



MAKING THE CASE FOR

Implementing the CarryMore® Material Delivery System: Mitsubishi Electric Automotive America, Inc



Utilizing appropriate tugger carts and other material handling solutions for specific jobs, tasks, and movements within your facility enhances efficiency, productivity, and cost-effectiveness.



OPTIMIZE MATERIAL MOVEMENT

MITSUBISHI ELECTRIC AUTOMOTIVE AMERICA, INC. (MEAA)

is a leading manufacturer and supplier of powertrain, body and chassis products, and in-vehicle entertainment and navigation systems. The company operates a manufacturing plant in Mason, Ohio, producing starter motors and alternator assemblies for the light-duty automotive industry. In 2020, MEAA embarked on a project to implement a tugger cart material delivery method in their alternator production process to improve safety, quality, and productivity, and reduce costs.

PROJECT OBJECTIVES:

The project aimed to enhance associate safety in production areas by reducing or eliminating forklift deliveries. The company also aimed to control inventory stored in production and manufacturing areas to ensure quality. Additionally, the company aimed to improve material handler productivity by delivering many items at one time on a scheduled route. Finally, the project aimed to reduce costs associated with inventory loss and improve material handler productivity.

PROJECT TIMELINE:

The project started in October 2020 with benchmarking, a vendor survey, and the creation of a budget and project team members. The kick-off was in March of 2021, and after trials and planning, the order was placed with Jtec. Final route testing and new standard operating procedures were created, and implementation started in early 2022. Additional daughter carts were ordered in June 2022, and full adoption was in process and running in July 2022.

VENDOR SELECTION:

MEAA interviewed five potential suppliers, and only two had systems that met their requirements. They chose Jtec because they offered an off-the-shelf solution with a short lead time. Jtec's system had excellent turning and quad steering for tight spaces, which made it the best option for MEAA.

**"This was one of the major
breakthrough projects for this location.
Jtec offered that off-the-shelf solution
to help solve our problems. "**

– Jonathon Jones, Manager of Industrial Engineering

QUANTIFIABLE STATS/IMPROVEMENTS:

The project has resulted in several quantifiable stats and improvements, including:

1. ROI:

The project's ROI was less than 24 months.

2. PRODUCTIVITY IMPROVEMENT:

The project has resulted in a PPH increase for the assembly line. The exact impact is still under study, but many factors impact assembly line productivity.

3. LABOR COSTS SAVED:

MEAA has reduced labor costs due to unnecessary motion eliminated by Jtec's CarryMore® Train. Forklift drivers have reduced overtime by workload balancing due to production deliveries handled by the CarryMore Train. Additionally, there has been a

reduction in walk time for each associate due to product deliveries closer to the point of use. There is also a reduced end-of-shift downtime (5-10 min/shift) due to CarryMore® train handling recycling during the shift. The use of CarryMore Kit carts has also reduced the handling of small parts.

4. EMPLOYEE MORALE:

The project has made work less stressful for associates due to reduced walking, eliminating pallet jacks, and looking for the next pallet needed.

5. IMPACT ON OTHER AREAS OF THE FACILITY

The project has allowed forklift drivers to focus on inbound trucks and material put away.

6. GREEN ECO IMPROVEMENTS:

MEAA has switched from using forklifts with acid batteries to using tuggers with non-acid batteries. Although the exact green benefits are unknown, MEAA should see a reduction in battery use and recharging. There are likely other green eco improvements that the company has not yet identified.

7. UNEXPECTED/UNINTENDED BENEFITS:

The project has created opportunities for new positions and developing associates' problem-solving and lean mindsets. Additionally, associates now have time to spend on kaizen activities. The company has also developed some best practice for issue documentation and tracking.

8. REDUCTION IN INVENTORY LOSS:

By implementing the CarryMore® Train Material Delivery method, the inventory stored in production and manufacturing areas can be better controlled, reducing the likelihood of loss or damage to materials. This leads to cost savings and improved efficiency in the supply chain.



"With this project, we hit all of the KPI's; improvements in efficiency, quality, safety, and employee morale."

- Zaheer Islam, Sr.
Industrial Engineer



SAFETY:

The improvements achieved through the implementation of the CarryMore® Material Delivery system.

1. REDUCED FORKLIFT ACTIVITY:

One of the main safety goals of this project was to reduce or eliminate the need for forklifts in the production area during active operations. By doing so, the risk of forklift-related accidents and injuries was significantly reduced. Forklifts are heavy equipment that can cause serious harm to operators and other employees if not operated properly or if they collide with other objects or people in the production area. With the CarryMore® Train method, the need for forklifts to deliver materials to the production area was greatly reduced, resulting in a safer working environment.

2. ELIMINATED WALKING TIME:

The use of the CarryMore® Train method also eliminated the need for employees to walk long distances to retrieve materials from storage areas. With the materials delivered directly to the point of use, employees no longer walk back and forth carrying heavy or bulky items, reducing the risk of slips, trips, and falls, as well as other musculoskeletal injuries.

3. ELIMINATED PALLET JACKS:

Pallet jacks are another piece of equipment that can pose a safety risk in the production area. They require employees to push or pull heavy loads, which can cause strains and sprains. With the CarryMore® Train method, pallet jacks were eliminated, reducing the risk of injuries related to their use.

CONCLUSION:

By partnering with Jtec Industries, MEAA was able to find an off-the-shelf standard solution that met their requirements of the project delivering numerous quantifiable improvements, including increased productivity, safety, labor cost savings, and improved employee morale.

Overall, the project was a success and may serve as a model for future improvement initiatives within the company. MEAA is now considering implementing more Jtec systems in this facility and other facilities, including global facilities. By continuously improving safety, quality, productivity, and cost efficiency, MEAA is positioning itself for continued success in the highly competitive automotive industry.

