

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 off-roading truck racks that secure critical equipment. Shop Foreman Kevin Ketchner used to weld steel plates into custom fixtures in order to hold end products together during welding. 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”**. His 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 resists corrosion and he can easily reprint fixtures if they fail.

+ 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.