

ROBOTIME LGA01

ROBOTIME LGA01 Marble Night City Wooden Marble Run 3D Puzzle

INSTRUCTION MANUAL

1. Introduction

This manual provides detailed instructions for the assembly, operation, and maintenance of your ROBOTIME LGA01 Marble Night City Wooden Marble Run 3D Puzzle. This intricate model offers an engaging building experience and, once completed, demonstrates mechanical principles through its perpetual motion marble run. It is designed to enhance patience, problem-solving skills, and hand-eye coordination.

The ROBOTIME LGA01 model is a 294-piece engineering toy that combines wooden and plastic components to construct a complex marble maze. It is powered by a hand-cranking mechanism, driving mechanical gear rotation to create an endless loop for the included steel balls.

2. Safety Information

- **Recommended Age:** This product is recommended for individuals 14 years of age and older. Younger users should be supervised due to the presence of small and potentially fragile components.
- **Material Safety:** All parts are manufactured from high-quality, non-toxic, tasteless, and recyclable safety materials.
- **Fragile Parts:** Some wooden pieces, especially the stained black components, may be thin and fragile. Handle all parts with care during removal from sheets and assembly to prevent breakage.
- **Small Parts:** The kit contains small parts and steel balls which could pose a choking hazard. Keep out of reach of small children.

3. Package Contents

Upon opening the package, verify that all components are present and undamaged. The ROBOTIME LGA01

kit includes:

- 294 precision laser-cut wooden and acrylic pieces for self-assembly.
- 10 metal steel balls for the marble run.
- Detailed instruction manual with illustrations.
- Necessary hardware (e.g., screws, metal axles, O-rings).
- Spare parts for common fragile components.

Note: No additional tools or glue are required for assembly.

4. Assembly Instructions

Follow the included detailed instruction book carefully. Each step is illustrated to guide you through the building process. Patience and attention to detail are crucial for a successful assembly.

1. **Preparation:** Lay out all wooden sheets and identify the parts. Gently push out each piece. If a piece is difficult to remove, use a hobby knife or sandpaper to carefully loosen it.
2. **Review Instructions:** Before attaching any pieces, thoroughly review the illustrations for the current step and the subsequent steps. Some parts may appear similar but have subtle differences in size or orientation.
3. **Handle with Care:** Exercise caution when handling thin or stained wooden pieces, as they can be fragile. If a piece splits, wood glue can be used for repair.
4. **Connecting Parts:** Ensure pieces fit snugly. Avoid excessive force. The kit is designed for interlocking assembly without glue, but some users may find a small amount of wood glue helpful for securing certain rail pieces that guide the marbles.
5. **Axle Alignment:** Utilize the provided tool to ensure proper alignment of metal axle ends for smooth operation of gears and lifts.
6. **Acrylic Components:** Integrate the transparent acrylic parts as indicated in the instructions. These add to the visual appeal and functionality of the marble run.
7. **Final Checks:** Before proceeding to operation, ensure all moving parts are free from obstruction and rotate smoothly.



Figure 4.1: Product Dimensions and Assembly Details. This image illustrates the overall dimensions of

the assembled Marble Night City model (8.9 inches height, 12.8 inches width, 8.4 inches depth) and highlights that it consists of 294 pieces for self-assembly without the need for glue.

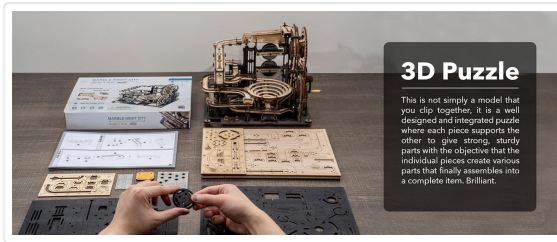


Figure 4.2: Assembly Process Overview. This image shows various laser-cut wooden sheets with puzzle pieces, the instruction manual, and hands beginning the assembly process, emphasizing the detailed nature of the 3D puzzle construction.



Figure 4.3: Hand Crank Mechanism. A close-up view of the hand crank, which is rotated to power the marble run, showcasing the intricate gear system and the precision machinery involved in its operation.



Figure 4.4: Acrylic Guardrails. This image highlights the transparent acrylic hollow guardrails used in the marble run, which contribute to both the aesthetic and functional aspects of the model by allowing visibility of the marbles.

5. Operating Instructions

Once fully assembled, your ROBOTIME LGA01 Marble Night City is ready for operation. The marble run is designed for continuous motion when manually operated.

1. **Place Marbles:** Carefully place the 10 metal steel balls into the designated starting point or collection area of the marble run.
2. **Engage Hand Crank:** Locate the hand crank on the side of the model. Gently rotate the hand crank in the indicated direction. This action will activate the mechanical gears, lifting the marbles and initiating their journey through the various tracks and accelerators.
3. **Observe Flow:** Watch as the marbles travel through the funnel accelerator, hanging tunnel branch, and other intricate pathways, demonstrating perpetual motion.
4. **Tap Switch (If applicable):** Some models may include a tap switch for integrated lighting. Refer to your specific instruction manual for details on its function. Typically, a first click powers on the tube gradient, a second click makes the light continuously bright, and a tap and hold action powers off the light.

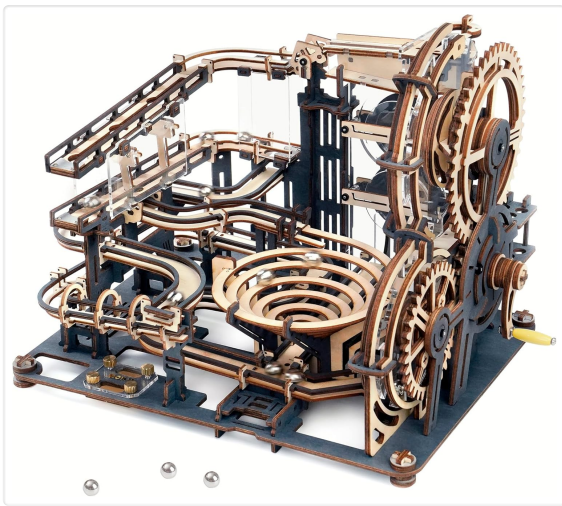


Figure 5.1: Completed Marble Run. An overview of the fully assembled ROBOTIME LGA01 Marble Night City, ready for operation, showcasing its complex track system and mechanical elements.

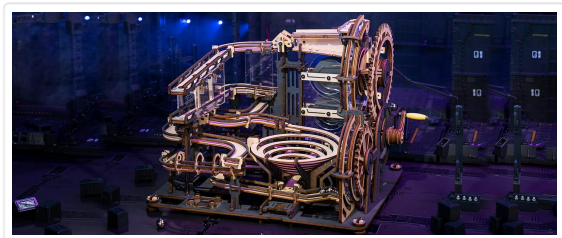


Figure 5.2: Tap Switch Operation. A diagram illustrating the functionality of the tap switch, detailing how a single click, a second click, and a tap-and-hold action control the integrated lighting features of the model.

6. Maintenance

To ensure the longevity and smooth operation of your ROBOTIME LGA01 Marble Night City, follow these maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to gently wipe dust from the wooden and acrylic surfaces. Avoid using abrasive cleaners or excessive moisture, which can damage the wood.
- **Lubrication:** Periodically check the moving gear mechanisms. If any friction is observed, a small amount of dry lubricant (e.g., graphite powder) can be applied to the gear teeth to ensure smooth rotation. Avoid oil-based lubricants as they can attract dust.
- **Storage:** When not in use, store the model in a dry environment away from direct sunlight and extreme temperature fluctuations to prevent warping or damage to the wooden components.
- **Ball Storage:** The model includes a storage place for the metal balls. A rail around the two levels of storage helps prevent the balls from moving or falling out when the model is transported or stored.

7. Troubleshooting

If you encounter issues with your Marble Night City model, refer to the following troubleshooting tips:

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Marbles stop or get stuck during operation.	Misaligned track pieces. Friction in moving parts. Debris on tracks. Loose connections.	Carefully inspect all track sections for proper alignment and smooth transitions. Apply dry lubricant to gears if they are stiff. Clean tracks with a soft cloth to remove dust or small particles. Ensure all interlocking pieces are fully seated.
Hand crank is difficult to turn or jams.	Gears are misaligned or obstructed. Axles are not properly seated.	Check all gears for proper meshing and clear any obstructions. Verify that all metal axles are correctly inserted and aligned using the alignment tool. Apply dry lubricant to gear teeth if necessary.
Pieces break during assembly.	Excessive force applied. Fragile nature of some components.	Use wood glue to repair broken pieces. Allow sufficient drying time. Utilize spare parts provided in the kit. Contact customer support for replacement parts if needed.

8. Specifications

- **Model Number:** LGA01 (RBT-LGA01)
- **Product Dimensions (Assembled):** Approximately 8.9 x 12.8 x 8.4 inches (Height x Width x Depth)
- **Item Weight:** 3.34 pounds
- **Number of Pieces:** 294
- **Materials:** High-quality wood, transparent acrylic, metal.
- **Power Source:** Manual hand crank.
- **Recommended Age:** 14 years and up.

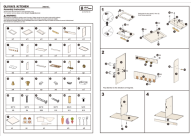
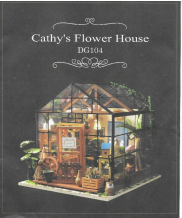
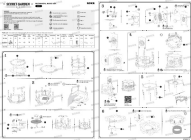



9. Warranty and Support

ROBOTIME is committed to providing high-quality products and customer satisfaction. If you have any questions during assembly, or if you find any damaged or missing parts, please do not hesitate to contact our customer service team.

Customer Service: Please refer to the contact information provided in your product packaging or visit the official ROBOTIME website for support. We aim to respond to inquiries within 24 hours.

Warranty: Specific warranty details may vary. Please retain your proof of purchase. For information regarding product warranty, contact ROBOTIME customer support directly.

Related Documents - LGA01

	<p>Olivia's Kitchen Assembly Instructions - ROBOTIME WCF09</p> <p>Detailed assembly instructions for the ROBOTIME Olivia's Kitchen play set (Model WCF09). Includes parts list, step-by-step guidance, and safety warnings for building this wooden toy kitchen.</p>
	<p>Cathy's Flower House DG104: Miniature DIY Assembly Guide</p> <p>Comprehensive assembly instructions for the Cathy's Flower House DG104 miniature DIY craft kit by Robotime. This guide provides detailed steps, tips, and part lists to help you build your own charming flower house.</p>
	<p>ROKR AMK52 Secret Garden DIY Mechanical Music Box Assembly Instructions</p> <p>Comprehensive assembly instructions for the ROKR AMK52 Secret Garden DIY Mechanical Music Box by Robotime. This guide provides a detailed walkthrough of the assembly process, including a parts list, step-by-step instructions, and helpful tips for a successful build.</p>
	<p>Robotime EC Declaration of Conformity - Miniature House Kits</p> <p>Official EC Declaration of Conformity for Robotime Technology (Suzhou) Co., Ltd.'s range of DIY miniature house kits, including models like Mind-Find Bookstore, Holiday Party Time, and more, compliant with harmonized standards.</p>
	<p>ROKR Marble Night City LGA01 3D Wooden Puzzle Assembly Instructions</p> <p>Detailed assembly instructions for the ROKR Marble Night City LGA01, a 3D wooden mechanical puzzle. Learn how to build your own intricate marble run with step-by-step guidance.</p>
	<p>ROKR Marble Night City LGA01 3D Wooden Puzzle Assembly Instructions</p> <p>Detailed assembly instructions for the ROKR Marble Night City LGA01 3D Wooden Puzzle. Learn how to build this intricate mechanical model step-by-step, including parts list, tools, and troubleshooting.</p>