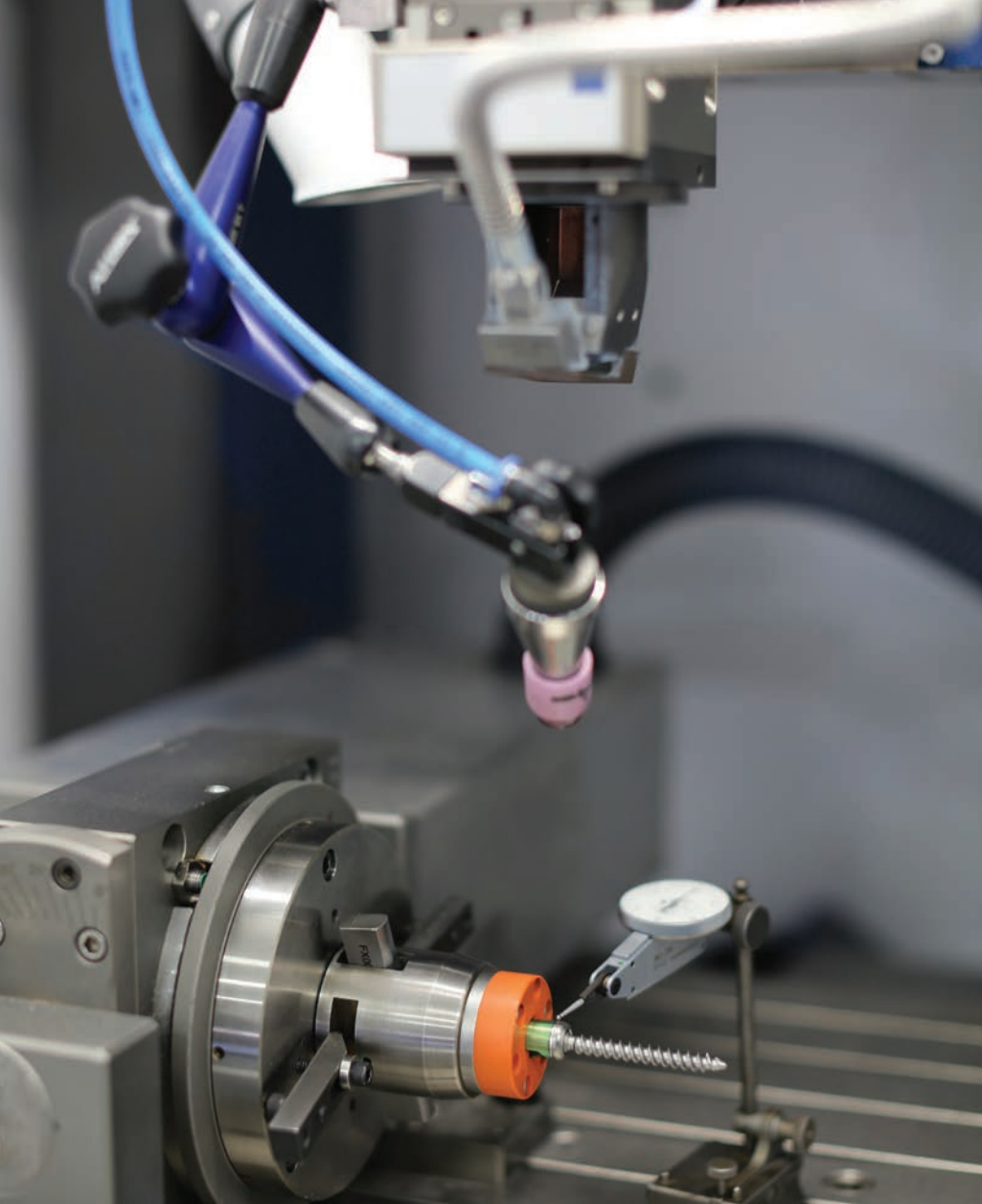


# MANUFACTURE WITH CONFIDENCE

Contract Manufacturing of  
Implantable Medical Devices





Since 1955 Hammill has earned a world-class reputation as a company known for innovation, talent and the highest quality standards.

Over 90,000 square feet of state-of-the-art manufacturing and product development facilities confirm our commitment to the highest quality standards. And our over 200 employees are among the finest in the world.

Today, we continue to expand and flourish in the area of implantable medical devices and surgical instruments. Our name has become synonymous with product excellence and precision, and our manufacturing capabilities are second to none.

We operate within the Good Manufacturing Practices guidelines, and our manufacturing facility is ISO 13485 certified. In addition, we are registered as a contract manufacturer by the Food and Drug Administration [FDA #1530390].

Medical customers around the world come to Hammill because...we are experienced in most segments of the Medical Implant and Surgical Instrument market... we have the facilities, equipment and most importantly the expertise to find solutions to complex manufacturing challenges...and because we have the financial wherewithal to handle large, complex launches.

Our expertise in both the engineering and manufacturing segments allows us to work closely with our customers to bring new and exciting products to market.





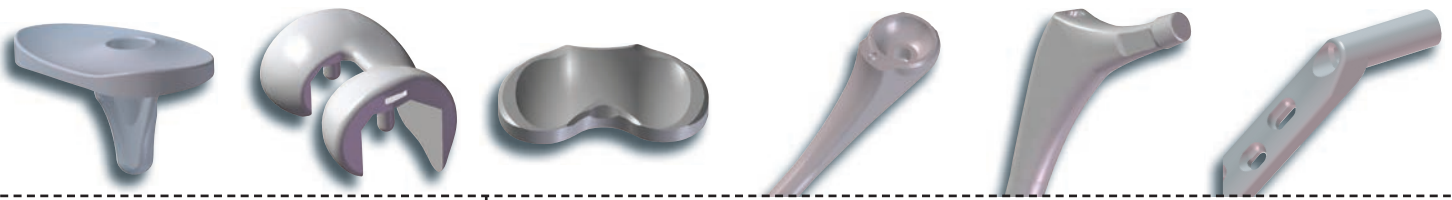
Hammill gives you the confidence to launch  
new products on time and on budget.

THE FACILITIES, THE EQUIPMENT, THE TALENT.  
WE MANUFACTURE WITH CONFIDENCE.



FEMORAL | SHOULDER | HIP | SPINAL | SURGICAL INSTRUMENTS  
BONE SCREWS | PEEK MANUFACTURING | PROTOTYPE DEVELOPMENT & TESTING

# ORTHOPEDIC IMPLANT SYSTEMS



## Manufacturing Capabilities

- + CNC PROFILE GRINDING
- + ROBOTIC FINISHING CELLS
- + 5-AXIS MACHINING
- + 5-AXIS MILL / TURN
- + CNC TURNING
- + VALIDATED CLEANING & PASSIVATION
- + IN-HOUSE TOOLING, FIXTURE & GAGE MANUFACTURING = SPEED TO LAUNCH

## FEATURES & BENEFITS

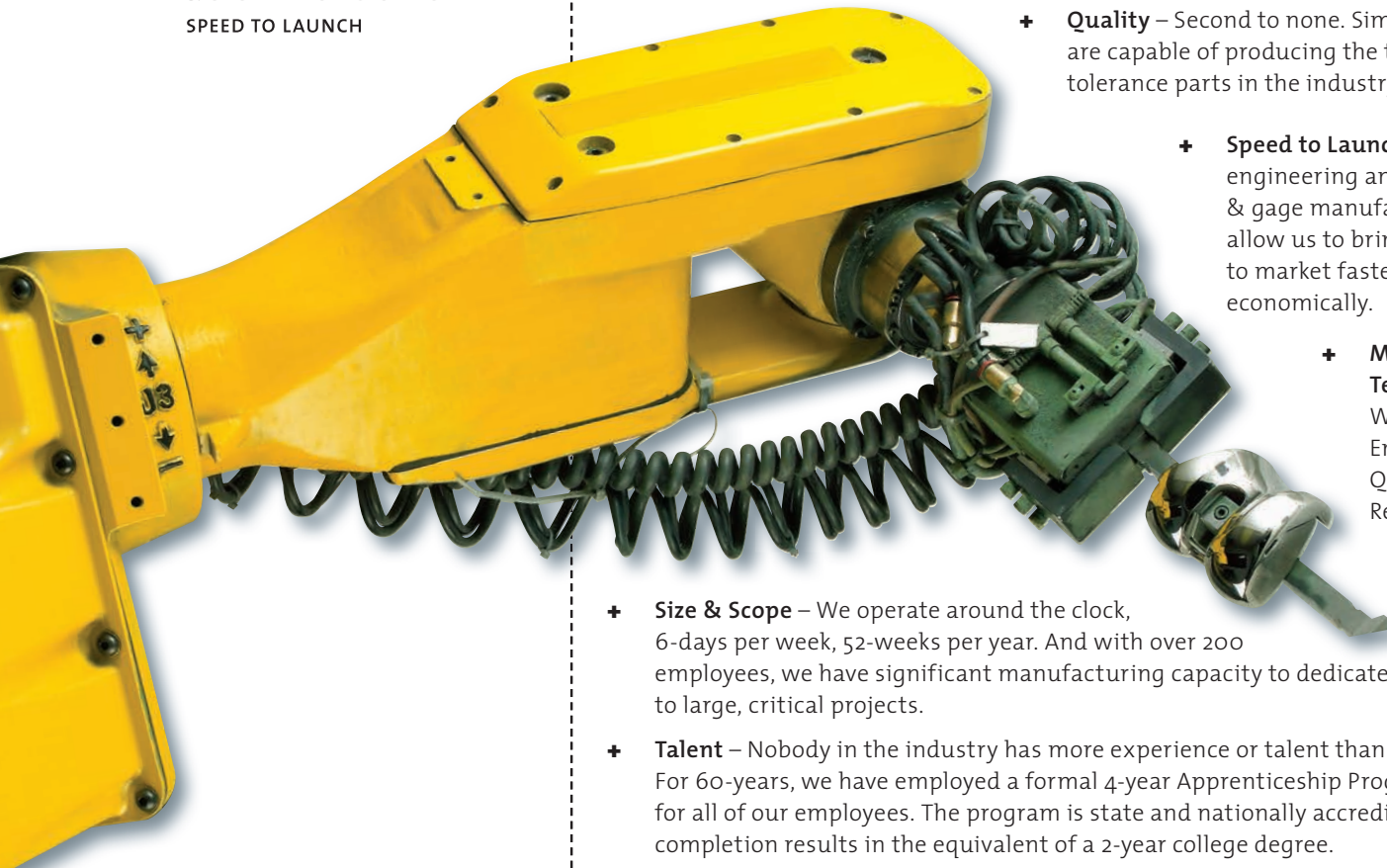
- + **Capacity** – Hammill is the largest “non-captive” contract manufacturer of medical devices in the industry. From small one-time development projects to full-line product launches, Hammill is the supplier of choice.
- + **Vendor Managed Inventory Programs** – We have the financial resources and experience to manage our customer’s inventories. No need for multiple POs for castings and subcontracting. Only 1 PO required.
- + **Consistency** – State-of-the-art equipment plus validated manufacturing processes produce reliable and repetitive quality. We “marry” the manufacturing process to the part. Once the manufacturing process is first-article approved, there are no variations!

- + **Quality** – Second to none. Simply, we are capable of producing the tightest tolerance parts in the industry.

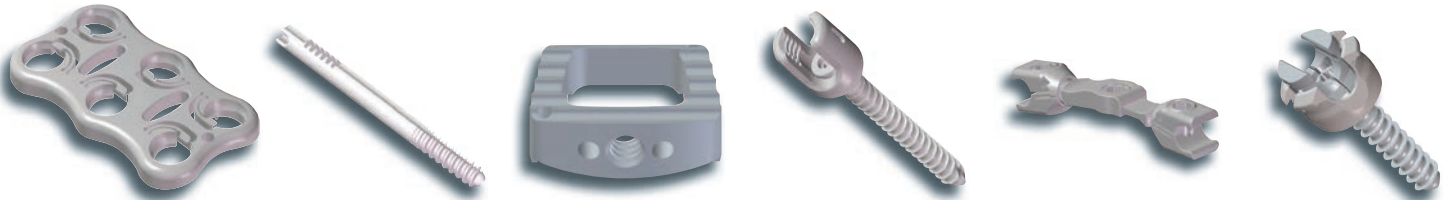
- + **Speed to Launch** – In-house engineering and tooling & gage manufacturing allow us to bring products to market faster and more economically.

- + **Manufacturing Team Approach** – With dedicated Engineering and Quality Control Resources.

- + **Size & Scope** – We operate around the clock, 6-days per week, 52-weeks per year. And with over 200 employees, we have significant manufacturing capacity to dedicate to large, critical projects.
- + **Talent** – Nobody in the industry has more experience or talent than Hammill. For 60-years, we have employed a formal 4-year Apprenticeship Program for all of our employees. The program is state and nationally accredited and completion results in the equivalent of a 2-year college degree.



# SPINAL IMPLANT SYSTEMS

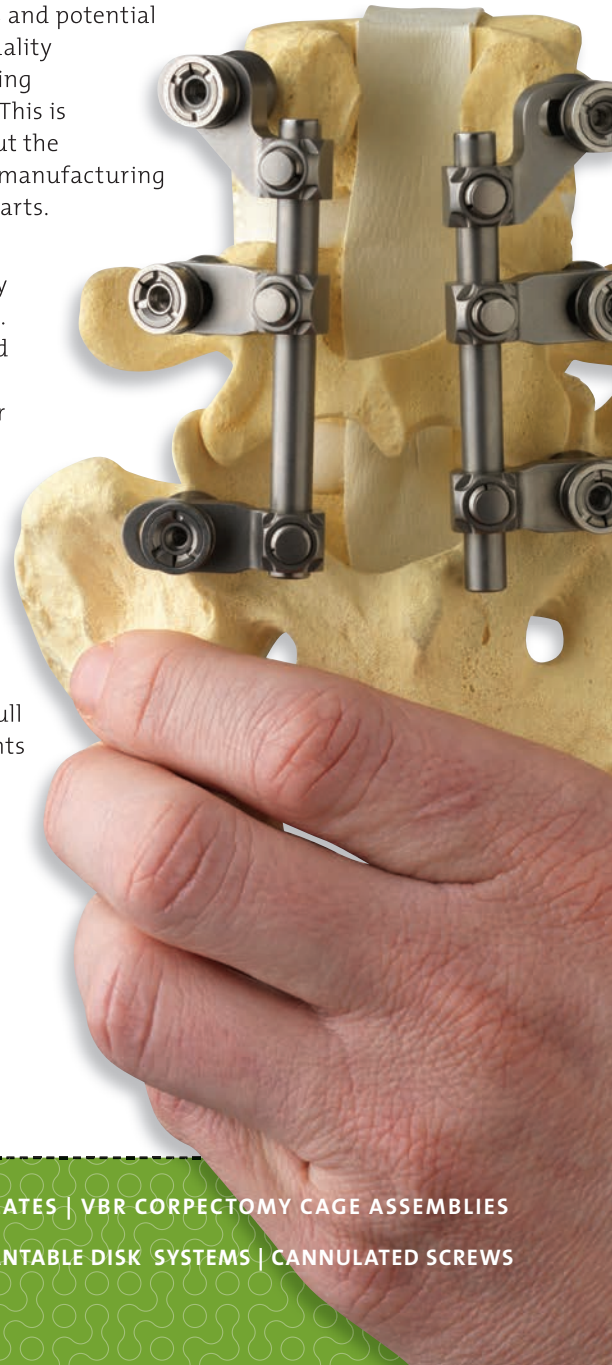
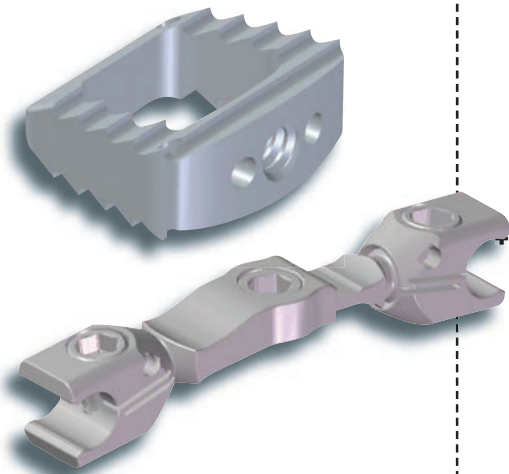


## Manufacturing Capabilities

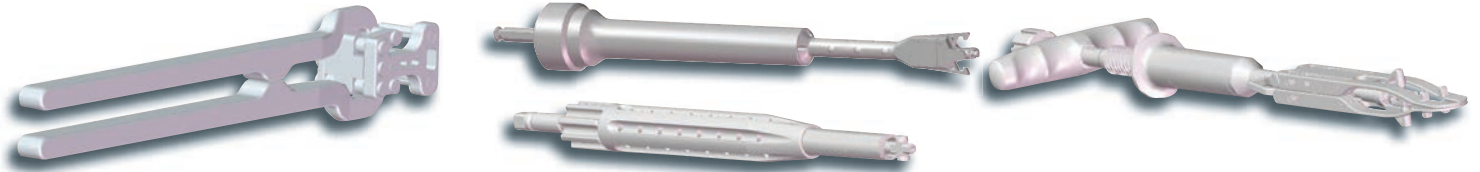
- + UP TO 13-AXIS SWISS-TYPE CNC TURNING
- + 6-AXIS WILLIMEN CNC MILL / TURN
- + 50,000 RPM MACHINING CAPABILITY
- + MEDIA BLASTING
- + SCREW ASSEMBLY, INCLUDING BAR CODE LOT CONTROL TRACEABILITY
- + HIGH-ENERGY TUMBLING
- + LASER WELDING

## FEATURES & BENEFITS

- + **1-Op Processing** – Whenever possible, we invest in manufacturing equipment which can produce a completed product in one machining operation. Up to 13 programmable axis' on the Swiss -type turning machines and up to 6 programmable axis' on the machining centers allow us to manipulate the part so that all machined features can be generated in one operation. Rather than pass the part from operation-to-operation, which requires multiple part handlings and potential fixture inaccuracies, we drive quality performance to the manufacturing source – the machining process. This is the more expensive approach, but the increased investment results in manufacturing consistency and higher quality parts.
- + **Experience** – We have attained preferred vendor status to nearly all of the major spine companies. We have developed and launched numerous spinal systems, and continue to be the manufacturer of choice for all of these spinal systems. We work closely with our customers to develop inventory management systems which assure consistent product availability. No one can afford to miss a surgery.
- + **Expertise** – We manufacture a full complement of spinal components from Screws to Plates to PEEK. We have Engineering and Manufacturing expertise in all segments of the spine market.



# SURGICAL INSTRUMENTS

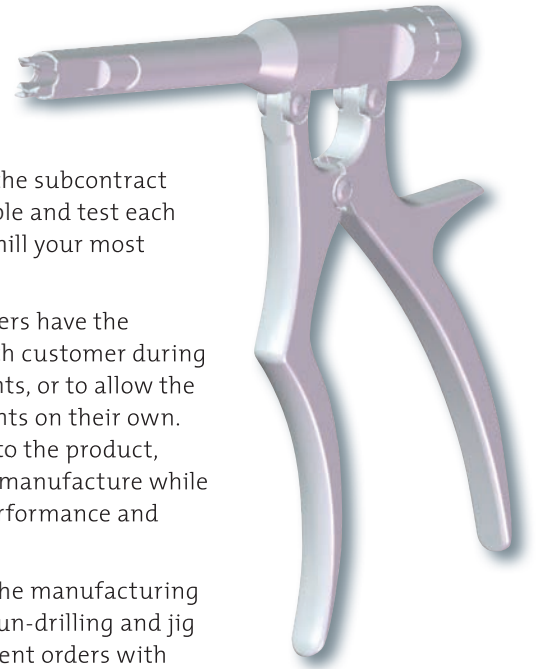


## Manufacturing Capabilities

- + WIRE & RAM EDM
- + GUN DRILLING
- + MILL-TURN MACHINING
- + 5-AXIS MACHINING
- + CNC GRINDING
- + JIG GRINDING
- + LASER WELDING
- + ASSEMBLY & TEST

## FEATURES & BENEFITS

- + **The More Difficult the Better** – Our expertise is in complex, multi-component assembled instruments. We build the individual components, manage the subcontract operations, and then fully assemble and test each complex instrument. Bring Hammill your most difficult applications.
- + **Design Engineering** – Our engineers have the expertise to work closely with each customer during the design stage of the instruments, or to allow the customer to design the instruments on their own. We design “manufacturability” into the product, which greatly reduces the cost to manufacture while achieving optimal instrument performance and aesthetics.
- + **Lead-Time** – Since we have all of the manufacturing capabilities in-house, including gun-drilling and jig grinding, we can process instrument orders with minimum lead times. And being located in Maumee, Ohio (just outside Toledo) provides close proximity to all of the required coatings and surface treatment facilities. The end result is fast, reliable delivery performance.
- + **At Hammill, ISO 13485 Applies to Surgical Instruments as well as Implants** – Even though the surgical instrument is not going to stay permanently in the human body, we manufacture instruments in the same manner as if they were implants. We maintain material traceability and compliance certification as we apply good manufacturing practices throughout the manufacturing process. A complete documentation package will be supplied with each individual instrument.
- + **Rebuild, Reconditioning & Redesign** – As the surgical instruments get worn or damaged, we provide rebuild and reconditioning services which brings the instrument back up to “as new” specification. In addition, our engineers work closely with our customers to redesign instruments to improve instrument life and function. The success or failure of the surgery is often determined by the surgeon’s performance in the operating room. Our job is to make sure the surgeon has the best instrument for the job.



# PROTOTYPE MANUFACTURING & PRODUCT DEVELOPMENT

DESIGN  
ENGINEERING



PROTOTYPE  
MANUFACTURING



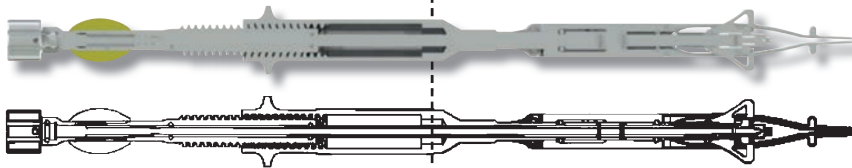
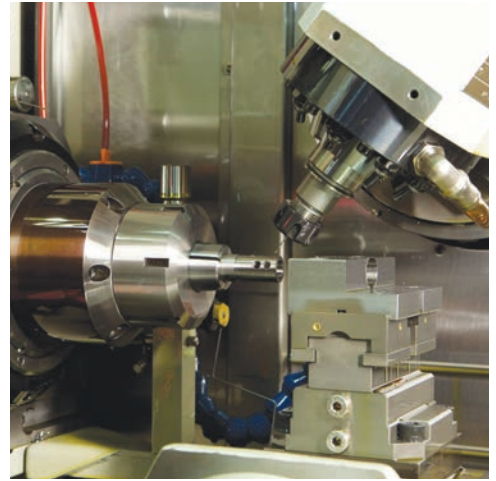
FINISHED  
PRODUCT

## Manufacturing Capabilities

- + DEDICATED PROTOTYPE MANUFACTURING CELL
- + ON-SITE DESIGN & MANUFACTURING ENGINEERING
- + WIRE & RAM EDM
- + 5-AXIS MACHINING
- + 13-AXIS SWISS TURNING
- + GUN DRILLING
- + CNC GRINDING
- + RAPID PROTOTYPING
- + ASSEMBLY & TEST

## FEATURES & BENEFITS

- + **Complete Prototype Manufacturing Cell** – Hammill is committed to working with our customers to turn new ideas into new products. We have invested heavily in our Prototype Manufacturing & Product Development Cell. Our Prototype Cell has more equipment than most shops. The Prototype Cell is equipped with Wire and Ram EDM Machines, 5-Axis Machining Centers, Swiss-Type Turning Centers, CNC Lathes, Gun-Drilling, Surface Grinding and a full complement of manual machines and inspection equipment. In addition, there are full-time, dedicated Journeymen Machinists and Design Engineers dedicated to this department. Nobody commits more resources to new projects than Hammill.
- + **Fast Turn-Around** – Since we have a separate and dedicated Prototype Cell, production delivery commitments do not interfere with Prototype & Product Development Projects. Thus, we can prioritize our efforts on completing Prototype Projects quickly. This results in significantly shorter lead-times for our customers.
- + **No Surprises at Launch** – In most cases, we have the same manufacturing processes and manufacturing equipment in the Prototype Cell that we have in our Production Area. Thus, as we work on Prototype Projects, we are also developing our production manufacturing processes as well, simultaneously. Once a Prototype Project has been completed, we are ready to “launch” into production – all key manufacturing process development, process capabilities and process validations have been established. We are ready to go to market. There are no delays at launch.
- + **Design Engineering Support** – As challenges and design problems are encountered during testing, our engineers have the talent and expertise to offer solutions. We can fine-tune the design, or offer alternative designs for accomplishing the same function. We are here to work with our customers to add value and to overcome obstacles. We are committed to transforming our customer’s idea into reality.





Manufacture With Confidence

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ISO 13485-REGISTERED, FDA #1530390

 **Hammill**  
M E D I C A L