



UGL Unicco Re-engineers Toyo Automotive Parts Maintenance

Toyo Automotive Parts (TAP) is part of Toyo Tire & Rubber Co., Ltd., an international manufacturer and marketer of car tires, industrial rubber and synthetic resin products, soft and rigid polyurethane products, waterproof sheets and anti-vibration rubber for automotive parts.

The Franklin, KY TAP plant specializes in anti-vibration and noise reduction parts, which generally require bonding rubber composites to aluminum and steel components. The process has several steps, including shot blasting metal components, rust abatement, heat curing the adhesive bond, as well as buffing and swaging (reducing the outside dimension) of parts during the finishing process.

The equipment is highly specialized and, as with most industrial equipment, requires effective maintenance to minimize downtime and maintain quality. Most of TAP's equipment is manufactured in Japan and requires Japanese replacement parts.

TAP was having trouble implementing preventive and predictive maintenance procedures and maintaining optimal parts inventory levels using in-house staff. Explained Human Resources Manager David Schroeder, "We were having a lot of difficulty managing not only the maintenance workforce, but also the maintenance work. In a very short period of time, we went through three maintenance supervisors."

Tapping UGL Unicco's Resources

It became clear the maintenance function required more than another in-house supervisor – it required a permanent fix that included professional management and technology, as well as financial and administrative controls. As a result, TAP management decided to explore outsourced service contractors.

UGL Unicco was already successfully providing service to the Toyo Tire plant in White, GA, so TAP management requested UGL Unicco submit a proposal. A contract to provide production and facilities equipment maintenance for the 200,000 sq. ft. plant was awarded to UGL Unicco in September 2007. Now, the company handles all of the maintenance work, including managing warranty work with equipment suppliers and subcontracting projects to specialized service providers. Recently, TAP added a custodial services contract.

In making the transition, UGL Unicco Account Manager Roger Tee sized up the situation and realized that the frontline staff was competent but not well-directed. He kept virtually all of the non-supervisory staff and hired an administrator and a scheduler.

Tee discovered maintenance records were lacking and that some machines had been down for months and were sidelined from the production process. There was no Computerized Maintenance Management System (CMMS) in place and the minimal information that was kept was in Excel spreadsheets. Preventive maintenance was also sub-par and predictive maintenance was non-existent. There was no documentation on equipment history. The spare parts warehouse was also haphazard with frequent out-of-stock situations.

PROJECT SUMMARY

Customer: *Toyo Automotive Parts*

Industry: *Manufacturing rubber/metal bonded products*

Situation: *In-house maintenance operation was not keeping equipment in working order or implementing preventive and predictive programs*

UGL Unicco service: *Production and facilities equipment maintenance*

Results: *Significantly reduced downtime, implemented CMMS, reduced spare parts inventory and offered innovative solutions to maintenance and production issues*

Industry: Auto parts manufacturing

Project Description: Auto parts production and facilities maintenance

Prioritizing the Response

Tee prioritized his team's approach and established a work order management system. "One of our first goals was to get all of the equipment running; second was to build a machine history that could become the basis for advanced maintenance programs; third was to get the spare parts inventory under control; and fourth was to implement a full CMMS that would enable a comprehensive predictive maintenance program."

Within months, equipment reliability was up and equipment histories were being compiled. A Maximo CMMS was installed in early 2008 and phased in over the next few months. Now, work order requests are submitted to the scheduler who then dispatches maintenance personnel, updates the equipment history and manages the spare parts inventory.

"The relationship [between production and maintenance] has vastly improved," said Schroeder. "Maybe the expectations of being a UGL Unicco associate are communicated much better. Now, they are a service organization, as opposed to before when they were all TAP employees, so they recognize production as their internal customer."

In commenting on the improved performance, Tee said, "In addition to all of the systems and procedures we've introduced, we really encourage the guys to try their own ideas. We sit down and brainstorm different ways of doing things. We encourage them to think for themselves and try things to see if they work better."

The result has been employee suggestions and improvements that exceed even the high standards of predictive maintenance. Here are a few examples:

Project	Description	Cost Avoidance
Retrofit pre-heating oven	TAP received a bid of \$44,000 to build a specialized pre-heater to improve curing adhesion for a specific part. Instead, UGL Unicco retrofitted an existing pre-heater, avoiding the cost of a new machine.	Direct TAP cost avoidance - \$44,000.
Rebuild curing press	A curing press required dismantling and rebuilding. A vendor quoted \$12,000 to do the job. UGL Unicco performed the service.	With multiple rebuilds scheduled, annualized savings are projected to be \$64,000.
Upgrade buffers	Frequent breakdowns of older model buffers cost TAP \$150,000 in parts, labor and downtime over a five-month period. UGL Unicco upgraded the machines to match a newer model that was already in the plant.	Project cost avoidance - \$95,000. Projected annual cost avoidance - \$200,000.