

SPINDLE REPAIR & REBUILD



PRECISION SPINDLE SOLUTIONS: QUALITY - EXPERIENCE - RELIABILITY

The Setco® Spindle Rebuild and Repair service process maximizes spindle performance to improve productivity and accuracy, decrease downtime, and reduce maintenance costs while improving overall spindle reliability. Setco repairs and rebuilds most makes, models, and sizes; including foreign, domestic, and OEM brands.

Setco manufactures, rebuilds and repairs more spindles than any other independent spindle repair company:

- Repair portfolio consists of over 350 brands, including all major OEM's
- Service Centers – four in North America, five in Asia
- Over 312,000 new and used spindles in the field, 12,000+ per year new and repaired spindles
- More than 450 years of precision spindle building experience in the assembly room
- Founded in 1912, over 110 years of experience

Types of Spindles that Setco manufactures and repairs:

- | | | | |
|------------------------|----------------------------|--------------------------|------------------------|
| • Geared | • Machine Tool OEM | • Air-bearing | • Electrolytic |
| • Motorized | • High-Speed | • Spark Erosion Grinding | • Friction Welding/FSW |
| • Belt-driven | • Milling, Turning, Boring | • Precision Welding | • Custom |
| • Direct Drive/In-line | • Lathe | • Optical | • Grinding |

THE REBUILD PROCESS

From start-to-finish, customer service is the highest priority. All work is backed with a warranty, with the commitment to return your spindle to “like-new” performance.

- Expert Spindle Repair, Rebuild & Retrofit Services
- We Rebuild Most Makes, Models & Size Spindles; Belt-driven, CNC, Gear-driven & Motorized
- 24 Hour Emergency Services Available

Supported globally with 9 fully-equipped Spindle Service Centers, for quick and professional spindle repair and rebuild services.



DISASSEMBLY & FAILURE EVALUATION

Upon receipt, your spindle is disassembled, cleaned, and its failure evaluated to isolate issues and determine the reason it failed.

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COMPONENT INSPECTION

Components are examined for any signs of wear, damage or improper fit and size. This includes full inspection of all bearing journals, bore, shoulders, caps, bushings, spacers, and other critical components.

FIRM PRICE QUOTES

Provide “Firm Price” quotes on rebuilds, free-of-charge* and without obligation. Once approved, work is started immediately. If you decide not to have Setco® rebuild your spindle, we promptly return your spindle.

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PART REPLACEMENT & RECONDITIONING

Parts are replaced or re-conditioned to OEM specs to ensure “like new” operating performance.

- Housings sleeved & machined
- Shafts chromed & reground
- All spindle seals replaced
- Drawbar seal & springs replaced
- Spindle bearings replaced
- Components checked for balance
- Spindle seals & o-rings replace
- Electrical parts checked

REASSEMBLE, TEST, & BALANCE

Spindle is reassembled, precision balanced, and fully run-off under controlled conditions until thermally stabilized at maximum speed. All testing data and baseline vibration electronically stored by serial number for future reference.

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RETURN

When spindle rebuild is completed and has passed all testing, it is returned with full documentation and certification. All rebuilds come with a written warranty.



* Free evaluations are based on specific spindle types and the condition of the spindle as received.

ACHIEVE GREATER PERFORMANCE WITH A SPINDLE REBUILD OR RETROFIT

Setco Rebuilds outperforms and outlasts the competition. Full In-house engineering & machining capabilities ensure predictive results

The Setco Method:

- Evaluate spindle failure mode
- Test draw bar pull force & recondition with new springs/seals
- Analyze and test spindle & motor problems
- Correct taper, pilot, face, or any tool connection problems
- Restore improper fits & sizes to OEM specs
- Replace or recondition worn parts to OEM specs
- Reverse engineer & manufacture parts to OEM specs
- Install new precision bearings & seals
- Then precision balanced & tested to confirm "Like New" performance
- Test & certify all electrical components

Complete Retrofit Services:

- Lubrication changes (grease or oil)
- Speed change/bearing preload optimization
- Tool connection upgrades to HSK, BigPlus, or KM 4ball
- Sealing upgrades to AirShield™
- Seals to improve the life of spindle
- Review of application to determine design improvements

Spindle Related Repair Services and Products:

- Precision balancing
- Vibration analysis collection and reporting
- Spindle replacement parts and accessories
- Spindle warranties - Best-In-Industry
- Reconditioned precision shafts
- Reverse engineering services
- Vibration analysis report

Other Machine Maintenance Services:

- Ball screw repair
- Drawbar repair
- Gearbox repair
- Linear slide repair
- Predictive maintenance services

BEFORE



A Setco spindle that ran for years and eventually failed.

AFTER



Spindle is fully rebuilt to OEM specifications.

OPTIONAL UPGRADES: INCREASE PERFORMANCE & RELIABILITY

- AirShield™**
- Bearing seal, patented- Reduce costs and downtime
 - Eliminates spindle failure due to bearing contamination
 - Extensive testing proves the Setco AirShield™ is most reliable bearing sealing system in the industry

- TensionSet™**
- Precision load limiter, patented
 - Extends spindle uptime
 - Prevents premature rear bearing failure due to over-tensioning of belt
 - Maximizes belt and spindle life

- RotoShield™**
- Guards against damage and wear. Patent pending.
 - Controlled bypass leakage reduces seal degradation, improving union life
 - Prevents destruction and wear.
 - Runs high-pressure coolant at high-speeds; also capable of running dry.
 - 1,000psi at 20,000rpm rated

- Leak Sensor**
- Internal bypass after sensor activation significantly delays liquid from backing up drain line into union; thus provides time to replace union
 - Alerts when drainage is too high; indicating union must be replaced
 - Works with conductive and non-conductive liquids
 - Outputs an electrical signal for machine alarm
 - Electrical components are not in direct contact with liquid, resulting in longer-life



Serving all markets and industries: aerospace, automotive, agriculture, industrial equipment, medical, optical, mining, oil & gas, rail, solar, and many more!



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