

## UGEARS safe

# UGEARS Model Safe Kit: 3D Wooden Mechanical Puzzle Assembly and Operation Manual

Model: Safe

## INTRODUCTION

---

This manual provides detailed instructions for the assembly, operation, and maintenance of your UGEARS Model Safe Kit. The kit is a functional 3D wooden mechanical puzzle designed for enthusiasts aged 14 and up. It allows you to construct a working safe with a personal combination lock, offering both an engaging building experience and a practical storage solution.

## PRODUCT OVERVIEW

---

The UGEARS Model Safe Kit is crafted from durable plywood and birch, featuring 179 precisely laser-cut pieces. No glue is required for assembly, as pieces are designed to fit together tightly. The finished model is a fully functional safe with a three-digit combination lock and a slot for depositing items, such as coins, without opening the door.



Figure 1: The fully assembled UGEARS Model Safe Kit.



Figure 2: The safe with its door open, showcasing the internal dollar sign mechanism and storage space.

## ASSEMBLY INSTRUCTIONS

---

Assembly of the UGEARS Model Safe Kit requires patience and meticulous attention to detail. Follow the included step-by-step visual guide carefully. While no glue is needed, some pieces may require gentle sanding for a smoother fit. It is recommended to have a small piece of wax or a similar lubricant (like a birthday candle or saxophone cork grease) to apply to moving parts, especially the toothpick axles, to ensure smooth operation.

### Key Assembly Tips:

- **Part Removal:** Gently remove pieces from the wooden sheets. If a piece is stubborn, use a craft knife or a small tool to carefully detach it.

- **Sanding:** Lightly sand any rough edges or parts that feel too tight to ensure a smooth fit and prevent breakage. An emery board (nail file) can be effective for small parts.
- **Waxing:** Apply wax to all moving gears, axles, and connecting points to reduce friction and enhance the mechanism's fluidity.
- **Patience:** Some steps, particularly those involving small support pieces or intricate gear alignments, may be challenging. Take your time and double-check the instructions.



Figure 3: The kit components, ready for assembly.

Your browser does not support the video tag.

Video 1: Official UGEARS video demonstrating the assembly process of the Model Safe Kit. This video provides a visual guide to constructing the mechanical puzzle.

## OPERATING INSTRUCTIONS

The UGEARS Model Safe features a three-digit combination lock. The combination is set during assembly. It is crucial to remember this code, as it is the only way to open the safe. A small slot on the top allows for depositing items without needing to open the safe.

### To Open the Safe:

1. Turn the dial counter-clockwise to the first digit of your combination. You will hear clicks as the tumblers align.
2. Turn the dial clockwise to the second digit of your combination.
3. Turn the dial counter-clockwise to the third digit of your combination.
4. Once the correct combination is entered, turn the handle to open the safe door.

### To Close and Lock the Safe:

1. Close the safe door firmly.
2. Turn the handle to engage the locking mechanism.
3. Rotate the dial a few turns in any direction to scramble the combination and secure the safe.

## MAINTENANCE

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

- **Cleaning:** Dust the model regularly with a soft, dry cloth. Avoid using water or chemical cleaners, as they can damage the wood.
- **Lubrication:** Periodically reapply wax or a suitable lubricant to the moving parts, especially the gears and axles, if you notice any stiffness in operation.
- **Storage:** Store the safe in a dry environment away from direct sunlight or extreme temperature changes to prevent warping or damage to the wood.
- **Handling:** Handle the model with care to avoid accidental drops or impacts that could dislodge or break delicate pieces.

## TROUBLESHOOTING

If you encounter any issues with your UGEARS Model Safe, refer to the following common problems and solutions:

- **Difficulty in Turning Dial/Handle:** This often indicates friction. Reapply wax to all moving parts, especially the internal gears and the main dial mechanism. Ensure no pieces are misaligned or catching.
- **Safe Not Opening with Correct Code:** Double-check that you are entering the combination precisely as instructed (counter-clockwise, clockwise, counter-clockwise). Listen for the distinct clicks of the tumblers. If the code was forgotten, the instructions provide an 'emergency opening' method, which typically involves disassembling a specific part of the safe.
- **Pieces Not Fitting:** If pieces are too tight, gently sand the connecting tabs. If they are too loose, a tiny drop of wood glue can be used, though the design is intended to be glue-free.
- **Broken Pieces:** Contact UGEARS customer support for replacement parts if a piece breaks during assembly or use.

## SPECIFICATIONS

Feature	Detail
Product Dimensions	7.3 x 7.7 x 0.04 inches
Item Weight	2.42 pounds
Item Model Number	safe
Manufacturer Recommended Age	14 years and up
Number of Pieces	179
Material	100% Plywood (Birch)

## WARRANTY AND SUPPORT

---

UGEARS products are designed for quality and durability. For specific warranty information or to request support, please refer to the documentation included with your kit or visit the official UGEARS website. If you require replacement parts or have assembly questions, their customer service team can provide assistance.