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feature

## Modular fixturing brings benefits to John G. Wilson

by Jerry Cook

Employing modular fixturing systems has improved productivity and reduced costs for welding operations for a large program at John G. Wilson Machine Ltd., Princeton, ON ([jgwilson.on.ca](http://jgwilson.on.ca)).

"We were awarded a substantial package (of work) from a customer that involved very low volume builds of parts but the (overall) scale of the program was very large. We talked about what our best ideas would be for fixturing and (one option we considered) was modular fixturing," says Tom Wilson, engineering manager with John G. Wilson.

John G. Wilson, which began operations in 1953, has approximately 90 employees at its 105,000 sq. ft. facility. The company is a job shop that does production machining and fabricating for a variety of customers in various markets. For example, some of the products that the firm manufactures include strapping dispensers for material handling applications; components for plastic injection molding machines; parts and components for lift trucks; and more.

The firm provides an extensive array of services including CNC machining, CNC turning, laser processing, metal fabrication, production welding, and metal spinning. In general, the firm's part runs range from one-offs and prototypes up to 1,000 pieces. On the fabricating side, John G. Wilson is typically working with material thicknesses ranging from 22 ga up to 1 in. The company's sales are split 60%-40% between domestic and export sales respectively.

According to Wilson, building dedicated fixturing for the new program of work wasn't feasible. "We could have built dedicated fixtures but they would have cost thousands and thousands of dollars. The program involved a dozen different families of parts and it would have been very expensive."

As a result, the company began evaluating various modular fixturing systems before selecting two Demmeler D-28 modular fixturing systems from Bluco Corp., Aurora, IL ([bluco.com](http://bluco.com)). "We had some familiarity with Bluco modular fixturing from other local companies who were using their modular systems," says Wilson.

The D-28 modular fixturing system tables that John

G. Wilson purchased are 1200 x 1200mm (4 ft. x 4 ft.) and feature 28mm (1 1/8 in.) bores on 100mm (4 in.) spacing. The fixturing systems are ideal for heavier industrial grade weldments and offer over 125 standard components. Tables can be joined together for larger parts.

According to Wilson, the Bluco modular fixturing systems have provided a variety of benefits for the firm. "The Bluco systems were a good investment to cover all the work that was involved with this program without having to make dedicated fixturing."

revised these parts three times since we started the program which would have required retooling and modifying the fixtures each time. Using the Bluco fixtures has meant huge savings in terms of accommodating design changes. That has been a major benefit to us."

Henry also singles out improvements in dimensional tolerancing that the Bluco modular fixturing systems have provided John G. Wilson. "Every part that goes onto the Bluco fixturing table comes out right. If the setup is right and it has been qualified, it doesn't matter

which operator puts the parts in the fixturing, they are always the same. Sometimes with fixture building, one of your biggest problems is that each operator can load the fixture a little differently and suddenly parts start shifting and not every part is coming out the same. There is a big benefit in terms of repeatability with the Bluco modular fixturing systems."

Since installing the modular fixturing systems, John G. Wilson has also taken advantage of Bluco's in-house engineering and CAD support that it offers to customers as an option. "Bluco offers support in the design and layout of the system for a new job. For a small fee, Bluco will layout the table and fixturing for a new job. The technical support that Bluco offers in terms of helping to lay out the fixtures and lay out the structure to make the parts has been fantastic. Such things as on-line net meetings

(have been critical) in allowing us to build the structure for this project at a very low cost. This has been a huge cost saving for us," says Wilson."

Bluco's engineering and CAD support for the modular fixturing systems has also resulted in a reduction in lead times, he adds. "In some instances, it can take weeks to build a dedicated fixture. Instead, I will have a program within a week from Bluco including estimates for costs of tooling and I can issue a purchase order and be up and running in days."

Both Wilson and Henry feel that the Demmeler modular fixturing systems are meeting the company's expectations in terms of performance.



The modular fixturing system shown here has provided various benefits at John G. Wilson including improvements in productivity.

However, building dedicated fixturing for the major product families was only part of the problem, points out Reg Henry, CNC/tooling manager with John G. Wilson. "Not only would we have had to make dedicated fixtures for each of the dozen product families but because of the way these components were we would have had to build fixturing to do sub-weldments to put into weldments. With the Bluco systems we were able to combine everything into one weldment. The Bluco systems have increased productivity."

Another benefit of using the Bluco fixturing systems is that part design modifications can be accommodated much more easily, adds Wilson. "We have probably