Mazak

Mazak Spindle Repair and Rebuild Services

FAST. PRECISE. RELIABLE.



Mazak Spindle Repair and Rebuild

Why Mazak Spindle Repair and Rebuild Services?

When a machine tool spindle goes down, it costs you time and money. To avoid even greater costs, any necessary spindle repairs or rebuilds need to happen immediately. For these situations, our ISO 9001:2008-certified Mazak Spindle Repair and Rebuild Department provides you with fast, exact and reliable services that will have your machine back up and running as quickly as possible.

Mazak's certified Spindle Repair and Rebuild Services offer the most reliable high-quality spindle maintenance services for all Mazak-type spindles. A spindle's original manufacturer should perform repairs or rebuilds, and the benefits of Mazak's spindle services include:

Cost effectiveness

You save time and money over purchasing a new spindle.

Speed

We complete spindle repairs and rebuilds within five days of receipt, and same-day shipment is available for new or refurbished in-stock spindles.

Reliability

We understand the negative effects caused by poor spindle performance or unplanned downtime, which is why we offer the highest quality service and fastest turnaround time in the industry.

Precision

We guarantee that every spindle leaving our state-of-the-art facility performs to exact factory specifications.

Experience the Mazak Spindle Advantage

Our Spindle Repair and Rebuild Department supports every Mazak machine tool spindle in North America – over 2,000 different models/horsepower ratings and speeds. We also offer the highest quality new and remanufactured index tables, ATC shifters, gearboxes, live tooling and milling turrets.

Only Mazak's spindle repair and rebuild services include:

- Experienced technicians who perform every stage of the repair and rebuild process.
- Factory-certified Mazak parts and procedures that meet or exceed original equipment specifications to guarantee top spindle performance.
- Quick and easy access to real-time repair/rebuild updates to keep you completely up-to-date on every stage of the process, including tear down results, quality reports or status updates as well as the ability to view bills of materials, parts drawings, assembly procedures and change notices.
- Full inspection and testing backed by trackable spindle documentation, all completed within a short turnaround time.
- The industry's best warranty, which spans one year or 4,000 hours on all spindles installed and produced, repaired or rebuilt by Mazak.

New State-of-the-Art Spindle Repair and Rebuild Department

As a key component of Mazak's fast, high-quality spindle services, our new repair and rebuild facility – currently under construction – will be second to none. Mazak designed the facility from the ground up and geared it toward one specific goal – to repair and rebuild your spindles as quickly and efficiently as possible to keep your production downtime to a minimum.

The new state-of-the-art facility represents Mazak's continued commitment to customer support and success. The large, clean and bright facility will include ergonomic workspaces that will streamline repair and rebuild operations for optimal flow and efficiency. It will also be strategically located in close proximity to the Mazak Parts Department to ensure that spindle service turnaround times are as short as possible so you can quickly get back to producing parts.

In addition to ample room for up to 1,500 stocked rebuilt spindles, which allows us to offer same-day shipping for 95% of our new and refurbished spindles, Mazak's Spindle Repair and Rebuild Department has the capacity to service as many as 100 spindles per month. And every one of those spindles goes through rigorous testing and inspection on the facility's advanced equipment, including spindle balancing units and other process systems that can accommodate even the largest Mazak spindles.

The Process

In the metalcutting industry, the machine spindle is at the heart of business operations, and Mazak technicians give it the care it deserves. Prior to each and every spindle repair or rebuild, they disassemble, clean, inspect and assess your spindle's overall condition.

Failure analysis

A thorough analysis takes place to determine the root cause of your spindle's failure.

Spindle inspection

All spindle components are examined for signs of wear and improper fit and size. Components are only replaced when absolutely necessary to help minimize your costs.

Quote

A free, no-obligation quote is provided in a timely manner, and work begins immediately following your approval of service.

Spindle Repair

Unrivaled in the industry, Mazak's Spindle Repair Service maximizes the working life and value of your machine tool spindle and gets you back up and running as quickly as possible whenever a problem arises.

During the spindle repair process, we will:

- Disassemble and clean your spindle.
- Install necessary replacement parts along with new bearings, O-rings, springs and seals.
- Test and conduct final inspection.



Spindle Rebuild



When your spindle requires a complete rebuild, the extensive and highly precise process is conducted in a clean, climate-controlled environment. We will ensure your rebuilt spindle performs reliably through every cycle and to exact factory specifications.

During Mazak's certified rebuilding process, we will:

- Exchange your spindle core.
- Precision grind and lap all critical spindle components for flatness and size – both held to within two microns.
- Gauge/test spindles at each stage of the rebuild for axial displacement, internal pressure, load settings, tool clamp force and runout.
- Balance spindle cartridges to within 0.5 grams for reduced vibration and improved bearing performance.
- Conduct an eight-hour progressive runoff to gradually work in bearings and monitor temperature.

Spindle Maintenance

Six Ways to Minimize Spindle Repair

Follow these six maintenance tips to prevent your part productivity from coming to an abrupt halt due to a down tool spindle.

1. Keep lubricating fluids clean and at safe operating levels, adhering to Mazak's recommended lubrication and/or air-intake filter replacement schedule.

2. Check spindle runout every six months and/or after any crash using a ground and calibrated spindle test bar to monitor spindle spring force with a drawbar pull force test.

3. Closely monitor spindle vibration levels, do not ignore triggered alarms from built-in vibration sensing systems, and always replace worn spindle bearings.

4. Maintain spindle-bearing lubrication, especially for large spindle headstocks that are not factory lubricated for life and need to have their bearings lubricated with oil baths.

5. Ensure chiller units for spindle coolant systems always run properly.

6. Always re-install any machine covers that have been removed due to routine maintenance or for any other reason to prevent spindle contamination.

Mazak Technology Centers

As a key component of Mazak's comprehensive customer support, its network of Technology and Technical Centers strategically located across North America puts component machining demonstrations, experienced applications engineers and training in close proximity to customers. These Technology Centers also provide a channel for customer input to Mazak manufacturing for the development of new machine tool technology.

Technology Centers offer advanced application support, education and training, new technology and manufacturing systems, along with on-site training and technology seminars.

Advanced application support

- Expert applications engineers help customers optimize part-production processes and create effective manufacturing solutions.
- Mazak-certified cutting tool, workholding and automation partners collaborate to develop optimized turnkey manufacturing solutions.
- Test cuts of customer parts run on the latest, most-advanced machine tools.
- Secure applications development and complete design privacy of each customer's individual manufacturing system.

Education and training

- Education, training and seminar events in cooperation with Mazak technology partners.
- Free access to the most advanced machine tools.
- Industry focused education - general aerospace, energy, jet engine and construction.



New technology and manufacturing systems

- The latest, most-advanced manufacturing systems that can optimize the processing of industry-specific components.
- Productivity experts help customers select the best new machine tool technology for their particular businesses.

On-site training and technology seminars

- Hands-on applications and operator development courses.
- Regularly scheduled market-focused events that provide valuable industry insight.



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Optimum Plus Service and Support

Mazak Optimum Plus

To maximize machine tool investments, the Mazak Optimum Plus program represents a company-wide commitment to provide the best-possible, most-comprehensive support.

The Optimum Plus program encompasses Five Pillars – distinct yet interrelated areas:

- Single-source service
- Technical support – machine and CNC
- Parts support
- Progressive learning
- Spindle and unit rebuild

Single-source Service

Mazak is a single point of contact for any Mazak-related service need, whether it involves a machine, control, accessory or automation solution. This effective service approach helps customers maintain the highest possible level of productivity.

Benefits of Mazak's single-source approach include:

- Free technical phone support and software upgrades for the life of a Mazak machine.
- Software support that provides instantaneous diagnostic services via remote real-time systems.
- Guaranteed phone response to any technical question within one hour via a 24/7 technical phone support system.
- More than 350 factory-trained Mazak service representatives and certified distributor personnel who can be at a customer's site within 24 hours under most circumstances.
- Wide variety of services, including laser calibration to ISO, ANSI and JIS standards; ball bar qualification and analysis; preventive maintenance plans and programs; and vibration analysis and benchmarking.

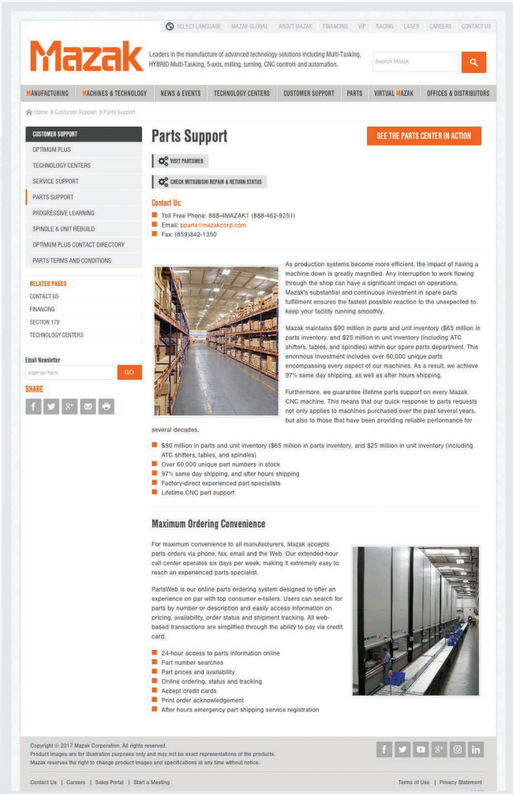
Technical support – machine and CNC

Comprehensive warranties on every Mazak machine tool component, including a two-year part warranty on CNC control components.

Technical support for machines and CNCs also includes:

- Additional warranty coverage (available upon request).

Mazak OPTIMUMplus
TOTAL SUPPORT FOR MAZAK CUSTOMERS



The Mazak Optimum Plus program enables customers to maximize the value of their Mazak purchases.

Parts Support

Mazak's spare parts fulfillment ensures the fastest possible reaction time. The state-of-the-art Mazak North American Parts Center uses the latest AS/RS fully automated warehouse storage system technology and maintains a $65 million parts inventory.

Benefits of the North American Parts Center include:

- Average 97% same-day parts shipment and after-hours shipping.
- Over 60,000 part numbers in stock.
- Convenient web-based parts ordering.
- Factory-direct experienced part specialists.
- Lifetime CNC parts support.



Fully automated warehouse storage systems ensure the fastest delivery of Mazak spare parts.

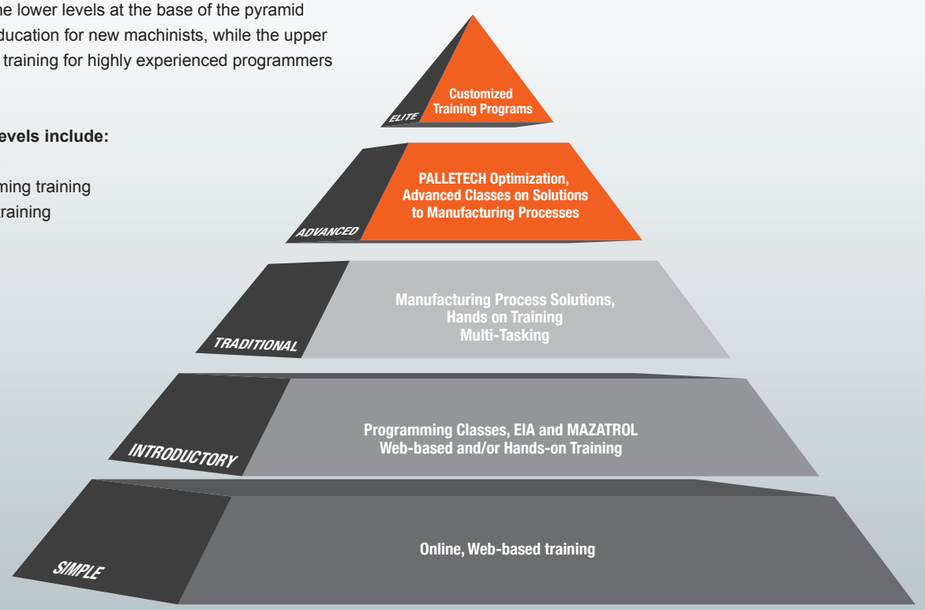
Progressive Learning

Mazak's Progressive Learning represents a unique, phased approach to education and training for customers, combining hands-on training, web-based instruction and real-world examples. The program's tiers of offerings – Pyramid of Learning – range from self-paced coursework to highly advanced classes. Every Mazak machine includes three years of programming training at no charge to customers.

Mazak's Pyramid of Learning is a visual representation of its approach to training. The lower levels at the base of the pyramid represent basic skills education for new machinists, while the upper levels signify advanced training for highly experienced programmers and operators.

Pyramid of Learning levels include:

- Simple online training
- Introductory programming training
- Traditional hands-on training
- Advanced training
- Customized training



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