

# Ultra Machine & Fabrication Saves Money – and Lives – Using FaroArms.

With global threats growing, the need for innovative companies to develop and manufacture vehicles that protect our soldiers is critical. One such company is Ultra Machine & Fabrication of Shelby, North Carolina. With over 20-years of fabrication and machining experience, Ultra ([www.umf1.com](http://www.umf1.com)) has earned a reputation for quality fabrication and expertise. They are proud to provide precision armor parts and weldments for vehicles, including the Mine Resistant Ambush Protected (MRAP) vehicle.

## PROBLEM

Most of the parts Ultra checks are machine and fabricated parts used in the military industry. Parts can range in size from 2x2-in. to 6x24-ft. Using measurement tools such as hand gauges, calipers, micrometers, and tape measures lacked several functional capabilities. For example, on an assembly 24-ft. long with many various parts to be placed in exact locations, Ultra was faced with GD&T, angles, out-of-square, parallel, and flatness issues that they couldn't measure with confidence. Not only were they left second guessing themselves on these 3-D measurements, but they lacked the needed reverse-engineering capability as well.

## SOLUTION

To solve these issues, Ultra turned to the FaroArm: a precision instrument capable of providing accurate measurements of 3-D features for the whole length and width of even their largest parts. It allows them to quickly confirm that products are meeting or exceeding customers' expectations.

The deciding factor for Ultra's decision was accuracy – repeatability of up to .001" on an 8-foot Platinum FaroArm. The portability of the FaroArm allows them to take it anywhere they need - not only on the shop floor, but also to suppliers and customers - to compare measurements to the original CAD files and to resolve any points that are out of tolerance. This helps both Ultra and their suppliers save on material, rework, and labor costs.

Ultra has several FaroArms that enable them to measure and document parts as large as 24-ft. or as small as a few inches. They can now view highly accurate, 3-D product files in real time and provide statistical data to their suppliers and customers – an added benefit that helps Ultra remain a world-class provider of fabricated armor parts.

## ROI

Ultra employees quickly accepted the new technology and daily use FaroArms in all phases of their operation. They even gained new business because they could now show measurement results on their customer's parts and processes.

By using their FaroArms, Ultra has reduced scrap by tens of thousands of dollars monthly. "Just one costly mistake can cost us \$10,000 fast," said Quality Director James Self. "With FARO, we can prevent that mistake before it happens."

