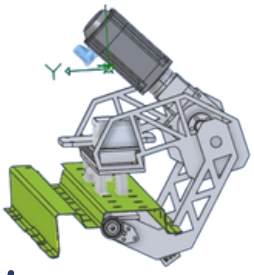
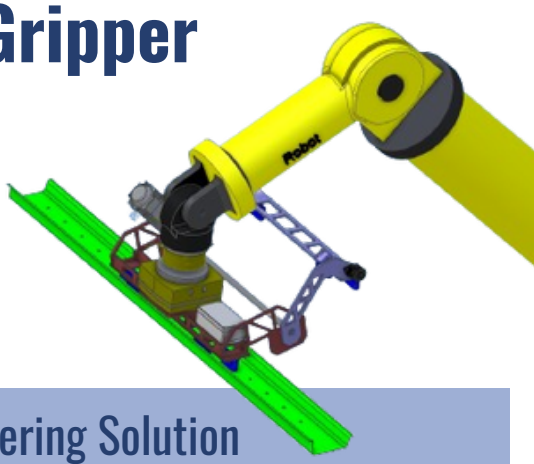
Customer Success Story

Partnership Driven Automation

Custom EOAT Magnetic Gripper





The Challenge

Industry: Robotics & Automation
Problem: Inefficient part flipping and regripping process in a machining application.

- ⚠ Steel U-shaped parts needed to be flipped from an “up” position in a crate to an “upside down” position in a fixture for machining and then returned to the crate in the original position.
- ⚠ The existing process required setting parts down for regripping, increasing turnover time and reducing machining efficiency.
- ⚠ The customer needed a solution to streamline part handling without adding a regrip station.

"The repetitive regripping process was a bottleneck, limiting productivity and machining time."

Donald Engineering Solution

Product: Donald Engineering EOAT Magnetic Gripper
Implementation: Designed and manufactured a custom end-of-arm tooling (EOAT) solution with magnetic gripping technology, eliminating the need for a regrip station.

Key Features of the EOAT Magnetic Gripper:

- **Dual-Part Handling:** Designed to simultaneously remove a completed part and place a new one in the fixture during each robot cycle.
- **Magnetic Gripping:** Equipped with SCHUNK EGM-M series electro-permanent magnets for secure handling of steel parts, even in power-loss scenarios. (Supports various steel types -thick, thin, heavy, light, etc.)
- **Collision Protection:** Integrated SCHUNK OPR series anti-collision sensor sends a signal back to the controller in case of impact, safeguarding the part, EOAT, robot, and surrounding equipment.
- **Alignment Compensation:** Features SCHUNK AGE-XY series compensation unit, allowing the EOAT to “float” in X and Y directions to ensure precise part placement in the fixture. (Compensation units available in multiple sizes for various directional and angular adjustments.)

“Our EOAT solution minimized turnover time, maximized machining time, and eliminated the need for a separate regrip station."

Customer Benefit

Key benefits:

- ✓ **Increased Efficiency:** Reduced part turnover time by eliminating regripping and streamlining the handling process.
- ✓ **Enhanced Productivity:** Maximized machining time with a seamless part transfer system.
- ✓ **Improved Safety:** Collision protection and alignment compensation reduced risks and ensured precise placement.
- ✓ **Custom Engineering:** A solution tailored to meet the unique challenges of the customer’s application.

"The EOAT Magnetic Gripper revolutionized our process, enhancing efficiency and ensuring flawless part handling.“

Let’s Solve Your Challenges!

At Donald Engineering, we specialize in creating innovative solutions for complex automation challenges. If your operation requires precision part handling, efficient turnover, or custom EOAT design, we’re here to help.

Ask Yourself:

- ? Could a custom EOAT streamline your automation process?
- ? Are inefficiencies in part handling slowing down your operation?

Contact us at sales@donaldengineering.com to schedule a **FREE** consultation with a Technical Sales Engineer!