



BLUCO® MODULAR
FIXTURING SOLUTIONS

**ENGINEERED TO
DELIVER RESULTS**

EFFICIENCY | ACCURACY | QUALITY

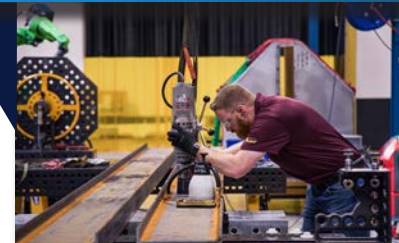
Fixtures just hold parts.

BLUCO® MODULAR FIXTURING SOLUTIONS SOLVE MANUFACTURING CHALLENGES.



If you've been thinking of a fixture as simply a way to hold a part, it's time to expect more. Expect Bluco® Modular Fixturing Solutions to help you break through barriers to improve efficiency, weld with greater precision and elevate final part quality. In other words, expect the kind of results that can only be delivered by a company with over 30 years of manufacturing and fixturing experience. And by a team of application engineers dedicated to your success.

EXPERIENCE: Trust experts who've been where you are



Our experience is real-world, hard-earned and comes from all facets of the manufacturing industry. We can solve your challenges because we've been there, behind the sparks and in the chips. We know how to create modular fixturing solutions that don't just work on paper: they work in the shop, because we've worked in the shop.

PARTNERSHIP: Collaborate to create better solutions



Our close customer partnerships allow us to design perfect-fit solutions every time. Our fixturing specialists will work with you to tap into the knowledge only you have about your parts and your processes. Then we'll add our specialized expertise to create the kind of solution that can only be built through strong collaboration.

QUALITY: Expect world-class modular fixturing



At Bluco, nothing less than perfection is acceptable. That's why we manufacture many of our components the same way you'll make yours — using our own fixturing to make your new fixturing. We deliver the precise tolerances and ultra-flat surfaces you expect.

COMMITMENT: Rest assured we've got your back



Our customers know we're in this together, and we're in it for the long haul. From our Lifetime Manufacturing Warranty and Replacement Program to our Two-Year Exchange Policy, you'll always have up-to-date equipment, so you can do your best work with the most long-term benefit.

INNOVATION: Experience cutting-edge tooling



We've fixtured thousands of parts for hundreds of industries. And we've woven three decades of experience into every component, constantly updating even the smallest details to Make it Better. When you notice that you're achieving accuracy that simply wasn't possible before, you're experiencing Bluco innovation at work.

CUSTOMIZATION: Let us make exactly what you need



Your modular kit will be hand-selected for your application, from over 800 precision welding and machining components. Bluco's on-site engineering and manufacturing capabilities mean that we also have the ability to make customized components to complement the solutions we create.

WELDING SOLUTIONS

What's your biggest welding challenge?

Maybe variations in sub-assemblies are throwing off the accuracy of your final product. Maybe your welding sequence is leading to shrinkage, or your mitered corners are refusing to come together. No matter how large or small your challenges, Bluco's modular welding solutions can help you overcome them. Whether it's a modular floor rail solution that allows welding tables to slide into position to handle multiple part sizes, or a custom table fitted with a laser projection system for error-proof assembly, our engineers will design a solution for any welding application, including R&D, low volume/high mix manufacturing, production, assembly or inspection.



31

Years of experience in modular fixturing and manufacturing serving thousands of customers in countless industries.

100%

Of our fixturing solutions are covered by a Lifetime Warranty and Upgrade Program.

2x

Many customers report doubling their production rate after switching to a Bluco modular solution.

450
STANDARD COMPONENTS

If we don't carry what you need, we can manufacture custom components to hold any part.

28 Days Faster

"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."

– Steve Hill, Robotics Engineer

A Modular Playground

"Our guys feel like they're working with a big Lego set when they build a Bluco fixture. It's like the biggest playground in the world."

– Eric McAllister, Fabrication Manager

Outstanding Service

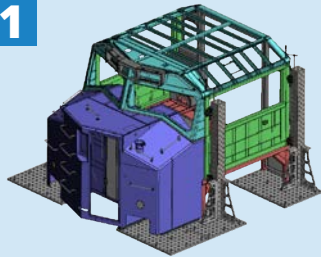
"There's nobody that does what Bluco does to the level they do it, including their service."

– Matt Miller, Plant Manager

CASE STUDY

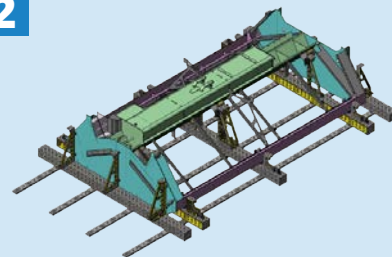
From Engine to Caboose

1



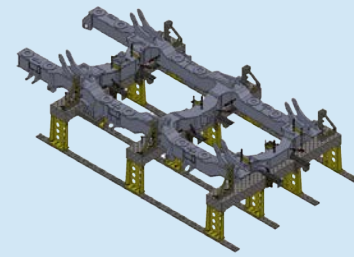
The main cab is fixtured on floor plates after the roof subassembly is welded on a 3D modular table.

2



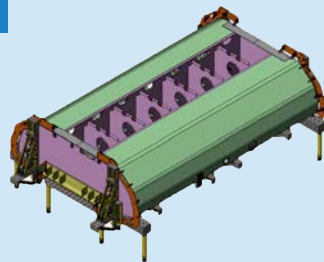
Radiator cabinets fixtured on a modular floor rail system that allows open access to all weldments.

3



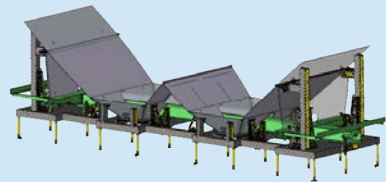
Truck frames are also fixtured on floor rails so custom tables can slide to adapt to multiple frame sizes.

4



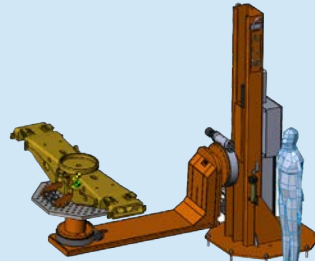
Fuel tanks are welded on a modular fixture that doubles productivity by utilizing two sides of the table at once.

5



A grain hopper is fixtured on a custom modular solution that allows access to the underside of the weldment.

6



Heavy truck bolsters are lifted and rotated on a modular base to eliminate lifting and reaching.

Challenge:

Every part of a locomotive is different, but each one must be fixtured with precision so that final assembly is flawless. There is no room for error, and no time for delay of any part of the assembly.

Solution:

A series of compatible modular solutions, as shown above, work together to allow every part to come together perfectly, regardless of size, weight, or complexity.

Result:

Locomotives, cabooses and every car in between have been fixtured successfully in Bluco modular solutions that eliminate rework, boost productivity and improve final part quality.



Every part of a complex train build can (and has) been fixtured in a Bluco modular solution. The system's versatility allows endless workholding combinations. And because every part of the system is compatible, it's also scalable, so you can start small and end big, or start big and go bigger. You're in control with Bluco modular solutions.



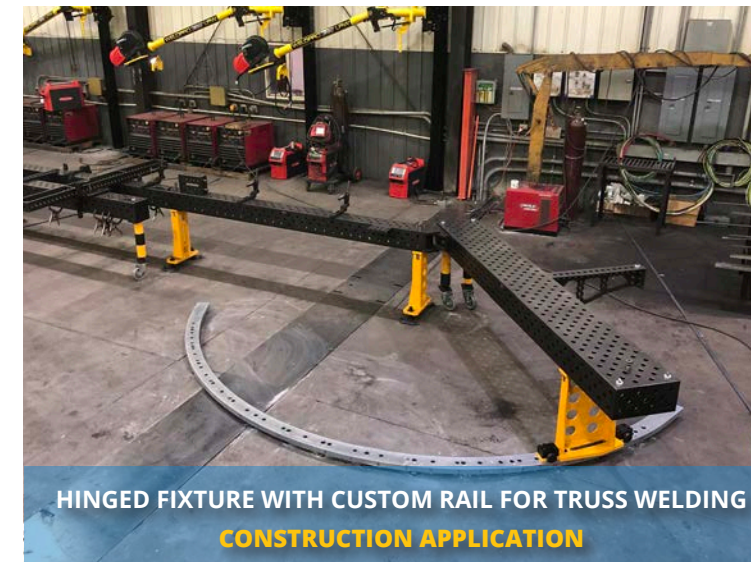
CUSTOM MODULAR FIXTURE FOR AIRCRAFT ASSEMBLY
AEROSPACE APPLICATION



KNIFE GATE ASSEMBLY ON ROLLING U-FORM BASE
OIL/GAS/CHEMICAL APPLICATION



MACHINE FRAME ON CUSTOM WELDING TABLE
INDUSTRIAL EQUIPMENT APPLICATION



HINGED FIXTURE WITH CUSTOM RAIL FOR TRUSS WELDING
CONSTRUCTION APPLICATION



CUSTOM TABLE CONFIGURATION FOR ANGLED RAIL
CONSTRUCTION APPLICATION



TILLING FRAME ON CUSTOM MODULAR TABLE
AGRICULTURAL APPLICATION

APPLICATIONS

POSITIONING SOLUTIONS

Keep your boots on the ground

Half the battle in laying down a quality weld is positioning your part safely so you can reach it comfortably. Bluco modular positioning solutions offer a full range of manual, powered, vertical and multi-axis positioning options that keep your boots on the ground. Each fully customizable solution integrates seamlessly with our 450+ precision modular components to hold parts of any size, weight, or shape. Positioners can also be built into larger modular solutions that involve multiple cells, floor rails, robotics and more. The result is a more efficient workflow, and a safer work environment without the hassle and risk of lifting, bending and reaching.

8,000 lbs.

Powered positioners lift up to 4 tons at the push of a button, or choose lighter duty models for smaller loads.

72"

Lift & rotate positioners allow for 6' of height, for full access to the underside of large parts without crouching or reaching.

360°

Full rotational options are available, as well as multi-axis positioning for access to every edge, corner and face of any weldment.

∞

"Build Your Own" manual positioners offer virtually limitless frame, drive and spine options to fit your application like a glove.

Bottom Line Benefits

"It saved a tremendous amount of money. I really don't even know if this project would have been financially possible without Bluco."

– Todd Stoughton, Director of Welding Engineering

25% Increase in Productivity

"So far, we've seen an increase in productivity of 25% and fully expect that to grow the longer we use the installation."

– Jim Jurgens, VPO

Increased Comfort

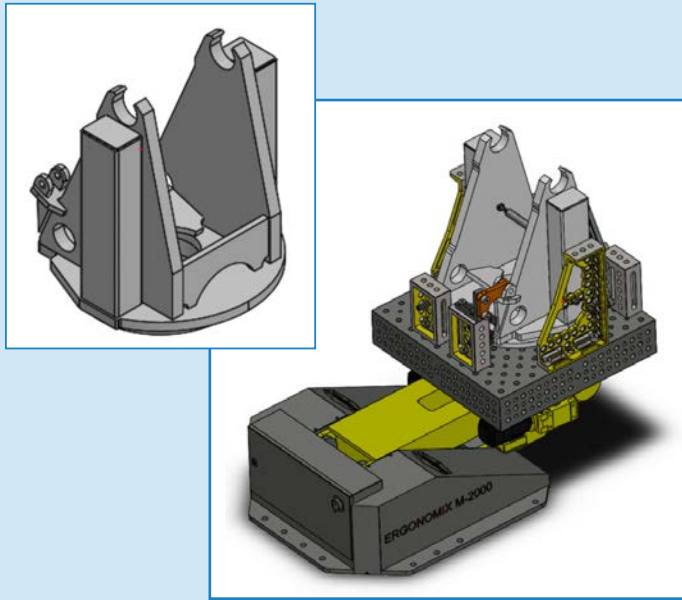
"There's less strain on our backs, less lifting equipment, no getting down on our knees... it's awesome."

– Phil Goick, Welder

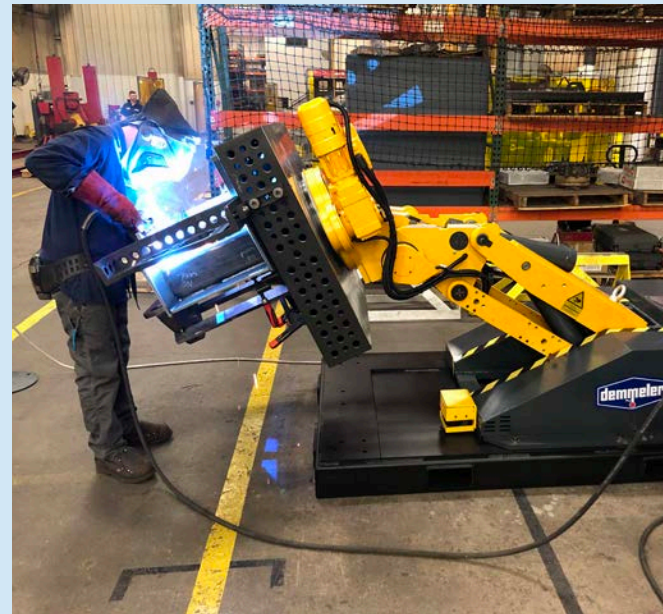


CASE STUDY

How many welders does it take?



ABOVE LEFT: CAD model of the nose of a mining vehicle. The shape and weight present fixturing challenges. **ABOVE RIGHT:** Fixture design includes a powered manipulator with a modular base to allow easy positioning and weld access.



ABOVE: Welder is now able to reach hidden welds comfortably and safely. A teach controller allows him to position parts at the same angle each time.

Challenge:

A part with an irregular shape, enormous weight, a lack of any good hook points, and rounded areas that make it hard to hold without rolling. Plus hidden welds that are difficult to reach.

Solution:

A powered manipulator lifts, tilts, and rotates the part in its fixturing. Adding a teach controller allows positions to be saved for efficient, repeatable moves. Part can be tacked together in the positioner, freeing up a tack cell and fitter for other work.

Result:

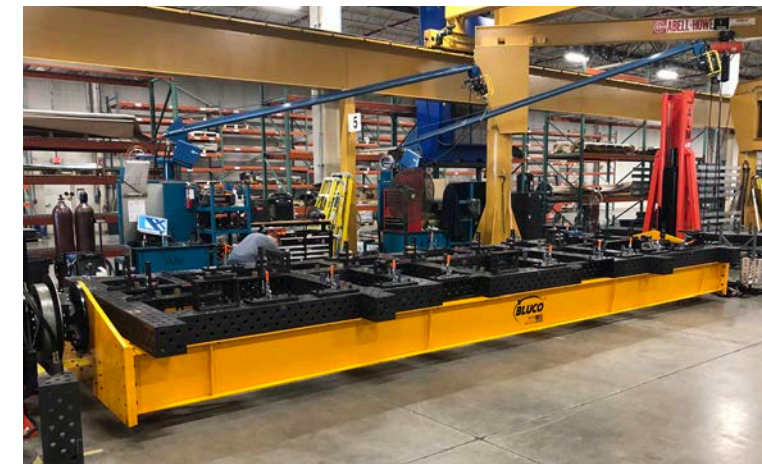
Safety and welder comfort are improved. Modular fixturing enables a progressive build of the part while it's still in the fixture, allowing higher quality welds and faster throughput.



Designing a fixture is about much more than choosing components to fit a part. That's why our application engineers start with your manufacturing challenge instead of your part. Sometimes that means figuring out how to move the part at the same time as we solve for how to hold it. Our manufacturing experience allows us to create more than just fixtures — we create modular solutions.



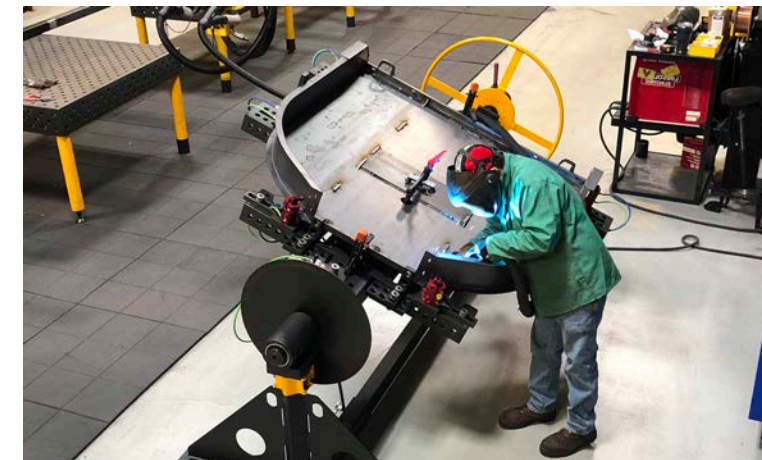
TRUCK BOLSTER ON SKY HOOK
RAILROAD APPLICATION



DROP FRAME WITH LIFT/ROTATE POSITIONER
ELECTRONICS APPLICATION



FOOD PROCESSOR ON MANIPULATOR
FOOD SERVICE APPLICATION



ROTARY CUTTER ON MANUAL POSITIONER
INDUSTRIAL EQUIPMENT APPLICATION



GRAIN ELEVATOR LEG ON HD POSITIONER
AGRICULTURE APPLICATION



20' TRUSS ON MANUAL POSITIONER
BUILDING CONSTRUCTION APPLICATION

APPLICATIONS

ROBOTICS SOLUTIONS

Optimize robotic efficiency

A robotic cell that's waiting for sub-assemblies to be tacked up, or for final assemblies to be fixtured, is a robotic cell that's not earning profit. Integrate a modular fixturing system into your robotic weld cells, and it'll never be starved for work. Bluco modular solutions can be changed over in half the time (or less) than a traditional fixture, so even in low volume/high mix situations, you'll finally get the throughput you were expecting from your automation. Our engineers have worked with countless robotic applications, from new installations to retro-fitting, to turn under-performing cells into powerhouses of productivity.

0.005"
+/-

The repeatable accuracy achievable when modular solutions are combined with robotic welding systems.

2x

Fixture in half the time so your robot can work twice as fast.

4.0

Achieve Industry 4.0 goals by pairing a modular fixturing solution with a robotic welding cell for increased throughput and maximum fixturing versatility.

**<1
DAY**

Time it takes to redesign a Bluco modular fixture for an entirely new part, so your robot is back up and running production.

Repeatability

"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. The Bluco solution provided that."

– Steve Hill, Robotics Engineer

Faster Changeover

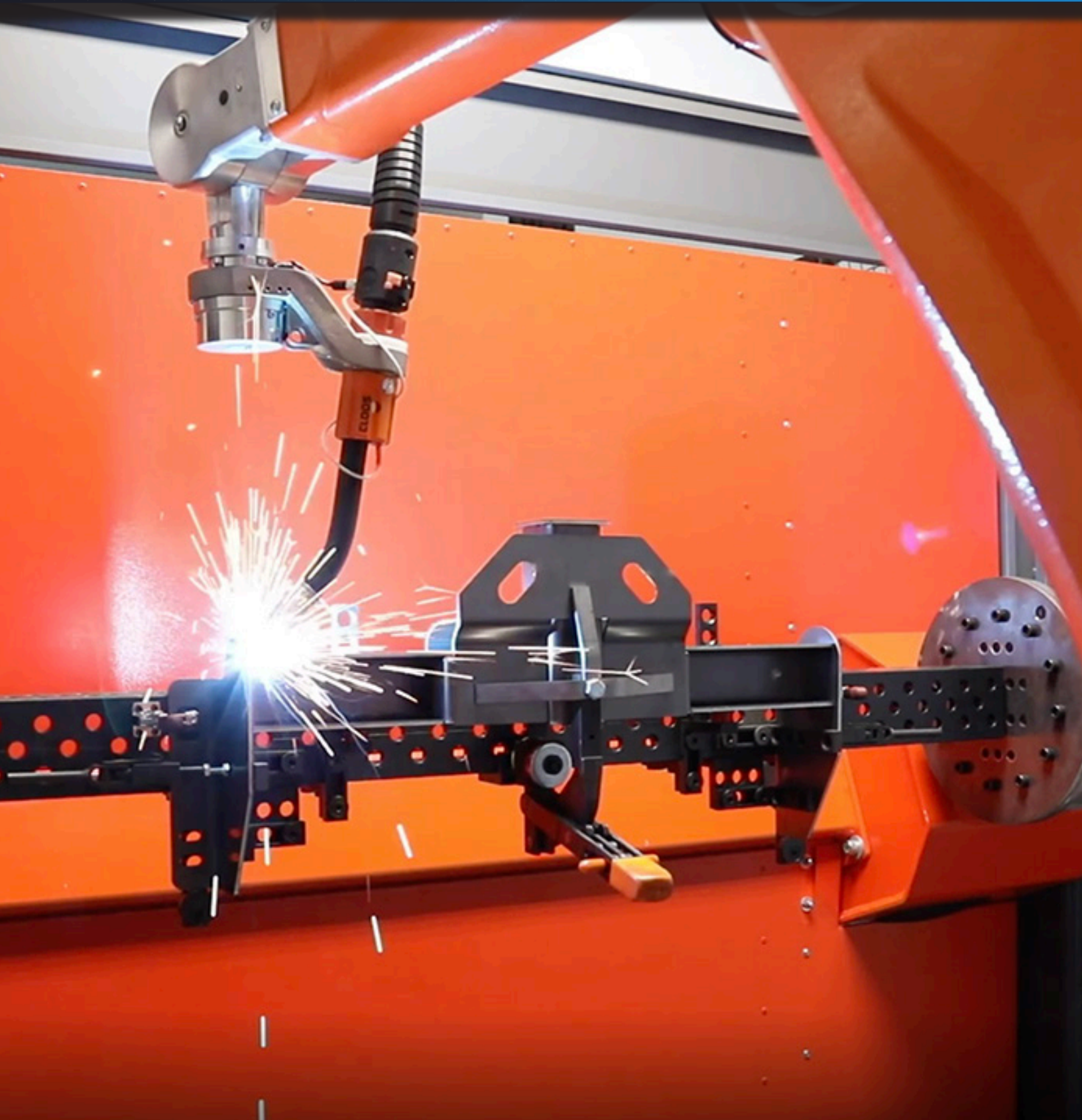
"Efficiency doesn't begin and end with a robot. When you add modular fixturing to the mix, you get the quick changeover and repeatability that robots need to produce results."

– Todd Bennett, Application Engineer

Precision

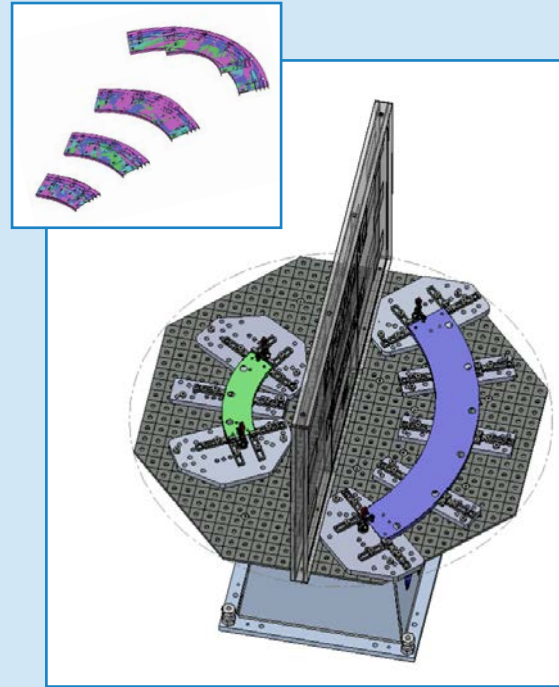
"That's what Bluco does for us, because you're working with spacers that are down to a ½ mm. So the part automatically comes out perfectly built and square."

– Walter Quaschnick, Welding Instructor

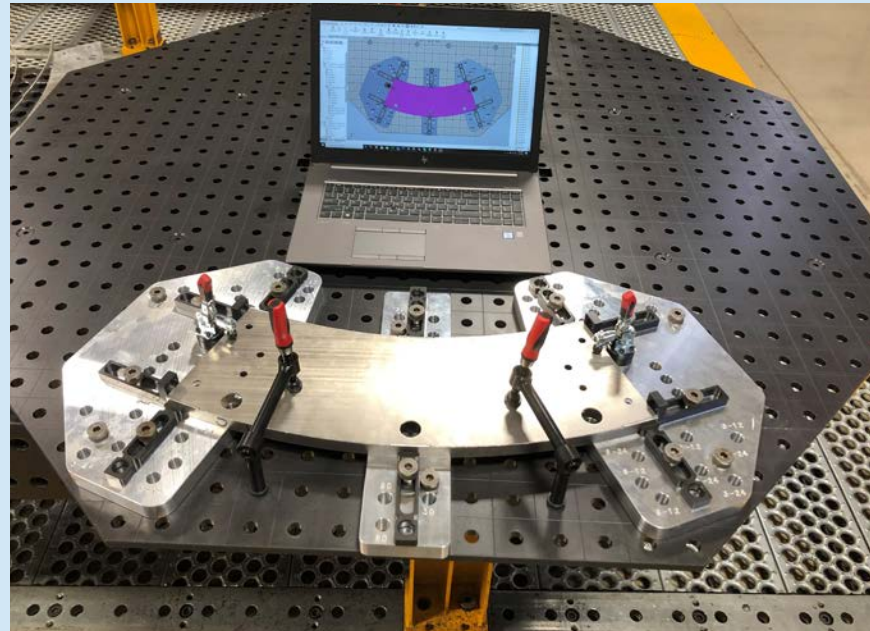


CASE STUDY

Get Ahead of the Curve



TOP: Parts in 4 radius families in sizes that total 64 variations. **BOTTOM:** Fixture design includes 8 custom sub-plates that adjust to hold all 64 parts.



ABOVE: CAD models can be pulled up on the shop floor. Modular components can be moved in seconds to match the CAD model for that particular part.

Challenge:

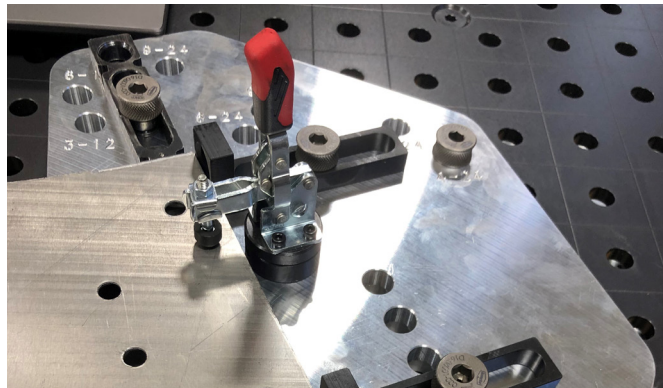
Fixture parts within 4 different radius families. Each family has 4 widths, 2 chord lengths, and an inner and outer differential. That means (in addition a massive challenge) 64 individual parts to fixture.

Solution:

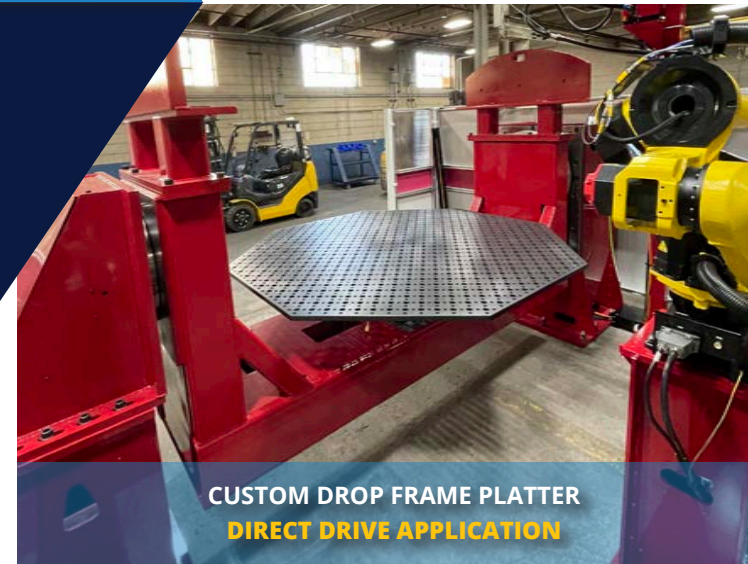
A modular plate mounted to a robot. On top, 8 custom-made base plates. Each variation of width is incorporated into the plates and can be set with one kit of modular components.

Result:

A total of 32 setups handle all 64 parts. Fixture are digitized for quick shop-floor reference. All 4 part families can be fixtured with minimal components, no loss of precision, and no hassle.



Bluco engineers create solutions based on your needs, not what's on the shelf. In this case, a set of custom base plates were machined in-house to make an unusual range of part sizes as easy to handle as the most run-of-the-mill part. You won't find an ordinary fixture that comes with this extraordinary level of customization and support.



CUSTOM DROP FRAME PLATTER
DIRECT DRIVE APPLICATION



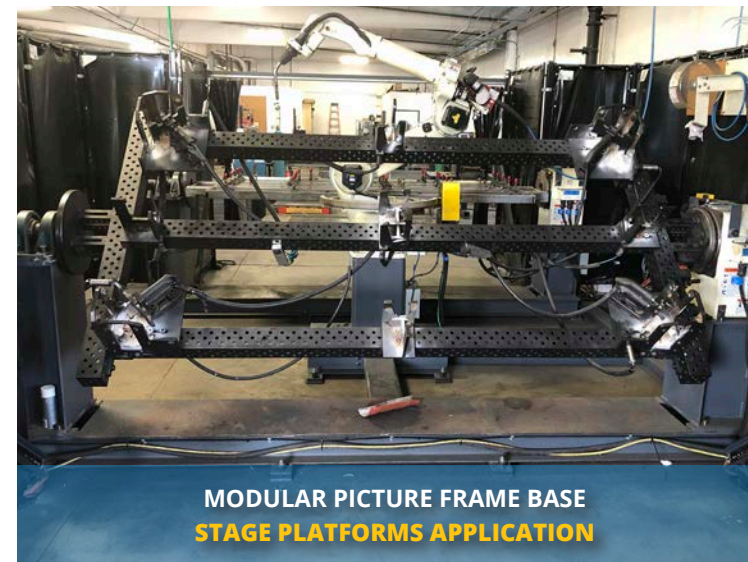
HEAD STOCK / TAIL STOCK SPINE
PIPELINE APPLICATION



DUAL SIDED MODULAR BASE
DEFENSE INDUSTRY APPLICATION



INDEXING OCTAGON FIXTURE
STRUCTURAL COMPONENTS APPLICATION



MODULAR PICTURE FRAME BASE
STAGE PLATFORMS APPLICATION



FLEXIBLE ROBOTIC WELD CELL
AGRICULTURE APPLICATION

APPLICATIONS

MACHINING SOLUTIONS

Reduce CNC machine downtime

Every minute the doors on your CNC machine are open is another minute of lost productivity. Bluco modular solutions for CNC machining can get your machines back up and running in less than half the time it takes an operator to manually set up a job.

With over 350 precision modular components and hand-crafted modular bases, our solutions can be custom designed, engineered and manufactured to fit your part, your machine bed and your process. Our application engineers have intimate knowledge of manufacturing and machining developed from decades of designing modular machining fixtures for customers and for Bluco – we machine your modular fixturing components on-site, using Bluco modular fixturing.

15

The average number of minutes it takes to pin together a 20-30 piece modular fixture.

1st

Bluco created the first extra-large modular solution for machining that includes components up to 6' tall.

3

Complete lines of modular machine fixturing for small, medium and extra-large parts.

∞

The internal capability we have to manufacture custom components for your solution.

Versatility

"A perfect fixture for every past, present, or future part, is on the shelf ready to be assembled."

– Wade Hartenstein,
Tool Design Supervisor

Accuracy

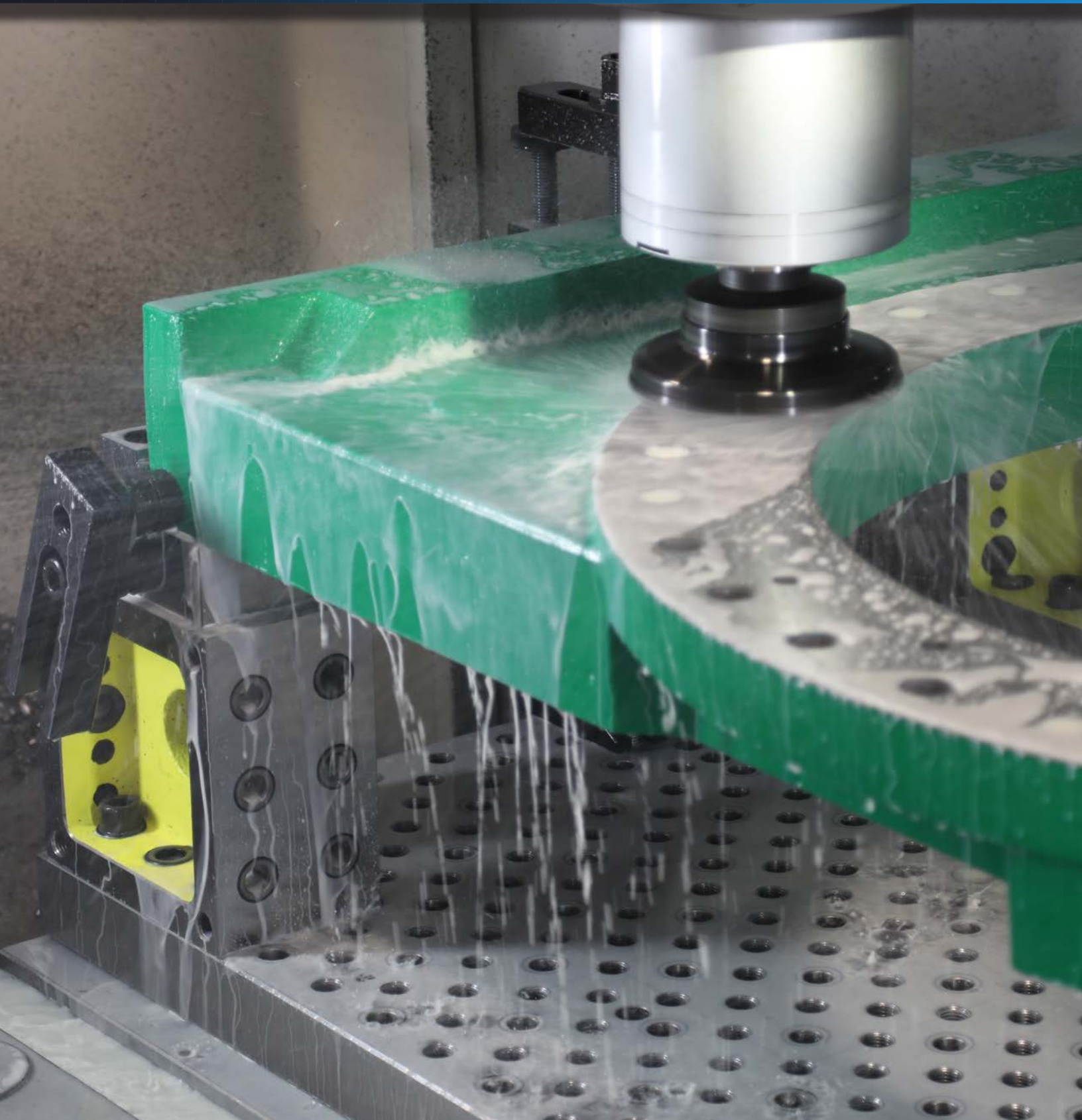
"We needed a custom baseplate. If we'd made it in-house, we wouldn't have gotten the level of accuracy we're getting from the plate that Bluco made for us."

– Josh McMahon,
Manufacturing Engineer Manager

Productivity

"One thing I really like is the repeatability of the switch-overs. Going back to a previously run saved fixture location is spot-on each time."

– David Rempt, Senior Tool Maker &
Senior Mechanic Technician



VERTICAL MACHINING

Whether you're fixturing for R&D, proving out a small run or trying to reduce downtime, you can Make it Better with Bluco modular solutions. Your baseplate will be custom-designed to fit your machine bed or pallet, and won't require additional tramming or locating once installed. Just load and go with repeatable accuracy you can trust. Ask about our quick-change solutions for next-level CNC efficiency.

ONE-TIME TRAMMING | +/- 0.01MM TOLERANCE | QUICK-CHANGE SYSTEM AVAILABLE

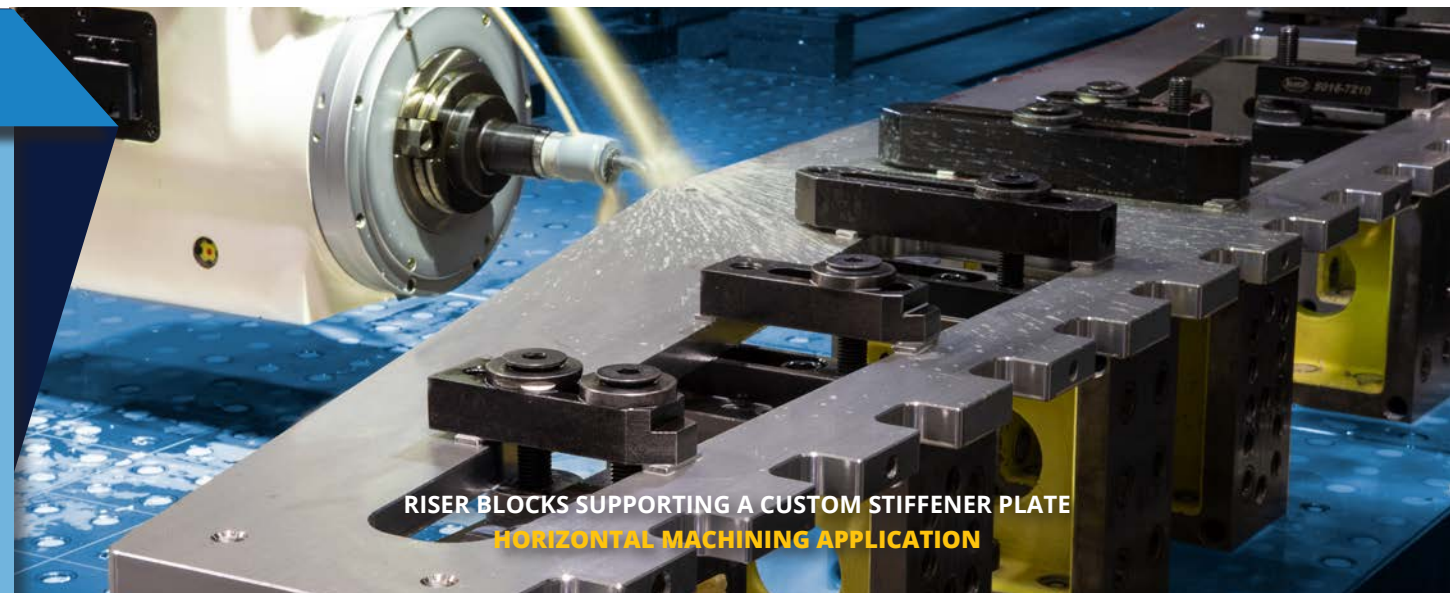


MULTIPLE STATION MODULAR VISE FIXTURE
VERTICAL MACHINING APPLICATION

HORIZONTAL MACHINING

Fixturing for the horizontal machining of valving, engines, or any cast work can be challenging. Modular solutions allow you to handle round edges, varying sizes and awkward shapes with complete adaptability and unbeatable accuracy. Our modular tombstones, baseplates and components allow you to changeover faster, and to eliminate the guesswork and repetitive tramming that comes with bolting a part directly to the machine bed.

MODULAR TOMBSTONES & BASEPLATES | ELIMINATES INACCURATE T-SLOT MOUNTING



RISER BLOCKS SUPPORTING A CUSTOM STIFFENER PLATE
HORIZONTAL MACHINING APPLICATION

LARGE AND EXTRA-LARGE MACHINING

Bluco's new 8024 system combines pinpoint accuracy (+/- 0.015mm) with massive size. Engineered with the same tradition of excellence as our standard-size modular fixturing, our extra-large system includes 120 components measuring up to 6' tall and weighing up to 1940 lbs. Designed to hold your largest parts while holding the tightest tolerances.

BASEPLATES 20' AND LARGER | MASSIVE WEIGHT CAPACITY | CUSTOMIZABLE MOUNTING

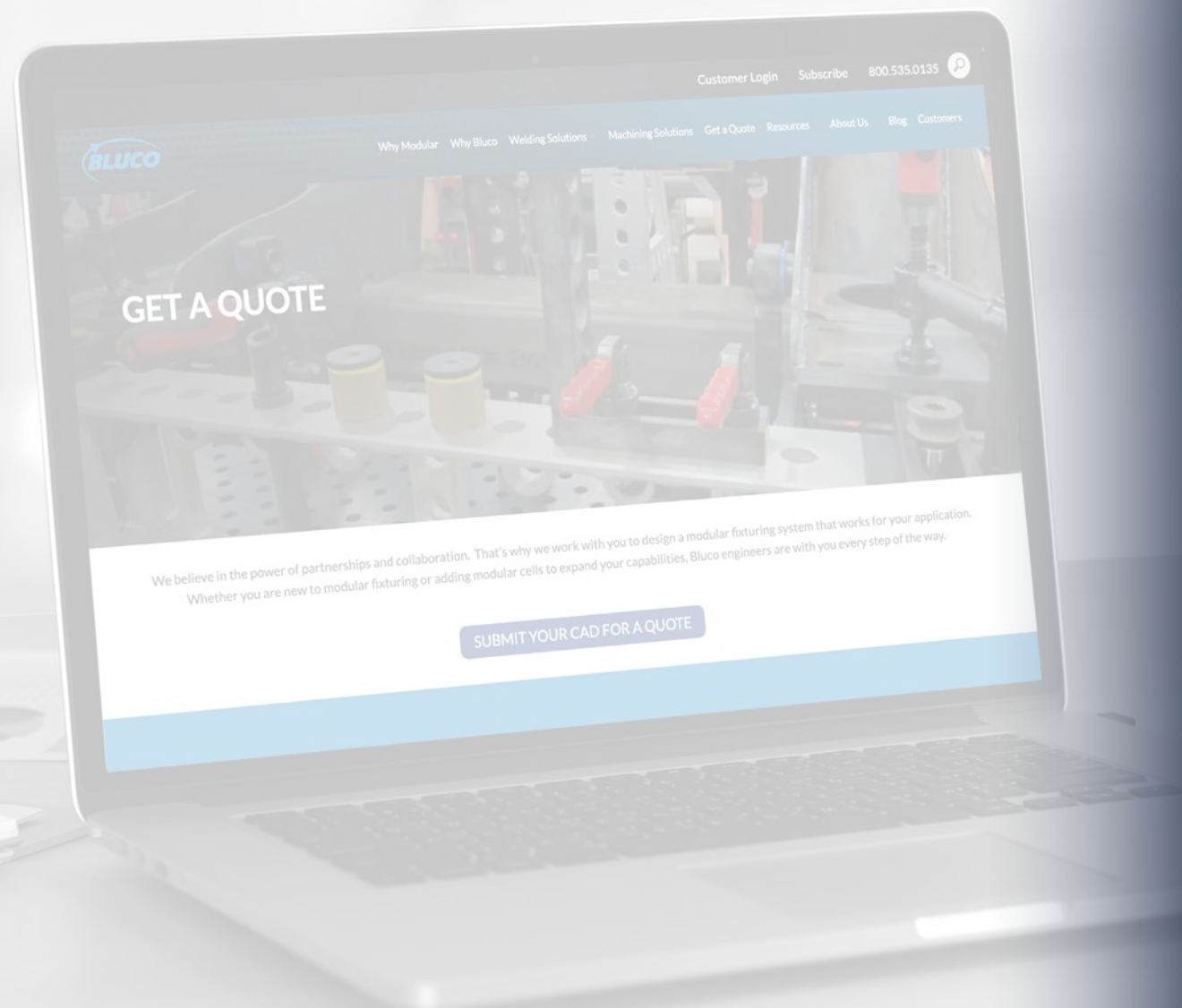


6000 LB. CASTING LOADED INTO A MODULAR FIXTURE
LARGE MACHINING APPLICATION

Getting started is easy:

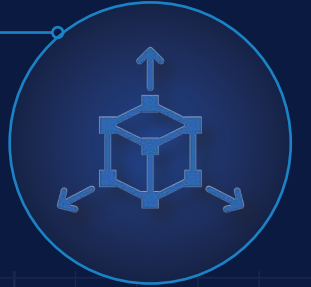
SHARE YOUR CHALLENGE. WE'LL DESIGN YOUR SOLUTION.

Every modular solution we design is unique. That's because no two customers, parts or processes are the same. In order to build a custom-fit solution that provides you with the quickest ROI, the most flexibility and the highest quality end product, we've developed a process that eliminates uncertainty by allowing you to fully test out your solution before making any decisions. It's a system that guarantees you get exactly what you need, as quickly as you can get it.



Share Your Part

Upload your CAD model and a brief description of your application to our secure online portal at www.bluco.com/my-quote. Our fixturing experts will take it from there. All submissions are encrypted, secure, and will not be shared with anyone other than our fixturing specialists. Within 48 hours, we'll call to set up a time to discuss your solution.



Schedule a Design Consultation

Once we've solved your challenge on paper, one of our fixturing experts will set up virtual meeting to discuss your solution. You'll get a chance to provide initial feedback, and we'll do the fine-tuning in real time as well as after the call.



Visit Us

The Bluco Showroom is 4,500 sq. ft. of modular problem-solving at your fingertips. This isn't a museum — it's more like a working playground, where you can get a feel for how modular fixturing works. Once you're placing bolts into blocks and bars, you'll start to understand why we're so passionate about modular fixturing.



Prove Out Your Solution

You don't have to take our word for it that your fixture design will work the way you want it to. In fact, we'd prefer if you came to try it out first. We'll fixture your part in our Validation Center so you can weld or machine just as you would in your own facility. You're invited to bring your own crew with you so everyone that has a stake in making it work understands how it works.



Review Your Proposal

Your detailed custom proposal includes everything you need to know about your modular machining solution, in a format that can easily be passed to your entire team for review. From the benefits of modular fixturing, to available options and the specifics of your system, you'll find everything you need to get your team on board.



Explore Rental or Purchase Options

Your solution is a custom fit for your parts — and for your books. With easy purchase terms and flexible short-term and long-term rent-to-own options, you can choose what works best for you. Whether you're ready for ownership, or simply preparing for a temporary surge in production work, you can maximize your purchase potential.



Get Your Solution Up and Running Quickly

Our large inventory allows us to ship most orders within 24 hours. Your order is packed securely for delivery in hand-made crates. If your solution requires custom-made components, our in-house manufacturing capability makes for quick turnaround time and world-class finished parts. Once your modular system arrives, our engineers will install it, test it, and train your team on it.



Rely on Our Commitment to Your Success

Your success is what we strive for. In order to get you there, we back our products with a Limited Lifetime Manufacturing Warranty that covers repair or replacement. We offer an Exchange Program that allows you to trade in new or used equipment for items of equal value for two years.



We put over 30 years of experience to work for you.

SEE FOR YOURSELF.

Call a fixturing specialist at 1.800.535.0135 to arrange a visit to our Showroom and Validation Center. For more information on modular solutions, visit bluco.com today.



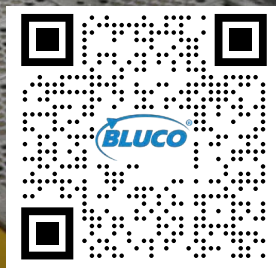
FAST SHIPPING FROM ON-SITE INVENTORY



EXPERT INSTALLATION



CALL TO SCHEDULE A VISIT TO OUR SHOWROOM
AND VALIDATION CENTER, OR SCAN BELOW
TO GET TO THE FREE QUOTE TOOL



OR GO TO [BLUCO.COM/MY-QUOTE](https://bluco.com/my-quote)