

Twotrees TTC roller

Twotrees TTC 450 CNC Rotary Axis User Manual

1. PRODUCT OVERVIEW

The Twotrees TTC 450 CNC Rotary Axis is a fourth-axis module designed to enhance the capabilities of your CNC milling machine. This kit enables 360-degree rotary engraving and 3D machining of cylindrical and irregularly shaped objects, expanding the range of projects you can undertake.

Key features include:

- **Specialized Application:** Allows 360° rotary engravings from various angles and positions on compatible CNC milling machines like the TTC450.
- **Customizable Dimensions:** Features a central height of 50 mm and a total height of 77 mm, accommodating materials with diameters from 4 mm to 60 mm. The material length can be adjusted based on the CNC machine's work area.
- **Durable Construction:** The rotary axis is treated with an anti-rust coating. The three-jaw chuck features a stable structure, robust jaws, and fine workmanship for extended service life.
- **Wide Application:** Suitable for engraving irregular shapes, including cylinders, arcs, and circles.



This image displays the Twotrees TTC 450 CNC Rotary Axis, highlighting its compact dimensions and the 50mm chuck. The overall height is 80mm (3.15 inches), width is 80mm (3.15 inches), and length is 130mm (5.12 inches).

2. SPECIFICATIONS

Feature	Specification
Brand	Twotrees
Model Number	TTC roller
Manufacturer Part Number	CTNTTC roller
Compatible Devices	CNC Milling Machine
Maximum Clamping Diameter (Cylinder)	60 mm

Minimum Clamping Diameter (Cylinder)	4 mm
Chuck Reduction Ratio	4:1
Tip Height	50 mm
Total Height	76.5 mm
Lock Type	Manual
Included Components	Twotrees TTC 450 CNC Rotary Axis
Country of Origin	China

3. SETUP INSTRUCTIONS

Proper setup of the Twotrees TTC 450 CNC Rotary Axis is crucial for safe and effective operation. Follow these steps to integrate the rotary axis with your CNC milling machine.

3.1 Mounting the Rotary Axis

Position the rotary module within the work area of your CNC milling machine. Ensure it is securely fixed to prevent movement during operation. The length of the material to be machined can be adjusted flexibly based on the available work area.



The rotary axis is shown integrated with a CNC milling machine, demonstrating a typical setup for cylindrical engraving. Various finished products like a wooden bust, a chess piece, and a chessboard are displayed, showcasing the versatility of the rotary axis.

3.2 Electrical Connection

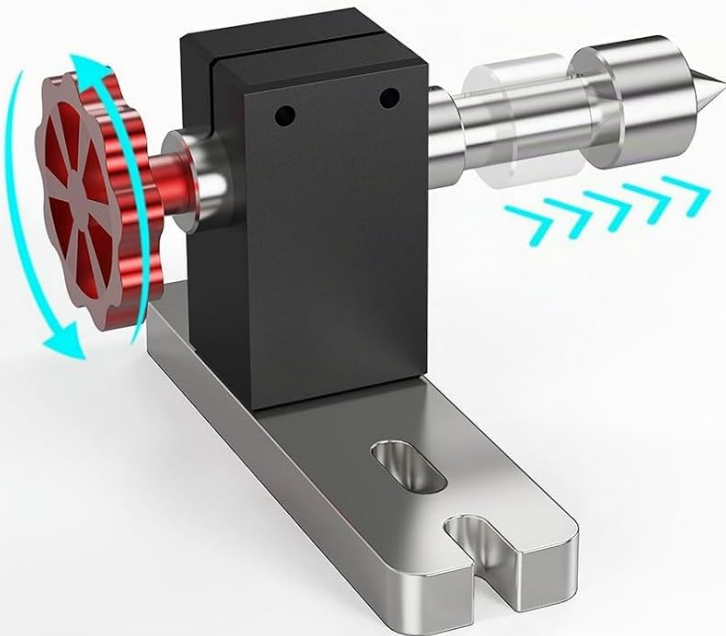
The CNC rotary module offers two connection methods:

1. **Direct Motor Connection:** Connect the rotary axis directly to the motor connection port of your CNC machine.
2. **Motherboard Interface Connection:** Connect the rotary axis to the motherboard interface of your CNC milling machine. This method is compatible with the TTC450 and most CNC engraving machines on the market. Verify the Z-axis height of your engraving machine to ensure compatibility; smaller models (e.g., 3018) may not be suitable.

3.3 Material Clamping and Adjustment

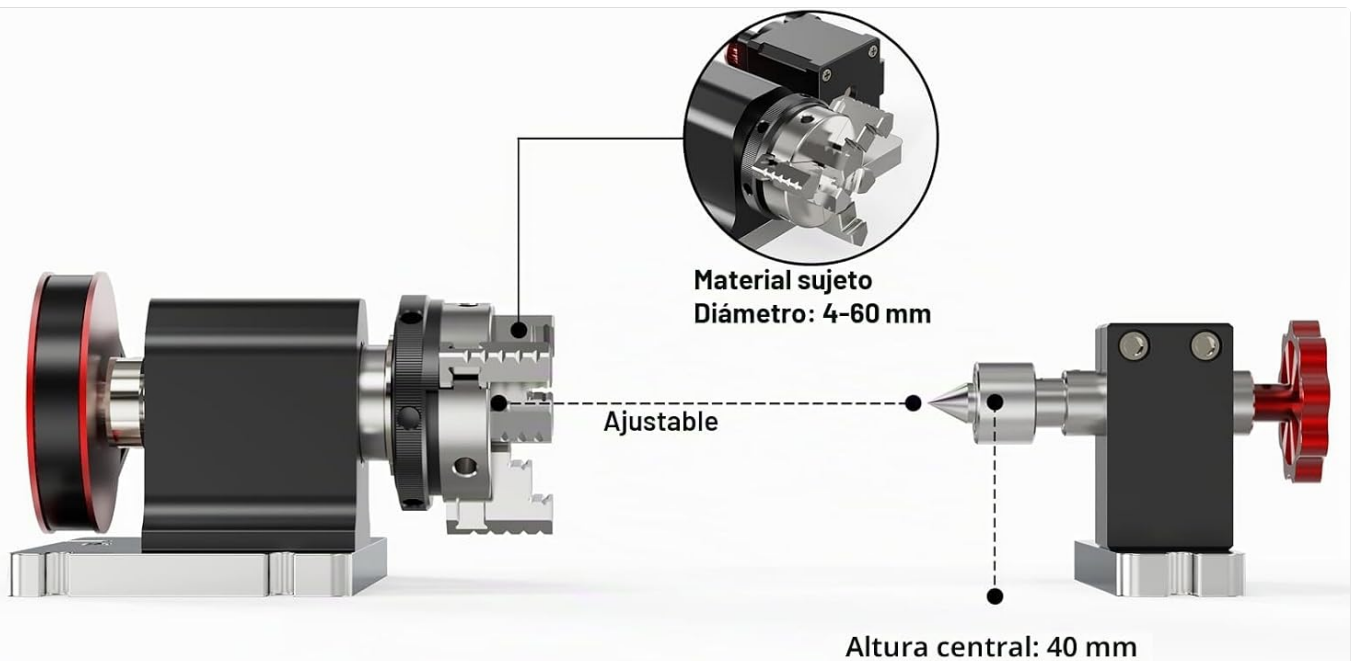
The three-jaw chuck can securely hold cylindrical materials with diameters ranging from 4 mm to 60 mm. The tailstock features an adjustable ejector pin for supporting the other end of the workpiece.

Los mandriles de centrado son fácilmente ajustables en dos direcciones



Ajustador giratorio para un fácil ajuste del pin expulsor

This image illustrates the adjustable features of the rotary axis. The top section shows the three-jaw chuck being adjusted, indicated by blue arrows for two-directional movement. The bottom section shows the tailstock with a red knob for easy adjustment of the ejector pin, allowing for secure clamping of various material lengths.



! DISTANCIA MÍNIMA: Dependiendo de la fresa del eje Z de la máquina de grabado, la fresa no entrará en contacto con el módulo giratorio mientras se garantiza la seguridad.

! DISTANCIA MÁXIMA: Dependiendo del tamaño del área de trabajo de la máquina de grabado, es suficiente para garantizar que el módulo giratorio pueda fijarse en el área de trabajo

área.

This diagram provides critical setup information for the rotary axis. It highlights the adjustable material clamping diameter (4-60 mm) and a central height of 40 mm. Important warnings regarding minimum and maximum distances for safe operation, considering the Z-axis tool and the machine's work area, are also included.

Important Considerations:

- **Minimum Distance:** Ensure sufficient clearance between the engraving machine's Z-axis tool and the rotary module to prevent contact during operation, prioritizing safety.
- **Maximum Distance:** The rotary module must be securely fixed within the engraving machine's work area.

4. OPERATING INSTRUCTIONS

Once the TwoTrees TTC 450 CNC Rotary Axis is properly set up, you can begin your rotary engraving and 3D machining projects.

4.1 Software Configuration

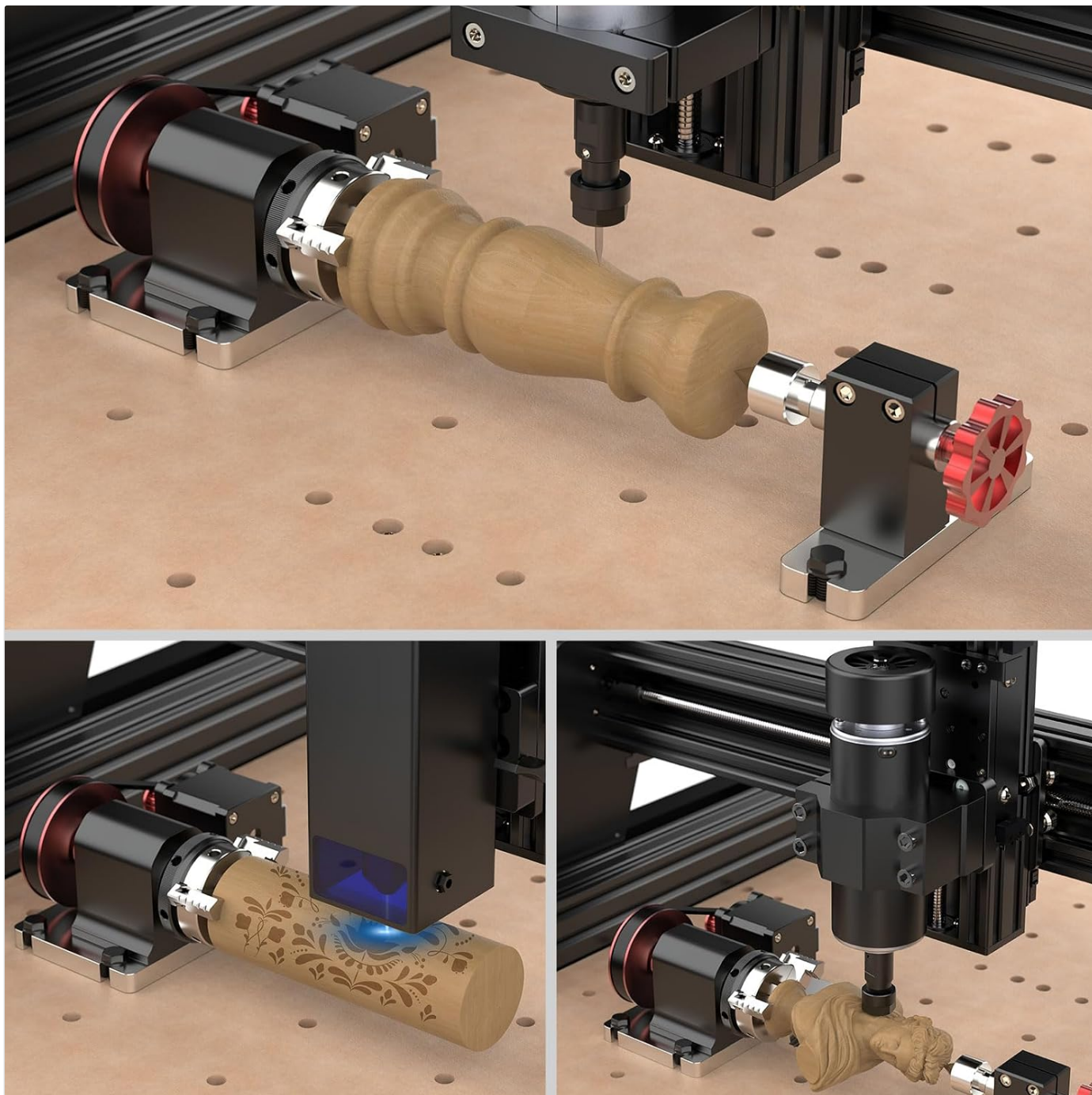
Ensure your CNC control software is configured to recognize and utilize the fourth axis for rotary operations. Refer to your CNC machine's software manual for specific settings related to rotary axis control, including steps per rotation, direction, and scaling.

4.2 Preparing Your Design

Create or import your 3D models or rotary engraving designs using compatible CAM software. Generate the G-code specifically for 4-axis machining, ensuring that the tool paths account for the rotational movement of the workpiece.

4.3 Executing the Engraving Process

Load the prepared G-code into your CNC control software. Before starting, perform a dry run without material to verify the tool path and ensure no collisions. Once confirmed, place your material securely in the chuck and tailstock, and initiate the engraving or machining process.



This image demonstrates the Twotrees TTC 450 CNC Rotary Axis in operation, showing its capability to engrave cylindrical objects. The top panel shows a wooden spindle being milled, while the bottom panels illustrate laser engraving and detailed milling on a wooden cylinder.

5. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your Twotrees TTC 450 CNC Rotary Axis.

- **Cleaning:** After each use, clean the chuck jaws and all moving parts to remove dust, debris, and material residue. Use a soft brush or compressed air.
- **Lubrication:** Periodically apply a small amount of light machine oil to the moving components of the chuck and tailstock to ensure smooth operation.
- **Inspection:** Regularly inspect the rotary axis for any signs of wear, damage, or loose connections. Tighten any loose screws or fasteners.
- **Storage:** When not in use, store the rotary axis in a clean, dry environment to prevent corrosion and damage.

6. TROUBLESHOOTING

If you encounter issues with your Twotrees TTC 450 CNC Rotary Axis, refer to the following common troubleshooting tips:

- **Rotary Axis Not Moving:**
 - Check all electrical connections to ensure they are secure.
 - Verify that the CNC control software is correctly configured for the fourth axis.
 - Ensure the motor is receiving power and that there are no obstructions preventing movement.
- **Inaccurate Engraving/Machining:**
 - Confirm that the material is securely clamped and not slipping.
 - Check the software settings for steps per rotation and scaling to ensure they match the rotary axis specifications.
 - Inspect the chuck and tailstock for any play or looseness.
- **Excessive Vibration or Noise:**
 - Ensure the rotary axis is firmly mounted to the CNC machine's workbed.
 - Check for any loose components or worn bearings.
 - Verify that the workpiece is balanced and properly supported.

For further assistance, please contact Twotrees customer support.

7. WARRANTY AND SUPPORT

Twotrees products are manufactured to high-quality standards. For information regarding warranty coverage and customer support, please refer to the documentation provided with your purchase or visit the official Twotrees website. Keep your purchase receipt as proof of purchase for any warranty claims.

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ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question