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## EUDAX EH-6SET-LP

# EUDAX Mini DC Motor Kit Instruction Manual

Model: EH-6SET-LP

## 1. INTRODUCTION

The EUDAX Mini DC Motor Kit (Model EH-6SET-LP) is a comprehensive set of components designed for educational purposes, DIY science projects, and creating small electronic devices. This kit provides a foundation for understanding basic electrical circuits, motor mechanics, and gear systems. It is suitable for users aged 6 and up, with adult supervision recommended for younger users.

## 2. SAFETY INFORMATION

**Attention: Please read these safety instructions carefully before use.**

- **Short Circuit Prevention:** Always use the correct circuit diagram when connecting components. Incorrect wiring can lead to a short circuit, which may generate high temperatures and cause the battery holder to melt or other components to overheat.
- **Choking Hazard:** This kit contains small parts. It is not suitable for children under 3 years of age due to potential choking hazards. Keep all components out of reach of small children.
- **Adult Supervision:** Adult supervision is recommended, especially when assembling circuits or handling small components.
- **Battery Safety:** Ensure batteries are inserted with correct polarity. Do not mix old and new batteries, or different types of batteries. Remove batteries if the device will not be used for an extended period.

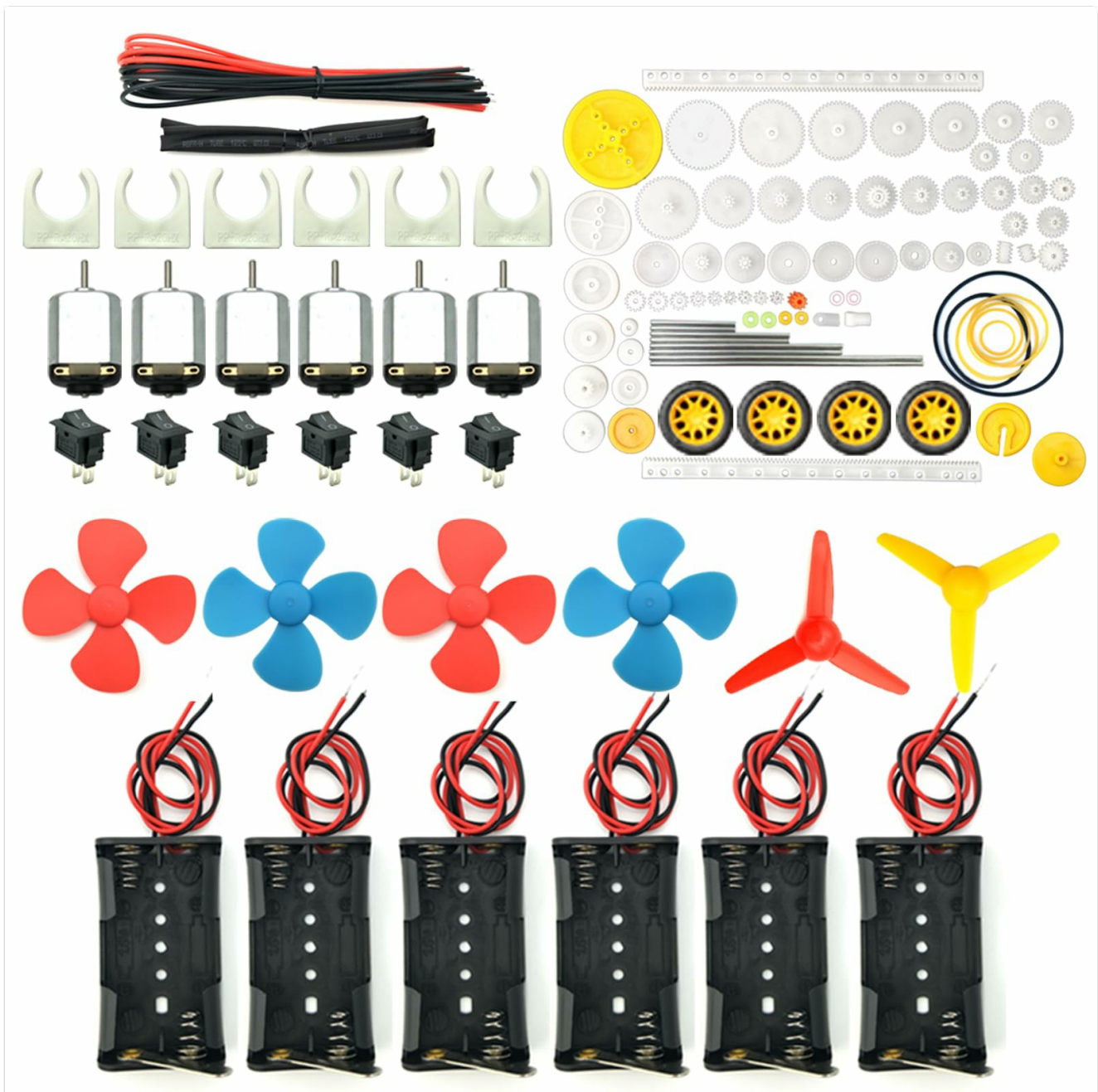


Figure 1: Correct and incorrect circuit diagrams. Always follow the correct circuit to prevent short circuits.

### 3. PACKAGE CONTENTS

The EUDAX Mini DC Motor Kit includes the following components:

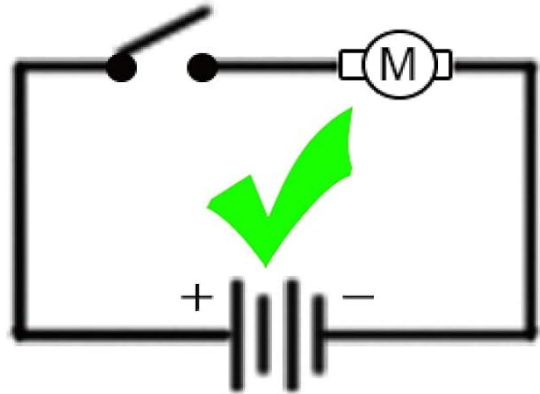
- 6 x DC Motor (3V, 24000 RPM)
- 12 x Electronic Wires (9.8in/25cm, 6 red, 6 black)
- 6 x 2 x 1.5V AA Battery Holder Case
- 6 x DC Motor Mounting Bracket Holder
- 6 x 3A/250V 6A/125V 2 Solder Lug SPST On/Off Mini Boat Rocker Switch
- 40cm  $\Phi$ 3 Heat Shrink Tube
- 84pcs Plastic Gears (Random Colors)
- 4 x 2mm Shaft Propeller with 4 Vanes (Red & Blue)
- 2 x 2mm Shaft Propeller with 3 Vanes (Yellow & Red)

# Pay Attention!

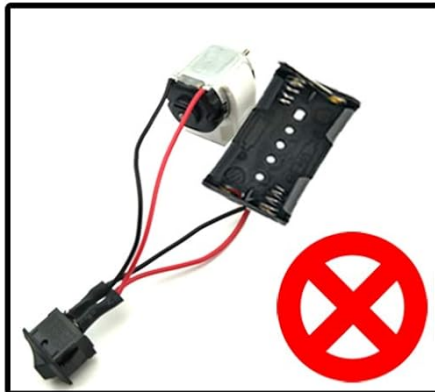
Correct circuit diagram



Correct circuit diagram



## Short circuit diagram



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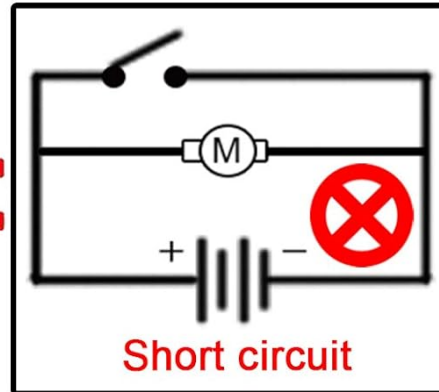


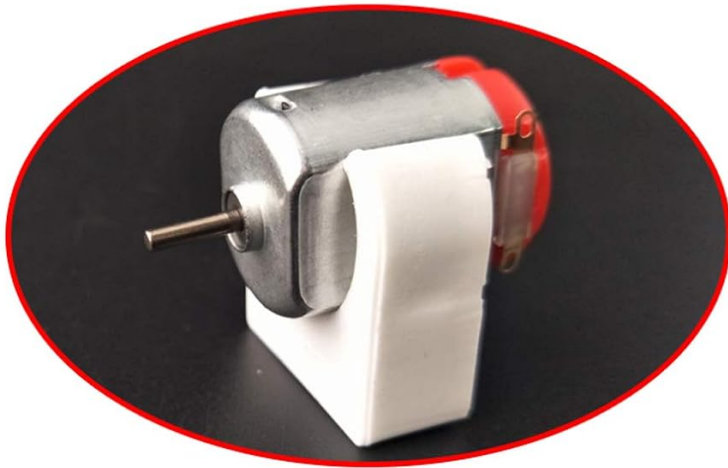
Figure 2: All components included in the EUDAX Mini DC Motor Kit.

## 4. SETUP AND ASSEMBLY

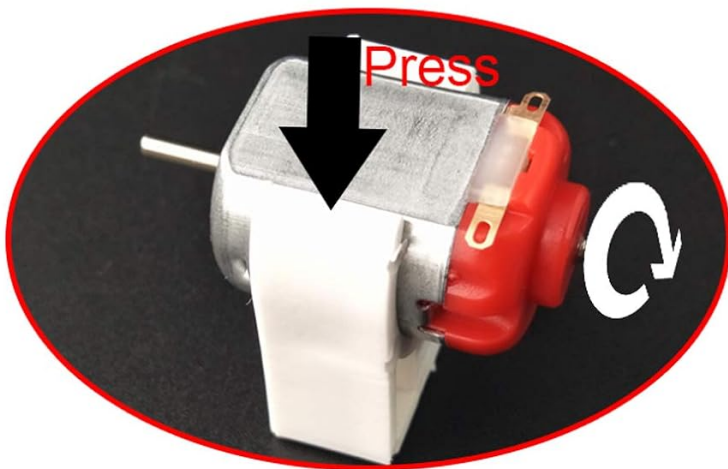
This kit is designed for creative assembly. The following steps provide general guidance for connecting basic components. Specific project designs will vary.

1. **Motor Installation:** Secure the DC motor into a motor mounting bracket. The motor body length is 38mm (1.46") and diameter is 27mm (1.06"). The mounting hole distance (center to center) is 15mm (0.59").

## Two steps to complete the installation



Step 1: Install the motor vertically



Step 2: Press the motor to rotate

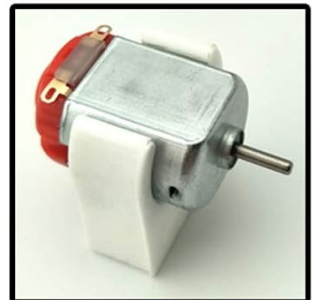
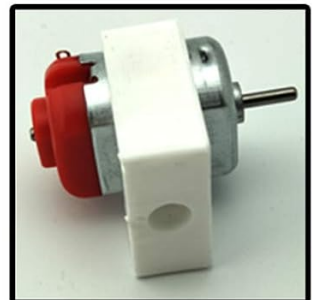
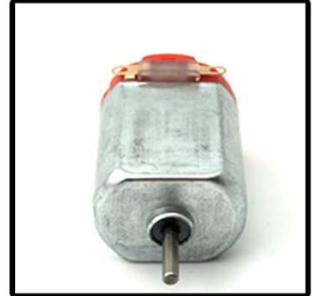


Figure 3: Steps for installing the DC motor into its bracket.

2. **Gear/Propeller Attachment:** The motor shaft size is 10x2.0mm (0.39"x0.08" L\*D). Select appropriate plastic gears or propellers from the assortment and press them onto the motor shaft. Ensure a snug fit.

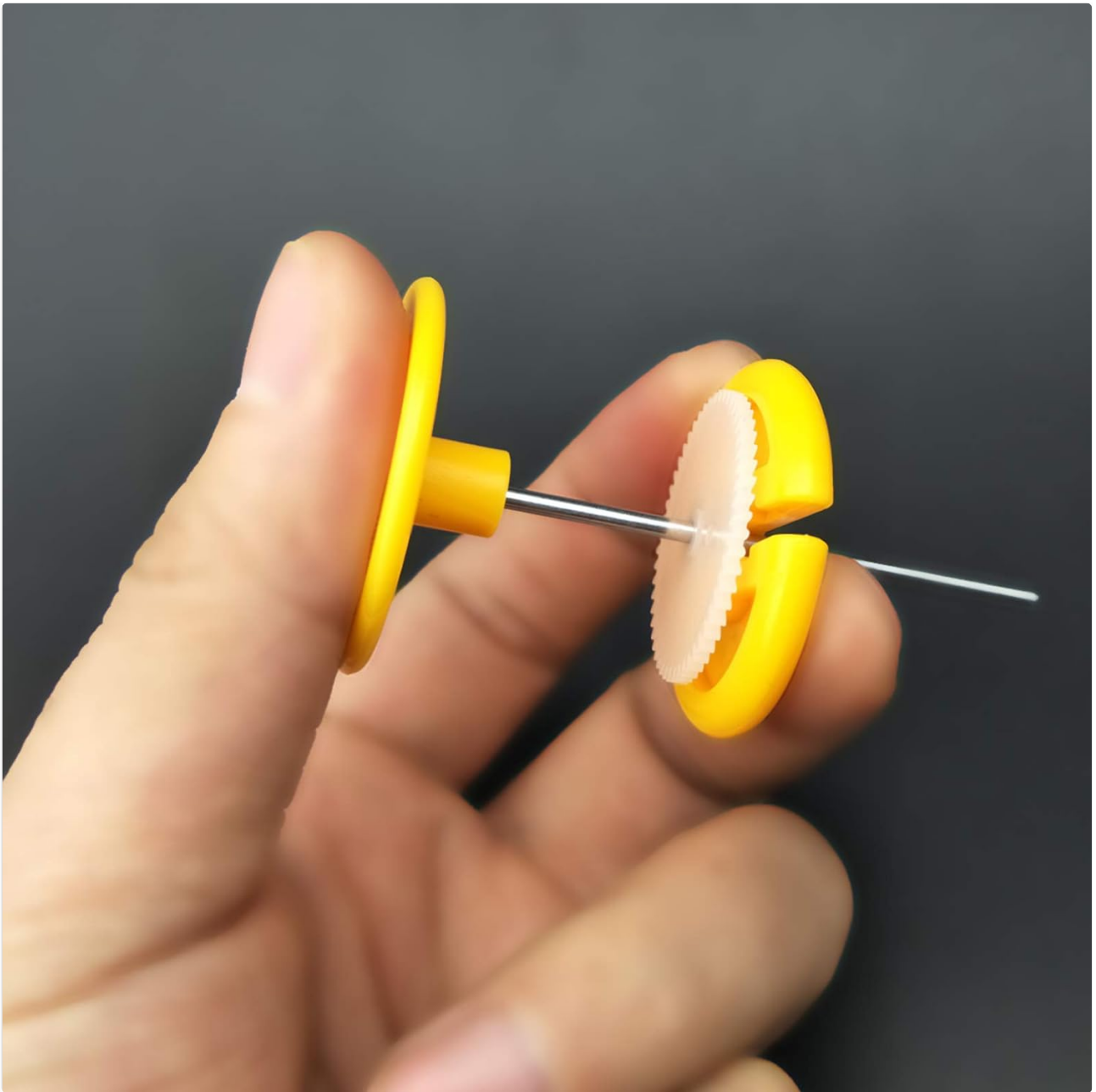


Figure 4: Attaching a gear to a shaft.

3. **Battery Holder Preparation:** Insert two 1.5V AA batteries into the battery holder, observing correct polarity (+/-).
4. **Wiring the Circuit:** Connect the electronic wires to the motor terminals, battery holder, and rocker switch. Refer to the correct circuit diagram (Figure 1) to avoid short circuits. The rocker switch has 2 solder lugs for simple on/off control. Use heat shrink tubing for secure and insulated connections if soldering.

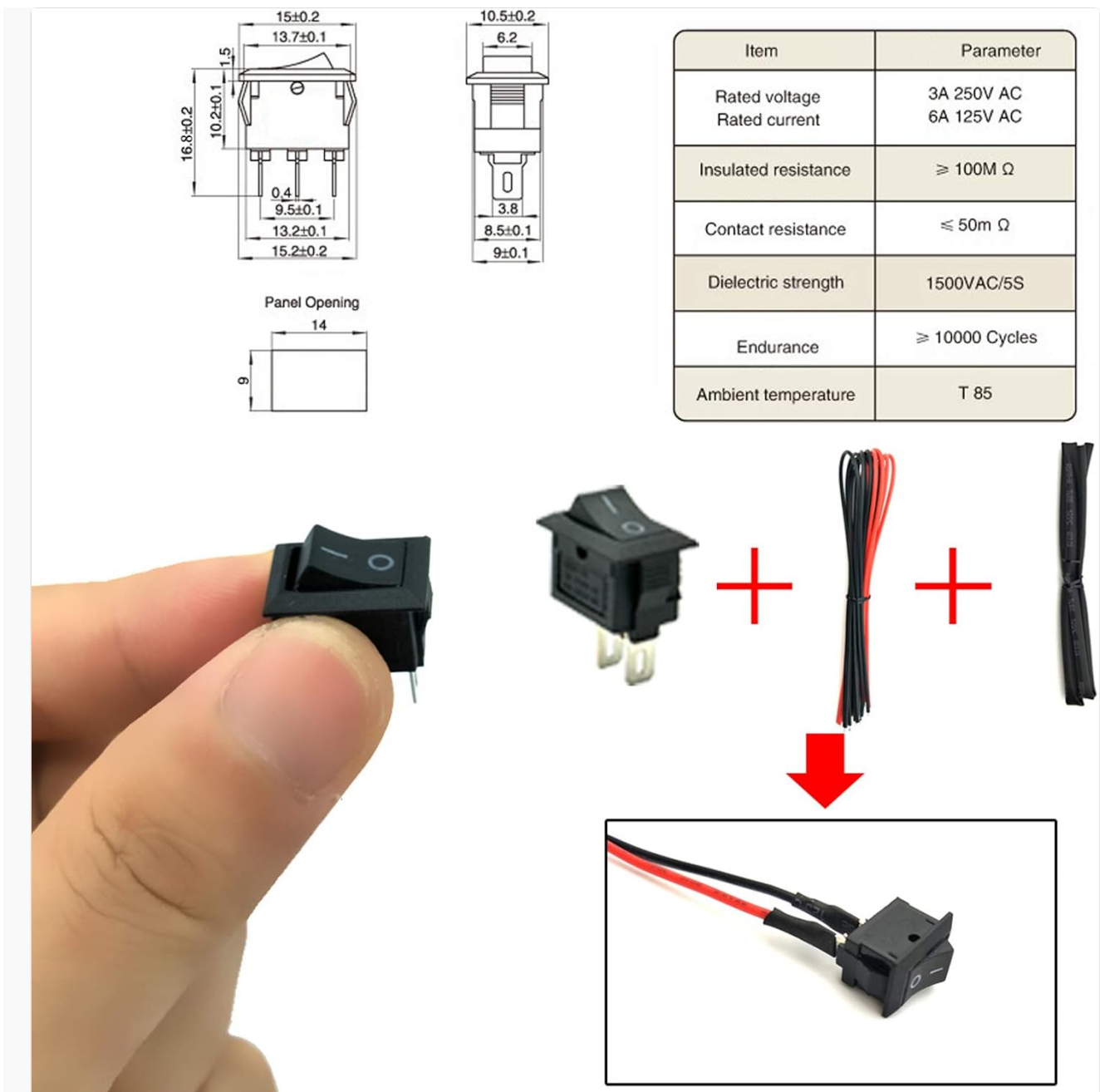


Figure 5: Rocker switch and wiring components.

5. **Testing:** Once assembled, use the rocker switch to test the motor's operation.

## 5. OPERATING INSTRUCTIONS

To operate your assembled project:

1. Ensure all connections are secure and correctly wired according to safety guidelines.
2. Insert fresh AA batteries into the battery holder.
3. Toggle the rocker switch to the 'ON' position to activate the motor.
4. Toggle the rocker switch to the 'OFF' position to stop the motor.

## 6. MAINTENANCE

Proper maintenance ensures longevity and safe operation of your kit components:

- **Storage:** Store components in a dry, cool place away from direct sunlight and moisture.

- **Cleaning:** Keep motors and gears free from dust and debris. Use a soft, dry cloth for cleaning.
- **Battery Care:** Remove batteries from the holder if the kit will not be used for an extended period to prevent leakage.
- **Inspection:** Periodically check wires and connections for any signs of wear, fraying, or loose contacts. Replace damaged components immediately.

## 7. TROUBLESHOOTING

If your project does not function as expected, consider the following troubleshooting steps:

- **No Power:**
  - Check if batteries are inserted correctly with the right polarity.
  - Ensure batteries are fresh and fully charged.
  - Verify all wire connections are secure and not loose.
- **Motor Not Spinning:**
  - Confirm the rocker switch is in the 'ON' position.
  - Check for any obstructions preventing the motor shaft or attached components (gears, propellers) from rotating freely.
  - Inspect wires for breaks or poor connections.
- **Overheating:**
  - Immediately disconnect power if any component feels excessively hot.
  - Re-check your circuit diagram carefully to ensure there are no short circuits.

## 8. SPECIFICATIONS

Feature	Specification
Motor Voltage	DC 3V
Rated Speed	24000 RPM
Motor Body Length	38mm (1.46")
Motor Body Diameter	27mm (1.06")
Shaft Size (L x D)	10mm x 2.0mm (0.39" x 0.08")
Mounting Hole Distance (center to center)	15mm (0.59")
Battery Type	AA (2 per holder, 6 required for full kit)
Rocker Switch Rating	3A/250V AC, 6A/125V AC
Product Dimensions	5.2 x 11.2 x 18.2 inches
Item Weight	9.6 ounces
Model Number	EH-6SET-LP

## 9. WARRANTY AND SUPPORT

Specific warranty information for the EUDAX Mini DC Motor Kit (Model EH-6SET-LP) is not provided in the product details. For any questions, technical support, or to inquire about warranty details, please contact the manufacturer or your retailer directly.

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