

APPLICATION SPOTLIGHT

Welding Fixtures



	Time	Cost
Traditional	156 hrs	\$800
Markforged	12 hrs	\$10
Savings	93%	99%



SDHQ Off-Road designs and develops custom products for use with off-roading vehicles.

Challenge

Steel fixtures used to weld multiple iterations were costly, time-consuming, and prone to errors.

Solution

Markforged Onyx offers strong unibody fixture designs that can be printed on demand.

Results

SDHQ Off-Road achieved considerable savings and superior part quality by using a Mark Two.

Rapid Product Development

Markforged enabled SDHQ Off-Road to expedite their research and design (R&D) process for developing custom products like the racks that secure equipment in the beds of off-roading trucks. Shop Foreman Kevin Ketchner used to weld steel plates together in order to create fixtures for welding the end products together. This took significant time and manual labor. Despite his years of experience and expertise, the process was inherently riddled with sources of diminished quality — imperfect bending, crooked tacking, corrosion, unrepeatability, and human error.

Kevin quickly realized that **“the process of making the printed fixtures was a lot faster and easier”**. The Mark Two eliminated the problems that the welded fixtures presented. Fixtures no longer need to be crafted by hand, and can actually be designed to more effectively secure the parts that need to be welded. Furthermore, Onyx demonstrates the material benefit of corrosion resistance, and broken fixtures can be immediately reprinted.

+ Durability

Onyx offers exceptional corrosion resistance, heat tolerance, and strength, making it durable under use in variable environments.

+ Available On Demand

If a piece is lost or damaged, it can be easily replaced by reprinting the design file stored on the cloud in Eiger.

+ Perfect Fit

When there is no room for error, custom fixtures with precisely matched geometry help locate parts securely and repeatably.