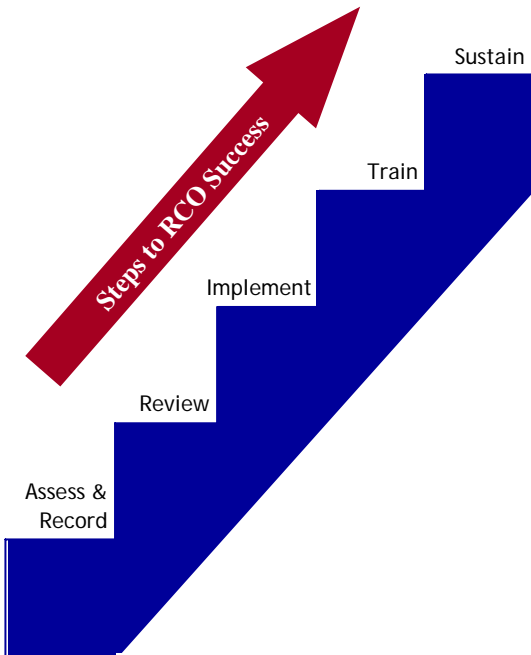


How much is an hour of machine run time worth?

What if you could improve your changeover time by 50% or more?

Are you interested in reducing startup scrap?



The JOA RCO Team consists of:

- ◆ Technicians
- ◆ Engineers
- ◆ Trainers
- ◆ Technical Writers

For More RCO Information, contact:

Dave Dortman
RCO Coordinator
Phone: 920-467-6136
Fax: 920-467-2924
E-mail: dsdortman@joa.com

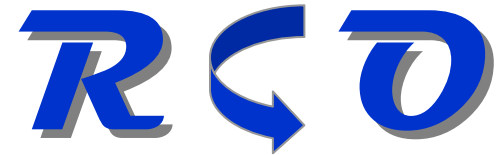


Curt G. Joa, Inc.

100 Crocker Avenue
Sheboygan Falls, WI 53085
www.joa.com

Curt G. Joa, Inc.

Famous the World Over



Rapid Changeover



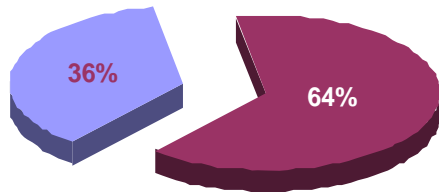
Tel: 920-467-6136

What is the Goal of Rapid Change Over

The Goal of RCO is to improve...

The time between the last good product off the current run and the first good product after startup.

Did you know that 36% of RCO success is achieved by evaluating and retraining employees?



The remaining 64% of the potential success is a result of engineering innovations & design improvements .

How much potential are you missing?

Together we can achieve 100% of your RCO capability!

The RCO Toolbox Includes:

- Evaluation
- Engineering
- Components—new and improved
- Installation
- Operator Training
- Documentation

**Reduced Downtime =
Increased Profits \$**

How Will RCO Benefit Me?

Elimination of extended changeovers

- Improve Safety
- Standardize Procedures
- Reduce Startup Scrap
- Improve Housekeeping

Improved Quality

- Standardized methods to produce changeovers with less trial-and-error and more repeatability.

Increased Capacity

- Changeover time reduction is the most cost-effective way to increase capacity of a machine.
- Capital expenditure is low compared to cost of additional floor space, machinery, or warehousing surplus product.

Manufacturing flexibility

- Smaller lot sizes and shorter runs
- Quick response to customer needs

Elimination of Waste

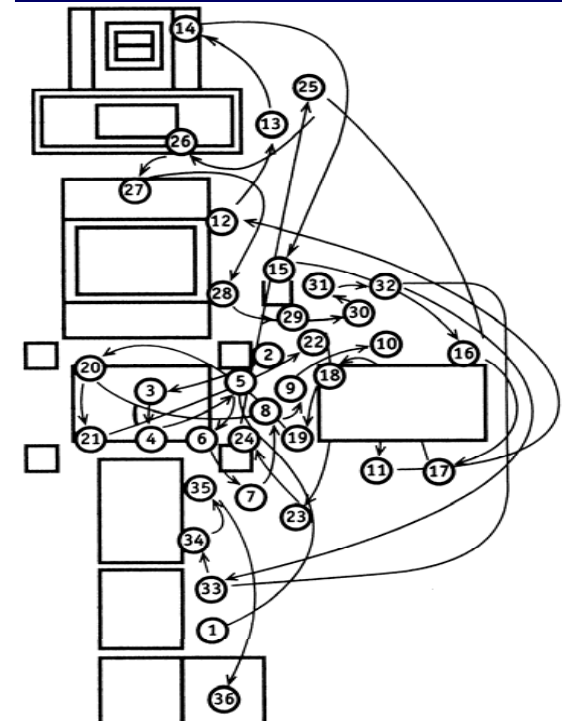
- **Over-production** - Producing more units than customers are demanding (or producing them earlier than the customer orders them).
- **Waiting** - People or products waiting for machines or processes.
- **Transportation** - Moving product from one place to another.
- **Inventory** - Raw materials, work-in-process (WIP), and finished goods in excess of direct customer requirements.
- **Motion** - Any movement of people or machines that does not actually transform product from one state to another.
- **Over-processing** - Performing operations that are unnecessary.
- **Defects** - Creating or passing along products that contain errors in material or processing.

Return on Investment!

What is the RCO Process?

Rapid Changeover (RCO) Steps

1. Assess, document and analyze your current changeover procedure and determine the opportunities of improvement that are possible for your machine(s).
2. Review recommended improvements, including costs to implement, with management, and your shop experts (i.e. supervision, changeover experts, operators, and engineers).
3. Implement and install the improvements and then verify the results.
4. Determine the most productive sequence of changeover steps and document the new procedure.
5. Train all applicable employees in the new changeover procedure.



Is This Your Critical Path?