

# Industrial Automation System

## Building Customer Relationships in Industrial Automation Systems



Fixture used to tilt evaporation coils showing SPA6415 Linear Actuator

### CUSTOMER CHALLENGE

Trane Heating and Air of Columbia, South Carolina was having issues with their production line which manufactures evaporation coils. Specifically their brazing process was providing inconsistent output quality.

### SOLUTION

Trane called in their Automation Systems supplier, ABCO Automation, to review their manufacturing process and figure out how to resolve the issues with the brazing process. ABCO realized that reorienting the coils prior to brazing would improve worker access, brazing efficiency and potentially finished part quality.

ABCO's solution was to create a work-piece fixture to hold the coils incorporating several Duff-Norton actuators, which were mechanically linked to clamp the coils for processing, and then utilize a Duff-Norton linear actuator to rotate the fixture for proper brazing.

Initially the new work-piece fixture seemed to work well, until after several weeks when the linear actuators, which rotate the work-piece fixture, began to fail. Trane made calls to both ABCO and Duff-Norton in order to find a solution.

Analysis by Duff-Norton determined the linear actuators had been overloaded in torsion during the rotate cycle. As evidenced by deformed thrust washers. Duff-Norton responded quickly by not only supplying replacement parts and repairs but also stepping in to discover the root cause of the issue and ultimately solved the problem, which was the fixture travel length. The solution was further confirmed by extensive production system testing.

"Duff-Norton doesn't shy away from a problem", said District Sales Manager, Bruce Crowder. Adding that, "not only do we provide a great product but also true customer service that stands behind the products we produce."



Direction of shear/fracture and deformed washer indicate compression force.



Distorted Flat Washer formed to the shape of the Acme Nut.

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Duff-Norton Products:  
B9250 Screw Jacks  
SPA6415-18 Linear Actuators



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*Loading station. Coil is loaded from the right, then rotated to a vertical position.*

## DUFF-NORTON ADVANTAGE

- Responding quickly as an integrated collaborator, between the system provider and the end user providing a timely root cause analysis and automation system correction
- Providing proven robust reliable solutions across a long service life.
- Meeting today's personnel environment requirements for low noise solutions.
- Eliminating the need for hydraulic systems that could potentially impact the production environment, and finished product.

## CONCLUSION

"The level of service we provide involves more than just one person", said Bruce. "From the initial sale, to installation, to discovering a problem, to providing a solution; including sales, engineering, customer support, and production, Duff-Norton's superior customer service is extended throughout."

***Duff-Norton Building Customer Relationships That Last!***