Case Study – Security & Defense Industry

The Customer

The customer is one of the largest *Arms Manufacturing Companies* located in the continental United States. They produce a wide variety of small arms which are used in both recreational and military applications; however, their manufacturing technologies were considerably outdated.

They sought a ***complete manufacturing solution*** from Bradhart Products for an extremely complex component that they had produced internally for several decades.

The Challenge

The circumstances surrounding this project were highly detailed and complex:

- The component part was highly intricate with 144 different dimensional features
- The current process required over 25 separate machining operations
- Each machining operation required several different "process drawings"
- Current manufacturing equipment was inefficient and required excessive labor units to produce the end product
- In addition, the current manufacturing process required many secondary manual operations to achieve form, fit & function in final assembly
- They lacked the ability for design modifications or changes without extensive re-tooling

We knew that ***quality*** products with ***tight tolerances*** would be demanded in order to successfully accomplish this project. In addition, lines of ***communication*** and ***responsiveness*** on our part would be necessary to complete this on a timely basis.

The Solution

We accepted this challenge and here is a summary of what was accomplished:

- Bradhart's engineering team worked closely with the customer to combine all prints and specifications into 1 complete finished engineering print
- Bradhart selected and purchased a suitable 9-axis state-of-the-art machine tool capable of producing the component in one operation complete from bar stock
- Bradhart utilized the latest in CAM software to program and operate the machine

This project was successfully completed in a 6-month time frame and in the end, a new process not only produced components at a ***zero defect rate***, but also ***allowed for future product improvement changes without any expensive retooling costs*** since modifications could be accomplished by simple machine program editing.