Banfluxion RC-210E

Banfluxion RC-210E Precision Metal Bench Lathe User Manual

1. Important Safety Information

Read and understand all safety warnings and instructions before operating this machine. Failure to follow these instructions may result in serious injury or property damage. Keep this manual for future reference.

- Always wear appropriate personal protective equipment (PPE), including safety glasses, hearing protection, and suitable clothing.
- Ensure the work area is clean, well-lit, and free from obstructions.
- Do not operate the lathe under the influence of drugs, alcohol, or medication.
- Securely mount the lathe to a stable workbench to prevent movement during operation.
- Ensure all guards and safety devices are in place and functioning correctly before starting the machine.
- Disconnect power before performing any maintenance, adjustments, or when changing accessories.
- Never leave the machine unattended while it is running.
- Keep hands and fingers away from moving parts, especially the chuck and cutting tools.

2. Product Overview

The Banfluxion RC-210E is an 8"x39" precision metal bench lathe designed for various metalworking tasks. It features an electronic pulse system, variable speed control from 50 to 2500 rpm, and the ability to cut both metric and imperial threads without gear changes. This lathe is powered by a 110V, 1100W brushless motor.

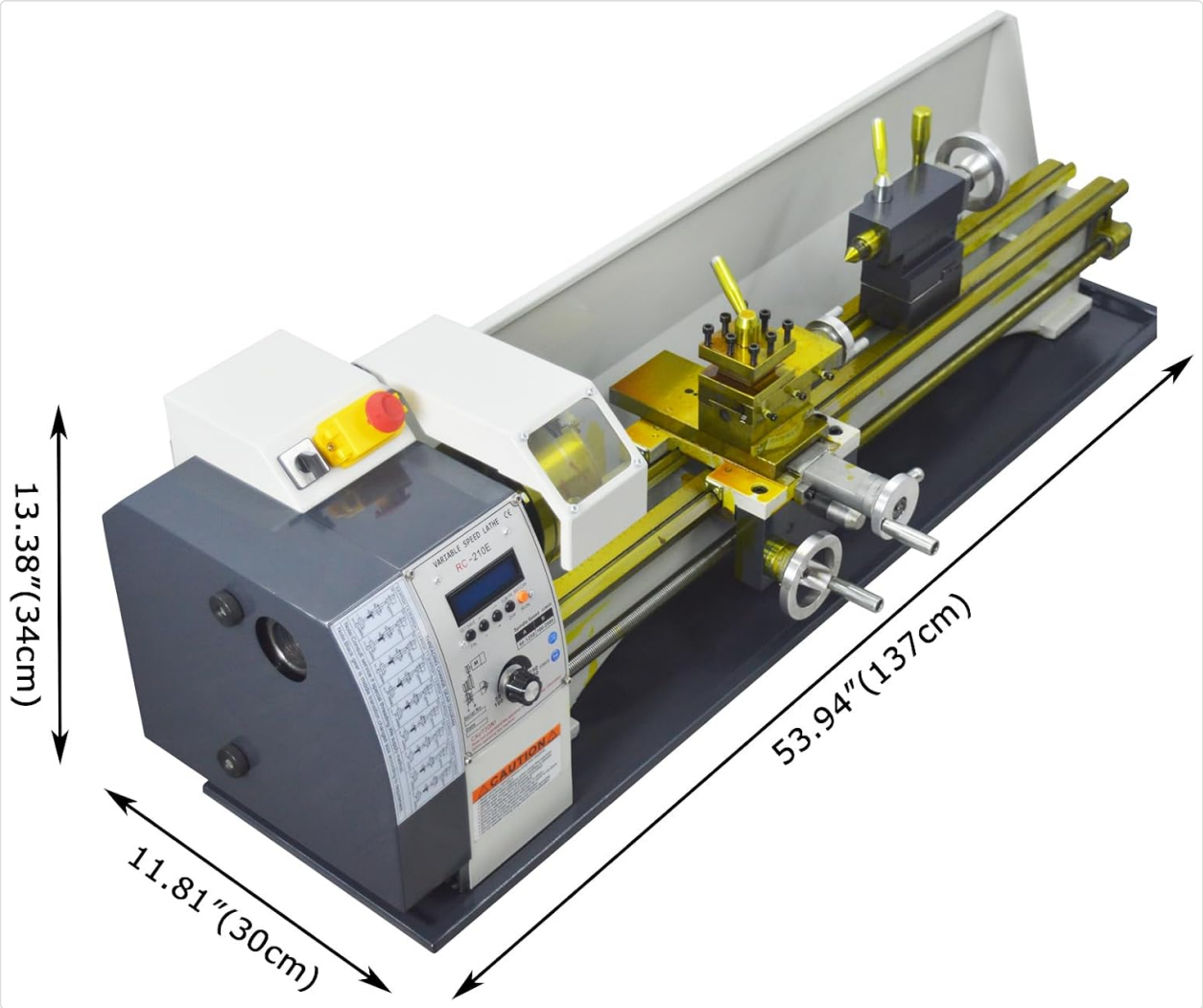

Figure 2.1: Overall view of the Banfluxion RC-210E Precision Metal Bench Lathe, showing its dimensions of approximately 53.94 inches (137 cm) in length, 11.81 inches (30 cm) in width, and 13.38 inches (34 cm) in height.

3. Unpacking and Setup

3.1 Unpacking

1. Carefully remove the lathe and all accessories from the packaging.
2. Inspect the machine for any signs of damage during transit. Report any damage to the supplier immediately.
3. Remove any protective coatings or packing materials from the machine surfaces.

3.2 Mounting the Lathe

The lathe must be securely mounted to a sturdy, level workbench capable of supporting its weight (approximately 237 lbs / 108 kg). Use appropriate bolts and washers to fasten the lathe through its mounting holes.

3.3 Electrical Connection

Connect the lathe to a grounded 110V AC power outlet. Ensure the power supply matches the machine's requirements (110V, 50/60Hz). The power cord is located at the rear of the machine.

Figure 3.1: Rear view of the lathe, illustrating the power cord connection point and the overall enclosed design of the machine's electrical components.

4. Operating Instructions

4.1 Control Panel Overview

The control panel provides access to all operational settings, including spindle speed, thread standard selection, and automatic feed control.

Figure 4.1: Close-up of the control panel, displaying the digital screen for thread standard selection (Inch/Metric), spindle speed display, control buttons (SET/SAVE, FN, SUB-FN, RST/CAN, DIR, RUN), and the spindle speed adjustment knob with ranges 50-1250 rpm and 1250-2500 rpm.

4.2 Spindle Speed Adjustment

The spindle rotation speed is infinitely variable within two main gears: 50-1250 rpm and 1250-2500 rpm. Use the spindle speed adjustment knob on the control panel to select the desired speed. The current speed will be displayed in real-time on the digital screen.

4.3 Thread Standard Selection

This lathe allows for automatic switching between metric and inch thread standards directly from the control panel. Use the designated buttons (e.g., FN, SET/SAVE) to navigate the menu and select the desired thread standard without requiring manual gear changes.

4.4 Automatic Feed Operation

The machine supports automatic feed along the X-axis. The self-acting feed speed can be adjusted via the control panel, with a range of 0.01mm to 0.4mm. Refer to the control panel interface for specific settings.

4.5 Chuck Operation

The lathe is equipped with a high-precision three-jaw chuck with a 125mm clamping diameter. Ensure the workpiece is securely clamped before starting any operation. Use the chuck key to tighten and loosen the jaws. Always remove the chuck key before starting the lathe.

4.6 Turning Delay Start Time

The lathe features an adjustable turning delay start time, ranging from 1 to 30 seconds. This setting can be configured via the control panel to allow for a brief pause before the spindle begins rotation after activation.

4.7 General Turning Operations

This lathe is capable of performing various operations, including:

- Turning end faces
- Internal and external threading
- Drilling
- Chamfering
- Cutting

Utilize the precise metric scales on the saddle handle, tailstock handle, and movable center for accurate and professional work.

5. Maintenance

Regular maintenance is crucial for the longevity and optimal performance of your lathe. Always disconnect the power supply before performing any maintenance.

5.1 Cleaning

- After each use, clean the lathe thoroughly, removing all chips and debris from the bed, carriage, and other surfaces.
- Use a brush or compressed air for cleaning. Avoid using water directly on electrical components.

5.2 Lubrication

- Regularly lubricate all moving parts, including the lead screw, cross slide, compound slide, and tailstock quill.
- Refer to the lubrication points indicated in the machine's diagrams (if available) and use appropriate machine oil.

5.3 Belt Inspection

Periodically inspect the drive belts for wear, cracks, or tension. Replace belts as necessary to maintain proper power transmission.

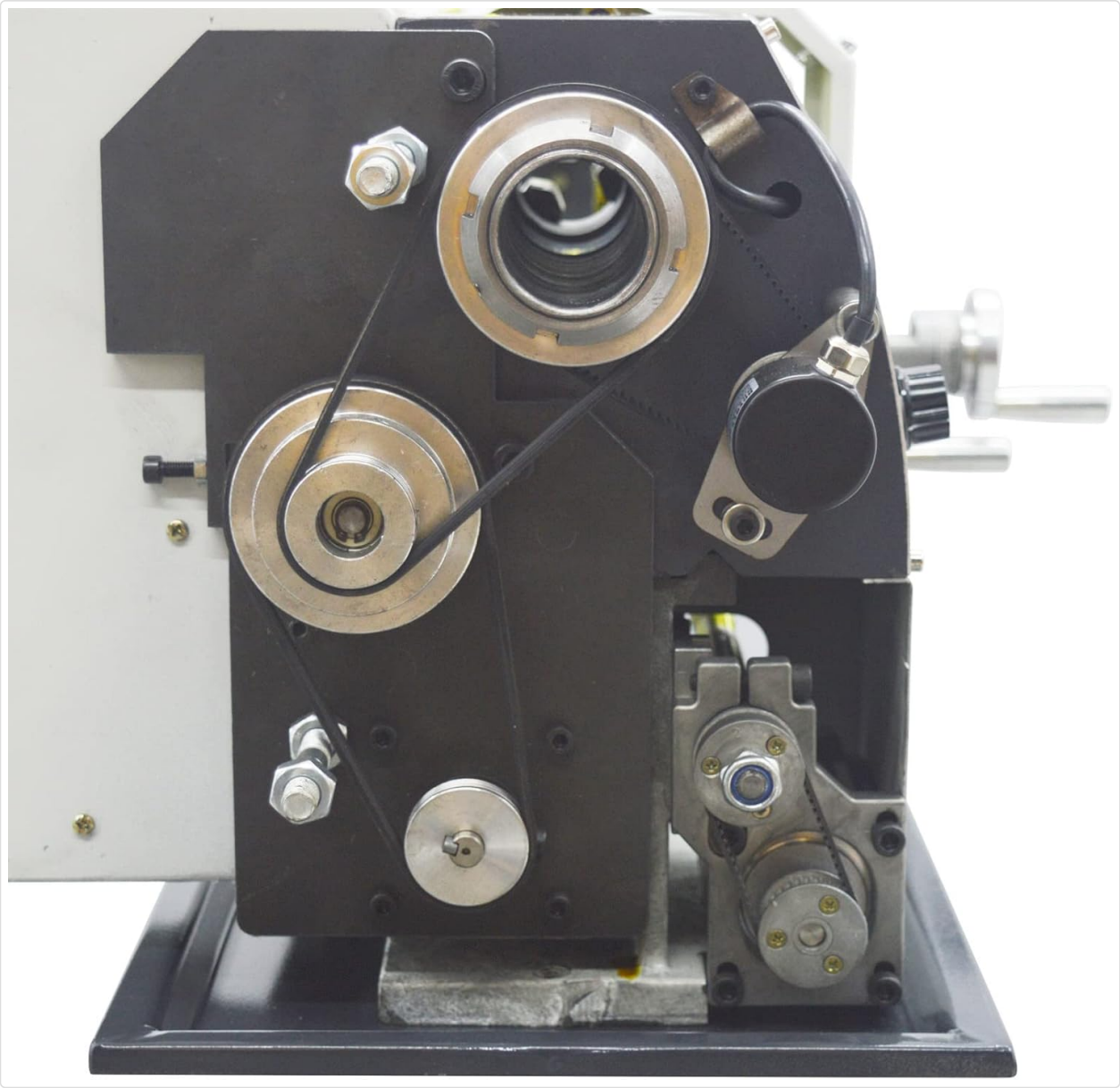

Figure 5.1: View of the internal belt drive system, showing the motor, pulleys, and belts. Regular inspection of these components is essential for proper machine function.

6. Troubleshooting

This section provides solutions to common issues you might encounter. For problems not listed here, contact customer support.

6.1 Lathe Does Not Start

- Check if the power cord is securely plugged into a live outlet.
- Verify that the emergency stop button is not engaged.
- Ensure the main power switch is in the 'ON' position.
- Check for tripped circuit breakers or blown fuses.

6.2 Unusual Noise or Vibration

- Ensure the lathe is securely mounted to the workbench.
- Check for loose components or fasteners.
- Inspect drive belts for wear or improper tension.

- Verify that the workpiece is securely clamped in the chuck.

6.3 Inaccurate Cuts

- Ensure cutting tools are sharp and correctly installed.
- Check for excessive play in the slides or lead screw.
- Verify that the tailstock is properly aligned.
- Ensure the workpiece is rigidly supported.

7. Product Specifications

Parameter	Specification
Model	RC-210E
Voltage	AC110V 50/60Hz (Brushless Motor)
Power	1100W (1.5HP)
Length of Center	39.37" (1000mm)
Swing Over Bed	8.27" (210mm)
Rotary Diameter of Tool Rest	5.51" (140mm)
Spindle Bore	1.50" (38mm)
Diameter of Chuck	4.92" (125mm)
Width of Lathe Bed	3.94" (100mm)
Thread Standard	Metric/Imperial/Customized
Turning Delay Start Time	1s-30s
Number of Spindle Speeds	Infinitely variable speeds
Range of Inch Threads	10-44 T.P.I
Range of Metric Threads	0.5mm-3mm
Spindle Taper	MT5
Knife Rest Labour	Horizontal four-station
Spindle Rotation Speed	50-2500rpm
Precision of the Spindle	0.01mm
Automatic Feed Range	0.01mm-0.4mm
Tail Frame Taper	MT2
Maximum Stroke of Tool Rest Plate	2.16" (55mm)
Maximum Stroke of Middle Plate	2.95" (75mm)
Maximum Stroke of Bottom Plate	26.77" (680mm)

Parameter	Specification
Maximum Stroke of Tailstock Sleeve	2.36" (60mm)
Product Dimensions (L x W x H)	53.97 x 11.81 x 13.38 inches
Item Weight	237 pounds (108 kg)
Manufacturer Part Number	CB028501

8. Warranty and Support

For warranty information, returns, or technical assistance, please refer to your purchase documentation or contact the seller directly. The product typically includes a 30-day return policy. Additional protection plans may be available for purchase.