

Getting Up to Spec

Steps to follow for discovering needed information about inherited tooling.

A mold that was built some time ago shows up at the dock and there's little known about it. Those in Sales are glad to get the tool in, but in manufacturing (i.e., "reality") one may not yet be sure about what to make of it, let alone what can be gained from an older tool that arrives at a molder's door. What needs to be done so that the inherited tool does not become a problem child? The following steps can be taken to discover needed information about the tooling.

Overall Mold Condition

An unfamiliar mold arriving in one's shop with no real documentation can be equated to a giant question mark strapped to a skid. The main focus is to first uncover as much as one can about the mold before investing too much in the way of resources. There is no doubt that questions will be raised, and that potential problems originating from the tool's previous life are lying in wait.

Begin with a thorough visual inspection. Hoist the mold onto a bench, split it at the parting line and look carefully at the cavity and core halves. Move any floating plates; for instance, pull the stripper plate forward to see how clean the mold is and if there is anything obviously worn or seized.

Other questions to address: Are all the components included? Are there signs of water leakage? Does the mold need to be re-plumbed to in-plant standards? Any rust? Was the mold sprayed down for corrosion prevention?

If there are no apparent problems from the above aspects, then before going much further the mold should be sampled as is. With the process engineer present, it's a good idea to dry cycle the mold first, so that one can confirm that all the mold actions and open-close functions are working properly.

Even if during initial sampling the mold performs properly, it's likely that issues will arise over time. Therefore, the next step is to follow a systematic evaluation process before the mold comes out of the press. For example, a mini DOE (Design of Experiments) might be done so that the process engineer has some initial idea of the limitations that may be faced within the process parameters. The processing window must now be established, and there's a finite way to go about this.

In a mini DOE, there are more steps taken beyond a dry run in order to establish a broader view of the mold's condition. A first article inspection then verifies everything is in spec, and a last shot inspection should be conducted to determine if the mold needs to go into the toolroom for any in-depth cavity work. A complete tear-down and thorough evaluation of any older mold is warranted, and that includes some metrology of steel as it correlates to the molded part. Ultrasonic cleaning of the plates and inserts will ensure waterlines are returned to their original condition. Also, the state of the mold frame and components should be evaluated at this point to determine what needs to be replaced for the long haul.

With an older mold, one will probably find custom-designed

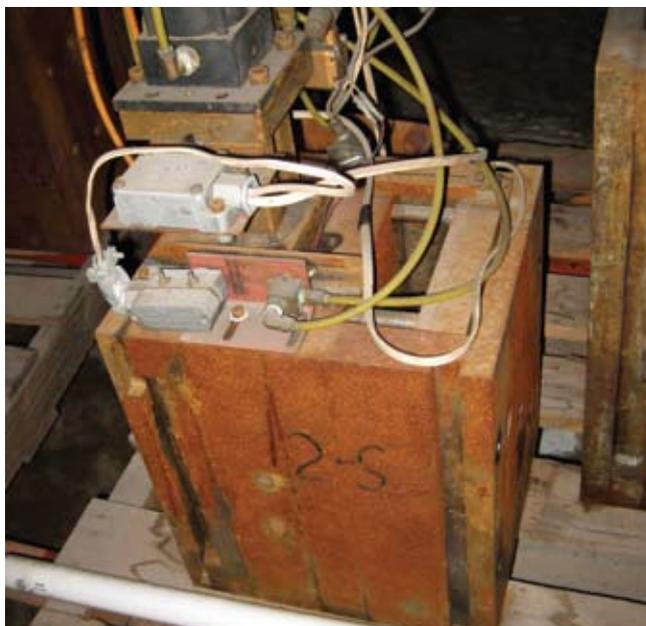


Image courtesy of ToolingDocs.

On paper, a tool transfer looks like a good idea; however, there are often many mysteries that must be unraveled when an old mold arrives at one's doorstep.

lifters, plate sequence control devices; and, as for slides, often there are slide retention methods that may prove faulty—and costly—during production. Springs may be old, and if so, they should be replaced.

Are we finding solid bronze bushings or are lesser quality components involved? Rather than replacing what is surely an old, probably beat up ejector pin back-up plate, one can retrofit positive knock-out extensions that will lengthen the life of that plate.

Review the condition of all waterline components, as replacement may be necessary for baffles, bubblers and o-rings.

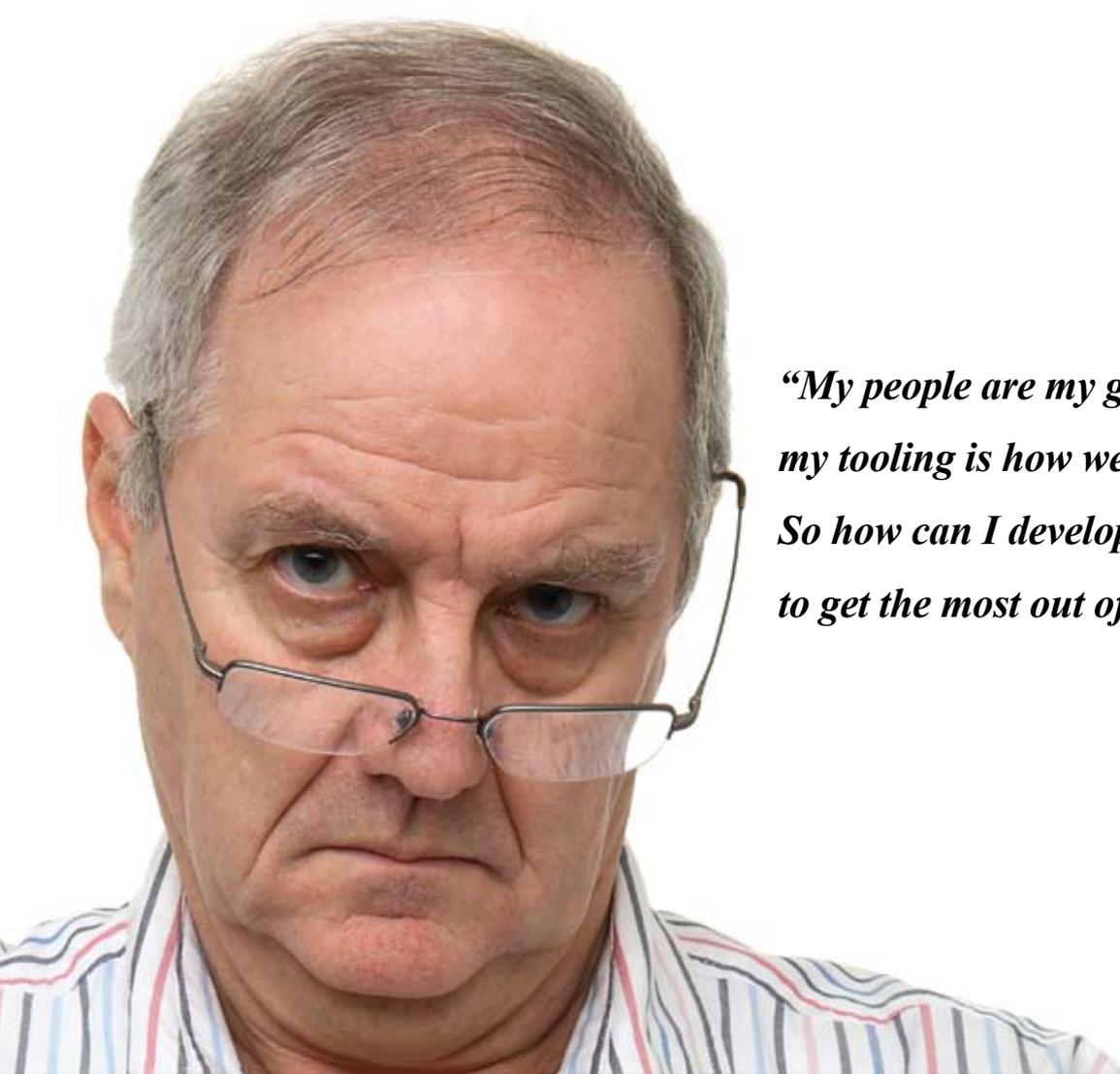
For molds with date stamps, now is the time to verify that the component that was originally used is a locally available standard. If not, better to replace now, in order to avoid a scramble during year-end changeovers.

Mold Maintenance Plan

It is at this point that a mold maintenance plan should begin to take shape. Compare this particular tool with other tools that are similar within one's company and determine the increments at which maintenance will occur. It is essential that while the toolroom manager and processing technician are building a file on a mystery tool, a maintenance and repair plan be agreed to and established.

Getting an old, incoming tool up to spec is possible through methodical evaluation of both the mold's condition and components, and then by making the necessary tooling changes and maintenance plans. It is essential that these steps are taken immediately, despite the pressure to thrust the mold into production. After all, any downstream tooling failure will become not only more costly than these proactive measures, but it will also cast blame onto the toolroom manager for any new problems that arise from an old, inherited tool.

For more information from **ToolingDocs** call (800) 257-8369, visit **ToolingDocs.com** or visit **moldmakingtechnology.com**.



“My people are my greatest asset, and my tooling is how we produce profits. So how can I develop my team to get the most out of my molds?”

Advance mold maintenance capability to gain new profits:

- Reduce unscheduled mold stoppages
- Reduce molded part defects
- Improve cavity efficiency
- Reduce inventory of spare components
- Lower repair costs through standardized maintenance practices



Level 1 & 2 Mold Repair Certification

From beginners to veterans, a standardized training curriculum to develop effective, systematized mold maintenance skills.



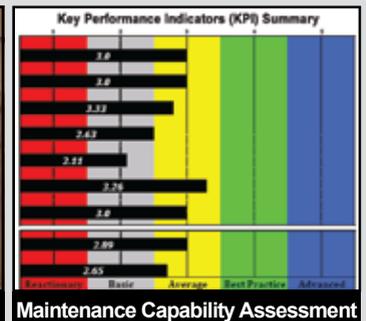
Tool Room Manager Certification

Review approaches for shop floor layout, documentation advancement, cleaning technology selection and staff development.



On-Site Training & Certification

Programs tailored for a specific plant to develop data collection, work flow management, and maintenance optimization.



Maintenance Capability Assessment

Benchmark the current maintenance capability in order to direct upcoming continuous improvement initiatives.

ToolingDocs
Advancing Mold Performance

www.toolingdocs.com • 1-800-257-8369