

## Modified 3-D Mask Instructions

Prepared by B. Round

Characteristics of the Modified 3-D mask:

- Good fit under the chin, over the nose and on the sides of the face to prevent air leakage;
- Commercially available adjustable ear loops, but can easily be converted for over-the-head ties, which likely improves performance;
- A middle layer of 70 gsm non-woven polypropylene for enhanced filtration;
- Stays away from your lips, due in part to design, and in part to the polypropylene layer which adds a bit of stiffness;
- Washable and re-usable;
- Can be made in various sizes for good fit for children to larger adults;
- Simple to cut and sew ( a group of Eagle Scouts in Michigan, with no sewing experience, used these instructions to make over 100 masks for residents of a nursing home).



The 3-D mask design has been widely available for a couple of years. This version is modified slightly in design and slightly in the construction methods from tutorial videos available on the internet.

**Sizes:**

- **Large** (fits larger faces, men with beards): **10.5" x 7.5"**, **measure 2"** on corners for diagonal cut
- **Medium** (fits "average" faces): **10" x 7"**, **measure 2"** on corners for diagonal cut
- **Petite** (small adult, preteen): **9.5" x 6.5"**, **measure 1 3/4"** on corners for diagonal cut
- **Child** (5-7 years): **8.5" x 5.5"**, **measure 1 7/8"** on corners for diagonal cut
- **Child** (3-4 years): **8.5" x 5.25"**, **measure 1 3/4"** on corners for diagonal cut

Note: If the fit is not exact, a bit of experimentation may help you adjust it perfectly. For instance, the Medium mask listed above uses a 2" measurement for the corner cuts. Decreasing this to 1.75" makes a deeper mask, which fits better for a longer face, double chin or beard. A very small change can make a significant difference, as evidenced by the minute changes in the cutting instructions for the 2 sizes of children's masks, which, by the way, are based on the sizes of my own grandchildren – feel free to adjust for your own mask recipients.

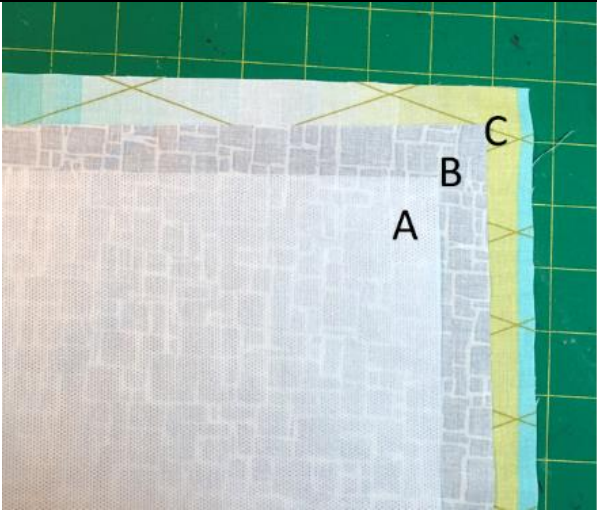
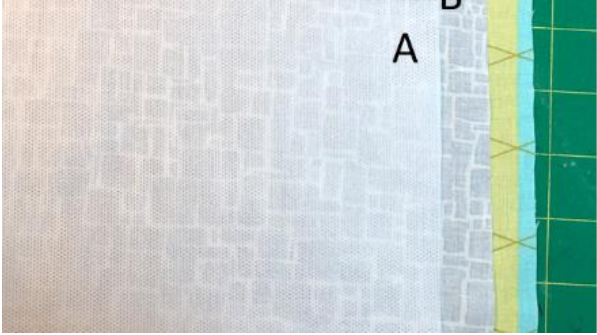
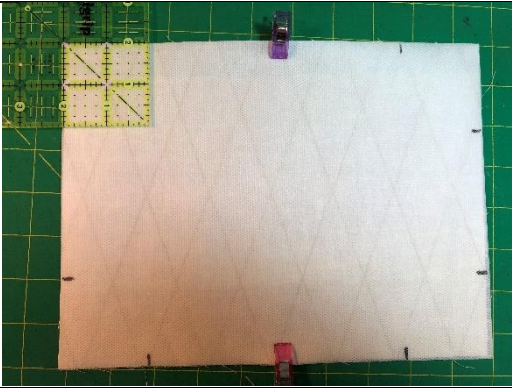
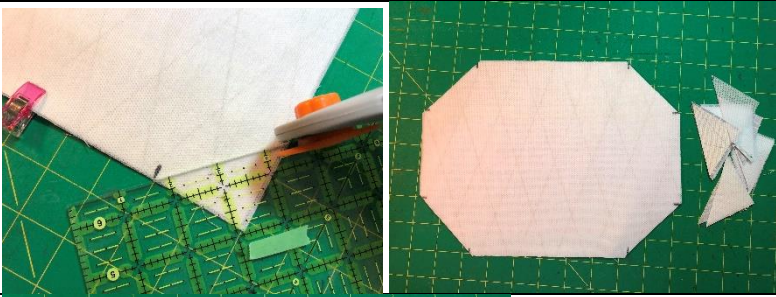

**Supplies:**

- Two layers of fabric (quilting cotton or another appropriate mask fabric)
- One layer of polypropylene (70 grams/sq m. as recommended by W.H.O. and Health Canada)
- Wire or metal nose strips 3-4 inches long
- Two elastics measuring approximately 8 inches long (test and adjust), ties, or commercially available elastic ear loops.





**General Instructions:**






- No ironing necessary (manual pressing only, as polypropylene melts when heated.)
- No pins as pins create holes in the polypropylene – use paperclips or fabric clips

**Sewing instructions:**

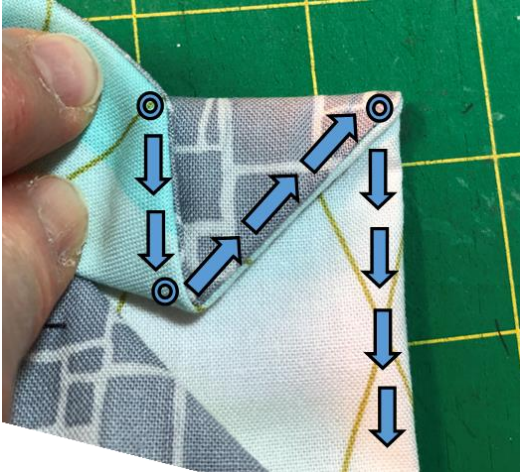

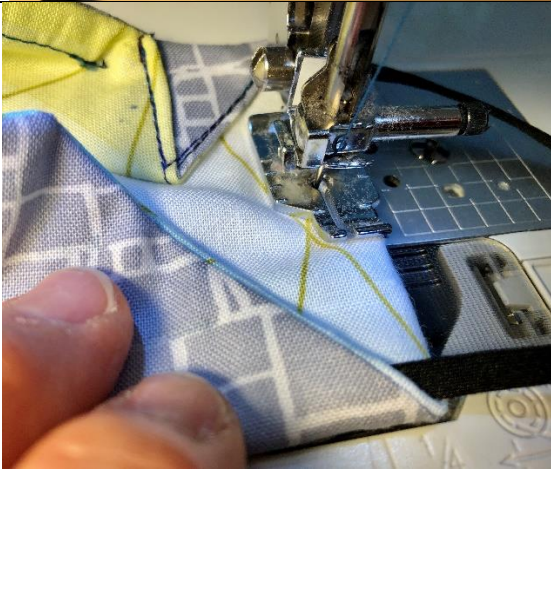
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| 1 | <p>Cut 2 fabrics (one for inside of mask, one for outside) and polypropylene to size.</p>  |    |
| 2 | <p>Layer outside &amp; inside fabrics right sides together, then polypropylene. (When stacked with edges matching, only polypropylene can be seen)<br/>To save time, stack two or three masks together in these layers.<br/>Use quilting/ crafting clips to secure layers.</p> |  <p>A - Polypropylene<br/>B - Outside fabric, right side down<br/>C - Inside fabric, right side up</p> |
| 3 | <p>Mark 2" from each corner for Medium size. (Follow directions for other sizes.)</p>  |   |
| 4 | <p>Cut corners off diagonally on the marks.</p>  |   |
| 5 | <p>Stitch the three layers together 1/4" from the edge, leaving one diagonal cut open.</p>   |    |


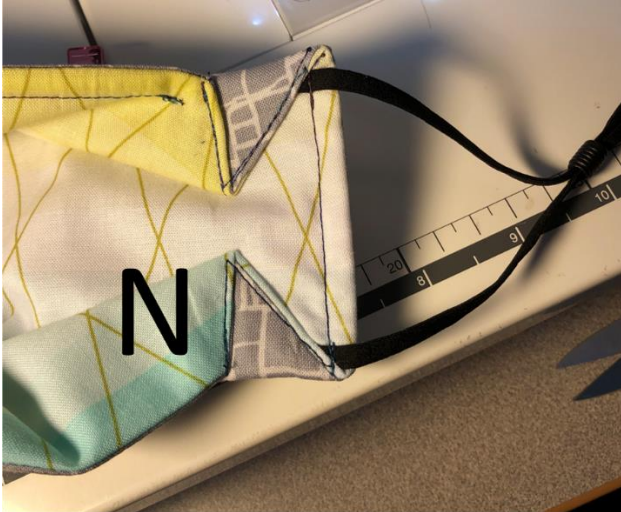





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| 6 | <p>Clip sewn corners close to stitching to reduce bulk, <i>except</i> those on each end of the open diagonal cut.</p>   |      |
| 7 | <p>Turn fabric envelope right side out.</p> <p>Use a chopstick, dowel, creasing tool or other device to poke out the comers.</p>  |    |
| 8 | <p>Manually press outer seams flat with thumbnail, seam roller or pressing/creasing tool.</p>   |   |
| 9 | <p>Stitch along the top of mask to form the channel for nose wire. (Width of nose strip plus a bit)</p> <p>Note: leave at least <math>\frac{3}{4}</math>"-1" from edge of cut diagonal (blue arrow), to allow this open area to be turned in.</p> |  |

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| 10 | <p>Insert nose strip or wire into channel and centre it in the space.</p> <p>Note 1: Do not remove adhesive backing from commercially-made nose strips, as the adhesive will make it difficult to insert.</p> |    | <p>Note 2: Length of nose strips or wires should be 3-4" only – leave at least ¾- 1" free at each side so strip/wire does not interfere with the "N" stitching in Step 15.</p> |
| 11 | <p>Fold in seam allowance on the cut diagonal.</p> <p>Top stitch the diagonal seam closed.</p>  |   |  |
| 12 | <p>With inside of mask facing up, fold bottom edge of the mask in line with the corners of the diagonals. Clip to hold. Finger press/crease/roll the fold.</p>  |   |  |
| 13 | <p>Then fold the top of the mask in the same manner.</p>  |  |  |
| 14 | <p>Creating the curve: with the inside of the mask facing you, fold one corner up to the top of the mask.</p> <p>Important: the edge of the fold must be parallel to the side of the</p>                      |  |  |



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|           | <p>mask (shown with blue arrows).</p>  |   |
| <p>15</p> | <p>Stitch along the folds as shown by the blue arrows. Stitching will form an "N" or "Z" shape.</p>  |    |
| <p>15</p> | <p>Topstitch along the fold. Stop when you get to the base, turn, and insert one end of the ear elastic, then sew along that edge, securing the elastic in your seam.</p>  |   |
| <p>16</p> | <p>Turn and sew down along the side of the mask, securing the elastic again when you sew over it. As you get close to the bottom of the mask, stop, insert the other end of the ear elastic into the bottom fold, trapping the elastic inside. Then continue down to the edge of the mask, stop.</p> |  |

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| 17 | <p>Fold the edge of the bottom portion of the mask parallel with the side of the mask. Turn and topstitch along the folded triangle, as you did previously. Note the upwards curve of the mask as you sew this second fold.</p> |    |
| 18 | <p>One side of the mask is now complete, with ear elastic attached.</p>   |  |
| 19 | <p>You can see the distinctive “N” or “Z” shape in the stitching.</p>   |  |
| 20 | <p>Follow the same process to fold and secure triangular folds on the other side of the mask, securing the ear elastics as you proceed. The mask will develop its distinctive curve.</p>  |  |
| 21 | <p>The curve of the mask can make it a bit challenge to sew the first couple of masks, but with time it gets easier.</p>  |  |

22 Completed masks!

