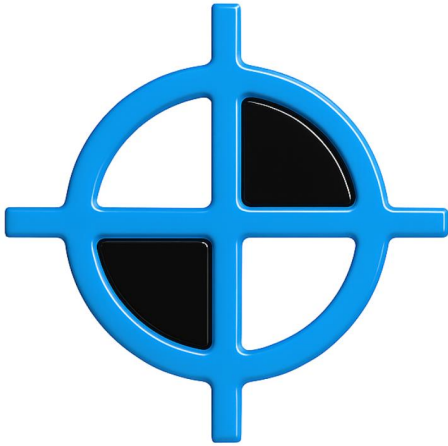
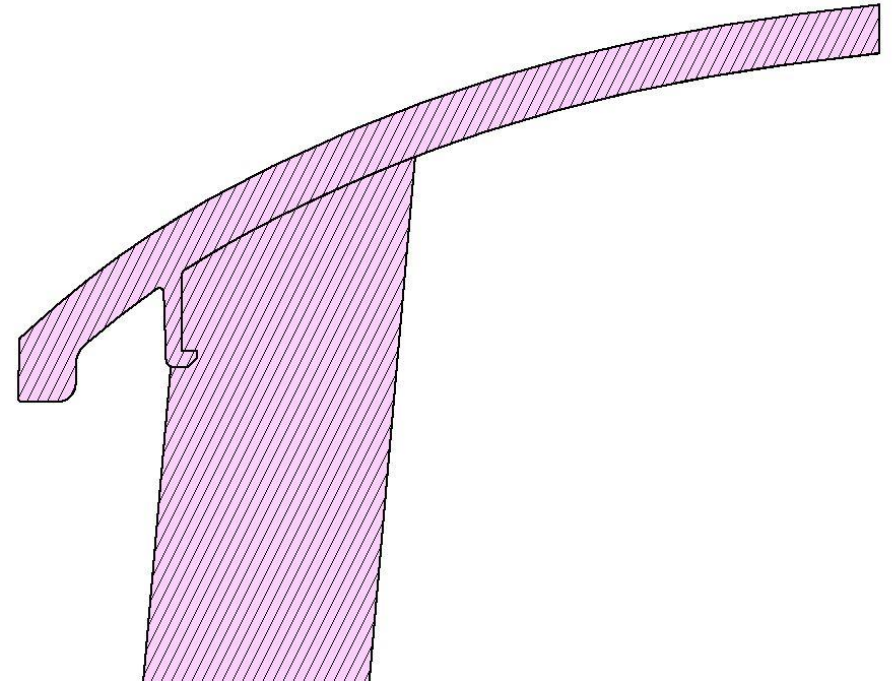


Lifters

What are they, how do they work?



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“Lifters” are a common component to form and release undercuts.

Lifter Types in Injection Mold Design

- **Standard Off-the-Shelf Lifters:**

Companies like **Progressive Components**, **PCS Company**, and **CUMSA** offer branded lifter systems designed for easy integration into mold bases. These typically use a gib set and are engineered for reliability and repeatability.

- **Tulip-Style Lifters:**

Also known as flexing lifters, these are typically made from flexible steel alloys that allow the lifter to bend and release undercut features during ejection **without the need for lateral movement or a gib set**. They simplify the mold layout and reduce the number of moving components.

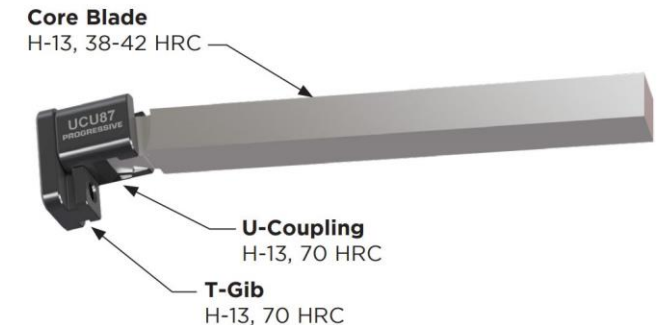
- **Custom-Made Lifters:**

Traditionally, many mold shops machined their own lifters and gibs tailored to each tool. However, the use of custom lifters has declined as off-the-shelf solutions have become more affordable and widely adopted. That said, **custom lifters are still common in molds built outside the U.S. such as Asia.**

FLEXICORE™ UNDERCUT RELEASE SYSTEM



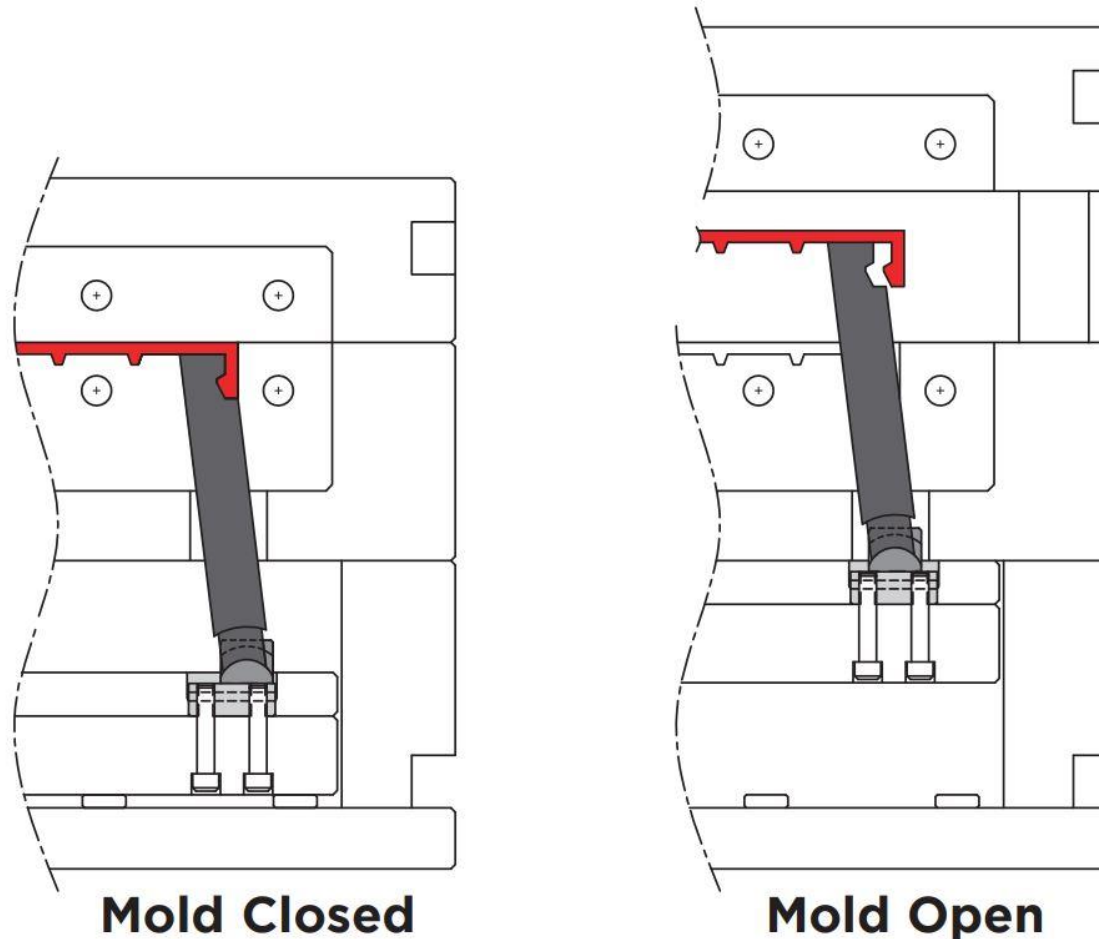
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Standard off the shelf style lifters

The lifter body is guided by a gib that's mounted in the ejector retainer plate. As the mold opens and the ejector plates move forward, the lifter slides sideways within the gib, just enough to clear the undercut on the part. *Picture is for illustration purposes and is from Progressive Components, they make a very robust lifter and gib set.*

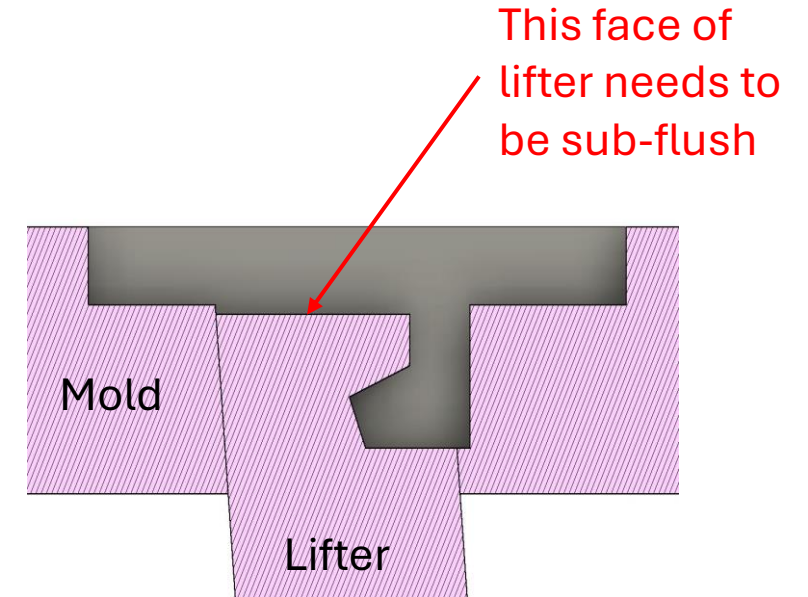
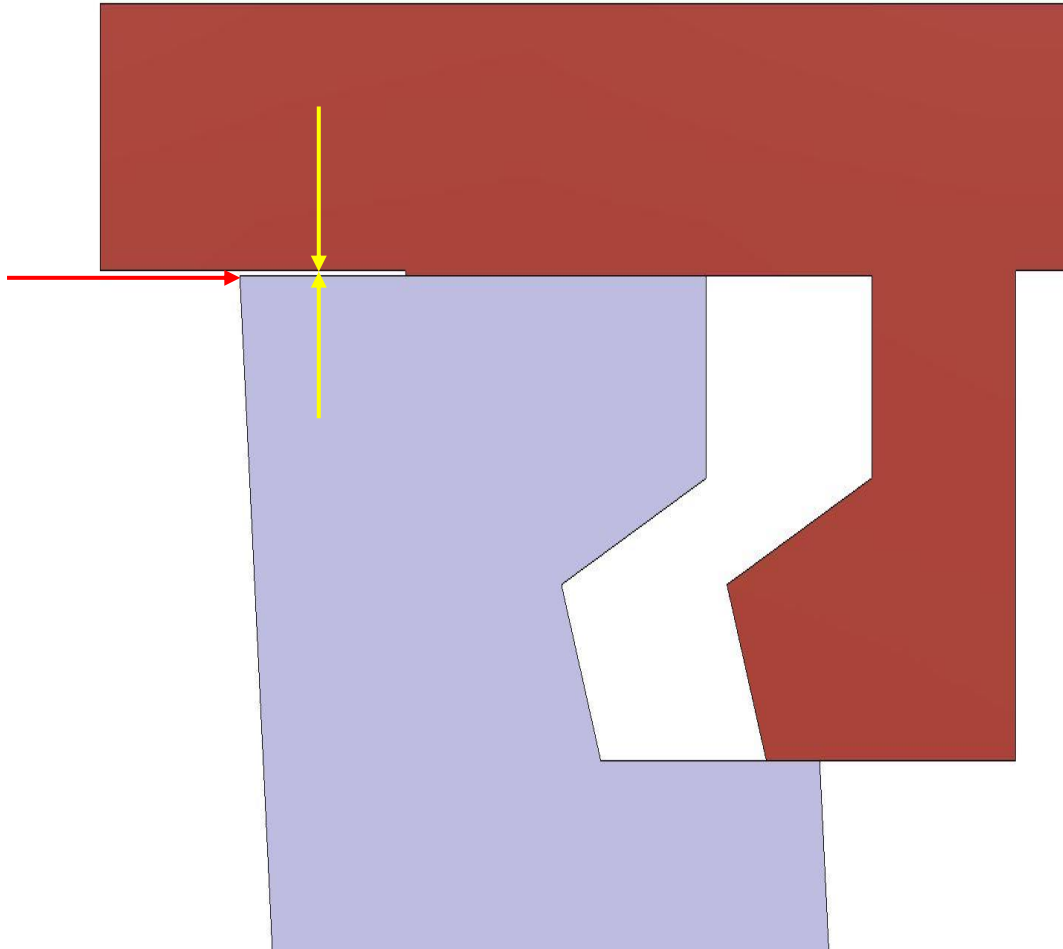


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Pro Tip

For parts with flat surfaces, lifters should sit sub-flush from the molding surface to avoid “scraping” during ejection.

With lifter sitting sub-flush to part surface, sharp corner cannot dig into part during ejection.



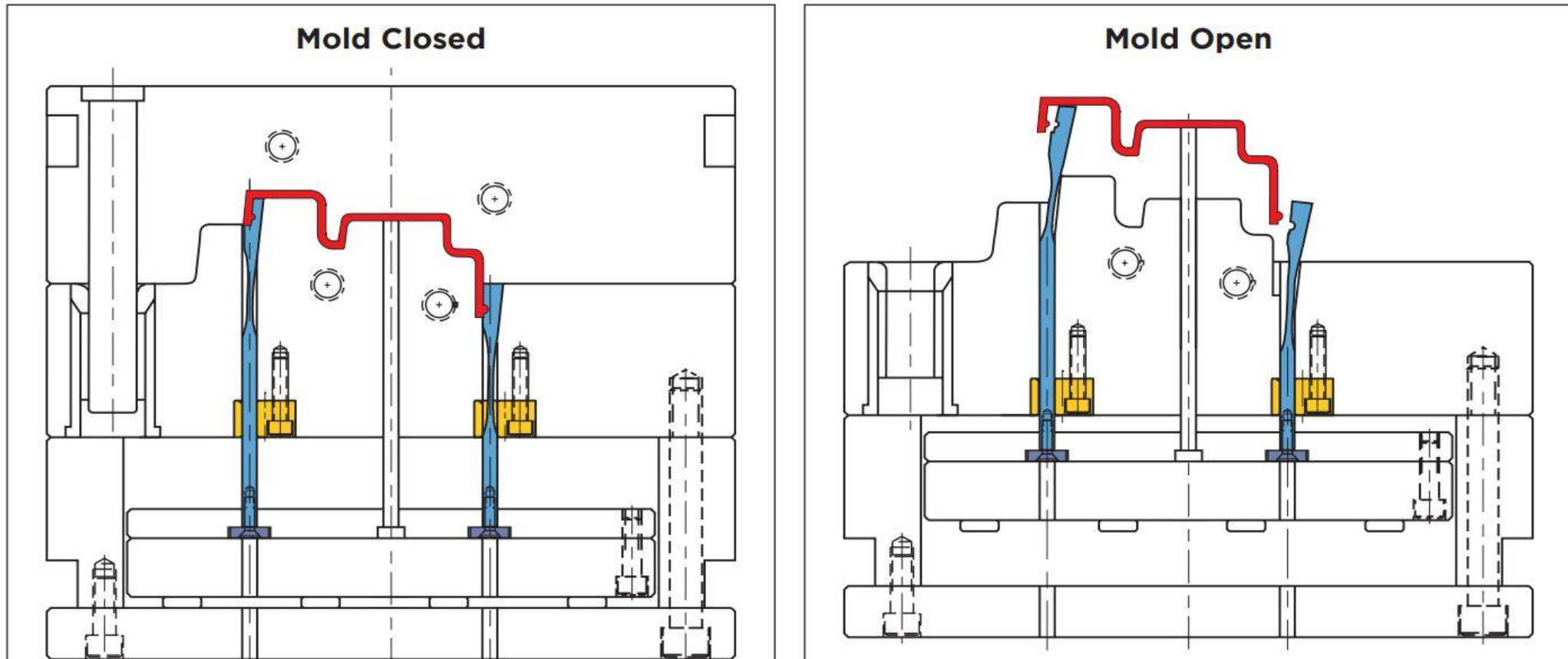
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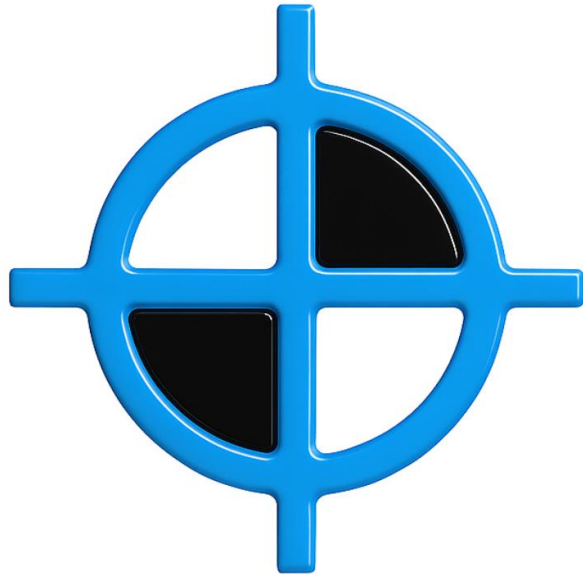
Tulip-Style Lifters (Flexi-Core Assembly)

The tulip-style lifter uses fewer moving parts compared to traditional lifter and gib sets. As the mold opens and the ejector plates move forward, the lifter flexes away from the undercut to release the feature without the need for complex sliding components.

Many suppliers offer their own branded versions of this concept. The one shown here is the **Flexi-Core Assembly** from **Progressive Components**.

For more information, visit: <https://procomps.com/unilifters>





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We hope this helps you understand more about Lifters.


About True Position Plastics

At **True Position Plastics**, we specialize in complete tooling and process solutions from DFM and mold design reviews to complex multi-cavity mold builds, including 3-plate systems, hot runner designs, and insert molding.


We work directly with trusted global mold vendors, providing full project management from initial quotation to first shots and press-side support during validation.

If you have an injection molding project, mold design question, or need a second set of experienced eyes on your tooling we're here to help.

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