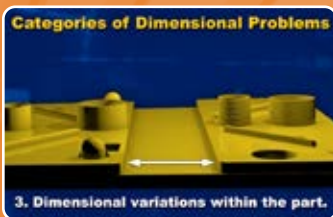
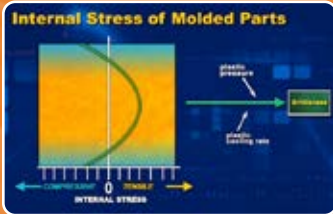


# Injection Molded Part Problems & Solutions with SkillBuilder

Recommended For: Set-up Personnel, Foremen,  
Process Engineers, Production Supervisors, Molding Managers



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.

## Goals of this course

- ◆ Train production and design personnel to analyze, identify and correct 11 of the most common and costly plastic molded part defects
- ◆ Expand problem-solving capabilities and improve quality
- ◆ Dramatically reduce reject rates
- ◆ Maximize profits through efficient, defect-free scientific molding techniques

Paulson's most popular course includes expanded content and introductory segments that feature Plastics Pioneer and veteran industry educator Don Paulson. He gives insider information on the cause and effect method of problem analysis.

This course is designed to train production personnel to recognize and analyze injection molded part defects from a scientific molding point of view. You will gain valuable skills in order to solve a variety of production and management problems. The course includes a description of machine control adjustments necessary to correct specific part defects. Also included is an in-depth explanation of causes and solutions to 11 of the most common molded part problems: Voids, Sink Marks, Short Shots, Flash, Weld (Knit) Lines, Splay (Silver Streaks), Jetting, Burn Marks, Warp, Cracks and Part Breakage, and Controlling Molded Part Dimensions. In addition, 7 of these lessons include Skillbuilder lab lessons where you can practice solving the problems on our injection molding machine simulator.

This program teaches injection molders, mold designers and part designers how to identify and correct the most common and costly molded part problems. Part defects are described and analyzed to show how each develops. The machine control adjustments and/or tooling and part design changes necessary to correct specific defects are explained in detail. Also included is an explanation for the cause and effect method of problem analysis—a very valuable technique for analyzing and solving all types of production and management problems.

## Lessons Included

- Lesson 1 – **Burn Marks\***
- Lesson 2 – **Cracks and Part Breakage**
- Lesson 3 – **Dimensional Variations\***
- Lesson 4 – **Flash\***
- Lesson 5 – **Jetting**
- Lesson 6 – **Short Shots**
- Lesson 7 – **Sink Marks\***
- Lesson 8 – **Splay**
- Lesson 9 – **Voids\***
- Lesson 10 – **Warp\***
- Lesson 11 – **Weldlines\***

\* Includes SkillBuilder lesson

**Length:** 11 Lessons > 7 SkillBuilder™ Lab Lessons > 15–20 Hours of Training

**Language:** English, Spanish available online



## The SkillBuilder™ Advantage

SkillBuilder is a unique program only available from Paulson. This revolutionary training package features a fully functioning injection molding machine simulator with amazing realism through crisp 3-D graphics and complete molding animations. Your employees go directly from a training lesson to a SkillBuilder lab lesson and apply what they have learned. With guided instructions, they can adjust controls and see the effects of their changes—without using valuable machine time or risking damage to your machines or molds.

## SkillBuilder Lab Lessons for Injection Molded Part Problems & Solutions

### Lesson 1 – Solving a Burn Mark Problem

In this Skillbuilder lesson, we will focus on how to eliminate a burn mark using the clamp force and the final fill rate controls.

### Lesson 2 – Molding to Precise Dimensional Tolerances

In this lesson, we will conduct experiments changing pack/hold pressure, mold temperature, and fill rates to show the effects of these machine and mold settings on part dimensions.

### Lesson 3 – Controlling Flash on a Molded Part

This Skillbuilder lesson explores all the possible solutions for eliminating flash on a molded part including clamp force, pack/hold pressure, fill rates and melt temperature. Flash can easily damage a mold, so it is very important that it is avoided.

### Lesson 4 – Identifying and Solving Sink Marks in Molded Parts

This lesson will challenge the student to solve the problem in a variety of different ways. Both mold temperature and pack/hold pressure are adjusted demonstrating that there is more than one possible solution.

### Lesson 5 – Identifying and Solving Voids in Molded Parts

In this lesson, we demonstrate some molding methods that will reduce or eliminate the formation of voids in a molded part. We'll also discuss how sinkmarks and voids are closely related and sometimes a choice between sinkmarks and voids must be made.

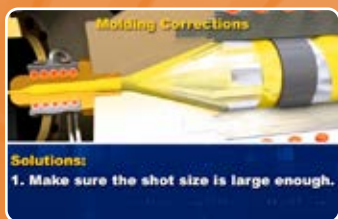
### Lesson 6 – Minimizing Weldline Formation and Appearance

In this SkillBuilder lesson, we will show you several methods of reducing a weldline problem using melt temperature, pack/hold pressure, and fill rates.

### Lesson 7 – Solving Warp (part distortion) in Molded Parts

The purpose of this lesson is to demonstrate some molding methods that will reduce or eliminate warp in a molded part. We will explore how changes in mold closed time, melt temperatures and mold temperatures can be used to eliminate warp.

*Note: SkillBuilder lessons available in English only*



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



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