



CASE STUDY | The Exponential Cost Benefits of Universal Tooling

John Deere has been manufacturing a large-diameter clamp used in tractor exhaust systems for years. The piece sells consistently and is strong within the company's product portfolio. However, when John Deere was interested in saving money in the production process, they knew they'd have to change the part's design, work with a different supplier, or both.

KMC answered a request for quote (RFQ) to manufacture the clamp in a more cost-effective manner. We engaged in our standard prototyping process, which is a collaborative effort between KMC engineers and the customer's engineers. The KMC engineers working on this RFQ had experience building tools for tractor applications, so they took their understanding of the part's overall function and drove through the KMC process to make manufacturing repeatable and efficient.

Leveraging experience to develop new solutions

We quickly developed a design alternative and with a preliminary quote that proved the design would provide a significant cost reduction. Then we prototyped the design, tested it, made adjustments based on John Deere's feedback, created another prototype, and finally received the purchase order to begin production

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KMC loves to develop quality manufacturing solutions that work better than what's previously existed. The new custom part design allows the new clamp to function in the same way as the old one, but it can now be produced more cost-effectively and efficiently

The main change in the clamp's original design had to do with a critical feature on the clamp closure. By creating a new way to close the clamp, the engineering team could automate the manufacturing process and achieve an initial goal of cost reduction. The new design also could be produced on a universal tooling machine, so other clamps in the same family could be manufactured with the same equipment.

Paving the way for the future.

The automated, universal manufacturing solution unlocks an opportunity for John Deere to achieve exponential cost savings. If every clamp in the family follows the new design, John Deere will experience the initial cost savings of the automated manufacturability, plus they won't have to build new tooling equipment with each part.

John Deere will continue to reap the benefits of this new design as it grows and evolves over time. The overall design solution for this one particular clamp will serve them for years (and clamps) to come.



KMC's innovative process allows us to manufacture a superior part at exactly the same level of quality throughout its entire lifecycle.

We work hands on with every product we manufacture. By doing so,



we are able to control the entire process of developing a part so that our high standards are always met.