

# CASE STUDY

## AUTOMOTIVE | ASSEMBLY AND QUALITY INSPECTION

A large automotive parts manufacturer needed to deliver assembled, inspected finished parts on-time, profitably. We delivered an in-line solution that met all requirements with fewer operators in a single shift, enabling operators to assemble, apply, and inspect eight different part assemblies in 20-40% less time.

### HIGHLIGHTS

#### Industry

Automotive

#### Initial Process

Manual Clip Attachment, Component Presence Verification, and Color Value Inspection

#### Automation Challenges

Eight individual part assemblies with unique assembly and quality inspection requirements.

#### Inspection Technology

Vision

#### Automation Enhancements

Robotic clip attachment and part movement through inspection points. Bar coding for part verification and tracking.

### CHALLENGE

An automotive part manufacturer needed help ensuring quality finished parts for eight different assemblies with multiple unique attachment and quality inspection requirements met end-customer on-time-complete targets.

### SOLUTION

Orka Automation designed a single in-line work cell that worked in tandem with operator assembly responsibilities and verified finished assemblies met quality requirements in real time.

- Dowels at the bottom of each fixture connect with sensors that verify part assembly and inspection requirements.
- Vision sensors verify proper clip attachment, component presence, and color values.
- Barcoding allows for part traceability.
- Parts that do not pass all points of assembly and inspection can be manually reworked in real-time, minimizing bad parts and scrap.

### OUTCOMES AND BENEFITS TO OUR CUSTOMER

**Improved Efficiencies** – Automating key assembly and inspection requirements simultaneously reduced cycle time by 20-40%.

**Work Force Optimization** – Automating the process enabled a single operator could meet shipping requirements in a single shift, with 100% accuracy.

**Verified Quality Finished Parts** – Vision inspection and data collection ensured finished assemblies met all end-customer requirements.

[Component Engineering](#) has been designing, building, and integrating custom quality solutions for over 20 years. Partnered with enhanced quality inspection solutions and automation technologies from [Orka Automation](#), we help customers create high performance manufacturing environments that increase efficiency, reduce risk, and deliver quality results.