First Pass Yield Improvement Creates Dramatic Reduction in Lead Time

Background

The Carlyle Johnson Machine Company is a Bolton, Connecticut manufacturer that designs and builds brakes and clutches for specialty applications. Their products are found in components for airplanes, satellites, surgical robots, military tanks, fire trucks, and more.

For over 100 years, Carlyle Johnson (CJ) has become known as the "go-to" brake and clutch manufacturer for parts used in manufacturing facilities across the nation - such as electric utilities, textile producers, packaging, and mining/drilling companies.

Situation

Carlyle Johnson prides itself on providing the highest quality, most innovative products and services in a global marketplace environment of increasing competition.

In an ongoing effort to defend its market share and improve its manufacturing and support processes, Carlyle Johnson introduced a Continuous Improvement (CI) implementation initiative at the company to harness the talent of its workforce.

Having previously worked with CONNSTEP, Connecticut's representative of the Manufacturing Extension Partnership (MEP), CJ opted to send one of its shop employees to its Continuous Improvement Champion Certification (CICC) program to refresh his CI skills, apply them at the company, and share his knowledge with fellow employees.

Results for Carlyle Johnson Machine:

- Increased Sales: $500K
- Retained Sales: $1.5M
- Cost Savings: $100K
- New Product Investment: $50K

"Following guidance from my CONNSTEP mentor on this CICC project, I was able to lay out problems visually and uncover issues that were normally hidden. In the end, we reached our goal of having an RMA process that reduces the amount of returns coming back. And it freed up some of my time to apply to new projects."

– Simon Bartocci
Manufacturing Engineer
Carlyle Johnson Machine Co., Bolton CT

CONNSTEP
a CBIA affiliate

800.266.6672 | www.connstep.org

A Challenge Affecting the Business

Carlyle Johnson sent manufacturing engineer Simon Bertocci to CONNSTEP's CICC course, where classes are taught using a "Learn It – Do It" approach and a mentored Lean project is conducted at the facility of each attendee. Bertocci saw this as a perfect opportunity to take his newfound skills and apply them to a project that would benefit CJ's Returned Material (RMA) process.

The RMA process at CJ had grown to a lead time of 43 days, which was not only upsetting customers but also perpetuating any errors found through more shipments than necessary.

To improve responsiveness and alleviate customer concerns, CJ set about to reduce the time and money spent on RMA's since they are not paid for them, and establish a more streamlined RMA process to free up capacity for more value-added work.

Results

By applying new skills and techniques from his CICC training, Bertocci thought about what had to happen at every step of the RMA process and worked on reducing the back and forth to minimize steps. He drew out a current state value stream map for shop floor employees as well as a future state spaghetti diagram.

Bertocci then determined root causes to help create new improved flow processes which eliminated rework and resulted in significant cost savings. Internal documentation was streamlined to only capture what was needed and a visual management process was put in place.

Most importantly, total lead time was reduced from over 40 days to five days. In addition, total processing time went from 11.8 hours to 3.4 hours and first pass yield jumped from 10% to 90%.

Metrics

As a result of the mentored Lean project on Returned Material Process, Carlyle Johnson realized the following metrics:

Increased Sales:	$ 500,000
Retained Sales:	$1,500,000
Cost Savings:	$ 100,000
New Product Investment:	$ 50,000

CONNSTEP a CBIA affiliate

PART OF THE MEP National Network™

Connecticut Department of Economic and Community Development

800.266.6672 | www.connstep.org

CONNSTEP, Inc. is a consulting firm strategically helping companies in Connecticut to grow their businesses and improve operational methodologies, leading to increased profitability, improved efficiencies, and creating sustainable competitive advantages in the marketplace.