

Making of a Machine Shop



Building a Machining Business From the Ground Up

with guest speakers



Adam Demuth
of Demuth Tool & Design



Dan Rudolph
of Rudolph LLC.

Follow-up Questions & Answers

Question: I'm retired and thinking of starting a machine show and would appreciate your opinion on the minimum square feet needed for a startup?

Adam: I have 190 square feet or about a one-car garage worth of space. That is on the extreme end, but I do well in my confines. If you have little space, focus on small machines and small work is my recommendation. Also, if this is a home-based shop, look at machines that run on single-phase power. Datron NEO, the Haas Compact Mill, and lathe, Haas Mini Mill, or all very compact single-phase machines that can make you money with the right work.

Dan: I don't think there is a minimum, but you may have to be unconventional. Recognizing the small space as a constraint that ensures you focus on a certain product could be positive for your shop. I always liked the Haas Office mills footprint for a small shop.

DEMUTH TOOL



FIRETRACE™ International

Question: How important is Instagram to your business? I have found from the small number of machined related posts that I have made on Instagram, the response has been positive and wondering if it can help connect with people and/or customers?

Adam: I have gotten a few jobs due to my presence on Instagram, but overall, it's a pretty insignificant portion of my sales. What is important about Instagram is it give me a social group I talk with; being in a one-man shop can be lonely, so a community is great.

Dan: Yes, there is a strong sense of hanging out in the shop with your buddies that comes across on Instagram. I have never asked for work on IG, just shared what I was doing or dealing with each day. If every post is trying to sell something, people can smell it. Just put out what you are working on or working through, people will find you over time and work will come.

DEMUTH TOOL



FIRETRACE™ International

Question: How do we start our marketing in such times? Is cold calling and mailing the best option for now? Are there any trade sites in particular which you guys prefer or recommend?

Adam: I am essentially a word of mouth business at this point, it is all built on reputation. It takes a while, but engineers and purchasers remember who has taken care of them. They move on to new companies and contact you from there, slowly the web builds. Cold calling and mailers seem like a waste of time to me. If you have ever sent work out to another shop, what drew you to pick them?

Dan: I don't think cold calling or mail is effective anymore. Frame your marketing around helping people such as engineers or designers to meet their goals, which are primarily lead time-critical.

Firetrace: For trade sites, you should target industries that you are trying to serve. Attend/walk those industry-related tradeshow for networking, and if it makes sense, consider joining your local Chamber of Commerce.

DEMUTH TOOL



FIRETRACE™ International

Question: Should we invest in a machine first and then look for orders or do the marketing first and see if we can get orders and outsource the work for a couple of months and then buy the machine?

Adam: It would be much easier to convince people to give you work with a machine in place. Getting in with a good company is a wonderful opportunity, and I would not want to soil that via a botched outsourcing project.

Dan: Getting orders with the intent to outsource is a recipe for disaster. I would get a starter machine first, might be something that needs some fixing up. Be ready to pivot to the work that you actually turn up, it might be different than you expect.

Question: Are there any critical certifications to obtain or certifications you recommend getting?

Adam: It really depends on the work you want to pursue, not really a necessity in the die tooling world.

Dan: ISO9001 is a pretty consistent foot in the door. Many companies basically rubber stamp you into their vendor list if you have it.

Question: What legal aspects of the business should you be aware of during the process of building the business?

Dan: As far as the legal structure of the business, it's worth meeting with a lawyer to set up an LLC or S corp. Machine tools are big assets and worthy of spending some time to ensure your bases are covered.

DEMUTH TOOL



FIRETRACE™ International

Question: Do you quote out tooling and inspections needs as non-recurring costs?

Adam: Yes, part-specific gaging, special cutting tools, and fixturing get put on the quote as a non-reoccurring engineering fee. In some cases, the customer purchases the gaging. My part volumes are low enough that it's hard to hide costs like these into the per part price.

Dan: No, include everything to do the job in the part price. Don't make it complicated, unless the customer asks for it. It's expensive to do new jobs the first time.



DEMUTH TOOL



FIRETRACE™ International

Question: While quoting, how do you quantify the cost of QC and inspection in cost breakup? Since we are installing high-end inspection systems, how do we add the cost of inspection to the overall cost?

Adam: The metrology gear is just part of my overhead. For the time of inspecting my parts, I have an hourly rate for inspection and treat it like any other work center on the quote.

Dan: It's a cost of having a shop, it goes into the general overhead. The expensive QC system should save you time and money compared to the cheapest way of inspecting; otherwise, it's not worth it.

DEMUTH TOOL



FIRETRACE™ International

Question: Would you recommend sticking to machining operations if that is your main operation? Or would you advance into more operations such as press brakes in welding, or would you subcontract that work out? I would assume it depends on what experience you have but wanted your thoughts.

Adam: I like being focused and specialized on a few things, it keeps your equipment and supply inventory smaller and allows you to be very efficient. There would be a good amount of money and brainpower into outfitting a fab department, what would happen if you focused those resources in an area you are already rather good at? You might get even better!

Dan: Depends on how comfortable you are learning new processes. We try to take our parts to completion inhouse with no outside services. If we can't do it all, we no-quote the job. We've added many finishing processes over the years to accommodate more requests. It all depends on your relationship with the customer. Don't let too many processes distract you, either.

DEMUTH TOOL



FIRETRACE™ International

Question: Where do you buy a machine tool?

Adam: Through distributors and dealers, that relationship can be valuable over time as it gives you quick access to repairs and tech advice.

Dan: I have a good relationship with my local machine dealer for new equipment. I've also purchased used equipment from dealers over the internet.

Question: Do you let your customer base drive your machine choice and capabilities? For example, taking a job because it drives you to buy that new machine you've always wanted.

Adam: If several customers have work for a specific type of machine, I will not have an issue buying it. My high-speed mill was purchased because that's the direction I wanted to move, and the work was found for it very quickly.

Dan: Yes. Sometimes you buy the machine you want and find the work for it later too.

Question: What is a machine you would recommend for boring engine purposes? To keep costs low is the adjustable bore bars good for holding very tight tolerance?

Adam: No idea.

Dan: Out of my league.



DEMUTH TOOL



FIRETRACE[™] | International

Question: Adam – What machine specifically do recommend for relieving end mills?

Adam: A Deckel S0 style tool grinder. New ones are no longer made, but there are some imported ones that give decent results.

Question: Danny, have you and your dad considered when to hire your first employee?

Dan: For many reasons, we have not hired any employees. Primarily, I don't want the responsibility. I don't want to put anyone out if times get tough or pay them before my family. We've grown slowly and added automation (robots, CNC equipment) to fill in the gaps.

DEMUTH TOOL



FIRETRACE™ International