

Chapter 22

TOP-DOWN SHAPING

We can chart top-down garment shaping in a very similar way to the bottom-up method. Instead of doing bind-offs and decreases around the arms and neck, we'll do their counterparts: cast-ons and increases.

Let's imagine a one-size sweater pattern with no written-out instructions (or they're in a language we don't know); it has the following chart for what must be the front and back, because the other chart is a tapered rectangle with the wider end curved, which must be for a set-in sleeve.

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How do we work from this chart?

Preliminaries

The project photo shows a crew-neck sweater, so that gives us a good clue. Worst case, we can always turn the chart upside-down in what would be the wearing orientation if we're having trouble seeing what's what.

Shoulder Shaping: A Rows

Starting from the bottom of the chart, we see shoulder shaping. Since the rows add a few knit symbols at a time, we know the neck edge of each shoulder will be a bit higher than the armhole edge.

Front Neckline Shaping: B Rows

The crew neck accounts for what's happening in rows B1 through B19, where we start to fill in the gap in the center front. Eventually, there are stitches all the way across the width between the armholes, indicating the bottom (when the garment is worn) of the crew neck.

The unnumbered row between the A and B rows allows us to determine just how low we want the bottom of the crew neck to be. If we work a lot of rows between the end of the shoulder shaping and the beginning of the neck shaping, then we'd have a garment with what might be more accurately called a U-neck than a crew neck.

Underarm Shaping: C Rows

The C rows show the underarm shaping, with the last two C rows adding a lot of stitches all at once to get the proper width at the chest.

The single row between the B and C rows allows us to work the armhole to the correct depth before we start the underarm shaping. Folks who need taller armholes work more rows, while those who need shorter armholes work fewer rows at this location. In any case, all of those rows are represented by the single, unnumbered row.

Left and Right Are Switched

Since we're working top-down, we have to mentally adjust which half of the chart is which half of the wearer. Everything is now reversed compared to working bottom-up.

When we're making the front from this chart, the right half of the chart is the wearer's right front, and the left half of the chart is the wearer's left front. When we're making the back from this chart, it's the opposite. The right half of the chart is the wearer's left back, and the left half of the chart is the wearer's right back.

Once again, we can use a mental picture of holding this chart next to the wearer, except that now we hold it as though we're looking down at the top of the wearer's head. When the chart is held out horizontally next to the wearer's face, the right half of the chart is at the wearer's right shoulder. When we hold the chart horizontally next to the back of the wearer's head, we see the right half of the chart is at the wearer's left shoulder.

Throughout this chapter, I'll say that increases are done "at the beginning" or "at the end" of a row. Generally, we would do increases at least one stitch from the edge so that the edge is smooth, which makes it easier to do the sewing-up and to knit up stitches for ribbings or other purposes.

The Back

Let's walk through how we follow the chart as we work the back. Here's the shoulder portion of the chart again.

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Since we need to fill in with stitches the chart's front neckline area to work the back, we need to cast on stitches twenty-three through sixty-nine inclusive, forty-seven stitches total.

☛ If we first work a public-side row after we cast on, we jump past the remaining bullets and work row A1 as described in the next heading.

- ☯ If the first row we work after our cast-on would be a private-side row, then we have two choices.
 - ✓ We can treat the cast-on itself as row A1, which means we turn the work and skip ahead to the instructions for row A2 in the next heading.
 - ✓ We can work an extra private-side row (which we can think of as row A), then we proceed to work row A1 as described in the next heading.

Which of these two sub-options we choose depends on our yarn. If our yarn is, say, worsted weight or thinner and worked at six or more rows per inch, then it probably doesn't matter. If we're working in a bulky yarn at two or possibly three rows per inch, then we might want to use the first sub-option to minimize the height of the shoulder shaping. We could also use a different cast-on method than our usual one.

Working the First Two Rows

On row A1, we work across all the stitches.

When we turn for row A2, the chart shows row A2's first and last stitches, stitches sixty-nine and twenty-three, exactly on top of those of row A1, which means we work evenly across row A2.

The Shoulder Shaping

When we look at the beginning of row A3, we see that it's three stitches longer than row A2, because there are now knit symbols in stitches twenty through twenty-two. Since we need to add more than one stitch, we will cast on three stitches, as opposed to simply doing an ordinary one-stitch increase like a KFB or make one.¹

Depending on our exact cast-on method, we might actually have to add the three new stitches before we turn at the end of row A2. For other techniques, we would cast them on after we turn.

We work to the end of row A3, where we see that it's longer than row A2, because there are now knit symbols in stitches seventy through seventy-two. Since row A3 goes past the beginning of row A2 by more than one stitch, we have to cast on those three new stitches. Once again, we will add the three new stitches either before or after we turn to start row A4, depending on our cast-on method.

Since row A4's first and last stitches are exactly on top of the last and first stitches of row A3, we simply work them all evenly.

When we look at the beginning of row A5, we see it's three stitches longer than row A4, so we cast on three. As we get to the end of row A5, we again see it's longer than row A4, so we cast on three.

We continue to compare the next row to the current row (or the current row to the previous row), and if there's a difference of two or more stitches, we have to cast on that number of stitches.

Once we finish row A7, where we add three stitches at both ends, we look back at the

¹ Casting on two or more stitches while working top-down is the equivalent of binding off two or more stitches while working bottom-up.

full chart and see that we've completed the back's shoulder shaping. The chart shows row A8 as worked evenly on all the stitches of row A7. Including that private-side row allows us to start the next section on a public-side row.

Since we're working the back, we skip entirely all the B rows, because they show the front neckline shaping.² The next chart section that we'll work contains the C rows for the underarm shaping. But before we can start working the C rows, we have to work some rows evenly on the stitches we now have, which are between the vertical armhole edges (the cross-back stitches x from the appendix "Garment Design Details").

Armhole Depth and the Underarm Shaping

How many rows do we need to work evenly before we start the C rows? We need to work enough rows so that when we finish the C rows, the armholes have the correct number of total rows for the needed armhole depth from the end of the shoulder shaping to the end of the underarm shaping.

To do this, we have to take into account our working row gauge and the final armhole depth we need, exactly as we did when working bottom-up. Just to keep things easy, let's use the same information we used in "Bottom-Up Shaping" in part three. We needed nine inches at seven rows per inch, which gave us sixty-three rows. We bumped that up a row so that we could start the shoulder shaping on the public side, on row sixty-five.

When we worked bottom-up, row **one** was the **first** underarm shaping row, and row **sixty-four** was the **last** row **before** the shoulder shaping **started**.

Now that we're working top-down, we swap the row numbers and reverse all the bold words.

Thus, row **sixty-four** will be the **last** underarm shaping row, and row **one** will be the **first** row **after** the shoulder shaping **ended**.

Since we have a chart showing all the underarm shaping, we can just change row C16 to row sixty-four, row C15 to row sixty-three, and so on, changing all the C row numbers to the project row numbers we now know we need.

The double-numbered row shows that after we finish the shoulder shaping A rows, we work rows one through forty-eight evenly on those sixty-five stitches.³

² Unless, of course, we want the back to also have a crew neck. In that case, we would need to work the back shoulders separately, as described later in "The Front."

³ This chart assumes the back neck runs straight across between the tops of the shoulders, since it's not showing the front neckline B rows (or any other back neck shaping).

And again, since we're making the back, the gap in the three central columns will be filled in with stitches from the very beginning of the chart, in row A1.

Underarm Curves

When we turn to work row fifty, we see it starts one stitch sooner (stitch seventy-nine) than where row forty-nine ended (stitch seventy-eight). So we do our preferred increase at the beginning of row fifty. At the end of row fifty, we see it is exactly above the beginning of row forty-nine, at stitch thirteen. So we simply work evenly to the end of row fifty without doing any kind of increase there, then turn.

Underarm Cast-Ons

⁴ Increasing while working top-down is the equivalent of decreasing while working bottom-up.

As we approach the end of row sixty-three, we see that row sixty-four starts six stitches past the end of row sixty-three. So we will cast on six either before or after turning for row sixty-four, depending on our cast-on method. We work to the end of row sixty-four, and since it ends exactly above the beginning of row sixty-three, we're done with the underarm increases.⁵

We are now up to the full width of ninety-one stitches, so we would then work evenly the rest of the way.⁶

The Front

When we worked bottom-up, we had to use separate balls once we started working on the front neck. We had the choice of finishing the first shoulder before starting the other, or we could work both shoulders at the same time using two balls of yarn.

We'll have to do the same thing here, only in reverse. Working top-down, we start at the very top of the shoulder with row A1. We then have the same two options we had working bottom-up.

- ☞ We can use two balls of yarn to work both front shoulders simultaneously.
- ☞ We can work one front shoulder to a certain point, then work the second front shoulder to the same point.

What's the "certain point" we have to work to in the second option? If we look back at the full chart, we see that on rows B1 through B18, the gap between the left and right shoulder and front neckline stitches is growing more and more narrow. But on row B19, there are knit symbols all the way across the row; there are no more gaps because the front neckline shaping has been completed.

So we work each front shoulder up to and through row B18. On row B19, we work across the right front, cast on stitches to fill the gap at the bottom of the neck, then work across the left front with the right front's ball of yarn, breaking off the left front's yarn. Once we've joined the two pieces this way, we'll work the rest of the front as one piece.⁷

Positioning the Crew Neck Shaping

Where do start doing the increases to fill in the crew neck? We'll assume ribbing will be put

⁵ Increasing many stitches on the last two underarm shaping rows while working top-down is the equivalent of binding off many stitches on the first two underarm shaping rows while working bottom-up.

⁶ Of course, we would probably do some decreases before we started the bottom ribbing.

⁷ Starting the front shoulders as two pieces that are then joined at the bottom of the front neckline while working top-down is the equivalent of splitting the front shoulders into two pieces at the bottom of the front neckline when working bottom-up.

We have to take our row gauge into account to determine the starting point. If we start too soon, the neckline may not be far enough down for the wearer's head to get through or the finished edge of the neck ribbing may be so high that it constantly rubs the wearer's throat.

We start with the shoulder shaping chart, then add enough rows above it so that we can show explicitly every row through the end of the neckline shaping on the just-determined project row twenty-nine.

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For the front's full shaping chart, we add enough rows above row thirty so that we can show every row through row sixty-four, which, as we already determined while working the back, is the last row of the underarm shaping.

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We can make the chart a bit shorter by doing our trick of double-numbering where rows are worked evenly.

Working the Wearer's Right Front Shoulder

Shoulder Shaping

For row A2, we simply work the three stitches. When we look at row A3, we see that it starts three stitches beyond where row A2 ended. Depending on our preferred cast-on, we will cast on those three stitches before or after we turn to work row A3.

⁹ Whichever way we handled the first row after casting on for the back is the way we must now start both front shoulders.

yond the end of row A4. We again cast on, either before or after we turn. We finish the rest of the shoulder rows the same way, either working evenly or casting on as shown.

Now we work evenly on project rows one through ten, because we don't start the crew neck shaping until project row eleven.

Interpreting the Neck Shaping

All the work we did reading the back's underarm shaping is now the way we'll work the front neckline shaping.

As we work across row eleven, we see that it ends one stitch past where row ten began, so we do our favorite increase at the end of row eleven. When we turn, we see that row twelve starts and ends at exactly the same places as row eleven ended and started, so we just work row twelve evenly.

We do the same combination of increasing at the end of a public-side row and working evenly on the next private-side row with pairs of rows from row thirteen through row twenty-four.

At the end of row twenty-five, we see three stitches past the beginning of row twenty-four, so we need to cast on three stitches before or after we turn for row twenty-five (depending on our cast-on method). We work back to the armhole edge, where we continue to work evenly throughout the neck shaping.

As we approach the end of row twenty-seven, we see it's four stitches longer than what we already have on the needles. We cast on those four stitches after we finish the row, then work back evenly across row twenty-eight.

When we look ahead on row twenty-nine, we see that we have finally reached the spot where we will work the front as one piece between the edges of both armholes.

That means we've now finished the right front shoulder, so we put it aside. There's absolutely no need to break the yarn we've been using on the right shoulder, unless we like weaving in extra ends. We'll use the right shoulder's ball when we work row twenty-nine across the entire front.

We must now work the left front shoulder to the same spot, through row twenty-eight.

Working the Wearer's Left Front Shoulder

To start the wearer's left front shoulder (stitches sixty-seven through sixty-nine), we again cast on three, and we need to do the same thing for row A1 that we did on the back and on the right front shoulder.

We work row A2 evenly, without casting on any new stitches. When we look at the left shoulder's row A3, we see that it goes on for three stitches past the beginning of row A2. So,

depending on our cast-on method, we cast on those three new stitches before or after turning for row A4. We work back and forth, adding stitches at the armhole end of the public-side A rows and working evenly on the private-side A rows.

We then work evenly on rows one through ten.

Interpreting the Neck Shaping

When we work private-side row ten and turn, we see that row eleven starts one stitch beyond where we just finished row ten. So we have to increase one stitch at the beginning of row eleven, work evenly to the end of the row because it ends where row ten began, and turn. Row twelve simply works all of the stitches evenly.

Rows thirteen through twenty-four work the same combination: we increase one stitch at the beginning of the public-side rows and work evenly the private-side rows.

When we get to the end of row twenty-four, we see that we need to add three stitches at the beginning of row twenty-five. Depending on which cast-on method we use, we may have to cast them on before or after we turn to work row twenty-five.

We work row twenty-five to the end of the row, where we simply turn to the private side because the armhole edge is straight up and down. At the end of row twenty-six, we see that row twenty-seven needs to be four stitches longer at the neck (not the armhole) edge. We cast on and turn—or we turn and cast on—depending on the cast-on method we use, then we work to the end of row twenty-seven and turn. We do no shaping at the armhole edge, and we simply work to the end of row twenty-eight, since it ends where row twenty-seven began.

At this point, we break off the yarn we used for the left front shoulder, because we'll work the rest of the front with the yarn still attached to the right shoulder.

And Actually...

It would, of course, make more sense for traditional knitters to work the left front shoulder first, because when they break the yarn, they use that same ball to work the right front shoulder. MIKs should work the right shoulder first, as described here.

Joining the Two Shoulders

We've reached the point where we'll finish the front neckline shaping, but we have to do so the correct way.

First, we work row twenty-nine across the right front shoulder with the yarn still attached to it. At the end of the row, instead of turning and working back to the right armhole, we cast on the thirteen stitches across the flat bottom of the crew neck, stitches forty through fifty-two inclusive, as shown on row twenty-nine. Depending on the method we use

If we first work stitch seventy-eight instead, we will wind up with two right front shoulders instead of mirror-image right and left shoulders. We must double- and triple-check that we are looking at the public side of the left front shoulder before we work across it on row twenty-nine.

Now that we have all the armhole-to-armhole stitches of the front on one needle and are working across them with one ball of yarn, we work evenly on those sixty-five stitches up to and through project row forty-eight. When we turn to start row forty-nine, we do the under-arm shaping exactly the same way as we did on the back.

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¹⁰ It will be easy to start at the proper end of the right front shoulder when the garment is plain stockinette, stranded colorwork, or intarsia, because the public and private sides will be so obviously different. For texture patterns, it will be a bit more difficult, so we need to be sure the two shaped edges curve and slant the correct way.

When we work top-down, however, we can make both front shoulders exactly the same height because of one very simple thing: when we need to cast on new stitches, we can do so at either end of a row. Whether we cast on at “the end of the current row” or “the beginning of the next row” depends on our cast-on method. For backward loop cast-on, we form the new stitches at the end of the current row before we move our source needle to the other hand. For cable and knitted cast-ons, we swap needles in the usual way to start the new row, then form the new stitches on our working needle and transfer them to our source needle.

Top-down shaping allows us to cast on at both ends of a row if necessary, which means we avoid the “one side is one row taller than the other” situation of bottom-up shaping (unless we want to constantly break the yarn and deal with extra ends). As a matter of fact, we could have shown this garment’s underarm cast-ons all on the same chart row, exactly the same way the shoulder cast-ons are all on one row when we work the back. And the shoulder shaping could have been charted with the typical “off by one row” effect we saw with bottom-up shaping.

Whichever way the shoulders and underarms are charted for top-down shaping, the end result is the same.

MIKs, take note. For this chart, you don’t need to make any adjustments to move the shaping up one row on one edge and down one row on the other edge, because of the way casting on works differently than binding off.

We Can Turn a Shaping Chart Upside-Down

Suppose we have a garment charted for top-down shaping, but we want to use a stitch pattern that looks best when the end result is worn right-side up. That means we should start our garment’s pieces at the bottom edges, then work upward to the neck and shoulders.

Generally speaking, we can turn any shaping chart upside-down, then follow the boundaries for our desired size in the usual way by making the appropriate changes between binding off and casting on and between decreasing and increasing.

If we look at this chapter’s charts upside-down, which makes them bottom-up, we can see that the outlines look essentially the same as the shaping charts in “Bottom-Up Shaping.” If we look those charts upside-down, turning them into top-down charts, each size’s boundaries follow the same general outline as the top-down charts in this chapter.

Depending on how the garment’s shoulders are shaped, we might need to make slight adjustments to the exact rows on which we bind off or cast on stitches. We may also have to move up or down by one row the bound-off and decreased (or cast-on and increased) stitches at the underarms to accommodate the fact that we’re working in the other direction. Part three’s “Tweaking a Chart” helps us finesse those details.