

# Enhancing Quality and Increasing Efficiency of Weldments of Security Equipment Parts

## CHALLENGE

A leading security equipment manufacturer, specializing in contraband and threat detection, was faced with a severely interrupted supply chain. In the mission critical world of Safety & Security, it was important to find a company they could partner with to help get them headed back in the right direction. With a need to redesign more than seventy-five weldments and other complex assemblies, they needed to find a supplier that had the technical expertise and horsepower to support them. The improvements to these weldments and complex assemblies helped our customer stay competitive within a highly competitive market. With projects already in the pipeline, the timing was short.

The manufacturer's internal resources were already stretched, so they began the search for a contract manufacturer to help. They needed an organization with skilled engineers and project managers to redesign the parts and optimize the manufacturing processes, ensuring higher quality and more efficiency. They also needed an organization who would collaborate with their internal team and be willing to learn a broader scope than the individual parts.

## SOLUTION

The manufacturer first discussed the project with their current contract manufacturers. One of the companies was The Metalworking Group (MWG). Based on working experience, the manufacturer believed that MWG had the expertise and capacity to manage this type of project under the time pressure. The Vice President stated "We were in desperate need of redesigning our weldments and complex assemblies to manufacture better products and didn't have the ability internally. When we analyzed the choices, we were confident in choosing MWG for this critical project."

## SITUATION AT A GLANCE

- A security equipment manufacturer needed to increase quality and decrease costs of their weldments and other complex assemblies
- The manufacturer didn't have the resources internally and had a tight timeline so they sought out contract manufacturers to help
- They chose The Metalworking Group due to the company's engineering and project management expertise and quality standards
- The two companies successfully increased quality and reduced costs for over seventy-five weldments and complex assemblies within five months
- The project enabled the manufacturer to win a significant government contract

## APPROACH

MWG started immediately, by first identifying and analyzing the key weldments that needed to be redesigned. The MWG approach is to act as a part of a customer's team. In this project, they sent engineers and product managers to the customer's site to fully understand the weldments and other complex assemblies that needed to be redesigned and develop a redesign plan to deliver the best results.

Next, they determined options for improving each weldment. Once MWG created the improvement plan, they dedicated the appropriate engineers and project managers to tackle the execution of the weldments redesign with the time required.

The engineers and project managers redesigned over seventy-five parts, within the following categories:

- Frame weldments
- Source bases
- Detector weldments
- Cosmetic panels

This process also included providing manufacturing feedback, design ideas, and process improvements to increase production rates and reduce costs.

The redesign process was extremely time intensive, so MWG added personnel and increased team member hours as necessary to ensure the customer received everything that they needed.

Brian Dubay, President of MWG stated, "Our customers are our top priority, and we do whatever necessary to deliver the highest quality parts."

## RESULTS

MWG and the manufacturer collaborated to deliver the redesign project of over seventy-five weldments and complex assemblies in just five months. The project was a success, with all of the weldments more cost effective and efficient, helping the customer compete in several highly competitive markets.

As an example, the customer won a multi-million-dollar government contract. "We would not have been able to win this job without the part redesign project. It's a testament to the quality of the work as well as the collaboration between our two companies," concluded the Director of Manufacturing.

## PROJECT HIGHLIGHTS

Industry: Security

Equipment: Vehicle Security Systems

Parts:

- Frame weldments
- Source bases
- Detector weldments
- Cosmetic panels

Services:

- Engineering
- Project Management
- Design Optimization for Manufacturing



Vehicle Screening Systems

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