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Bradley RK. Education in plastics manuf

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# **Creating an Aluminum Injection Mold**

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## GUIDE

### 1. CAD Software:

#### 1.1. Design the part

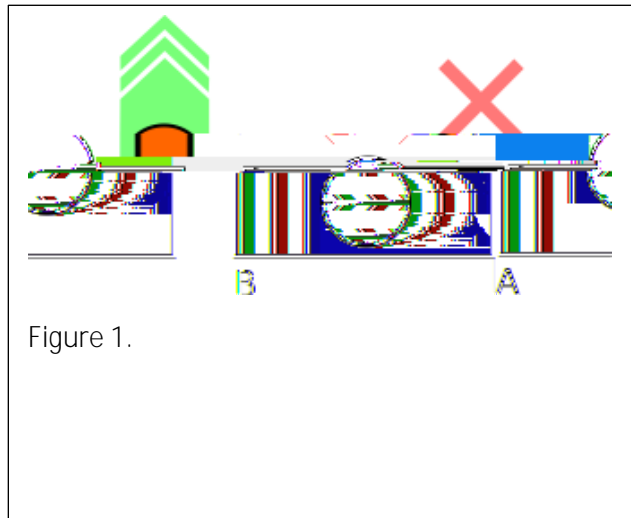


Figure 1.

#### 1.1.1 Avoid Undercuts

#### 1.1.2 Use Tapered Sides

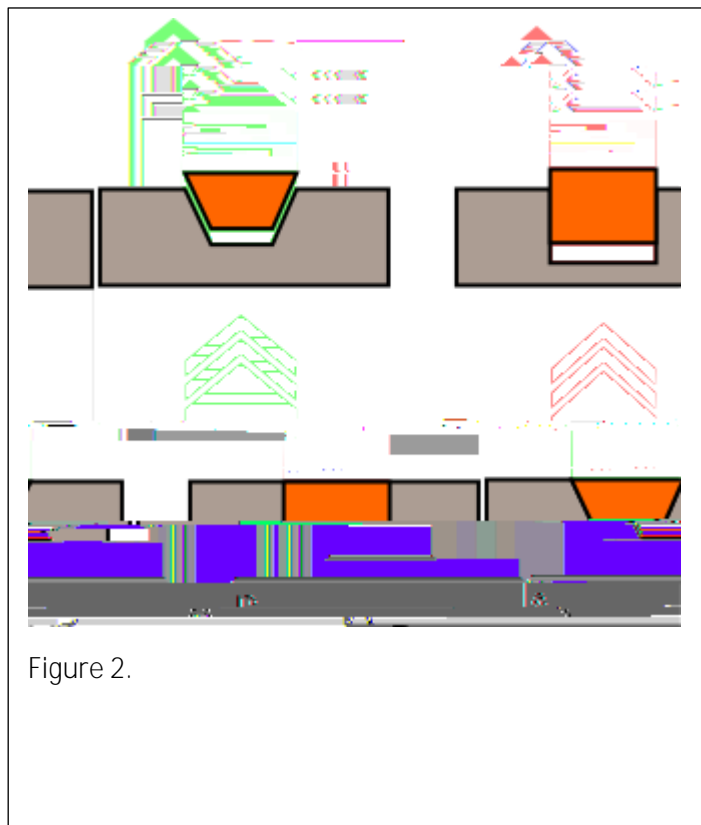


Figure 2.

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1.1.3 Keep the Parting Line on a Single Plane

1.1.4 Design

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1.1.6 Consider the End Mill's Cross Section

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### 1.1.7 Parametric Modeling

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1.1.8 Designing on  
Paper

*e.g.,*

1.1.9 Example: Polyethylene Ball-and-Stick Model

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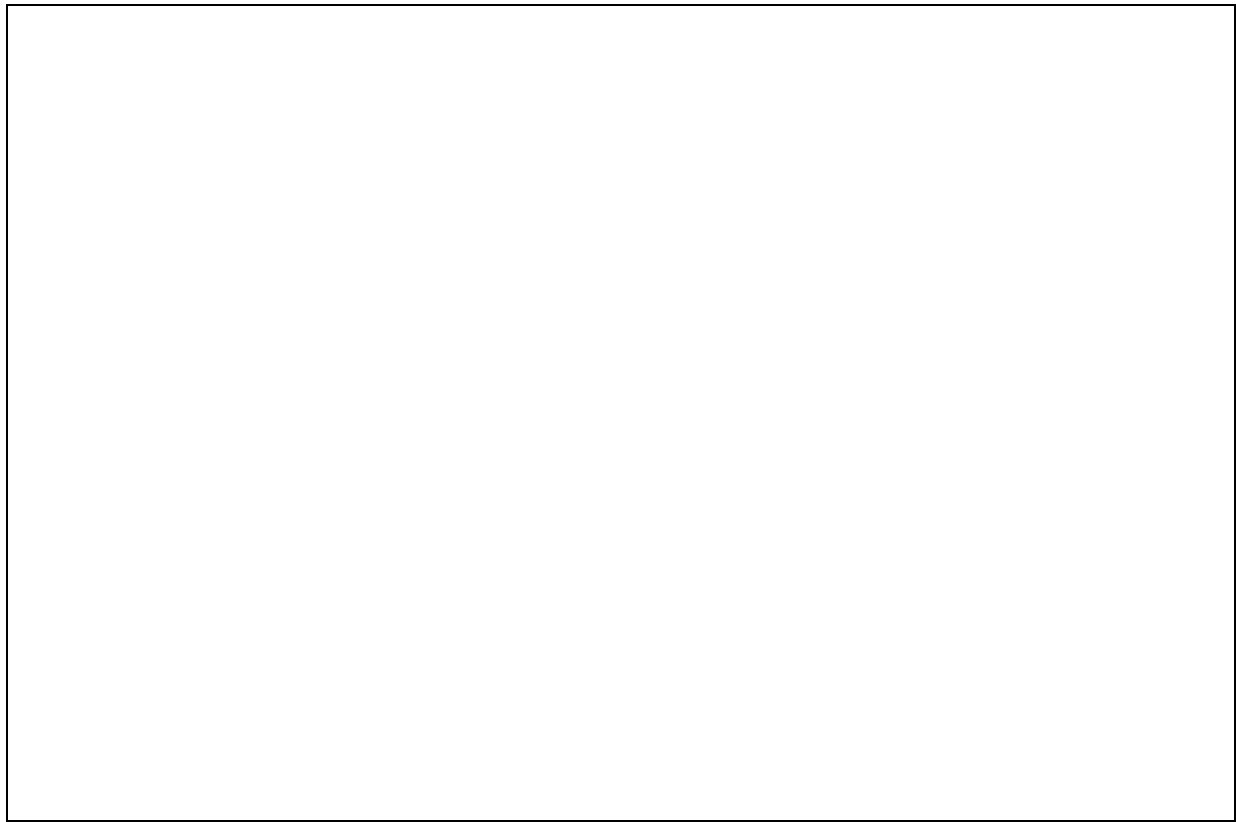
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1.1.10 Create a CAD Model of the  
Plastic Part

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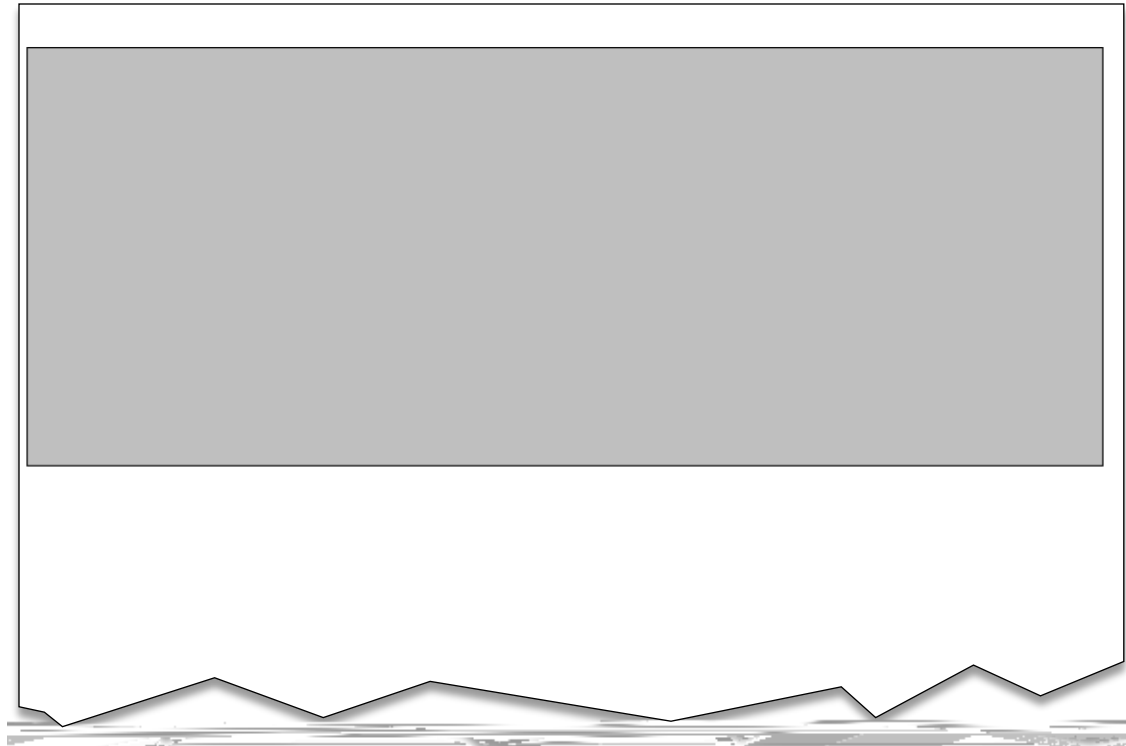


Figure 18.

### 3. CNC Milling Machine:

3.1. Clamp an appropriate size block of aluminum on the CNC milling machine

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3.6. Swap out different end-mills, re-zero, and repeat as needed

4. Finishing the mold:

4.1. Polish the mold if necessary

4.2. Insert alignment pins into one of the two mold halves

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