



**SimTech™**

## How to Take the SimTech™ Virtual Lab Lessons

### Getting Started

It is now time to apply what you have learned from taking the course lessons. SimTech lab lessons can be taken in any order. We suggest you start with the lessons marked as “Level 1” and work your way up to the “Level 4” labs.

**Note:** If you are not familiar with how to use SimTech, take the Student Workbook Tutorial first before attempting the Lab Lessons.

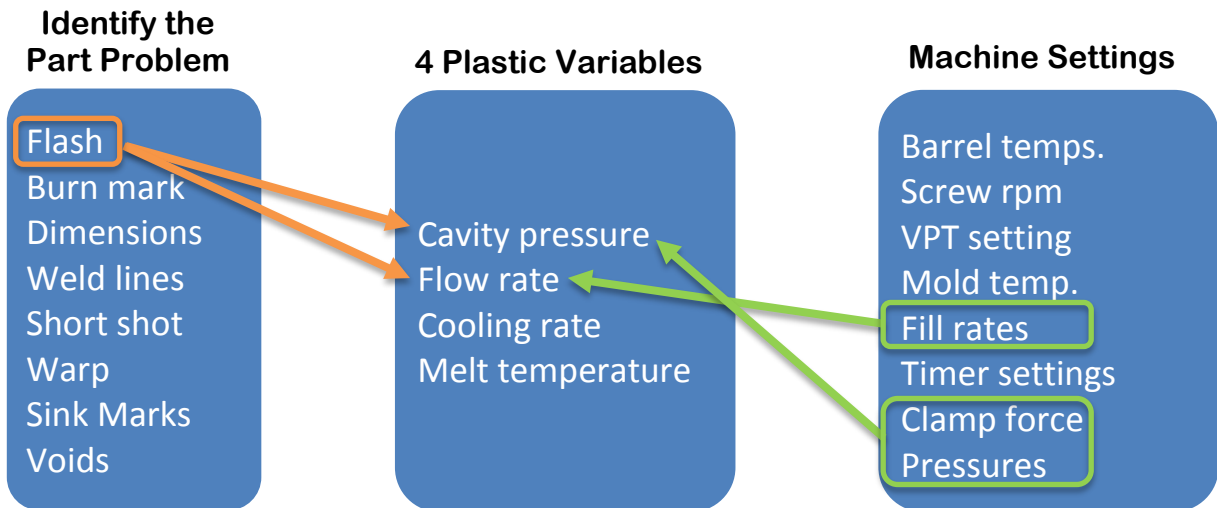
Unlike the Skillbuilder lessons you have already taken, the SimTech lab lessons do not have any restrictions on the machine controls. You can change any control you want.

You will benefit the most from these lessons by following the directions carefully. Each lab has a certain set of criteria that needs to be met in order to “complete” a lesson. You will practice machine setup, molded-part problem solving, and cycle time reduction. As you have learned in our training lessons, it is the four basic plastic variables that determine the molded part properties. By understanding how the machine controls affect the four basic plastic variables, you will begin to understand how to fix part problems, and how to set up the most efficient process.

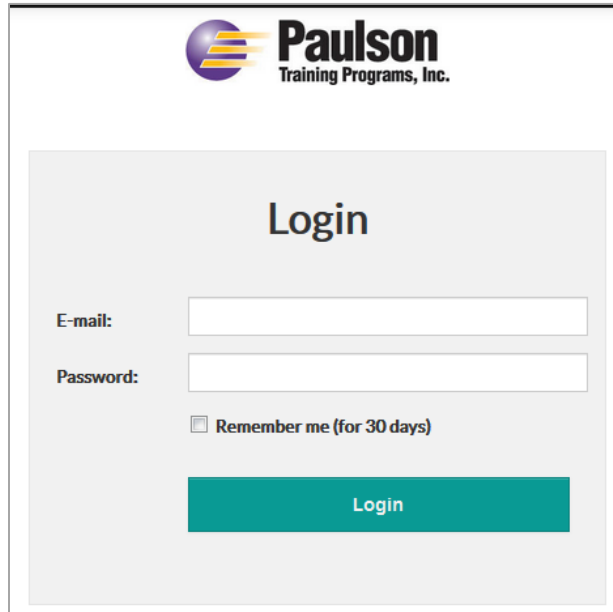
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As you have learned in the training lessons, you should approach these problems in a scientific and systematic way.

1. Identify the problem(s).
2. Determine which of the four processing variables is causing the problem.
3. Determine which machine controls affect the processing variable(s) in step 2.
4. Make one control change and then Cycle the machine to see the effects of the control change.
5. Continue to make control changes (cycling after each machine control adjustment) until the problem is solved.
6. Then move onto the next problem and follow the same procedure.



1. Login at [www.paulsonskillbuilder.com](http://www.paulsonskillbuilder.com)
  - Your administrator will provide you with your password.



2. Scroll down until you see the SimTech Lab Lesson you want to take and click on “Continue” or “Start Over”
  - “Start Over” will reset the machine controls to their starting values
  - “Continue” loads up your last machine control setting for this lesson

Simtech Lab 1 (Level 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0%	Continue	Start Over
Simtech Lab 2 (Level 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0%	Continue	Start Over
Simtech Lab 3 (Level 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0%	Continue	Start Over

3. You will see the control panel and your machine setup. You must click on **“Cycle”** to view the outputs of the current machine control settings.
4. Review the lab lesson from the binder to understand the problems you are trying to solve and the criteria for completing that lesson.

Session Name: simtechlab01 Machine: 300tn Part: cover Plastic: ABS Tolerance: +/- 0.005 in Standard Cycle Time: 20.0 SCORE: 0.00

#### Machine Control Settings

Name	Units	Value
<b>Barrel Temperatures</b>		
Rear Zone Temp	F	350
Middle Zone Temp	F	400
Front Zone Temp	F	450
Nozzle Temp	F	450
<b>Injection Unit</b>		
Screw Rotation	rpm	60
Screw Back Pressure	psi	300
Screw Back Distance	in	2.35
VPT Setpoint	in	0.21
<b>Mold and Clamp</b>		
Mold Moveable Temp	F	70
Mold Stationary Temp	F	70
Clamp Force	tons	220

#### Cycle Results

Name	Units	Value
<b>Fill Rates</b>		
Fill Rate 1	in/s	6
Fill Rate 2	in/s	6
Fill Rate 3	in/s	6
Fill Rate 4	in/s	6
Fill Rate 5	in/s	6
<b>Pressures/Time</b>		
Max Injection Pressure	psi	20000
Ramp Time	s	0
Pack/Hold Pressure	psi	3500
Pack/Hold Time	s	3
Cooling Time	s	15
Mold Open Time	s	1

**Part Problems (most recent cycle to the left)**

Flash	
Burn Mark	
Size (+/- 0.005 in)	
Weld Lines	
Short Shot	
Warp	
Sink Marks	
Voids	

**Machine Alarms**

- Screw Recovery ●
- Max Pressure ●
- No Cushion ●
- Low Melt ●
- High Melt ●

**Cycle Graphs**

**Navigation:** Cycle | History | View Setup | Change Units | Reset Controls | Home Page

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