# Case Study: Honda Civic Suspension

Introduction

GREGYX Motorsport, specialists in building race cars, teamed up with Shop3D and used the Shining3D Einstar 3D scanner to replicate the rear suspension of a Honda Civic. Thanks to the accurate and detailed results of the scan, Gregyx was able to successfully replicate the part and went on to place first in their latest event!
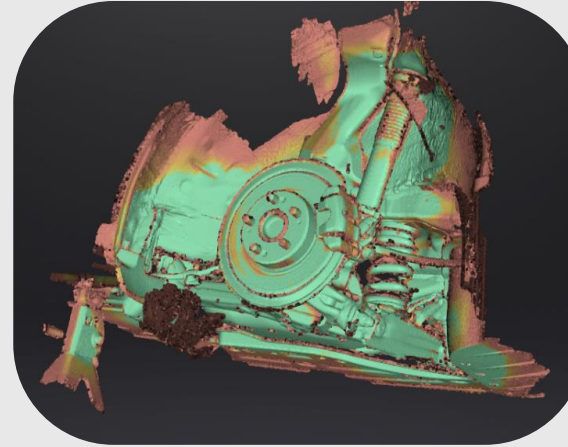

Use of the 3D Scanner:

With the use of the Einstar, The Gregyx team was able to successfully digitize the suspension arms of the Honda Civic with great detail. This process allowed them to capture precise information about dimensions, geometry, and complex details, as shown in the images below.
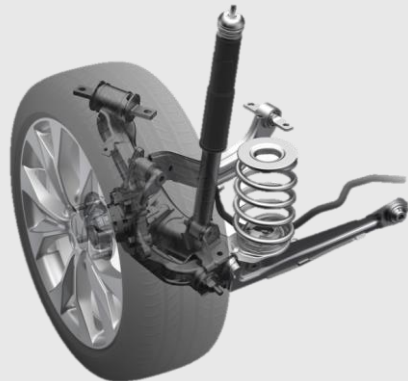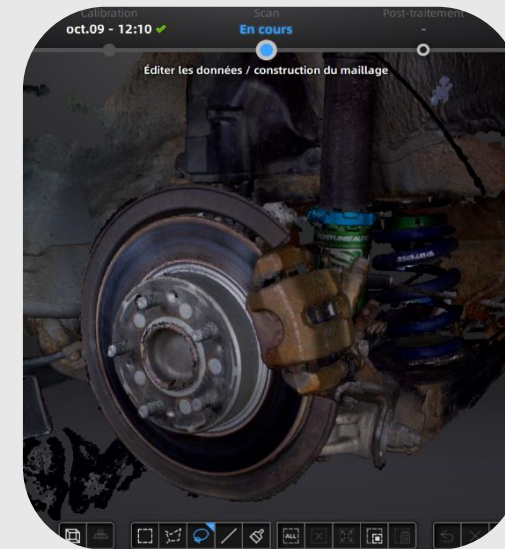

Results of 3D Scanning

This image shows the initial result of the scan, highlighting the complexity of the suspension arm components.

Here, we can observe a closer view of the suspension details, demonstrating the precision with which the scanner reproduced each component (disc, shock absorber, etc.).


This last image offers a different perspective, showing other crucial aspects of the suspension arm that were vital for the project.

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Complexity of Reverse Engineering:

Due to the complexity involved in reverse engineering the final part, the GREGYX team entrusted the scan data to the techs over at Shop3D.ca for their expertise. Shop3D.ca was able to decipher the data produced by the scanner. During this process, the scan data revealed potential defects in the initial design, prompting the GREGYX team and Shop3D.ca to develop an improved version of the arm. This new design was then subjected to virtual testing to ensure its reliability.

Throughout the process, special attention was paid to the integration of the revised arm with other vehicle components, ensuring a smooth implementation.
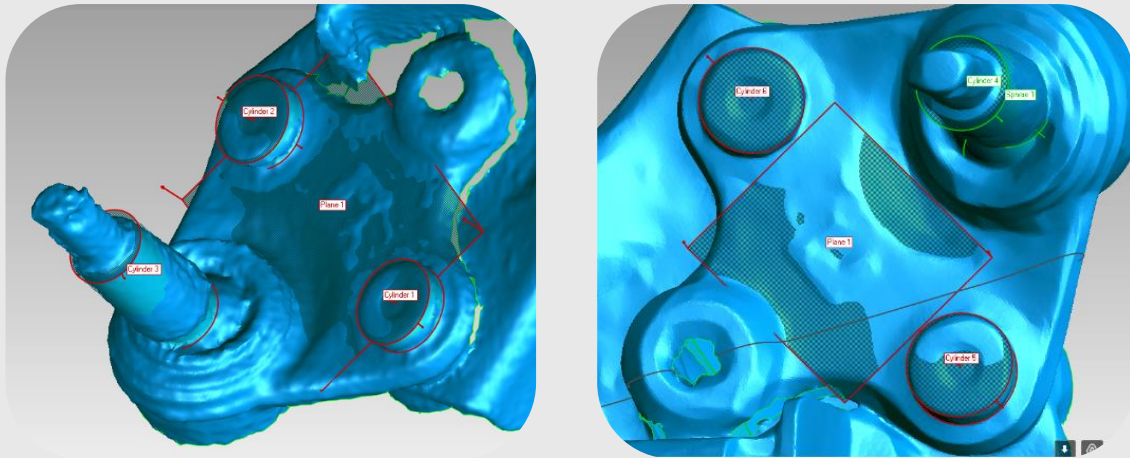
Impact on the Project:

The use of the Einstar for this project resulted in significant improvements in terms of efficiency. Instead of relying on approximations or manual measurements, the team was able to work with precise data and benefited from Shop3D.ca's expertise. This not only accelerated the reverse engineering process but also led to significant improvements in the suspension arm's design.

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Conclusion

The Shining3D Einstar Handheld 3D Scanner has proven to be a valuable investment for GREGYX Motorsport. The 3D scanner combined with the support received from Shop3D.ca played a key role in the success of the 2012 Honda Civic SI suspension arm project, demonstrating the importance of modern technology and strategic partnerships within today's automotive engineering industry.

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