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UGEARS 70170

UGEARS Marble Run Tiered Hoist 3D Wooden Puzzle Instruction Manual

1. INTRODUCTION

Welcome to the instruction manual for your UGEARS Marble Run Tiered Hoist 3D Wooden Puzzle. This engaging DIY model kit provides an interactive experience, featuring a unique 3-tiered stair lift mechanism that transports marbles to the top for an exciting descent through various tracks and elements. Designed for enthusiasts aged 14 and up, this model offers a hands-on approach to understanding mechanical systems and developing problem-solving skills. The kit contains 315 precision-cut wooden pieces that assemble without the need for glue, ensuring a robust and attractive finished product.

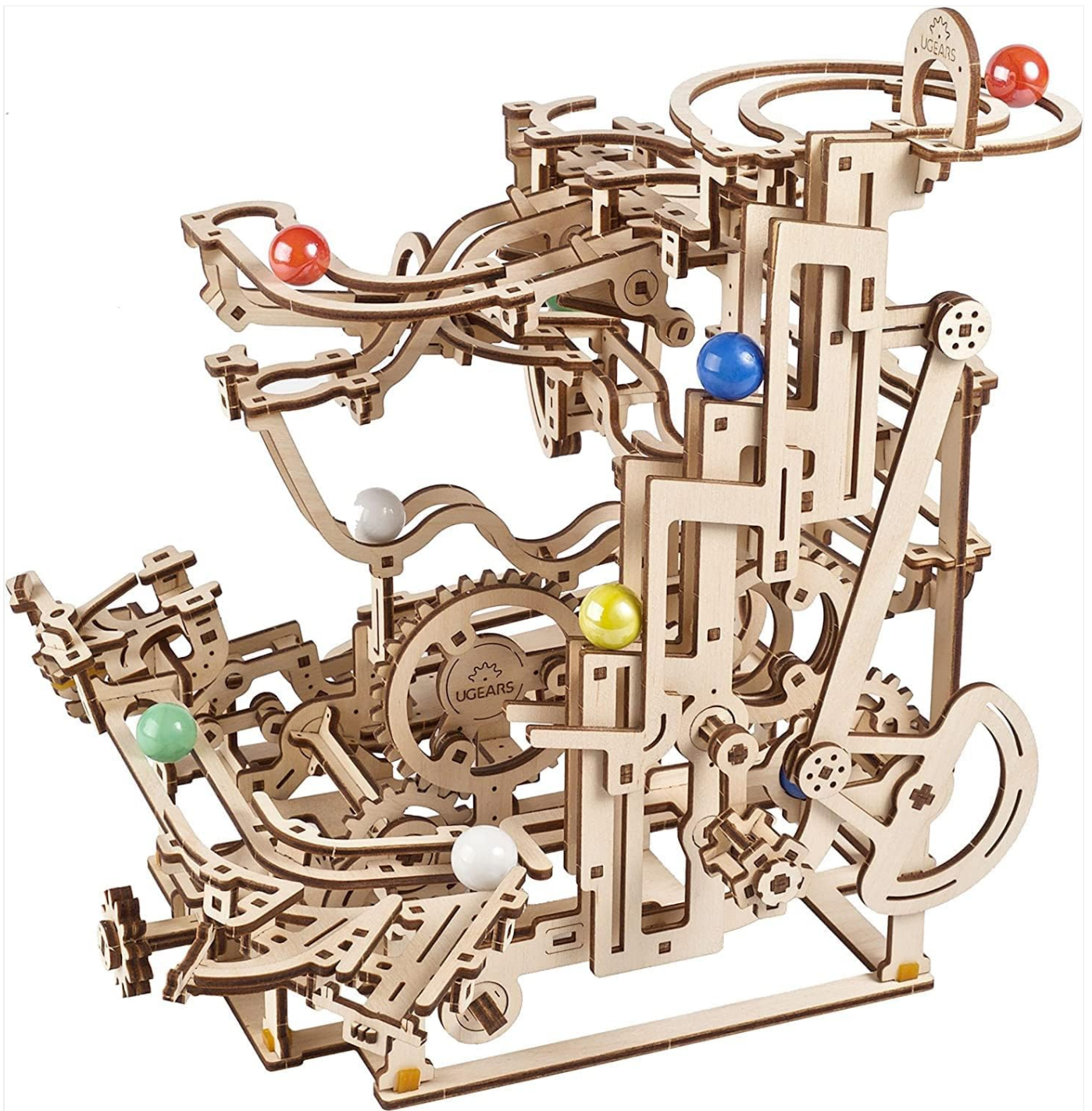


Image 1: The fully assembled UGEARS Marble Run Tiered Hoist, showcasing its intricate wooden structure and colorful marbles in motion.

2. SAFETY INFORMATION

Choking Hazard - Small Parts: This product contains small parts and is not suitable for children under 3 years of age. Adult supervision is recommended during assembly and operation, especially with younger individuals present. Keep all components out of reach of small children to prevent accidental ingestion.

3. WHAT'S IN THE BOX

Your UGEARS Marble Run Tiered Hoist kit includes the following components:

- Plywood boards with precision-cut pieces
- Fishing line
- Paraffin wax

- Sandpaper
- Instruction booklet
- 10 glass marbles (color may vary)



Image 2: A view of the kit contents, showing the laser-cut plywood sheets, marbles, and essential accessories for assembly.

4. ASSEMBLY

The UGEARS Marble Run Tiered Hoist is an advanced-level model with 315 pieces, typically requiring approximately 5 hours for assembly. No glue is required; all pieces are designed to snap together securely. Follow the detailed, illustrated instruction booklet provided in your kit for step-by-step guidance.

4.1. Preparation

- Carefully remove all pieces from the plywood boards. Use the provided sandpaper to smooth any rough edges or burrs.
- Familiarize yourself with the parts by referring to the diagrams in the instruction booklet.
- Apply paraffin wax to all moving gears and connecting points as indicated in the instructions to ensure smooth operation.

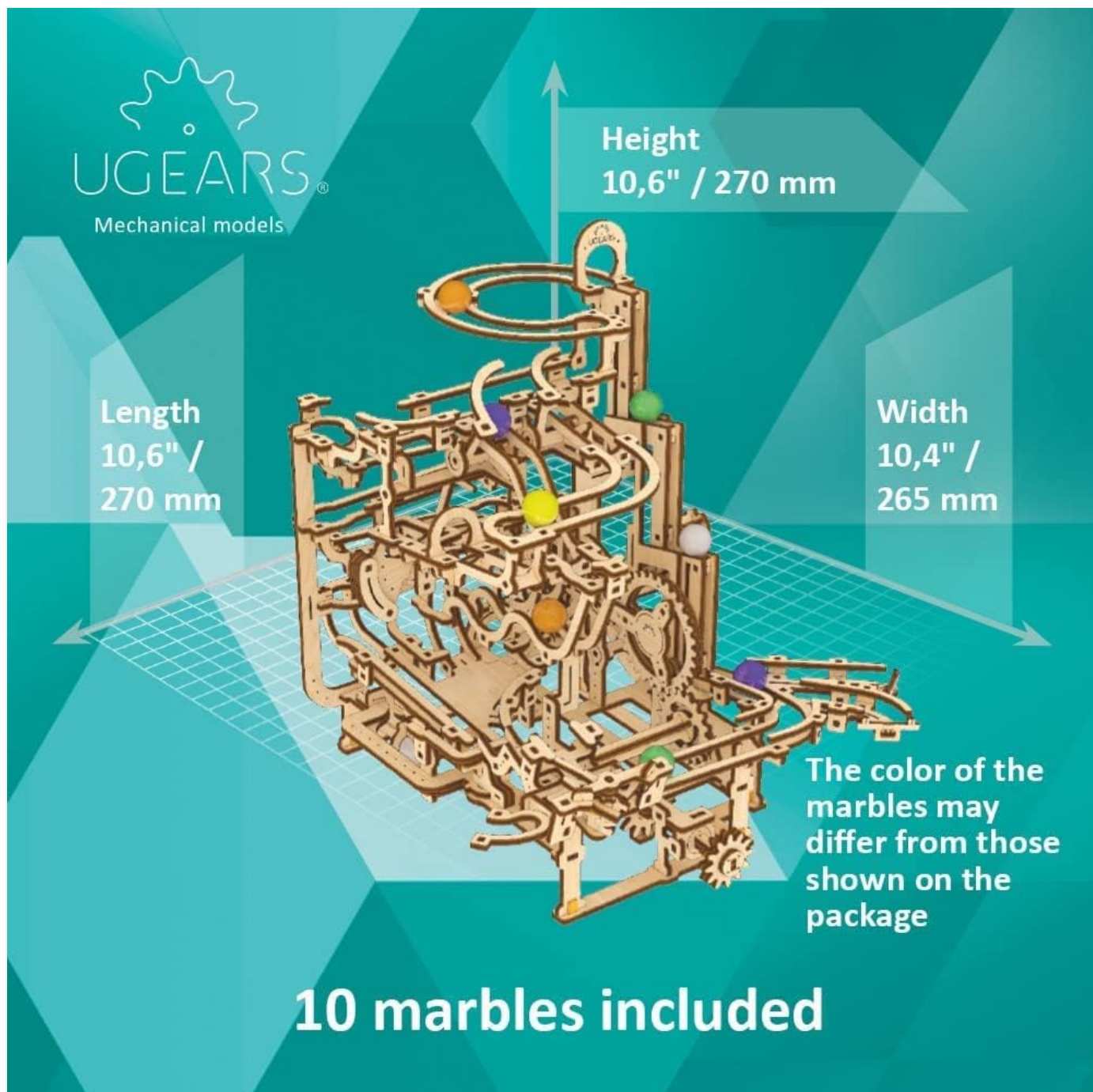


Image 3: Laser-cut plywood sheets containing the various components of the marble run, ready for removal and assembly.

4.2. Step-by-Step Assembly

Follow the visual instructions in the booklet precisely. Pay close attention to the orientation of pieces and the correct placement of gears and levers. Test sub-assemblies for smooth movement before proceeding to the next steps. If parts fit too tightly, gently sand the connecting tabs. Do not force pieces together, as this may cause damage.



Image 4: Close-up of hands carefully connecting wooden components during the assembly process.

4.3. Video Guide

For a visual demonstration of the assembly process and key features, please refer to the official UGEARS video below:

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Video 1: Official UGEARS demonstration of the Marble Run Tiered Hoist, showing assembly highlights and operational features.

5. OPERATION

Once fully assembled, the UGEARS Marble Run Tiered Hoist is operated manually. Place the provided marbles into the designated loading area at the base of the lift. Turn the crank to activate the 3-tiered stair lift, which will raise the marbles to the top of the structure. From there, marbles will travel through a series of tracks, descents, and mechanisms before returning to the base to repeat the cycle.

- **Loading Marbles:** Place marbles one by one or in small groups into the input tray.
- **Activating the Hoist:** Rotate the hand crank steadily to engage the lifting mechanism.
- **Observing the Paths:** Watch as marbles navigate the various routes, including loops, drops, and collection points.

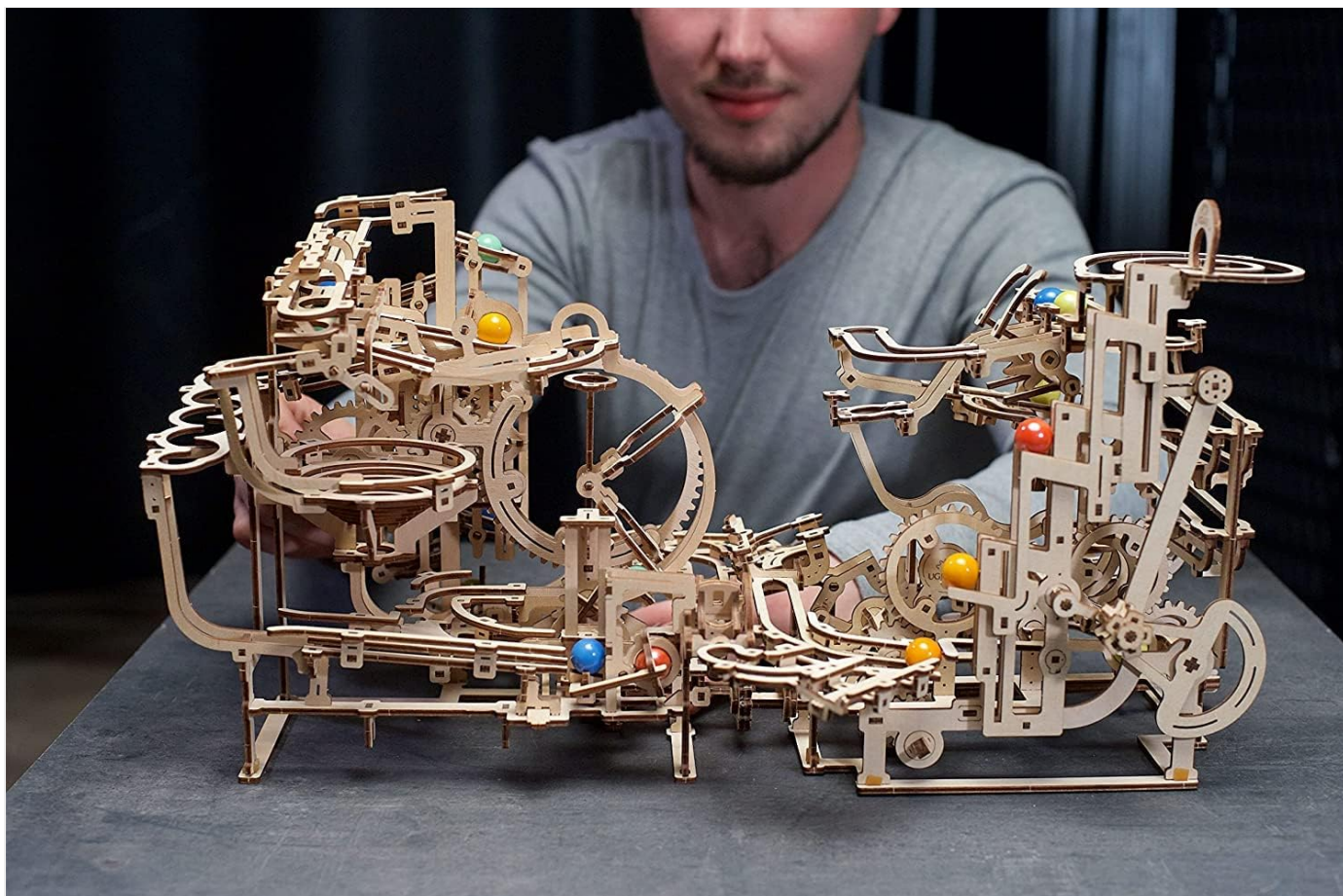


Image 5: Two UGEARS Marble Run models linked, demonstrating the modularity and expanded play possibilities.

6. MAINTENANCE

Regular maintenance ensures the longevity and smooth operation of your UGEARS model.

- **Lubrication:** Periodically apply paraffin wax to all moving parts, especially gears, axles, and points of friction. Ensure wax is applied to the sides of gears that rub against supporting structures.
- **Cleaning:** Use a soft, dry cloth to gently wipe away any dust or debris from the wooden components and tracks. Avoid using water or cleaning solutions, as they may damage the wood.
- **Storage:** Store the model in a dry environment away from direct sunlight and extreme temperature changes to prevent warping or damage to the wood.

7. TROUBLESHOOTING

If your Marble Run is not operating smoothly, consider the following common issues and solutions:

- **Tight Fits/Sticking Parts:** If parts are stiff or sticking, re-apply paraffin wax to the contact points. Gently operate the mechanism repeatedly to help break in the moving parts. If necessary, carefully disassemble and lightly sand any overly tight connections.
- **Marbles Getting Jammed:**
 - Ensure all track pieces are correctly aligned and free of obstructions.
 - Check the lifting prongs and chain mechanism for proper engagement with the marbles. Filing the teeth of sprockets slightly before assembly can improve chain engagement.
 - Verify that marbles are not getting caught at entry or exit points of various mechanisms. Slight adjustments to track width or component alignment may be needed.

- **Mechanism Not Tripping:** If marbles are not heavy enough to activate certain mechanisms, consider using slightly heavier 16mm steel ball bearings (not included) if the design allows and does not cause excessive wear.
- **Parts Breaking:** If a part breaks during assembly, contact UGEARS customer support for replacement parts. Avoid forcing pieces.

8. SPECIFICATIONS

Product Dimensions	12.01 x 10.83 x 0.04 inches
Item Weight	7.1 ounces
Model Number	70170
Recommended Age	14 years and up
Number of Pieces	315
Assembly Time	Approximately 5 hours

9. WARRANTY AND SUPPORT

For specific warranty information, replacement parts, or additional support, please refer to the documentation included with your product or visit the official UGEARS website. You can also visit the [UGEARS Store on Amazon](#) for more information and contact options.

