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› MiOYOOW DIY Car Driving Simulation Soldering Practice Kit User Manual - Model GY21738

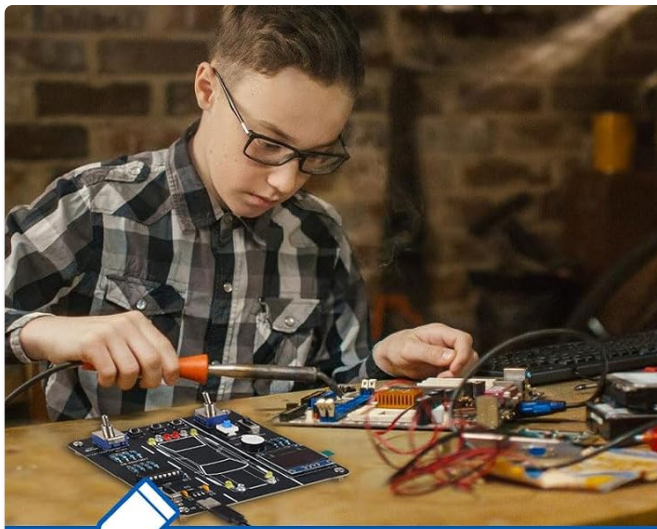
MiOYOOW GY21738

MiOYOOW DIY Car Driving Simulation Soldering Practice Kit User Manual

Model: GY21738 | Brand: MiOYOOW

1. INTRODUCTION

The MiOYOOW DIY Car Driving Simulation Soldering Practice Kit is an educational electronics project designed for high school and college students, as well as electronics enthusiasts. This kit provides a hands-on experience in assembling electronic components through soldering, while also simulating fundamental automotive control systems. Users will learn about car circuits, control principles, and enhance their practical soldering skills.



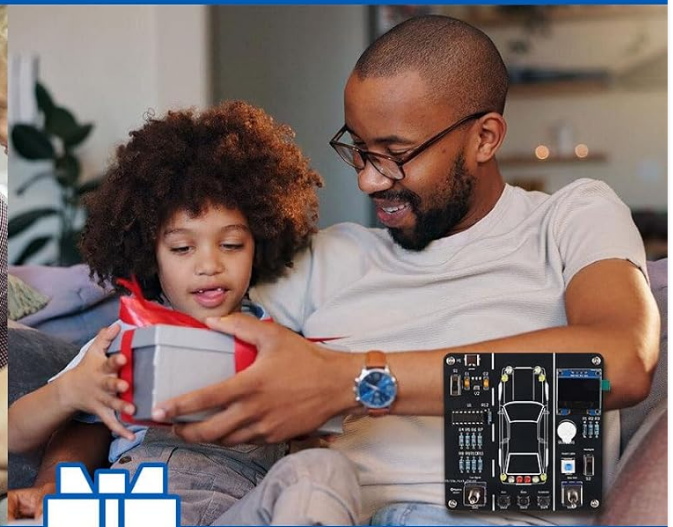
Soldering Practice



Parent-child entertainment



STEM Education



Ideal Gift

Image: Students learning and practicing soldering with the kit.

2. COMPONENTS IN PACKAGE

Before beginning assembly, please verify that all components listed below are present in your kit. Refer to the included paper manual for a detailed component list and identification.

[illegible]

- Printed Circuit Board (PCB) shaped like a car
- Resistors (various values)
- LEDs (for turn signals, headlights, brake lights, reverse lights)
- Switches (for horn, accelerator, brake, gear shift, hazard lights, headlights)
- LCD Screen (for speed display)
- Integrated Circuit (IC)
- Buzzer
- Capacitors
- USB Power Cable
- Other small electronic components and hardware

This kit requires soldering. Basic electronic theoretical knowledge and soldering skills are recommended. Please follow the detailed paper installation manual provided with the kit for step-by-step guidance.

3.1 Soldering Preparation

- Ensure your soldering iron is clean and properly tinned.
- Work in a well-ventilated area.
- Organize all components according to the manual to avoid errors.
- Most components are through-hole, making soldering straightforward. There is one surface-mount chip that requires careful attention.

Except for one surface-mount chip, all components are through-hole.

The estimated soldering time is around 1 hour.

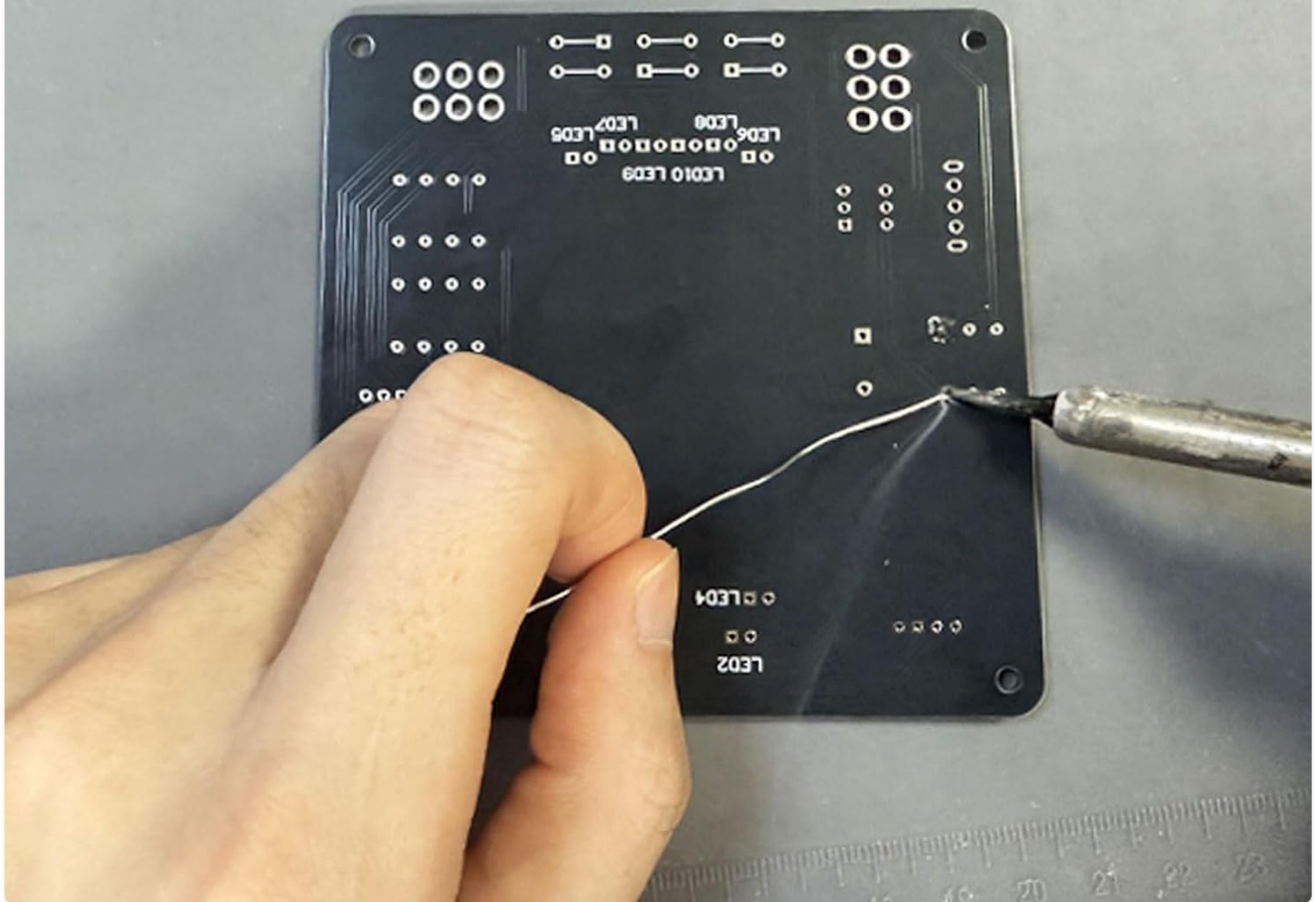


Image: Soldering a component onto the circuit board.

3.2 Assembly Steps

Follow the sequence outlined in the paper manual. Generally, smaller components are soldered first, followed by larger ones.

1. **Resistors:** Identify and solder all resistors to their designated positions.
2. **Diodes/LEDs:** Pay close attention to polarity when soldering LEDs.
3. **Capacitors:** Solder capacitors, noting polarity for electrolytic capacitors.
4. **Integrated Circuits (ICs):** Carefully insert and solder the IC, ensuring correct orientation.

5. **Switches and Buttons:** Solder all control switches and buttons.
6. **LCD Screen:** Connect the LCD screen according to the manual.
7. **Buzzer:** Solder the buzzer.
8. **Power Connector:** Solder the USB power connector.
9. **Final Checks:** Visually inspect all solder joints for bridges or cold joints. Ensure all components are correctly oriented.



Image: The fully assembled car driving simulation kit.

4. OPERATING INSTRUCTIONS

Once assembled, the kit simulates various car operations through its buttons and display.

4.1 Powering On

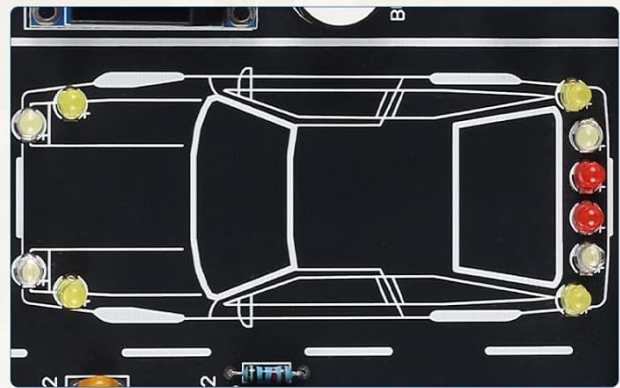
Connect the provided USB cable to the kit and a power source (e.g., a USB wall adapter, not included). The kit is battery-powered, and the LCD screen will display the current speed and other information upon activation.

4.2 Interactive Controls

The simulator features several interactive controls:

- **Horn:** Press the designated button to activate the horn sound.
- **Turn Signals:** Toggle the left/right turn signal switches to activate the corresponding indicator lights.
- **Headlights:** Press the headlight button to turn the headlights on/off.
- **Brake Lights:** Press the brake button to illuminate the brake lights.
- **Reverse Lights:** Engage the reverse gear to activate the reverse lights.
- **Accelerator:** Press the accelerator button to increase the simulated speed displayed on the LCD.
- **Deceleration:** Releasing the accelerator or pressing the brake will decrease the simulated speed.
- **Hazard Lights:** Activate the hazard light switch to flash all four turn signals simultaneously.
- **Gear Shift:** Use the gear shift switch to toggle between forward and reverse modes.

Include 4 turn signals, 2 headlights, 2 brake lights, and 2 reverse lights, replicating realistic automotive lighting effects.



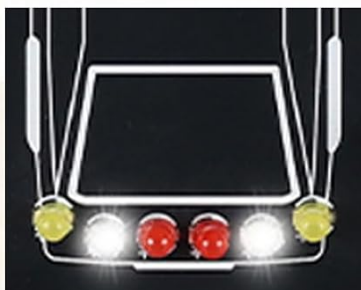
Left Turn Signal



Right Turn Signal



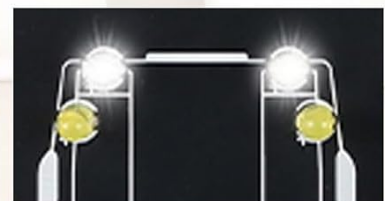
Hazard Lights



Reversing



Brake



Headlights

Image: Visual representation of the car's lighting effects.

4.3 Video Demonstration

Watch this video for a demonstration of the car driving simulation kit's features, including gear shifting and LCD display functionality.

Your browser does not support the video tag.

Video: Demonstration of the Car Driving Simulation Kit with Gear Shifting & LCD Display.

5. MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the PCB and components. Avoid using liquids or abrasive cleaners.
- **Storage:** Store the kit in a dry, cool place away from direct sunlight and extreme temperatures.
- **Handling:** Handle the assembled kit with care to prevent damage to soldered connections or components.
- **Power:** Disconnect power when not in use for extended periods.

6. TROUBLESHOOTING

If you encounter issues with your kit, refer to the table below for common problems and solutions.

Problem	Possible Cause	Solution
Kit does not power on.	Loose power connection, incorrect component placement, short circuit.	Check USB cable connection. Verify all components are correctly soldered and oriented. Inspect for any solder bridges.
Specific lights (LEDs) do not work.	Incorrect LED polarity, cold solder joint, faulty LED.	Check LED orientation (long leg is positive). Re-solder connections. Test the LED if possible.
Buttons/switches are unresponsive.	Poor solder connection, faulty switch.	Inspect and re-solder switch connections. Ensure the switch is fully seated.
LCD screen is blank or displays errors.	Loose LCD connection, incorrect IC placement, power issue.	Verify LCD connections are secure. Check IC orientation and solder joints. Ensure stable power supply.
Buzzer does not sound.	Incorrect buzzer polarity, cold solder joint.	Check buzzer polarity and re-solder connections.

7. SPECIFICATIONS

- **Brand:** MiOYOOW
- **Model Number:** GY21738
- **Item Weight:** 0.11 Kilograms
- **Display Type:** LCD
- **Included Components:** Resistors, PCB, LEDs, switches, LCD, IC, buzzer, USB cable, and other electronic components.
- **Number of Items:** 1 kit

Product Size

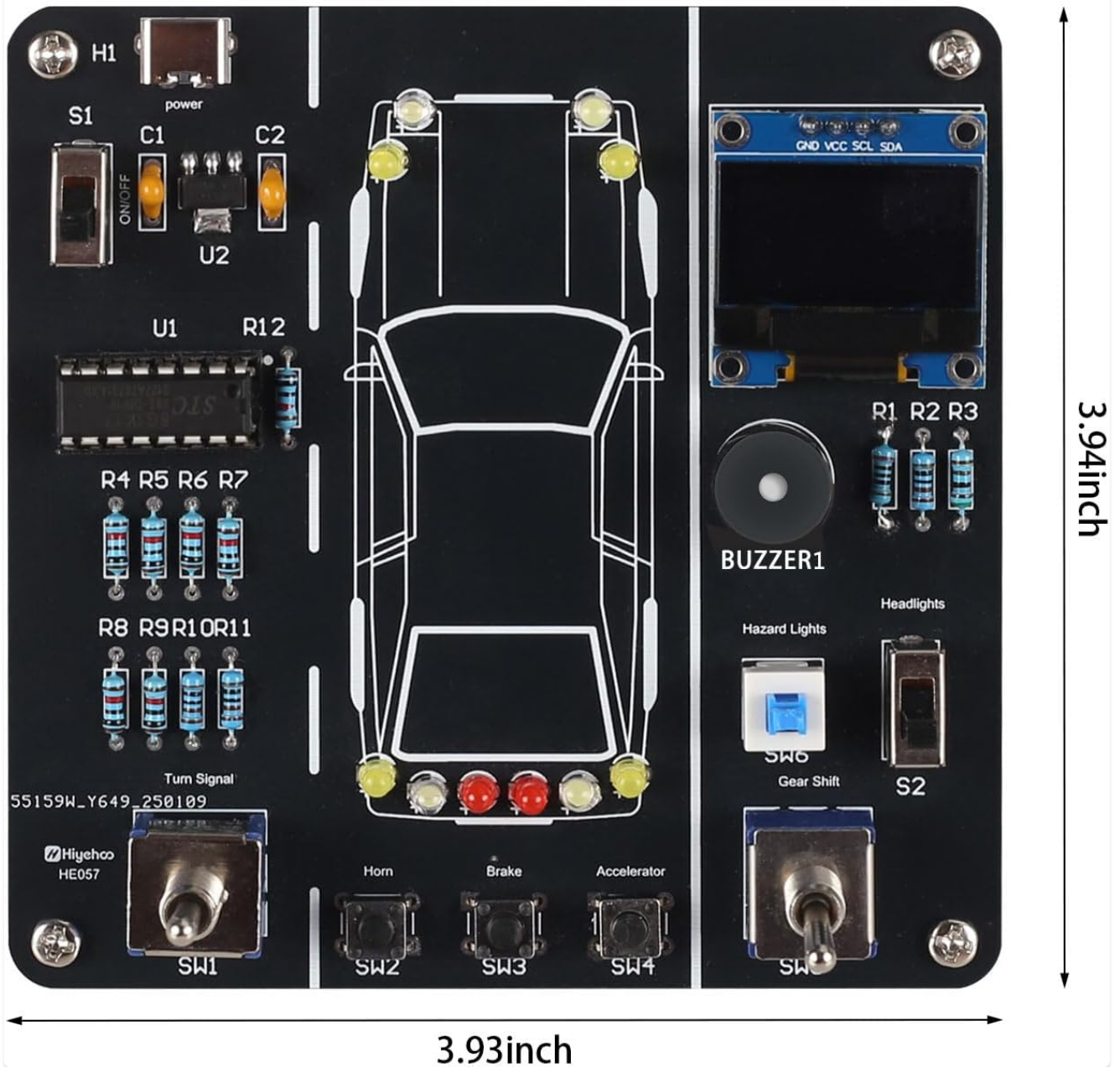


Image: Product dimensions of the assembled kit.

8. WARRANTY AND SUPPORT

For any questions, technical assistance, or support regarding your MiOYOOW DIY Car Driving Simulation Soldering Practice Kit, please refer to the contact information provided in your product packaging or on the official MiOYOOW website. While this is a DIY kit, support is available for manufacturing defects or missing components.

