

Baisley

CAD/CAM Combo Is Off To The Races

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— **George Natzic**
Precision Developments
Corona, CA

Starting With a Dream

Dan Baisley, owner of Baisley Hi-Performance in Portland, Oregon and design consultant Paul Paine worked together using Mastercam to design and redesign the prototype head on the first Pro Stock Harley. They had to modify the entire head. Changes were also made to the exhaust port and its internal manifold to accommodate a larger angled pipe. These were the most difficult parts of the head: twisting, turning, varying in diameter. Mr. Paine feels Mastercam gave him all the tools he needed to use his own geometrical sensibilities to arrive at the solutions.

Paine and Baisley hired George Natzic of Precision Developments to make the master part and sand cast tooling for the cylinder head. The head was extremely intricate. In fact, "The entire Mastercam wireframe is the most complex part design I've ever seen," according to Don Wear at Baisley Hi-Performance. Fortunately, Mastercam makes it fairly straightforward to break the part down into different layers. "This made it easy to create toolpaths for specific areas and machine them separately, with perfect results the first time out," said Mr. Natzic.

"Not only were we able to channel the intake mixture more efficiently, but the redesign allowed the use of a separate carburetor for each cylinder." "We isolated the power-robbing pulses you'd get from a single carb splitting off a "Y" manifold to feed two cylinders, and now fed the fuel mixture to the cylinders with fewer velocity-reducing angles," Mr. Baisley explains. "Performance picks up drastically, the engine runs smoother, builds more torque and horsepower, and spreads it across a wider power band."

This competitive success in the fast-paced world of motorcycle modification gives credence to the increasing use of the CAD and CAM sides of Mastercam together for faster, easier toolpathing and machining. As Rob Natzic says, "Mastercam has proved itself to be a valuable tool for Precision Developments."



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