

Understanding 3 Plate Molds and Different Styles of Stripper Plate Molds

Often times confused for the same thing

3-Plate Mold

Features three separable plates and a staged opening sequence that allows for clean automatic degating and flexible runner layouts especially in multi-cavity or center-gated designs.

Here's how a typical 3-plate mold functions during opening:

- **Friction Pullers Hold the A & B Plates Together:**
As the press begins to open, friction pullers (or latch locks, depending on design) temporarily hold the A-plate and B-plate together. This ensures the stripper plate (runner plate) separates first.
- **Plate Split 1 – Gate Break:**
Die springs push the stripper plate open, and sucker pins or runner pullers break the gate connection between the runner and the molded part. The molded part remains in the cavity while the runner stays attached to the stripper plate.
- **Plate Split 2 – Runner Drop:**
As opening continues, shoulder bolts or latch lock mechanisms bottom out, forcing the A-plate and stripper plate apart. This strips the runner or gate drop from the sucker pins, allowing it to fall freely out of the mold.
- **Plate Split 3 – Main Parting Line Opens:**
At this point, the friction pullers finally release, allowing the A-plate to separate from the B-plate and expose the molded part.
Depending on the mold design, the part is then ejected by pins or possibly stripped off the core using a stripper plate. *Companies such as PCS Company refer to this style as “T-Series”*

This precise opening sequence is what makes 3-plate molds ideal for:

- Clean cosmetic gating (e.g., center gates on lenses or flat panels)
- Automatic degating of pinpoint or tunnel gates
- Complex multi-cavity runner layouts
- Molded parts where gate vestige must be hidden or eliminated

Stripper Plate Mold

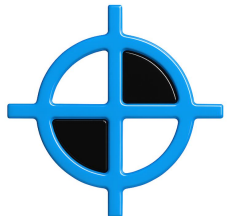
Eliminates the use of traditional ejector pins by stripping the molded part off the core (B-side) using a mechanical plate or ring.

There are a few common design approaches to achieve this:

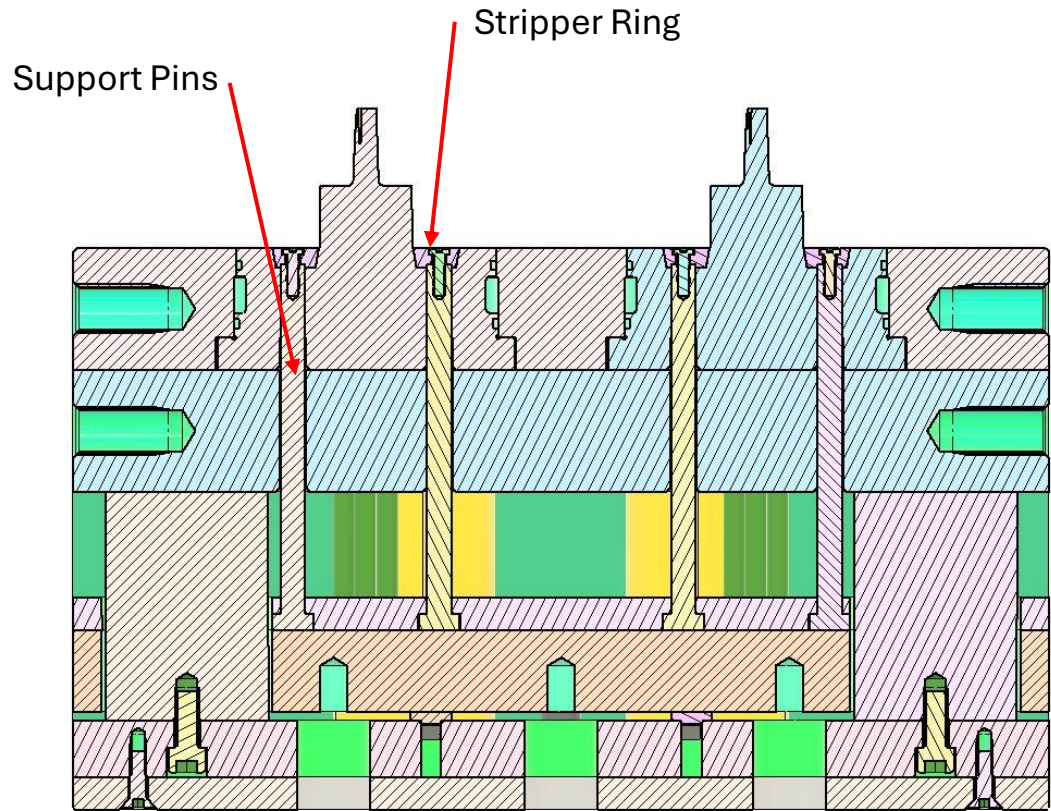
- **Stripper Ring:**
A circular ring component is mounted to support pins and actuated by the ejector plate. When ejection occurs, the ejector plate pushes the stripper ring forward, cleanly stripping the part off the core. This is often used for round or cylindrical parts, especially where ejector pin marks are unacceptable.
- **Stripper Bolts (Shoulder Bolts):**
As the mold opens, a set of stripper bolts eventually bottom out into a pocket or counterbore on the B-side, forcing the stripper plate forward and initiating the part ejection. This system creates a timed mechanical stripping action without relying on ejector pins.
- **Direct Plate Actuation:**
In some designs, pins connected to the ejector plate push the B-plate or stripper plate directly, functioning similarly to the stripper ring approach. This method provides smooth and uniform ejection across multiple cavities or perimeter regions. *Companies such as PCS Company refer to this style as “6 Plate Stripper Series”*

These systems are especially effective when:

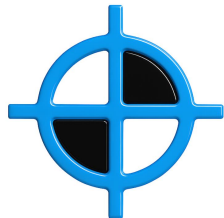
- The part cannot tolerate ejector pin witness marks
- Even ejection force is critical
- The part has deep or fragile core features
- Clean cosmetic surfaces are a priority



TRUE POSITION PLASTICS
AND MACHINING SOLUTIONS

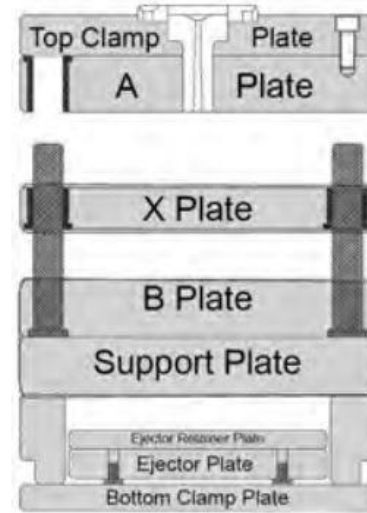


Custom Stripper Ring Mold

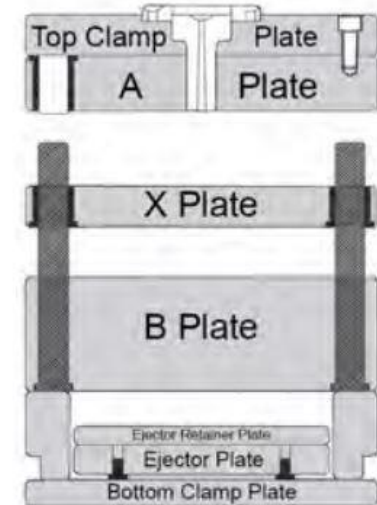


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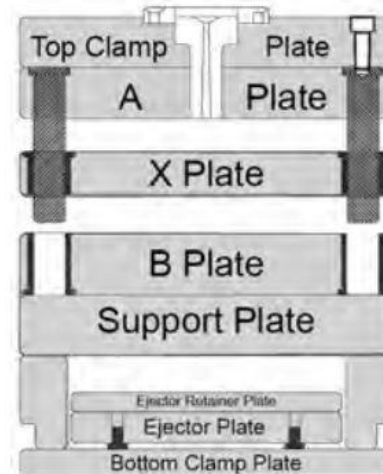
PCS Company Stripper and 3 Plate Style Mold Bases



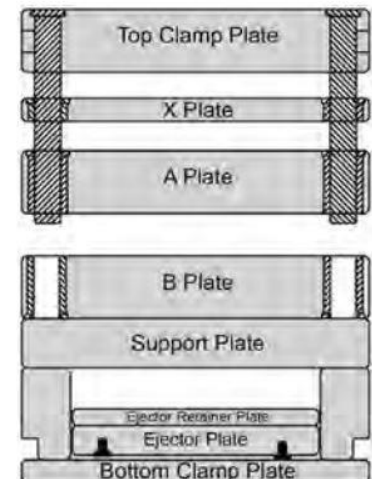
6 Plate Stripper Series



5 Plate Stripper Series

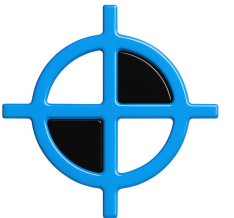
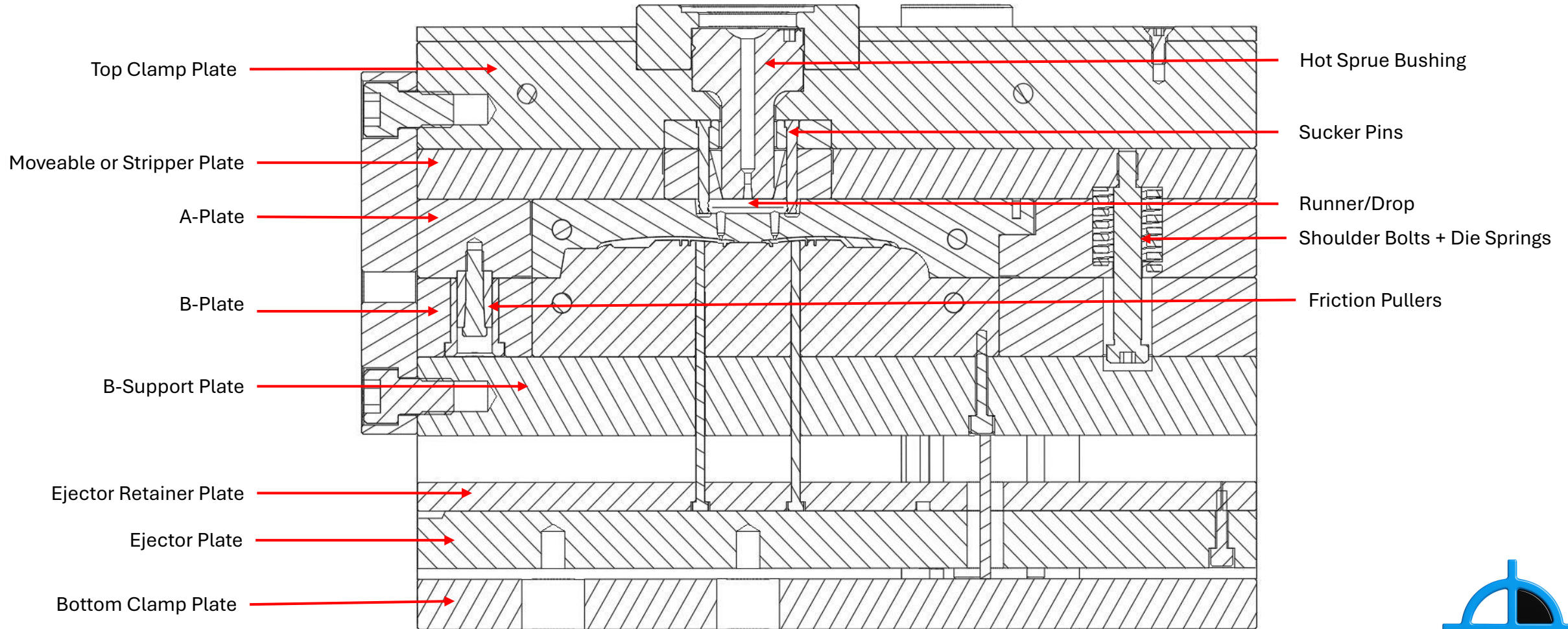


AX Series



T Series

Custom 3 Plate Mold utilizing friction pullers Common component nomenclature



Custom 3 Plate Mold Opening Sequence

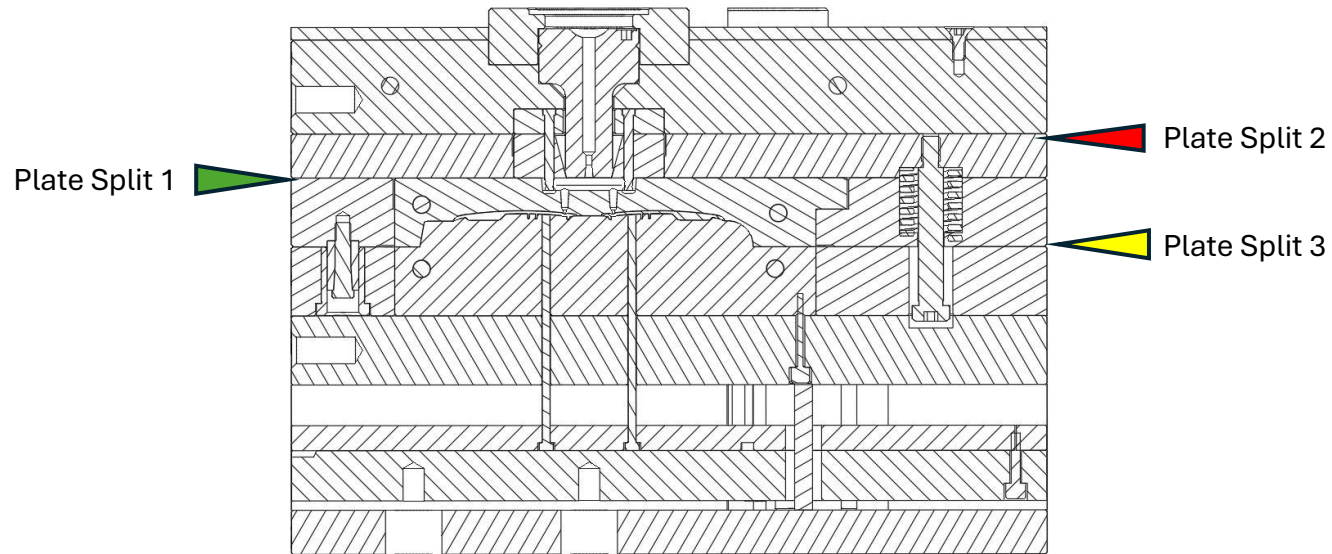
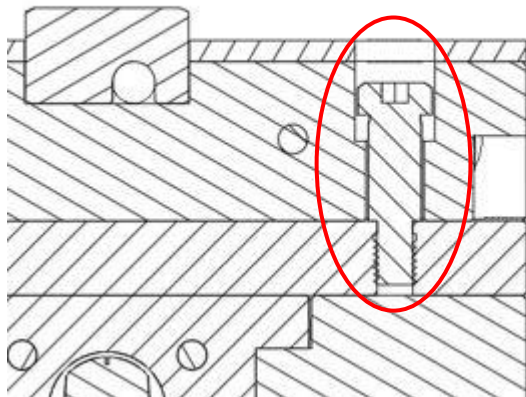


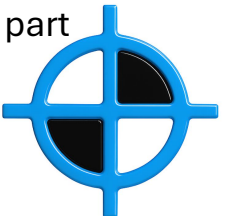
Plate Split 1: Breaking the gates; Die springs force this first opening. Sucker pins break runner/drop from molded part.

Plate Split 2: Stripping the gates; Since friction pullers are holding plate split 3 closed, this is the second opening. During this action, the runner/drop is stripped from the sucker pins; allows runner to drop out of mold freely.



Note: This is the second set of shoulder bolts (not shown in section views). During plate split 2, shoulder bolts bottom out on counterbore shown here; forcing plate split 3 to happen.

Plate Split 3: Opening parting line; Finally, plate split 3 can overcome friction pullers and open main parting line of mold allowing the part to be ejected from mold.



3 Plate Mold & Stripper Plate Mold *Components Up Close*



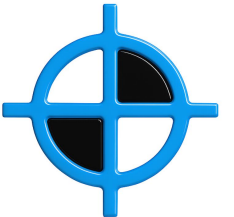
Sucker pins & runner/drop up close

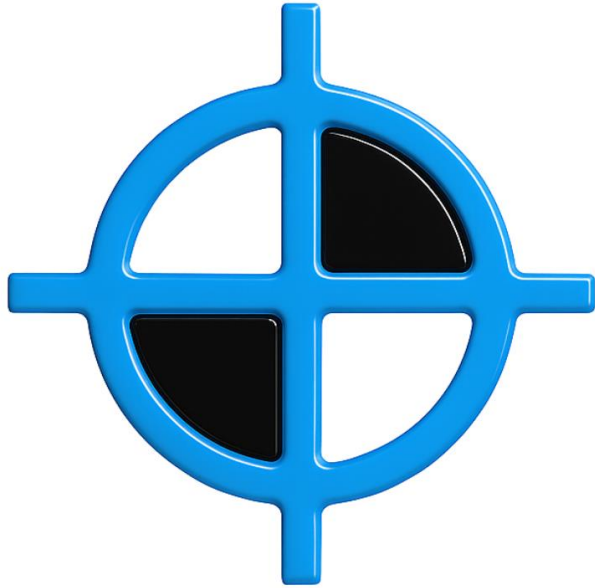


Misumi Friction Pullers up close



HASCO Latch Lock system up close





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We hope this helps you understand more about 3 Plate Molds & Stripper Plate Molds.

For even more about these types of molds and others, contact us.

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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