



# CASE STUDY: Updating a Legacy Injection Molding Machine Reducing Cost, Improving Efficiency

## Situation

PNC Inc., a manufacturer of custom electromagnetic solenoid coils and wiring harnesses, partnered with QSI Automation to transform an aging Newbury injection molding machine into modern, efficient, and reliable production equipment.

### Key Challenges

- Outdated hydraulic system with high noise levels and excessive energy use
- Obsolete hydraulic valves with limited parts availability
- Aging wiring and inadequate controls
- Long setup times, reducing productivity
- Wear on injection and clamp unit
- Deteriorated machine appearance

## QSI Solution

### Hydraulic System Modernization

- Replaced old hydraulics with a servo-driven pump system, lowering noise and electric consumption
- Installed new hydraulic valves
- Re-designed rotary dial

### Mechanical and Component Rebuild

- Rebuilt injection and clamp units
- Re-designed rotary dial
- Added QSI's backlash elimination system for precision and repeatability

### Electrical and Control Upgrades

- Fully re-wired machine
- Added new sensors and switches
- Integrated a PLC control with color touchscreen for improved ease of setup (50% faster)

### Cosmetic Refinishing

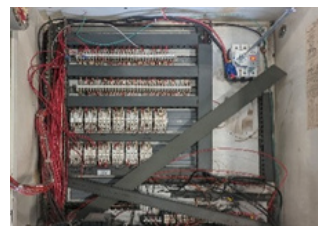
- Cleaned, repainted, and restored the machine's appearance

## Results

Through a targeted rebuild, QSI Automation extended the useful life of PNC's equipment, while delivering modern performance. This is a prime example of how strategic retrofitting can deliver substantial cost savings, operational improvements, and sustainability benefits.

- Energy Efficiency: Reduced electrical consumption
- Noise Reduction: Improved workplace comfort
- Setup Time: Decreased by 50%
- Cost Savings: Approximately 30% vs. buying new
- Extended Service Life: Modern capabilities in a proven frame

### Before



### After



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