



# Beyond BIG | C7 Carbon Case Study

## Creating custom automobile parts through 3D printing

C7 Carbon first looked into 3D printing as an alternative to laboriously creating patterns and designs by hand for every new project. Their goal was to eventually have the ability to translate their designs into a digital format, and then more efficiently produce them via 3D printing. The result would yield designs with higher accuracy along with a substantial savings in time.



C7 Carbon is an automotive design and manufacturing company. They work with clients and distributors to create fresh new aftermarket products for cars and trucks, such as spoilers, splitters, side skirts, and more.



## Why BIG



The engineers at C7 Carbon needed a large printer in order to create the car body parts in as few sections as possible. Owner Ryan Cianci relates that the printer "basically flipped our world upside down!" In the past, C7 Carbon would create their prototypes by carving their designs from blocks of foam and then applying automotive paint materials.

Now with the 3D printer, once they have finalized their CAD design, they are able to click the print button and watch their ideas quickly come to life.

[www.c7carbon.com](http://www.c7carbon.com)



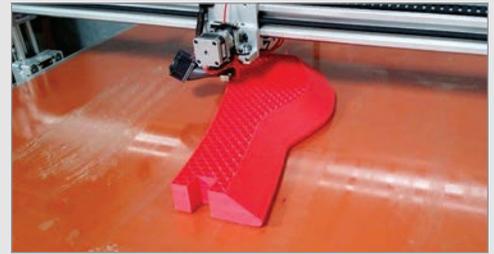
## Why 3DP

C7 Carbon was an early customer to 3D Platform. To this day, they are still using that printer to design and create a wide variety of prototypes and aftermarket products for the automobile enthusiast. As Ryan says, "We were originally looking at a variety of printers back in 2015, and we were interested in the 3DP 1000 because of its size and price point." That same year, they spoke with a 3DP representative during a visit to the Automation Technology (ATX West) convention in California. After discussing their wants and seeing the printer produce large items, they realized their need for a 3DP printer.

They now have four printers from 3D Platform. One of the printers has been upgraded with a pro-electronics upgrade package, as well as a larger HFE300 extruder. This machine is dedicated solely for prototyping in PLA with a large 1.6-2.4 nozzle for higher flow of plastic. The other 3 printers are used mainly for low-volume production of ABS prototype parts.



## Front Splitter for Corvette



## Tips/Community

The engineers at C7 Carbon exemplify how operating a 3D printer requires a time investment in training and on-site experimentation. Ryan offers this advice for first-time owners of 3D printers. "I know that my first run of failed prints were discouraging, but you just have to stay with it and find the right size nozzle and build level, and then fine tune it. Once you get the print build dialed in, its amazing to see them work!"

*"There is never a failed print, just one you learned more from."*

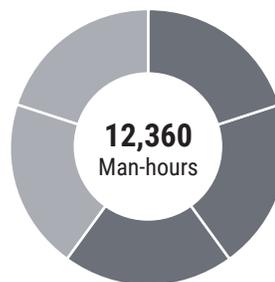
## Results/ROI

When asked about the rewards of a 3D printer, Ryan says, "We are still finding new ways that 3DP printing is able to save us money." Their ability to take CAD files and efficiently produce a print has allowed them to **transfer two of their four sculptors** to a different department, and implement a leaner prototyping department.

They were also able to fabricate parts for some of their popular spoilers using ABS filament on their printers, which tends to be more durable and reliable. As a result, they are now printing a lot of the accessories for their products as consumer-ready pieces. This has allowed them to **save approximately three positions** in their production department.

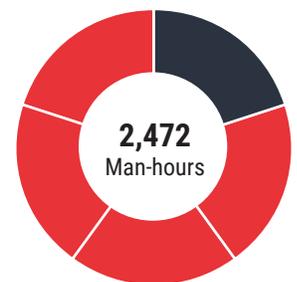
### Prototyping and Production (Man-Hours/Year)

#### Sculpting and Production



3 Production Personnel  
2 Design Sculptors

#### 3D Printing



1 3D Printing Operator  
9,888 Man-Hours SAVED!