

SINGLE BED PLEATS

These fabrics can be worked either vertically or horizontally, depending on the style of pleat desired. Most yarns are suitable for the technique, but it is preferable to use a fiber that may be steamed to set the pleat in length and depth required. Steaming and pressing affects gauge, and is important to treat the swatch as one would the finished garment when estimating gauge for calculating finished pieces. When knitting in the standard direction, a column of slipstitches forms an outward fold (right side facing), while a needle left out of work creates a gap in the knit (ladder) for the inward fold. Either purl or knit side may be used as outward facing knit upon completion. The punchcard repeat is shown below, the empty square is left unpunched, the elongated oval symbol represents NOOW resulting in skipped stitches/ladders, and the black dots the punched holes (knit stitches).

	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	●	●	●	●	○	●	●	●	●	●	●	●	●	●	●	●	○	●	●	●	●	●	●	1

On machines that have cams/ arrow keys for controlling pattern in one or both directions a full card is not required. The first row only needs to be punched, the card is locked on that row, KH set is to slip in one direction and knit in other. The symbol-containing square may also be left blank, and on set up row every other non-selected needle could then in turn be pushed back OOW.

	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	●	○	●	●	●	●	●	●	1

The spacing between stitches can be varied with possible repeats producing varying fullness. In the sample above the pleats fold over nearly double, a consideration if they are to be used in a garment such as a skirt were the pleats create its height, and are to be gathered in waistband. The repeat below changes the position of the slipped stitch in relation to the NOOW, and reduces some of the corresponding fullness.

	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
	●	●	●	○	●	●	●	●	●	●	●	●	●	●	○	●	●	●	●	●	●	●	●	1

If the machine used is an electronic model, the possibilities become even more varied, within any one row repeat.

Adding plain knit bands or /and incorporating hand techniques for texture effects opens up a whole other area of design.

Long vertical lengths of these fabrics will "grow", test swatches at least twice usual size are recommended if that matters, such as in skirts. After steaming the swatches to set the pleats, allow them to "rest" hung vertically for some time before measuring. For crisp pleats results may be more effective if the yarn has no or little "memory". Yarns with memory such as wool, will tend to "remember" their original state when first knit, and pleating will lessen with time. Fibers such as rayon, some wool blends, or acrylic, which can be "killed" by steaming and pressing, will tend to stay in the finished state indefinitely.

Vertical rows of lace holes in alternating directions may also be used to create creases.

Areas of lace patterning with a strong vertical line formed by transferring a stitch on either side of a center stitch may be used in combination with needles out of work. The lace transfers fold to the knit side, the area where the needle is taken OOW folds to the purl.

one such repeat for punchcard machines that select and knit in one row (such as Studio KMs)

	6	5	4	3	2	1	
4			●				
	●						3
2			●				
	●						1

the repeat for Brother punchcard machines or those that use separate carriages for transferring and in turn knitting. Blank squares are left on either side of repeat to accommodate folds. The lace pattern would occur where in previous samples needles were taken out of work, the OOW skipped stitch/resulting ladder is still used to reverse direction.

	4	3	2	1	
8					
					7
6	●				
				●	5
4					
					3
2	●				
				●	1

A possible arrangement with – representing completed OOW needle ladder line, and the Λ symbol the completed lace transfers onto one stitch

—				Λ			
—				Λ			
—				Λ			
—				Λ			
—				Λ			

SIDEWAYS KNIT PLEATS

Here the width of the fabric becomes the length of the skirt. If the length is not adequate, a yoke may need to be added for height, rather than bulk reduction at hips and waist.

Using the following methods may create **the folds to the purl side:**

1. knit 2 rows using a double strand of the main yarn if possible
2. using a card that has every other square punched out, locking that card on any one row, and knit 2 rows in slip pattern (PART <->)
- 3: wrapping decorative yarn on every other *alternate* needle for 2 rows if the fabric is to be used purl side out

Using the following methods may create **the folds to the knit side:**

1. using a punchcard that has every other square punched out, lock the card on any one row, and knit 2-4 rows in tuck pattern (TUCK <->)

Inner folds to the **purl** side may also be in different colors, yarn weights, and techniques than the outer folds, for instance: weaving may be combined with plain knitting, FI, etc.

Wedges created by holding combined with any of straight knitting will result in a sunray effect, with pleats that are narrower at one end than the other when the fabric is turned. Some of this may be automated by designing cards/ programming repeats using the slip function to substitute for hand selection of needles in hold.

"Shadow" pleating depends on the basic method of using 2 different weights of yarn. The difference in resulting "stripe" thickness results in rolls being created, with the thinner yarn curving towards the back as viewed during knitting on the KM, being less noticeable, and creating a "shadow". The ratio of one to the other varies depending on planned design. A simple way to start experimenting is to double

garment yarn for some rows, use single thickness for others, and begin with a 2:1 ratio. Though this is "plain knitting" the technique requires not only the yarns being changed all the time, but the tension dial also. The color changer may speed up the process in switching yarns, but tension changes must be done resetting the dial. If 2 carriages are available things are simplified considerably. Each may be threaded with desired yarn, set to its own tension, as well as for any automatic patterning. If both carriages are selecting needles and on general principle, use of lace/extension rails is recommended for resting one carriage off the needle bed while the other is in use. If flared pleats are desired, holding/may be used in shadow rows. If designs such as FI are used, then length should at least be double to produce a more "recognizable" pattern, since rolls effectively shrink any image created. This is not a fabric one wants to steam or press, as "pleats" may permanently be lost. Felting also will flatten the fabric permanently.

If the item produced is a skirt: steaming before a waistband is applied will give one the opportunity to add a yoke if one is planned, or if finished length falls short after blocking.

Binding wires are used top and bottom, gathering fabric evenly. If multiple panels are to be set at same time, wires at top and bottom may be whip stitched together with a slippery, contrasting color yarn.

The top wires in turn are secured evenly to a rod, weights evenly distributed at the bottom.

The old fashioned seminar circuit suggestion for a DIY steam "tent": cover all with a plastic bag, with holes created to allow the ends of the rod to extend outside the inverted (bottom) of bag. A measuring tape outside the bag can track "growth" in length of fabric. Either end of the rod is hung at an appropriate height, leaving its contents hanging free. An electric kettle or steam source may be placed with due precautions inside the "tent". There will be some "spring back" effect when the fabric dries.

Steam source and tent are removed when length is reached allowing for such spring back. A few minutes later the bottom wires and weights are removed as well, while the remaining rod and wires stay in place until the fabric is dry. Some touch up of edges may need to be done.

Small swatches/areas will respond to irons/ steamers.

Any or all of these fabrics may be used for all over garments such as skirts, or for collars, peplums, or "ruffled" /pleated trims or inserts. The possibilities are endless.

"MOCK RIB", "MOCK " VERTICAL PLEATS: one of several "pretenders"

Variants of these may be combined using slip or tuck patterning, at times combined with NOOW.

The resulting fabric does not have much stretch, and does not behave like a true rib.

The repeat for one such sample on the right; to knit begin knitting with waste yarn, weigh carefully, set machine to TUCK <->

	4	3	2	1	
2	●	●			
			●	●	1