

Retrofit of Siemens CNC on Toshiba Boring Mill



Metal Locking Service Inc. (MLS) retained JF Automation USA to upgrade their 1980's era Toshiba-Shibaura BP-13 Horizontal Boring Mill.

MLS provides customers world-wide with a precise, mechanical method of making repairs to broken castings and machine parts; like locomotive engine blocks. The company, founded in 1942 in Buffalo, NY also offers custom machine shop services.

The previous year JF Automation USA replaced the entire electrical control system for MLS on a Cincinnati Gilbert Horizontal Boring Mill which handles parts up to 24 feet long.



The challenge in converting this Toshiba HBM was to give the customer “the most bang for the buck” by “value engineering” and re-using any equipment that made economic sense; thereby making a virtually brand new machine with many thousands of dollars in cost savings



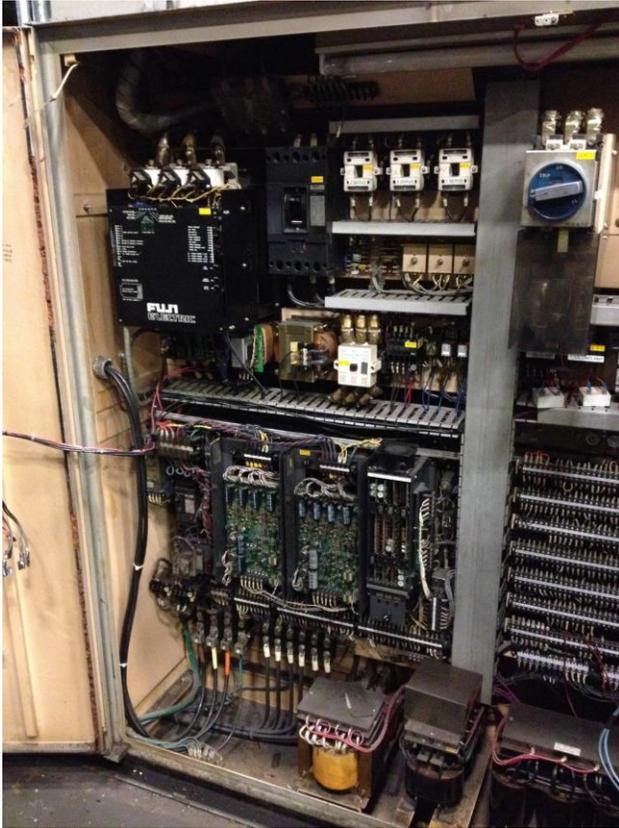
Equipment re-used :

- Main Electrical Enclosure, and some sub-panels
- DC Spindle Motor (25KW), and cabling
- DC Spindle Motor Drive, and input transformer
- various associated relays and power supplies

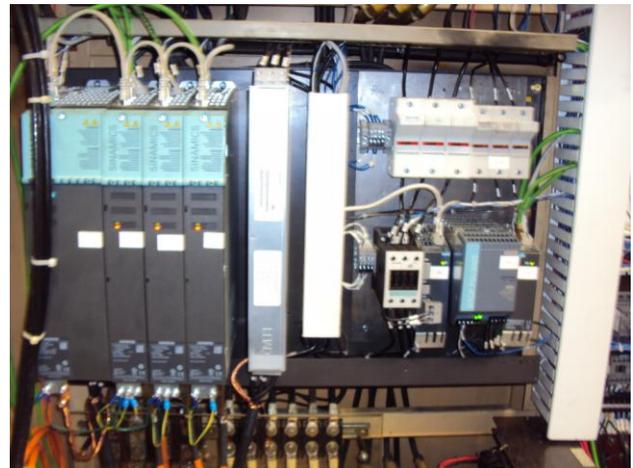
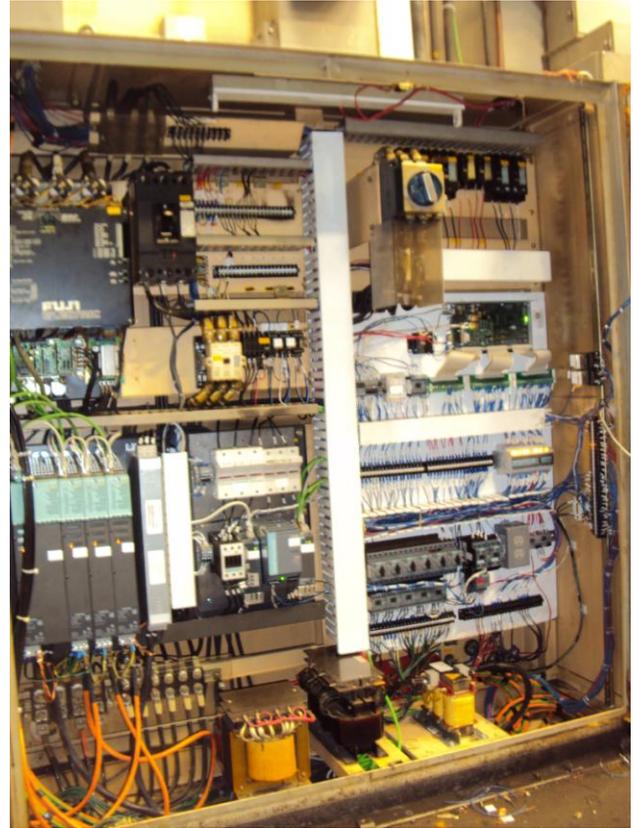
New equipment provided by JF Automation USA :

- Siemens 828D CNC and PLC, optimized for Milling
- Siemens servo motors, for the X,Y,Z, and B (rotary table) axes; with mounted encoders and Drive Clique.
- Siemens S120 modular Servo drives; input line filter and reactor for harmonic noise minimization, and full 4 quadrant operation (with line regeneration).
- Operator Control Panel with a high resolution HMI monitor and associated Pushbutton Panel.
- Fagor Corp. Linear scales for the X Y and Z axis.
- Motor starters, power supplies, cabinet ventilation.

Before upgrade and retrofit :



After upgrade to Siemens CNC :



JF Automation USA Inc. provides Systems Integration, CNC and PLC design, panel building, repair of circuit boards and motors; and on-site contract controls engineering in Buffalo, NY USA; Mississauga, Canada; and Shanghai, China.