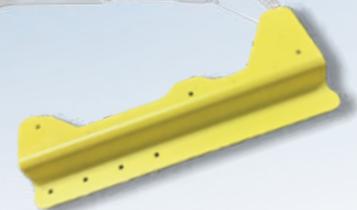




# More Than Just A Shim!

Beta Shim offers CNC milling, machining, forming, stamping, and assembly for the aerospace and defense industries. As a WOSB and AS9100-certified company, we deliver precision and reliability.



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## Beta Shim

MORE THAN JUST A SHIM

**DEPENDABLE**

**AFFORDABLE**

**RELIABLE**

### SERVICES:

- CNC Stamping / Punching
- Conventional Stamping / Punching
- CNC Forming
- Roll Forming
- CNC Turning
- CNC 3 Axis Machining
- CNC 4 Axis Machining
- CNC 5 Axis Machining
- Shearing
- Plate & Sheet Sawing
- Straightening
- Wire EDM
- Photo Chemical Etching
- 3D Printing

### Our Customers:



Beta Shim is a trusted manufacturing partner to leading aerospace and defense companies, including Sikorsky, Lockheed Martin, Boeing, Aurora, Gichner, and Triumph. From our foundation in metal stamping and sheet metal fabrication to advanced CNC machining, kitting, and assembly, we deliver precision components that meet the most demanding specifications. With AS9100 certification, state-of-the-art equipment, and a team of over 60 skilled professionals, we combine innovation, experience, and a customer-first mindset to bring your most critical parts to life—on time, on spec, and with uncompromising quality.

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## Aerospace-Grade Stamping. Industrial-Strength Performance.

Beta Shim's team of experienced press operators, engineers, and quality specialists work together to ensure your project is completed on time and within budget — with no compromise on quality. We develop tailored programs and precision tooling to ensure that every aerospace component we produce meets stringent quality and dimensional standards, from the first piece to the last. We leverage both in-house equipment and outside processes to meet these goals.

Since day one, Beta Shim has specialized in manufacturing sheet metal products and remains your trusted partner for all your sheet metal needs.

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**NIST**  
800-171  
Compliant



**AS9100D**  
CERTIFIED  
ISO 9001



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## Reliably Assembled. Seamlessly Supplied.

At Beta Shim, we understand that precision doesn't stop at machining—it continues all the way through final assembly and delivery. That's why our Assembly & Kitting services are designed to take the pressure off your production line by consolidating components, streamlining workflows, and ensuring everything arrives ready to use.

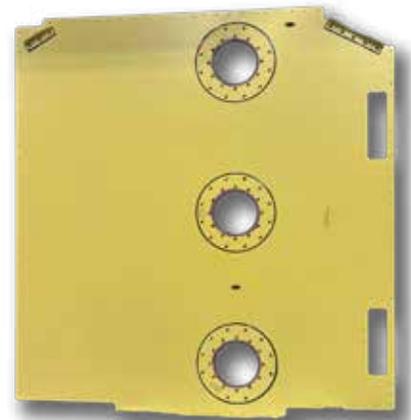
### Precision Assembly

From small subcomponents to more complex assemblies, we offer hands-on, dependable assembly services for a wide range of aerospace and defense applications. Whether it's ground support tooling, pneumatic crimping and riveting, or precision staking for bearings and bushings, our experienced team assembles with care, consistency, and attention to every specification.

### Kitting Solutions

Need more than just parts? Our kitting services make your process even easier. We can supply everything—rivets, hy-locks, wire, nutplates, detail components, and even subassemblies—organized and packaged to your exact requirements. With a single point of contact, we take care of ordering, stocking, assembly, and delivery, allowing you to focus on your core production while we handle the rest.

Let Beta Shim help you reduce overhead, shorten assembly times, and keep your operations running smoothly—with complete, reliable solutions tailored to your needs.



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## Precision That Scales With You

At Beta Shim, CNC milling and machining are more than just capabilities—they're an integral part of how we bring your designs to life with accuracy, consistency, and efficiency. From initial prototypes to full-scale production, our skilled team is equipped to meet the exacting demands of industries like aerospace, defense, and commercial manufacturing.

We approach every project with a deep understanding of material behavior, part design, and production workflow. Our engineers and machinists are experts at translating complex 3D models into high-precision components, and we maintain tight control over tolerances, finishes, and repeatability throughout the entire process. Using industry-standard platforms like AutoCAD, Mastercam, AP100US, SolidWorks, and CATIA, we ensure compatibility and smooth integration with your design files—minimizing delays and streamlining production.



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# Trusted Accuracy. Adaptable Solutions.

CNC Turning laid the foundation for Beta Shim's transition into a cutting-edge manufacturing leader—and it remains one of our most advanced capabilities. Using a fleet of high-performance Mazak CNC lathes, we produce high-precision components with exceptional consistency across a wide range of sizes, materials, and geometries.

## Reliable Performance, Consistent Results

Our turning department is built around speed, repeatability, and tight tolerances. Whether it's a one-off part or a high-volume run, every job is programmed and executed with care to ensure it meets exacting industry specifications—especially in aerospace and defense applications where performance matters most.

## Maintained for Maximum Uptime

All of our Mazak equipment is purchased new and maintained exclusively by certified technicians, ensuring peak accuracy and uninterrupted production. This approach minimizes downtime, protects part quality, and helps us deliver on fast lead times without compromise.



From rapid prototyping to full-scale production, Beta Shim's CNC Turning capability is trusted by top aerospace manufacturers to deliver consistent, reliable results—every time.

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## Precision Where It Matters Most

At Beta Shim, our laminated sheets—also known as Smart Shims—combine advanced engineering with practical on-the-line flexibility. These sheets are created by securely bonding multiple layers of ultra-thin precision metal foil, typically 0.002" or 0.003" thick, into a unified material that feels and functions like solid metal—until you're ready to peel.

### Built for Precision Applications

Each sheet is fabricated to a standard 48" length, with widths from 8" to 24" depending on the metal used. Final thickness can be tailored from 0.006" up to your exact specification. A micro-thin bonding layer (< 0.0003") keeps the foils tightly joined without compromising the solid feel or structural integrity of the part.

#### Key Benefits:

- Replace costly precision machining of mating parts
- Eliminate on-the-job machining of solid shims
- Avoid delicate handling of loose, thin shim stock
- Enable real-time adjustments during final assembly
- Peelable precision down to  $\pm 0.001"$



### Peel to Fit

When adjustments are required during assembly, individual laminations can be peeled away quickly with just a pen knife. The process is fast, intuitive, and allows your assembly team to fine-tune fit and function without specialized tools or downtime.



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# **Beta Shim** Equipment Overview



## AMADA EMK 3510 NT

Beta Shim's Amada CNC turret presses deliver high-speed, precision punching for aerospace-grade parts. Ideal for tight tolerances, complex shapes, and both high-volume and custom runs, they ensure strength, accuracy, and efficiency across a wide range of materials.

Beta Shim's Mazak VARIAXIS J-500 offers full 5-axis control for high-precision, multi-surface machining. Its rigid trunnion table and 0.0001° indexing ensure stability and accuracy for complex aerospace parts. With excellent accessibility and efficient setup, it's built for speed, precision, and reliability.



## MAZAK VARIAXIS J-500



## HAAS VF-6/40

Beta Shim's HAAS VF-6/40 is a powerful 40-taper vertical machining center built for large-scale precision. With a high-power direct-drive spindle, side-mount tool changer, chip auger, and programmable coolant nozzle, it's optimized for efficiency and performance. Ideal for machining larger aerospace components with accuracy and speed.

Beta Shim's Mazak Quick Turn delivers exceptional performance through a built-in motor spindle and rigid construction. Equipped for turning, milling, Y-axis operations, and dual-spindle work, it handles everything from small precision parts to larger components with speed and accuracy—perfect for demanding aerospace production.



## MAZAK QUICK-TURN

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## HAAS UMC 750

Beta Shim's HAAS UMC-750 delivers precision 5-axis machining for complex, multi-sided aerospace components. Its dual-axis trunnion table offers excellent tool clearance and part capacity, while the 500 mm platter with T-slots and a precision pilot bore ensures flexible fixturing. Equipped with a direct-drive spindle, high-capacity side-mount tool changer, and wireless probing system, the UMC-750 boosts efficiency, reduces setups, and maintains tight tolerances.

Beta Shim's FADAL VMC 4020 is built for fast, accurate machining with high material removal rates and tight tolerance control. Its heavy-duty box-way design ensures superior vibration dampening for consistent precision. Featuring a 10,000 RPM CAT 40 spindle, 220 ft/lbs of torque, and a 40x20 work envelope, this mill delivers smooth, stable cutting with rapid speeds up to 900 IPM—ideal for demanding aerospace applications.



## FADAL VMC 4020



## CINNCINATI 90-TON PROFORM

Beta Shim's Cincinnati Proform+ is a hydraulically driven press brake built for accurate, consistent metal forming. Featuring optical encoders and a PC-based touchscreen control system, it ensures precise bed-to-ram positioning for complex, multi-bend jobs and fast setups. With 90 tons of forming force, rugged construction, and advanced programming capabilities, the Proform+ delivers consistent part quality—even across long production runs. Ideal for aerospace-grade precision in sheet metal bending.

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# **Beta Shim** Equipment Overview Cont.



## AXIOM CMM

The Axiom too CMM has 640 x 500 (mm – axis travel), with TP20 modules. It is equipped with a Renishaw PH10T motorized head for very fast probe alignment changes.

The Keyence IM-7500 can measure up to 99 dimensions on up to 100 parts with the push of a button. Minimal set up and automatic focal adjustments makes this piece of equipment extremely efficient.



## KEYENCE IM-7500



## VIRTEK LASER QC

The Virtek Laser QC can capture more than 500 data points per second by using lasers to measure the accuracy of two-dimensional parts to tolerances within 0.0002 inches.

The FARO Quantum S Arm is a coordinate measuring machine used for verifying products through 3D inspections, dimensional analysis, CAD comparison, tool certifications, reverse engineering, and more.



## FARO QUANTUM S ARM

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## CAPABILITIES

### CERTIFICATION(S)

ISO 9001 – 2008 & AS9100:2009 Certified  
International Traffic in Arms Regulations (ITAR)

### EQUIPMENT

- (3) Amada CNC Turret Punch Presses
- (3) Hydraulic Punch Presses
- (1) Cincinnati 90-Ton CNC Break Form
- (1) Haas VF-3
- (1) Haas VF-6
- (2) Haas UMC – 750
- (2) Mazak Variaxis j-500
- (4) Fadal VMC 4020
- (4) Fadal VMC 3016
- (3) Fadal VMC 15
- (1) Mazak Nexus 200-II
- (2) Mazak Quick Turn
- (1) Axiom CMM
- (1) Virtek Laser QC
- (1) FARO s Arm CMM
- (1) Keyence IM - 7500



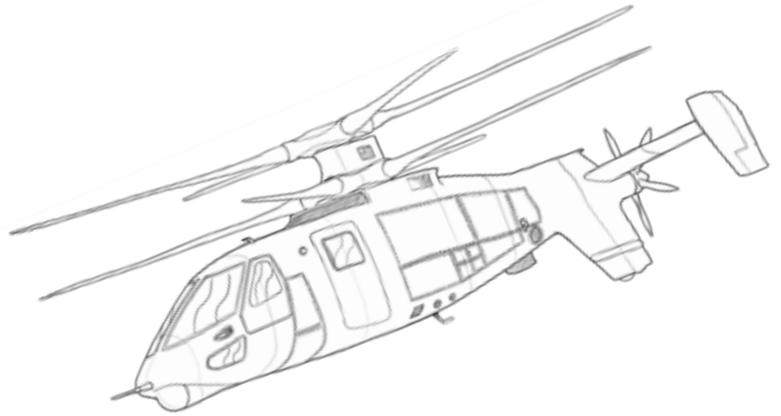
### MANUFACTURING SERVICES

- CNC Stamping / Punching
- Conventional Stamping / Punching
- CNC Forming
- Roll Forming
- CNC 3 Axis Machining
- CNC 4 Axis Machining
- CNC 5 Axis Machining
- Shearing
- Plate & Sheet Sawing
- Straightening
- Water Jetting
- Wire EDM
- Photo Chemical Etching
- 3D Printing

*Open capacity for shim & sheet metal work > 50%*

**SECONDARY OPERATIONS**

- Simple to Complex level Assembly
- Deburring
- Part Marking
- Blasting
- Masking
- Welding / Brazing
- Grinding
- NDT
- Heat Treat
- Alkaline Cleaning
- Electroplating
- Hard Coating
- Paint/Prime
- Passivation
- Plating
- Silk Screening



**MATERIALS WE MANUFACTURE**

Thicknesses ranging from .001” - .250”

- Aluminum\*
- Stainless Steel\*
- Steel\*
- Titanium\*
- Inconel
- Brass\*
- Copper
- Tungsten
- Magnesium
- Nylon
- Phenolic
- Teflon
- Plastic

\*Offer material in laminate form

**HARDWARE**

- Microsoft Windows Server Environment powered by VMware
- Microsoft Windows Desktops/Workstations
- 100 Mbps Fiber Connection
- Digital Blue Print Scanner – Large Format
- Blue Print Plotter

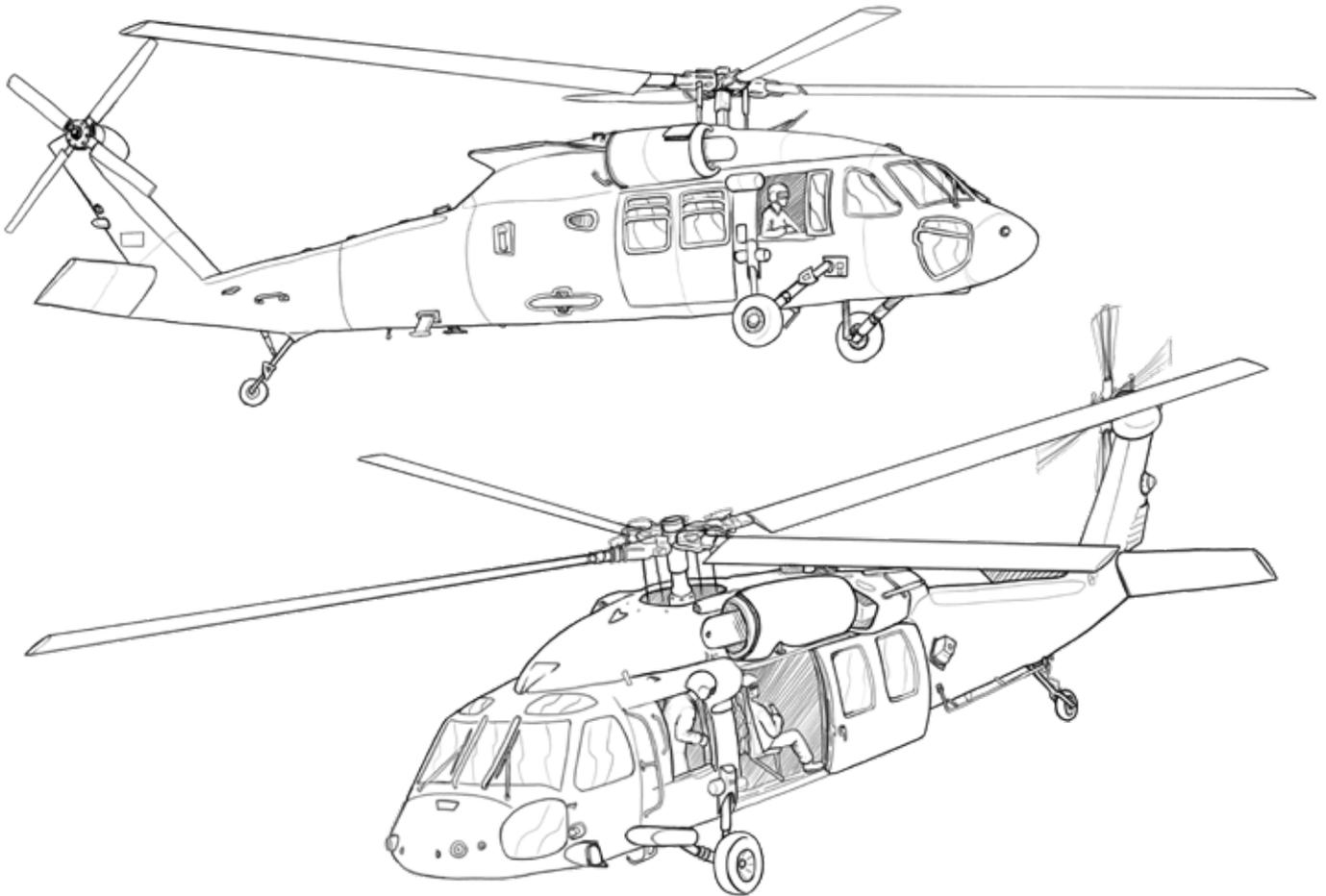
**SOFTWARE**

- ERP — M1 Solutions by ECI
- Digital Blue Print Indexing – ScanDEX by Ideal
- CAD/CAM — Catia, Solid Works, MasterCAM, FeatureCAM, AutoCAD, BobCAD, MazaCAM
- Adobe Acrobat — Latest Revision
- CyberSecurity — NIST 1800 / CMMC 2.0 (in process)

- Digital Engineering Repository
- Online Customer Portal
- Microsoft GCC High

**ACCEPTABLE  
DRAWING FILE  
FORMATS**

- .JPEG
- .TIFF
- .GIF
- .DXF
- .model
- .IGES
- .SLDPRT
- .Doc
- .XLS
- .DBF
- .PDF
- and many more...



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