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The AFTERMARKET
Repair or Replace?

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Pirate, Replicator or Solution Provider

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Qualified, quality solution providers can resolve many aftermarket problems.

For decades, the words *pirate* and *replicator* have been used by customers and original equipment manufacturers (OEMs) to describe companies that copy parts daily in response to the needs of customers from many different industries. However, a qualified solution provider can be a valuable ally to its customers and provide more than a simple part in a timely manner.

Pouring metal into a mold

What Is a Pirate or Replicator?

So, what is the dictionary definition of the word "pirate" as it is used in the pump industry? The dictionary definition of pirate is "a person who appropriates, without right, the worth of another." This definition is interesting because it leads to the question "Who has the right to solve the problem a customer might be facing?"

Replicators exist because many OEMs have not found an effective, consistent way to solve customer problems with replacement part requirements on a timely basis. To customers, replicators are companies who get them out of trouble when OEM companies are unable to provide a timely solution. The typical customer would prefer to buy an OEM replacement part, even at a higher price, if the OEM time factor is acceptable. However, the same customer will buy from a non-OEM source if the time factor is better and if they perceive the quality to be the same or better. Price typically becomes a third factor, if a factor at all.

Today's Solution Providers

Solution providers try to separate themselves somewhat from the role of pirate and replicator. This is not a marketing term. Rather, it is used to describe what solution providers do and the narrow, niche way in which they do it. That niche is defined as "filling the gap between what the OEM can provide and what the customer actually needs and/or when the customer needs it."

Referring back to the dictionary definition, the question is raised—who has the right to sell an aftermarket part to a customer? The answer, based upon experience, is clear—whoever can provide the best quality, delivery, service and price.

A customer's problem may not be the most important issue in the world, but it is the most critical issue to that customer. In many situations, the OEM is the place to go for replacement parts. However, in many cases the best solution provider is a quality and service oriented non-OEM parts manufacturer who has proven over the years to be able to reverse engineer and manufacture complicated parts in a short time frame.

In recent years, this opinion has been validated by the fact that many OEMs have begun to move into the replicating business by purchasing respected replicators or by developing the replication skills internally. They have done this to improve their own parts supply abilities and also to broaden their product line to include the parts from other OEMs. It appears that everybody wants everybody's business.

Pirate, Replicator and Solution Provider—the Difference

The remaining question is how to define the difference between the three terms (pirate, replicator, and solution provider) used interchangeably today to define those who are in the aftermarket business and who are not OEMs. Below are my definitions for the three terms:

- **Pirate**—a manufacturer who makes a copy of a part that is sold in the aftermarket using sub-par reverse engineering and/or manufacturing capabilities. Frequently, people may say that a pirate took their old "worn-out part" and made them a brand new "worn-out part."
- **Replicator**—a manufacturer who makes a copy of a part that is sold in the aftermarket using good reverse engineering and manufacturing capabilities. A part from a good replicator should work fine in a typical application.
- **Solution provider**—a manufacturer who makes a copy of an aftermarket part using state-of-the-art reverse engineering and manufacturing capabilities and incorporating into the design how the part functions with the other components of the assembly. The solution provider also considers the business situation of the customer, which typically leads into the pricing issue and the delivery of the part. Solution providers must know the equipment as well as the parts and should look for ways to make the new parts function better and/or last longer than the original parts.

Reverse engineering a pump case

In addition to the art of reverse engineering, the ability to make quality parts rapidly is a key part of the challenge that a solution provider must be able to handle. In the pump industry, the typical need is to get a quality part and get it fast. To do this requires a different method of manufacturing and a completely different manufacturing system than was used when the OEM made the original components.

When the problem is time, only a job shop environment can produce a part when it is needed. When pump parts are the challenge, the solution provider must have the ability to both cast parts and machine parts in a job shop environment. This is an area in which a solution provider differentiates itself from a simple replicator.

Making a sand core in a core box

New Reverse Engineering and Manufacturing Tools

In recent years, new tools have been developed that help solution providers reverse engineer and manufacture parts better and faster. Many of these tools did not exist a few years ago.

- Portable coordinate measurement machines are becoming common and are used to take dimensions from parts and as a way to check new parts.
- Scanning machines are now available that can create models of parts in various CAD formats.
- Models of parts in three-dimensions can be used for many purposes, such as creating casting tooling, machining parts, inspecting parts and simulating casting processes to make better quality castings.

It seems that each year brings a new tool than can be used to better serve the customers. Solution providers must stay abreast of new technology and use it to make better parts and make them faster because that is what the customer needs to keep his equipment operational.

Knowledge and Specialization

One of the biggest differences between a replicator and a solution provider is that a solution provider must know the equipment. To do this, they must specialize in certain types of equipment. When a customer needs a part, the solution provider should be prepared to make that new part and suggest changes in the design that will make the new part last longer and function better. This frequently involves material changes, hydraulic design changes, shape changes, etc. These changes often involve redesigning some other pieces in the assembly. The solution provider must look at the whole system and not simply the part. If the customer wants a direct replacement, then that can be done. However, if the solution involves improving the part or the complete pump, the solution provider must be able to search for those improvements.

Conclusion

Customers need to understand what they need. Sometimes, a simple part can be successfully made by a pirate. In many more cases, a good replicator can be called upon to make a part. At other times, the OEM is clearly the best source for that aftermarket part. When a full solution to a problem is clearly needed, a solution provider should be consulted.

A company that offers solutions service must prove its worth, but once proven, customers will return to that provider on a regular basis. The best description of a maintenance manager's job I have heard involves this concept: on a good day, things are awful. On a bad day, things are downright unbearable. A maintenance manager needs a good solution provider to always be only a phone call away.

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