I like socks knit at much finer gauges than most available sock patterns - including the ones I've published here and elsewhere. I find that the higher stitch counts add durability and comfort. If you've ever found the soles of your socks feel pebble-like in your shoes, try knitting up a pair in a finer gauge. When I posted this observation to the Sockknitters eMail list on Yahoo, many people wrote to me requesting a pattern in a higher gauge. In response I offer Impossible Socks. The name came about when a fellow sock knitter wrote to me to say she thought my gauge was impossible given my materials. I am happy to prove her wrong.

This pattern is yet another toe-up, short-rowed heel sock, but it's not impossible. It is knit on fine needles and features a stranded colorwork pattern scattered throughout. There are two alternatives presented for the heel. A solid color one, and one with a bit of the same stranded patterning. Both look good. If you're comfortable with wrapped short-rows and making this type of heel try out the fancier one.

Because the actual stranded parts are relatively narrow and widely separated, stretch is not overly affected. If your gauge while stranding is much tighter than your gauge when knitting in a solid color, consider using a needle size larger for the stranded rounds (my own stranded gauge tends to be a bit looser than my stockinette gauge, so I used the same size needle throughout). In spite of the fine gauge, these socks are knit with off-the-shelf fingering weight sock yarn.

I used about two thirds of a 100-g skein of Ilse GmbH Alpine Superwash Coloritin color #5, and one skein of Froehlich Wolle's Special Blauband in dark blue. I bought both at my local yarn store. They stocked the Alpine only once as a bargain offering. Alpine is almost identical in weight, feel and put-up to Fortissima Colori (the old non-stripping kind). The only difference between them that I could
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see was that color mixes used in the Alpine were more conservative.
These socks fit my women's US shoe size 10 wide feet. They are about the same size as my Pine Tree Toe Up Socks.

Materials
• Approximately 100g of fingering weight sock yarn in a main color, and 50g in a contrasting color. (You will have some of the main color left over
• 1.25mm (US #0000) double pointed needles - one set of five
• Tapestry or yarn needle for weaving in the ends
• Nylon reinforcing yarn for the heel - highly optional
• A safety pin or scrap of yarn for marking

Gauge:
Needle size specified is for convenience only. Use any size needle required to achieve the desired gauge.
• Approx. 12.5 st = 1 inch in stockinette on 1.25mm (US #0000) needles;
• Approx. 18 rows = 1 inch in stockinette on 1.25mm (US #0000) needles

Special Instructions
These abbreviations and symbols are used in this pattern.

M1 - Make One - Pick up the bar running between the stitches on each needle, knit through the back of this new "loop" to make an invisible no-hole increase.
yf - Yarn Forward - bring the yarn to the front of the work WITHOUT making a loop over top of the needle.
K2tog - Knit two together - Make a decrease that slants to the right by knitting the next two stitches together.

SSK - Slip, slip, knit - Make a decrease that slants to the left by slipping the next stitch purwise, and the stitch after that knitwise. Return both stitches to the other needle, then knit them together through the back of the loop.
S1 - Slip one. Transfer a stitch from one needle to the other as if to purl.

-- Contrasting color stitch. Represents one stitch in the contrasting color.
W Wrap one - A wrapped stitch. Slip next stitch onto right needle. Turn work. Yf (wrapping the yarn around the base of the stitch that was just slipped - it should look like it has been lassoed by a noose).

No-Sew Toe Cast-On
Using the contrasting color, take two of the needles and wrap the yarn around them, figure-eight style. The yarn should loop around the bottom needle and cross to the opposite side of the top needle. Loop over it and then return between the two. The result should look something like this:

Figure-8 Cast-On - Three loops on each needle shown

Continue wrapping the yarn this way until you have 16 loops on each needle. Let the end dangle free with no knots or other securings - you'll need to work looseness in the first row out towards the end later. Knots will interfere with this in-flight adjustment.

Take a third dpn and knit across the top needle. Take the fourth dpn and knit across the bottom needle. Be careful not to twist stitches - one needle's loops will be "backward" with the leading edge of the loop on the rear side of the needle. Make sure you knit into the rear side of these "backward" loops.

You now have a very narrow and slightly awkward strip of knitting suspended between two needles. There should be 16 stitches on each needle. Don't worry if the stitches running down the center are loose, in a couple of rows you can tighten them up by carefully working the excess down towards the dangling tail end.

Toe Shaping
• Row 1: k1, M1, k7. Using another dpn, k7, M1, k1. Using a third dpn, k1, M1, K7. Using the fourth dpn - K7, M1, K1. You should now have 4 live needles in your work, each with 9 stitches on it.
• Row 2: Knit all stitches on the first needle. Mark the first stitch on the second needle by inserting a scrap of yarn or safety pin in it as you knit it. This
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marks the center bottom of the sock. Knit all stitches on remaining needles.
- **Row 3:** "k1, M1, k8, K8, M1, K1* repeat
- **Row 4:** Knit
- **Row 5 and subsequent odd rows:** Continue adding one stitch after the first stitch of the first and third needles, and one stitch just before the last stitch of the second and fourth needles.
- **Row 6 and subsequent even rows:** Knit.

When you have 22 stitches on each needle (88 stitches total) the toe is done.

**Foot**

Switch to your main color yarn and following the pattern below, continue knitting around with 22 stitches on each needle.
- **Rounds 1-6:** Knit in main color
- **Round 7:** Knit in contrasting color
- **Round 8:** "Knit 1 in main color, knit 1 in contrast color.* Repeat * throughout round.
- **Round 9:** "Knit 1 in contrast color, knit 1 in main color.* Repeat * throughout round.
- **Round 10:** "Knit 1 in main color, knit 1 in contrast color.* Repeat * throughout round.
- **Round 11:** Knit in contrasting color
- **Rounds 12-17:** Knit in main color.
- **Round 18:** Knit in contrasting color.
- **Round 19:** Knit in contrasting color.

Repeat these 19 rounds to continue pattern.

For my women’s size 10 feet I knit until my sock foot measures 6.75 inches (approx. 16.25cm) from the tip of the toe. Note that I took special pains (fudging a row or two) to end on the row which began one of the wide checkerboard stripes.

People with smaller feet should try to end off the foot section of the sock at any other narrow or wide checkerboard stripe. With luck that should be within a row or two of their target length. The foot when tried on should be long enough to generously reach to the point where the ankle meets the foot. The sock foot should not be tightly stretched when measuring. Once you have enough foot length you can begin the heel.

**Heel**

To work the plain solid color heel, follow these directions without worrying about color stranding on the first and last five pattern rows. To work the heel with the stranded detail, follow these directions AND use Chart A for color placement while you are doing so.

If you are knitting the solid color heel and want to use reinforcement nylon, introduce it now.

To do both styles of heel, find the column of the stitch you marked as the center bottom of your foot. The needles to the right and left of it (needles #1 and #2 respectively) will be the ones on which you work your heel. The other two needles (#3 and #4) will lie dormant until the heel is finished. If you like you can move the stitches from #3 and #4 onto a stitch holder or spare piece of string if you are more comfortable working that way.

Start the heel with needle #1 and work the following directions across both needles as if they were a single unit. I prefer NOT to move these stitches onto one needle because using two creates less stress at the ends and tends to minimize any top-of-gusset holes when the foot top stitches are rejoined to the heel.

- **Row 1 of decrease:** K43, yf, slip next stitch purlwise onto right needle. Turn work.
- **Row 2:** Yf (wrapping the yarn around the base of the stitch that was just slipped - it should look like it has been lassoed by a noose), slip this just-wrapped stitch purlwise, p42, slip the next stitch purlwise keeping the yarn in front of the work. Turn work.
- **Row 3:** Yf (wrapping the yarn around the stitch you just slipped), K41, yf, slip the next stitch knitwise onto the right needle. Turn work.

Continue in this manner described in rows 2 and 3, working one less stitch per row before doing the yf/wrap/turn. THERE WILL ALWAYS BE 22 STITCHES ON EACH NEEDLE.

Each row the number of wrapped and retained stitches (as opposed to “live” stitches) will grow by one. Eventually you will have only 18 “live” stitches - 9 on each needle. The remaining 13 stitches on each needle will each have a wrap around them. At this point the heel will look triangle with the top cut off. Along the left and right sides of the triangle will be the wrapped stitches, evenly placed.

The last row before you begin increasing again is the row in which you purl 18 live stitches. When that's completed it's time to begin increasing.

- **Row 1 of increase:** K18, knit the next stitch through the back along with the wrapped loop around its base. (I do this by picking up the loop...
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on the point of my right hand needle, then knitting the loop and the stitch together), yf, slip next stitch knitwise onto the right needle. Turn work.

- **Row 2:** Yf, (wrapping the yarn around the slipped stitch so that there are now TWO wraps at its base), slip the just-wrapped stitch, p18, purl the next stitch along with the loop wrapped around its base, slip next stitch purlwise (keeping the yarn in the front of the work). Turn work.

- **Row 3:** Yf (wrapping the yarn around the base of the slipped stitch), slip the just-wrapped stitch, k19, knit the next stitch through the back of the loop along with the two loops wrapped around its base, yf, slip next stitch knitwise onto right needle, turn work.

Continue in this manner, working across the rows, knitting through the back of the loop (or purling on purl side rows) the next slipped and reserved stitch along with all loops around its base; then slipping and wrapping the stitch after it until you have "reclaimed" all of the reserved stitches and all 22 stitches on each needle are again "live."

When all 22 stitches on each heel needle are "live" the heel is finished and it's time to begin working the stitches on the top of the foot again.

Ankle Join

If you have been using reinforcing nylon, break it off before starting the ankle join.

Using your contrasting color, knit one row around all 88 stitches.

**IMPORTANT NOTE:** There is a small tendency for a little hole to form at the top of the diagonal line made by picking up the reserved stitches. I counteract this on the first row of my rejoin by picking up a stitch at the top of each of the diagonals, then knitting one of them together with the first stitch on Needle #3 and doing a ssk with the other picked up stitch and the last stitch of Needle #4.

**Ankle Pattern**

Recommence the stripe progression established on the foot of the sock. I chose to do the fancy optional heel, then began again from the second wide main color stripe; on the pattern chart. I kept knitting until my leg part was about 8 inches long, ending after one of the wide solid color stripes.

**Ribbing**

Using my contrasting color, I knit a plain K1, P1 ribbing. I worked the ribbing until it was about 1.75 inches (about 4.5cm). The ribbing will draw in.

Cast off VERY loosely. EXTREMELY loosely. So loosely, the cast-off chain that's formed zig-zags across the top of the stitches it secures. (Don't worry, this will not be noticeable when the sock is worn). Some people use a larger needle to do this. Given the small size of the needles used in this project, I'd suggest a US #2 or #3 to do the bind off if you normally have problems casting off loosely.

**Finishing**

When both socks are done, use the tapestry needle to weave in the loose ends at toe and top.
Chart A