



Shielding others from Covid-19

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Using 3D printers, tech savvy teenager is making as many face shields as he can in the basement of his Port home to protect those on the front lines of fight against virus



HOLDING SOME OF the face shields he made using his 3D printers, William "Billy" Schowalter was hard at work last week in the basement of his Port Washington home making more shields. He has donated some of them to the Ozaukee County Sheriff's Office, given some to his half-sister, who is a nurse at a Milwaukee hospital, and hopes to get more of them into the hands of health care workers and first responders. Photo by Sam Arendt

By: BILL SCHANEN IV
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As doctors, nurses and other health care and emergency workers on the front lines of the Covid-19 pandemic scramble for protective gear, 16-year-old William “Billy” Schowalter is cranking out plastic face shields in the basement rec room of his Port Washington home as fast as he can.

Billy, a junior at Port Washington High School who has had an affinity for 3D printers since he was in middle school, is using two of his printers to make the headpieces. To those he attaches shields made of transparency paper. Borrowing from his mother Kathy’s crafting supplies, he uses her corner-rounder to remove the sharp edges from the shields.

“I wanted something to 3D print and I know there is a need for PPE (personal protective equipment),” Billy said. “I personally know people who need shields.”

Those people include his half-sister, who is a nurse at a Milwaukee hospital inundated with Covid-19 patients, and two uncles who work for the Ozaukee County Sheriff’s Office. He has given them shields and offered to make more for their co-workers.

“She was in tears when she got them,” Billy’s father Carl said, referring to the reaction of Billy’s half-sister, who is his daughter, when she received the shields.

Ozaukee County Undersheriff Christy Knowles said Tuesday that face shields made by Billy are being used by detectives and members of the jail staff.

“We are definitely putting them to good use,” she said. “Between surgical masks and face shields, our deputies are now pretty much protected.”



MODELING THE face shields that William “Billy” Schowalter made using 3D printers and donated to the Ozaukee County Sheriff’s Office were (from left) Cpl. Dan Gahan, Capt. Jeff Sauer, Deputy Nick Holzer, Det. Scott Heller, Lt. Justin Kaas, Det. Gary Speth and Undersheriff Christy Knowles. Holzer and Speth are Schowalter’s uncles.

Billy began making the shields after he came across a YouTube video made by a man from the State of Washington — the site of the first Covid-19 outbreak in the United States — providing instructions on how to make face shields using 3D printers.

To Billy, making shields sounded like a perfect way to combine his skills with his desire to help others.

“I’m not doing this to make money or for the attention,” he said. “I’m doing this basically because this is what I can do to help.”

Production, which began last week, starts as soon as Billy wakes up and essentially continues until he goes to bed. Because each shield takes about an hour to print — with two printers he can make two shields at a time — there’s ample time in his day for other obligations, he said.

“I’ll get them started, go do something else like schoolwork, then go back down in the basement and start some more,” Billy said. “I basically do that all day.”

Long fascinated by 3D printing, Billy received his first printer from his parents as a Christmas gift when he was in seventh grade. He has since purchased two additional printers with money he earned working at Dockside Deli in Port Washington and Exacto Spring Corp. in Grafton.

When it comes to operating them, Billy has always been ahead of the curve.

“I taught myself how to use them by trial and error and by watching YouTube videos,” he said. “At school, I’ve done a lot of teaching the teachers about 3D printing. For a while, I was the designated 3D printer guy. If anyone had a question, they came to me.”

They’re still coming to him. Exacto Spring, where Billy’s father works, plans to begin making 3D printed face shields using an electronic design file provided by Billy, Mr. Schowalter said. Before it ramps up production, the company will have Billy inspect and approve the finished product. The company has also offered to supply Billy with more materials for his printers when he runs out.

Billy has given some of the shields he’s made to gas stations and convenience stores to protect their employees and is looking for ways to get more of them into the hands of people who work in hospitals, clinics and nursing homes, as well as police officers, firefighters and EMTs.

And there are plenty for his half sister to use as she treats those reeling from the virus.

“I texted her the other day and let her know that if she needs more, she should just let me know,” Mr. Schowalter said. “She texted back, ‘How much?’

“‘They’re free,’ I said.”

After all, Billy said, his operation is not a business venture; it’s his way of doing something meaningful to protect others during a crisis.

“He amazes us,” Mr. Schowalter said of his son.