# MILCO EDM & WATERJET

## VETERAN OWNED ONE STOP SHOP FOR EDM AND WATERJET

Vietnam veteran and Milco president Steve Miller was a tool and die man back in the day. He unexpectedly found his way to EDM when he covered for a coworker taking some time off. His friend never came back from vacation, and Steve found himself running EDM machines for a living. "I worked for a few companies running Agie machines before venturing out on my own," tells Steve. "I wanted to buy into a company in LA I was working for, but the owner wasn't interested. In 1990 I took every penny I saved and got a used Mitsubishi wire EDM machine, a small workspace, an army cot, and here I am all these years later."

Steve ran the shop solo for as long as he could before needing to add machines and employees. Then came more machines and a larger building in Huntington Beach, Ca. "We have 15,000sq.ft. and 22 employees," explains Milco's VP Chase Miller. "Right now, we have a mixture of Mitsubishi wire and sinker EMD, and OMAX waterjets. We have 7 wire machines, 3 sinkers, 3 hole poppers, and a trio of waterjets. Our workload is spread evenly between the departments. They feed each other. A part might start out being roughed in on the waterjet, couple holes put in it, and then finished via wire or sinker EDM."

Work has become more sophisticated for Milco since they opened. They started out tool and die, injection mold, and as a lot of that business left the US they transitioned more into a supplier for prototype aerospace, defense, medical, and commercial parts. "Aerospace certs back when I started were from WW2 and called 408208MIL," laughs Steve. "The industry has become more demanding, so you need more and more certifications. We got ISO9001, then AS9100 and we are EDM NADCAP certified and ITAR compliant. Chadd is working on our ITAR registration, and we hope to have that completed soon." "Each cert was a new level," continues customer relations manager Chadd Miller. "Lot of streamlining and efficiencies kicked in, but it is all about continual improvement. What did we improve? How can we improve? It forced us to put back into the company and at the same time stay humble and keep learning. Dad has always had a lot of wisdom, but his generation is leaving us, and the industry will suffer without them. There so much tribal knowledge that needs to be passed down the right way. ISO and AS have helped with that. Process being written down are one thing, but people of his generation were artist and inventors, and that skill doesn't always translate to paper. We are trying as sons and as a company to preserve as much wisdom as possible."

Chadd is working two-fold right now on Milco getting ITAR and SDVOSB registered. They are ITAR compliant, but still finishing up the process. SDVOSB (Service Disabled Veteran Owned Small Business) is a recent avenue they just begun the journey down. "Lots of government service contracts are out there ensuring that our veterans

When he isn't on a road trip in his RV you will find Milco President Steve Miller on the shop floor imparting decades of wisdom to his staff.

The Mitsubishi NA1200 wire EDM is unique because it can use a thinner wire for even tighter tolerances.

Milco's quality lab is ISO9001 and AS9100 certified.

Milco President Steve Miller and Vice President Chase Miller.

Jorge handles most of the programming for wire, sinker & waterjet.

are taken care of," details Chadd. "I just got back from a conference for inbound veteran procurement." It was a detailed seminar that helps companies like Milco find and source the jobs set aside for SDVOSB businesses. He spent a week in Maryland surrounded by other veteran owned companies. "We went through all the aspects on becoming compliant, how to handle audits, so many facets," continues Chadd. "It's going to take some work on our end, but we are up to the task. Our veterans should have every opportunity to continue to serve our country by manufacturing parts that keep our country safe and SDVOSB contracts are a great way to do it."

Admittedly Steve got his first Mitsubishi wire EDM because he didn't have enough savings to afford an Agie like he was used to running. But one look at the shop floor and you will see he is fully committed to the Mitsubishi product line. "North South Machinery takes great care of us on the Mitsubishi wire and sinker machines," tells Steve. "We've got all our sinkers from them and most of the wire machines." "The thing about EDM machines is that if you start with a solid brand like Mitsubishi then preventative maintenance goes a long way in extending their life," adds Chadd. "Parts and features are getting smaller, tolerances getting tighter, being able to produce quality parts is getting harder. You need a machine that will last and deliver consistent results throughout its life." To help combat these emerging challenges Milco's newest machine tool is the Mitsubishi NA1200 wire EDM.

The NA1200 is a powerful and versatile wire EDM machine that offers several features and advantages that make it a good choice for a variety of applications. It is a popular choice for manufacturers of medical devices, aerospace components, and other precision parts who deal in difficult materials like hardened steel, titanium, and Inconel. Exactly what they need at Milco. "We got the NA1200 from the Denver Mint," explains Steve. "There were special circumstances being able to get it, but it has been a great addition to the shop. The NA1200 is a unique machine because it can use a finer wire. The most common size wire is .010 or .008, but this machine can use .001 if needed. It really expands our abilities to burn small and intricate features." "The NA1200 took a little getting used to," continues Milco's EDM operator Bianca. "The smaller diameter wire was a little finicky at first, but once we got dialed in it's been a great tool. We can produce parts with tolerances as tight as 0.00005 inches."

Machinist Bianca has been with the company 7 years and came to Milco with no EDM experience. She now runs circles around the machines.

Milco touts the generous work envelope, high-speed wire drive system, built-in coolant system, and user-friendly controls as other key features of the NA1200.

One observation Steve has about how the business has evolved is that Milco is manufacturing parts on the EDM that could have been engineered to utilize more cost-effective manufacturing processes. "EDM is a nuanced element of the machining process," details Steve. "You are dealing with mostly complete supplied parts and EDM is one of the final steps. We work closely with our customer's engineering teams in the early development stages of a project. A lot of what we do is very short run prototype type work. I've noticed the engineers these days seem to be designing more and more parts that you can't machine





Milco has three Omax abrasive waterjets. Steve was an early adopter of the technology. He is of the opinion that the Omax software is the best in the business and well ahead of the competition. The trio of machines run practically non stop.


**Milco has 7 Mitsubishi wire EDM machines, 3 Mitsubishi sinker machines and a handful of hole poppers.**

completely with traditional milling and turning. It is great for us as a company, but sometimes seems like over kill. I don't know if the industry is getting lazy or losing their expertise. They're making the parts more expensive by throwing the EDM into it instead of traditional machining. There are many cases when EDM is the only way to attain the desired feature and an example would be a porthole down a hole sideways on a manifold. Sinker EDM is the only way you can do something like that, but sometimes we just shake our heads and cash the check."

Milco began as a wire EDM company, then expanded into sinker, hole popping and waterjet as the industry transformed. In the early days of waterjet Milco were a posterchild of OMAX. Steve's face was all over trade show booths with his head sticking through a massive part. "A salesman came in and asked if I wanted to be the first on the block to have the new OMAX water jet. He told me abrasive waterjet is going to become a really big thing. He was right. I got an OMAX and became loaded down with work. Added a second machine and then a third machine. We were featured in CNC West Magazine almost ten years ago in the waterjet issue and not much has changed. My favorite aspect of the OMAX when I got them is still my favorite now. Their software was the best then and still is as far as I'm concerned, well ahead of the competition. The people at OMAX who programmed the machine knew how to make it move efficiently and accurately. The machine knows how to slow down around a corner predicated on how tight the radius is, the thickness of the material, and the type of material. You get it right the first time."

Chase and Chadd grew up at Milco as so many do in a family business. They came over after school and pretended to work when really the shop had a nice surface to ride their skateboards. Now they walk through the shop instead of skate, but you can still see the spark of joy when those days are brought up in conversation. "Growing up in a family business has been a great experience for me, especially working alongside my dad," concludes Chase. "Always keeping an ear out and staying on my toes to soak up all the knowledge he has to offer has really been a huge benefit. I've seen Milco grow from acquiring our first Wire EDM machine to now being an industry leader. I believe in innovation and building the company around that is the utmost important goal." Family businesses go one of two ways and it's clear that Milco has a great future ahead of them.