



Notes From The Chairman

The True Meaning of Prototype

All of us know that if we need to find out the meaning of a word all we have to do is look in the dictionary. So if you look up the word prototype, you will find the following explanation: "Pro-to-type; (n) 1. An original type, form, or instance that serves as a model on which later stages are based or judged. 2. An early and typical example." (American Heritage Dictionary). But for those of us in the casting business we know that the dictionary definition of prototype falls considerably short of a full explanation of the real meaning.

At American Precision Castings the term prototype means a savings of time and money by:

- } Eliminating model costs and potential errors.
- } Reducing tool building costs and time.
- } Reducing problems or delays when the permanent tooling phase is started.
- } Using the prototype to run engineering tests.
- } Checking the design integrity.
- } Gaining time to accurately finalize the design.
- } Anticipating and solving non-casting production problems.
- } Avoiding last minute changes in permanent tooling.

A prototype-proven design may also mean a product is on the market well before your competitors. A prototype-proven design is of distinct advantage to the design engineer. A prototype proven design eliminates or minimizes costly and time consuming changes to production equipment, changes which can also affect the eventual life of your production die.

What does a prototype buy you? According to one of our customers, it buys you time. "We had castings in our facility eight days after completing design work." This particular customer was in a real tough spot. He was working under an extremely tight deadline with a very small window of opportunity. He could not afford to lose time. The delay of three or more days in the new part design would mean losing one full year to incorporate the new design into his product. This was a delay that could cost him considerable market share and hence unrealized revenue.

Chances are your new product introduction deadlines may not be as stringent as those of the customer cited above, but you may find one or more of the other cost-saving advantages of working with a prototype well worth the investment. To the uninitiated, a delay in a prototype program may not appear to be a major issue, but to you it could mean the difference between meeting all your production deadlines and getting your product launched on time or doing without a prototype and risking costly tooling changes down the road.



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In the above situation, with extremely tight turn-around time, we received the customer's CAD file Friday afternoon and constructed a master pattern over the weekend using the "SLA" process. The master pattern was used to construct temporary tooling for the production of plaster molds into which we poured the molten aluminum.

Even though we used the "SLA" process in this particular case, other processes may prove more efficient and effective in other situations. Today's technologies are wonderful and real time and money savers if you fully understand how to best use them to achieve the customer's objectives.

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We have learned from our customers that timeliness relates not only to on-time delivery, as important as that may be, but also to follow-through on requests for information, quotes, casting design and the entire range of communication required to get the customer's product into the marketplace on or ahead of the customer's schedule. Our customers define timeliness as it relates to their specific situation, and their definition of timeliness can and does change from project to project. Standard delivery times may be adequate for nine out of ten projects, but the tenth time our customer may be dealing with a whole different set of requirements which drive the project.

Not long ago, a customer's European group had made a commitment to introduce a new product at a trade show. In order for this to happen, we were asked if it would be possible to make final design changes and have castings ready for assembly within five business days! Our preliminary discussions indicated that two weeks would be the minimum requirement for delivery, but this schedule would preclude the introduction of the new product at the European show. We then presented the customer's need to our production teams and explained that under no circumstances could we fail to come up with a solution to what initially seemed an impossible problem. Our customer delivered the final design changes on a Friday; the following Wednesday (three business days later) we shipped castings. In the process of meeting this challenging time requirement, we learned how to fine-tune our process in ways we originally thought impossible and, as a result, APC gained "partner" status with a major multinational customer.

Timely performance requires flexibility and innovation in order to deliver customer satisfaction. Our customers are our best business partners by continuously challenging us to reach levels of performance which not long ago would have been viewed as impossible. It's a two-way street: APC delivers customer satisfaction and in the process is challenged to make dramatic organizational improvements, which in turn makes us more competitive.