

American Trim: External Process Scheduling Improvement

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Objective: Improve American Trim's sun visor external scheduling and production process.

The Company:

American Trim is a manufacturer of custom metal products for the automotive and heavy trucking industries. Our focus was on the sun visor production process at AmTrim's Sydney, OH plant.

The Problem:

Our project focused on improving the production process of sun visors for Paccar trucks. Specifically, our goal was to improve the scheduling and flow of materials from AmTrim to its two external processors, Staub Manufacturing and Miami Valley Polishing, in order to reduce flow time and the frequency of tardy deliveries.

Sun Visor

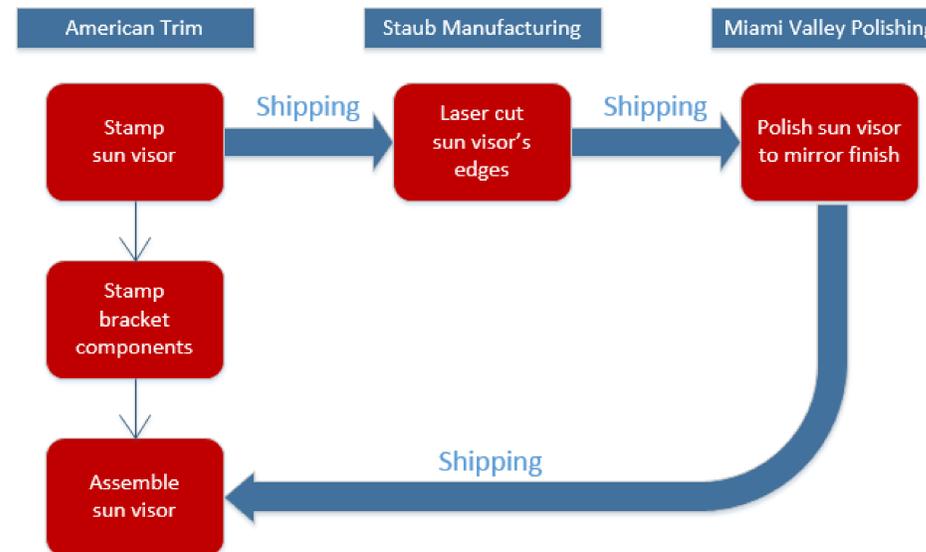


Methodology:

To gain insight into the causes of the problems reported by AmTrim, our team observed operations at all three factories, met with key personnel, and analyzed production data.

From this research, we concluded that AmTrim had three key problems: inaccurate forecasting, inefficient lot sizes, and no system of sharing demand data with its external processes. We then targeted our solutions at these three problems.

Sun Visor Production Process:



Deliverables:

1. Improved Forecasting Model:

AmTrim initially guessed sun visor demand based off of a 12-week overall truck production forecast provided by Paccar. We created an improved model that uses past sun visor demand data to generate a forecast and that optimizes exponential smoothing factors to account for trend, resulting in an improved forecast.

2. Lot Size Optimization Model:

In order to improve the flow of material between each plant and reduce transportation costs, we created a model that generates the most efficient lot size AmTrim should use for any given overall production schedule.

3. Production Schedule Sharing System:

To solve the problem of the outside processes not being provided with sufficient demand data from AmTrim to schedule sun visor processing, we worked with AmTrim to develop an ERP-generated schedule report. This report automatically projects and shares sun visor production to show what Staub and MVP can expect for the next day, week, and month, enabling them to schedule accordingly.

Anticipated Benefits:

- Reduced average forecast error from 69% to 30% (as percentage of sales)
- Improved transparency between all processes
- Reduced flow time
- Improved service level to Paccar

Forecast Error as % of Sales

