



CASE STUDY

# Welding jigs



## Rapid product development

Markforged enabled SDHQ Off-Road to accelerate its research and design (R&D) process to develop custom off-road truck racks to secure critical equipment. Foreman Kevin Ketchner welds steel plates into custom fixtures to hold the end products together during welding. This required a lot of time and manual labor. Despite his many years of experience and expertise, the process was inherently fraught with dangers for reduced quality - imperfect bending, crooked gluing, corrosion, unrepeatability and human error.

Kevin quickly realized that "the process of making the printed fixtures was much faster and easier". His Mark Two eliminated the problems that the welded jigs had. Fixtures no longer had to be made by hand and could actually be designed to better secure the parts to be welded. In addition, Onyx is corrosion resistant and can easily reprint fixtures if they fail..

	Time	Costs
Traditional	156 hours	800\$
Markforged	12 hours	10\$
Savings	93%	99%



SDHQ Off-Road designs and develops custom products for use in off-road vehicles.

### Challenge

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

### Solution

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

### Results

SDHQ Off-Road achieved significant savings and excellent part quality by using a Mark Two.

### + Durability

Onyx offers exceptional corrosion resistance, heat tolerance and strength, which allow a permanent use in different environments.

### + Available on request

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

### + Perfect fit

When there is no room for error, customized fixtures with precisely matched geometry help locate parts reliably and repeatable.

# We are looking forward to hearing from you!

## **Mark3D UK Limited**

The Innovation Centre, 1 Devon Way  
Longbridge, Birmingham, B31 2TS

Telephone **0800 193 36500**

E-Mail **printstronger@mark3d.co.uk**

Internet **www.mark3d.com/en/**

## **Mark3D GmbH**

In der Werr 11  
35719 Angelburg

## **Mark3D GmbH – Technology Center Haiger**

Ingersoll Werkzeuge GmbH  
Kalteiche-Ring 21-25  
35708 Haiger

## **Mark3D GmbH – Branch office Aalen**

Wi.Z – Ulmer Straße 124  
73431 Aalen

## **Mark3D Benelux BV**

Brabantlaan 3D  
5216 TV, 's-Hertogenbosch



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