



2011 N. Dayton-Lakeview Road  
New Carlisle, OH 45344  
<https://www.pfiprecision.com>

At PFI Precision Machining, manufacturing close-tolerance stainless steel components is one of our core strengths. Through our years of continued focus on process improvements and lean manufacturing techniques, we have developed an exceptional understanding of all of the factors that influence the quality, productivity, and consistency of machining stainless steel in all of its various grades and tempers.

Request for Quote

RFQ Hotline: 937-845-3081



Connect with us!

-----



[Twitter](#)



[Google Plus](#)



[Facebook](#)



[LinkedIn](#)

## Precision Managing: A Case Study

### CONTINUOUS IMPROVEMENT YIELDS COST SAVINGS FOR CUSTOMER

Along with receiving a high-quality product in a short lead time, most companies want their product produced at the lowest possible cost. One of our guiding principles here at PFI Precision is to provide our customers with the most cost-effective solution for producing close-tolerance component parts and mechanical assemblies. In our everyday operations we continuously look for ways to reduce manufacturing expenses and simplify assembly.

With our deep understanding of the principles of industrial design and advanced technical competencies, one of the things we focus on is identifying more strategic methods for manufacturing existing products. While we were in production of the precision hinge component highlighted here, we initiated a cost savings idea to the customer.

Constructed from 303 stainless steel for use in the food service industry, this hinge component featured overall dimensions of 2.5" in length x 4" in width and had a sand blasted matte finish. The original design incorporated a welded-in cross pin, as shown in the hinge on the left. We immediately explored the possibility of press-fitting the pin as an alternative solution. With machining tolerances specified at  $\pm 0.0005$ ", they were well within the specifications needed to make an interference fit. Our engineers proposed a series of very well thought-out design modifications to ensure a precise fit and maximum joint strength. After putting our ideas to the test and calculating the cost implications, we approached the client with our idea.

The net result of producing the part under our alternative scenario was a cost savings of \$2.00 per unit. The client's in-house technical team assessed our value-engineered solution and accepted our proposal. After turning and milling the hinge body, we used an arbor press to assemble the final workpiece right at the machining station.

By eliminating the weld in the original specification, our re-design resulted in a part that was easier to assemble and could be produced faster and at a lower cost. For the 2,200 units in the initial order, the cost savings was \$4,400. We now collaborate with the client's engineers on a regular basis on design-for-manufacturability solutions.

To learn more about this project or any of our manufacturing capabilities, [contact](#) us today.

**CONTINUOUS IMPROVEMENT YIELDS COST SAVINGS FOR CUSTOMER**

Project Name & Description	Design Change for Savings
Capabilities Applied/Processes	Re-Design Engineering Assembly Turning Milling
Equipment Used to Manufacture Part	CNC Mill CNC Lathe Arbor Press
Overall Part Dimensions	2 ½" x 4"
Tightest Tolerances	±0.0005
Material Used	303 Stainless Steel
Material Finish	Sand Blast Matte Finish
Industry for Use	Food Service
Volume	2,200 initially, current product