

## Elenco TTR535

# Teach Tech Robotic Arm Wire Controlled

MODEL: TTR535

Manufactured by Elenco

## Introduction

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The Elenco Teach Tech Robotic Arm Wire Controlled kit provides an engaging introduction to robotics and mechanical engineering. Designed for young engineers aged 12 and up, this kit allows for hands-on learning through assembly and operation. The robotic arm features five motors controlling five joints, offering extensive range of motion for various tasks such as gripping and moving objects.

This manual provides detailed instructions for assembly, operation, maintenance, and troubleshooting to ensure a successful and educational experience.

## Safety Information

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**WARNING: Small Parts.** This kit contains small components that may pose a choking hazard. Not suitable for children under 3 years. Adult supervision is recommended during assembly and operation, especially for younger users.

Always use appropriate tools as specified in the assembly instructions, such as diagonal clippers and a screwdriver. Safety goggles are recommended to protect eyes during assembly.

## What's in the Box

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Upon opening your Teach Tech Robotic Arm kit, you should find the following:

- All necessary Assembly Parts for the robotic arm and controller.
- This Instruction Manual in English.

Please verify all components are present before beginning assembly. Refer to the parts list in the included printed manual for a complete inventory.

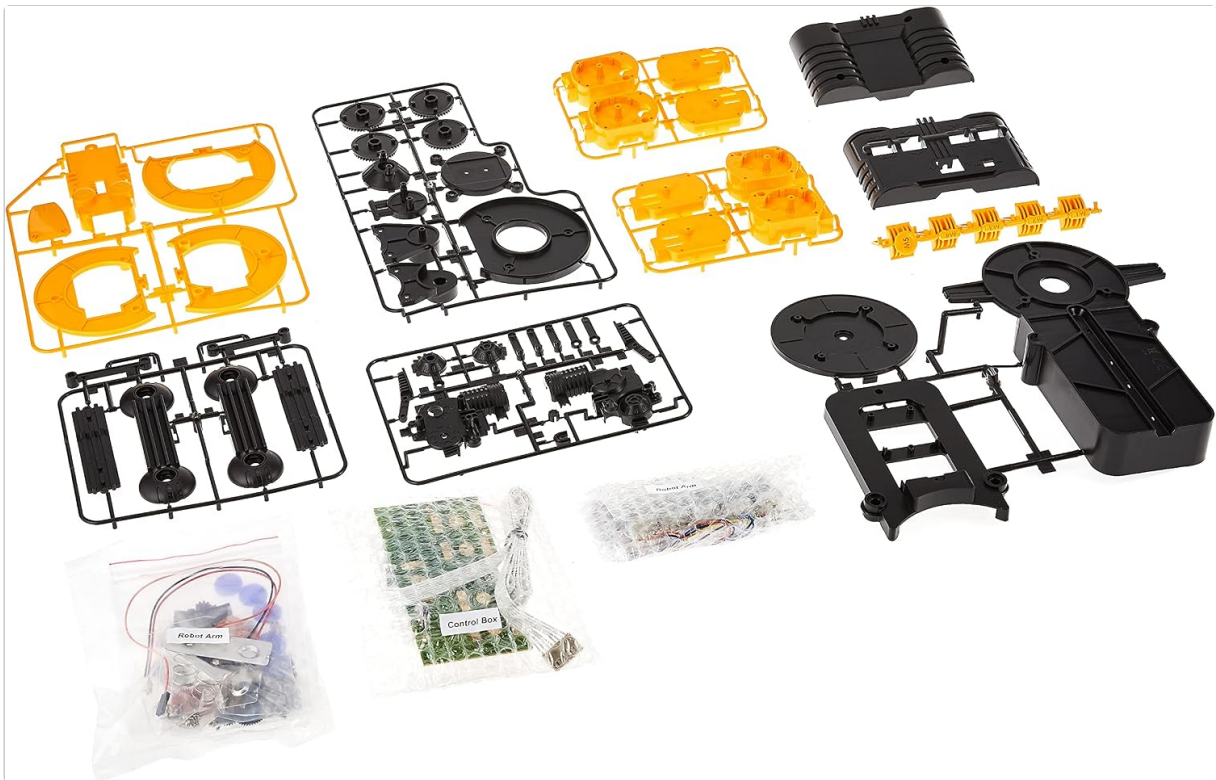


Image: Overview of the kit's components, including plastic parts, motors, wires, and the control board.

## Setup and Assembly

Assembly of the Robotic Arm requires careful attention to detail. Follow the steps outlined in the included printed instruction manual. The process involves connecting various mechanical and electrical components.

### Tools Required (Not Included):

- Diagonal Clippers
- Screwdriver
- Safety Goggles (recommended)

### Battery Installation:

The robotic arm requires **4 D batteries** (not included) for operation. Ensure batteries are inserted with correct polarity as indicated in the battery compartment. Improper battery installation can prevent the arm from functioning.

### Assembly Video Guide:

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*Video: A quick overview of the assembly process for the Robotic Arm Wire Controlled kit, demonstrating key steps and the final product in action.*

For detailed step-by-step visual instructions, please refer to the video above in conjunction with your printed manual.

## Operating Instructions

Once assembled and batteries are installed, connect the wired controller to the robotic arm. The controller features multiple levers and buttons to manipulate the arm's movements.

## Key Movements:

- **Base Rotation:** Control the arm's rotation left and right (270° range).
- **Base Motion:** Adjust the arm's forward and backward tilt (180° range).
- **Elbow Range:** Move the elbow joint up and down (300° range).
- **Wrist Motion:** Control the wrist's movement (120° range).
- **Gripper:** Open and close the gripper to pick up or release objects.
- **Search Light:** Activate the built-in LED light for improved visibility.

Experiment with the controls to understand the full range of motion and develop precision in manipulating objects. The arm has a lifting capacity of 3.5 oz (100g).



Image: The fully assembled Robotic Arm with its wired controller.

## Maintenance

To ensure the longevity and optimal performance of your robotic arm, follow these maintenance guidelines:

- **Cleaning:** Wipe the robotic arm and controller with a dry, soft cloth. Avoid using water or chemical cleaners, as these can damage electronic components.
- **Battery Care:** Remove batteries from the controller if the arm will not be used for an extended period to prevent leakage and corrosion.
- **Storage:** Store the robotic arm in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Component Check:** Periodically inspect all connections and moving parts for any signs of wear or looseness. Tighten screws as needed.

## Troubleshooting

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If you encounter issues with your Robotic Arm, refer to the following common problems and solutions:

- **Arm Not Responding:**
  - Check if the 4 D batteries are correctly installed and have sufficient charge. Replace if necessary.
  - Ensure the wired controller is securely connected to the arm's base.
  - Verify all internal wire connections are firm and not dislodged during assembly or use.
- **Specific Joint Not Moving:**
  - Inspect the motor and gears associated with that specific joint for any obstructions or loose connections.
  - Ensure the wires leading to that motor are properly connected to the control board.
- **Parts Not Fitting During Assembly:**
  - Refer to the detailed diagrams in your printed manual. Ensure you are using the correct parts for each step.
  - Some parts may require gentle force to snap into place. Avoid excessive force to prevent breakage.
- **Arm Movement is Weak or Jerky:**
  - Replace the D batteries with fresh ones. Low battery power can affect motor performance.
  - Check for any friction in the joints or gears. Ensure no wires are impeding movement.

If problems persist after attempting these solutions, please contact Elenco customer support for further assistance.

## Specifications

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Feature	Detail
Product Dimensions	16 x 11.5 x 3.5 inches
Item Weight	2.51 pounds
Item Model Number	TTR535
Manufacturer Recommended Age	12 - 15 years
Batteries Required	4 D batteries (not included)
Lifting Capacity	3.5 oz (100g)
Horizontal Reach	12.6 in (320mm)
Vertical Reach	14.96 in (380mm)
Base Rotation Range	270°
Base Motion Range	180°

Elbow Range	300°
Wrist Motion Range	120°
Manufacturer	Elenco Electronics LLC
Release Date	June 1, 2019

## Warranty Information

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Specific warranty details for the Elenco Teach Tech Robotic Arm Wire Controlled kit are typically provided within the product packaging or on the manufacturer's official website. Please refer to these sources for the most accurate and up-to-date warranty terms and conditions.

## Customer Support

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For technical assistance, missing parts, or any questions regarding your Teach Tech Robotic Arm, please contact Elenco Electronics LLC directly. You can typically find contact information on the product packaging or by visiting the official Elenco website:

[www.elenco.com](http://www.elenco.com)

When contacting support, please have your product model number (TTR535) and purchase information readily available.