

Case Study



Automatic Transport with Compact Tugger AGVs Delivers Manufacturing Productivity

AER Manufacturing – Dallas, Texas

AER Manufacturing in Dallas, Texas is an auto engine manufacturer that builds OEM replacement motors for many major automobile manufacturers in the U.S. such as Ford, GM, and Nissan as well as for their own product line. AER builds all components and completes final assembly of the motors. In their facility for final assembly and shipping, AER replaced an aging AGV system with Dematic Compact Tuggers.



Dematic AGVs at AER Manufacturing automatically transport and deliver engines from production areas to shipping.

The Challenges

For about 20 years, AER used a tugger transport system in their final assembly and shipping facility.

Near the end of its life, the high cost of proprietary parts and the requirement of workers to manually move the vehicles throughout the facility began to take a toll.

AER was facing lost profitability from increased downtime and increased labor costs with less productive time spent on assembly.

A search ensued for replacement AGVs and Dematic Compact Tugger units were selected to replace the outdated system.

Our Solution

Hands-off AGVs

The Dematic AGVs require less labor — operators don't have to leave the production lines to manually drive vehicles down long hallways.

Operators use call buttons to request an AGV to pick up engines or transport them to shipping.

Because the AGVs automatically charge when they're awaiting new transport requests, operators don't waste time changing batteries.

Production has increased and labor is now being used more effectively where it should be.

Exceptional Safety

Dematic complies with the ANSI B56.5-2012 and EN safety standards and requirements for all offered models/series of AGVs. Installation of the Compact Tuggers at AER has improved awareness of automation in the facility, considerably increasing safety for personnel while reducing product and equipment damage.



The batteries in the Compact Tuggers automatically charge between new transport requests, so operators don't waste time having to change batteries.



The Compact Tuggers at AER use laser navigation to move throughout the facility, increasing safety for personnel while reducing product and equipment damage.

Off-the-Shelf Components

Dematic AGVs use off-the-shelf components, which enables AER to get replacement parts quickly and at a lower relative cost compared to proprietary parts.

Standard parts reduce costs and increase reliability while minimizing the time the AGVs need to be in maintenance waiting to be serviced.

The Results

Delivery took place four months after the project began. A hands-off installation process completed in only four days, with the Dematic customer service team beginning immediately after to make the transition complete.

Production at AER has gone from a low of 100 engines a day up to 220 engines a day.

AER expects the system will enable production of up to 300 engines a day because operators no longer need to manually move vehicles between workstations.

Because of the decrease in parts costs and better use of employees, AER anticipates the ROI will be approximately 18 months.

Key Facts

→ Rated Capacity	10,000 lbs/4535 kg
→ Overall Height	47.64 in/1210 mm
→ Overall Length (less hitch)	58.5 in/1486 mm
→ Overall Width	32 in/813 mm
→ Forward Speed	200 fpm/1.02 mps
→ Type of Drive Control	Automatic AC
→ Grade	± 2%
→ Operating Temp.	32°–104°F / 0°–40°C
→ Humidity, Non-condensing	0–95%

