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UGEARS 70004

UGEARS 20-Minute Timer Mechanical Model Instruction Manual

Model: 70004 | Brand: UGEARS

INTRODUCTION

This manual provides detailed instructions for assembling, operating, and maintaining the UGEARS 20-Minute Timer Mechanical Model. This self-assembly wooden model functions as a mechanical timepiece, capable of timing intervals from 1 to 20 minutes with an audible alarm. It features a unique roller pendulum and a self-adjustment system, powered by a rubber band mechanism.



Figure 1: Assembled UGEARS 20-Minute Timer Mechanical Model.

SAFETY INFORMATION

Please read and understand all safety warnings before beginning assembly or operation. This product contains small parts and is not suitable for children under 14 years of age. Adult supervision is recommended during assembly.

- **Choking Hazard:** Small parts. Keep away from young children.
- **Sharp Edges:** Exercise caution when detaching parts from the wooden sheets.
- **Flammable Material:** Keep away from open flames or high heat sources.
- **Proper Lubrication:** Use only recommended lubricants (e.g., candle wax) as instructed to ensure smooth operation and prevent damage.

PACKAGE CONTENTS

Verify that all components are present before starting assembly. The kit includes:

- Laser-cut wooden plywood sheets with model parts.
- Rubber bands (for power mechanism).
- Toothpicks (for axles and connections).
- Instruction manual (this document).
- Small measuring tool.
- Sanding paper (optional, for smoothing edges).

Note: No glue is required for assembly.

SETUP AND ASSEMBLY

Follow the detailed diagrams and step-by-step instructions provided in the included printed manual. Patience and attention to detail are crucial for successful assembly and proper function.

1. **Unpack Components:** Carefully remove all wooden sheets and other parts from the packaging.
2. **Part Identification:** Familiarize yourself with the parts by referring to the diagrams.
3. **Detaching Parts:** Gently push out parts from the wooden sheets. If a part is tight, carefully wiggle it or use a small tool to assist. Avoid forcing to prevent breakage.
4. **Sanding (Optional):** Lightly sand any rough edges if necessary for smoother movement.
5. **Lubrication:** Apply candle wax to gears and moving parts as indicated in the assembly instructions to reduce friction. This is critical for smooth operation.
6. **Assembly Steps:** Follow the numbered steps in the printed manual precisely. Pay close attention to the orientation of gears and connecting elements.
7. **Toothpick Usage:** Ensure toothpicks are cut to the correct length (e.g., 6.5mm as specified in some models) and waxed before insertion to prevent snapping.



Figure 2: The assembled UGEARS Timer, showcasing its intricate gear mechanism.

Your browser does not support the video tag.

Video 1: Official UGEARS demonstration of the Timer 3D Mechanical Model. This video provides a visual overview of the model's functionality and intricate design.

OPERATING INSTRUCTIONS

Once assembled, the UGEARS 20-Minute Timer is ready for operation. It can time intervals from 1 to 20 minutes.

1. **Winding the Mechanism:** Locate the winding knob or lever (refer to your specific model's diagrams). Gently turn it to wind the rubber band mechanism. Do not overwind.
2. **Setting the Timer:** Adjust the timer dial to the desired time, from 1 to 20 minutes.
3. **Starting the Timer:** Release the mechanism to begin the countdown. The gears will start moving, and the roller pendulum will oscillate.
4. **Alarm Function:** Upon reaching the set time, an audible alarm will sound.



Figure 3: A user interacting with the UGEARS Timer, demonstrating how to set the device.

MAINTENANCE

To ensure the longevity and smooth operation of your UGEARS Timer, follow these maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to gently wipe dust from the model. Avoid using water or cleaning solutions.
- **Lubrication:** Periodically reapply candle wax to moving gears and axles if you notice increased friction or sluggish movement.
- **Storage:** Store the model in a dry environment, away from direct sunlight and extreme temperature changes, to prevent wood warping or damage.
- **Avoid Force:** Never force any moving parts. If the mechanism jams, gently inspect for obstructions or misaligned components.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Timer does not run or runs slowly.	Insufficient winding, friction in gears, misaligned parts, broken rubber band.	Ensure the mechanism is fully wound. Apply wax to all moving gears and axles. Check for any misaligned or stuck parts. Replace rubber band if broken.
Parts are difficult to detach or fit.	Tight tolerances, burrs on laser-cut edges.	Gently wiggle parts to detach. Use fine sandpaper to smooth edges if necessary. Apply wax to connection points before assembly.

Problem	Possible Cause	Solution
Toothpicks snap during insertion.	Incorrect length, lack of lubrication, excessive force.	Ensure toothpicks are cut to the exact specified length. Apply wax to toothpicks before insertion. Use gentle, even pressure.
Alarm does not sound.	Alarm mechanism not correctly assembled or engaged.	Review the assembly steps for the alarm mechanism. Ensure all parts are correctly positioned and move freely.

SPECIFICATIONS

- **Model Name:** UGEARS 20-Minute Timer
- **Model Number:** 70004
- **Number of Components:** 107
- **Assembly Time:** Approximately 3-5 hours (varies by individual)
- **Material:** 100% natural plywood
- **Dimensions (Assembled):** 6.81 x 3.15 x 10 inches (173 x 80 x 256 mm)
- **Package Size:** 14.6 x 6.7 x 1.2 inches (370 x 170 x 30 mm)
- **Recommended Age:** 14 years and up
- **Power Source:** Rubber band mechanism (no batteries required)



Figure 4: Diagram showing the approximate dimensions of the UGEARS 20-Minute Timer.

WARRANTY AND SUPPORT

UGEARS products are designed for quality and precision. If you encounter any issues or require assistance, please contact UGEARS customer support.

- **Warranty:** UGEARS offers a warranty against manufacturing defects. Please retain your proof of purchase. For specific warranty terms and conditions, refer to the official UGEARS website or contact customer service.
- **Missing or Damaged Parts:** In case of missing or damaged parts, please contact UGEARS customer support with details of the part number (as indicated in the assembly instructions) and your purchase information.
- **Contact Information:** For the most up-to-date support information, visit the official UGEARS website: [UGEARS Contact Us](#).

