

# Can you afford *not* to use Original Parts?

**Andrew Fraser, Emhart Glass**

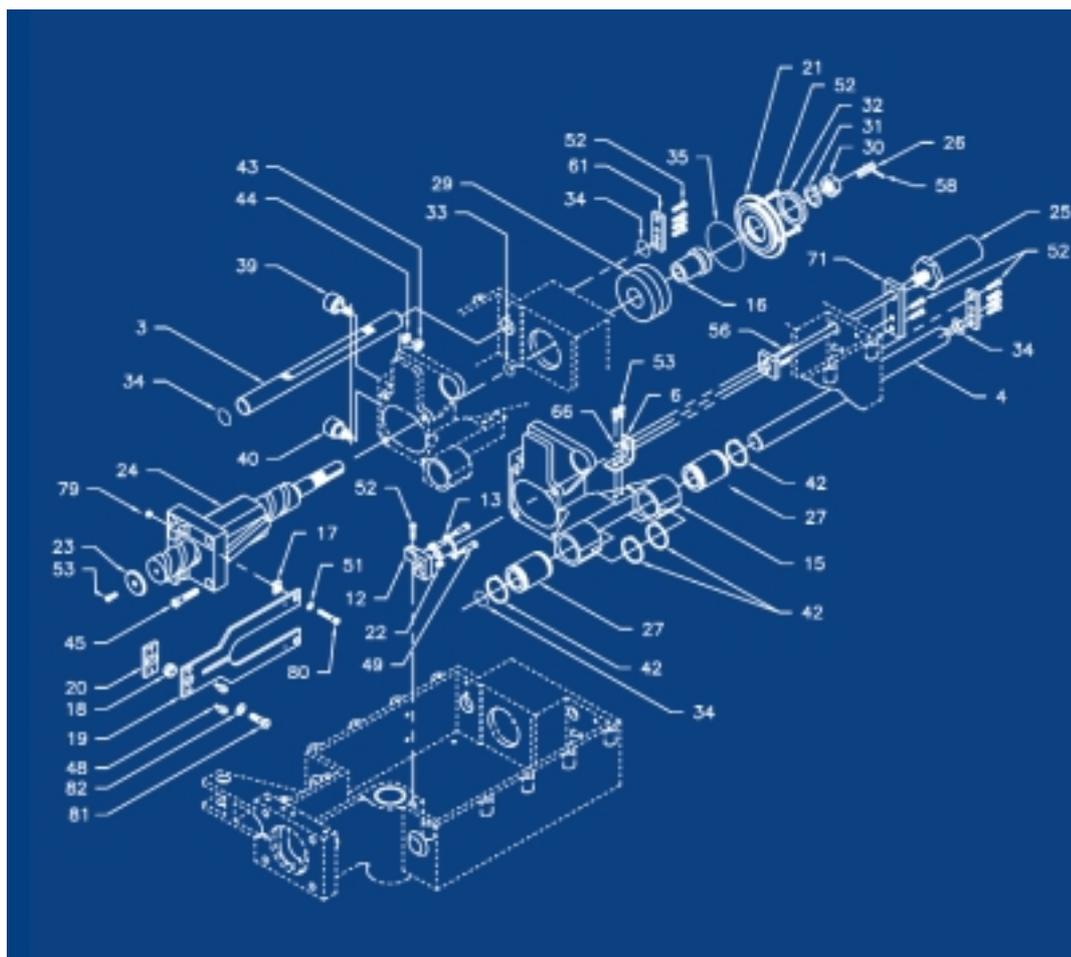
In the Container Glass Industry, the job of the Purchasing Manager has never been easy. In these days of fierce competition from other materials, globalisation of markets and increasing quality demands from customers, the purchasing function faces many new challenges. This is particularly true in the area of accessories and replacement parts to keep the production and inspection lines operating.

On the one hand, the manager is expected to demonstrate negotiating expertise by continually reducing the cost of purchased materials and services. On the other hand, he or she has to cope with ever-wider product ranges, more flexible production methods and severe financial penalties for downtime and defects. Add to this the trend away from traditional mechanical methods towards electronic solutions, and it is hardly surprising that the purchaser feels under constant pressure.

One way to react is to use today's improved communication channels to seek out a multitude of alternative suppliers and to consistently take the business to whoever offers the lowest price. There may be some short-term benefits in this approach, but is this valid in the long term? Before dismissing the original equipment manufacturer as a parts supplier, the manager would be well advised to consider the following questions:

## **AM I REALLY SAVING MONEY BY PURCHASING CHEAPER?**

There is no free lunch. In almost all cases, lower parts purchasing costs will be accompanied by a higher risk of (at best) early failure and, at worst, expensive damage and long downtime. This is a gamble which some may be prepared to take, but is it a good bet?



Studies carried out by Emhart Glass show that a modern well designed and operated IS machine can be expected to produce a contribution of about €1,200 per hour, (€20 per minute) depending on size, location and ware produced.

At the same time, the average cost of a typical annual mix of replacement parts is of the order of €50 per item. (Of course, the unit costs of individual parts will diverge widely from this value, ranging from a few cents to a few thousand Euro). A Purchasing Manager achieving a 15% lower cost on one average section part could congratulate himself on a saving of €60 on an 8-section machine. However, if lost production time of only 3 minutes should result for any reason connected to these substitute parts, then the savings would be wiped out, and longer production losses could produce a very expensive 'cost saving' exercise.

The same logic applies to larger items. Say a really hotshot purchaser manages to locate an alternative source offering a 20% saving on a particular mechanism which the original manufacturer priced at €1,000. The good news is that on a 10-section machine, this would result in a saving of €2,000 – at first sight a great deal. The bad news is that if over their lifetime these bargains achieved only 2 hours less of production (or the equivalent in fewer good containers packed), then the exercise would be a loss-maker. These do not seem like good odds on which to wager the profitability of the business!

#### **DO ALL SUPPLIERS OFFER THE SAME PRODUCT QUALITY?**

How secure would we feel flying in an aircraft whose maintenance parts had been selected on the basis of cost rather than proven functionality? The fact that a supplier can produce a part to a drawing is no guarantee that it will function as the original machine designer intended. High-performance mechanisms demand tight *tolerances* which some suppliers may not be able to hold, or even be aware of. A cheaper *material* can be substituted for that specified so that the part looks the same as the original, but how does this affect its functionality? Surface *hardness* plays a vital role in the life of many parts, but unfortunately the most effective hardening processes tend to require specialised equipment which is capital-intensive and difficult to control. A low-price supplier will be sorely tempted to cut corners here.

Emhart Glass has designed the tolerances and material specifications of each part to fit the requirements of the entire machine, and already has available the processes necessary to produce them. All of this company's manufacturing plants are certified to ISO 9001 or 9002.

#### **WHAT IS THE VALUE OF 'ONE-STOP SHOPPING'?**

The practice of 'cherry-picking' – placing a multitude of small orders with the cheapest supplier for each item – is tempting, but of highly questionable value. Firstly, it assumes that the purchasing personnel have plenty of time on their hands, and secondly it fails to take into account the minimum cost of producing and processing an order, which may be in the region of €100 per order if fully costed.

A parts-only supplier will normally offer only those parts which he deems to be profitable or feels capable of producing (typically a few hundred items), and will often be unable to supply many vital items which are slower-moving or difficult to manufacture. Emhart Glass maintains a full range of more than 40'000 hot end items, together with a similar number of inspection spares.

The story does not end with the breadth of the parts range. Placing a large number of small orders leads inevitably to chasing up a large number of uncoordinated shipments through a variety of channels, resulting in high overhead costs at the receiving end.

On a personal level, few of us of even the most rational inclinations would chose to spend our free time travelling around between supermarkets, comparing prices and selectively purchasing in each shop only a small number of items from the household shopping list. We know that any benefits simply do not justify the effort, and fill our entire requirements at the one location where we feel most comfortable doing business.

#### **IS THIS REALLY THE PART I NEED?**

In a perfect world, a Maintenance Manager would know exactly which parts he required at all times. Reality is different. Mechanisms are updated, designs rationalised and new functionality introduced. An adaptation is needed for a special container or to fit existing equipment. In such cases, competent technical advice is essential, and this is most likely to be found at the original machine manufacturer, especially if he is large enough to maintain a team of experts for this purpose.

#### **HOW LONG DO I NEED TO WAIT?**

There is little point in saving a few percent on the cost of a part, only to suffer expensive downtime or damage while waiting for it to arrive. Only the largest suppliers can sustain the infrastructure to establish and maintain reliable supply and logistics chains to support their globally spread customers. As an example, the main Emhart Glass logistics centre has for years served its European customers with an overnight delivery service for some 3'000 of the most commonly required parts. This makes the actual location of the supplier facility virtually irrelevant – the order is placed one day and the goods arrive the next. Destinations in other continents with more time-consuming customs formalities can be supplied within a few days.

#### **WHAT IS THE LIFETIME OF THIS PART?**

If a copied item costs substantially less than the original, then corners must have been cut somewhere. This weakness may not always be immediately apparent, but will often show up in a reduced product lifetime. A 15% cheaper part which lasts only 50% of the life of the genuine article is no bargain.

#### **AM I INVALIDATING THE MACHINE WARRANTY?**

No one would expect a car manufacturer to honour a guarantee if parts from another supplier had been fitted, and the same applies to IS machines. Damage resulting from the installation of sub-standard parts may not be limited to the parts themselves. The performance of whole mechanisms can be severely degraded by the use of lower quality copies of seemingly unimportant items such as bushings or pins. If the mechanism is located outside the section, (for example in the feeder, shear or gob distributor), then the entire machine may be shut down.

#### **WHAT EFFECT COULD THIS HAVE ON MY PLANT LIABILITY?**

Any powerful equipment can be dangerous if operated or maintained incorrectly, and glass-making machinery is no exception. Given the exposed mechanisms in an IS machine, mechanical and electronic reliability of operation are vital to the maintenance of safety standards. Through their network of customer relationships, Emhart Glass continuously monitors under-glass performance of their machine components. This enables design and operating parameters to be adjusted if necessary to preserve the highest safety levels. Can you be sure that the parts you install will be compatible with the operating environment your workforce is expecting? Using non-original copies in place of original parts could raise unpleasant legal liability issues.

**CAN I AFFORD TO GET IT WRONG?**

Buying a part which does not fit the household appliance for which it was intended is frustrating. The stakes are much higher in round-the-clock glass plant operations. A replacement part which fails to fit or perform as expected, produces not only great frustration, but also very expensive downtime (remember that €20 per minute), and even this is only the start of the story. Often, the cost of fitting a new part will be similar to the cost of the part itself. Imagine the financial effect of having to remove from a machine an entire mechanism because a small 'alternative source' replacement part was not up to the standard of the rest of the assembly? Add to this the effort to find a properly functioning item quickly and then go through the installation procedure a second time. Any initial savings would have evaporated long before the machine restarted. Cases are known to Emhart Glass where a 'cheap' split ring caused damage to all plunger mechanisms in a machine, resulting in expensive stripping, rebuilding and downtime.

**CONCLUSION**

The capital-intensive nature of the container glass industry, coupled to its 24-hour, 7-day working cycle, puts a high premium on maximising production hours. Sourcing parts from suppliers who did not design the originals carries with it an inherent risk of reduced performance and damage. Therefore, attractive savings at the time of purchase can very quickly turn into a nightmare of expensive downtime. Purchase cost is only one element (and not even the most important one) of 'total cost of ownership'. Of course, the experienced Purchasing Manager knows this well and selects his suppliers accordingly. ■

**BIOGRAPHY**

*Andrew Fraser is Parts Business Director of Emhart Glass in Zug, Switzerland. He holds a degree in Civil Engineering from the University of Glasgow, Scotland and a Master of Business Administration from the International Institute for Management Development (IMD), Lausanne, Switzerland. His career in engineering, management consulting and industrial marketing spans many countries and industries.*