

Closing the Vents in Your Sports Mask



may Improve Virus Protection

This is a personal DIY, not an official procedure.

This idea is not provided by nor endorsed by doctors.

No guarantee is made or implied regarding effectiveness.

See the following slide for more information.

Why Close the Vents?

- ✓ The CDC and other sources have observed that the vents let your breath out with no filtering, which means you are not protecting other people!
- ✓ Those masks are comfortable so of course you may want to keep wearing them.



A small disk, called the flux valve, allows you to exhale directly to the air. The project shows a way to replace it with a metal barrier. The process is reversible.

<https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cloth-face-cover-guidance.html>

Materials List

purpose

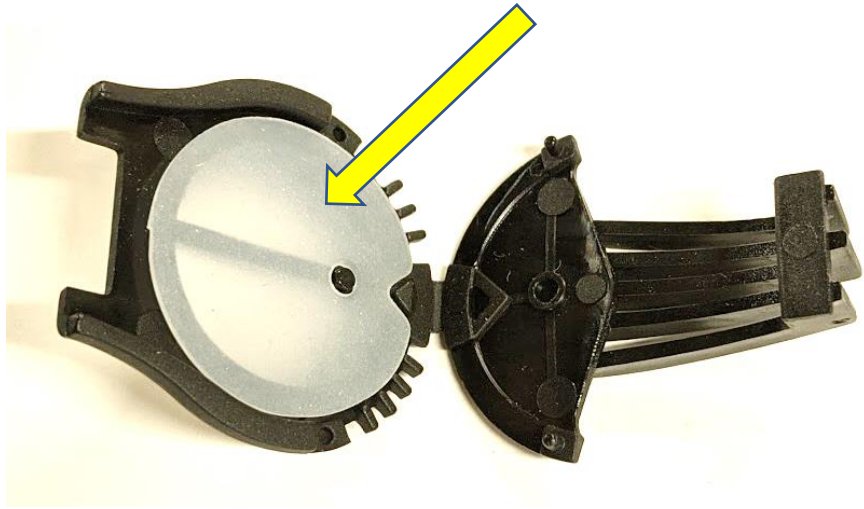
- | | |
|---|--|
| ✓ Hobby knife and cutting board. | Cutting circles of tape, foam. |
| ✓ Fine tip marking pen or ballpoint. | Tracing valve pattern. |
| ✓ Aluminum solid metal duct tape, about 3" piece for each mask. | Replaces valve. Solid metal is an effective barrier. |
| ✓ Durable wide tape with a color, such as blue masking tape or cloth duct tape. | Protects foil tape and color codes the valve – nice if you have several masks & users. |
| ✓ A small piece of high density closed-cell foam or similar. | Block inside of valve case to reduce condensation. |

Step One – Remove valve assembly



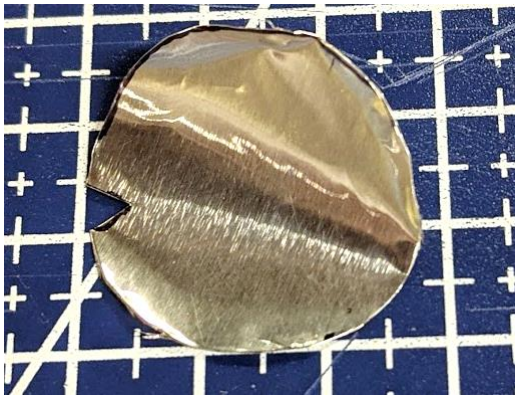
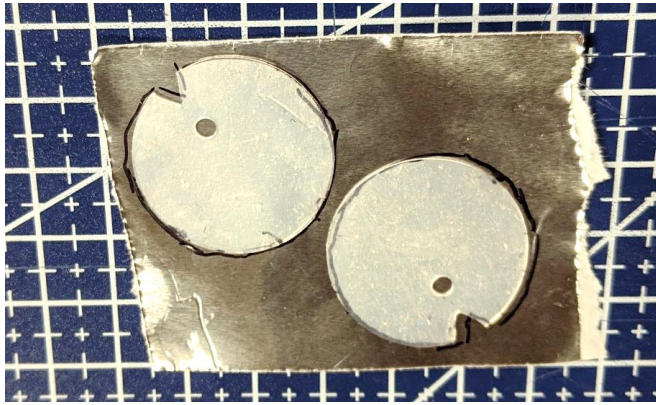
- Look inside the mask: you will see the close / open ring.
- Rotate to open and then remove the entire assembly from the mask in two pieces

Step Two, Remove Flux Valve Disk



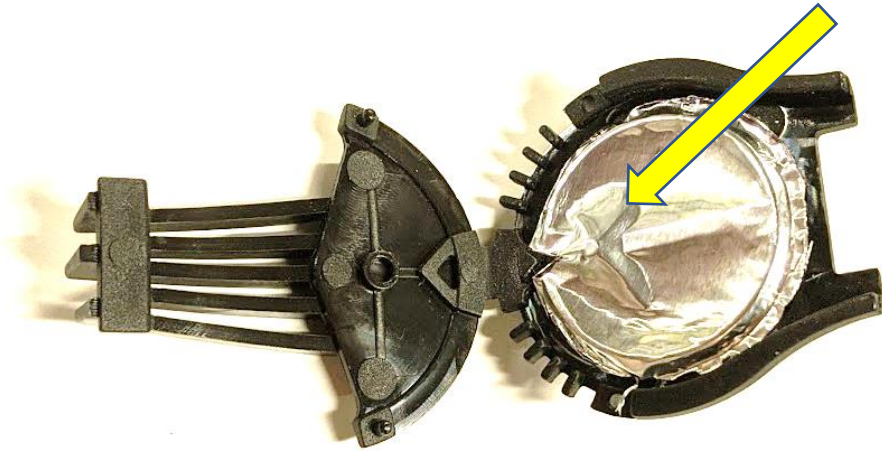
- They get a bit dirty with use.
- If they are not damaged, clean and save them.
- Clean the assembly with water-based alcohol (no aloe, no glycerin) and allow to dry.

Step Three, Trace Disk on Metal Tape



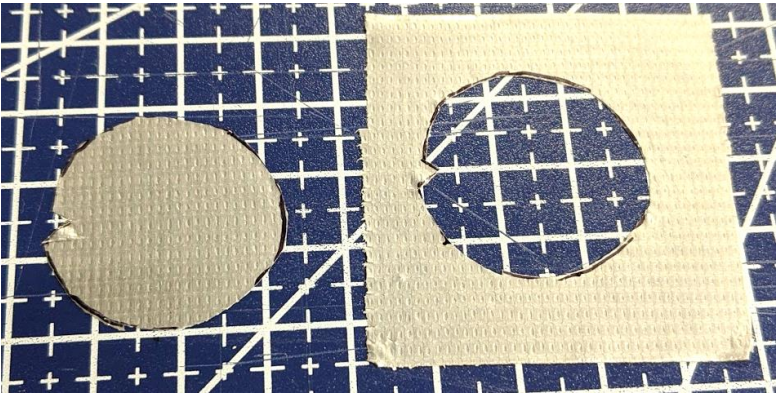
- Trace the disk onto the metal tape, including the notch. Do not cut a place for the round hole.
- Use a razor blade or knife to cut out the disk.
- Your tape disk should be a bit larger than the original disk.

Step Four, Install Foil Disk

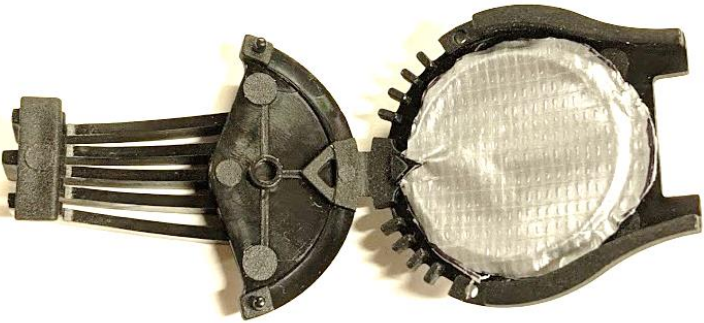


- Put the foil disk the same place as the original disk.
- Smooth it down against the ridges and up around the notch so that it is making full contact.
- If contact is not complete, there could be an inhalation leak.

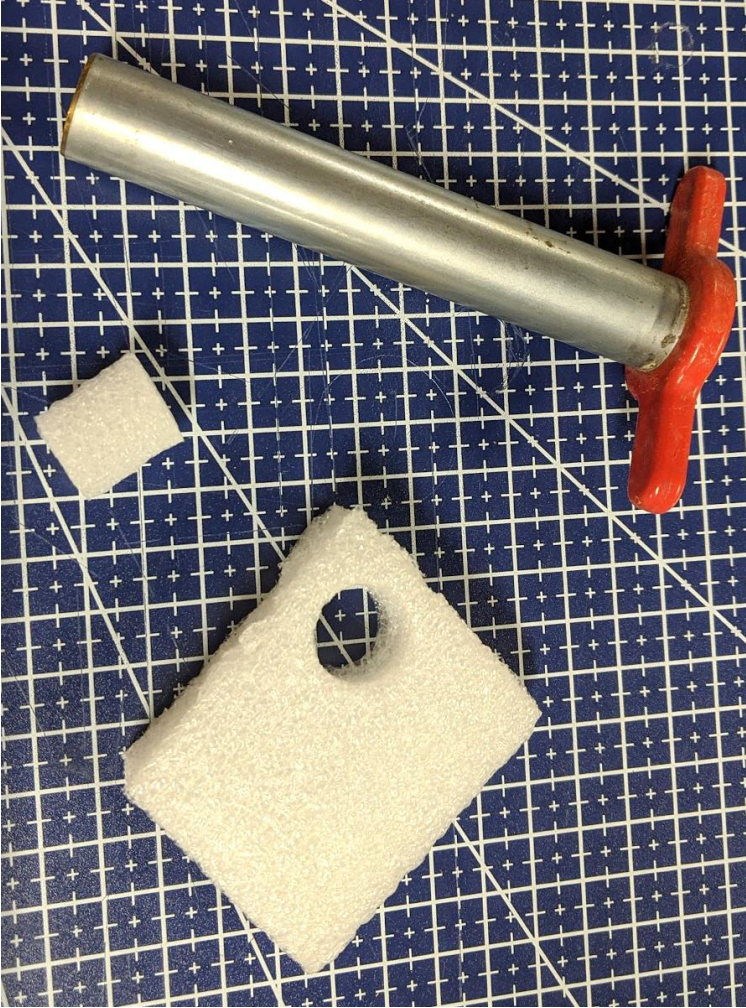
Step Five, Make & Install Cover Disk



- Follow the same procedure with a non-metal tape. The reason for the second covering of the valve is to shield the foil from accidental punctures.
- It also gives you a way to color-code the valves for different people, if the masks otherwise look the same.



Step Six: Condensation Blocker



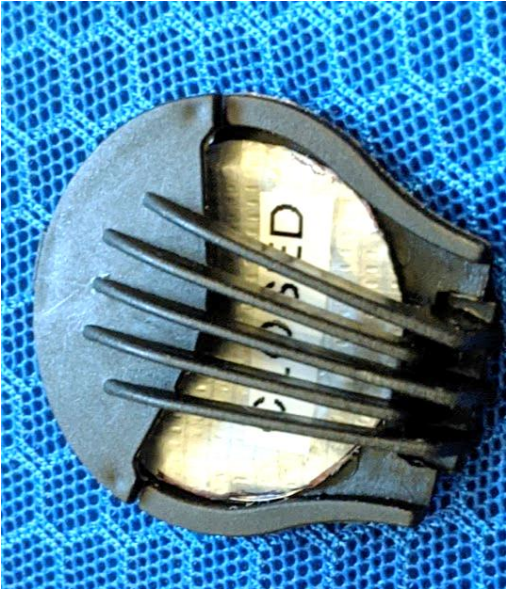
- Find a piece of closed-cell foam. Bits are often used in shipping. This is not like coffee-cup styrofoam!
- With a blade or hole cutter, make a plug that matches the inside diameter and thickness of the inner valve barrel. Cut to match the depth, this one = $\frac{3}{16}$ inch. It must not push up against the foil tape!

Step Seven: Reassemble Valve



- At this point you are done. You can put the blocked valve back into the mask and install the interior disk to reduce condensation in the valve assembly.
- If you seated the tape firmly, no air should be able to enter.

Step Eight: Maintenance



- You should check periodically to verify that the foil barrier is correctly seated.
- Run your finger around the edges to re-seat the tape if needed.
- You may also want to put a note on the valve to show people that you closed your valves for better protection.