USC CONSULTING GROUP™

Empowering. Performance.

Auto parts supplier revs up its production process.

Client:

A leading manufacturer of drivetrain, and braking components for commercial and industrial vehicles.

Challenge:

With sales increasing at 25% per year, and customer demands for faster turnaround times rising, the company was finding it impossible to keep up with these growing demands. Carrying large and costly inventories of WIP and finished goods seemed to be the only way it could compensate for a lack of flexibility in its linear production process. They did their best to deal with these challenges but were constrained by the day to day responsibilities of running the business.

Process:

We began this engagement by working with the client's frontline staff to map their current production processes. Upon reviewing with the entire team we discovered serious production bottlenecks and non-value added activities.

The backlog in manufacturing engineering was 12,000 man-hours, the equivalent of six man-years of work. In preventive maintenance, it was well over 2,700 man-hours and growing. Supervisory staff lacked a well-structured system for visual management and the self-discipline to use it.

Existing engineering teams were unable to support production areas well enough to facilitate quick response to customers' requests for quotations and design changes. Interdepartmental communication was strained, and coordination nonexistent.

The welding area was also a major bottleneck, so we worked with the welders and supervisors to review work space and work flow. Together we prototyped a simplified process aimed at yielding cycle time improvement; three weeks later, the welding area was pulling product faster than the assembly lines could produce it.

Similar prototyping processes were used on the two assembly lines. Working with production teams, we helped improve utilization of the space, and introduced a cellular approach, Kanban techniques, Quality-at-the-Source concepts, and quick changeover methods; thereby eliminating the five-day inventories of WIP. In space once crowded by a sub-assembly area and 20-foot-high stacks of WIP, a state-of-the-art production cell

now stands. Planning methods and discipline in the process flow were strengthened, metrics developed, and control regained.

When we examined the backlog in the engineering areas, it was no surprise that effective systems were lacking. Workloads were so uneven that one individual had been assigned 56% of the backlog while another was given only 0.2%.

Once identified, the non value-added activities were eliminated. We helped the company engineers to design a simple computer-based management system to help plan and complete work on time. By project end, the backlog had dropped 4,200 man-hours, and weekly attainment of plan increased from 44% to 96%.

Much of the backlog was reduced by eliminating non value-added and obsolete tasks and through more efficient execution of the work. The structure of the engineering areas was modified to improve support for production and customer service.

Performance Results:

Engineering Area

- 118% improvement in weekly plan attainment
- 93% improvement in workload distribution
- 29% reduction in PM (man-hours) backlog

Production Area

- 90% reduction in average cycle time
- 80% reduction in WIP inventory
- 56% reduction in physical space requirements
- 74% increase in welding plan attainment
- 72% reduction in mill changeover time

Conclusion:

Our team worked hand-in-hand with company personnel at all levels, in all departments, and on all shifts to make the required organizational, attitudinal and physical changes. Through a visual management system, results were readily available to everyone via weekly progress tracking against established goals. A sense of ownership of the changes was created, and the continuous improvement process, and mindset, continues to prevail throughout the company.