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› Twotrees TTC6050 500W CNC Versatile Milling Machine User Manual

Twotrees T-TTC6050

Twotrees TTC6050 CNC Milling Machine User Manual

Model: T-TTC6050 | Brand: Twotrees

1. INTRODUCTION

The Twotrees TTC6050 is a versatile 500W CNC milling machine designed for precision engraving and cutting across various materials including metal, wood, acrylic, and MDF. It features a robust aluminum alloy construction, advanced safety mechanisms, and a user-friendly interface, making it suitable for a wide range of applications from hobbyists to small businesses.

This manual provides essential information for the safe and efficient operation, setup, and maintenance of your TTC6050 CNC machine.

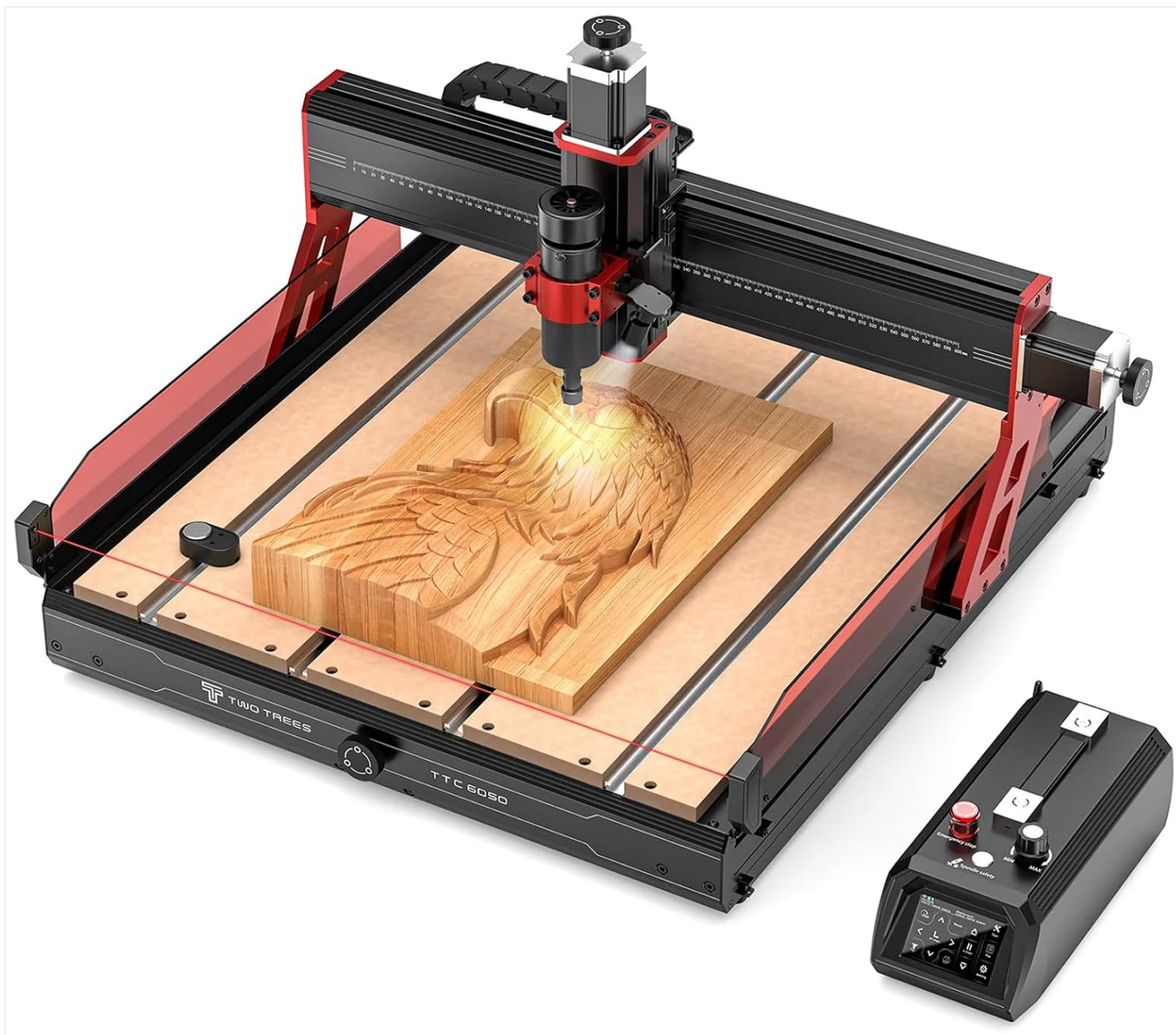


Figure 1.1: The Twotrees TTC6050 CNC Milling Machine with its control unit.

2. SETUP AND ASSEMBLY

The TTC6050 is engineered for ease of setup and robust performance. Its main body is constructed from a lightweight yet strong aluminum alloy, ensuring both durability and precision.

2.1 Unpacking and Initial Inspection

- Carefully remove all components from the packaging.
- Verify that all items listed in the "What's in the Box" section are present.
- Inspect all parts for any signs of damage during transit. Report any damage immediately.

2.2 Key Structural Features

- **High-Precision Ball Screws and Linear Guides:** These components significantly enhance the accuracy and stability of spindle movement, ensuring high-quality processing.
- **Sealed Transmission Profiles:** The hidden design of the transmission parts effectively protects them from dust and debris generated during the engraving process, improving durability and smooth operation.
- **Replaceable MDF Baseboard:** The machine features a cost-effective and practical replaceable MDF baseboard, ideal for cutting wood, plastic, and metal sheets.

- **Durable Aluminum T-tracks:** The work surface is equipped with durable aluminum T-tracks, allowing for easy configuration and support for various high-intensity demands.

Linear rail & Ball screw

Precision at Every Turn

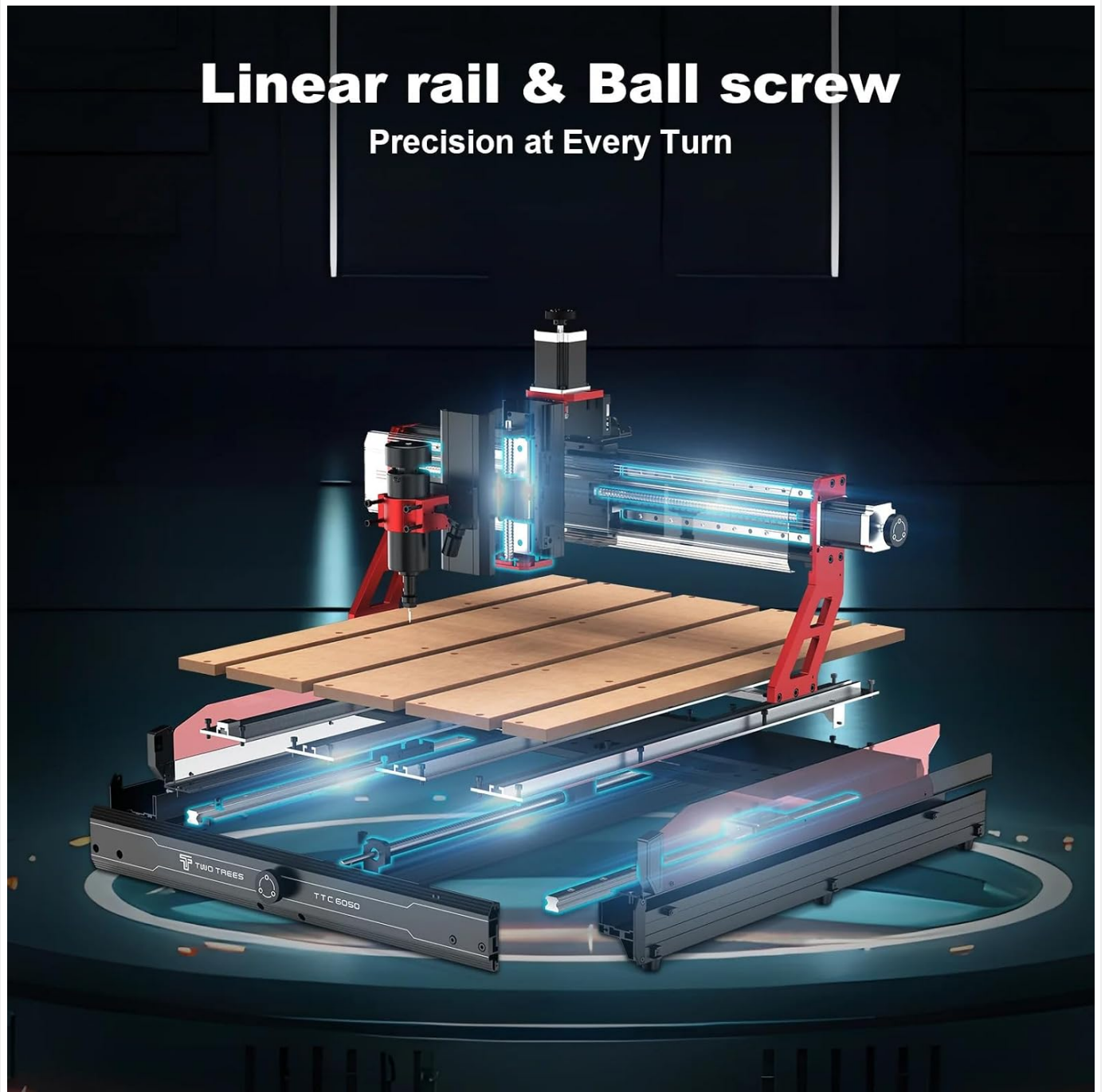


Figure 2.1: Illustration of the high-precision linear rail and ball screw system.

Replaceable MDF Baseboard

Cost-Effective and Practical Design, Ideal for Cutting Wood, Plastic, and Metal Sheets

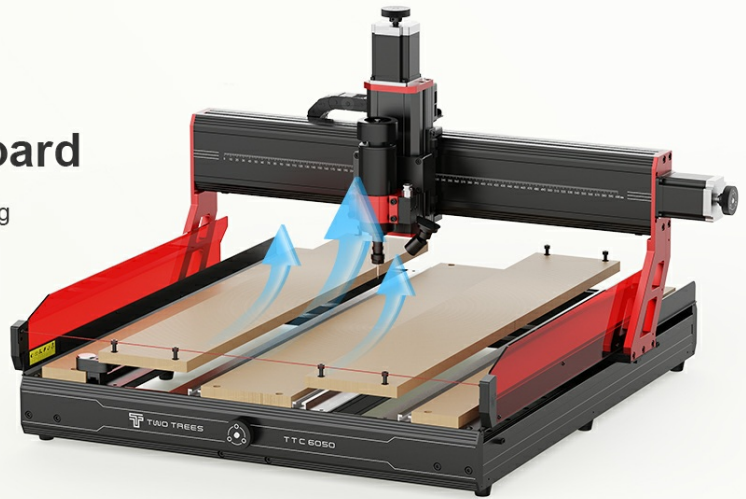
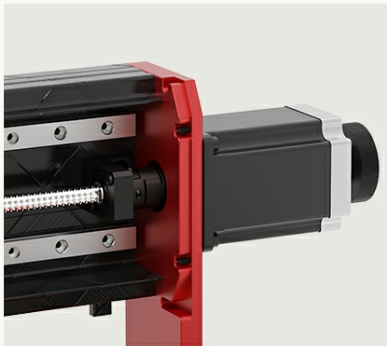
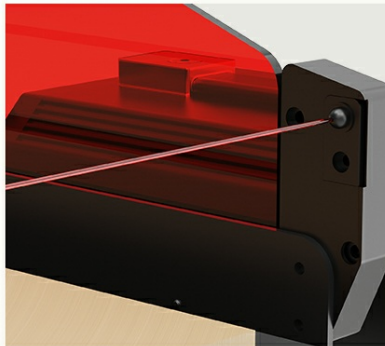


Figure 2.2: The replaceable MDF baseboard design.



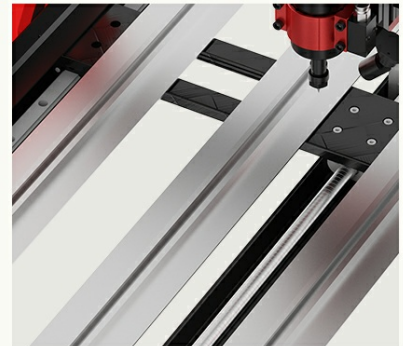
Advanced linear guide transmission

Design combined with high efficiency ball screws for superior accuracy



Monitoring the working environment

Infrared sensor technology, Real-time monitoring of the working environment to avoid accidents



Easily configured with durable aluminum T-tracks

Aluminum T-tracks for perfect MDF support

Figure 2.3: Advanced linear guide transmission and easily configured aluminum T-tracks.

2.3 Work Area and Compatibility

The TTC6050 offers a spacious engraving area of **600mm x 500mm x 100mm**, accommodating most everyday objects and accessories, thereby increasing productivity and design possibilities.

- **Versatile Spindle Options:** This device supports various spindle types, including air-cooled and water-cooled options, to meet diverse user needs.
- **Laser Engraving Functionality:** The machine is compatible with laser heads, expanding its capabilities to include laser engraving.
- **Trimming Machine Compatibility:** It can also be used with trimming machines for additional versatility.

Large Projects Made Easy

Larger Carving Area

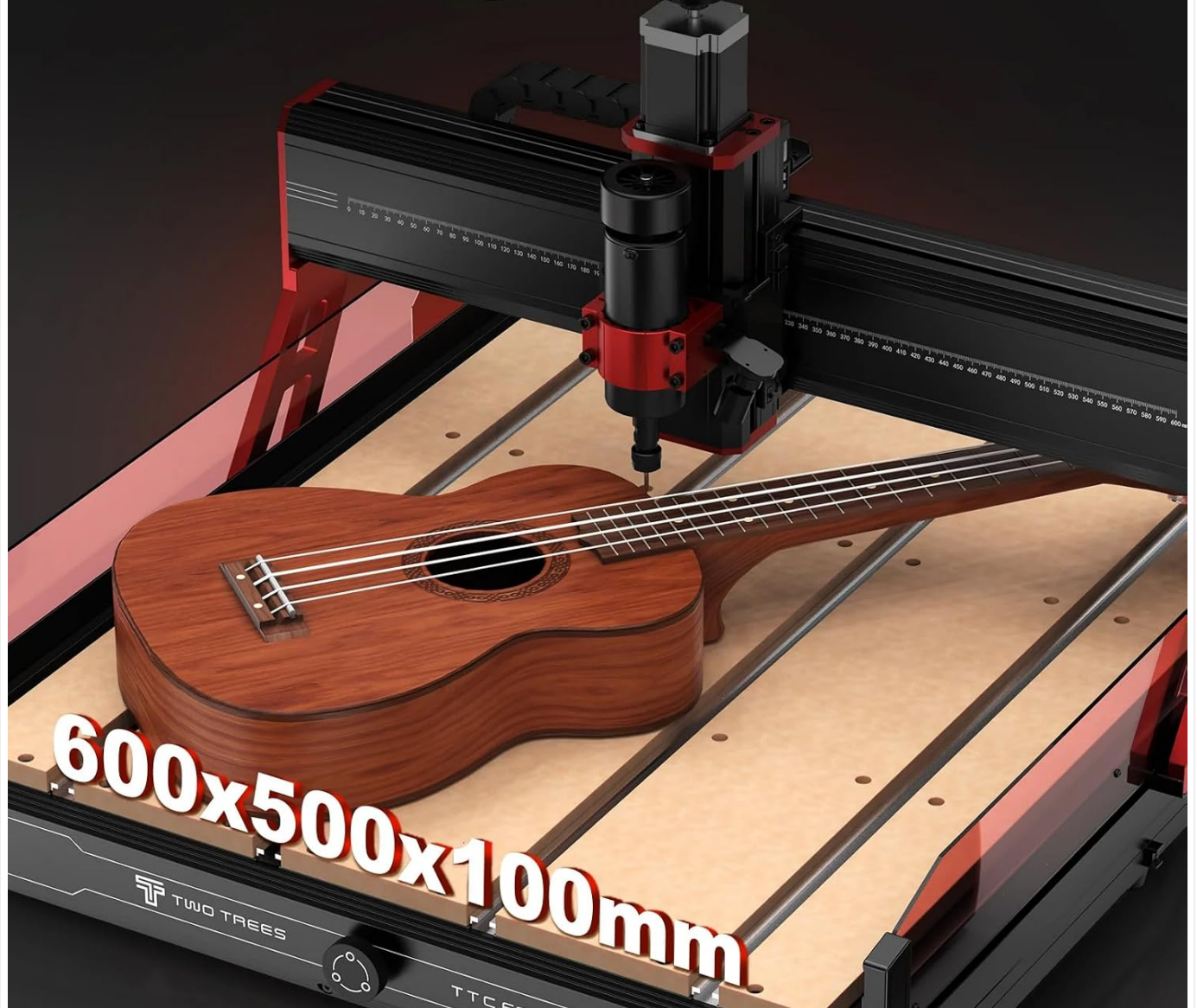


Figure 2.4: The large 600x500x100mm carving area.



3. OPERATING INSTRUCTIONS

The TTC6050 is designed for easy, effortless, and precise operation, featuring intuitive controls and visual aids.

3.1 Control Interface

- **3.5" Touch Screen:** The external control box features a 3.5-inch touch screen for easy navigation and control of machine functions.
- **Motor Knob:** A dedicated motor knob allows for easy and precise adjustment of the spindle's position.
- **Spindle Speed Knob:** Adjust the spindle speed by turning the spindle speed knob. Turn clockwise to increase speed, counter-clockwise to decrease.
- **Z-axis Searchlight:** An integrated searchlight above the spindle provides additional illumination, allowing for clear observation of the processing area and process, even in low-light conditions.



Figure 3.1: Key operational features including the 3.5" touch screen and illumination.

3.2 Spindle and Speed

The machine comes standard with a 500W spindle, providing ample power for various engraving and cutting tasks. It boasts a super-fast processing speed of up to **5000mm/min**, significantly boosting productivity.



Figure 3.2: High-speed engraving capability of 5000mm/min.

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Video 3.1: Official product video showcasing the Twotrees TTC6050 CNC Milling Machine features and operation.

4. SAFETY FEATURES

Your safety is paramount. The TTC6050 incorporates several features to ensure a secure operating environment.

- **Infrared Sensor:** An infrared sensor installed in front of the machine automatically detects objects during operation. It can immediately react upon detecting obstacles, effectively preventing accidents due to operational errors or other reasons.
- **Emergency Stop Button:** A prominent red emergency stop button is located on the control unit. Pressing this

button immediately stops the spindle, enhancing usage safety. The button must be turned in the correct direction to unlock.

- **Spindle Safety Button:** When the spindle safety button is pressed, the spindle will stop rotating. This button must be pressed after a tool change to ensure safety before resuming operation.

Quick power off, safer operation

Emergency stop button

The spindle stops immediately when the red emergency stop button is pressed.
Cannot be unlocked unless the button is turned in the correct direction

Spindle Safety Button

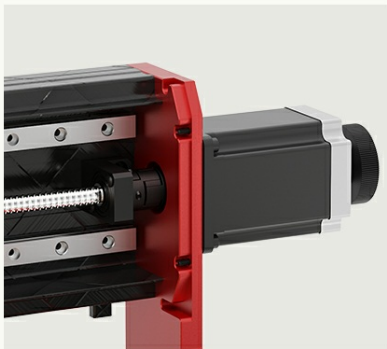
When the spindle safety button is pressed, the spindle will stop rotating.
The spindle safety button must be pressed after the tool change button is pressed to provide safety.

Spindle Speed Knob

Turn the spindle speed knob clockwise,
When the spindle speed knob is turned counterclockwise, the spindle speed slows down.

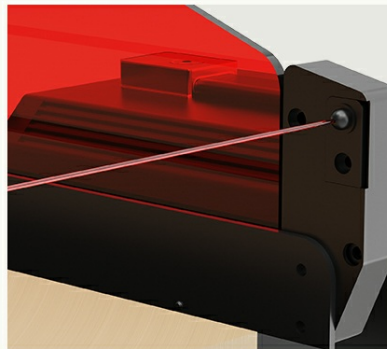


Figure 4.1: The control unit showing the emergency stop button and spindle safety button.



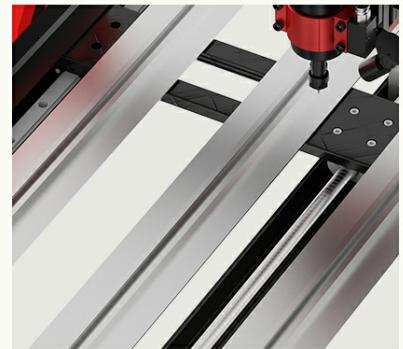
Advanced linear guide transmission

Design combined with high efficiency ball screws for superior accuracy



Monitoring the working environment

Infrared sensor technology, Real-time monitoring of the working environment to avoid accidents



Easily configured with durable aluminum T-tracks

Aluminum T-tracks for perfect MDF support

Figure 4.2: Infrared sensor for real-time monitoring of the working environment to prevent accidents.

5. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your Twotrees TTC6050 CNC machine.

5.1 Cleaning

- After each use, clean the work area and the machine's exterior to remove dust, chips, and debris.
- The sealed design of the transmission profiles helps to block dust and sawdust, but regular cleaning of exposed surfaces is still recommended.
- Use a soft brush or compressed air to clean hard-to-reach areas. Avoid using harsh chemicals that could damage the machine's finish.

5.2 Lubrication

- Periodically check the linear guides and ball screws for proper lubrication. Refer to the detailed product manual (if provided separately) for specific lubrication points and recommended lubricants.

5.3 Component Inspection

- Regularly inspect all cables, connections, and moving parts for wear or damage.
- Ensure all fasteners are tight.
- Check the condition of the replaceable MDF baseboard and replace it if it shows significant wear or damage.

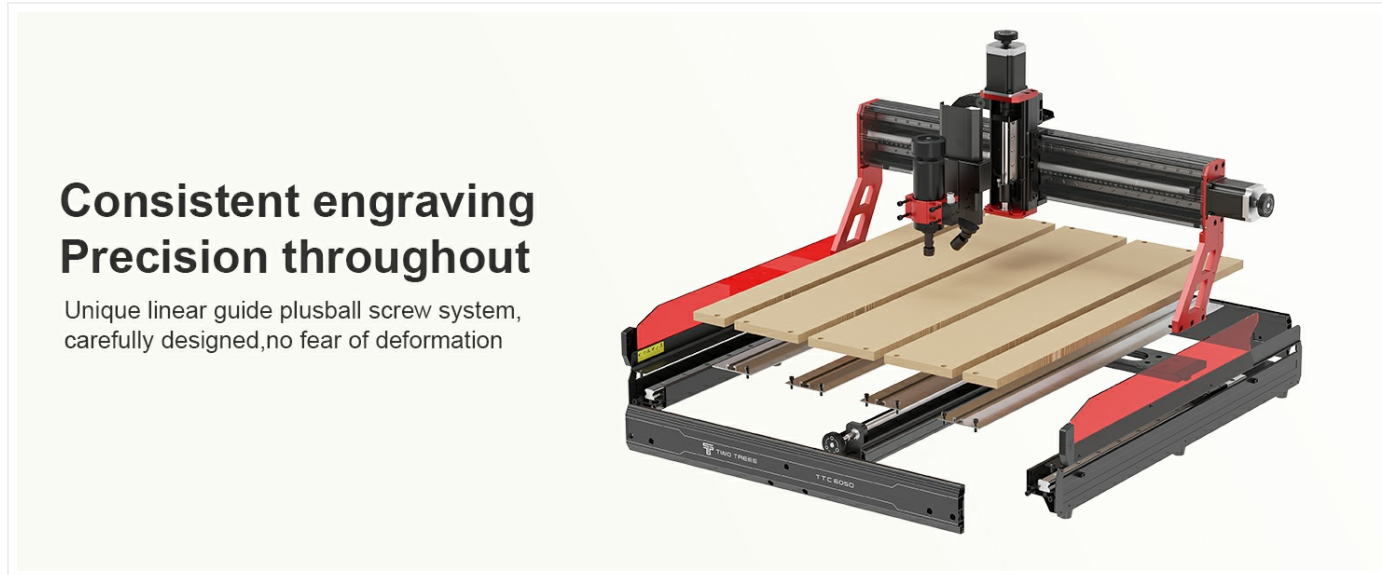


Figure 5.1: The unique linear guide plus ball screw system designed for consistent precision and durability.

6. TROUBLESHOOTING

This section provides general guidance for common issues. For more complex problems, please refer to the comprehensive troubleshooting guide in the full product manual or contact customer support.

Problem	Possible Cause	Solution
Machine does not power on.	Power cable disconnected; power switch off; emergency stop engaged.	Check power connections; ensure power switch is ON; disengage emergency stop button by twisting.
Spindle not rotating.	Spindle safety button engaged; speed knob set to minimum; motor connection issue.	Ensure spindle safety button is disengaged; increase spindle speed; check motor connections.
Inaccurate engraving.	Loose workpiece; worn tool bit; incorrect settings; debris in linear guides.	Secure workpiece firmly; replace worn tool bit; verify software settings; clean linear guides.
Machine stops unexpectedly.	Infrared sensor triggered; overheating; power fluctuation.	Clear path for infrared sensor; allow machine to cool; check power supply stability.

7. SPECIFICATIONS

Feature	Detail
Manufacturer	Twotrees
Model Number	T-TTC6050

Feature	Detail
Item Number	T-TTC6050
Engraving Area (L x W x H)	600mm x 500mm x 100mm
Spindle Power	500W (Standard)
Max Speed	5000mm/min
Drive Type	AC
Item Weight	35.9 Kilograms
Package Dimensions	81 x 77 x 53 cm
ASIN	B0DWFNXJ4Z
First Available	February 7, 2025

8. WHAT'S IN THE BOX

- 1 x TTC6050 500W CNC Milling Machine
- (Additional accessories and components may vary by package. Please refer to your specific product packaging for a complete list.)

9. WARRANTY AND SUPPORT

Your Twotrees TTC6050 CNC Milling Machine comes with a standard return policy. For specific warranty details and duration, please refer to your purchase documentation or the seller's policy.

For technical support, troubleshooting assistance, or warranty claims, please contact the seller or manufacturer directly. Keep your purchase receipt and product model number handy for faster service.

Return Policy: The product is eligible for a refund/replacement within 30 days of purchase, as per the buybox winner's return policy.

