

## Automotive Mold/Rubber Change Over Times

### Issue

Capacity problems on Type One presses is a key issue, and any improvements will have the greatest impact to the plant. The inability to perform fast, efficient mould changes was impacting on delivery schedules and customer satisfaction.

### Breakthrough Strategy

Measure	The first step was the creation of a Process Map. An FMEA was also performed to measure the effects of each key process input and output variable. Finally, a Gage R&R was performed on the measurement equipment. It was determined that tolerance limits used were too tight, as the process proved to be more robust than originally thought.
Analyze	Brainstorming of problems and solutions occurred. Analysis of Variance on pre-heater capacity resulted in a re-design of the pre-heater.
Improve	The Design of Experiment (DOE) focused on the re-designed pre-heater. Objectives were to establish optimum settings and ascertain heater capability. Controls were then set to achieve optimum settings, and a "recipe" master disk was created for use during mould changing.
Control	Structured training of press operators on mould set-up was initiated. Another step was the simplification of the measurement system. Preventative maintenance will impact mould change times as mechanical/electrical problems disappear.
Results	Mould change time reduced from 3.6 hours to 1.7 hours.
Savings	\$525,000 in sales capacity created