



The Gottman DMI disk ripper when it was new.



A damaged DMI ripper after work has begun.

Hello again! It's time to get back to giving my best effort to help my fellow builders. This month, like so many, takes me out of my "comfort zone." My background includes a short stint operating a CNC machining center and lathe, where parts were built in a virtual world using a G-code program, then applied to the real world to create a precision-detailed part. Well, that was 16 years ago and I had others around to help me if there was a problem. Even then, it was rare that I had to do any programming.

With that said, a good customer/friend sent me a damaged model of a Gottman Toys DMI disk ripper that he had found on eBay and wanted me to fix. After looking the model over, I knew this was going to be a challenge to repair.

The model was built with parts that were spun cast. From my best guess, the spin cast operator may have had a few quality issues during production. So this project got put aside while I tried to wrap my brain around how I was going to fix it.

This leads me to the next part of the story. Before Danny Gottman passed away, he had sold his business to Dan and Jaime Gard. After talking to Dan Gard, I learned that Danny Gottman's auction included a few boxes of parts that remained from the production of the DMI

rippers, and Dan thought he remembered just who bought them.

This leads me to another toy collector/dealer named Danny Buckert. So I talked with Danny Buckert and he did indeed purchase the DMI ripper parts at the auction. He did not know what he had for sure, just that there were a few boxes of parts. He agreed to bring them to the Gateway Mid-America Toy Show in St. Louis, Mo., for me to look over. We never discussed price and I just figured we could work that out.

Now this story gets even better. I get to Danny Buckert's room at the toy show, only to find out Danny was not there. So I introduce myself to Danny's son, who tells me Danny is at the auction, but that the parts were there and he would call Danny about the price.

So he calls Danny and I hear half of the conversation, which includes, "That's all you want for them?" OK, here is where I get nervous. What does "That's all you want for them?" really mean? I am either getting a great deal or this just might be exploding in my face.

Well, it was about to explode in my face! He was giving me the parts in exchange for building a DMI ripper for him as well! Why couldn't he just say \$100, \$150, \$200 or whatever? That would have been far less headache!

With the parts in my possession, I headed home to

re-evaluate the project. With the box of parts, it looked like I would be able to fix the broken DMI, and build one for Danny Buckert, one for myself and one to sell. With the parts sorted, I started to assemble a ripper. That whole fiasco of getting the parts was nothing compared to the headache these parts were giving me.

They were so fragile, they broke in my hands. Every step I took forward put me back 10. I invested eight hours dealing with parts that were simply JUNK! It was no fault of any of those involved, but I have never seen such fragile parts. Finally, I put the ripper back on the shelf for another day.

During some much-needed time away from the ripper, I slowly began working with purchased 3-D printed parts. I had yet to experience drawing the parts myself. All of my experience had been with using parts that others had drawn for me or parts that were commonly already available. This is where my "comfort zone" started to get tested.

I knew that I was going to have to accept that 3-D printing is here to stay and I was going to have to learn how to draw parts on my own.

I started my journey by visiting the Shapeways website to learn how to get started with 3-D printing. I found it offered many various free programs to get me on my way. After reading

the different program options available, I chose AutoDesk 123D.

Now AutoDesk 123D may be a good program and I am sure many people have had great success with the program, but I was struggling. I just was not picking it up.

That takes us to the next part of the story. Like I had stated earlier, I had been dealing with other toy collectors/builders who had been drawing parts for years with excellent success. So I went begging! I asked what they were using. One had been using a 2009 edition of MasterCAD while another had been using SolidWorks. After doing some more research and learning there were only about 10,000 different versions of SolidWorks, I finally found a SolidWorks program to try.

After a \$800 trip to purchase a new laptop, I was able to install the SolidWorks program. With a learning program that included classes from

SolidWorks, along with hours and hours of YouTube videos, I finally started to draw some parts.

That gets us back to the DMI ripper, or should I say, my aggravating pile of JUNK! I picked out a part that I felt would be simple to draw and started on it. I was struggling, but things were slowly starting to look up. I would draw, then go through a training program, then maybe another YouTube video, and finally I had built three parts. Now what do I do with them? Back to Shapeways.

After looking through the site, I was able to figure out what it was going to take to download a drawing for production. After doing some more research and asking for help, I was able to learn I had to save my file as an "STL" file that would transfer to Shapeways. In a matter of a few minutes, my first parts were ready to be printed. This took me to my next step—ordering the part I just drew to make sure it is what I indeed drew and to see what the finished product looked like.

While I was waiting

for my part to arrive from Shapeways, I continued to practice with the SolidWorks program and continually got better.

Each day, I found myself getting a little better. While drawing the replacement parts, I pushed myself more, wanting to produce an even better DMI ripper than Gottman had produced.

I started by making the disk gang lift up and down, like the real model. Then I wanted the ripper shanks to work correctly, then the hitch to be correct. Soon, I had around 18-20 parts drawn. Sometimes I would look at a part I had drawn a day or two earlier and see there was a problem or it could be done better.

With my goal now to make the model as real as possible, I was starting to really get along with the SolidWorks program. I was a long ways from being an expert, but I was learning something each day and seeing that the potential was almost endless!

Soon after, my first part showed up at my door and it was just the way I

had drawn it. So I sent the rest of the parts that I had drawn. If all goes well, I will be building those DMI rippers! If any of you get a chance, check out Shapeways. Thousands of replicas are available to be purchased.

Tool talk

Now onto the tool of the month. This month's tool is a cordless drill. The drill that works best with these toys may not be the best drill for a professional carpenter to use. Instead, it is most likely the last one a professional would want to use.

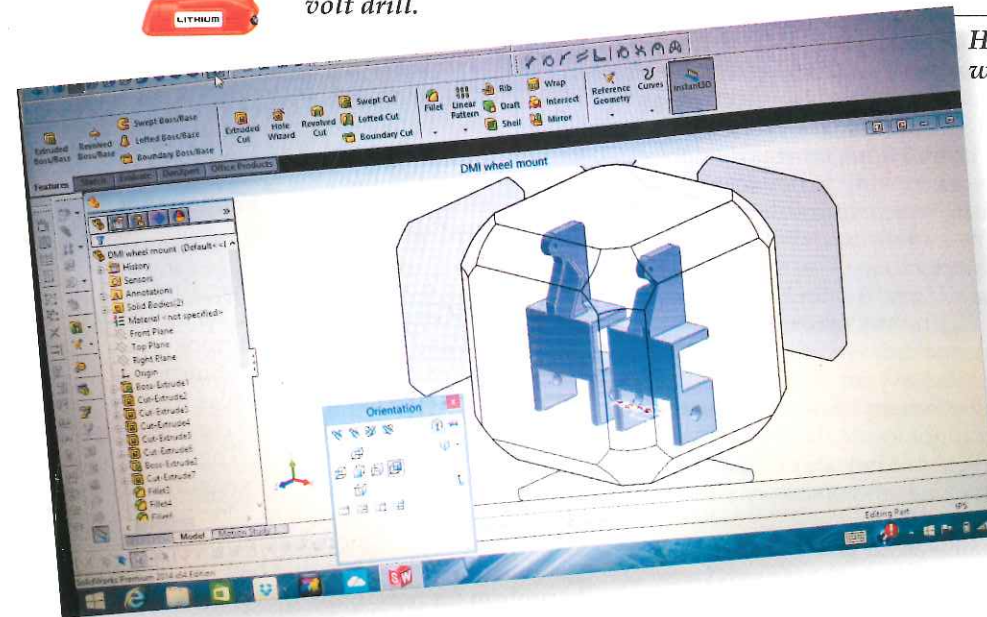
The less expensive, low-powered drills have worked best for me. Personally, I use the 7.2-volt Black & Decker drill. This drill has power, a long operating life and a 3/8-inch chuck, which fits well with the small screws these toys have. For under \$30 when on sale, I have three of them!

So hopefully the next time we meet, I will have some 3-D printed parts and we can move forward on making a ripper!

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My drill of choice, a Black & Decker 7.2-volt drill.



Here is a one of my first DMI parts I was able to draw for printing.

Living just northwest of Dyersville, Iowa, in the heart of farm country and farm toy replica country, Chuck Steffens has found a niche in the toy world, building high-detailed replicas in his spare time. He shares his experiences with Toy Farmer readers, hoping to lead other collectors to personalize one of their own tractors. Comments or suggestions can be directed to csteffens@wildblue.net.

