

ZR ZRCC01036L

ZR ZRCC01036L 36W 50mm Miniature Metal Lathe Instruction Manual

Model: ZRCC01036L | Brand: ZR

1. INTRODUCTION

This manual provides essential information for the safe and effective operation of your ZR ZRCC01036L Miniature Metal Lathe. This compact machine tool is designed for precision processing of soft metals (such as aluminum, copper, gold, silver), wood, acrylic, and engineering plastics. It is suitable for DIY model making and small craft projects, offering similar functionalities to larger industrial machines but in a smaller, 12V unit.

The lathe features an all-metal construction for durability and precision, with a high-power motor capable of up to 20,000 RPM. Its modular design and child-friendly safety features make it an ideal tool for educational and hobbyist applications.

2. PACKAGE CONTENTS

Carefully unpack the box and ensure all items listed below are present and undamaged. If any items are missing or damaged, please contact customer support.

- 1 x ZR Miniature Metal Lathe
- 1 x Lifting Block
- 1 x Accessory Set (includes 1 turning tool, 2 mounting rods, 1 center ruler, 3 handwheel kits, 2 square nuts, 2 M*14 screws, 2 gaskets, 1 # hexagonal wrench, 1 2.5# hexagonal wrench)
- 1 x Power Adapter
- 1 x Workbench Plate
- 1 x User Manual



Image: The ZR Miniature Metal Lathe as packaged, showing the main unit and accessories secured within protective foam.

3. SPECIFICATIONS

The following are the technical specifications for the ZR ZRCC01036L Miniature Metal Lathe:

Parameter	Value
Motor Speed	Up to 20,000 rpm
Input Voltage/Current/Power	12V / 3A / 36W
Power Supply Input	110V-240V
Max Processed Material Diameter	50 mm
Jaw Grip Range (Positive)	3 mm to 30 mm
Jaw Grip Range (Opposite)	3 mm to 50 mm
Max Processed Material Length	150 mm
Chuck and Collet Range	1 mm to 6 mm
X-axis Slider Travel	150 mm
Center Height	50 mm
Center Distance	150 mm
Machine Dimensions (L x W x H)	310 mm x 100 mm x 175 mm

Parameter	Value
Bottom Plate Dimensions (L x W x H)	315 mm x 200 mm x 17 mm
Package Dimensions	40 x 30 x 30 cm
Weight	4.8 kg
Power Source	AC
Batteries Required	No

Note: Manual measurements may have a 2-3 mm error.

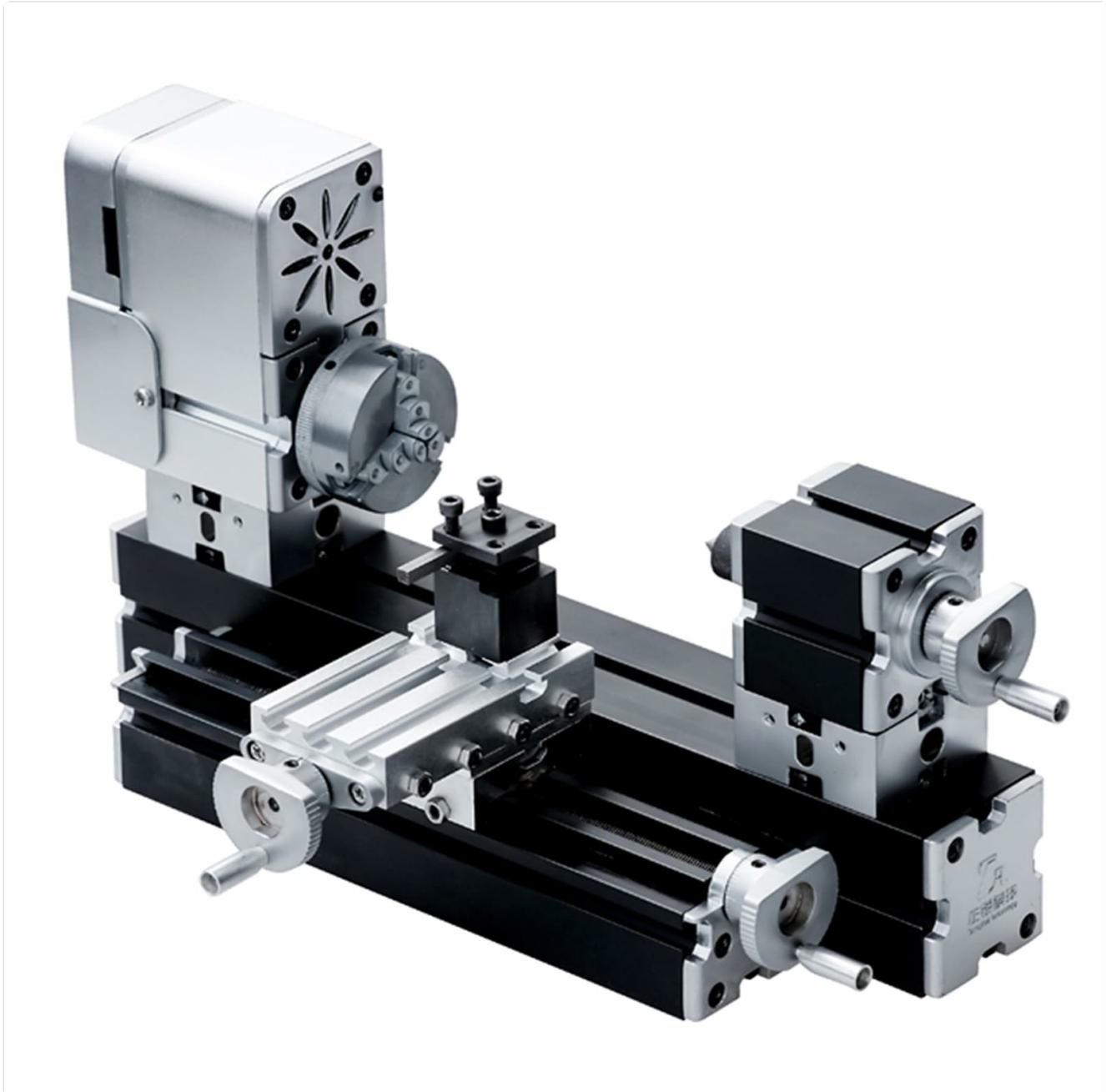


Image: Overview of the ZR Miniature Metal Lathe with key dimensions (length 310mm, width 105mm, height 160mm) indicated.

4. SETUP

The ZR Miniature Metal Lathe is provided as a complete, pre-assembled machine tool. No complex assembly is

required before initial use. However, understanding the components and their functions is crucial for proper operation.

4.1 Component Overview

Familiarize yourself with the main parts of the lathe. The motor box and headstock are fully integrated, and all primary components are constructed from metal, ensuring stability and precision.

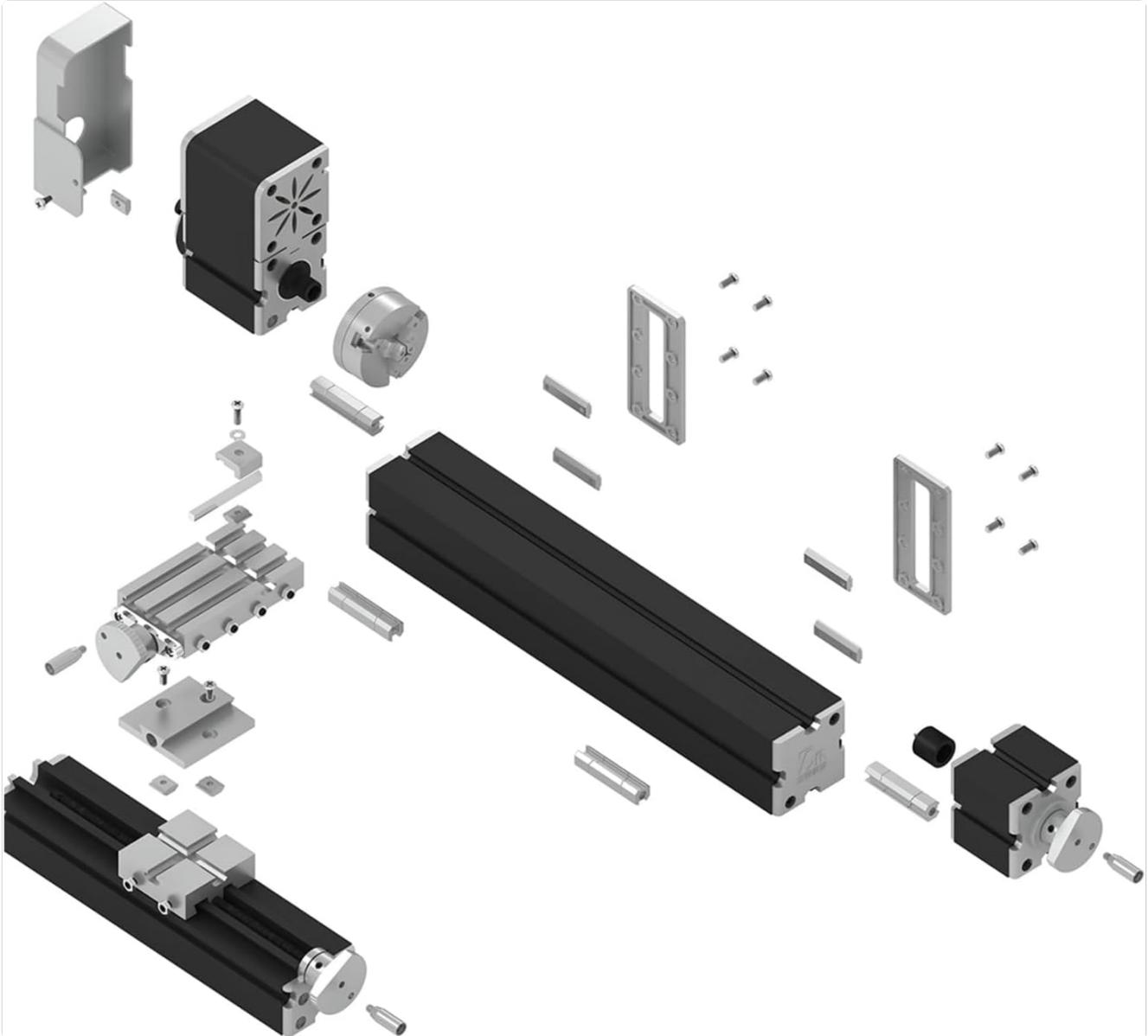


Image: Exploded view illustrating the various components of the ZR Miniature Metal Lathe, including the motor, chuck, bed, tailstock, and tool post.

4.2 Initial Placement

Place the lathe on a stable, level workbench. Ensure adequate clearance around the machine for safe operation and material handling. Connect the power adapter to the lathe and then to a compatible 110V-240V power outlet.

5. OPERATING INSTRUCTIONS

This section outlines general operating procedures for the lathe. Always prioritize safety and refer to specific project requirements for detailed cutting parameters.

5.1 Material Clamping

The lathe is equipped with a 3-jaw chuck capable of holding materials up to 50mm in diameter. For irregular shapes (e.g., square, elliptical, hexagonal), optional 4-jaw chucks are available. Ensure the material is securely clamped to prevent movement during operation.

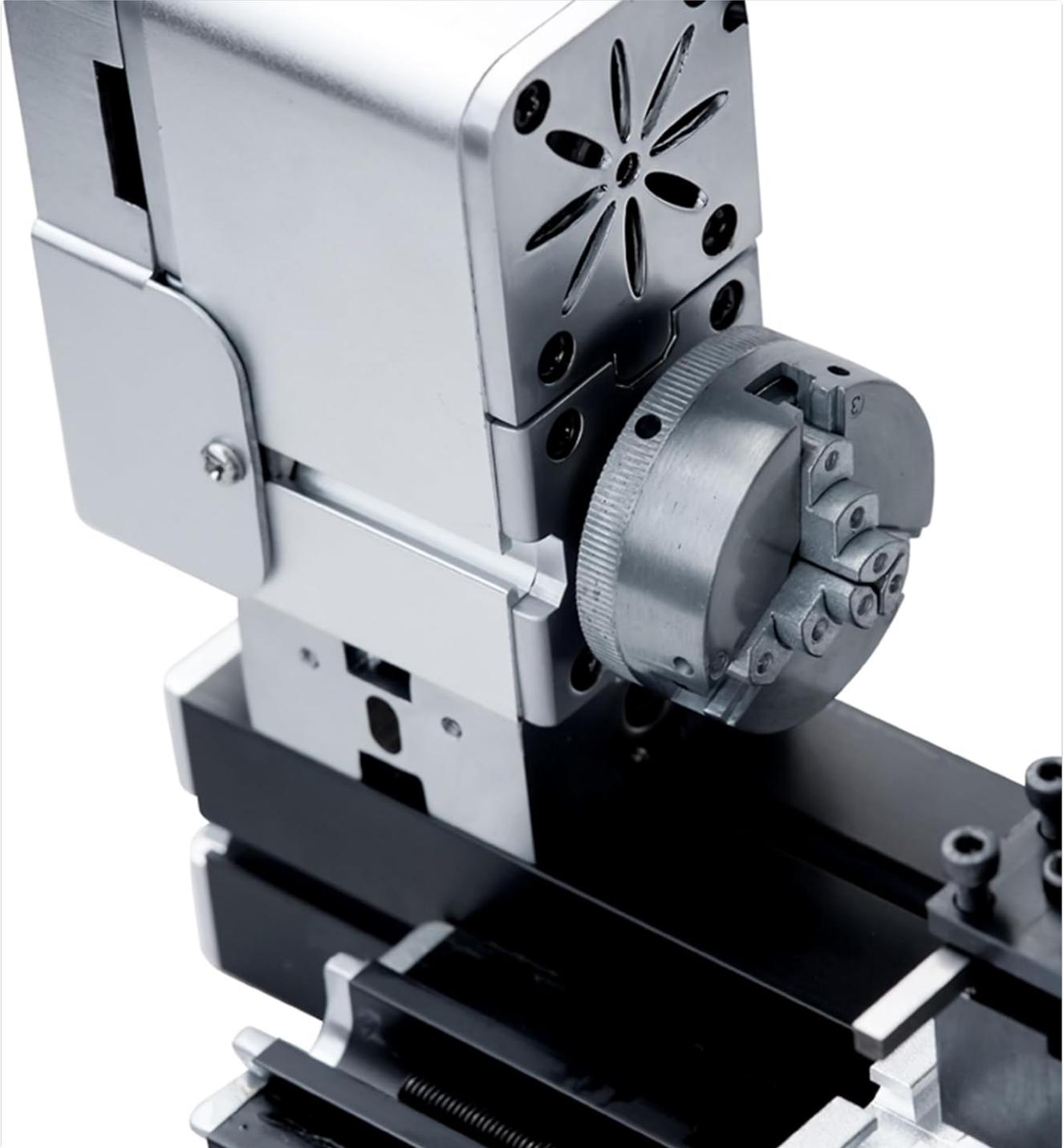


Image: A detailed view of the 3-jaw chuck, showing its gripping mechanism for securing workpieces.

5.2 Tool Post and Turning Tools

Mount the appropriate turning tool in the tool post. The chuck is fixed by a hexagonal nut to increase the tightness of clamping tools. Adjust the tool height to the center of the workpiece for optimal cutting. The X-axis slider allows for precise tool positioning with a travel of 150mm.

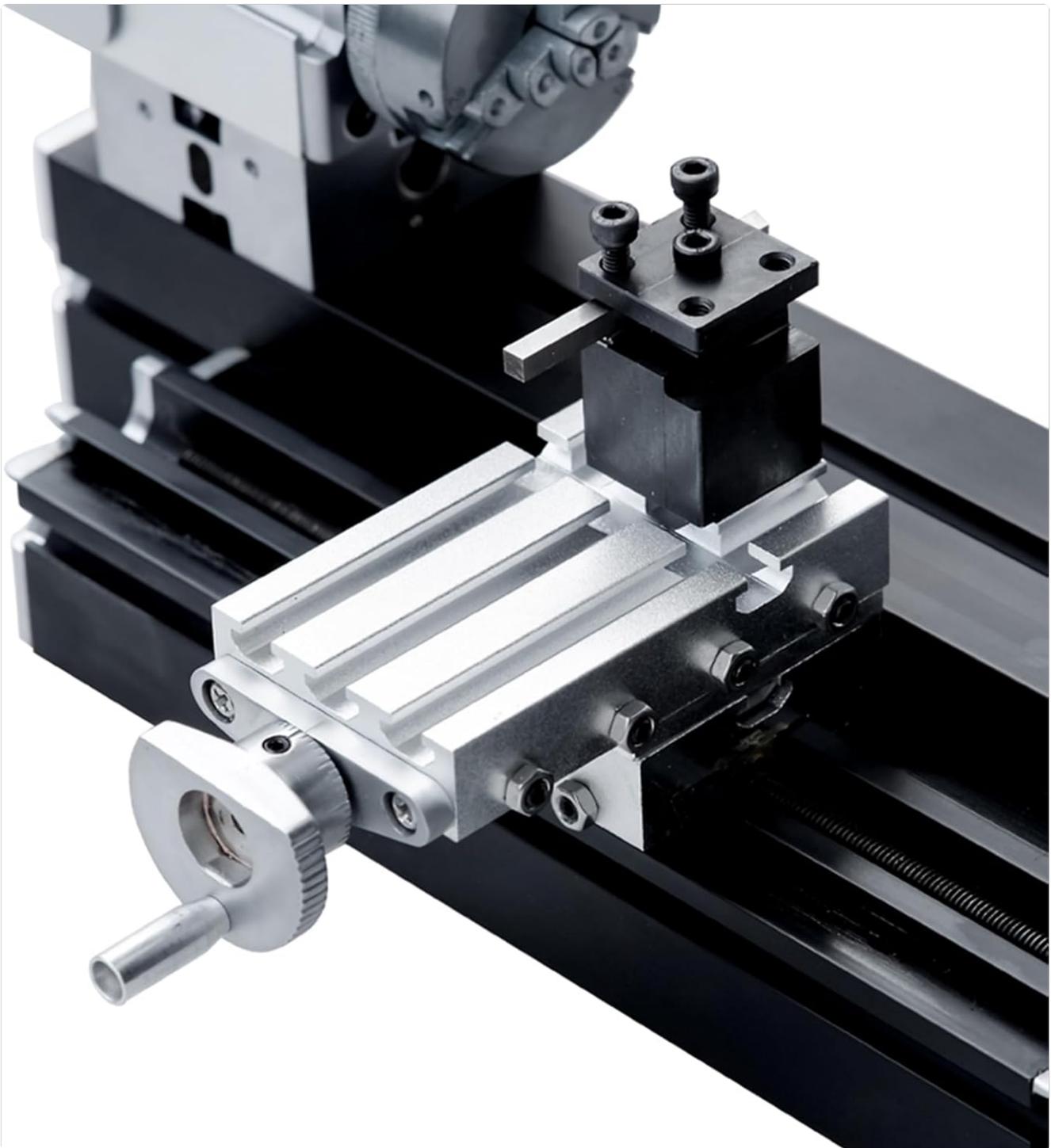


Image: A close-up of the tool post and cross slide assembly, highlighting the precision handwheel and tool mounting area.

5.3 Power On and Speed Control

Once the workpiece and tool are secured, turn on the power. The high-power motor provides speeds up to 20,000 RPM. Adjust the speed as necessary for the material being processed. The integrated fan motor ensures efficient cooling during operation.

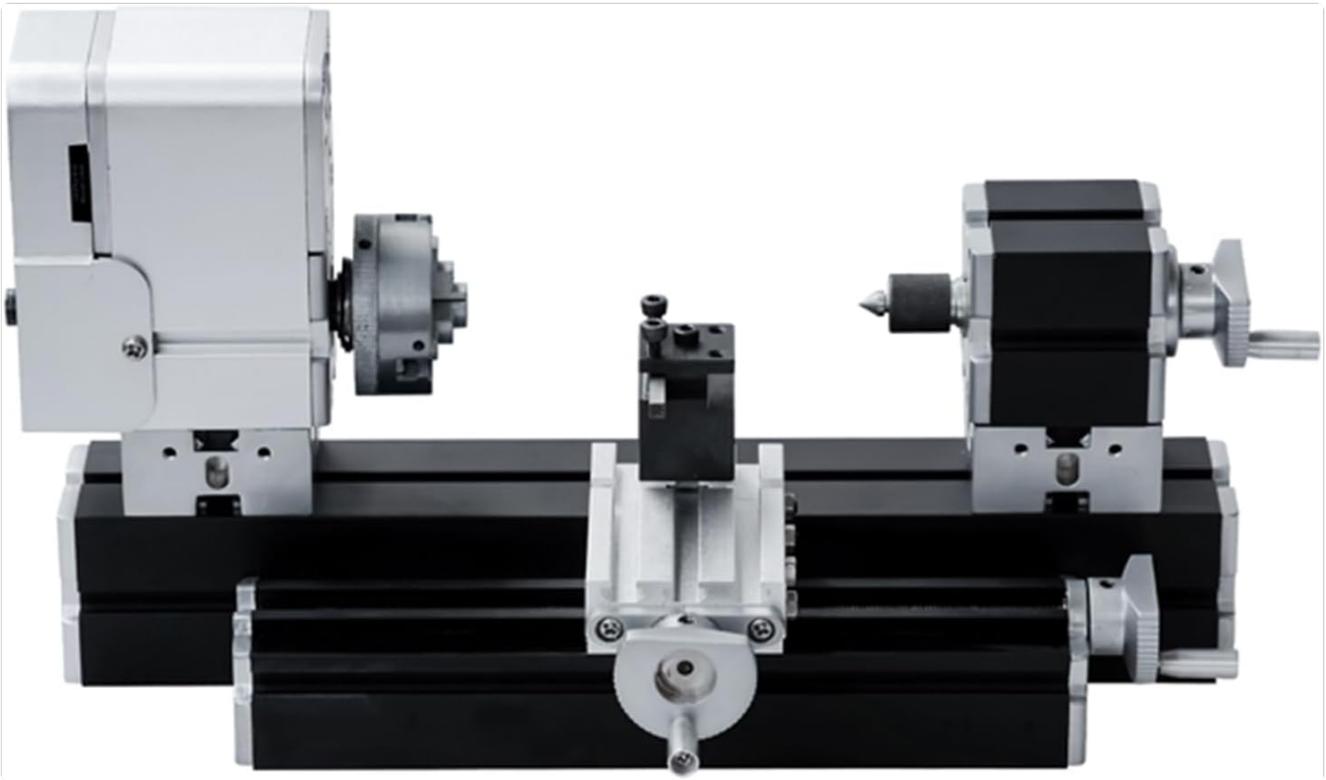


Image: Front view of the ZR Miniature Metal Lathe, showing the motor housing, chuck, tool post, and tailstock in alignment.

5.4 Precision Adjustment

The handwheels for the X, Z axis, and tailstock are made of super alloy and feature a 0.02mm scale line for precise adjustments, enhancing processing accuracy. The handwheel's 3/4 semicircular structure facilitates convenient disassembly of connecting parts.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your lathe. Keep the machine clean and free of debris. After each use, remove chips and dust from the machine bed, slides, and chuck.

- **Cleaning:** Use a brush or compressed air to remove metal shavings and dust. Avoid using liquids directly on electrical components.
- **Lubrication:** Periodically apply light machine oil to the moving parts, such as the lead screws and slide ways, to ensure smooth operation and prevent wear.
- **Inspection:** Regularly check all nuts and bolts for tightness. The connection block is fixed by square nuts to prevent loosening from vibration, but periodic checks are recommended.
- **Rust Prevention:** Most parts are treated with electroplating and jet anodizing for rust resistance. However, in humid environments, consider applying a thin layer of rust preventative oil to exposed metal surfaces.

7. SAFETY INFORMATION

Operating any machine tool requires adherence to safety guidelines to prevent injury. The ZR Miniature Metal Lathe incorporates a child-proof design and safe fillet processing technology to minimize risks, but user vigilance is paramount.

- Always wear appropriate personal protective equipment (PPE), including safety glasses, when operating the lathe.
- Ensure long hair is tied back and loose clothing or jewelry is secured to prevent entanglement with moving

parts.

- Never leave the machine unattended while it is running.
- Keep hands and fingers clear of the chuck, cutting tool, and rotating workpiece during operation.
- Disconnect power before performing any maintenance, adjustments, or changing tools.
- Ensure the workpiece is securely clamped before starting the machine.
- Do not overload the machine; respect its specified capacities for material diameter and length.
- The 3C quality transformers include overcurrent, overvoltage, and overheating protection, but always use the machine within its intended electrical specifications.

8. TROUBLESHOOTING

This section addresses common questions and issues you might encounter.

8.1 Is the miniature machine tool easy to assemble and operate?

The ZR Miniature Metal Lathe is provided as a complete, pre-installed machine tool. A comprehensive set of manual guides is included to assist with smooth operation. If you have further questions, please contact our online service via email, WhatsApp, or phone.

8.2 Machine not powering on.

- Check if the power adapter is securely connected to both the lathe and the power outlet.
- Verify that the power outlet is functional.
- Ensure the power switch on the lathe is in the 'ON' position.

8.3 Excessive vibration during operation.

- Ensure the workpiece is properly centered and securely clamped in the chuck.
- Check that the machine is placed on a stable and level surface.
- Verify that all connection blocks and fasteners are tightened. The square nuts are designed to prevent loosening from vibration.

9. WARRANTY AND SUPPORT

Your ZR Miniature Metal Lathe comes with a **one-year warranty**. Quality is guaranteed by authorized CE, RoHS, FCC, and ISO9001:2008 certifications. Free spare parts are provided during the warranty period.

9.1 After-Sales Service

For any inquiries, technical support, or warranty claims, please contact our customer service team. We are available via email, WhatsApp, or phone for online service.

Please have your model number (ZRCC01036L) and purchase date ready when contacting support to expedite assistance.