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› Smithsonian Robo Spider Kit: Assembly and Operation Manual

Smithsonian 52278

Smithsonian Robo Spider Kit: Assembly and Operation Manual

Model: 52278

INTRODUCTION

Welcome to the exciting world of robotics with the Smithsonian Robo Spider Kit. This kit allows you to build a motorized robot spider that mimics the walking movement of real spiders with its eight multi-jointed legs. Designed to engage young minds in Science, Technology, Engineering, and Math (STEM), this manual will guide you through the assembly and operation of your new robot.

SAFETY INFORMATION

- **Choking Hazard:** This kit contains small parts and is not suitable for children under 3 years of age.
- **Adult Supervision:** Assembly and operation require adult supervision.
- **Battery Safety:** Use only 1.5V AA batteries (not included). Do not mix old and new batteries, or different types of batteries. Insert batteries with correct polarity. Remove batteries if the toy will not be used for an extended period.
- **Tool Use:** Assembly requires scissors, wire cutters, and a screwdriver (not included). Handle tools with care.

WHAT'S INCLUDED

Your Smithsonian Robo Spider Kit includes the following components:

- 1 Gear Box with On/Off Switch Assembly
- 2 Battery Terminals
- 1 Rubber Tube
- 1 Battery Cover
- 64 Plastic Robo Spider Parts
- 1 Color Poster with Instructions (also serves as a detailed assembly guide)

Tools Required (Not Included): Scissors, Wire Cutters, Screwdriver, 1 (1.5V) AA Battery.

SETUP AND ASSEMBLY

Follow these steps carefully to assemble your Robo Spider. Refer to the included color poster for detailed diagrams and part identification.

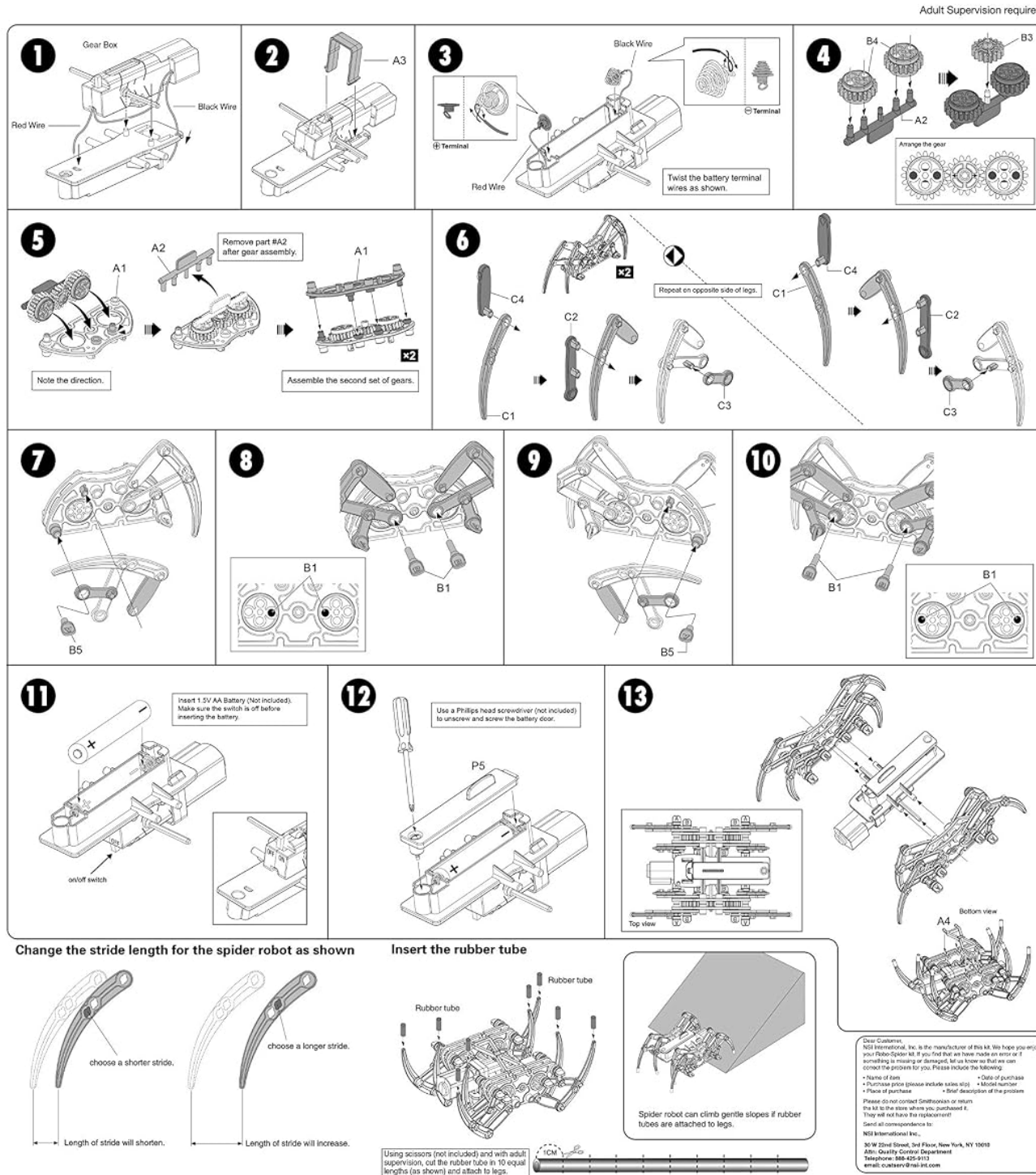
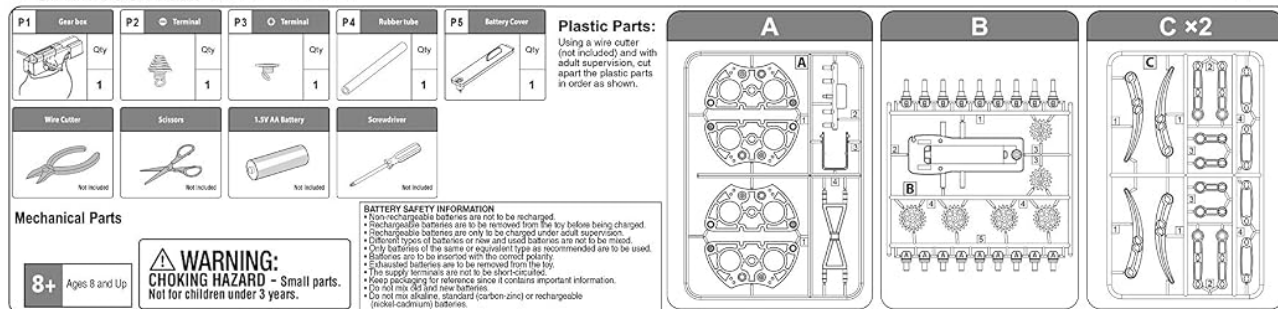


Figure 1: Detailed assembly instructions from the included poster. This image illustrates the step-by-step process for constructing the Robo Spider, including part identification and wiring diagrams.

- 1. Prepare Parts:** Carefully detach all 64 plastic parts from their frames using wire cutters. Organize them according to the labels on the instruction poster.

2. **Assemble Gear Box:** Begin by assembling the gear box components as shown in steps 1-4 of the instruction poster. Ensure the on/off switch assembly and battery terminals are correctly integrated. Pay close attention to the red and black wire connections.
3. **Attach Legs:** The Robo Spider has eight multi-jointed legs. Assemble each leg segment as depicted in steps 5-10. Ensure all joints are securely connected to allow for proper walking motion.
4. **Connect Legs to Body:** Attach the assembled legs to the main body of the spider, following the numbered sequence on the poster. Verify that each leg is oriented correctly.
5. **Insert Rubber Tube:** The rubber tube is crucial for the spider's walking mechanism. Insert it as shown in step 12.
6. **Install Battery:** Open the battery compartment, insert one 1.5V AA battery (not included) ensuring correct polarity (+/-). Close the battery cover securely.
7. **Adjust Stride Length:** The instruction poster (step 13) provides guidance on how to change the stride length of the spider robot by adjusting the leg connections. Experiment to find your preferred walking style.

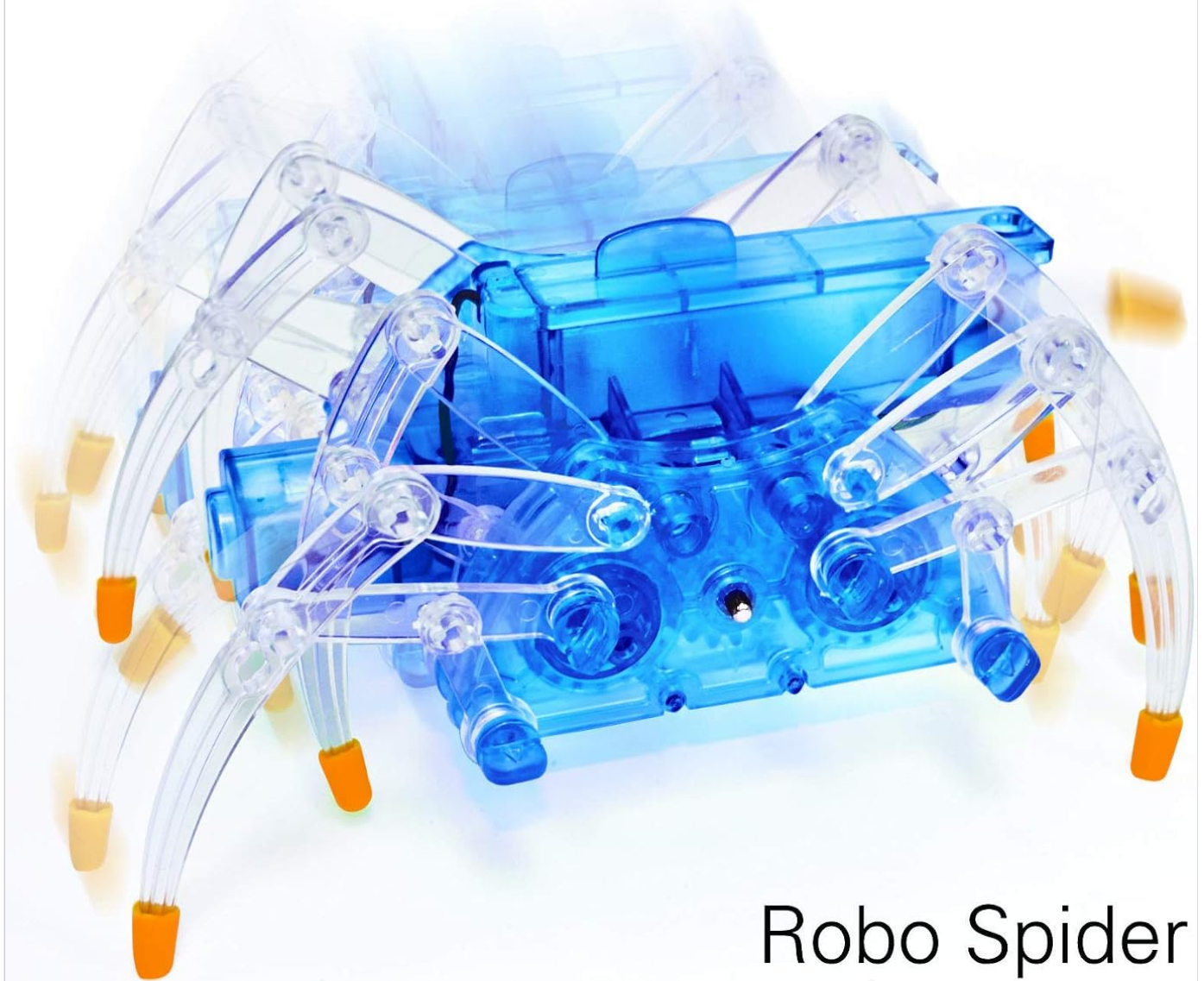
OPERATING INSTRUCTIONS

Once assembled, operating your Robo Spider is simple:

1. Ensure the battery is correctly installed.
2. Place the Robo Spider on a flat, smooth surface.
3. Locate the On/Off switch on the gear box assembly.
4. Flip the switch to the "On" position. The spider's legs will begin to move, mimicking a real spider's walk.
5. To stop the spider, flip the switch to the "Off" position.



Smithsonian®



Robo Spider



Build Your Own
Robot Spider



Eight Multi-Jointed Legs
Duplicate the Walking
Movement of
Real Spiders



Motorized and
Battery Operated



Includes 23" x 17"
(58 cm x 43 cm) Color Poster



WARNING:
CHOKING HAZARD - Small parts.
Not for children under 3 years.

Includes: 1 Gear Box with On/Off Switch Assembly, 2 Battery Terminals, 1 Rubber Tube, 1 Battery Cover, 64 Plastic Robo Spider Parts and Color Poster with instructions.

Adult supervision required.

Requires: Scissors, Wire Cutters, Screw Driver and 1 (1.5V) AA Battery (Not Included).

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Figure 2: The fully assembled Smithsonian Robo Spider in action, demonstrating its unique walking mechanism.

MAINTENANCE

- **Cleaning:** Wipe the robot with a dry, soft cloth. Do not use water or cleaning agents, as this may damage the electronic components.
- **Storage:** Store the Robo Spider in a cool, dry place away from direct sunlight when not in use. Remove the battery if storing for extended periods.
- **Joints:** Periodically check the leg joints for any loose connections. Re-secure if necessary to maintain optimal walking performance.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Spider does not move.	Battery is dead or incorrectly installed. Switch is off. Loose wire connection.	Replace battery or check polarity. Turn switch to "On". Check all wire connections, especially red and black wires to the gear box.
Spider moves unevenly or struggles to walk.	Legs are not assembled correctly. Rubber tube is not properly inserted.	Review assembly steps for leg attachment and joint security. Ensure the rubber tube is correctly positioned as per step 12 of the instructions.
Parts are loose after assembly.	Parts not fully snapped into place.	Gently press on all connections to ensure they are secure. Refer to the instruction poster for correct assembly points.

SPECIFICATIONS

- **Model Number:** 52278
- **Brand:** Smithsonian
- **Material:** Plastic, Rubber
- **Power Source:** 1 x 1.5V AA Battery (not included)
- **Recommended Age:** 8 years and up
- **Educational Objective:** STEM (Science, Technology, Engineering, Math)
- **Assembly Required:** Yes
- **Item Dimensions (assembled):** Approximately 10.75 x 1.75 x 9.5 inches
- **Item Weight:** 0.39 Grams (approximate, without battery)

WARRANTY AND SUPPORT

This product is provided without a manufacturer's warranty. For any questions or assistance regarding assembly or operation, please refer to the detailed instruction poster included in your kit. If further support is needed, please contact the retailer where the product was purchased.

