Sip & Puff Straw Modified Fabric Masks
Created in Response to COVID-19 Prevention
Project time: 5 - 10 minutes

*Disclaimer: These face masks will **Not** guarantee the prevention of contracting or spreading COVID-19. Please read the available information regarding masks and how to use them from a credible source (such as CDC.gov) to inform you of "best practices" in using the resource and instructions outlined in this document.

Needed Materials for Adapting a Cloth Face Covering / Fabric Mask:

Component	Price	Source	Notes
Cloth Face Covering / Fabric Mask	Materials cost varies: $5.00 - $20.00	Instructions adapted from: https://www.unitypoint.org/cedarrapids/filesimages/Coronavirus/Olson%20Mask%20with%20Pattern%20v4.pdf Premade Cloth face coverings can be purchased on Amazon, Etsy, or from local retailers. Example: https://bekindtoeveryone.com/products/be-kind-to-everyone-face-masks?variant=31757797261427	This links to instructions for making a fabric face mask based on the Olson Mask Pattern template by Clayton Skousen and Rose Hedges at UnityPoint Health - Cedar Rapids.
Grommet Tool Kit	$16.15	https://www.amazon.com/Pangda-Grommet-Setting-Tool-100+Sets+Grommets+Eyelets+with+Storage+Box-2/5+Inch+Inside+Diameter	Grommet kit set includes a hole cutter, a matched mandrel, and 100 sets of grommets eyelets (each set includes 1 eyelet and 1 washer), and a storage box; Eyelets size: 2/5" (10 mm) internal hole diameter
Silicone Grommet	$9.99	https://www.amazon.com/Silicone Straw Hole Grommets with Attached Plugs	40 Silicone Straw Hole Grommets with Attached Plugs; Fits a 10mm hole; Reduces a 10mm hole to an 8mm internal hole diameter

- Hammer, ruler, sharp edge (e.g., X-ACTO knife), handheld firm but yielding surface (e.g., eraser), durable and flat work surface

Instructions for making a cloth face covering / fabric face mask can be found at:
https://documentcloud.adobe.com/link/track?uri=urn:aaid:scds:US:28be7996-5bb0-45b7-8c1d-be180a43e42a

Components for adapting a Cloth Face Covering / Fabric Mask for Sip & Puff Straw use:

Instructions for adapting a Cloth Face Covering / Fabric Mask for Sip & Puff use (9 Steps):

*Please review all steps of the instructions prior to beginning the project.

1. Set out your homemade fabric face mask, and mark an ideal hole-punch location with a pen or pencil:

   We suggest having the end-user position the mask on their face and then marking the ideal hole-punch location, based on the end-user's mouth positioning in reference to the mask. Approximately, 2" – 2 ¼" inches from the top arc of the mask and approximately 1 inch from the front arc of fabric face masks work best for most people.

2. Use the black ⅖" (10 mm) hole-punch tool (comes with grommet tool kit, see page 1) with the sharp metal edge down to cut a hole centered on the marked hole-punch location on **one** side of the mask:
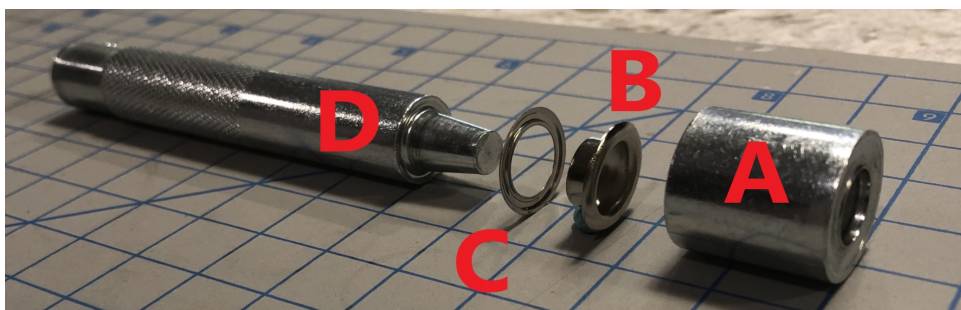

Position a firm but yielding surface (e.g., an eraser), held with one hand, on the inside of the mask. (The eraser, or something similar, provides a durable surface for the hole-punch tool's sharp edge to twist into and prevents both your hand and the other side of the mask from being cut during the hole punch process.) Press and twist the hole-punch tool, centered on the marked hole-punch location, with your dominant hand.

3. Set out a 2-piece metal grommet eyelet (unassembled) and a silicone grommet:

4. Align the Gromet Setting Tool components:
    o   Align the top half of the grommet (**B**) rounded-side-down on the **setting die** (**A**) to align on the outside of the mask hole
    o   Align the bottom half of the grommet (**C**) on the tapered end of the **insert punch** (**D**) to align on the inside of the mask hole

5. Align the face mask hole between the 2 aligned ends of the grommet setting tool components:

Vertical assembly from bottom to top: Grommet **setting die** (**A**), top half of grommet (**B**) (rounded side facing down), face mask hole (front-of-mask facing down), bottom half of grommet (**C**), grommet **insert punch** (**D**) (tapered side facing down, through the face mask hole). Ensure that all mask material is positioned between the grommet eyelets prior to hammering the vertical assembly down.

6. Hammer the vertical assembly thoroughly on a flat, durable work surface

Ensure that the grommet components are pounded tightly together, with the mask fabric secured tightly between the grommet eyelets.

7. Insert the silicone grommet into the metal grommet secured in the mask hole. Align and push the base of the silicone grommet firmly into the metal grommet. When inserting the silicone grommet into the metal grommet, make sure to align the silicone grommet's attached plug so that it's positioned to close the grommet hole when folded from the outside of the mask. Then, straighten out the silicone grommet fitting on the inside of the mask:

Your Sip & Puff Straw Adapted Mask should resemble this after all prior steps are completed:
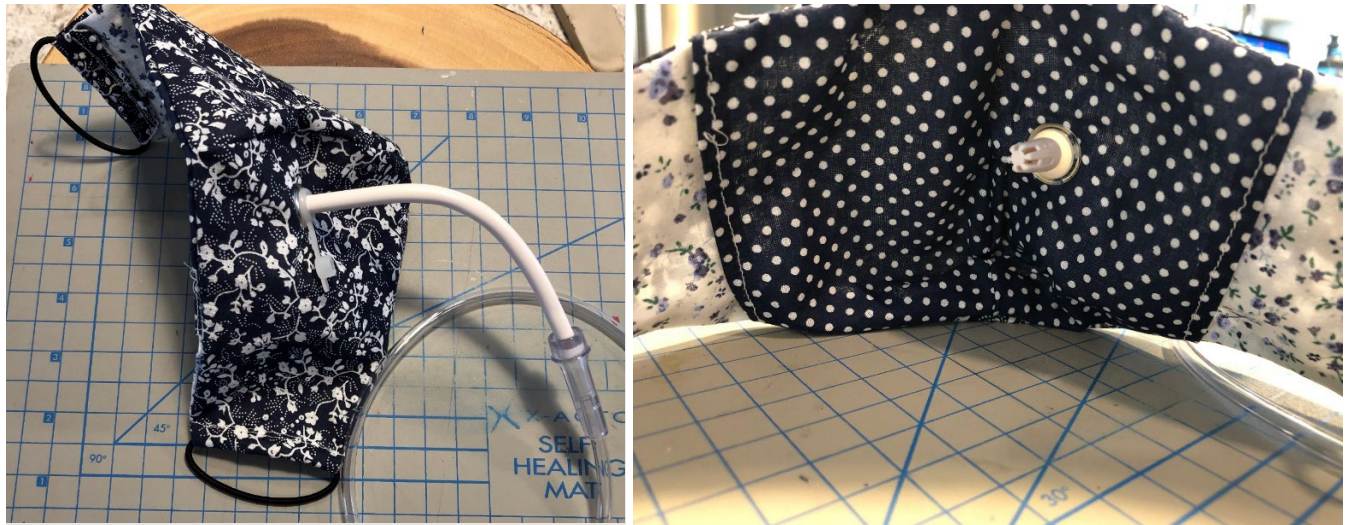

8. Insert the Saliva Ejector nozzle (11/32" outer diameter) into the mask's open grommet hole:

Completed Sip & Puff Straw Adapted Cloth Face Covering / Face Mask:

Sip & Puff **In-Use** (grommet plug open):

Sip & Puff **Not In-Use** (grommet plug **closed**):

Note: It's easiest to remove the saliva ejector from the mask by detaching the bottom of the saliva ejector straw from the oxygen tubing insert and pushing the end of the saliva ejector straw through the grommet hole so that the saliva ejector is removed from the inside of the mask.

Questions?

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References and Supplemental Material for this Instructable can be found here:
https://documentcloud.adobe.com/link/track?uri=urn:aaid:scds:US:dbdba0d6-8185-4a2c-828f-dc5dbc81dc70