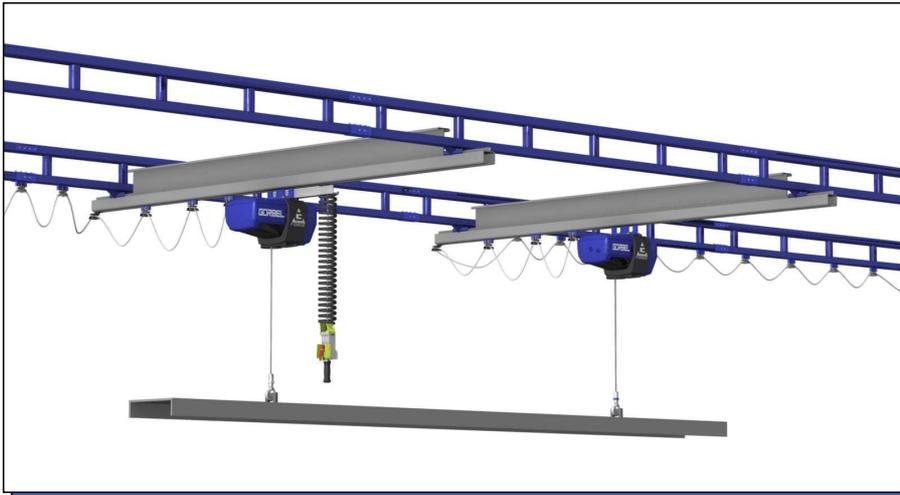


# G-FORCE® IN ACTION: Synchronized Lifting

## TWIN UNITS LIFT LONG LOADS SAFELY WITH SINGLE POINT OF CONTROL



**Industry** Electrical Supplies

**SIC** 3699

**Application**  
Loading/unloading cable trays

**Solution**  
2 G-Force® iQ Units with  
G-Sync Technology

**Results** • Eliminated injury  
• Reduced damage

### Application: Moving Trays To Shipping Carts

Manufacturer Thomas & Betts builds aluminum and steel cable trays in its Edmonton facility. In this work cell, workers are doing their final welds on the trays, then lifting them onto a cart to be banded and prepared for shipping.

The trays resemble aluminum extension ladders when complete, and range in dimension from 6-36 inches wide, and 10-20 feet long, each weighing between 50-130 pounds.

### Ergonomic Assessment: Lifting Wearing Workers Down

The cable trays are long and quite difficult for one person to lift. Workers had been lifting the trays by hand, and were complaining about fatigue.

“They are so awkward to pick up,” said Ken Conrad, Coordinator of Maintenance at the Edmonton facility. “The way you have to bend and lift the tray puts a lot of strain on your back. If you kept the same person on that job all day, by the end of the shift they were really hurting.”

These work practices created potentially harmful situations:

#### Risk of Injury

The manufacturer was primarily concerned with worker injuries. With 4-5 lost time injuries per year, they decided to improve the work process before more injuries occurred.

#### Product Damage

Worker fatigue created high risk for poor placement or dropped goods, a potentially costly problem when handling a finished product.

#### Lost Productivity

Productivity was decreasing, especially toward the end of shifts when worker fatigue was setting in. The safest way to lift these parts manually was with two workers, which was not very efficient.

“Our company is big on safety,” said Conrad. “The product damage and productivity were important, but those are secondary concerns compared to the safety of the people handling the products.”

*“In this line of work, if your back isn’t working, you aren’t working. Thanks to the G-Force®, that’s not a problem any more.”*

### G-Sync™ Technology: Two-Point Synchronized Lifting, Single Point of Control

To lift the long trays safely with the most control, the company was looking for a way to lift both ends of the tray in one synchronized motion.

The solution was a Gorbelt work station crane with two G-Force® iQ units that were operated through one remote mount pendant handle.

This G-Sync™ Technology consists of two G-Force® iQ actuators that are mounted on separate bridges and connected through a communication cable that runs within the enclosed tube of the work station crane's runway. The two actuators communicate back and forth, ensuring that they are perfectly in sync throughout the lift cycle. The operator maintains total control of both units through one pendant handle, which is connected to the "master" unit.

The bridges move independently along the runways to allow trays of all sizes to be moved. A buffer was placed between the bridges to prevent them from getting too close.

## Fatigue Reduced, Injuries Eliminated

Workers were initially hesitant to use the Gorbel system, but it quickly proved to be a reliable way to move the trays without risking injury. "They use it every time now," said Conrad. "It's not difficult to use, it just became automatic for them."

Since installing the Gorbel system, the company