

AMERICAN MACHINIST

10 BEST MACHINE SHOPS

... and the stories behind their success

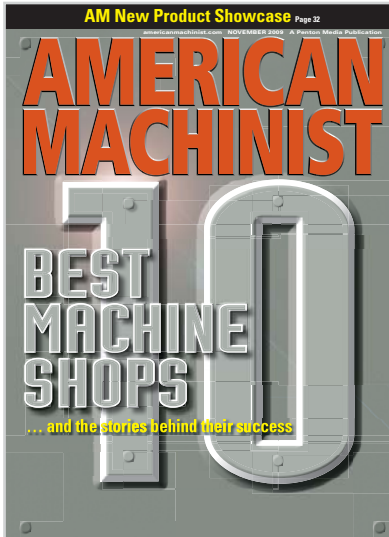
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FEATURES

ON THE COVER



Design by Nick Danilovich, Art Director

Hundreds of shops ... many great achievements ... but just 10 'best.'

EDITORIAL MISSION:

American Machinist empowers self-determined machine shop owners and managers to control their future. It does this by sharing tools, insights and best practices that managers use to embrace technology, innovate and systematically improve operations. American Machinist facilitates the leap from survival to growth for a community of owners and managers who operate metalworking businesses in the context of a global manufacturing economy.

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Congratulations!

2009

10 Best Machine Shop

Winners

Aphelion Precision Technologies

Ashland Technologies, Inc.

Kinner Manufacturing

Kirsan Engineering

KVK Precision Specialists, Inc.

M&S Precision Machining, Inc.

MiniMachine, Inc.

Precision Aerospace

Thayer Manufacturing

Valley Tool

These companies were selected through *American Machinist's Machine Shop Benchmarks* program based on their elite operating metrics, along with site visits and interviews by the *American Machinist* editorial team. They represent an ideal in manufacturing: machine shops that make strategic use of accepted principles for improvement in order to thrive and compete in a global marketplace.

SAVE THE DATE! Learn from the 10 Best Machine Shops at the 2010 Machine Shop Workshop, April 21-22, Cleveland, Ohio. For more details, visit www.machinestopworkshop.com

An American Dream Shop

HIGHLY SKILLED EMPLOYEES AND AN OVERALL "GO-GETTER" ATTITUDE LEAD TO SUCCESS.

By Charles Bates | senior editor



Valley Tool makes sure its manufacturing areas provide all necessary job supplies for lean efficient operations.

Cayce Washington adamantly believes he is living the “American dream.” He comes from a modest background: After working in a local grocery store for several years, Washington took a job in a machine shop at age 21 and loved the work. At age 24, he advanced into the shop foreman position, and one year later, in 1997, through owner financing, purchased the company where he worked.

Now the shop is known as Valley Tool Inc., with Washington serving as president and a working owner. To his surprise, the “new” shop began turning a profit as soon as its first three months of operation, and has been doing so ever since – growing from a six-man opera-

- Valley Tool Inc.
Water Valley, MS.
www.valleytoolinc.com
- Number of employees – 50+
- 2009 sales – N/A
- Markets served:
Aerospace, medical, oil and gas, firearms, automotive, heating and cooling, and heavy equipment

tion to its current fifty-plus employees.

Valley Tool manufactures custom tooling (repair and part replacement), custom fixturing (both for gauging and workholding) and custom gauges for general manufacturing, dies and form tools. Its major markets include aerospace, medical, oil and gas, firearms, automotive, commercial heating and cooling and heavy equipment. Work/jobs, percentage wise, are distributed evenly among these various markets, and being that diversified has helped sustain the shop through tough economic times.

According to Washington, the shop’s philosophy is to use everything, both equipment and employees, to its maximum potential and to “take care of what takes care of you.” With that said,

the first thing he did was re-organize the shop so that employees weren't constantly searching for the supplies and tooling they need for their work.

"What we tried to do was give everyone the tools they needed, basically by establishing a toolcrib and tool cabinets strategically located near work areas. At the time, we called what we did 'structural organization' and didn't realize we were actually incorporating lean," explained Washington.

To get the full potential out of its equipment, Valley Tool relies on a rigorous maintenance schedule, and it tries not to "beat up" its machine tools. For example, a machine's manufacturer's suggested maximum cut depth may be 0.250 in., but the shop will stay below that amount.

Washington said that doing so may add a little production time to each part, but it saves the machine in the long run. He acknowledged that pushing a machine may make money, but inevitably the extra revenue has to be invested into replacing worn out equipment.

How the shop stays competitive while still preserving its equipment integrity is by investing in new technology. Most of its production equipment is less than five years old, and Washington strongly believes in re-investing in the company. He added that newer technology provides reliability and more-consistent repeatability.

Job volumes are relatively small at Valley Tool, where a 200-piece order is considered "large." Average job sizes are between two and five parts, but in most cases, these parts are extremely high-precision products.

When jobs come in, the customer is usually in an emergency situation and needs the part right away. Because of this, job setups must be fast and efficient, and quite often Valley Tool will make extra parts for inventory when it knows an order will eventually repeat.

Further minimizing set-up time and adding to efficiency, 90 percent of Valley Tool's machinists have extensive manual machine experience, so they are quite familiar with machine set-up. They also do their own programming and run the jobs.

"In a production environment, one guy doing nothing but programming may be the way to go. But in our environment, where quality is mandatory, we would run that one guy crazy,"

commented Washington. "Plus, the way we operate eliminates any finger pointing between a main programmer and the machine set-up person."

Getting machinists to this level takes a lot of in-house training and sending people to school, according to Washington. And, he added that it requires highly intelligent people to start with. The shop hires all types of workers, but usually they can determine within a short time which ones will or will not be able to handle the assignments.

"We need machinists who can go from one type of machine to the next and understand the programming parameters of each machine. So we also do a great deal of cross-training," Washington said.

Jobs flow through Valley Tool smoothly thanks to a shop foreman. This person oversees jobs, directs workflow, makes sure jobs stay on schedule, and answers any questions concerning a particular job. He also determines which of the shop's lead men are assigned which jobs. For example, if 90 percent of a part's features involve turning, the shop foreman issues the job to a lead man who is more oriented toward turning work.

The shop foreman also prepares quotes for new orders, and acts as an in-house liaison between the customer and the shop. He will then consult with production point men located throughout the shop to determine job schedules. Basically, the shop has a point man for each of its types of manufacturing/machining operations.

However, both point men and the shop foreman are active on the shop floor with production activities.

In-process quality control is a must at Valley Tool. Each machinist at each process area/department is responsible for ensuring that the operation he performed on a part is correct according to the part print. Then, he must sign off to that fact before the part can move on to the next operation.

When a part is completed, a quality manager audits and documents all critical dimensions and how they were measured. As a result of its quality-control process, Valley Tool's scrap rate is less than 1 percent, and the target is zero percent.

According to Washington, what sets Valley Tool apart from its competition, in addition to its highly skilled and motivated employees, is the shop's rural location, which translates to very little turnover in personnel. He pointed out that having perhaps four or five shops within a 20-mile radius is quite unlike a shop in a metropolitan area where machinists can quit and start again at a nearby shop.

"It's good to be in the country," said Washington. "Our rural setting and work atmosphere contribute to a continuity between a core group of people. We treat them right, pay a fair wage, and respond to their needs. They, in turn, are expected to be here every day, on time, and to do their jobs. But, most importantly, we do put families first, and our employees don't take advantage of that. <<



A highly skilled and motivated workforce sets Valley Tool apart from its competition.