



Notes From The Chairman

Rapid Prototyping Can Reduce Production Time

Over the past five years, American Precision Castings has been monitoring and experimenting with the new Rapid Prototyping technologies. These processes use various methods to allow Computer Aided Design (CAD) data to be entered into a machine which then produces an actual part.

What we have found is that, when appropriate, these technologies can be of benefit in reducing prototyping cycle times. To date, we have used Stereolithography (SLA), Laminated Object Manufacturing (LOM) and Deposition Modeling technologies. Although each of these processes has its limitations, they do pose the potential of replacing the traditional wood master pattern which historically has been the starting point of most prototyping programs.

Traditionally, it required a three-step process to make a prototype casting tool. The wooden master pattern was employed to produce a negative pattern which would then be used to construct our "positive" tool. The positive tool was then used to make the plaster molds into which we cast the molten metal for the prototype or short run part.

Today many of our tools are constructed by machining a negative, similar to the way standard die casting machine dies are made. Whenever tolerance allowances and part configurations permit us to use these new technologies, we can eliminate the master pattern step, and thereby reduce our customers' prototype cycle time.

The advent of CNC technologies has made it possible for us to eliminate the first step and produce negatives directly from the customer's dimensional data. Rather than working from a blueprint, today we draw our data from customer supplied discs, tape or over the modem. The digital data enables us to program a CNC machine to produce a negative pattern.

Approximately half of the tools we produce are constructed from digital data. Often the tools are completed and producing prototype castings before the final blueprint has been drawn. Computer technology is certainly playing a major role today, not only in speeding up the prototype process, but also in making it possible to achieve greater precision on the first attempt. There is less correction required in the process which of course translates into savings of time and money. Saving time means a faster turn-around, which in turn also results in saving money by reducing process time and getting to the right result, or close to it, the first time around.

The key at American Precision Castings is that regardless of which tool-making technologies our customers use, we know the capabilities of each, have worked with all of them, and know how to get the results our customers expect. That dedication to continue learning and experimenting with all the different process technologies keeps us going and growing. We have found that just as one technology seems to have an advantage today, another is surely going to take the lead tomorrow.



Notes From The Chairman

Notes from the chairman

Nowadays, it is quite fashionable to talk about being a customer-driven company, and even though that sounds wonderful, if you're like me, you wonder what it means in real terms. So let me take this opportunity to tell you what "customer-driven" means at American Precision Castings and how you benefit from it.

All of our experience and expertise in prototype and short run aluminum, magnesium and zinc prototype casting--from engineering assistance to tooling construction, to production and timely delivery--goes into your order. Helping you to produce a better part, in a cost-efficient and timely manner, through a close working relationship with you is our primary goal.

At American Precision Castings, customer driven means doing whatever needs to be done to serve our customers in an exemplary manner. After listening to our customers we have determined the following value criteria:

Timeliness

Timeliness relates not only to the on-time delivery of the finished castings, but also the timely follow-through on customer requests for further information, quotes and change orders. Timeliness takes in the entire range of dialog with the customer. The only way we can assure our customers of timely response is by bringing our specialized expertise to bear on every project up front. This avoids many pitfalls, false starts, wasted time, effort and money.

Affordability

This means giving our customers the best value for the money. It does not mean low cost necessarily, but value for the product and service delivered. Technology plays a big part in this. Our research and investments in new technologies benefit our customers by giving them high quality castings and fast turn around at an affordable price.

Meeting Specifications

Everyone in industry likes to believe that all their work is to customer specifications. That may well be true, but meeting the customer's specifications is relevant only when you meet those specifications within the customer's total frame of reference, including: the expertise brought to the conference table before the work is begun, providing expert advice, delivering the job on time and at a cost that is within the affordability realm of the customer.

Ease of Purchase

This means doing everything within our power to minimize the normal workload on the customer. Make it as easy as possible for him to do business with American Precision Castings. Promptness of our follow-up and follow-through is critical. Developing a high level of trust with the customer is essential. Making ourselves available to the customer when and where he needs us is vital. And allowing the customer to tap into our total expertise to help him accomplish his goals--all of these are essential components of this process.



Notes From The Chairman

Rapid Access to Skilled Staff

This is meaningful only if the staff has the training needed to help customers get the results they need. Getting rid of the layers of management and connecting our customers directly with the people in our company who can get them the answers they need in a timely fashion is important. Empowerment is a great word, but to put it into practice means sharing responsibility and the credit for a job well done with everyone in the organization. It has to do with the practicalities of doing business, with the attention to all the nitty-gritty details required to get the job done right, on time, and within the customer's specs and budget.

Our pursuit of these goals this year alone has resulted in a one-third reduction in cycle time, process improvements resulting in price reductions for production castings customers, and opportunities for casting engineering input which has reduced manufacturing and assembly costs to our customer in a number of cases.