

Ammunition Press Line – Multiple Stations

Challenge

John Henry Foster Company was contacted to design a hydraulic & electronic system for precise control of a 12 station ammunition press. The existing system relied on manually operated hydraulic control valves, requiring extensive operator involvement and producing high scrap percentages as well as high downtime rates.

Goals

- Simultaneous electronic control of force and position for 12 cylinders (24 axes) within given specification
- Reduction of Downtime
- Reduction of Scrap
- Electronic storage of all Press Data
- Incorporate all servo controls into existing Allen Bradley PLC-5 control system.

System Features

- Delta RMC150 Motion Controllers
- Custom programming to reside in existing PLC and interface with the rest of the machine controls
- Customized cylinder tuning to reduce effect of induced shock to hydraulic system
- Ethernet communications to existing hardware

Project Successes

- Scrap Rates from 7% to less than 1%
- Production Rates Quadrupled
- Increased Uptime
- Meets all given force and position specifications
- Completed within budget

