When It's Time to Transfer Tools

There are many things to consider when it comes to transferring tools. Selecting a new or existing vendor to transfer the tools to can be a difficult decision. Where do you begin? What steps do you need to take? The following is a guide that, through the years, Empire Precision has developed and used to effectively transfer over 1,800 tools. While every situation is unique, the following information can help you make sound decisions and structure a plan get your project back on track.

6 BASIC KEYS TO SUCCESS:

1. Start a basic plan of action.
2. Diagnose any current problems with production. Gather information regarding inventory and documentation for the parts in question.
3. Select a capable molder with knowledge and a proven track record in transfer procedures that has the ability to assign a team to coordinate the receipt and commissioning of the tools.
4. Estimate the concerns and expectations of the transfer process and what solutions can be implemented in advance of the actual move of the tools.
5. Fill-in the details of your plan with specific action items and timelines as they relate to your specific product and situation.
6. Implement the plan and follow through with the move of the tools.

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STEP 1: Information For Accurate Quoting:

- Gain as much information as possible about the project. If it's a problem job, an investigation must be started that yields an accurate root cause in order to correct the problem.
- Collect all contract terms applicable to the project.
- Are prints available?
- Are sample parts from each cavity available for visual and dimensional evaluation?
- What are the required material and color specifications?
- Determine the type of tooling – Valve Gate, Hot Sprue, Cold Runner, etc.?
- What type of tool is it? MUD Base, Full Frame, 3 Plate, etc.?
- Are fixtures or secondary tooling being transferred, etc.?
- Are there special packaging requirements?
- What is the EAU?
- What are the release quantities?

From the current supplier (This may be difficult to obtain):

- Current cycle time.
- Cavitation – Single or Multi Cavity?
- Any quality rejections or dimensional performance reports available?
- Are molded inserts or secondary assembly operations required?
- Allowable regrind percentage, part weight, runner weight, shot weight.
- Mold dimensions (Width, Height, and Stack Height).
- Press tonnage.
- Confirm the status and condition of any secondary operations equipment, gaging and fixtures, hand tools, or assembly aids and equipment. This is part of the tool transfer. If required the development of new equipment will be quoted.

Step 2: Empire's Transfer Tool Checklist

- Create a "Transfer Team" consisting of the customer, and members of Empire's quality, manufacturing, and engineering groups.
- The transfer project follows all normal product development procedures and requirements. The tool design and tool review process occurs on the existing tool. Design problems that prevent the project from being successful, along with options to remedy the problems are reported to the customer.
- Assess the risk to the customer from the current molder. Assist the customer where possible to guard against "hostage" situations.
- If possible, visit the current molder to evaluate the condition of the tool prior to shipping to Empire. Note any information concerning the processing conditions, operation of secondary equipment, and use of gages.
- Collect any information available from the previous supplier concerning preventative maintenance and tool construction.
- Determine what exactly will be included with the transfer. Pay particular attention to all gauging and assembly equipment. Often this is not part of the tooling package and will need to be addressed with the customer. Also confirm the existence of tool drawings and that they will be part of the transfer package.
- Identify any spare parts, components, and excess resin that the customer would like to move to Empire. Under normal circumstances, Empire should only receive resin in un-opened containers. If items are consigned, the Empire quote will need to be adjusted until the consigned materials are consumed.
- Confirm the method of transport and packaging. Evaluate the potential for tool damage during shipment, and advise the customer if we recommend that Empire should have oversight of packaging and/or shipment of the tools and equipment.
- Develop a plan for the shipment of tools, supporting equipment, and resin.
- Verify that all intended items are shipped and identify the expected arrival date of the shipment at Empire. Communicate this date to the Customer.

- If timing for the first production run is critical, discuss all options for "streamlining" the customer approval process with the customer. This could include on site customer approval or an open deviation for the first run.
- If secondary operations equipment is included in the program, assess the condition of the equipment and determine if outside services are needed for repairs, spare parts, or internal training for the operation of the equipment.
- Perform a complete dimensional layout on the last sample from the previous molder. If the last sample is not available from the previous supplier, attempt to reproduce the process from the previous supplier. This provides a baseline for the product dimensionally, and is used to resolve dimensional issues.
- Select benchmark dimensions to use for the initial dimensional inspection results on the first Empire samples. Compare these results to the results from parts produced by the previous supplier, then share these dimensional results with the customer noting differences and potential opportunities
- Explain the dimensional results clearly to the customer and establish a plan with them to resolve any out of tolerance conditions. Make certain the customer understands the reasons why Empire's first sample may not match information from the previous molder.
- Identify tool changes that are needed to correct dimensional issues so as to achieve full customer approval.
- If tool changes are required, confirm that the costs to change the tool have been agreed to by the customer. Once approval to change the tool has been accepted, coordinate the timing of the tooling corrections with the customer, and make plans for a buffer inventory if needed to support the customer in the interim.
- Review any previous inspection data, control plans, annual revalidation reports and corrective actions to modify risk priority values on Empire's FMEA as required.
- Once sampled, compare actual processing information to the estimates used to develop the initial quotation. Advise the customer where unexpected variances in the manufacturing methods could/should lead to adjustments in the pricing estimates.
- Seek full documented approval from the customer in order to initiate volume production shipments.