BLUCO™
Make it Better.

CASE STUDY
FAIRBANKS MORSE ENGINE

Company profile:

Fairbanks Morse Engine

Beloit, Wisconsin

500 employees

Marine power & propulsion

Challenges:

Robotic welding cell with too much idle time

Fabrication based on tribal knowledge

Sub assemblies out of square

Bluco modular solution:

Floor Rail System

Five 3D Welding Tables

Customized Component Kit

Custom Templates

"What challenge were we facing? The better question is what weren't we facing."

- Steve Hill, Robotics Engineer

On paper, it should have been smooth sailing...

When Fairbanks Morse installed a robotic welding cell at their Beloit, Wisconsin headquarters, the goal was to increase output of the massive marine propulsion systems they manufacture. So when Robotics Engineer Steve Hill found that productivity at the 125 year old company had plateaued, he needed to identify the challenges that were throttling their automation speed.

THE KEY TO SUCCESSFUL AUTOMATION IS MODULAR

"What challenges were we facing,?" muses Steve. "I think the better question to ask is what *weren't* we facing? We have a very diverse mix of parts. Repeatability and process standardization were huge challenges, because many of our fabrication methods are based on tribal knowledge. We also had a lot of outdated prints and fabrication methodologies." The net effect was a robotic welding cell starving for work while waiting for sub assemblies to be tack welded, and for larger weldments to be fixtured up.

The answer, Steve knew, had to be modular. He had used Bluco modular fixturing at a previous facility, so he knew it was perfectly suited. "Bluco is synonymous with modular. Plus, I knew there would be engineering support with it, so it was a no-brainer." *(Continued)*

The new Bluco solution was assembled with the help of Bluco engineers using CAD models. It included 5 tables and 12 meters of floor rail.

THE RESULTS:

One modular kit for nine parts

Parts are dead square

Fixturing time cut in half

100% ROI in six months

A repeatable process new welders can learn in a week

Saved enough time and money for additional tables

"Our ROI is so high that I'm actually unable to calculate it. What I can say is that the system paid for itself."

- Steve Hill

Bluco helps make the case for modular

Steve started by uploading CAD files to Bluco's secure website. Then Steve collaborated with Bluco sales engineer, Josh Hill. "I explained how I needed to pitch it to management. He basically helped me build the case for it. That alone had me sold 100%," says Steve. "Josh took the time to come out for a visit to get a feel for the environment here. Then he designed what our leadership needed to see. He didn't just hand me a catalog like a competitor did. The interpersonal interaction between Josh and our team, that was the catalyst that got this put out onto the shop floor."
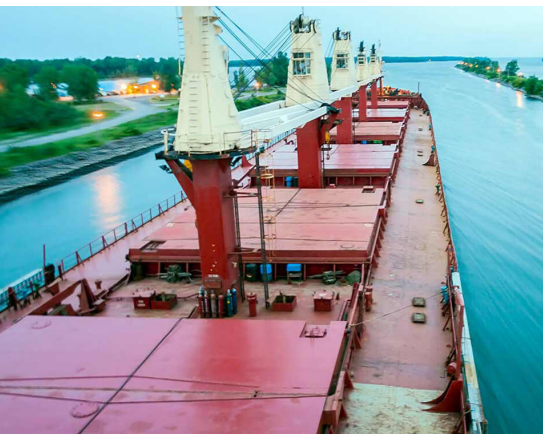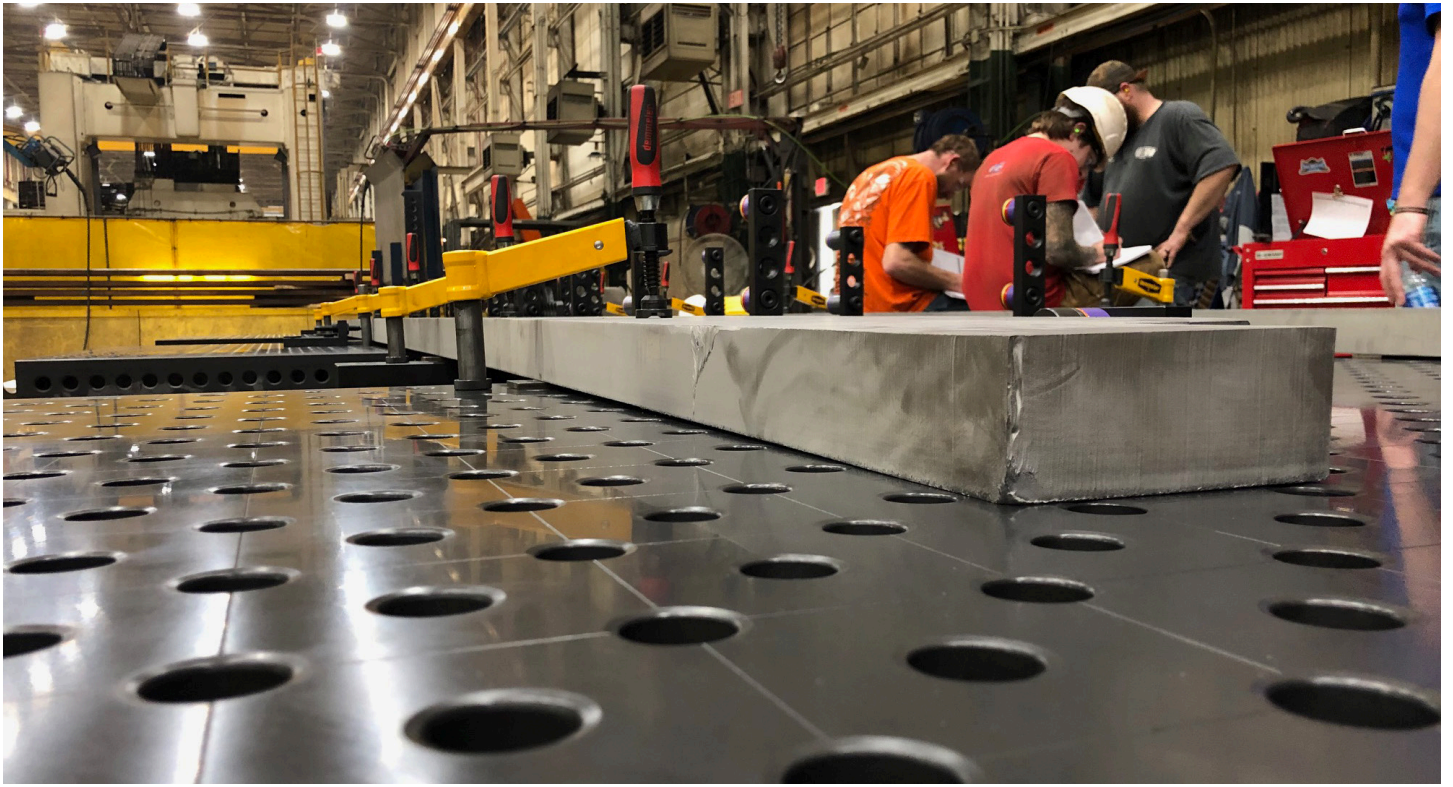
Modular delivers time savings, increased accuracy

The Bluco solution, consisting of five tables with rolling legs atop 12 meters of rail and featuring a specialized component kit, is able to fixture nine different parts. The solution also included a batch of custom digital templates made by Bluco specifically for Fairbanks Morse. Steve says all six of his operators were proficient with the entire system within two weeks. On top of that, Fairbanks immediately saw massive time savings. "We had an 18 foot long oil pan that used to take over a month from start to finish. Now it takes two days. That's astronomical for us."

How did they save all that time? "The guys had to lay it out before, using chalk lines and tape measures, and only two individuals in the entire shop knew how to build them. The guys that started off building these weren't even the operators that knew how to build them from tribal knowledge. These guys were finish welders, not set up welders, and they built the part in a third of the time that the seasoned operators were able to do it And it was dimensionally correct. That's what is absolutely mind-blowing to everyone here. I can't even really describe it other than to say it blew everyone away, including the leadership here at Fairbanks," says Steve.

TOP: The Fairbanks team experiments with Bluco toggle clamps that generate up to 400 lbs of force.

ABOVE: Fairbanks powers all types of marine vessels, from tugs to cargo ships like this one.

"WE'VE GOT BLUCO FEVER. THAT'S NOT A JOKE. WE'RE IMPLEMENTING MORE BLUCO TABLES AND EXPANDING THE FUNCTIONALITY OF SOME EXISTING TABLES BY ADDING MORE MODULAR COMPONENTS. LEADERSHIP WANTS EVERYTHING HERE THAT'S FABRICATED TO BE DONE ON A BLUCO TABLE. PERIOD."

- STEVE HILL

A solution that's easier for everyone

The Bluco solution went beyond just new hardware — it also included custom design services that solved some of Fairbanks toughest fixturing challenges. "We do have some specialized parts that are extremely difficult to build, but that's where Bluco engineers made the difference," says Steve. "They came up with incredible solutions, providing custom templates to build some of the most challenging parts we have." Because the Fairbanks team can access these digital fixture templates from a workstation on the shop floor, productivity soared. "We didn't just get a rail system; we got an entirely new process. In this one purchase, we were able to have an 80% developed SOP right out of the gate, just by going to this digital design," says Steve.

The proof is in the ROI

While time savings and ease of use impressed the Fairbanks team, the ROI of the Bluco system has also turned heads. "Our ROI is so high that I'm actually unable to calculate it. But what I can say is that the Bluco table paid for itself. It's exceeded ROI. We've been able to have a full return on investment in six months," says Steve.

Modular provides long-term stability

Looking back, Steve sees the challenge they overcame with complete clarity. "We purchased a large automation system with a high expectation of increased throughput. But we didn't have repeatability to lead up to the automation. You HAVE to have that. The Bluco solution provided that. It stabilized everything and made the process repeatable. It's a win all around." ◼

For more information, call **800.535.0135**, email **sales@bluco.com** or visit **bluco.com**