



Case Study

Manufacturing Support

Overview

Equipment improvement program for a Tier 2 automotive parts supplier. The goal was to significantly increase the productivity of ten existing rotary bonders for the high volume manufacture of friction discs. The target equipment was originally designed and built by another supplier. Belcan's client inherited the systems in question when they took on the manufacturing of this product for their customer.

Client Information

- Product: Friction discs for automotive clutches
 - Market: Automotive
 - Technology: Indexing rotary dials, thermal and pressure based processes, material handling
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Background Information

Belcan was contacted to implement a program to improve product quality, decrease the scrap rate, and improve the uptime of bonding machines that the client had acquired. This program was required by the client's end customer to reduce the shipment of parts that did not meet specifications.

- Target machine quality metric of 1.4 CpK, which equated to reduction in scrap from 6% to .5%
 - Improvements to the bonding process was needed to reach the target quality goal
 - In order to maintain delivery schedules the machine uptime needed to be improved from 70% to over 90%
 - The client did not have the internal resources available to address problems that were identified in the time frame required
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Belcan Automation Approach

- Belcan representatives met with the client's technical and management team to review the current issues and observe the operations
- The Belcan technical team worked with the client to generate the equipment and process improvement plan of action
- Belcan recommended that equipment be shipped to Belcan's facility in order to efficiently and cost effectively incorporate the needed design changes
- The key process parameters were identified and a plan to develop and test a more robust bonding process was generated
- Belcan would supply in plant assistance to install and start up retro-fitted equipment

Solution

- The Belcan engineering team identified key issues with each system that contributed to the quality and downtime problems
- Material handling systems were analyzed and re-designed to better maintain control of parts as they were transferred from station to station
- A new system for handling defective product was designed to insure that nonconforming parts would not be introduced into the bonding systems
- The assembly systems were refurbished and retooled
- Belcan's engineers conducted optimization tests of the bonding process to identify the settings that yielded the most consistent quality parts
- Belcan worked with the client to plan and execute an efficient means of implementing the changes to the equipment
- The Belcan provided personnel on site to assist with the installation and startup of the equipment that had been retrofitted.

Benefits to Client

- The client was able to meet their goals for uptime and scrap reduction on the target equipment. Working with the Belcan Automation Team, they were able to leverage the experience and capabilities of Belcan to address their immediate needs and meet their customer's expectations in an efficient and timely manner.