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› Holzmann ED 400FD Metal Lathe Instruction Manual

Holzmann ED 400FD

Holzmann ED 400FD Metal Lathe

INSTRUCTION MANUAL

1. Introduction

This manual provides essential information for the safe and efficient operation, setup, and maintenance of your Holzmann ED 400FD metal lathe. Please read this manual thoroughly before operating the machine to ensure proper use and to prevent injury or damage. Keep this manual in a safe place for future reference.



Image 1.1: The Holzmann ED 400FD Metal Lathe. This image shows the compact benchtop design of the lathe, including the headstock, tailstock, carriage, and control panel.

2. Safety Instructions

Always observe the following safety precautions to minimize the risk of injury or damage:

- Read and understand all instructions before operating the machine.
- Wear appropriate personal protective equipment (PPE), including safety glasses, hearing protection, and suitable clothing. Avoid loose clothing, jewelry, and long hair that could get caught in moving parts.
- Ensure the work area is clean, well-lit, and free from obstructions.

- Secure the workpiece firmly in the chuck or collet before starting the machine.
- Never leave the machine unattended while it is running.
- Disconnect the machine from the power supply before performing any adjustments, maintenance, or cleaning.
- Do not operate the machine if any parts are damaged or missing.
- Keep hands and fingers away from rotating parts and cutting tools.
- Use only accessories and attachments recommended by the manufacturer.

3. Package Contents

Verify that all components are present upon unpacking:

- Holzmänn ED 400FD Metal Lathe unit
- 3-jaw chuck (100 mm diameter)
- Four-way tool post
- Fixed center MK3
- Fixed center MK2
- Chip guard
- Chip tray
- Set of change gears
- Operating tools
- Instruction Manual

4. Setup

Follow these steps for initial setup:

1. **Unpacking:** Carefully remove the lathe from its packaging. Retain packaging materials for potential future transport.
2. **Placement:** Position the lathe on a sturdy, level workbench capable of supporting its weight (approximately 75 kg). Ensure adequate space around the machine for safe operation and chip clearance.
3. **Cleaning:** Remove any protective coatings or grease from the machine surfaces using a suitable cleaner.
4. **Power Connection:** Connect the machine to a grounded 230 Volt power supply. Ensure the power switch is in the 'OFF' position before connecting.
5. **Initial Inspection:** Check all moving parts for free movement and ensure all fasteners are tight. Verify that the chip guard and chip tray are correctly installed.

5. Operating Instructions

This section details the general operation of the Holzmänn ED 400FD lathe.

5.1. Basic Controls

- **Power Switch:** Located on the control panel, used to turn the machine ON and OFF.
- **Speed Adjustment:** The spindle speed is continuously adjustable. Use the control knob to set the desired RPM. The current speed is displayed on the digital readout.
- **Spindle Direction:** A switch on the control panel allows for selection of right (forward) or left (reverse) spindle rotation.

5.2. Workpiece Mounting

Mount the workpiece securely in the 3-jaw chuck. Ensure the workpiece is centered and clamped tightly to prevent it from coming loose during operation.

5.3. Tooling

Install cutting tools into the four-way tool post. Ensure the tool tip is set to the correct height relative to the workpiece center line. Tighten the tool post securely.

5.4. Longitudinal Turning and Threading

- The machine features a lead screw for automatic longitudinal feed and threading operations.
- Refer to the included set of change gears for specific threading pitches. Install the appropriate gears as required.
- Engage the lead screw mechanism for automatic feed.

5.5. Conical Turning

The tailstock can be offset to allow for conical turning. Adjust the tailstock position as needed for the desired taper.

6. Maintenance

Regular maintenance ensures the longevity and optimal performance of your lathe. Always disconnect power before maintenance.

- **Cleaning:** After each use, clean chips and debris from the machine, especially from the bed guides, lead screw, and chip tray.
- **Lubrication:** Regularly lubricate all moving parts, including the bed guides, lead screw, and gears, according to the lubrication points indicated in the detailed manual (if provided separately).
- **Guide Adjustment:** Periodically check and adjust the gibbs on the carriage and cross slide to eliminate play.
- **Electrical Inspection:** Inspect power cords and connections for any signs of wear or damage.
- **Spindle Bearings:** The main spindle is equipped with precision tapered roller bearings. These are generally maintenance-free but should be checked for unusual noise or excessive play.

7. Troubleshooting

This section addresses common issues and their potential solutions.

- **Machine Does Not Start:**
 - Check power connection and ensure the machine is plugged in.
 - Verify the power switch is ON.
 - Check for tripped circuit breakers or blown fuses.
- **Poor Surface Finish:**
 - Ensure the cutting tool is sharp and correctly ground.
 - Check for excessive play in the carriage or cross slide guides; adjust gibbs if necessary.
 - Verify the workpiece is securely clamped.
 - Adjust cutting speed and feed rate.
- **Excessive Vibration:**
 - Ensure the machine is securely mounted to a stable workbench.
 - Check for loose components or fasteners.
 - Verify the workpiece is balanced and properly supported.

• **Inaccurate Turning:**

- Check the alignment of the headstock and tailstock.
- Ensure the cutting tool is set to the correct center height.
- Verify the precision of the main spindle concentricity (specified as < 0.009 mm).

If problems persist, contact qualified service personnel.

8. Specifications

Parameter	Value
Swing over bed	210 mm
Distance between centers	400 mm
Spindle speed (stepless)	50-2500 rpm
Spindle bore	21 mm
Chuck bore	20 mm
Main spindle concentricity	< 0.009 mm
Voltage	230 Volts
Weight	75 kg
Packaging Dimensions (H x W x L)	46 x 45 x 90 cm

9. Warranty and Support

For warranty information, please refer to the documentation provided at the time of purchase or contact your authorized Holzmann dealer. Warranty terms and conditions may vary by region and seller.

For technical support, spare parts, or service inquiries, please contact your product supplier or the manufacturer directly. Ensure you have your model number (ED 400FD) and purchase details available when contacting support.