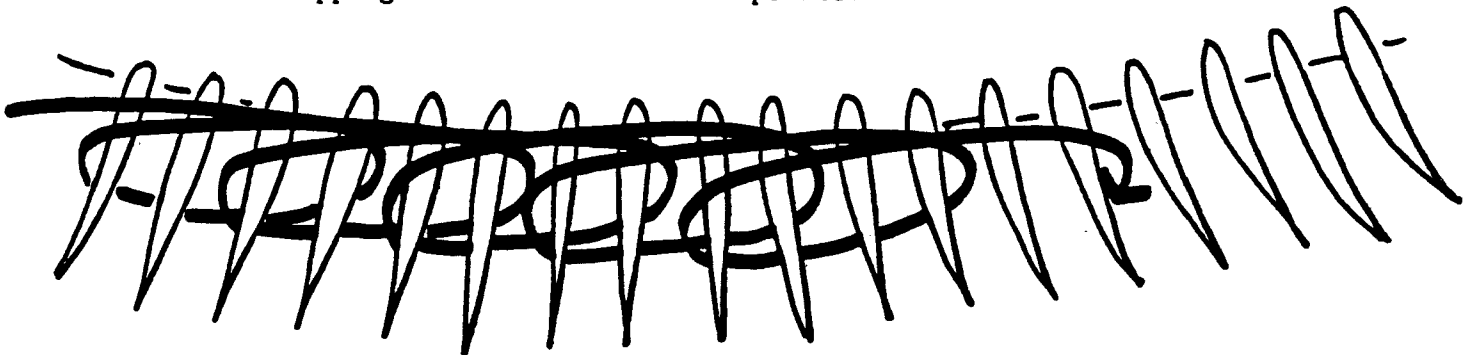


Fig. 10. Wrapping The Points For Texture