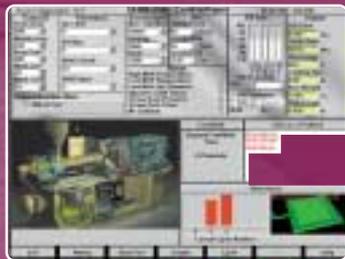


Practical Injection Molding: **BASIC Injection Molding** with **SkillBuilder**



Paulson's fully interactive training program explains the relationship between machine controls, plastic behavior and molded part properties in full motion video, text, audio and graphic animation.

Train production personnel, supervisors and managers to understand the molding process at their appropriate "need to know" level. Your new process-capable production team will:

- ◆ Exercise greater control over the molding process
- ◆ Reduce rejects and scrap
- ◆ Improve part quality
- ◆ Increase productivity

Step "inside" the mold to visualize the process as graphic animation reveals the machine and plastic behavior during the molding process.

Learn the "what", "why" and "how" of injection molding technology.

Recommended For: Machine Operators, Material Handlers, Set-Up Personnel, Production Supervisors

Module 1 - Basic Injection Molding

Fundamentals of injection molding technology, including basic knowledge that all personnel involved with the molding process must understand in order to make informed decisions on the production floor.

Module 1 - Basic Injection Molding Lessons

- Lessons**
- 1** Lesson 1: *Inside the Molding Machine*
Shows and describes all major components of the molding machine.
 - 2** Lesson 2: *Inside the Mold*
Construction and operation of two-plate, three-plate and runnerless molds.
 - 3** Lesson 3: *The Nature of Plastics*
Characteristics, types, structure, size and processing behavior.
 - 4** Lesson 4: *Machine Operating Controls - Part 1*
Purpose, operation and effects of the pressure and fill rate controls.
 - 5** Lesson 5: *Machine Operating Controls - Part 2*
Purpose, operation and effects of machine and mold temperatures, timers, screw and clamp controls.

SkillBuilder Lab Lessons for Injection Molding Basic Module

- Lessons**
- 1** Lesson 1: *Understanding the Injection Molding Process*
A review of the sequence of the standard injection molding cycle with emphasis on timer operation.
 - 2** Lesson 2: *Setting Machine Controls*
Learn how to operate the control panel of the molding simulator and how to interpret SkillBuilder outputs like fill time, cycle time, melt temperature, part size, and part weight.
 - 3** Lesson 3: *Understanding Fill Rate Controls*
Teaches the effects of setting SkillBuilder's 5-step fill rate profile on cavity fill time and part characteristics.
 - 4** Lesson 4: *The Effects of Back Pressure*
Examines how raising and lowering the back pressure setting affects the melt temperature and the maximum allowable back pressure setting and the effects of exceeding it.

(cont'd on back)





- ◆ **More Effective Training:**
Get a 40% increase in knowledge retention and comprehension using interactive technology.
- ◆ **Scheduling Flexibility:**
Training is available to all shifts, 24 hours a day without affecting production.
- ◆ **Automatic Record Keeping:** You can test and track employee progress automatically.
- ◆ **No Instructor Required:** Fully interactive format provides either a self-paced, one-on-one or classroom learning environment.
- ◆ **Reduced Training Costs:** Train on company time without loss of production. No dedicated instructor, no overtime and no overhead add up to large savings.
- ◆ **Increased Motivation:** Immediate feedback and personal involvement are key factors in training effectiveness.
- ◆ **Complete Curriculum:** The interactive library provides a complete career path curriculum for all employees.

To sign up for a hands-on-I-T system demonstration in your plant, call 1-800-826-1901.

SkillBuilder Lab Lessons for Injection Molding Basic Module *(cont'd)*

- Lessons
- 5 Lesson 5: *Setting the Injection Limit Timer*
Learn the proper setting for the injection limit timer, which shuts off the injection pressure if the VPT setpoint is not reached.
 - 6 Lesson 6: *The Maximum Injection Pressure Settings*
Discusses how to set the maximum injection pressure setting so the fill rate control never lacks the pressure it needs to fill the cavity according to the fill rate profile.
 - 7 Lesson 7: *Setting the Holding Timer*
Examines how the holding timer determines the length of time the holding (second stage) pressure stays on. Lesson 7 also examines the effects of the holding time on gate sealing and molded part weight and dimensions.
 - 8 Lesson 8: *Setting the Holding Pressure*
Focuses on how to set various holding pressures to determine the effect on the molded part weight and length.
 - 9 Lesson 9: *Mold Closed Time and Mold Open Time vs Melt Temperature*
Learn the effects of mold closed and open time on the melt temperature. Set the mold closed time to the minimum required to make a good part.
 - 10 Lesson 10: *The Effects of Barrel Zone Temperatures on the Melt Temperature*
Vary the temperature setting of each barrel zone temperature, one at a time, to determine how each zone affects the melt temperature. Learn how to match the actual melt temperature to the front zone barrel setting; a good molding practice.
 - 11 Lesson 11: *Some Effects of the Mold Temperature*
Set different core and cavity mold temperatures to determine the effect on peak cavity pressure and part dimensions.
 - 12 Lesson 12: *The Effects of Screw RPM*
Learn by setting various screw rpms, the effects on the melt temperature and the plasticating time (the time required to convey the next shot of plastic ahead of the screw).
 - 13 Lesson 13: *The Effect of the Screw Back Position*
Examines the effects of the screw back setting on the cushion size and on the melt temperature. Students can change the screw back position to increase and decrease the cushion size.
 - 14 Lesson 14: *Effects of Clamp Force*
Learn how the molding conditions affect the amount of clamp force required and how to set the clamp force to the minimum required to produce a good part.
 - 15 Lesson 15: *Achieving and Controlling the Melt Temperature*
Use knowledge gained in previous lessons to accurately achieve a desired melt temperature. Learn that front zone barrel temperature and the melt temperature often don't match and examine the various machine controls available to alter the melt temperature.



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