ABRA Electronics Test Course

Maximum 30 MM, Minimum 15MM Thickness of Line

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Can. Toll Free: 1-800-361-5237

Online Website

Materials

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- ☐ x1 Custom Printed Circuit Board
- ☐ x2 Yellow wheels with rubber tires
- ☐ x1 2xAA Battery Holder
- ☐ x2 Reduction motors and adaptor
- ☐ x1 Push Button Switch – {S1}
- ☐ x2 Photo resistor with heat shrink – {R14, R13 or R14 GR}
- ☐ x1 Long screw with metal nut and nut cap
- ☐ x2 Phillip screws (for wheels)
- ☐ x2 Clear 5mm Leds – {D4, D5}
- ☐ x2 Red 5mm Leds – {D1, D2}
- ☐ x1 LM393 with DIP 8 Socket
- ☐ x2 10KΩ potentiometer – {R1, R2}
- ☐ x2 100µF Electrolytic Capacitor – {C1, C2}
- ☐ x2 8550 PNP Transistor – {Q1, Q2}
- ☐ x2 3.3kΩ ¼ Watt Resistors (Orange, Orange, Black, Brown, Brown) – R3, R4
- ☐ x4 51Ω ¼ Watt Resistors (Green, Brown, Black, Gold, Brown) – R5, R6, R11, R12
- ☐ x2 1KΩ 1/4 Watt Resistors (Brown, Black, Black, Brown, Brown) – R8, R7
- ☐ x2 10Ω ¼ Watt Resistors (Brown, Black, Black, Gold, Brown) – R9, R10

Tools Required

- ❖ Phillips Screw Driver
- ❖ Soldering Iron with Solder
- ❖ Wire Cutters
- ❖ Wire Strippers

➢ x2 AA Batteries Sold Separately.

Quick Install Guide

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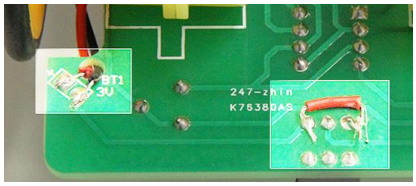
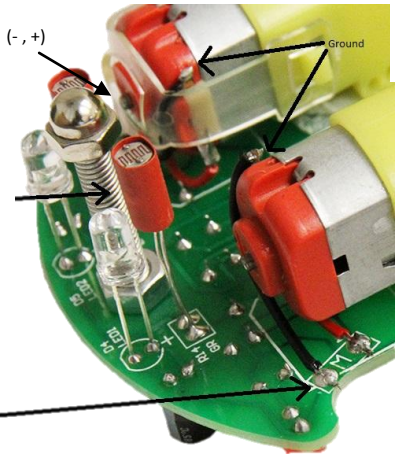
1. Insert Passive Components into designated Reference numbers. I.E (D1, insert red Led)
2. Solder in short components prior to soldering bigger components. I.E (Resistor before Battery Holder)
3. Flip the board and solder the remaining components.
4. When soldering the Potentiometer, keep the resistor as far out as you can.
5. The Same conditions apply to the white Led(s).
6. Insert Screw into hole and place nut before fastening the cap.
7. Ensure that the potentiometer does not short by touching each other.
8. Remove the upper adhesive tape and ensure that the cable goes into the right bottom hole for the battery holder.
9. Flip and solder the cable into (BT1), polarity is indicated. Cut excess wire as they will be needed.
10. Short the switch as the following:



11. Connect the motor as the following:

3



Ensure Potentiometers are levelled.

12. Upper is negative, lower is positive. Connect the other end of the wire to M. Negative is always upper most as shown above.

13. Remove the protective red tape and place the motors facing outwards.
14. Place the rubber over the wheels and fasten onto the motor.

15. Screw the wheel to the motor with a Philips screw driver. You may now flip the robot back and insert two AA batteries. To turn on the robot press the Switch, if the robot does not power on, please recheck the steps and battery charge.

The two bottom potentiometers adjust the right and left sensor values. On the back of this sheet is a test track! You may create your own custom track using black tape. Thickness can vary from 1.5cm to 3cm.

KIT-ROBOCAR

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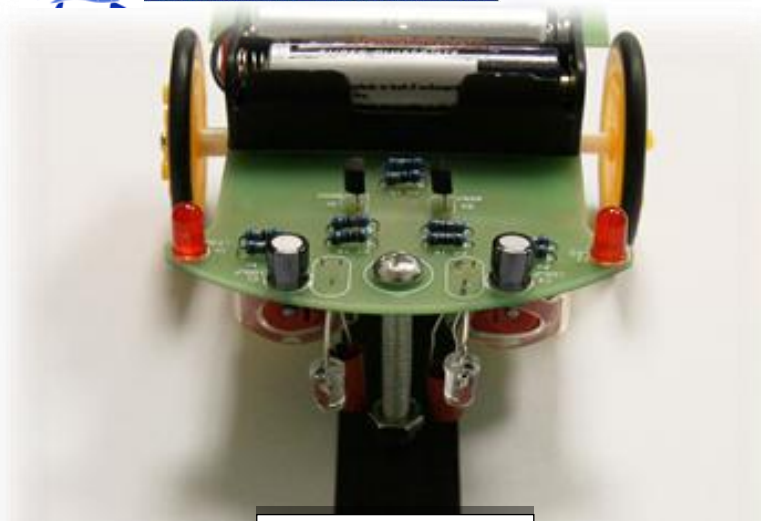

Tracking Robot Car Kit

Specs:

- ✓ 3VDC Robot
- ✓ Adjustable Feedback
- ✓ On/Off Switch
- ✓ Simple Component Placement