

Chapter 26-C

MORE CHARTING TIPS

I've used all these ideas at one time or another (and usually wished I'd thought of them sooner). We shouldn't be afraid of thinking outside the box to test new techniques!

If we want to try something crazy but still be able to recover easily if it doesn't work, we should do the crazy thing on a separate copy of the chart: close the chart file, make a copy of it in our file manager, then play around in the copy.

My Charting Goal

I will do just about anything to squeeze my chart down so it fits on one side of a single sheet of paper—or, more accurately, so that the **width** of my chart fits on one side of a single sheet of paper. Why? For the very practical reason that I use a steel board and magnets to hold my chart and mark my place, and the board is the size of a sheet of paper. If the chart width, which really means the full width of the project's rows, doesn't fit on one side of a sheet, then I have two choices:

- 🌀 Remove the magnets, turn the sheet over, and re-position the magnets twice for every row (and hope I remember to mark the correct row during the process).
- 🌀 Use more than one sheet for each row, which is awkward in its own way. It's not very portable for knit night, and at home, even if I had more chart holders, it would be hard to fit them all on the table by my end of the couch.

Sometimes I have to do a bit of extra work to get the chart width down to one sheet, but the time spent on the chart more than makes up for the time saved with needles and yarn in hand.

Note that we can use as many pages as necessary to show additional **rows** without any issue. We finish the rows on page one, put page one aside, and start page two. The main problem is fitting the full width of the rows on one page.

Fitting a Chart on One Side of One Sheet of Paper

Let's start with the most extreme project and chart shapes.

If We Need a Really Tall Chart

Suppose we want to chart a scarf pattern that's longer than the number of rows that will fit on a sheet of paper. If the chart is narrow enough, we can make the entire chart **file** be two

columns, or we can create a document “section” with two columns. Note that these two columns are **not** referring to the table columns of our chart.

Instead, what I’m talking about is the kind of multiple columns we see in printed magazines, newspapers, and phone books. In a two-column document (or document section), the first column runs down the left half of the page, then continues in a second column that starts at the top right of the page. We can put a multi-column table in a multi-column document (or document section), and it will fill up some of the blank space we would otherwise lose.

If the chart is more than half the width of the paper, we can turn the page to landscape to see if that gives us enough space to fit both columns on the page. If not, then we just have some blank space on the page. Yes, we’ll need more pages to show all the rows of the full chart, but **the entire width of each row fits on the page**, which is the really important part.

Working from the Chart

Because of the way we read a chart, we have to read a two-column chart differently than we read a two-column magazine or newspaper article.

We work rows one through forty-one from the **right** portion of the sheet, then we work rows forty-two through eighty-two from the left portion of the sheet. If seeing both parts of the chart at once is too distracting, then we don’t bother with multiple document or section columns at all, and we simply let each group of rows print on its own page.

Very Skinny Scarf

82		81	40		41
80		79	38		39
78		77	36		37
76		75	34		35
74		73	32		33
72		71	30		31
70		69	28		29
68		67	26		27
66		65	24		25
64		63	22		23
62		61	20		21
60		59	18		19
58		57	16		17
56		55	14		15
54		53	12		13
52		51	10		11
50		49	8		9
48		47	6		7
46		45	4		5
44		43	2		3
42					1

If We Need a Really Wide Chart

Sometimes we need a super-wide chart, like for a scarf worked end to end instead of side to side. This situation is trickier to fit on one sheet, simply because of the number of symbols we need to show. But we have some tricks we can use here too.

The very first thing to do is, of course, turn the page to landscape. That gives us more room in the direction we need it. But even that won’t be enough for moderately wide pieces.

We can use the scale width setting in the Character dialog box, as we saw in part two’s “Long Instruction Lines.” That still may not be enough.

If we’re close, we can use legal paper turned landscape, which gives us another extra three inches. But part of the chart will flop over the edge of a letter-size chart holder. Sigh.

Very Wide Scarf: Two Tables

[illegible]

For the simplistic very wide scarf, it's overkill to create two separate tables. We could just as easily do two “sections” in a single table. That's because there's only one pattern column and the two bits of the rows happen to be the same width.

[illegible]

Very Wide Aran Scarf: 7 Points

[illegible]

Very Wide Aran Scarf: One Table with Extra Rows (11 Points)

12									1	
10									9	
8									7	
6									5	
4									3	
2									1	
	8180	797877767574	7372	717069686766	6564	63626160	5958	5756555453525150	4948	474645444342
12									11	
10									9	
8									7	
6									5	
4									3	
2									1	
	4140	39383736	3534	3332313029282726	2524	232221201918171615	1413	1211109876543211		

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Very Wide Aran Scarf: Two Tables (13 Points)

[illegible]

Working from the Chart

In these wide charts, **each project row is split in two**. Based on the stitch numbers, the lower portion of the chart is the right half of the piece, and the upper portion is the left half. On public-side rows, we work from right to left in the bottom part, then we work from right to left in the top part.

Private-side rows reverse all the directional and location words: we work from left to right in the top portion, then we work left to right in the bottom portion.

If, however, we flip the chart upside-down when we work the private side, then we read the rows the same way as for the public side: right to left in the “bottom,” then right to left in the “top.” We must then flip the chart right-side up for the public-side rows.

Use Really Big Paper

If we're combining lots of small patterns across the width of a big project, like a sweater or blanket, it would be nice to see the entire chart at once. That way we can compare the effect of having this pattern here and that pattern there.

When we're combining small patterns, then instead of using a four-point font size, we can make our "paper" as big as we want and keep the knitting symbols at ten or twelve points. If we're just playing with stitch patterns, keeping this one, adding that one, moving one from here to there, we're not really needing to print the chart.

Sometimes a project has a single design that's just big. Imagine a colorwork chart made

from a **photograph** (and here's an even **bigger one** if you're a Ravelry member) or a combination of textures that forms an **image**. Since there's no repetition, we have to show the entire huge chart.

Printing Oversize “Virtual” Paper

If our word processor can output a PDF, the newer versions of Adobe Reader can split a document laid out on a huge sheet of “virtual” paper onto multiple pieces of regular paper for printing. Other PDF viewers might be able to do the same. Details will depend on the exact software and version, but look for a section about page size and handling on the Print dialog box.

Our word processor may itself have the ability to “poster print” such documents, and there are small poster-printing programs available on the Internet that show up as a “printer” in our word processor's Print dialog box. There are also websites that allow us to upload such documents, then return to us the contents broken up and ready to print to multiple sheets of ordinary paper.

Split the Chart by Hand

If the technique of “poster printing” an oversize sheet of “virtual” paper yields less-than-ideal results, the only thing we can do is split the chart into page-size pieces by hand. We need to be careful to label each page of the chart with, at the very least, the correct row numbers and stitch labels (numbering the pages themselves wouldn't be nearly as useful, as we might not be able to tell if page three goes beside page two or above page one). If we're combining stitch patterns, we can include those names too for a sanity check.

The following chart has been split into two “pages,” represented by the thick borders, and there would of course be lots more stitches and rows than are represented here. Such a set-up may not be ideal, and it certainly may be quite a bit of work, but it may be unavoidable in some projects.

Patt 8	Patt 7	Patt 6	Patt 5	
				19
				17
				15
				13
				11
				9
				7
				5
				3
				1
32 31 30 29	28 27 26 25	24 23 22 21	20 19 18 17	

Patt 4	Patt 3	Patt 2	Patt 1	
				19
				17
				15
				13
				11
				9
				7
				5
				3
				1
16 15 14 13	12 11 10 9	8 7 6 5	4 3 2 1	

Number the Stitches

It can be very handy to identify all the stitches in a project with either letters or numbers. Depending on how many stitches there are, how many small patterns have been joined together, and how many stitches we have on DPNs, magic/traveling loop, or multiple circs, we might need to count them differently.

We can type

0987654321

then copy and paste it multiple times instead of using Insert | Special Character to select the boxed numbers or letters in the knitting font.

So the bottom row of the chart might look like

21098765432109876543210987654321

for a project that's thirty-two stitches wide.

The knitting font catalog has boxed capital and lowercase letters and numbers running in both directions (A–Z, Z–A, a–z, z–a, 1–100, and 100–1), so if we prefer any of them, we can just copy as much of the line as we need and paste it in.

enough for us to see it clearly. We may instead prefer, or need, to let the column be its default narrow width (which would be the sum of the cell's internal left and right margins) by leaving every cell empty, perhaps to help the chart fit on a single sheet of paper.

For the row repeat, we leave a blank table row where needed.

We can also change the appropriate table cell borders to a different color and/or a thicker line. Sometimes the computer makes it hard to change just one cell border, so using blank columns and/or rows is a great, and quick, alternative if we have enough space on the page.

Color Can Be Our Friend

Suppose we're making a sweater that has, among other patterns, both Braid and the Hugs and Kisses Cable. To help us keep things straight, we've put on our needle a green marker before each Braid and a pink marker before each Hugs and Kisses Cable. Now wouldn't it be nice if our chart did the same thing? It can.

It would be worthwhile to test our word processor's various settings.

- ☉ We can change the font color of the symbols themselves, though if the symbols are small, it may be hard to tell what color they are. Lighter colors, though, wouldn't work well at even relatively large font sizes.
- ☉ We can use the font highlight, which changes the color behind the symbols, not the symbols themselves.
- ☉ In a table, we also have at our disposal the cell fill color (it may be called "Shading" or "Background"), which is separate from the font highlight.

So we could put a blank table column to the right of each Braid, select it, and change the proper table cell attribute (not the font's color) to green. Then we put another blank table column to the right of each Hugs and Kisses, select it, and change the color of the same attribute to pink. Those entire columns now match our stitch markers.

If we're really squeezed for space, we can change the background or fill color of the stitch pattern's own column to the needed color. We could also change the color of the pattern columns' right borders, but as with stitch and row repeat boundaries, sometimes it's hard to make the computer do something different for just one border of a cell or column.

If we don't have a color printer, then we can use colored pencils or markers to do any of the above after we print the chart in black and white.

Other Uses for Color

In part two's "Long Instruction Lines," there are suggestions for using color in a chart to

represent how many times we work a repeating group. That chapter also shows the difference between the font highlight color and the table cell fill color.

And, of course, we can chart patterns for any kind of color knitting as shown in part one's "Colorwork."

Show Needle Intersections

If we're using double-pointed needles, magic/traveling loop, or several circs to make an item in the round, we can use blank columns in the chart at the places where the needles intersect or the loops stick out.

Putting needle intersections at strategic spots is a handy way to mark the beginning of a pattern repeat, the start of a different stitch pattern, or the beginning and midpoint of the round.

Deleting the Stitch Repeat Boundary Marker

This symbol has to "float above" all the stitch symbols, which allows all the stitch symbols to stay aligned with one another when some rows have the repeat boundary but others don't.

The easiest way to delete all of these symbols at one time is with Find and Replace. We put a | in the Find box, leave the Replace box empty, then click Replace All.

If we want to delete only a few scattered boundary symbols, then we have to be particular about how we position the cursor. To delete this boundary symbol, we have two choices.



🌀 Click to the **right** of the symbol to the **right** of the boundary symbol (between the two knit stitches in the example above), press the **Left** Arrow key, then press **Backspace**.















🌀 Click to the **left** of the symbol to the **left** of the boundary symbol (between the two purl stitches in the example above), press the **Right** Arrow key, then press **Delete**.

Please do note that the key you use to remove the stitch repeat boundary symbol depends on which side you do the removal from. Pressing Delete removes the character to the **right** of the cursor, but pressing Backspace removes the character to the **left** of the cursor.¹

¹ This directionality of removing characters with the Backspace and Delete keys applies for all programs and all fonts, in case you've gotten unexpected results when trying to remove characters in other situations.

Change One Symbol to Another

Suppose we type up a chart with a certain symbol, then realize that we want to swap out all those symbols for a different one. Or we may always want to use a different symbol than the one that's easier to type. Here are some examples of symbol substitutions we might want to make in all of our charts.

To chart a	the easy-to-type	produces	but we want to substitute
purl	p		
K2tog	/		  
SSK/SKP	\		  
yarnover	y		
Cable 1/1 Left	a		

For example, we charted with the easy-to-type


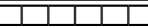

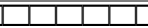
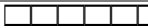















for a K2tog, then decide we want to use one of the alternate symbols, like



We can use our software's Find and Replace to change all at once every easy-to-type symbol to a symbol we have to select with the Insert | Special Character menu entry.

- 🌀 We type the easy character in the Find box. It doesn't matter what font the Find box uses.
- 🌀 We copy the preferred symbol from the knitting font catalog, then paste it in the Replace box. Again, it probably won't be in the knitting font, but that's OK.
- 🌀 When we click Replace All, every occurrence in the entire file is changed. If there's regular text in the file in addition to the chart, though, which should not be changed, we have two choices if the symbol we need to change is on an ordinary letter (like a Cable 1/1 Left that's typed with a lowercase a).
 - ✓ We can change the symbols one at a time, by clicking Replace on symbols within the chart and clicking Find to skip over normal text that should not be changed.
 - ✓ We can specify that the symbol in the Find box must be **in the knitting font** in order to be changed. With the cursor in the Find box, clicking a button like Format should allow us to open the Font or Character dialog box, where we can specify the knitting font. Then we can safely click Replace All.

6	  ... 	
	..  ...  / ...	5
4	  ... 	
	.  ...  / ..	3
2	  ... 	
	 ...  	1
a	 ... 	


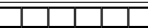

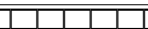
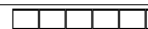











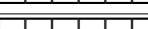

We have two techniques at our disposal.

Option A: Use Tabs

One way to split the center column into two pieces is to use tab characters to separate each line into two groups. In each row, we change the center three spaces to a single tab character. Since we're in a table, simply pressing the Tab key won't work, because doing so moves us to the next table cell.

To get an actual tab character in a table cell, we usually have to do Ctrl-Tab. So we click-drag over each group of three spaces, then do Ctrl-Tab.

When we switch all the spaces between the two groups of symbols to tabs, we now have this chart if hidden symbols are still showing. (As before, the right arrow is probably what your program uses to indicate a tab character when hidden symbols are visible.)

6	  → 	
	..  →  / ...	5
4	  → 	
	.  →  / ..	3
2	  → 	
	 →  	1
a	 → 	

If the two groups of symbols get pushed apart by different amounts of space, it doesn't matter. It does not matter at all. All that matters is that there is **exactly** one tab character between the two groups of symbols on each row.

Here's what the chart looks like with exactly one tab character between the groups and just the tab characters hidden. In row six, it looks like there's no tab at all, and the groups on the other rows certainly don't line up. But it does not matter. **It does not.**

6			
	..		5
4			
	.		3
2			
			1
a			

Now for the real magic. We select the entire table, then choose the menu item like Table | Convert Table to Text. The default character that will be put between each column is probably a tab. If it's not, select Tab, then click OK (or Convert, or whatever the button might be called).

Now select all the text, then choose Table | Convert Text to Table, making sure that the column separator is set to Tab before clicking OK (or however the “go ahead and do it” button is labeled).

6			
			5
4			
			3
2			
			1
a			

If we want to separate the columns, we can add a column between them, then put a space or two in one of its rows. In the next chart, the left shaping column has been set to Right Justified and the right shaping column to Left Justified.

6			
			5
4			
			3
2			
			1
a			

Option B: Duplicate the Column and Delete Symbols

The other way to split one column into two is to first duplicate the column, then delete from each copy the unneeded symbols.

This technique can be faster than using tabs if our software has an “alternate selection mode.” See that discussion toward the end of the chapter.

Add Special Rows to Do Addition

In the Aran sampler, the top row of the chart had the names of each pattern. If we’re rearranging our chart’s table columns to get the exact layout we want, keeping the pattern name with the pattern rows is a nice convenience.

Let me suggest two more special rows: pattern widths and stitch counts.

Pattern Widths

From working up a swatch with the cable and twist patterns, I knew exactly how wide (in inches) each pattern would be. So I could have added a row to the chart to capture that information:

Braid		Cable 3/3 R		Fishbone		Wavy Cable		Hugs and Kisses
0.75		0.8		1.2		0.9		1.2

After adding a column at the far right, where I added the heading *Total*, I can use a formula to add up the numbers on the rest of that row (the cell where the formula goes has the thick border in the next chart).

Braid		Cable 3/3 R		Fishbone		Wavy Cable		Hugs and Kisses	Total
0.75		0.8		1.2		0.9		1.2	

How? As soon as I type an equals sign in that cell, my word processor goes into “formula mode.” I click-drag across all the cells to the left of the Total cell (shown with a thick border in the next chart), then press Enter. The computer adds up all the numbers for me.

Braid		Cable 3/3 R		Fishbone		Wavy Cable		Hugs and Kisses	Total
0.75		0.8		1.2		0.9		1.2	4.85

If we click in the Total cell, and perhaps open a toolbar called something like “Formula,” the word processor will show us the actual formula it uses to do the sum.³

Braid		Cable 3/3 R		Fishbone		Wavy Cable		Hugs and Kisses	Total
0.75		0.8		1.2		0.9		1.2	=<A4:I4>

If I add or delete a column, my word processor is usually smart enough to update the formula accordingly. If I want to be sure the answer is right, I can either click in the Total cell and look at the formula, or I can just delete the formula and re-create it.

We could also put a Total column as the first column if we prefer, then we’d click-drag across all the table cells to its right.

Stitch Counts

In the exact same way, we can add another row with the stitch counts for each pattern

Braid		Cable 3/3 R		Fishbone		Wavy Cable		Hugs and Kisses	Total
0.75		0.8		1.2		0.9		1.2	4.85
6		6		9		7		8	

and make the computer add up these numbers too.

Braid		Cable 3/3 R		Fishbone		Wavy Cable		Hugs and Kisses	Totals
0.75		0.8		1.2		0.9		1.2	4.85
6		6		9		7		8	36

Now, the Aran sampler was small, and we can do this arithmetic ourselves. But imagine a sweater that’s forty inches around. It’s apt to have lots of patterns, and I for one would rather concentrate on pattern selection and positioning than repeatedly doing mental arithmetic (which I’ll almost certainly do wrong), so I let the computer do it.

³ Table rows are usually numbered with row one at the top, and table columns are usually lettered with column A at the left. That means the first cell in the top row is A1. In a table four rows tall and ten columns wide, then on the bottom row, the first cell is A4, and the next-to-last cell is I4.

Filling Chart Columns Quickly

When I was typing up the Aran sampler's chart, I stumbled on this capability completely by accident. Both word processors I use behave this way, which saves tons of time and effort.

Filling a Column with Copies of One Row

Since I wanted columns of reverse stockinette between each pattern in the Aran sampler, I started off by putting two purl symbols in row forty-eight of the column between Braid and Cable 3/3 Right. I selected the two purl stitches and copied them. Then for some reason, I selected the forty-seven empty cells below that cell, all the way to the bottom of the table, before I pasted. My word processor put two purl stitches in **every** cell. Yippee!

If your word processor won't fill all forty-seven cells in this way, then put the cursor in the second cell down, and paste. Move the cursor down again, and paste. Once you have a few rows of purl stitches, select and copy them as a **group**. Then put the cursor in the highest empty cell and paste. Keep putting the cursor in the highest empty cell and pasting. You can at any time select and copy all the cells filled so far, then paste that larger group.

If your word processor adds extra table rows at the bottom because you pasted more cells than the column needed, then just delete those table rows when you're done making the chart.

If It Works, Try Copying All of a Pattern's Rows

If the attempt to copy just one row into an entire column worked, then you might be able to use this technique to copy a complete set of pattern rows into multiple table cells.

Suppose we had a ten-row pattern and knew we needed a total of twelve copies of it in a project chart. Instead of pasting the ten-row group eleven times, we make the project chart a hundred twenty rows tall (the pattern area itself, not including any heading or other special rows the chart may have). Once we have the ten pattern rows typed in, we select and copy them. Then we select the hundred and ten empty cells below them, and paste.

If the word processor doesn't paste in eleven copies of the ten pattern rows, then we paste one copy below the first set, select and copy the twenty rows of both copies of the pattern repeat, click in the highest empty cell, and paste. We can keep selecting more and more complete pattern repeats to copy and paste.

Copying a Whole Column

We might need copies of the same pattern in several places across the width of a project chart, exactly the way we put two purl stitches between each pattern in the Aran sampler.

Once we have an entire column filled, we select and copy it. Then we put the cursor in

the top cell of the column (or select the entire column) that needs the same symbols, and paste.

Experiment with Shaping Changes

In part three's "Bottom-Up Shaping," we saw how to chart the shaping of the "other" front of a cardigan, because so many cardigan patterns merely tell us that we need to "reverse all shapings" of the front that has the complete instructions for neck, armhole, and shoulder bind-offs and decreases (or cast-ons and increases for top-down projects). But we can do the same thing for any other shaping situation.

I did a really wild chart for **one sweater**. I was adapting an Aran sweater with set-in sleeves and a broad, shallow crew neck to have raglan sleeves and a deep, narrow crew neck. So I had to figure out how many stitches to leave unworked at the center front. If I left too many, I'd run out of stitches before I got to the neck at the sleeve/front raglan line, and if I left too few, the front neck width would be too narrow. Starting the neck shaping on the wrong row would similarly wreck the effect.

So I charted the entire sleeve/front raglan line from underarm to neck. Once I knew how many rows it would take to get the armhole depth I wanted, I ran the crew neck's diagonal shaping from the top of the sleeve/front raglan line back down to the desired depth of the center front. Then I knew exactly how many center front stitches I had to cast off and on which row.

Because I used a huge "sheet of paper," I saved myself an enormous amount of trial, guesswork, and ripping, especially because—and I forgot to mention this—I was working in the round. That meant **all** the sleeve and neckline shaping was happening at the same time. I didn't want to get halfway done and realize I hadn't left the correct number of stitches at the center front or had started the neck shaping either too early or too late.

Is There an "Alternate Selection Mode"?

Ordinarily when we try to select across several ordinary lines in a word processor, if we start dragging somewhere in the middle of a line, drag downward through one or more lines, then stop dragging in the middle of the last line, the word processor will select the right portion of the first line, the left portion of the last line, and the entirety of all the lines between them.

But some word processors have the ability to select, for example, the first four or the middle ten characters on any number of consecutive lines. In this selection mode, we would click to the left of a character on the first line, then drag down any number of lines and across as many characters as we want. So we would be able to select, say, the third through

tenth characters on as many lines as we wanted, while the characters before and after them remain un-selected on all of those lines.

At that point, we can do whatever we want with the selected characters: delete them all by simply pressing Delete or Backspace once, change their font, make them a different color, add a highlight to them, make them bold or italic, or anything else we can do to characters selected in the usual way. It's well worthwhile to see if our word processor has this ability and then to practice using it because, in the knitting font, the characters are all some multiple of the width of a single knit character.

So when we doubled up the motif rows in chapter 4's purl diamond project, which caused issues with the seed stitch left and right borders, we would have been able to quite easily select the five left border stitches on all the rows at once, then just delete them, even though they were in ordinary lines instead of a table. Then we'd do the same thing on the right border's five stitches.

We can also select an empty spot on every row, then paste an entire column of characters into it. So if we had a tall column of seed stitch somewhere, we could select five symbols on every row, then drag down through, well, a no-width area where we need that column of symbols, and paste it. It will take a little practice to learn how to do this maneuver, but it can be an extraordinary time-saver if we want to chart on regular lines instead of in a table.

And of course, this alternate selection capability would be useful in other kinds of documents on occasion, not just in knitting charts.

In some word processors, we hold down the Alt key while we click-drag across the characters and down through the lines (though this technique may work only on regular text lines, not in a table). Other word processors have a menu entry that switches to this alternate selection mode.

Create a Basic Chart Template File

There are certain elements we'll want for every project we chart in the computer, such as the initial three-column table, the knitting font, stitch numbers, row numbers, project name and source, information about stitch and row repeats, tricky bits in the project, and so on. We can create a file with all these basic pieces, then use it as a starting point instead of always starting with a totally empty file.

Our word processor will probably want to "spell-check" our knitting chart. We can forestall that and prevent the misspelling indicator from ever appearing by selecting the entire table, then setting its language to None (or doing whatever our word processor requires to prevent spell-checking).

We can also put an instance of each preferred character in the file, so that when we want

to change an easy-to-type character to a different one with Find and Replace, we already have the symbol handy instead of tracking it down in the knitting font catalog or using the Insert | Symbol menu item.

After we create a basic file with all these components, then in our file manager, we copy and paste the template file to a new filename for each new chart or project.