

# Mastercam®

## **MASTERCAM SUCCESS STORY:**

Aeromotive is a major manufacturer of *fuel systems* in the racing and performance industry.

Aeromotive's reputation has come from their hands on approach along with the right materials, tight tolerances, and adherence to the latest engineering standards and practices, and of course, their passion for racing. From design to production, Aeromotive believes in testing. They validate new designs for performance and durability before releasing the design for production.

For years Aeromotive has been designing their systems in SolidWorks, and having local shops make their prototypes. Recently, they decided to bring their Prototyping In-House.

### **Challenge:**

Aeromotive needed a CNC machine and CAM software that could handle anything they could design.

The solution would need to be able to work on the most complex designs from SolidWorks and be able to come off the machine complete.

The complex designs needed both turned and milled operations. In addition to equipment and software, Aeromotive needed help with developing a CNC programmer and operator.

They have a very talented engineering staff, but did not have anyone with a machining background.

### **Solution:**

Aeromotive decided to purchase Mastercam and an Okuma MacTurn 9 Axis Mill/Turn machine. The machine is capable of machining the most demanding 5 axis milling and turning work and Mastercam is capable of programming anything that they could design.

QTE Manufacturing Solutions provided the Mastercam Software and the consulting / training that was necessary to take them from no machining background to programming and machining complex SolidWorks models.

### **Benefits of in-house prototyping:**

- Design and cut the most complex designs
- Rapid process of design to production
- Able to work directly with SolidWorks files
- Superior parts quality
- Faster time to market with their product



P/N 13105

“With Mastercam and the Okuma MacTurn we can make a complex prototype by designing it, testing it, making modifications to the design and repeating the process multiple times until we are sure we have it right.

Most importantly, we can do it immediately. Our time from design to production has improved immensely.”

Jack Hylton  
Aeromotive INC.



## ***Project Details:***

Mastercam and an Okuma MacTurn Mill/Turn machine. The thought was to take complete control of their prototyping.

After years of perfecting the design side of development, they decided to make the huge step of getting their own machine to make prototypes. They explored many options, but ended up with picking a solution that gave them near limitless capabilities.

The Okuma MacTurn is a Lathe with upper and lower turrets, a live 5 Axis Milling Spindle, and a Sub-spindle. Mastercam has the power to control all of these capabilities with Industry leading toolpaths to machine the most complex designs you can machine. *One of the key components of the success of this venture was to partner up with a full solution provider.*

QTE Manufacturing Solutions has been providing Mastercam software, training, consulting and support for 20+ years. They also provide the SolidWorks solution that Aeromotive uses for design. Reece Gibson, the QTE Mastercam guru in Kansas City had the task to take Aeromotive from little to no-machining background to being able to program and run one of the most complex machines on the market. Within a short period of time, Aeromotive was up and running prototypes on their new machine.

Aeromotive has an amazing reputation in the racing industry. In 2007, Aeromotive's tube chassis '07 Shelby made a big splash, both in NHRA and NMRA. From "Best Engineered" honors in Indianapolis at the NHRA U.S. Nationals to the quickest and fastest pass in NMRA history. Like their successful racing program, Aeromotive's diverse line of fuel system components have found wild success at the track and are quickly becoming a "must have" for the street performance enthusiast.

Now, with their ability to bring new products to market even faster, look for great things to come from Aeromotive, the leader in fuel system engineering.



"QTE had the complete solution for us.

SolidWorks is a powerful design tool and Mastercam is the workhorse we needed.

When you combined the software, with the skill and experience of their staff, we were guaranteed to be successful."

Shawn Wessol  
Aeromotive INC.



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