

# Leonardo's Sketchpad

Adventures in art-to-part productivity



## How to prepare yourself for whatchamathingies

“My God, they want you to make THAT! Where would you start? How would you hold it? What the heck is it anyway? You told them no, right?”

I was babbling as I squinted in disbelief over Leonardo's shoulder at the weird looking CAD model of a thingamajig a local defense contractor needed almost overnight. All he said was “They've already been turned down by three other shops. Do you know how much we'll charge them for making this little puppy?”

“Oh no, you told them we could do it.” I was hyperventilating.

Leonardo told me he had no idea how he was going to make this thing but that he was confident he could figure it out in short order. He spent about an hour locked up in his office. When he came out, he looked over to the WonderCutter X where I was working, winked, and said “It's going to be alright.”

Leonardo wound up pulling an all-nighter. Early the next morning the WonderCutter X was chipping away at the mystery part. I never should have doubted him.

Leonardo has always been a very resourceful person. When he started working here seven years ago, he knew right away that we wanted to make designs and program the CNCs. Since Code Red Manufacturing wasn't about to give a newbie CAD/CAM training, Leonardo decided to learn as much as he could on his own. And I don't think he's ever stopped building up his resources.

First thing he did was get on the Web and see what kind of help was available. There was a lot. Too much at first. He ordered a book. There are some great ones that are easy to follow. But Leonardo is a visual guy; he really has to see it to understand it. So he subscribed to streaming video courseware program and that's when he really began to understand.

So some of the guys would give him little CAM things to do in the shop and he always got it right. That's because he took advantage of the Help screens whenever he got stuck. He also asked coworkers for little tips, but not so often that he made himself a pain in the butt. Management could see he was talented, so they decided to give him formal training.

Then Leonardo would take vacation days and go to trade shows. He'd meet up with all kinds of people: vendors galore-- CAD/CAM, tool, workholding, you name it. He got to be on a first name basis not only with our CAD/CAM dealer (who has been enormously helpful) but also people CAD/CAM software company. They actually take his calls and answer his questions.

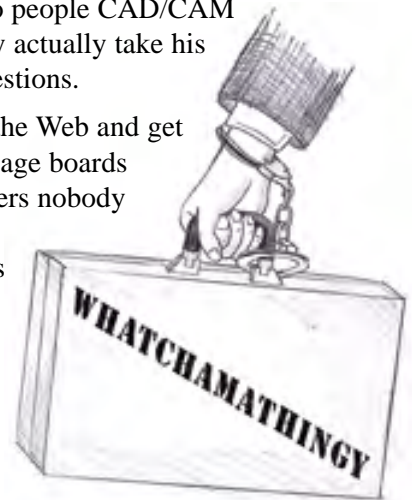
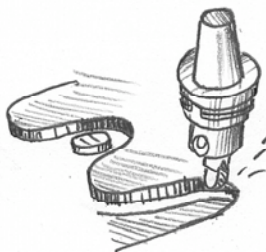
At night he would surf the Web and get on the CAD/CAM message boards and come up with answers nobody else could find. He would also make friends with some awesome CAD/CAM programmers in other parts of the country. Since they were not competitors, they could swap awesome programming tricks. That's where Leonardo met Mad Dog Charlie, who I think was the guy who finally gave Leonardo the information he needed to program the whatchamathingy.

Anyway, that afternoon a very scary courier came to the plant. Leonardo gave him the part, which he put it in a briefcase and handcuffed to himself.

The production department better be nice to Leonardo. They may get a big whatchamathingy order and he's the only one who knows how to make them.

**“When you can't cut it but you have to anyway, then you'd better get some help, and pronto.”**

– Eddie Miller,  
Assistant Custom Gizmo  
Manager

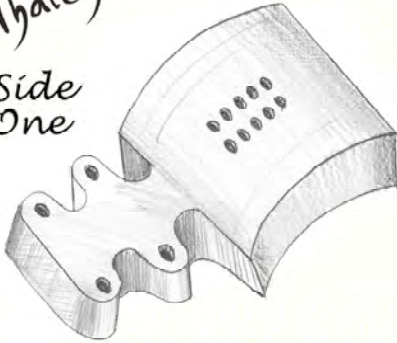


# Leonardo's crib notes: Where to find CAD/CAM help

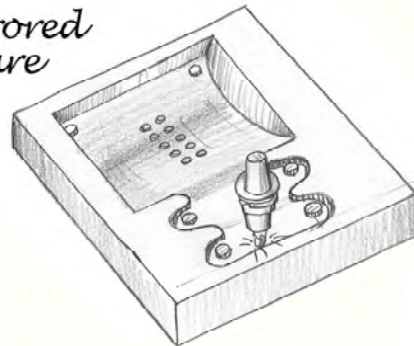
- Web sites
- Books
- Streaming videos
- Help screens
- Coworkers
- Online message boards and forums
- Dealers
- Vendors
  - Tool
  - Work Holding
  - CAD/CAM
- Formal training
- CNC/CAD/CAM buddies

## Whatchamathingy prototyping all-nighter:

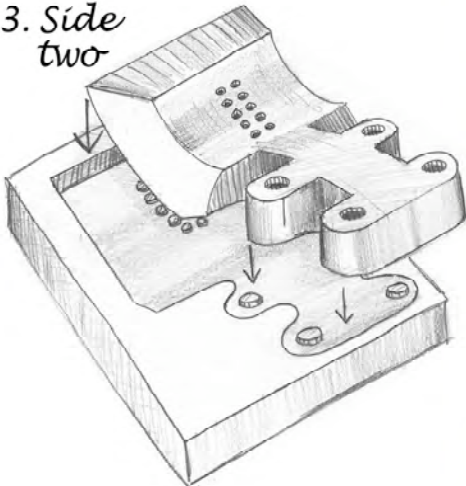
1. Side One



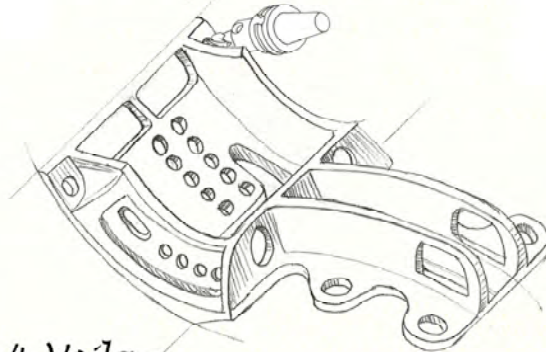
2. Mirrored fixture



3. Side two



4. Voila  
Whatchmathingy!!!



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