CREWORKS MLM-N814

CREWORKS 600W Metal Lathe 210x350 MM Instruction Manual

Model: MLM-N814 | Brand: CREWORKS

1. Introduction

This manual provides essential information for the safe and efficient operation, maintenance, and troubleshooting of your CREWORKS 600W Metal Lathe 210x350 MM. Please read this manual thoroughly before operating the machine to ensure proper usage and to prevent injury or damage. Keep this manual for future reference.

Image 1.1: The CREWORKS 210x350 mm Metal Lathe, suitable for metalworking, drilling, internal and external threading, polishing, gyroscope processing, woodworking, screw turning, and groove turning.

2. Safety Instructions

Always prioritize safety when operating machinery. Failure to follow these instructions may result in serious injury or death.

- **Read the Entire Manual:** Understand all instructions and warnings before use.
- **Wear Personal Protective Equipment (PPE):** Always wear safety glasses or a face shield, hearing

protection, and appropriate clothing. Avoid loose clothing, jewelry, and long hair that can get caught in moving parts.

- **Ensure a Safe Work Environment:** Keep the work area clean, well-lit, and free from clutter. Do not operate the lathe in damp or wet conditions.
- **Secure the Workpiece:** Always ensure the workpiece is securely clamped in the chuck or collet before starting the lathe.
- **Never Leave Running Machine Unattended:** Always turn off the machine and wait for all moving parts to stop before leaving the work area.
- **Disconnect Power Before Adjustments:** Always unplug the machine from the power source before making any adjustments, changing tools, or performing maintenance.
- **Use Correct Tools:** Only use accessories and tools designed for this lathe.
- **Maintain Machine:** Keep the machine in good working order. Inspect for damaged parts before each use.
- **Emergency Stop:** Familiarize yourself with the emergency stop button location and function.

3. Package Contents

Verify that all items listed below are included in your package. If any parts are missing or damaged, contact customer service immediately.

- 1 x Mini Lathe
- 3 x Chuck Jaws
- 1 x Tailstock
- 2 x Wrenches
- 1 x Oil Can
- 9 x Metal Gears
- 5 x Allen Keys
- 1 x Chuck Key
- 5 x Turning Tools
- 2 x Screwdrivers
- 1 x Instruction Manual

Image 3.1: The CREWORKS Metal Lathe along with its comprehensive set of accessories and tools, including chuck jaws, wrenches, oil can, metal gears, Allen keys, chuck key, turning tools, and screwdrivers.

4. Product Overview

Familiarize yourself with the main components of your CREWORKS Metal Lathe:

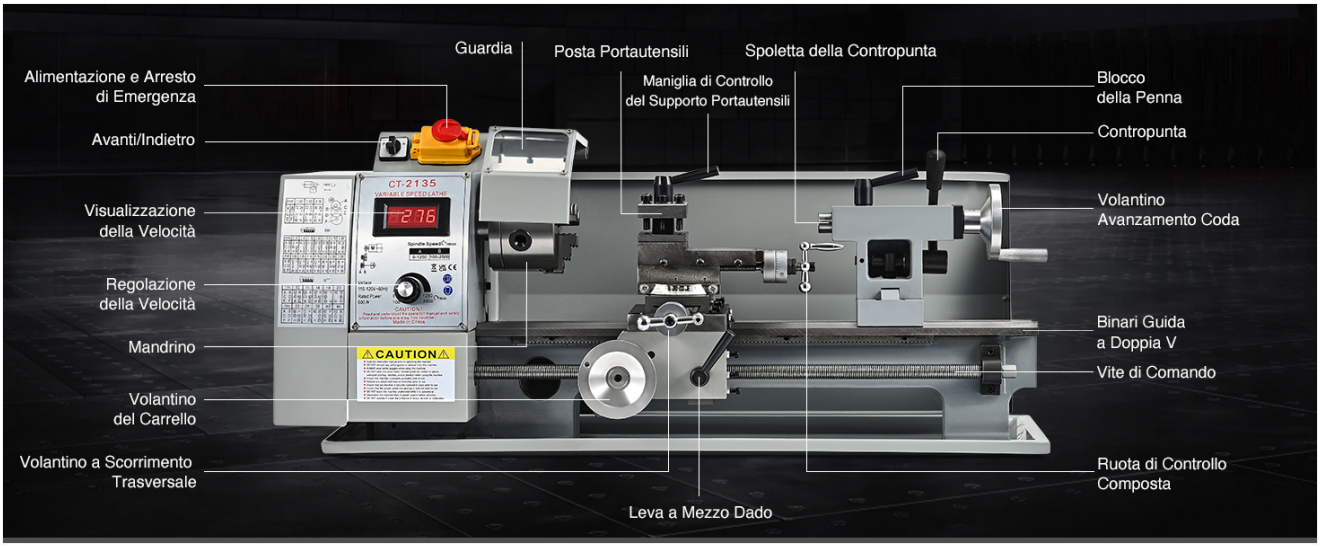

Image 4.1: The lathe features a digital display for real-time speed monitoring and a variable speed control knob, allowing adjustments from 0 to 2250 RPM.

Image 4.2: Key control elements include the emergency stop button, carriage handwheel, cross slide handwheel, compound control wheel, and tailstock advance handwheel, all designed for precise control and safety.

- **Headstock:** Contains the main spindle, chuck, and speed control mechanisms.
- **Chuck:** A 3-jaw chuck for holding workpieces.
- **Tool Post:** Holds the cutting tools.
- **Carriage:** Moves the tool post along the bed.
- **Cross Slide:** Moves the tool post perpendicular to the bed.
- **Tailstock:** Supports the end of long workpieces or holds drilling/reaming tools.
- **Bed:** The main frame of the lathe, providing stability and guiding the carriage and tailstock.
- **Lead Screw:** Used for automatic feeding and threading operations.
- **Digital Display:** Shows the current spindle speed.
- **Emergency Stop Button:** Immediately stops all machine operations.

5. Setup

5.1 Unpacking and Inspection

Carefully remove the lathe and all components from the packaging. Inspect for any shipping damage. Clean any

protective grease or oil from the machine surfaces using a suitable degreaser.

5.2 Placement and Mounting

Place the lathe on a sturdy, level workbench capable of supporting its weight (approximately 37 kg). Secure the lathe to the workbench using appropriate bolts and fasteners to prevent movement during operation.

5.3 Electrical Connection

Connect the lathe to a grounded 220V AC power outlet. Ensure the power supply matches the machine's requirements (600W motor). Do not use extension cords unless absolutely necessary, and ensure they are rated for the machine's power draw.

5.4 Chuck Installation and Adjustment

The 3-jaw chuck is typically pre-installed. Ensure it is securely fastened. The chuck is designed to hold both square and round workpieces. Refer to the chuck jaw diagram for proper workpiece clamping.

Image 5.1: A close-up view of the 3-jaw chuck, which can be adapted for various workpiece sizes and shapes. The chuck has a clamping range of 100 mm.

3-Jaw Chuck Clamping Range (100 mm)

Jaw Type	Internal Jaws (A-A1)	External Jaws (B-B1)	External Jaws (C-C1)
Clamping Range	0.08–1.2 in. (2–30 mm)	1.2–3.5 in. (30–90 mm)	1.2–3.2 in. (30–80 mm)

5.5 Gear Setup for Threading

The lathe comes with a set of metal gears for various threading operations. Consult the gear chart on the machine or in the manual for the correct gear combination for desired metric or imperial thread pitches. Ensure gears are properly meshed and secured.

Image 5.2: The robust metal gear set ensures strong and efficient power transmission, crucial for precise threading and turning operations.

6. Operating Instructions

6.1 Power On/Off

To power on the lathe, ensure the emergency stop button is disengaged (pulled out). Turn the main power switch to the 'ON' position. To turn off, press the emergency stop button or turn the main power switch to 'OFF'.

6.2 Spindle Speed Control

The lathe features variable speed control. Use the speed control knob to adjust the spindle RPM from 0 to 2250. The current speed will be displayed on the LCD. Always adjust speed gradually and select an appropriate speed for the material and operation.

6.3 Loading Workpieces

Open the chuck jaws using the chuck key. Insert the workpiece and tighten the jaws firmly and evenly. Ensure the workpiece is centered and runs true before starting the lathe. For longer workpieces, use the tailstock for additional support.

6.4 Tool Post and Tailstock Adjustment

Mount the appropriate cutting tool in the tool post. Adjust the tool height to be on the center line of the workpiece. Use the carriage and cross slide handwheels to position the tool. The tailstock can be adjusted along the bed and its quill extended or retracted to support work or hold drilling tools.

Image 6.1: The tool post, designed to securely hold various cutting tools for turning, facing, and other operations.

Image 6.2: The tailstock, used for supporting long workpieces or holding drilling and reaming tools.

6.5 Basic Operations (Turning, Drilling, Threading)

This lathe is capable of various operations including turning, drilling, threading, and polishing. Always ensure the workpiece is secure, the correct tool is selected, and the appropriate speed is set for the material being worked on. For threading, refer to the gear chart and ensure the lead screw is engaged correctly.

7. Maintenance

Regular maintenance ensures the longevity and optimal performance of your lathe.

- **Cleaning:** After each use, clean chips and debris from the lathe bed, carriage, and other surfaces. Use a brush or air hose. Never use bare hands to remove chips.
- **Lubrication:** Regularly lubricate all moving parts, including the lead screw, carriage ways, and gears, with appropriate machine oil. Refer to the lubrication points indicated in the full manual.
- **V-Guide Rails:** The V-guide rails ensure smooth and precise movement. Keep them clean and lightly oiled. Periodically check for wear and adjust if necessary to maintain accuracy.
- **Belt Tension:** Check the drive belt tension periodically and adjust if it feels loose.
- **Electrical Inspection:** Periodically inspect the power cord and electrical connections for any signs of damage.

Image 7.1: The V-guide rails and lead screw, critical components that require regular cleaning and lubrication for smooth and precise operation.

8. Troubleshooting

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

Problem	Possible Cause	Solution
Lathe does not power on	No power supply; Emergency stop engaged; Faulty switch	Check power connection; Disengage emergency stop; Inspect power switch and wiring.
Spindle not rotating	Motor issue; Belt loose or broken; Speed control set to zero	Check motor connection; Adjust or replace belt; Increase speed setting.
Excessive vibration or noise	Unbalanced workpiece; Loose mounting; Worn bearings; Dull cutting tool	Re-balance workpiece; Tighten mounting bolts; Inspect bearings; Sharpen or replace tool.
Inaccurate cuts	Loose gibs; Worn lead screw; Improper tool setup	Adjust gibs; Inspect lead screw; Ensure tool is on center and sharp.

9. Specifications

Detailed technical specifications for the CREWORKS 600W Metal Lathe 210x350 MM:

Feature	Specification
Motor Power	0.8 HP (600 W)
Distance Between Centers	13.8 inches (350 mm)
Bed Width	4 inches (100 mm)

Feature	Specification
Swing Over Bed	8.3 inches (210 mm)
Max Spindle Speed	2250 rpm
Spindle Taper	MT#3
Tailstock Taper	MT#2
Metric Thread Range	0.5–3 mm
Imperial Thread Range	12–44 tpi
Chuck Diameter	4 inches (100 mm)
Spindle Bore	0.8 inches (21 mm)
Gear Material	Metal
Net Weight	80.5 lbs (36.5 kg)
Product Dimensions	75 x 28 x 24 cm
Material	Cast Iron, Aluminum Alloy
Voltage	220 Volt

Image 9.1: A visual representation of the lathe's dimensions and a summary of its technical specifications.

10. Warranty and Support

For warranty information, technical support, or replacement parts, please contact CREWORKS customer service. Keep your purchase receipt and model number (MLM-N814) handy when contacting support.