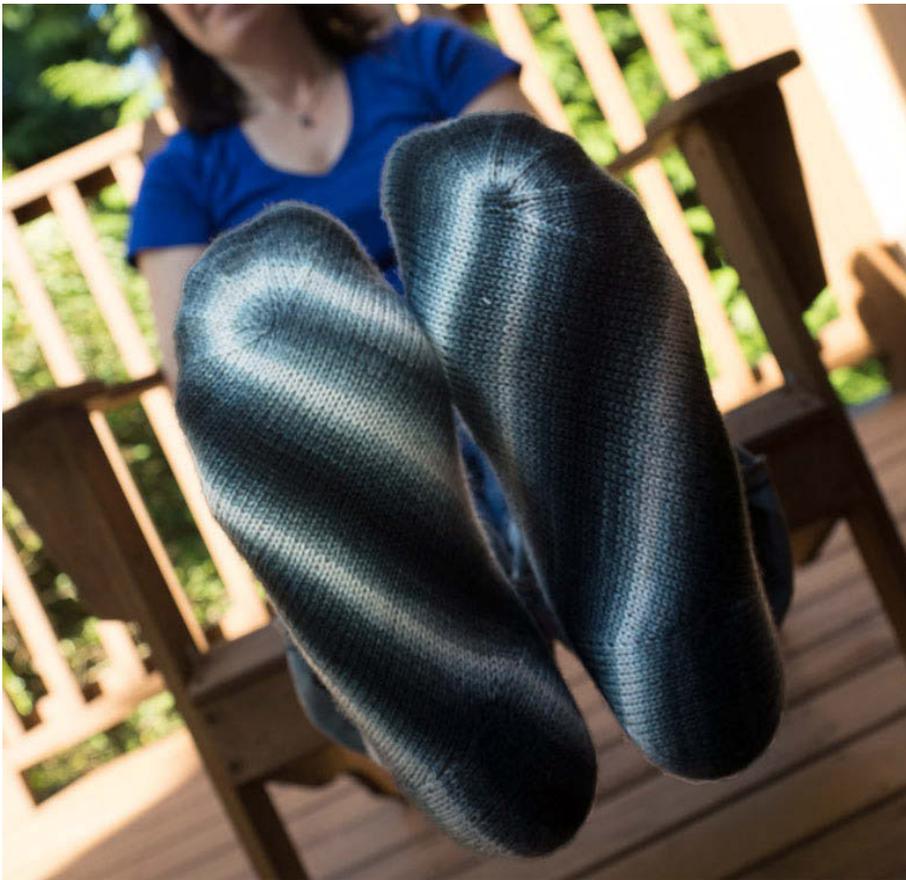


# WRAPTOR

By Jeny Staiman

Difficulty: Piquant



Wraptor is the love child of two other knitty sock patterns, [Skew](#) and [Longitudinal](#). It's what happens when you take classic sideways sock construction and work it on the bias.

Wraptor is worked in stockinette stitch, and is a compelling way to showcase your favorite self-striping or gradient yarn. Because of its sideways construction, it is less elastic than socks worked in the round. You'll have to wiggle it over your heel, but then it will fit like a second skin.

This pattern does not require expert knitting skills, but it does require strong spatial skills and/or a willingness to trust the pattern's instructions even if they seem wrong to you. If you surrender yourself to the instructions you will quickly see Wraptor's underlying rhythm, but you will probably wonder how it can possibly turn into a sock that will fit you. It will. Trust me – I've done the math.

Working Wraptor in stockinette using self-striping yarn is but one way to show off this unique sock construction. If you enjoy more texture in your socks, or if you like to have more control over color transitions, Wraptor adapts easily to these kinds of tastes. Check out my [Ravelry designer page](#) for some example variations on the theme, as well as some additional visualization tools.

## SIZE

Four widths and six lengths to choose from, covering shoe sizes US women's 6-12 and US men's 6-11.

## FINISHED MEASUREMENTS

<b>Sock foot length:</b>	7.25[7.5, 7.75, 8, 8.5, 8.75, 9] inches
<b>Sock circumference after graft :</b>	7.25[7.75, 8, 8.5] inches
<b>Leg opening:</b>	8[8.25, 8.75, 9.25] inches
<b>Leg height:</b>	7.5 inches from bottom of heel

*All measurements incorporate negative ease.*

**Note:** *Leg height is set for all sizes. Other measurements are independent of one another – foot length is set by the cast on number; leg opening and sock circumference are determined by the number of rows.*

## MATERIALS

### Yarn

**[MC]** Twisted Fiber Art [Tasty yarn base: 80% merino, 10% cashmere, 10% nylon; 380 yds per 100g skein]; color: LeCirque self-striping (long repeat); 1 skein

**[CC]** Twisted Fiber Art [Tasty yarn base: 80% merino, 10% cashmere, 10% nylon; 95 yds per 25g mini-skein]; color: Night; 1 mini-skein (You will need only a small amount of CC yarn shortly before the sock is finished.)

## Needle size

1 US #1.5/2.5mm 60-inch circular needle OR 2 32- or 40-inch circular needles

**Note:** This project is knit back-and-forth over 200+ stitches per row; DPNs are not recommended.

## Notions

- stitch markers in 5 colors (removable recommended)
- yarn needle

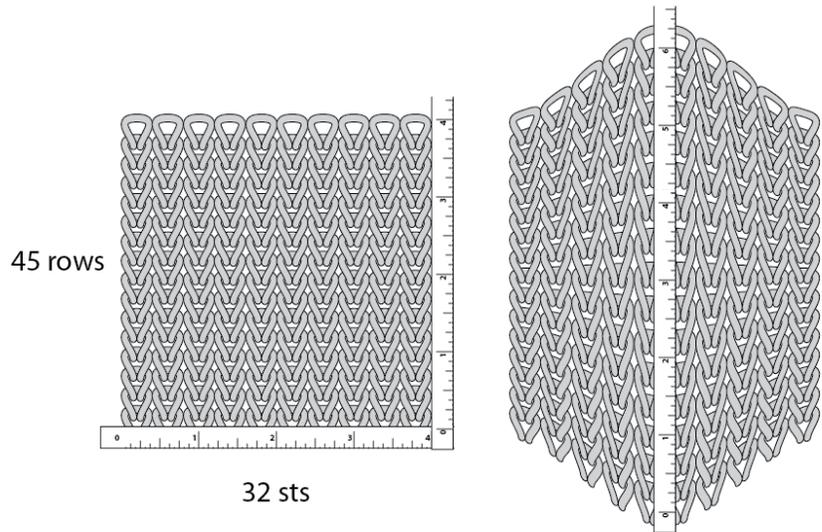
## Gauge

32 sts/45 rows = 4 inches in stockinette, and more importantly, row height stretches to at least 6 1/4 inches (see image at right).

You may be thinking “it’s a sock, I don’t need to do a gauge swatch.” Trust me, you need to knit a swatch.

Matching this stitch gauge is critical. Matching this row gauge is important but not critical.

Please visit [Wrapor](#) on [Ravelry](#) for additional resources if you have difficulty matching gauge.



## PATTERN NOTES

[*Knitty's list of standard abbreviations and techniques can be found at <http://knitty.com/ISSUEw13/patterns.php#KSBBB>*]

## Featured techniques

[Judy's Magic Cast On \(JMCO\) \(the way I do it\): http://curiousknitter.blogspot.com/2011\\_02\\_01\\_archive.html](http://curiousknitter.blogspot.com/2011_02_01_archive.html)

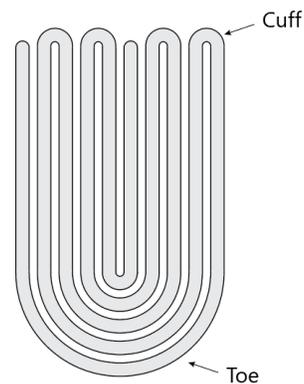
[Kitchener stitch \(grafting\) http://www.knitty.com/ISSUEsummer04/FEATtheresasum04.html](http://www.knitty.com/ISSUEsummer04/FEATtheresasum04.html)

[M1 increases \(Elizabeth Zimmermann method\) http://www.knitty.com/ISSUEwinter09/FEATwin09TT.php](http://www.knitty.com/ISSUEwinter09/FEATwin09TT.php)

[Short rows and concealing wrapped stitches http://www.knitty.com/ISSUEsummer03/FEATbonnetric.html](http://www.knitty.com/ISSUEsummer03/FEATbonnetric.html)

## About sideways sock construction

Whereas traditional socks are worked in the round in one long continuous tube, sideways socks are worked flat, back and forth in a U-shape...

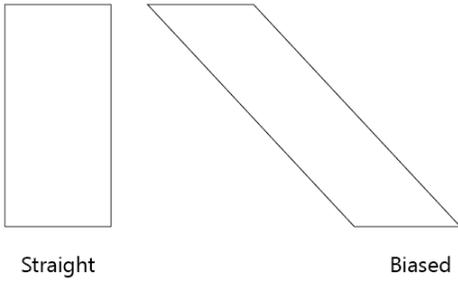


...working across the foot from one side to the other.

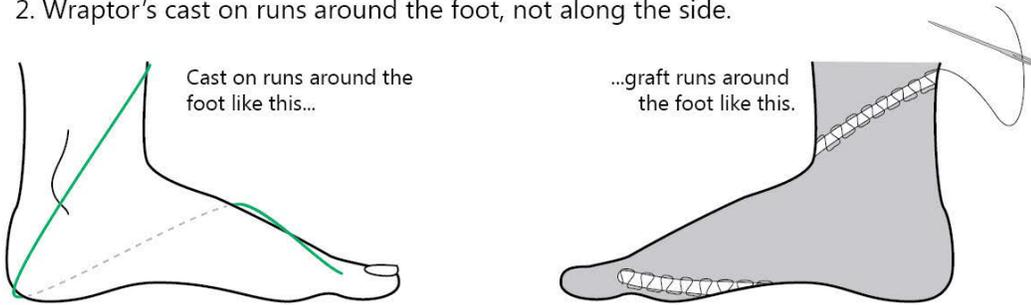
Wrapor follows the basic principles of sideways sock construction, but with two key variations that create its characteristic twist...

### What makes Wraptor unique

1. Wraptor's fabric is worked on the bias.



2. Wraptor's cast on runs around the foot, not along the side.



Here's how it will play out with the actual sock in this pattern.

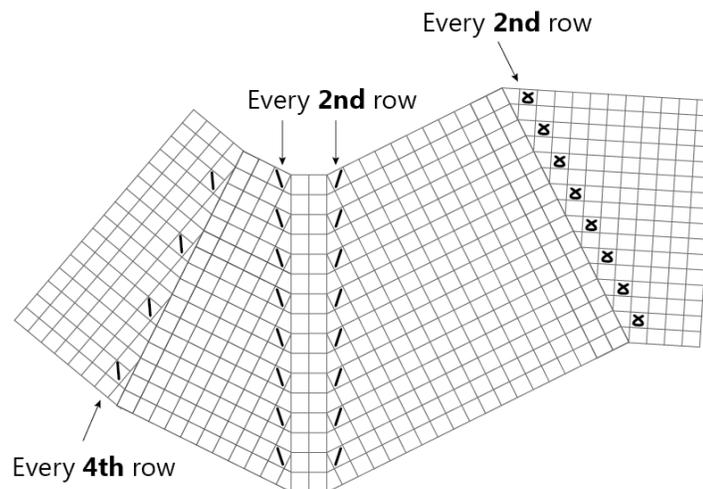
Before graft

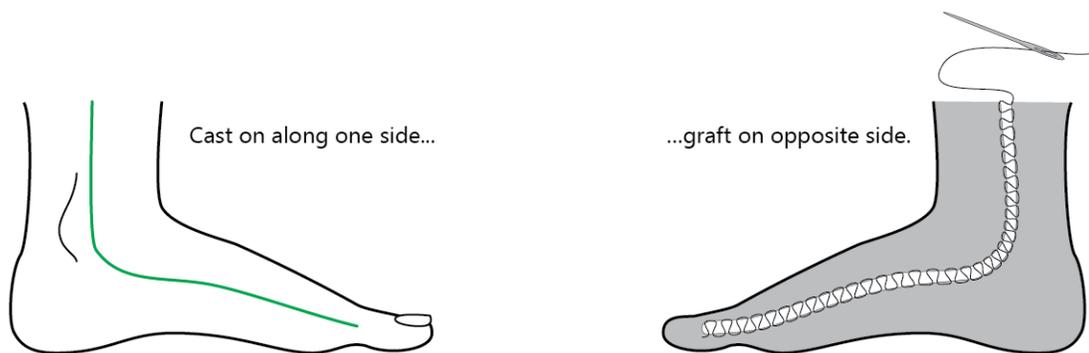
After graft



### How the shaping works

Wraptor does what it does because of its meticulously engineered placements of increases and decreases. Most of these repeat every 2nd row, but some repeat only every 4th row. An example is illustrated below:





### The 4 Stages of Wraptor

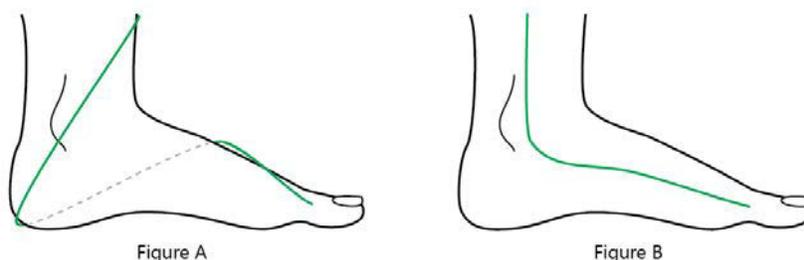
Unlike a traditional sock, which affords you the freedom to focus on 1 part at a time (cuff, leg, heel, etc.), sideways socks require you to multitask.

Wraptor is divided into 4 stages; each of these stages is outlined in detail in Directions.

- Stage 1 (first 12 rows): toe increases, heel shaping
- Stage 2: (middle 12-18 rows) heel body, no toe shaping
- Stage 3: (last 12 rows) toe decreases, instep shaping
- Stage 4: short row instep and leg shaping

### Sizing

The most important thing about sizing is to cast on the right number of stitches at the beginning, based on the length of your foot (not necessarily your shoe size). To get a general sense of how Wraptor's cast on works, wrap a measuring tape around your leg and foot as shown in Figure A below. Then measure along the side as shown in Figure B. In comparison, Figure A (Wraptor) covers a much greater distance than Figure B (Standard). So it requires more stitches to get from your cuff to your toe than you might expect.



**Note:** Don't calculate your own stitch count based on these diagrams. If you want to understand the engineering that goes into determining stitch and row counts, visit Wraptor on [Ravelry](https://www.ravelry.com/patterns/search?q=wraptor) for additional resources.

### Length

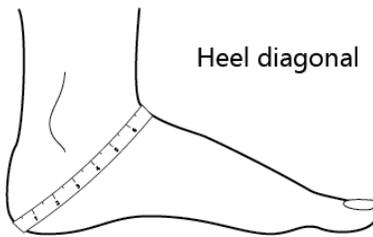
The entire length of the sock consists of 50 sts for the cuff, plus 38 sts for the heel, plus a personalized number of sts for the foot, plus 3 for the toe. The amount of negative ease in the table below may seem like a lot; bear in mind that sideways socks tend to need more negative ease than traditional socks worked in the round.

US Women's Shoe Size	US Men's Shoe Size	Approx. foot length in inches <sup>1</sup>	Foot sts ("F")	Finished foot length in inches (heel to toe) <sup>2</sup>
6		8 7/8	44	7 1/4
7	6	9 1/4	46	7 1/2
8	7	9 1/2	47	7 3/4
9	8	9 7/8	49	8
10	9	10 3/16	51	8 1/2
11	10	10 1/2	52	8 3/4
12	11	10 7/8	54	9

<sup>1</sup> Source: Zappos.com <http://www.zappos.com/measure-your-shoe-size>

<sup>2</sup> Incorporates negative ease

## Width



Width size is determined by heel diagonal (circumference around widest part of foot):

	Heel diagonal in inches	No. of rows	Fits foot circumference, in inches	Finished foot circ. in inches (grafted) <sup>1</sup>	Finished fabric width in inches (before graft) <sup>2</sup>
<b>Narrow</b>	11.5 - 12	34	8 - 8.5	7.25	6
<b>Med</b>	12 - 12.5	36	8.5 - 9	7.75	6.5
<b>Wide</b>	12.5 - 13	38	9 - 9.5	8	6.75
<b>X-Wide</b>	13 - 13.5	40	9.5 - 10	8.5	7

<sup>1</sup> Incorporates negative ease

<sup>2</sup> "Finished fabric width" is row height, or the distance measured cable to cable before you graft. This is explained in greater detail in Checkpoint 3 of the pattern instructions.

## DIRECTIONS

### Setup

You should have stitch markers for this project. These correspond to 5 shaping areas, noted by these codes:

- Toe (T-marker)
- Increase (I-marker)
- Single decrease (D-marker)
- Mitered decrease (MD-marker)
- Short row (S-marker)

### Cast on

Cast on in MC. Pull out about 8 ft of yarn from your ball and fold here.

- Top needle = Needle 2; bottom needle = Needle 1
- Cast onto each needle the specified number of stitches.

JMCO 3 sts; place a T-marker on each needle.

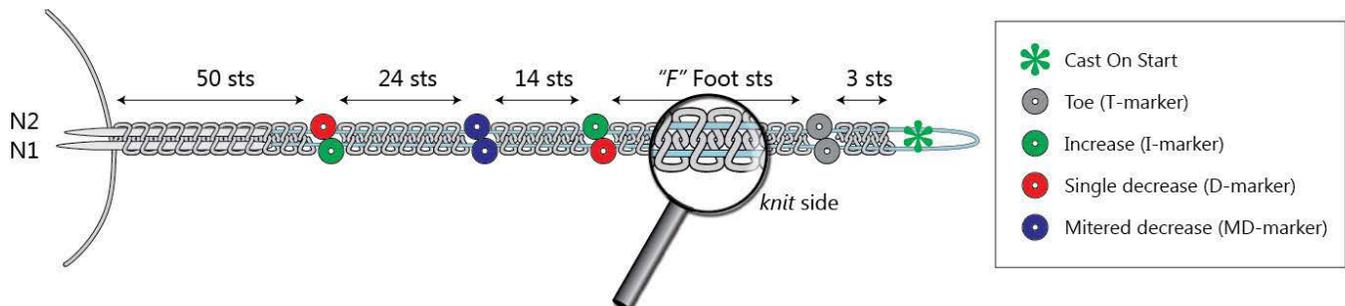
JMCO the number of sts that corresponds to your foot size in the [length size chart](#). This number is referred to as F in all charts and stitch counts. Place an I-marker on top needle and a D-marker on bottom needle.

JMCO the first 14 heel sts; place MD-markers on both top and bottom needles. (Note: Mitered heel decreases start on row 6.)

JMCO the remaining 24 heel sts; place D-marker on top needle and I-marker on bottom needle.

JMCO 50 leg sts.

Your cast on should look something like this:

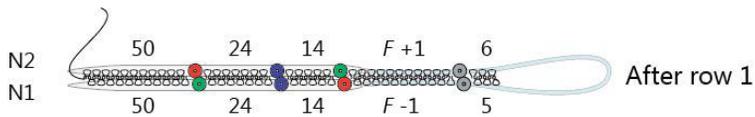


### Stage 1: Toe increases, heel shaping

Following cast on row, rotate needles 180 degrees; continue working on Needle 1 on RS.

**Row 1 [RS]: Needle 1:** K2tog, k to 1 st before I-marker, m1R, k to D-marker, ssk, k to T-marker, k1, [m1L, k1] twice.

**Needle 2:** [M1L, k1] three times, k to 1 st before I-marker, m1R, k to D-marker, ssk, k to 1 st before end, m1R, k1. Turn to WS.

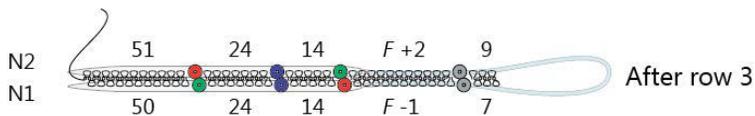


**Row 2 [WS]:** Purl. Turn to RS.

Note: For all purl rows, work from end of Needle 2 back to beginning of Needle 1. Do not work in the round.

**Row 3 [RS]: Needle 1:** K2tog, k to 1 st before I-marker, m1R, k to 1 st before D-marker, w&t; sl 1, p to 1 st before I-marker, w&t; sl 1, k to D-marker, working wrapped st tog with its wrap; k to T-marker, k1, [m1L, k2] twice.

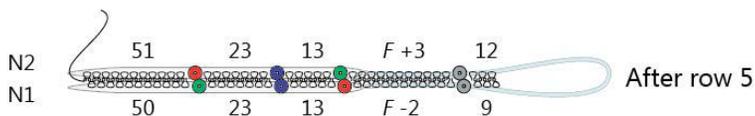
**Needle 2:** [M1L, k2] three times, k to 1 st before I-marker, m1R, k to 1 st before D-marker, w&t; sl 1, p to 1 st before I-marker, w&t; sl 1, k to D-marker, working wrapped st tog with its wrap; k to 1 st before end, m1R, k1. Turn to WS.



**Row 4 [WS]:** Purl, working wrapped st together with its wrap. Turn to WS.

**Row 5 [RS]: Needle 1:** K2tog, k to 1 st before I-marker, m1R, k to 3 sts before MD-marker, k2tog, k2, ssk, k to D-marker, ssk, k to T-marker, k1, [m1L, k3] twice.

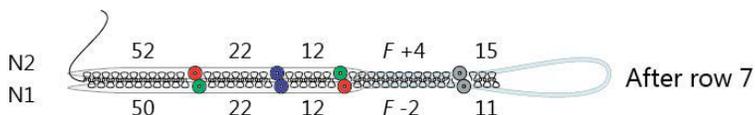
**Needle 2:** [M1L, k3] three times, k to 1 st before I-marker, m1R, k to 3 sts before MD-marker, k2tog, k2, ssk, k to D-marker, ssk, k to 1 st before end, m1R, k1. Turn to WS.



**Rows 6, 8, 10, 12 [WS]:** Purl. Turn to WS.

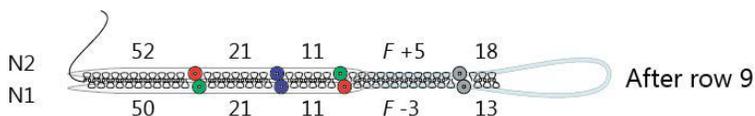
**Row 7 [RS]: Needle 1:** K2tog, k to 1 st before I-marker, m1R, k to 3 sts before MD-marker, k2tog, k2, ssk, k to T-marker, k1, [m1L, k4] twice.

**Needle 2:** [M1L, k4] three times, k to 1 st before I-marker, m1R, k to 3 sts before MD-marker, k2tog, k2, ssk, k to 1 st before end, m1R, k1. Turn to WS.



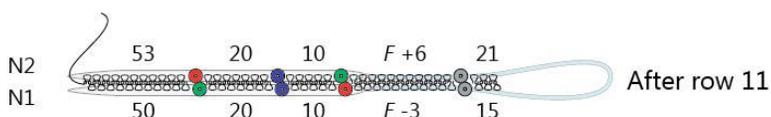
**Row 9 [RS]: Needle 1:** K2tog, k to 1 st before I-marker, m1R, k to 3 sts before MD-marker, k2tog, k2, ssk, k to D-marker, ssk, k to T-marker, k1, [m1L, k5] twice.

**Needle 2:** [M1L, k5] three times, k to 1 st before I-marker, m1R, k to 3 sts before MD-marker, k2tog, k2, ssk, k to D-marker, ssk, k to 1 st before end, m1R, k1. Turn to WS.



**Row 11 [RS]: Needle 1:** K2tog, k to 1 st before I-marker, m1R, k to 3 sts before MD-marker, k2tog, k2, ssk, k to T-marker, k1, [m1L, k6] twice.

**Needle 2:** [M1L, k6] three times, k to 1 st before I-marker, m1R, k to 3 sts before MD-marker, k2tog, k2, ssk, k to 1 st before end, m1R, k1. Turn to WS.



### Checkpoint 1

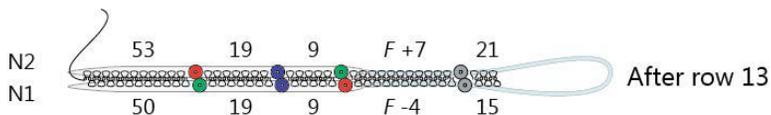
You have worked 12 rows plus the cast-on row on each needle. All sizes' row height should measure about 2.25 inches from cable to cable at the end of Stage 1. (The one at right is 2 1/8 inches; that's an acceptable margin.)



### Stage 2: Heel body, no toe shaping

**Row 13 [RS]: Needle 1:** K2tog, k to 1 st before I-marker, m1R, k to 3 sts before MD-marker, k2tog, k2, ssk, k to D-marker, ssk, k to end of needle 1.

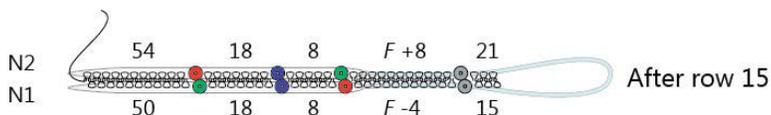
**Needle 2:** K to 1 st before I-marker, m1R, k to 3 sts before MD-marker, k2tog, k2, ssk, k to D-marker, ssk, k to 1 st before end, m1R, k1. Turn to WS.



**Row 14 [WS]:** Purl. Turn to RS.

**Row 15 [RS]: Needle 1:** K2tog, k to 1 st before I-marker, m1R, k to 3 sts before MD-marker, k2tog, k2, ssk, k to end of needle 1.

**Needle 2:** K to 1 st before I-marker, m1R, k to 3 sts before MD-marker, k2tog, k2, ssk, k to 1 st before end, m1R, k1. Turn to WS.



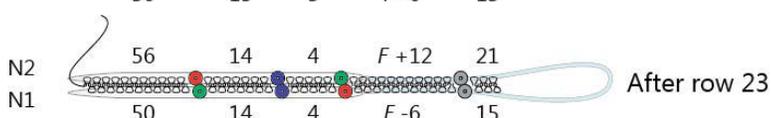
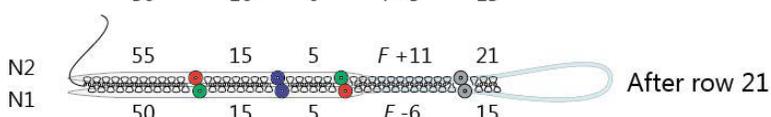
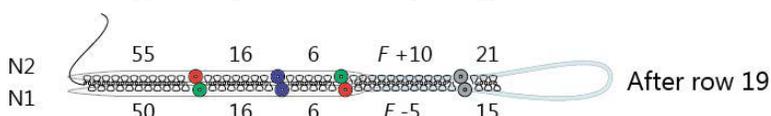
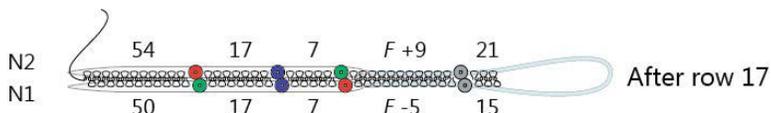
**Row 16 [WS]:** Purl. Turn to RS.

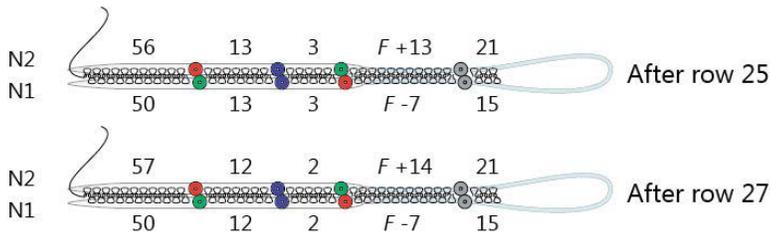
Repeat these 4 rows until your fabric is 4[4.25, 4.75, 5.25] inches wide from cable to cable. Assuming your row gauge is on target, this should be through row 22[24, 26, 28].

**Note: Row height and elasticity are more important than row count.** Row gauge is notoriously variable, and elasticity depends on your yarn. Therefore, think of your target row count as just a guide. To check your row height and elasticity:

**Row height:** Work until your fabric matches the target width for your size, measured cable to cable as shown in Checkpoint 3.

**Row elasticity:** Hold one edge of the fabric in each hand and pull apart as hard as you can, as you did for the gauge swatch. If it does not stretch to the target elasticity, even if it measures the target row height, continue working until it stretches to the target elasticity.





### Checkpoint 2



Your row height should now measure about 4[4.5, 4.75, 5.25] inches from cable-to-cable. It should stretch to at least 6.5[7, 7.5, 8] inches. Knitting to gauge, this is a total of 44[48, 52, 56] rows plus the cast on row.

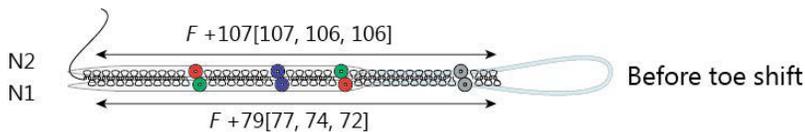
<-- Measuring the row height at the end of Stage 2 (example shows size M; 4.5 inches).

**Note:** You will not be able to adjust your row count after Checkpoint 2, so make sure your fabric is the right width before you proceed. For help with adjustments please visit [Wraptor on Ravelry](#) for additional resources.

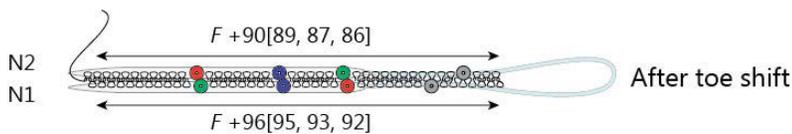
### Stage 3: Toe decreases, instep shaping

#### Setup 1: Adjust stitches

This should be your current total stitch count:

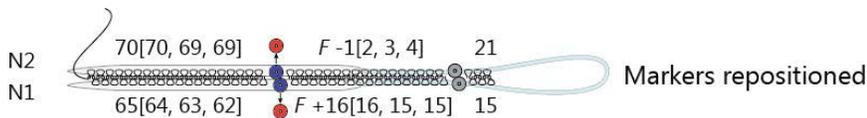


Move 17[18, 19, 20] sts from needle 2 to needle 1. Needle 1 now has 6 more stitches than needle 2. Stitch count is crucial here. Over the next 12 rows, your stitch count will even out IF you have precisely 6 more sts on needle 1 at this point.



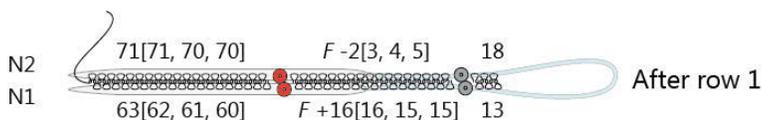
#### Setup 2: Reposition markers

On needle 1, remove T-marker from its existing location and reposition it 15 sts above the last toe stitch. On needle 2, remove T-marker and reposition it 21 sts above the last toe stitch. Remove I-markers and D-markers, then swap out the MD-markers with D-markers.



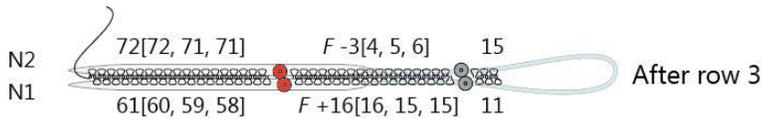
**Row 1 [RS]: Needle 1:** K2tog, k to 3 sts before D-marker, k2tog, k to T-marker, k1, [k5, k2tog] twice.

**Needle 2:** [K5, k2tog] three times, k to 3 sts before D-marker, k2tog, k to 1 st before end, m1R, k1. Turn to WS.

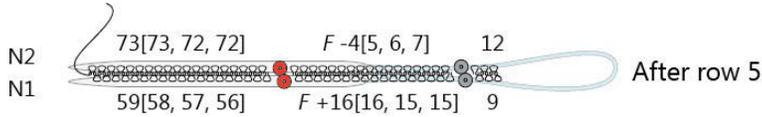


**Rows 2, 4, 6, 8, 10, [WS]:** Purl. Turn to RS.

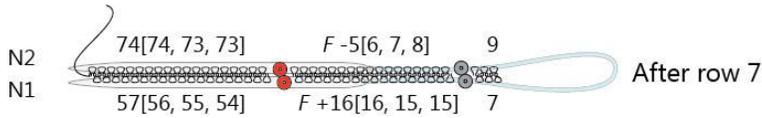
**Row 3 [RS]: Needle 1:** K2tog, k to 3 sts before D-marker, k2tog, k to T-marker, k1, [k4, k2tog] twice.  
**Needle 2:** [K4, k2tog] three times, k to 3 sts before D-marker, k2tog, k to 1 st before end, m1R, k1. Turn to WS.



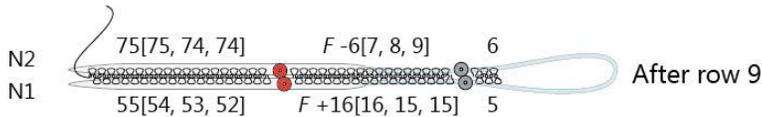
**Row 5 [RS]: Needle 1:** K2tog, k to 3 sts before D-marker, k2tog, k to T-marker, k1, [k3, k2tog] twice.  
**Needle 2:** [K3, k2tog] three times, k to 3 sts before D-marker, k2tog, k to 1 st before end, m1R, k1. Turn to WS.



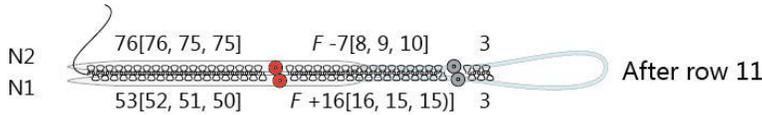
**Row 7 [RS]: Needle 1:** K2tog, k to 3 sts before D-marker, k2tog, k to T-marker, k1, [k2, k2tog] twice.  
**Needle 2:** [K2, k2tog] three times, k to 3 sts before D-marker, k2tog, k to 1 st before end, m1R, k1. Turn to WS.



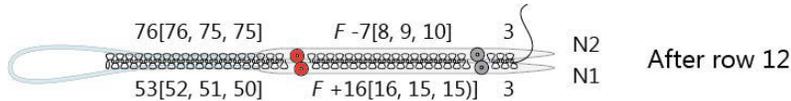
**Row 9 [RS]: Needle 1:** K2tog, k to 3 sts before D-marker, k2tog, k to T-marker, k1, [k1, k2tog] twice.  
**Needle 2:** [K1, k2tog] three times, k to 3 sts before D-marker, k2tog, k to 1 st before end, m1R, k1. Turn to WS.



**Row 11 [RS]: Needle 1:** K2tog, k to 3 sts before D-marker, k2tog, k to T-marker, k1, [k2tog] twice.  
**Needle 2:** [k2tog] three times, k to 3 sts before D-marker, k2tog, k to 1 st before end, m1R, k1. Turn to WS.



**Row 12 [WS]: HALF-ROW:** Purl to end of needle 2 and stop.



### Checkpoint 3

At this point your row height should match the target 6[6.5, 6.75, 7] inches given for your size in the [width size chart](#), and your stitch count here should be F +72[71, 69, 68] sts on each needle.



*Measuring the fabric at the end of Stage 3 (example shows size M; 6.5 inches).*

**Try it on!**

You may notice at this point that your sock is not wide enough to reach around your foot if you try to fold it straight across from edge to edge. But remember, Wraptor doesn't fold straight across, it wraps around like a bandage. This transforms your fabric into something wide enough to fit your foot after it's grafted. If you're skeptical, I don't blame you. But just try it, and watch what happens. Follow the steps below to see how Wraptor will turn into a sock.

Note: The left foot is shown in the example below, but Wraptor fits either foot equally well.

**Step 1 - Place the fabric over your left heel.**



**Step 2** - Wrap the fabric around the outside of your foot to the base of your big toe.



**Step 3** - Bring the sides together around your foot and leg. It should feel comfortable to hold the sides together along the ball of your foot. There should be a large gap at the instep.



You might still be skeptical that it's going to fit you, but have faith and keep going. During Stage 4 you'll fill in that gap at the instep with short rows (shown here in hot pink).

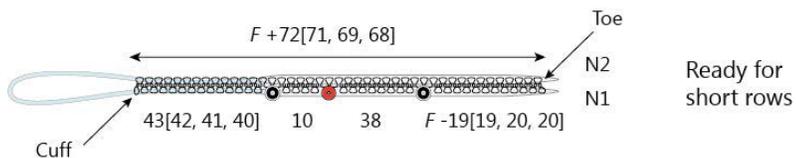


#### Stage 4: Short row instep and leg shaping

All instep short rows are worked on needle 1 in CC yarn.

On needle 1, place a new stitch marker (S-marker1) 38 sts below the D-marker on the toe side, and another stitch marker (S-marker2) 10 sts above it on the cuff side. These markers book-end the area where you will work your short rows.

Remove D-marker on needle 2, and both T-markers. 3 markers remain: 2 S-markers and 1 D-marker on needle 1. Your stitch count should look like this:



Once you have placed your short row markers as shown, remove the D-marker on needle 1.

**Setup row (WS):** Starting at the toe, slip across to 2 sts before S-marker1. With CC, p to 15 sts before S-marker2; w&t. 14 sts remain between this turn and S-marker2.

**Short row 1 [RS]:** Sl1, k to 1 st before S-marker1, w&t.

**Short row 2 [WS]:** Sl1, p to 13 sts before S-marker2, working the wrapped st tog with its wrap; w&t.

**Short row 3 [RS]:** Sl1, k to 3 st before S-marker1, w&t.

**Short row 4 [WS]:** Sl1, p to 11 sts before S-marker2, working the wrapped st tog with its wrap; w&t.

**Short row 5 [RS]:** Sl1, k to 5 st before S-marker1, w&t.

**Short row 6 [WS]:** Sl1, p to 9 sts before S-marker2, working the wrapped st tog with its wrap; w&t.

**Short row 7 [RS]:** Sl1, k to 7 st before S-marker1, w&t.

**Short row 8 [WS]:** Sl1, p to 7 sts before S-marker2, working the wrapped st tog with its wrap; w&t.

**Short row 9 [RS]:** Sl1, k to 9 st before S-marker1, w&t.

**Short row 10 [WS]:** Sl1, p to 5 sts before S-marker2, working the wrapped st tog with its wrap; w&t.

**Short row 11 [RS]:** Sl1, k to 11 st before S-marker1, w&t.

**Short row 12 [WS]:** Sl1, p to 3 sts before S-marker2, working the wrapped st tog with its wrap; w&t.

**Short row 13 [RS]:** Sl1, k to 13 st before S-marker1, w&t.

**Short row 14 [WS]:** Sl1, p to 1 st before S-marker2, working the wrapped st tog with its wrap; w&t.

**Short row 15 [RS]:** Sl1, k to 15 st before S-marker1, w&t.

**Note:** As you continue working, each new row will move 2 sts closer to S-marker2 and 2 sts further away from S-marker1. After these 15 short rows at the instep, you will work six more at the cuff.

*Short row 16 [WS]:* S11, p to S-marker2, working the wrapped st tog with its wrap, then p to end.

*Short row 17 [RS]:* K9, w&t.

*Short row 18 [WS]:* S11, p to end.

*Short row 19 [RS]:* K10, working the wrapped st tog with its wrap; k9, w&t.

*Short row 20 [WS]:* S11, p to end.

*Short row 21 [RS]:* K to S-marker2 and remove it; k to S-marker1, working each of the wrapped sts tog with their wraps; remove Smarker1, k4, cut CC yarn. Slip across remaining stitches to toe end of needle 1.



Here's what your sock should look like about now -->

### **Graft**

Your stitch count here should be F +72[71, 69, 68] sts on each needle. Cut a long tail of the MC yarn about 6 feet in length. Starting with the first stitch on needle 1, begin your graft. Continue grafting to the cuff, at which point you have transformed your flat fabric into a spiral sock.

### **Finishing**

Weave in all ends and block your sock.

### **KNITTING THE MATE**

Since Wraptor is not anatomically-specific, the second sock can be a duplicate of the first. But there is a certain charm to a matched pair that twist in opposite directions, and I just couldn't resist. It's purely a matter of taste which sock you wear on which foot. Either way works! **There are only two total socks shown in the photos below.**



*Left: mirrored; right: standard.*



*Left: standard; right: mirrored*

## Summary Instructions

To make **Wraptor twist in the opposite direction**, all shaping is worked on the WS instead of the RS. Detailed instructions follow, but in principle, the process is the same as the first sock with these exceptions:

1. As you cast on, swap placements of the I-markers and D-markers.
2. After the cast-on, turn work to purl side to continue working Row 1.
3. Wherever the directions say to knit, you purl instead. Wherever the directions say to purl, you knit instead.
4. Substitute ssp for all k2tog; substitute p2tog for all ssk.

**SSP:** This decrease appears as a left-leaning decrease from the knit side of the fabric. This is a 3-step process:

- 1) Slip the first stitch as if to knit, then do the same to the next stitch.
- 2) Pass these 2 sts from right needle back to left needle.
- 3) Insert right needle into these 2 sts from the back, then purl the 2 sts together.

## Detailed Instructions

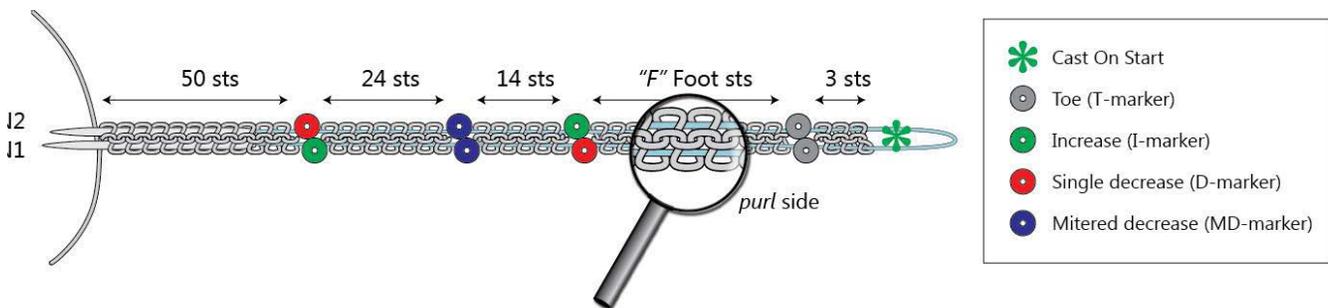
### Cast on

Pull out about 8 ft of yarn from your ball starting from the opposite end **as** where you cast on your first sock; fold here and start your cast on.

- Top needle = Needle 1; bottom needle = Needle 2
- Cast onto each needle the specified number of stitches.

JMCO 3 sts; place a T-marker on each needle.

JMCO your "F" number of sts (see [length size chart](#)). Place a D-marker on top needle and an I-marker on bottom needle.



JMCO the first 14 heel sts; place MD-markers on both top and bottom needles.

JMCO the remaining 24 heel sts; place I-marker on top needle and D-marker on bottom needle.

JMCO 50 leg sts.

Flip your cast-on over so the purl side is facing you. It should look something like this:

The diagram above is the same as for the first sock, except this time it matches the purl side of your work. As you work the mate, refer to the stitch count diagrams for each row for the first sock, but be sure to view from the purl side.

### Stage 1: Toe increases, heel shaping

**Row 1 [WS]: Needle 1:** Ssp, p to 1 st before I-marker, m1R, p to D-marker, p2tog, p to T-marker, p1, [m1L, p1] twice.

**Needle 2:** [M1L, p1] three times, p to 1 st before I-marker, m1R, p to D-marker, p2tog, p to 1 st before end, m1R, p1. Turn to RS.

**Row 2 [RS]:** Knit. Turn to WS.

**Note:** For all knit rows, work from end of Needle 2 back to beginning of Needle 1. Do not work in the round.

**Row 3 [WS]: Needle 1:** Ssp, p to 1 st before I-marker, m1R, p to 1 st before D-marker, w&t; sl 1, k to 1 st before I-marker, w&t; sl 1, p to D-marker, working wrapped st tog with its wrap; p to T-marker, p1, [m1L, p2] twice.

**Needle 2:** [M1L, p2] three times, p to 1 st before I-marker, m1R, p to 1 st before D-marker, w&t; sl 1, k to 1 st before I-marker, w&t; sl 1, p to D-marker, working wrapped st tog with its wrap; p to 1 st before end, m1R, p1. Turn to RS.

**Row 4 [RS]:** Knit, working wrapped st together with its wrap. Turn to WS.

**Row 5 [WS]: Needle 1:** Ssp, p to 1 st before I-marker, m1R, p to 3 sts before MD-marker, ssp, p2, p2tog, p to D-marker, p2tog, p to T-marker, p1, [m1L, p3] twice.

**Needle 2:** [M1L, p3] three times, p to 1 st before I-marker, m1R, p to 3 sts before MD-marker, ssp, p2, p2tog, p to D-marker, p2tog, p to 1 st before end, m1R, p1. Turn to RS.

**Rows 6, 8, 10, 12 [RS]:** Knit. Turn to WS.

**Row 7 [WS]: Needle 1:** Ssp, p to 1 st before I-marker, m1R, p to 3 sts before MD-marker, ssp, p2, p2tog, p to T-marker, p1, [m1L, p4] twice.

**Needle 2:** [M1L, p4] three times, p to 1 st before I-marker, m1R, p to 3 sts before MD-marker, ssp, p2, p2tog, p to 1 st before end, m1R, p1. Turn to RS.

**Row 9 [WS]: Needle 1:** Ssp, p to 1 st before I-marker, m1R, p to 3 sts before MD-marker, ssp, p2, p2tog, p to D-marker, p2tog, p to T-marker, p1, [m1L, p5] twice.

**Needle 2:** [M1L, p5] three times, p to 1 st before I-marker, m1R, p to 3 sts before MD-marker, ssp, p2, p2tog, p to D-marker, p2tog, p to 1 st before end, m1R, p1. Turn to RS.

**Row 11 [WS]: Needle 1:** Ssp, p to 1 st before I-marker, m1R, p to 3 sts before MD-marker, ssp, p2, p2tog, p to T-marker, p1, [m1L, p6] twice.

**Needle 2:** [M1L, p6] three times, p to 1 st before I-marker, m1R, p to 3 sts before MD-marker, ssp, p2, p2tog, p to 1 st before end, m1R, p1. Turn to RS.

### **Checkpoint 1**

You have worked 12 rows plus the cast-on row on each needle and should measure about 2.25 inches from cable to cable along the stitch columns.

### **Stage 2: Heel body, no toe shaping**

**Row 13 [WS]: Needle 1:** Ssp, p to 1 st before I-marker, m1R, p to 3 sts before MD-marker, ssp, p2, p2tog, p to D-marker, p2tog, p to end of needle 1.

**Needle 2:** P to 1 st before I-marker, m1R, p to 3 sts before MD-marker, ssp, p2, p2tog, p to D-marker, p2tog, p to 1 st before end, m1R, p1. Turn to RS.

**Row 14 [RS]:** Knit. Turn to WS.

**Row 15 [WS]: Needle 1:** Ssp, p to 1 st before I-marker, m1R, p to 3 sts before MD-marker, ssp, p2, p2tog, p to end of needle 1.

**Needle 2:** P to 1 st before I-marker, m1R, p to 3 sts before MD-marker, ssp, p2, p2tog, p to 1 st before end, m1R, p1. Turn to RS.

**Row 16 [RS]:** Knit. Turn to WS.

Repeat these 4 rows until your fabric is 4[4.25, 4.75, 5.25] inches wide. Assuming your row gauge is on target, this should be through row 22[24, 26, 28].

### **Checkpoint 2**

Your fabric should now measure about 4[4.25, 4.75, 5.25] inches from cable-to-cable along the stitch columns. It should stretch to a maximum of 6.5[7, 7.5, 8] inches. Knitting to gauge, this is a total of 44[48, 52, 56] rows plus the cast on row.

### **Stage 3: Toe decreases, instep shaping**

#### Setup 1: Adjust stitches

This should be your current total stitch count:

Move 17[18, 19, 20] sts from needle 2 to needle 1. Needle 1 now has 6 more stitches than needle 2.

#### Setup 2: Reposition markers

On needle 1, remove T-marker from its existing location and reposition it 15 sts above the last toe stitch. On needle 2, remove T-marker and reposition it 21 sts above the last toe stitch.

Remove I-markers and D-markers, then swap out the MD-markers with D-markers.

**Row 1 [WS]: Needle 1:** Ssp, p to 3 sts before D-marker, ssp, p to T-marker, p1, [p5, ssp] twice.

**Needle 2:** [P5, ssp] three times, p to 3 sts before D-marker, ssp, p to 1 st before end, m1R, p1. Turn to RS.  
Rows 2, 4, 6, 8, 10, [RS]: Knit. Turn to WS.

**Row 3 [WS]: Needle 1:** Ssp, p to 3 sts before D-marker, ssp, p to T-marker, p1, [p4, ssp] twice.

**Needle 2:** [P4, ssp] three times, p to 3 sts before D-marker, ssp, p to 1 st before end, m1R, p1. Turn to RS.

**Row 5 [WS]: Needle 1:** Ssp, p to 3 sts before D-marker, ssp, p to T-marker, p1, [p3, ssp] twice.

**Needle 2:** [P3, ssp] three times, p to 3 sts before D-marker, ssp, p to 1 st before end, m1R, p1. Turn to RS.

**Row 7 [WS]: Needle 1:** Ssp, p to 3 sts before D-marker, ssp, p to T-marker, p1, [p2, ssp] twice.

**Needle 2:** [P2, ssp] three times, p to 3 sts before D-marker, ssp, p to 1 st before end, m1R, p1. Turn to RS.

**Row 9 [WS]: Needle 1:** Ssp, p to 3 sts before D-marker, ssp, p to T-marker, p1, [p1, ssp] twice.

**Needle 2:** [P1, ssp] three times, p to 3 sts before D-marker, ssp, p to 1 st before end, m1R, p1. Turn to RS.

**Row 11 [WS]:** Needle 1: Ssp, p to 3 sts before D-marker, ssp, p to T-marker, p1, [ssp] twice.

**Needle 2:** [ssp] three times, p to 3 sts before D-marker, ssp, p to 1 st before end, m1R, p1. Turn to RS.

**Row 12 [RS]:** HALF-ROW: Knit to end of needle 2 and stop.

### **Checkpoint 3**

At this point your fabric should match the target 6[6.5, 6.75, 7] inches given for your size in the [width size chart](#), and your stitch count here should be F +72[71, 69, 68] sts on each needle.

### **Stage 4: Short row instep and leg shaping**

All instep short rows are worked on needle 1 in CC yarn.

On needle 1, place a new stitch marker (S-marker1) 38 sts below the D-marker on the toe side, and another stitch marker (S-marker2) 10 sts above it on the cuff side. Remove D-marker on needle 2, and both T-markers. 3 markers remain: 2 S-markers and 1 D-marker on needle 1. Once you have placed your short row markers as shown, remove the D-marker on needle 1.

Setup row (RS): Starting at the toe, slip across to 2 sts before S-marker1. With CC, k to 15 sts before S-marker2; w&t. 14 sts remain between this turn and S-marker2.

**Short row 1 [WS]:** Sl1, p to 1 st before S-marker1, w&t.

**Short row 2 [RS]:** Sl1, k to 13 sts before S-marker2, working the wrapped st tog with its wrap; w&t.

**Short row 3 [WS]:** Sl1, p to 3 st before S-marker1, w&t.

**Short row 4 [RS]:** Sl1, k to 11 sts before S-marker2, working the wrapped st tog with its wrap; w&t.

**Short row 5 [WS]:** Sl1, p to 5 st before S-marker1, w&t.

**Short row 6 [RS]:** Sl1, k to 9 sts before S-marker2, working the wrapped st tog with its wrap; w&t.

**Short row 7 [WS]:** Sl1, p to 7 st before S-marker1, w&t.

**Short row 8 [RS]:** Sl1, k to 7 sts before S-marker2, working the wrapped st tog with its wrap; w&t.

**Short row 9 [WS]:** Sl1, p to 9 st before S-marker1, w&t.

**Short row 10 [RS]:** Sl1, k to 5 sts before S-marker2, working the wrapped st tog with its wrap; w&t.

**Short row 11 [WS]:** Sl1, p to 11 st before S-marker1, w&t.

**Short row 12 [RS]:** Sl1, k to 3 sts before S-marker2, working the wrapped st tog with its wrap; w&t.

**Short row 13 [WS]:** Sl1, p to 13 st before S-marker1, w&t.

**Short row 14 [RS]:** Sl1, k to 1 sts before S-marker2, working the wrapped st tog with its wrap; w&t.

**Short row 15 [WS]:** Sl1, p to 15 st before S-marker1, w&t.

**Short row 16 [RS]:** Sl1, k to S-marker2, working the wrapped st tog with its wrap, then k to end.

**Short row 17 [WS]:** P9, w&t.

**Short row 18 [RS]:** Sl1, k to end.

**Short row 19 [WS]:** P10, working the wrapped st tog with its wrap; p9, w&t.

**Short row 20 [RS]:** Sl1, k to end.

**Short row 21 [WS]:** P to S-marker2 and remove it; p to S-marker1, working each of the wrapped sts tog with their wraps; remove S-marker1, p4, cut CC yarn. Slip across remaining stitches to toe end of needle 1.

### **Grafting and Finishing**

Follow instructions as detailed above for the first sock.

## **ACKNOWLEDGEMENTS**

This project has been a group effort. Thank you, CJ, for your heroic support on this project from start to finish – I owe you a lifetime of lattes! Thank you, Alysha, for the name Wraptor. Thank you, Kate, for balancing your relentless pursuit of excellence with humor and aplomb. Finally, thank you to my 10 rock star test knitters for helping me see through your eyes and understand your experience.

## **ABOUT THE DESIGNER**

Jeny Staiman's techniques and patterns are born from equal parts love for handmade objects, compulsion to take things apart and understand how they work, stubborn determination to conquer or exploit any constraint, and an eccentric habit of knitting in her head all day long.

You can visit Jeny on Ravelry as [curiousjeny](#), or at her blog, <http://www.curiousknitter.com>

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