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# **Fabrication vs Stamping:** **Which is best for your part?**





# Fabrication vs Stamping: Which is best for your part?

Metal parts have a number of ways they can be manufactured. The question is, which one will work best for your unique situation? In this guide, we will go over a case study that highlights the differences between stamping and fabricating a part, what the production threshold usually is, review some cost comparisons, pros and cons, and ultimately help you decide: should I fabricate this part or have it stamped?



(Fig1)

A great example of the “fab versus stamping dilemma” is this clamp part. (Fig1) The company reached out to us for assistance with prototyping, as speed to market was their main focus. We ultimately laser cut and brake formed 7 versions of their part at 50 pieces each for testing. Due to the low volumes, fabrication was the best choice and cost \$12 per part. As their design changed, it was easy to make edits to the laser/brake programs and edit the part to their updated design. This allowed for quick, inexpensive changes and gave them parts within a few days.

After the design was finalized, an annual volume of 100,000 units was set, so the company decided to go with progressive stamping as the method of production. However, due to their need to get these parts out to market quickly, they decided to have us continue fabricating the first 10,000 units while tooling was being built. Those production fabricated parts cost around \$2 each to produce, totaling around \$20,000. The tooling build took 7 weeks and then 10,000 production stampings were able to be produced at \$.40 each and eventually as the volumes reached 100,000 pieces, we were able to get to \$.33 for each unit.

Let’s look deeper into the actual costing for this part. For the same production volume of 10,000 units, stamping ended up being cheaper than fabrication! (Fig2)

Obviously, stamping was the best production method for this part, given the volumes. Fabrication made sense initially to get the first parts to market, but once the tooling was built, stamping was the more cost-effective option. 10,000 parts is usually the threshold that many companies use when determining their manufacturing method, because as volumes increase, so do costs. One possible way to keep costs down at higher quantities is to invest in tooling and stamp your parts.

	<b>Fabrication Prototyping</b>	<b>Fabrication Production</b>	<b>Stamping Production</b>
<b>Tooling Costs</b>	\$0.00	\$0.00	\$15,000
<b>Piece Price</b>	\$12.00	\$2.00	\$0.40
<b>Quantity</b>	50	10,000	10,000
<b>Total Price</b>	\$600	\$20,000	\$19,000
	<small>This run was done seven times after various design changes. Fabrication is a quick and easy method to make prototypes for parts.</small>	<small>Since speed-to-market was important for this part, the first run was fabricated while tooling was built.</small>	<small>After this run we quickly rose to 120,000 parts a year. This reduced the piece price from 40¢ to around 33¢—a huge cost savings for the customer.</small>

(Fig2)

There are other advantages to stamping as well. Take this part for example. (Fig3)

This is part of a slider for the sunroof of a car. The manufacturer knew they would need upwards of 180,000 pieces off the bat, so stamping was immediately selected as the manufacturing method. Besides the volume challenge, there are components of this part that would be difficult to fabricate. There are tight tolerances along with bends and forms that would be too small and too detailed to replicate using a laser or brake press. If they had wanted to do prototyping, we could have managed it with soft tooling, but there was no need since the design was already finalized.



(Fig3)

The tool for this part ended up being a \$75K, 21-station progressive die, but it kept the piece price of this part to around 30¢ each.

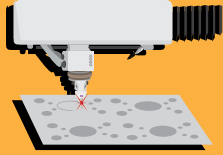
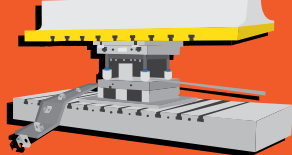
When it comes to selecting your manufacturing process between fabrication and stamping, there are lots of pros and cons to consider, as seen here. (Fig4)

Overall, there will always be a lot of thought going into how to manufacture your metal parts. Volumes, quality and budget can all play a role in your decision. Market leading companies form strategic partnerships with suppliers that have multiple options available to help them reach their goals.

If you would like our help with your next project please visit our website at [wisconsinmetalparts.com](http://wisconsinmetalparts.com) or call us at 262-524-9100. We are here to help you remain competitive and spend your money wisely.

At Wisconsin Metal Parts we welcome challenges! 🇺🇸

## FABRICATION vs STAMPING PROS AND CONS

FABRICATION	STAMPING
 <b>+</b> <b>PROS</b>	 <b>+</b> <b>PROS</b>
<ul style="list-style-type: none"> <li>• Low/No tooling costs</li> <li>• Cost-effective for lower volumes</li> <li>• Changes are easy to make</li> <li>• Parts produced quickly</li> <li>• Ideal for prototyping</li> </ul>	<ul style="list-style-type: none"> <li>• Cost-effective for higher volumes</li> <li>• Efficient use of raw materials</li> <li>• Consistency in quality</li> <li>• Able to perform more complex operations (forming, tapping, insertion)</li> <li>• Lowest run cost per part</li> </ul>
<b>-</b> <b>CONS</b>	<b>-</b> <b>CONS</b>
<ul style="list-style-type: none"> <li>• Not as cost-effective for higher volumes</li> <li>• Not as consistent as a die struck part</li> <li>• <a href="#">Tolerance limitations</a> compared to a die</li> <li>• Limitations on part complexity in a brake press</li> </ul>	<ul style="list-style-type: none"> <li>• Tooling costs</li> <li>• Not as cost-effective for lower volumes</li> <li>• Lead times to build tooling (6-12 weeks on average)</li> <li>• Part changes can become costly tooling changes</li> </ul>

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(Fig4)