THE ERGO TRANZ LIFTS AND TRANSPORTS THE AEROSPACE INDUSTRY FORWARD

February -2018

Manually lifting and carrying a heavy, awkwardly weighted object is a challenging and laborious task. Performing that task repeatedly, while simultaneously affixing the object to a mounting plate, being cautious to maintain its balance and position in the process, makes the task unsafe and inefficient.

THE CHALLENGE

A major Illinois-based aerospace fuel pump manufacturer contacted Ergotronix to provide an ergonomic lift and transportation solution that alleviated the heavy stress and strain on the technicians who perform quality testing on their aircraft fuel pumps.

APPLICATION SCENARIO

Previously, the fuel pump testing technician would detach and lift the 40-pound fuel pump from its shipping pallet and carry it to the first testing station approximately 15 feet away. Then, while holding the unit in midair the technician would manually affix the fuel pump to the first testing unit fixture and run the initial diagnostic test.

Upon completion of the initial test, the fuel pump was manually removed from the first testing station fixture and carried to a second testing station approximately three feet away. Again, the fuel pump was manually held by the testing technician while being affixed to the second testing station fixture. Once the fuel pump was secured, the second set of diagnostics would be run. As soon as these rounds of quality tests were completed, the technician would manually hold the fuel pump while simultaneously removing if from the testing fixture, then carry it back to the original shipping pallet and re-affix it to the pallet for additional later analysis.

During this repeated process, the fuel pump was also open to potential damage as the technician manually carried the heavy, awkward fuel pump between testing stations and then back to the shipping pallet.

THE ERGONOMIC SOLUTION

This challenge was solved through the implementation of the Ergo Tranz lift/transporter into the fuel pump testing process.

The Ergo Tranz model 450F was selected as the optimal unit for this application, as this unit is capable of holding up to 450 pounds of load, and offers a sturdy mast and base structure for the fuel pump to be lifted and transported safely between testing cells. This unit is also capable of navigating through narrow factory floor isles and tight corner spaces. Once the testing station measurements were complete, and the Ergo Tranz was built to fit within the confines of the factory isles, the Ergo Tranz unit was outfitted with a traditional boom and hook attachment, and a safety tie strap, to ensure the fuel pump would be kept steady and balanced on the Ergo Tranz unit during transport.

Within a few days after the installation of the first unit, the fuel pump testing technician confirmed that the Ergo Tranz unit completely eliminated the need for the heavy manual lifting and carrying process from the shipping pallet and between each testing station.

In the two years that followed the initial introduction of the Ergo Tranz, more than 10 additional units have been brought in to alleviate similar ergonomic and health related concerns. By utilizing the Ergo Tranz to lift and move fuel pumps between testing stations, Ergotronix helped eliminate the health and safety concerns of repeated back strain as well as the need to hold 40 pounds at full arm extension.

Additionally, the Ergo Tranz units have enhanced the quality control of the department, as fuel pumps are no longer open to accidental bumping or knocking against other items while transitioning between test stations. The implementation of the Ergo Tranz has been viewed with overwhelming success at this facility.

ROBUST YET DELICATE GLASS CUTTERS PROVE NO MATCH FOR THE ERGO TRANZ

October-2018

THE CHALLENGE

Thermo Fisher Scientific in New Hampshire asked Ergotronix to come up with an ergonomic lift assist solution to retrieve, and install glass cutter tooling magazines into the bed of a Glass Slide Cutting Machine. The machine produces microscopic glass slides and covers. The company challenged Ergotronix to devise a method that would eliminate 100% lifting currently associated with the manual handling of the cutter slides.

APPLICATION SCENARIO

Previously, two operators had been injured using the current two-person lift method to manually retrieve the heavy and bulky cutting tools from the storage drawer, then walk them over and place them into the Glass Cutting machine bed by hand. During this operation the employees incurred excessive physical strain and physical injury. These special tools are extremely expensive diamond impregnated, precision set and calibrated cutters for their glass cutting operations. The precision cutters can be easily knocked out of alignment, or be seriously damaged, by even the slightest bang or knock during handling and installation.

Thermo Fisher Scientific insisted that, a safer and foolproof method by devised to handle these cutters, without sacrificing production time or allocated capital expenditure budget.

THE ERGONOMIC SOLUTION

To tackle this challenge, Ergotronix designed and built a custom Ergo Tranz compact lift/transporter, with a precision retractable boom/hoist style end-effector. The boom/hoist featured featured precision bearings between the inner and outer telescoping sections for easy positioning and retrieval of the cutter tools from the storage drawers.

Today, one operator moves the Ergo Tranz up to the applicable cutter drawer storage shelf. By hand pendant control, the operator is positioning to correct height while engaging the end hooks to the selected cutter tool. Once secured in place, the operator transports the cutter tool to the machine bed for installation. At location, the operator locks the Ergo Tranz in place, walks to the front of the boom/hoist and with ease positions the cutter tool to the predetermined installation height. By just one hand the operator extends the boom as he gently lowers the cutter tool into the machine bed. Once the cutter tool is securely in place, the operator removes the end hooks and returns the Ergo Tranz to its parking space.

Thermo Fisther Ergo Tranz with adjustable boom tool

The Thermo Fisher operators are very pleased with the ergonomic improvement gained by the utilization of the Ergo Tranz. They have also been very pleased with the ease of use, as well as reliability of the equipment.