

Coronavirus Newsletter #3A



This is me, trying to make up for a project I omitted from Special Edition #2). It turns out that this project, submitted by Chuck Hix, is the only one that is truly apropos to this time of Coronavirus. My face is red, and I do apologize, not only to Chuck, but to the rest of the membership for depriving them of this truly unique project.

Wilbur Goltermann
President

Chuck Hix - UV light sanitizer for N95 masks

In these times of “Stay at Home”, woodworking can come from anywhere. Killing time by making shop projects and Christmas gifts are one thing, but being able to contribute to the cause is another. My wife works in the City of Louisville’s administration and often brags about her creative, woodworking husband. I appreciate it. It means that my hobby will continue.

The Louisville Chief of Police asked if I could build a UVC N95 mask sanitizer? N95 masks can be re-used after cleaning using UVC light. He needed to clean his masks as they did not have enough to last through this crisis. He sent me a web link to a design from a southern Colorado Fire Department. I jumped on the project. I purchased the electronics even before he had a chance to pay for them. In these times of shortages, you can’t wait, it may be gone if you do not act. It took a week for the lights: UVC Light Kit Air purifier HVAC 120 volt for Air Conditioner Whole House to be delivered. These lights are for HVAC systems to disinfect the air handled. In the mean time, I built the cases.

I built a 8 ¾ X 8 ¾ X 15” box made of ¾” cabinet grade plywood, lined the inside with aluminum foil, installed the two 13w UVC light drivers and bulbs. I put a 30 minute timer on the top and an outlet box on the back to plug in the lights, I sealed the door opening with a window seal. I added hinges and a latch. It is important to seal the case to avoid looking at UVC light as it can damage your eyes.

Tongue and groove joinery was used for a solid, strong case. Before assembly, I sprayed the inside surfaces with 3M 77 adhesive and laid the heavy duty aluminum foil down on the glued surface, using a J roller to flatten it. This worked but foil is rather delicate so, I trimmed the foil back along the exposed edges to minimize contact. Inside the case are four cup hooks mounted midway on the interior sides. Masks are hung on those hooks in the middle of case. Masks are processed one at a time. The UVC lights are mounted above and below the masks through the sides of the case. The masks are bathed in UVC light. The calculations had a 10 minute cook time to destroy the virus. I built the units exactly as directed by the plans. Boulder County Health tested them and found them to be effective after five minutes of cook time.

Two units were built. The second went to Louisville Fire. A third one looks like it will be built for the Boulder Coroner.

Chuck Hix

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