



## Cycletime Tips - Automotive

### Volume 9: Process Capability

In recent weeks, I have had the opportunity to work with several automotive plants in optimizing their processes using the Scientific Molding approach to processing. Most of our area plants are trying very hard to improve their processing methods, which includes the training of their process techs, engineers and quality control personnel. This training emphasizes that in order for data to be collected accurately from an injection molding machine, the press and the secondary equipment must be process capable.

The issues I have experienced lately are as follows:

- Machines with screw tips leaking material past the non-return valve causing the ram to slip as the mold is being filled.
- Second stage pressures that fluctuate from 50 to 100 PSI
- Screw recovery times that vary anywhere from 2 to 5 seconds over 10 consecutive shots.
- Poorly designed hot-drop systems that interfere with consistent single and multi-cavity filling.
- Mold water temperature controllers are also being found incapable of producing a consistent volume of cooling media. Temperature control also seems to be suffering.

These are the primary building blocks required in building a process that creates parts of reliable quality.

It is very important that all of these issues are addressed before any material suppliers' technical people are contacted to assist your company in optimizing jobs at your facility. In the best interest of all involved, we will stop the procedure and request to reschedule after repairs are made. Otherwise, this can be a waste of time for all parties involved (including your customer). If you question your machine's capability, please contact us and we will assist you in documenting the shortcomings through the collection of meaningful data

Your attention to these details will help insure your success long-term in any injection molding market. While you are developing the process, you have to continually ask yourself, "Are we capable of producing identical parts during the life of this program on this machine?" If the honest answer is "no" than in all sincerity, the efforts put into staffing your facility with high-quality associates, selecting a quality material, and designing an effective mold will invariably be wasted.

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