

# Hydraulic Clamping for Welding Fixtures

## Faster Clamping • Accurate Positioning

**M**any production-welding operators envy the productivity of their counterparts in the machining industry. How can welders enjoy the same efficiencies and output while maintaining their reputation for quality finished goods?

Precision hydraulic clamping has proven itself an indispensable tool in CNC milling, drilling and boring environments. Parts manufacturers produce thousands of parts every day at unthinkable speeds, with customer satisfying precision and effective cost control. The engineers at Vickers Engineering in New Troy, MI solved the challenge by applying their expertise with hydraulic fixtures to a welding application achieving terrific results.

### The Challenge

Vickers Engineering contracted to produce and assemble a ramp system used in a side load van that serves persons with disabilities. They produce a telescoping trolley and ramp system that can extend to the curb from a double-parked position and is part of the vehicle frame. This unique assembly, supported by the vehicle frame and curb, makes passenger load/unload safer and easier.

Holding and positioning a 220-pound assembly, that rotates 360°, requires precise and accurate clamping. Jeff Vickers, Vice President of Engineering at Vickers, added "there are 20 blanked and press braked elements that must also be welded to the finished work piece."

### That's a lot of clamping to do!

Not only do you want to hold the parts securely; you want accurate repeatable positioning, and you want it done quickly. Manual clamping is not the best option in this circumstance. Vickers chose to use the reliability of Vektek hydraulic clamping.

Jeff Vickers, Vice President of Engineering at Vickers Engineering, cited continuous improvement processes at Vickers inspired engineers to convert many of the hand clamps you see in our photo to power clamping.

### Go With What You Know

Mr. Vickers commented that "we are very happy with Vektek. We've got dozens and dozens of tombstones with Vektek hydraulic clamping on them and we have 10 new tombstones with nothing but Vektek clamping."

Accustomed to the productivity of hydraulic clamping in their machining operation, it was a natural fit to build them into a welding fixture. The result of their efforts is a Trunion Drive System allowing full robotic access with major parts held in position by Vektek hydraulic clamping.

Historically, welders have avoided the use of hydraulic fixtures over fire safety concerns. Vickers answers this concern with a non-flammable hydraulic fluid. The extremely precise and repeatable positioning of hydraulic clamping in welding applications brings confidence that automated systems can run smoothly, weld without distortion and meet customer turn-around and quality requirements.



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