

NEDLATSDY D2-5

NEDLATSDY D2-5 DIY Line Tracking Car Kit Instruction Manual

Model: D2-5 | Brand: NEDLATSDY

1. INTRODUCTION

This manual provides comprehensive instructions for the assembly, operation, and maintenance of your NEDLATSDY D2-5 DIY Line Tracking Car Kit. This kit is designed for enthusiasts to build a smart car that can follow a black line on a white surface using electronic components and DC motors. Please read all instructions carefully before beginning assembly.

2. SAFETY INFORMATION

- This kit contains small parts that may pose a choking hazard. Keep out of reach of small children.
- Adult supervision is recommended during assembly, especially when using tools like soldering irons (if required for specific components not pre-assembled).
- Ensure batteries are inserted with correct polarity. Incorrect insertion can damage components.
- Avoid short-circuiting battery terminals.
- Do not expose electronic components to water or extreme temperatures.

3. PACKAGE CONTENTS

Before starting, verify that all components listed below are present in your kit. Component appearance may vary slightly from images.

- Main Circuit Board (PCB)
- DC Motors (x2)
- Battery Holder (for AA batteries, batteries not included)
- Wheels (x2)

- Caster Wheel (x1)
- Infrared (IR) Sensors (for line tracking)
- Resistors, Capacitors, Diodes, Integrated Circuits (ICs)
- LEDs
- Mounting Hardware (screws, nuts, standoffs)
- Wires for connections



Image 3.1: Various electronic components typically found in the D2-5 kit.

4. SETUP AND ASSEMBLY INSTRUCTIONS

Follow these steps carefully to assemble your D2-5 Line Tracking Car. Refer to the main circuit board image for component placement.

1. **Identify Components:** Lay out all components and identify them using the provided list and images.
2. **Mount Integrated Circuits (ICs):** Carefully insert ICs into their respective sockets on the main circuit board, ensuring correct orientation (notch alignment).
3. **Solder Smaller Components:** If your kit requires soldering, solder resistors, capacitors, diodes, and LEDs to their designated positions on the PCB. Pay attention to polarity for diodes and LEDs.
4. **Attach DC Motors:** Securely mount the two DC motors to the designated positions on the circuit board using the provided screws or mounting brackets.
5. **Connect Motor Wires:** Connect the motor wires to the motor driver terminals on the PCB. Ensure connections are firm.
6. **Install Wheels:** Press the wheels onto the motor shafts firmly.

7. **Mount Caster Wheel:** Attach the caster wheel to the front or rear of the chassis (usually the opposite end of the drive wheels) using screws.
8. **Install Battery Holder:** Secure the battery holder to the PCB or chassis. Connect its power wires to the designated power input terminals on the circuit board, observing polarity.
9. **Connect IR Sensors:** Mount the infrared line tracking sensors to the front underside of the car, ensuring they face downwards to detect the line. Connect their wires to the sensor input pins on the PCB.
10. **Insert Batteries:** Insert two AA batteries (not included) into the battery holder, ensuring correct polarity.

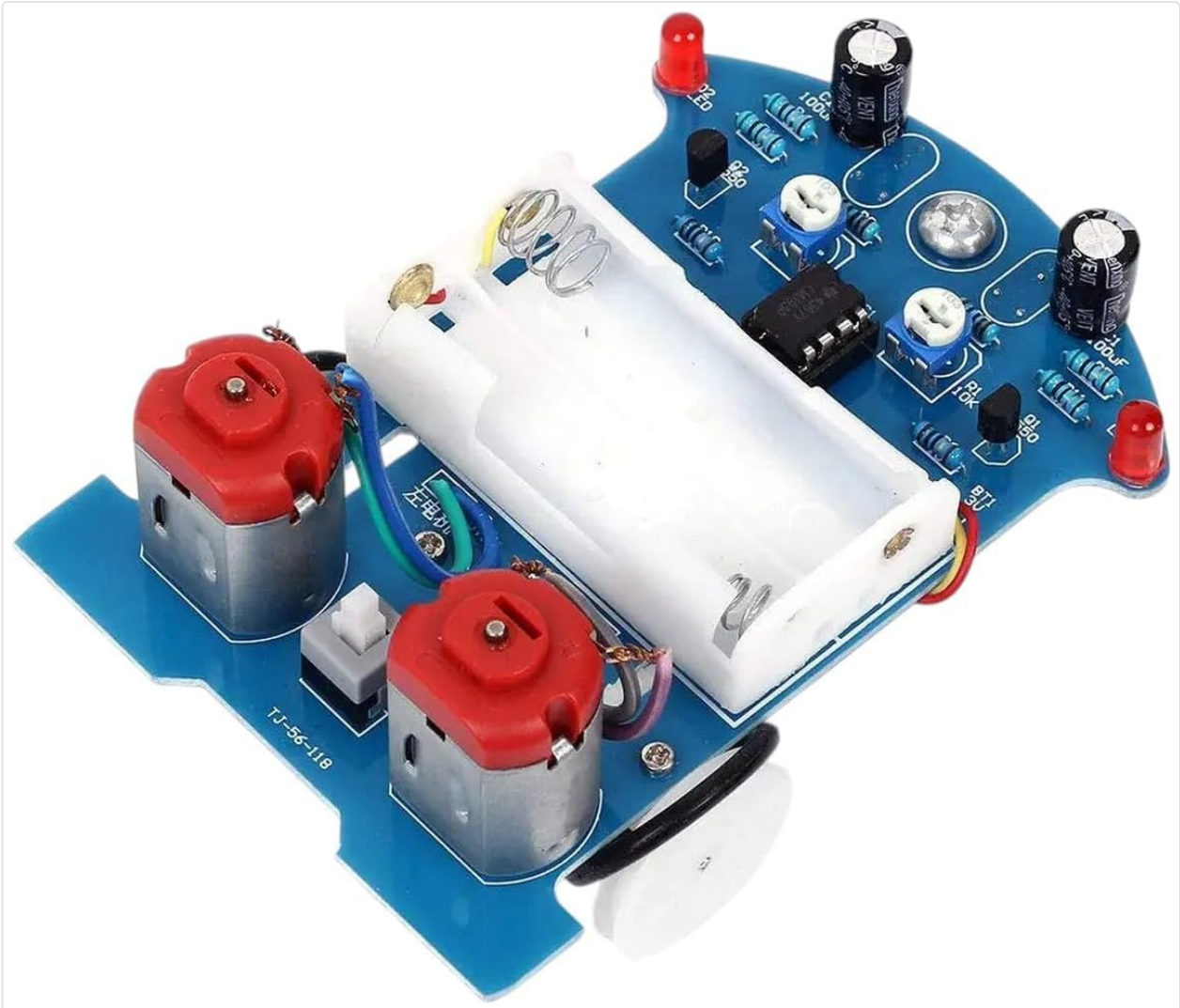


Image 4.1: Overview of the assembled D2-5 Line Tracking Car circuit board.

5. OPERATING INSTRUCTIONS

1. **Prepare the Track:** Create a black line (approximately 1.5-2 cm wide) on a white surface. Ensure the line has good contrast.
2. **Power On:** Locate the power switch on the circuit board and switch it to the "ON" position.
3. **Placement:** Place the D2-5 car on the white surface with its IR sensors positioned directly over the black line.
4. **Calibration (if applicable):** Some kits may have potentiometers for adjusting sensor sensitivity. If present, use a small screwdriver to fine-tune them until the car reliably follows the line. Refer to specific kit documentation if provided.
5. **Observe Operation:** The car should now begin to follow the black line. If it deviates, check sensor

placement and calibration.

6. **Power Off:** When finished, switch the power to "OFF" to conserve battery life.

6. MAINTENANCE

- **Cleaning:** Gently wipe the car's chassis and sensors with a dry, soft cloth to remove dust and debris. Avoid using liquids.
- **Battery Replacement:** Replace batteries when the car's performance degrades (e.g., slower movement, inconsistent line tracking). Always use fresh batteries of the correct type (AA).
- **Storage:** Store the car in a dry, cool place away from direct sunlight. Remove batteries if storing for extended periods to prevent leakage.
- **Component Check:** Periodically inspect all connections and soldered joints for looseness or damage.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Car does not power on.	<ul style="list-style-type: none">• Batteries are dead or incorrectly inserted.• Power switch is off.• Loose power connection.	<ul style="list-style-type: none">• Replace batteries and check polarity.• Turn power switch to "ON".• Verify battery holder connections to PCB.
Car moves but does not follow the line.	<ul style="list-style-type: none">• IR sensors are not positioned correctly.• Sensors are not calibrated.• Line contrast is insufficient.	<ul style="list-style-type: none">• Ensure sensors face directly downwards over the line.• Adjust sensor potentiometers (if available).• Use a darker black line on a brighter white surface.
One motor does not work.	<ul style="list-style-type: none">• Loose motor wire connection.• Faulty motor.• Issue with motor driver circuit.	<ul style="list-style-type: none">• Check and secure motor wire connections.• Test motor independently if possible.• Inspect motor driver components for damage.

8. SPECIFICATIONS

- **Model:** D2-5 DIY Line Tracking Car Kit
- **Brand:** NEDLATSDY
- **Material:** Electronic components, Metal
- **Power Source:** DC (typically 2x AA batteries, not included)
- **Motor Type:** DC Motor
- **Function:** Line Tracking, DIY Assembly
- **Manufacturer Part Number:** NEDLATSDY-EV26226
- **ASIN:** B0FSG81BXQ

9. WARRANTY AND SUPPORT

NEDLATSDY is committed to providing quality products and customer satisfaction. If you encounter any issues or have questions regarding your D2-5 DIY Line Tracking Car Kit, please refer to the following:

- **Customer Support:** For technical assistance or inquiries, please contact NEDLATSDY customer support through the retailer's platform where the product was purchased.
- **Money-Back Guarantee:** This product comes with a money-back guarantee, reflecting our confidence in its quality and performance. Please refer to the retailer's return policy for details.