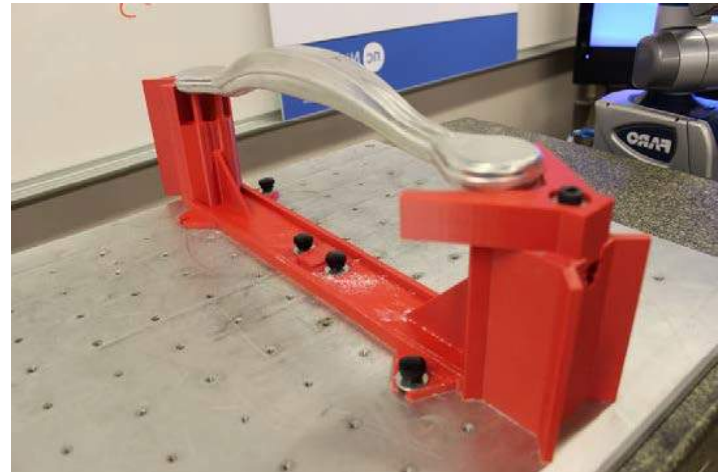


# Technical Service Bulletin

**Service For:** THK Rhythm Automotive **Sector:** Automotive



THK engineers and manufactures automotive chassis components for OEMs such as Ford, BMW, GM and others. This includes production of steel and aluminum forgings as well as in-house production of forging dies.

## **TECHNICAL SERVICE CHALLENGE:**

Using conventional CMM equipment, inspection of each new forging could take upwards of 8 hours. The final inspection report was not user friendly and could not be understood by anyone other than their experienced quality team. Inspection time and TS friendly reporting both required improvement.

## **DELIVERABLES:**

Inspecting prototype forgings as a service to THK. Design and 3D print jig/fixtures to support parts while being scanned.

## **EQUIPMENT USED:**

Scanning - FARO Laser Arm technology which was acquired thanks to an NSERC ARTI grant in 2011. 3D Printing - Fortis 400mc which was acquired thanks to an NSERC ARTI grant in 2014.

## **RESOURCES:**

2x Niagara College TAC Staff, 2x - 4 year Niagara College Mechanical Engineering Technology students.

## **DURATION:**

Since our initial engagement back in June 2015, Niagara College has been partnering with THK on a monthly basis, using our students, equipment, and software to provide first article inspection reports via laser scans of newly forged parts.

## **BENEFITS TO INDUSTRY PARTNER:**

Higher degree of accuracy in inspection report in 1/8th of the time. Reporting is now more visual and can be understood by a broader audience. The successful beta testing of the inspection methodology of a single part has now led to further inspections on an ongoing basis. As a secondary benefit, Niagara College students will be providing specific work instructions and time studies to THK as part of their risk assessment, all in an attempt to calculate ROIs should THK decide to eventually purchase this technology for themselves and hire a recent graduate familiar with the technology and procedures.

## **BENEFITS TO NIAGARA COLLEGE:**

Real world job experiences for our students which foster further learning opportunities utilizing advanced manufacturing technologies.

*For more information, contact Charles Lecompte, Senior Application Specialist, at 905-735-2211, ext. #7173 or clecompte@niagaracollege.ca*

Access Technical Services at the Walker Advanced Manufacturing Innovation Centre, your company's R&D partner, located at the Welland Campus of Niagara College. We provide a key competitive advantage to industry, offering access to cutting-edge equipment – and related services – for the development of products and manufacturing processes.

## We specialize in

### TECHNICAL SERVICES

Including: 3D Printing, 3D Design, 3D Measurement and Scanning

### AUTOMATION

Mechanizing a process to decrease human labour and increase efficiency

### PRODUCT DESIGN AND DEVELOPMENT

Creating a new product for deployment within your business or to be sold to a customer

### REVERSE ENGINEERING

Discovering the technological principles of a device, object or system through analysis of its structure and functions

### LEAN MANUFACTURING ASSESSMENT

Analyzing and improving an existing process within your operations

### PRODUCT RE-DESIGN AND IMPROVEMENT

Revamping an existing product to improve quality and/or adapt to changing market conditions



## Resources & Capabilities

- *Rapid Prototype Machine*
- *Laser Scanners (small-scale and room-size)*
- *Vision System*
- *Hand Measurement Tools*
- *3D Computer-Aided Design*
- *3D Factory Design*
- *Physical Simulations and Modelling*
- *Engineering Design*
- *Electronics and Electrical*

*“Niagara College brings youth, enthusiasm and knowledge to a tough playing field where every dollar is critical to the survival of many small businesses.”*

*~Bob Benner, Hamill Machine Company Inc.*

