

# Flexibility Builds Growth: Expanding to Meet Customer Demands



With customers looking for faster turnarounds and shorter deadlines, and sales projections looking positive, Waterjet West Inc. upgraded their shop to add a third abrasive waterjet system. A waterjet-only job shop in San Diego's North County, Waterjet West was running their two OMAX 55100 JetMachining Centers at near full capacity, creating customized parts for diverse industries such as aerospace, medical, architectural, and energy. The inherent benefits of abrasive waterjet machining, coupled with its high versatility, allowed Waterjet West to provide just-in-time manufacturing, reverse engineering solutions, and overall quick turnaround cutting services. This flexibility allowed the company to expand their customer base, even during times of economic fluctuation.

"If I spent the same amount of money to purchase a laser instead of a waterjet, I would be cutting strictly sheet metal and thinner gauge material," says Scott Cormany, owner of Waterjet West. "With waterjet, there is room to expand." After restructuring their shop and upgrading their power, Scott added an OMAX 60120 bridge-style JetMachining Center, complete with the advanced Tilt-A-Jet taper elimination cutting head. The 60120 is capable of cutting 5' x 10' sheets with ease, and the Tilt-A-Jet

automatically adjusts to eliminate taper from the parts, resulting in precision edges that often require no secondary finishing. With faster cutting and shorter production cycles, they are able to better meet the shorter deadlines of their clients.

With over 30 years of engineering experience and knowing about manufacturing processes, Scott is able to connect with clients and better understand their needs and goals from the beginning. Often times this requires blueprint evaluation and reverse engineering of a part, which the OMAX system is ideally configured to handle. The OMAX Intelli-MAX Software Suite comes with tools to simplify the process, as Scott notes. "With reverse engineering, we've essentially been able to take blueprints, sketches, and mylars, scan them and input them into the OMAX software, where we trace over the original blueprint and use the scaling features to cut a prototype." This comes in useful when recreating older-style aircraft spare components, for which only mylar drawings exist.

The aerospace industry is also one that can take advantage of net blank shapes, for which abrasive waterjet machining is an excellent match. With a net blank shape, the overall manufacturing time is greatly reduced, with a corresponding significant lowering in cost per part. With integrated nesting tools in the OMAX software, Scott is able to closely nest shapes to minimize scrap waste in expensive materials such as titanium. Since there is no heat affected zone with waterjet cutting, parts can be placed very close to one another, and in some cases can even share a common line, further reducing waste.

"With conventional machining techniques such as milling, a customer wouldn't get as much yield from the plate," Scott states. "It would take up their valuable machine time which basically translates into capacity for them. So by



spending \$60 to get a part cut out by us, they save two hours on the mill, and those mill operation times are much more expensive than waterjet times."

With a third machine ready to pick up additional work, and a tapering of their existing client base, Scott examined other industries that could benefit from their abrasive waterjet services. Underground utilities provided an interesting application whose requirements were perfect for abrasive waterjet. "Underground utilities and related industries were not markets we knew much about," says Scott, "so we began to explore how we might be able to help with our services."

As above ground structures become saturated, many communities are shifting to trenchless technology, which address growing concerns over environment, costs, and safety regulations while minimizing surface and subsurface disruptions. To keep the different conduits separated, the utility contractors utilize sturdy spacers to use as they feed the lines through. Scott is able to quickly and efficiently cut custom job-specific high density polyethylene (HDPE) spacers that work perfectly for these utilities, helping keep them on schedule.



Another market ripe for abrasive waterjet cutting is with hydraulic, pneumatic, and electrical actuators. Factories, plants, and utility companies all utilize these actuators, and often times these are custom built. This means they require custom parts when they break down, and the abrasive waterjet is the perfect solution, with its ability to quickly machine parts in almost any material up to several inches thick.

A government-mandated change following the massive San Bruno pipeline explosion required actuator valves to be installed to automatically shut down the flow when a pressure differential was detected. Waterjet West was



given a job for custom-made flanges for a natural gas pipeline that needed to be installed immediately in order for the project to continue. "We were contacted to make the flanges for the extension with only one day lead-time," says Scott. "We were able to quickly respond with minimal delay and have the finished parts on their dock the next day."

Prototyping is another field where rapid turnaround is essential. When Scott collaborated with the orthopedic industry, he produced a yoke design for a knee brace support by cutting small quantity samples. The cutting flexibility of the OMAX abrasive waterjet allowed him to economically work through the trial and error process in developing a successful prototype. "If someone were to go the conventional route to develop the yoke, which is to build a punch die and spend a lot of money getting the product to the prototype stage, it may not work during the test phase," Scott said. "With our OMAX, they get the versatility of the waterjet. We are able to take the design and make product parts within hours instead of weeks. The customer is able to test their prototype and make modifications, and then we can recut based on those modifications."

With market conditions able to change on a dime, having a versatile and flexible machine tools like the OMAX line is essential. "The OMAX products have proven themselves time and time again," says Scott, "and we are able to adjust our market focus and use our expanded capacity to win new customers and expand our depth with existing customers." As they continue to offer waterjet solutions for a variety of industry projects, Waterjet West continues to establish a knowledgeable, appreciative, and captive audience.

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**SPECIALIZES IN:** Just-in-time manufacturing and reverse engineering solutions with overall fast turnaround cutting services

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