New Product Application Information

**CREFORM AGV TUGGER WITH SHELVES PROVIDES ABILITY TO TOW CARTS FOR ADDED CAPACITY AND CAPABILITY**

*Simple and low cost system tows carts throughout warehouse and production area*

A west coast manufacturer of door hardware was looking for ways to improve on its material handling operation within its multi-shift operation. They looked to Creform and its engineers to ‘open the door’ for answers. Enter a system consisting of three Creform AGV Tuggers and carts along with battery storage carts and re-charging stations. The tuggers, each with shelves, provide the ability to handle product from the warehouse through production and on to the shipping area.

The Creform AGV Tugger, designed to handle the rigors of industrial towing, is constructed with a heavy-duty steel base and a top structure of 28 mm Creform pipe and metal joint components for light weight and flexibility. Two of the structures were built with marine blue pipe and one with high visibility yellow.

Along with its heavy-duty steel frame, each tugger features a hitch receiver to tow a cart. The hitch is mounted to a plate that bolts directly to the steel frame. The frame is designed to allow the units to be easily and safely lifted with a forklift for maintenance.

The AGV tuggers feature standard equipment to ensure safe operation such as an audible warning device that plays one of various selectable tunes. The front of the AGV is protected by a non-contact obstacle sensor. This detection device features an adjustable shape and range zone. Extra protection is provided up front with a mechanical safety bumper. In addition, a large red button is included on the AGV’s control panel as an E-stop.

The AGV Tuggers feature a convenient handle that allows for manual movement. By raising the spring loaded drive wheel off the floor with the convenient foot pedal, the...
AGV can be moved around as easily as any manual Creform cart. For this manufacturer, several options were added to the system: Three-course selector is used to choose one of three routes for the AGVs; a route selector switch and an extra sensor to read unique command tapes for route guidance; an extra sensor for an additional obstacle sensor view and a custom floor sweeper to push debris from in front of the AGV.

The Creform AGV Tuggers in this application are single directional vehicles with dual drive wheels. They carry a capacity of 750 lb. (340 kg), with a minimum turning radius of 32 in. (800 mm).

Each Tugger employs a 24 volt system, powered by two 12V AGM batteries. The batteries are carried in boxes on a tray. The tray is supported by rollers and allows for the batteries to be transferred without lifting. It is only necessary to roll them on low-friction Creform rollers from the AGV to the battery transfer cart to the charging station and vice versa. Typically these batteries are charged or changed between shifts.

As with all Creform AGV systems, the Tuggers follow a peel and stick magnetic tape guidepath that is easily and quickly installed and changed. In this application, the guidepath was covered with high-durability cover tape for added protection. The AGV commands are initiated by small pieces of magnetic tape placed adjacent to the guidepath. No programming is necessary. Other options for Creform AGV Tuggers include: RF or infrared communication, RFID tags, opportunity battery charging, traffic control and laser scanner obstacle sensor.

The Creform System is used to create an array of material handling and efficiency enhancing devices and is a proven component in continuous improvement and Lean Manufacturing programs. The company partners with customers in developing and implementing these programs.

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Caption CRE-537: Creform AGV Tugger with shelves pulling cart for added capacity and flexibility.