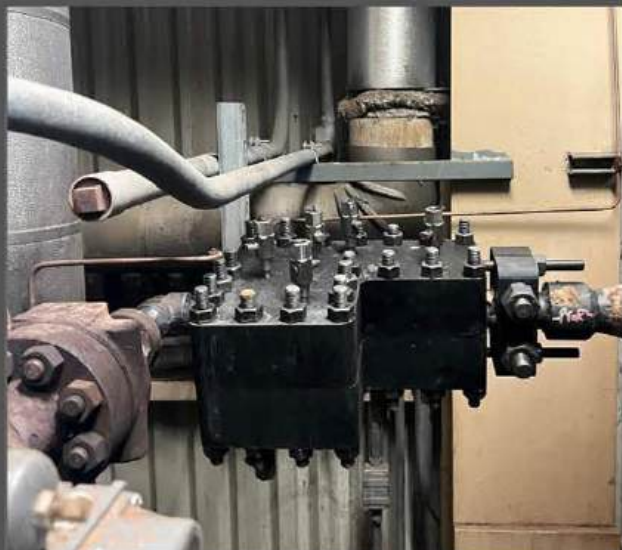




MILLENNIUM™
Industrial Services

Service Catalog

ON-SITE MECHANICAL SERVICES FOR THE NUCLEAR & FOSSIL
GENERATION, REFINING, CHEMICAL, PIPELINE, HEAVY
MANUFACTURING, AND MECHANICAL CONTRACTING INDUSTRIES



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24/7/365

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About Us

Millennium Industrial Services has been providing mechanical services for over 30 years. Our specialized offerings are utilized throughout the exploration and production activities of oil & gas, generation, and distribution of electricity, and maintenance of industrial & commercial buildings. We have locations throughout the Eastern United States with full time technicians and equipment centers conveniently located in major industrial and commercial hubs. We strive to be a partner in your success and operate with the safety of our employees, your employees, and your assets at the forefront of our business.

Our Goal

To provide world-class safety and efficiency while supporting the business needs of our customers.

Locations

Canonsburg, PA

Toledo, OH

Griffith, IN

Spartanburg, SC

Lakeland, FL

Service Lines

On-Line Leak Sealing

Composite Pipe & Vessel Repair

Hot Taps, Line Stops & Bag Stops

Line Freezes

Pump Base Injection

Insert Valves

Full Service Valve Repair & Testing

Boiler Stub Pulling

Test Plugs & Tube Plugs

Industrial Bolting Services

Field Machining

Heat Treating

Equipment Rental & Service



MILLENNIUM™
Industrial Services

Live On-Stream Leak Repair

Leak Repair

Millennium offers custom-manufactured and standard leak repair solutions for a multitude of industries, processes, and types of leaks. Our enclosures are manufactured in the United States, and we offer emergency call-out services.

The benefits of our approach include:

- Safe, non-destructive solution
- Stainless steel clamps available
- No need to take a system “off-line”
- Continue production while we work
- Suitable for all pressure ranges, contents, and all environments

We manufacture and install leak repair clamps and engineered wraps on any industrial or commercial process:

- Process Piping
- Flanges
- Elbows
- Bends
- Welded and Bolted Joints
- Valve-Packed Leak Repair
- On-Stream Valve-Repair
- Vessel Leaks



Composite Pipe & Vessel Repair

State-Of-The-Art Composite Solutions

- Engineered and stop-gap solutions available
- Reinforce the structural integrity of degraded piping systems and vessels
- Prevent and repair pinhole leaks
- Reinforce welds and other joints
- Compatible with any diameter pipe or vessel and a multitude of contents





MILLENNIUM™
Industrial Services

Hot Taps

Hot Taps

- Millennium performs live taps from ½" to 48" and pressures up to 1480 PSI without the need to shut down or drain
- Certified technicians on every project to ensure safe and efficient completion
- Hot taps can be performed on a variety of pipe materials, schedules, and sizes





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Industrial Services

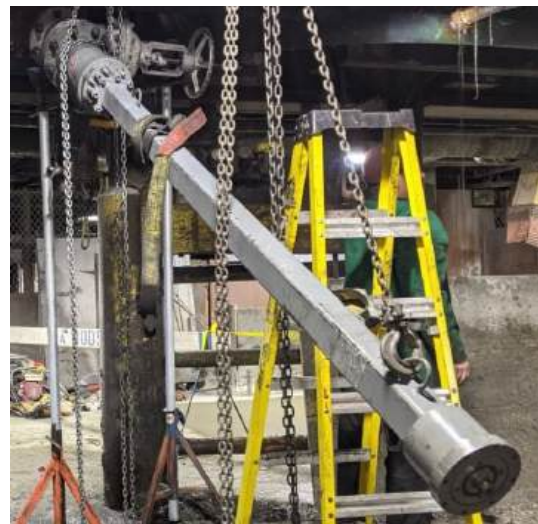
Line Stops and Inflatable Bag Stops

Line Stops

- Pivoting-Head Line Stops available up to 48"
- Available with or without bypass
- Can be performed on a variety of pipe materials, schedules, and products
- Pressures up to 1,480 psi

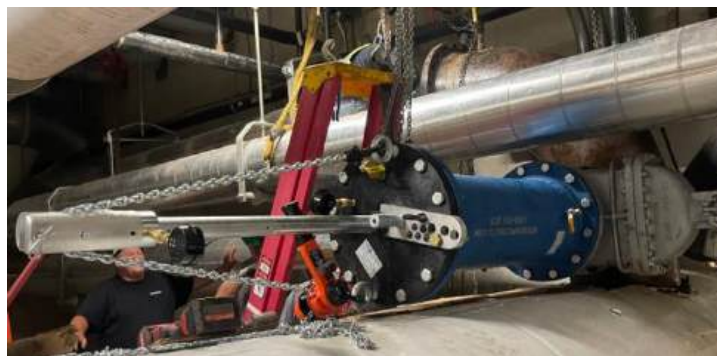
Paddle Stops

- Perform from 3/4" to 6"
- Suitable for a variety of services
- Flexible rubber element to conform to pipe



Inflatable Bag Stops

- Perform Bag Stops up to 60"
- Requires much smaller hole & less clearance versus Pivoting-Head Line Stop
- Double Block and Bleed Available
- Available in Isolation or Flow Stop





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Industrial Services

Line Freezes

Line Freezes

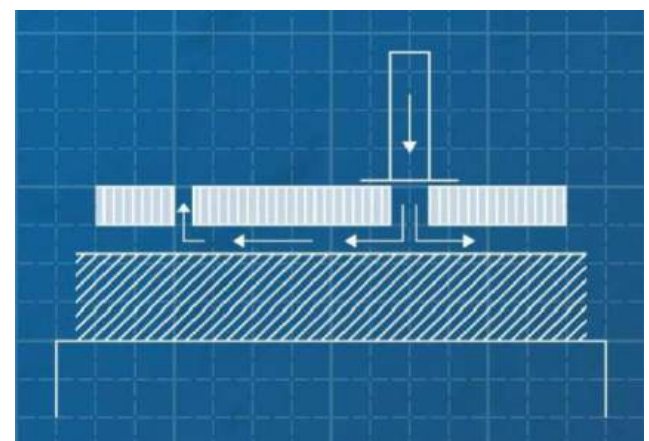
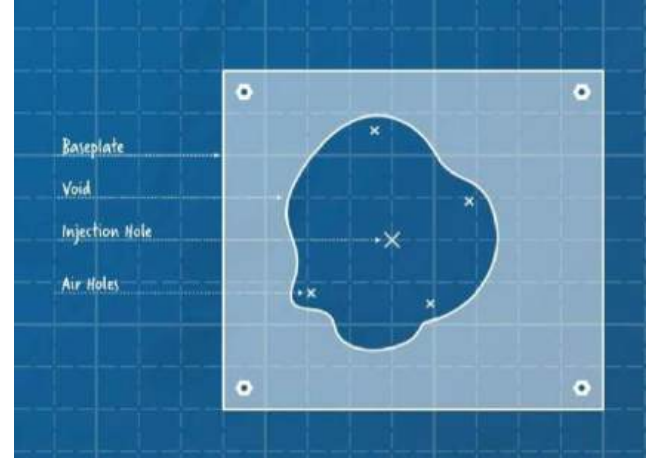
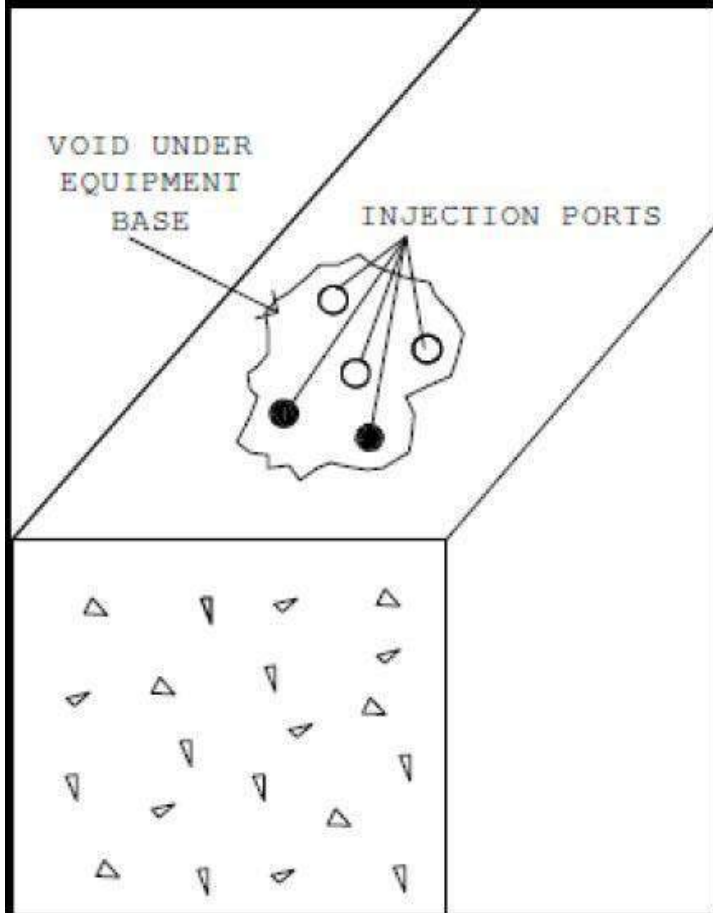
- Perform line freezes up to 60"
- Non-destructive method to repair a line without draining an entire system
- Lines cannot have any active flow & must be below 120°F
- Most economical way to make changes or repairs to existing water systems
- MIS can handle pressures up to the rating of the pipe
- Pipe materials include carbon steel, stainless steel, copper or cast iron
- Suitable for systems containing water, hydrocarbons or any chemical with an acceptable freeze point



Pump Base Injection

The filling of grout voids under machine bases with liquid epoxy grouts is a proven concept that has been used since the late 1960's. Using injection ports and vent holes to expel trapped air, a liquid "shim" of epoxy grout, as strong as the grout below it, is pumped or gravity fed into the void. Upon curing, the liquid epoxy becomes hard and fills the cavity, providing support at machine pedestals and can reduce vibration in adjacent plate sections.

- Reduce vibration and premature degradation of concrete pump bases
- Drill and inject two-part epoxy to fill voids and reinforce the base
- Can also apply a perimeter seal to contain epoxy if the base is very deteriorated





MILLENNIUM™
Industrial Services

Insert Valves

EZ Valve

Millennium offers the EZ Valve which is classed best choice for emergency repairs and the smartest solution for planned and emergency pipeline maintenance on 3" to 24" diameter lines. This In-Line insertion valve can be installed on horizontal or vertical lines and normally requires a single excavation allowing for **fast fixing, fewer disruptions to business and residents, and less cost and risk for owners and operators. Rated for potable water, food and beverage manufacturing, and industrial/commercial systems.**

- No water shutoff required during installation
- No fines for water shutoff
- No boil orders or customer notices
- No risk of plugging the line with a cut coupon
- No loss of pipe integrity
- Four times quicker to install than other valves on the market
- Only one excavation required for water line repair

Installation

- Can be installed on all common pipe materials
- Customizable for special applications (sleeves to meet steel pipe ODS)
- Installs at any angle
- Valve bonnet can be removed after repair or remain in place as permanent functioning



Safety

- Epoxy coated
- Stainless steel fasteners for secure positioning
- Working pressure of 250 PSI-Tested pressure to 375 PSI
- Components are WRAS Certified, meet AWWA C509 /C515 Standards & UL Classified to NSF/ANSI Standard 61, Drinking Water System Components- Health Effects





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Valve Repair & Testing

Valve Repair & Testing

Millennium offers repair, testing, and overhaul of all valve types in-line or in-house. This includes seat and gate restoration capabilities from ¼" - 60"+, in house welding, and machining of damaged seats, pressure seals, and internal trims. Millennium conducts field repair of all types of welded valves- from pressure seal valves to non-return stop valves.

In-Line Valve Repair

- Gate Valve
- Globe Valve
- Ball Valve
- Plug Valve
- Check Valve
- Safety Valve

In-Line Valve Testing

- Pressure Relief Valve
- Safety Relief Valve



In-House Valve Testing and Repair

- Gate Valve
- Globe Valve
- Ball Valve
- Plug Valve
- Check Valve
- Safety Valve





MILLENNIUM™
Industrial Services

Boiler Stub Pulling

Boiler Stub Pulling & Weld Removal

Millennium Industrial Services removed Boiler Tube Stubs safely and efficiently with our Induction Heating and Hydraulic Pulling Systems.

- Utilize induction heating capabilities
- Remove any tube from any size bi-drum unit
- Use a hydraulic puller to safely remove the stub
- Produces significant time savings
- On-site machining services to remove welds on welded tubes



Industrial Bolting Services

Torque and Tensioning

Millennium Industrial Services has been providing torque and tensioning services for over 30 years. No matter how big or small your job is, Millennium can provide you with complete turnkey service or technical support for your labor.

- Performance of full-scope technical support for your labor
- Technical support for your labor
- Ensure leak free start-up of critical assemblies
 - Pipe flanges, turbines, reactors, vessel man-ways, compressors, and heat exchangers

Flange Spreading & Flange Alignment

- Safely & efficiently align flanges with bolt holes from 3/8" to 3-5/8"
- Utilize mechanical and hydraulic operated flag spreaders while requiring minimal access gap requirements

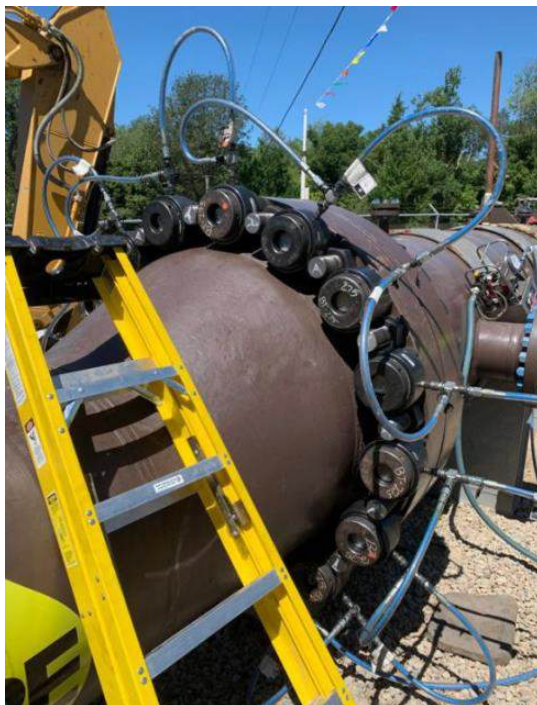


Stud Tensioning

Millennium Industrial Services offers stud tensioning for a variety of services from $\frac{3}{4}$ " to 4 $\frac{1}{2}$ " diameter studs up to 921,762 lbf. The Spring Return design dramatically increases productivity and safety on the job site when compared to older technology manual return tensioners.

Capabilities Include:

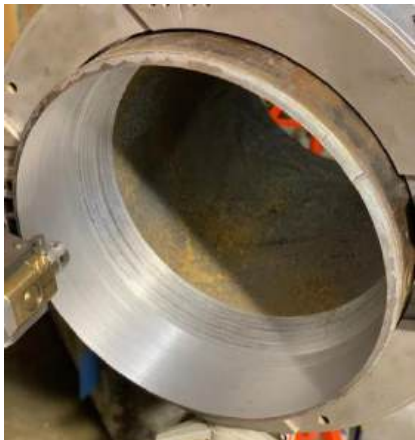
- Faster, more precise, and more consistent application of force to the joint
- Less risk of gasket crush due to improper torque pattern
- Less risk of operator error on individual studs
- Less risk of over or under-tightening
- Less risk of galling
- Eliminates potential for pinch-points and crushing injuries due to "hands off" tightening. No need for backup wrenches.



Field Machining

Pipe Cutting & Beveling

- Internal mount and external mount equipment- for the cutting of thin or thick wall pipes
- Equipment is lightweight with low radial and axial clearances for weld preparation, valve fittings, and related components
- Ideal for pipe maintenance and construction work in nuclear and fossil power plants, pipelines, oil platforms, petrochemical plants, and refineries, as well as shipbuilding, pharmaceutical, food, beverage, and other high purity piping applications
- Can cut, bevel, and counter bore pipe from 2" through 120" O.D. on all schedules and alloys

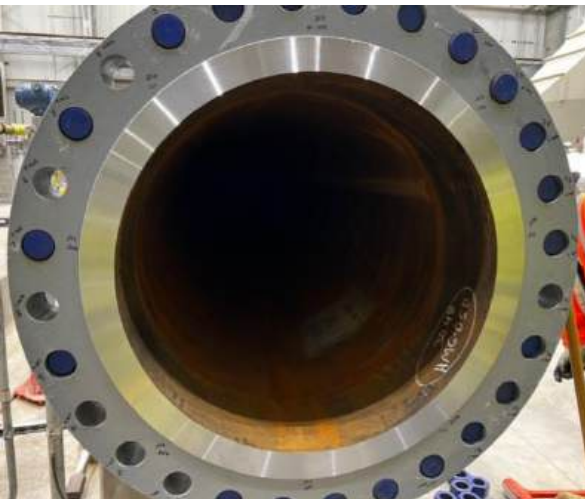




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Industrial Services

Flange Facing

- MIS can machine virtually any size and type of flange from Raised Face to Ring Joints
- Utilize both O.D. Mount and I.D. Mount Equipment
- No matter the flange, we can machine it in place and all work is done to industry standards and specifications
- Our equipment is durable, easy to maneuver, and capable of handling your flange facing needs at peak industry standards



Portable Milling

- MIS offers a variety of milling services for many applications including motor bases and other rotating equipment as well as plates, presses, roughing and finishing mill tracks, etc.
- Equipment is capable of both large surface area machining as well as fitting in very tight quarters
- Capabilities include custom modifications and setups
- Offer various sizes and configurations with extensive fixtures and capacity
- Milling machines perform a vast number of operations, such as slot cutting, planing, drilling, die-sinking, rebating, routing, etc.



Line Boring

We have the capability to line bore and reface equipment in the field from 1-3/4" to 96" diameters and up to 24' in length.



Stud Removal Services

Our core drilling process is guaranteed to save you time and money. Instead of drilling the studs in several stages, we will core the stud to within 1/32" of the minor diameter in only one step **with only one bit!** Conventional drilling requires multiple stages, more man hours, and more consumables. Our core drilling method can reduce drilling time from 3 to 8 hours per stud just 10 to 30 minutes per stud!

Capabilities Include

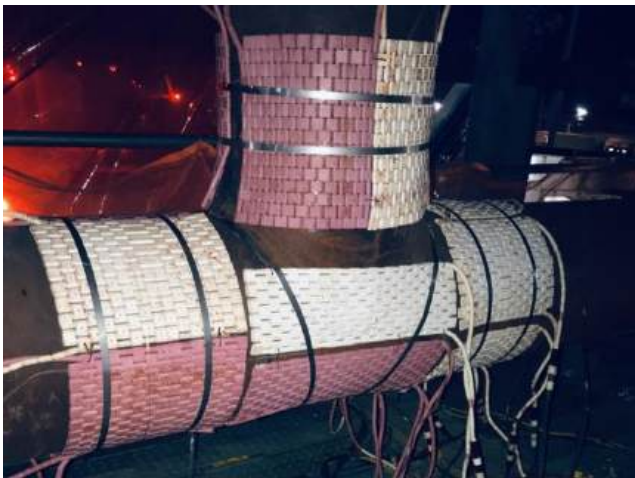
- 11/16" to 5-3/8" Diameter
- Up to 12" Deep
- Core Drilling
- Twist Drilling
- Countersinking
- Tap and Die
- Thread Repair
- Thread Repair Inserts



Resistance Heat Treating Services

We use the latest state-of-the-art resistance heat treatment equipment that has proven itself to be reliable on projects that demand heat uniformity, accurate control, dependability, and safety. Designed to operate manually or with programmable automatic controls. Our equipment is economical to use, simple to operate, robust in construction, and fully capable of heavy on-site workloads.

- Welding Preheat
- Post Weld Heat Treatment (in accordance with Applicable Standards)
- Digital Recording Capabilities
- Hydrogen Bake Out
- Line Thaws
- Coating Removal



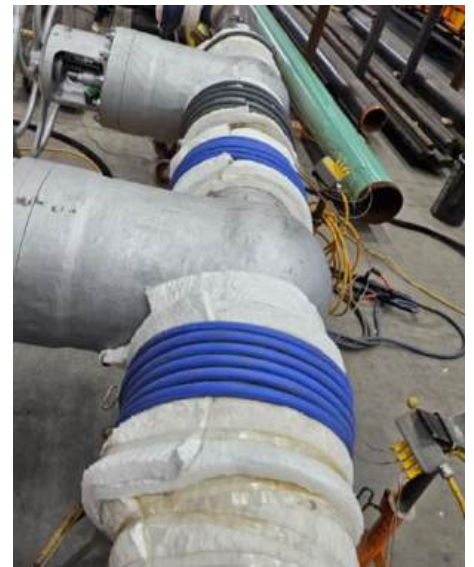
Induction Heat Treating Services

This simple and cost-effective heating process can deliver fast and consistent heat for:

- Welding fabrication and construction
- Preheating of welds
- Post-weld heat treatment
- Coating removal
- Shrink fit applications

Applications that would typically take require hours to heat can be done in minutes utilizing induction heating. In addition to the simplicity and efficiency, our induction heating system solves many key issues in today's environment:

- Does not produce the exposure to burns associated with open flames and electrical resistance wires (only the work part becomes hot)
- No significant expense of fuel gases
- Produces no flames compared to combustion heat treating
- Produces less particulate from overheated insulation caused by high temperature electrical wires and ceramic pads



Induction Bolt Heating

MIS Induction Bolt and Nut Heating System can save you hours or even days during scheduled turbine outages. Our heating technology reduces average time from 45 minutes per bolt to 5 minutes per bolt, and the induction coils are cool to the touch creating a safer work environment.

- Process also minimizes safety concerns associated with the forceful removal of nuts with sledgehammers and slugging wrenches
- Nuts can be easily removed using simple hand tools
 - Reduces possible injury and lost man-hours



Test Plugs & Tube Plugs

Isolation Test Plugs

Conventional hydro test methods for open-end pipe typically involve welding on end caps, performing the pressure test, cutting off end caps, and re-beveling the pipe. A time-consuming process that can extend project schedules.

At Millennium, we utilize isolation test plugs that allow you to both pressure test a system, or hydro test a single weld at the point of origin which significantly cuts down testing time and additional man-hours by eliminating the need to weld on/cut off end caps, allowing you to self-perform pressure tests much faster.

Boiler Tube Plugs

Our boiler repair plugs reliably plug boiler tubes without welding or time-consuming pre-heating and post weld stress relieving and the weld inspections that go with it.

Pop A Plug

Pop-A-Plug Tube Plugs are a permanent mechanical tube plugging solution for leaking heat exchangers, condensers, and boiler tubes. Mechanical tube plugs feature an internally and externally serrated ring designed to maintain a helium leak-tight seal even under extreme thermal and pressure cycling.

- Millennium installs Pop-A-Plug Tube Plugs for Low, Medium, High Pressure, and Boiler Tubes.





MILLENNIUM™
Industrial Services

Equipment Rentals & Services

Equipment Rentals & Services

Millennium warehouses a vast inventory of industrial tooling throughout the East Coast. These products are available for rental and sale. We also offer fully staffed tool trailers with inventory tailored to your specific maintenance needs.

MTT Manufactured Tools

- Dual Speed Pneumatic Torque Guns
- Pneumatic Valve Exercising Kit
- Battery Operated Torque Guns
- Battery Operated Valve Exercising Kit

Hydraulic Bolting Equipment

- Hydraulic Torque Wrenches
- Hydraulic Torque Pumps
- Hydraulic Stud Tensioners
- Hydraulic Flange Spreaders
- Hydraulic Nut Splitters

Miscellaneous Tools

- Hand Clicker Torque Wrenches
 - Pneumatic Impact Wrenches
 - Flange Alignment Pins
 - Impact Sockets & Slugging Wrenches
 - Hands-Free Backup Wrenches
-
- **Custom Reaction Arms**
 - **Mobile Torque Wrench Tool Repair & Calibration**
 - **On-Site Customized MTT Tool Trailer Rental**





Locations



Canonsburg, PA
Toledo, OH
Griffith, IN
Spartanburg, SC
Lakeland, FL

