AAR Mobility Systems (AAR) is a leading global supplier of rapid deployment equipment and mobile tactical shelters, offering products that enhance military commanders’ ability to mobilize, deploy, maneuver and sustain forces. Products are supported through a network of service centers, field service teams and strategic partners. The three principal product lines are: Internal Airlift/Helicopter Slingable Container Units (ISU® Containers), Rapidly Deployable Mobile Tactical Shelter Systems, and Air Cargo Pallets and Palletized Systems. In addition to standard products, AAR specializes in mission-tailored configurations, custom integration, and modification and re-fit of mobile shelter systems and also provides structural analysis and design engineering capabilities.

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AAR and the MMTC-NW office at Northwestern Michigan College, in the Grand Traverse Area, have shared a long history of collaboration. When AAR Management wanted to administer an employee survey to determine they types of training that would help employees do a quality job, they knew who to contact. The top three indicators from the survey were in welding, blueprint reading and lean manufacturing. Armed with this knowledge and assistance from MMTC-NW that helped secure funding support from an Economic Development Job Training (EDJT) grant, AAR began training in these key areas.

Aluminum welding is one of the core processes for AAR. Structural integrity of products is vital and without proper welding techniques, there can be failures in the field that result in damage to the units or even bodily injury to workers. The welding training factored in these potential issues and several different classes were held. Both basic and advanced classes were offered to help educate the engineers and quality department on the proper design and inspection of welds. Throughout the training, AAR began to see the number of non-conformances drop internally. AAR now has a continuous improvement team to focus on welding so that it remains a focal point of the organization.

In the area of blueprint reading, AAR acknowledged that as a job shop-type production facility, most of their work orders were build-to-print orders. Employees, working from a blueprint, pull parts from a cart and assemble products. The products are complicated and include several thousand parts, and the complexity applies to the blueprints as well. Some print packages can be over 100 different prints to compile one product. Several blueprint reading classes were scheduled for both the regularly hourly workforce and specifically targeted new hires. Pre- and post- assessments were administered, and the scores increased on average by 40%.

“In today’s economy, companies are struggling to save every penny. In a last-ditch effort and usually with poor results, many try implementing Lean Manufacturing as their saving grace to bring them out of the red,” said Nate Muellenberg, training coordinator for AAR. “We’re currently fortunate enough to be a profitable company as we begin our Lean Journey. In Lean Manufacturing, the stepping stone to becoming a world-class company is education and creating a learning environment. We knew this would be a big focus with the training grant.”

Every AAR employee spent several hours learning about lean manufacturing and the tools associated with implementation. Among the many tools available, time was spent on 5S: Sort, Straighten, Shine, Standardize and Sustain, Line Balancing, and inventory reduction. As a direct result of training, AAR was able to reduce labor costs by 5% on one product line and reduce inventory by 20% on the container line. AAR has reduced work-in-process on the floor thus creating more manufacturing floor space; increased on-time delivery from 86 percent the previous year to nearly 95 percent or a 9% improvement; and empowered its workforce to become ‘problem solvers.’ “The education on Lean practices and tools is just starting to be reflected in our business, Nate said, “It is definitely time well spent and our efforts will reap rewards as we continue to implement improvements.”