

<p align="center"><b>Arburg Injection Molder</b></p> <p>Large Group Module: 30</p>	<p>TEL 204: Polymer Molding &amp; Forming Department of Technology</p>	<p>Student Names: (PRINT)</p>
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**Overview:**

The Arburg injection molding machine in the laboratory is a horizontal (or vertical) reciprocating screw injection molding machine. Working in a large group you will operate the Arburg injection molder to produce several parts.



**Demonstration Notes:**

**Module Grade:**

Products (15)	Parts Trimmed (10)	Fit & Finish (10)	Lessons Learned (15)	Total
Instructor Signature:			Date:	Grade:

**Molding Procedures:**

1. Wear safety glasses.
2. Wear gloves and/or do not touch melted plastic.
3. Preheat the molder. DO NOT TURN ON HYDRAULIC PUMP UNTIL OPERATING TEMPERATURE IS REACHED.
4. For the initial molding cycle, apply a LOT of silicone spray mold release to the mold, mold mounting bolts, and the sprue. NEVER SCRATCH MOLDS BY CARELESS HANDLING OR BY CONTACTING WITH MOLD RELEASE CONTAINER!
5. Follow procedures as demonstrated to mold parts.
6. NEVER USE SHARP, METAL TOOLS TO REMOVE PARTS FROM MOLD!!!! If a part sticks in mold, ask the instructor for assistance.
7. Trim flash and gate/runner/sprue from parts.

**Lessons Learned:**

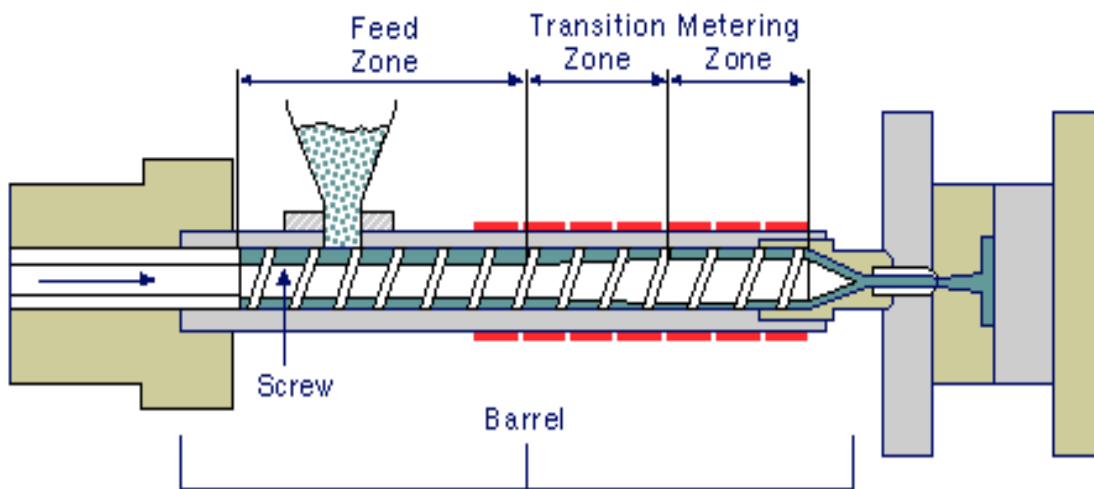
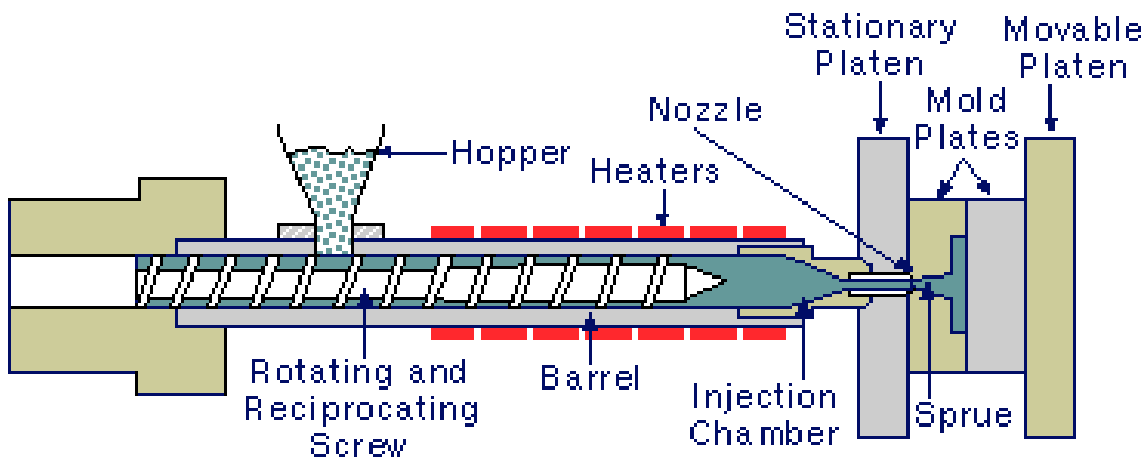
List the most important lessons learned from this polymer module.

1. \_\_\_\_\_  
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2. \_\_\_\_\_  
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**Notes:**

# ARBURG

## Injection Molder



# Key Terms And Definitions

## **Hopper**

The hopper on the injection molding machine holds thermoplastic pellets. The pellets are gravity-fed from the hopper through the hopper throat into the barrel and screw assembly.

## **Barrel**

The barrel of the injection molding machine supports the reciprocating plasticizing screw.

## **Heaters**

The heaters heat the barrel. They consist of a series of electric heater bands.

## **Reciprocating screw**

The reciprocating screw is used to compress, melt, and convey the material. The reciprocating screw consists of three zones (illustrated below):

## **Nozzle**

The nozzle connects the barrel to the sprue bushing of the mold and forms a seal between the barrel and the mold.

## **Injection Chamber**

The injection chamber holds the melted plastic that will be compressed into the molds.

## **Feed Zone**

The section of the screw with large cavities that carry's more material.

## **Transition Zone**

The depths of the screw thread reduce, leading to elevated pressures, and pressure induced melting.

## **Metering Zone**

Small and uniform threads that provide controlled quantities. This also serves as a final mixing stage.