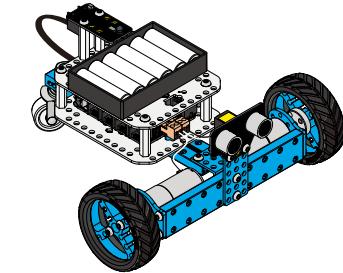
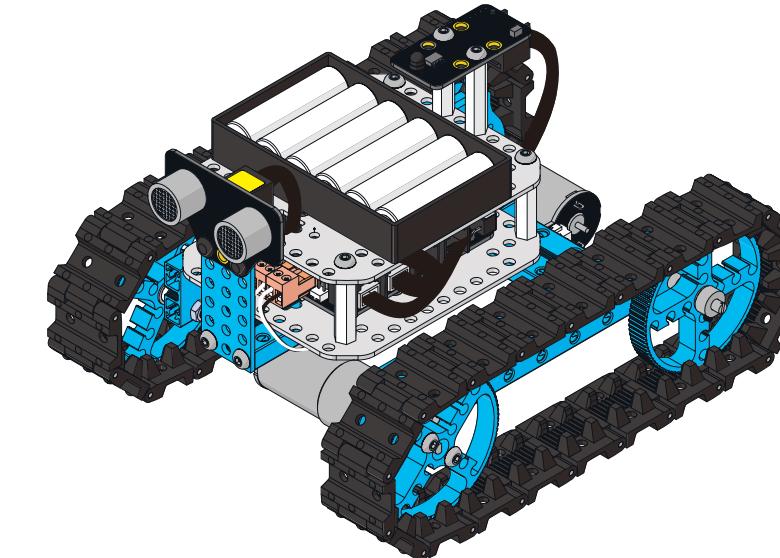




# Starter Robot Kit IR Version

Robot Tank  
Three-Wheeled Robot Car



MAKER WORKS TECHNOLOGY INC

Technical support: support@makeblock.cc  
[www.makeblock.cc](http://www.makeblock.cc)



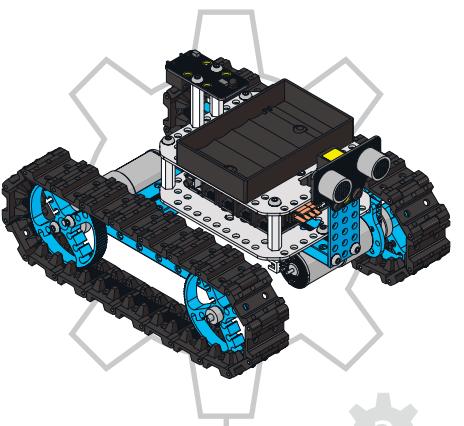
# Quick Guide

Warning: Keep this kit out of the reach of small children or animals. Small parts may cause choking or serious injury if swallowed.

Makeblock Starter Robot Kit contains mechanical parts and electronic modules for you to start exploring the robot world which can be used to build a robot tank or a three-wheel robot car. It is also a great tool to learn mBlock and Scratch programming.



1  
Parts List



3  
Build the Robot Tank

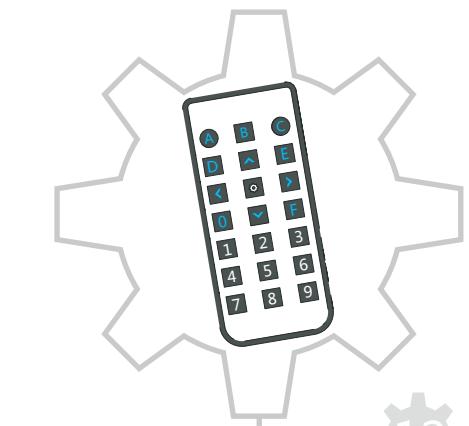


11  
Wiring

Check all components in parts list,  
please contact Makeblock or the  
distributor if any component lacked.

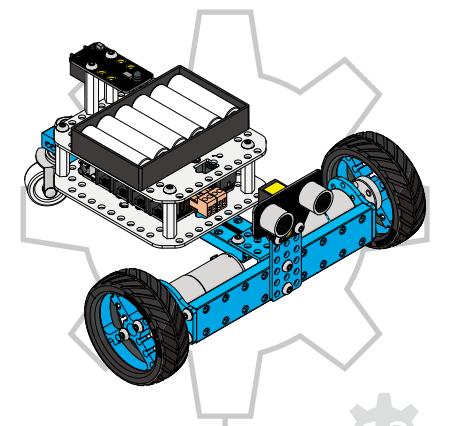
Follow our manual to build the  
Robot Tank.

Do wiring. Install batteries for  
your robot and remote control.



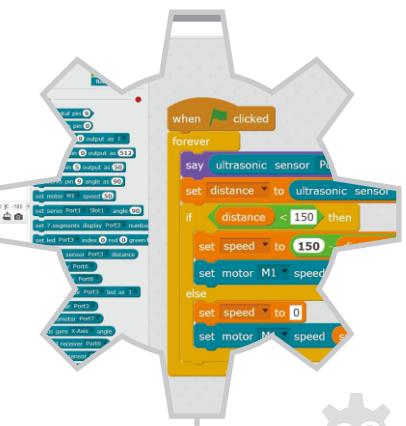
12  
Remote control

Turn on the power of your robot,  
control your robot with remote  
control. Now it's time to play your robot!



13  
Build three-wheeled Robot Car

Try another style:  
Follow our manual to build the  
Three-wheeled Robot Car.



22  
Programming Guide--Further exploration

Advanced player can re-program to  
the robot by mBlock or Arduino to  
explore the wonderful robotic world.

Please visit  
<http://learn.makeblock.cc/starter-robot-kit/>  
to view the build and programming guide.

# Parts List

Pictures for reference only

1× Beam 0824-96



1× Beam 0824-128



2× Beam 0824-144



1× Bracket 3×3



1× Plate 3×6



1× Bracket P3



1× Caster Wheel



1× Nut M8



2× DC Motor-25 Bracket



2× Shaft Connector 4mm



4× Timing Pulley 90T



2× Tire 68.5×22mm



36× Track



36× Track Axle



2× Threaded Shaft 4×39mm



2× Shaft Collar 4mm



4× Flange Bearing 4×8×3mm



1× Hex & Cross Screwdriver



1× Hex Allen Key 2.5mm



2× Hex Allen Key 1.5mm



1× Wrench



20× Screw M4×8



12× Screw M4×14



4× Screw M4×22



12× Nut M4



4× Headless Set Screw M3×5



4× Screw M3×8



6× Plastic Ring 4×7×2mm



6× Nylon Stud M4×30



2× BaseBracket



1× Battery Holder for (6) AA



2× DC Motor-25



2× Terminal Block



2× Motor Cable



2× Ferrite Ring



1× Makeblock Orion



1× Me Ultrasonic Sensor



1× Me Infrared Receiver Sensor



1× Me IR Remote Controller



1× Micro USB cable



1× 6P6C RJ25 Cable-20cm

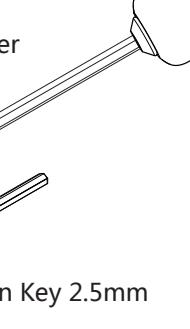


1× 6P6C RJ25 Cable-35cm



# Tool Tips

Hex Screwdriver



Hex Allen Key 2.5mm



Screw M4×8



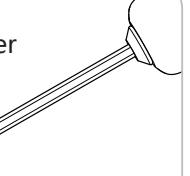
Screw M4×14



Screw M4×22



Cross Screwdriver



Screw M3×8



Terminal Block



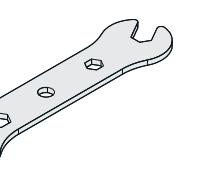
Hex Allen Key 1.5mm



Headless Set Screw M3×5



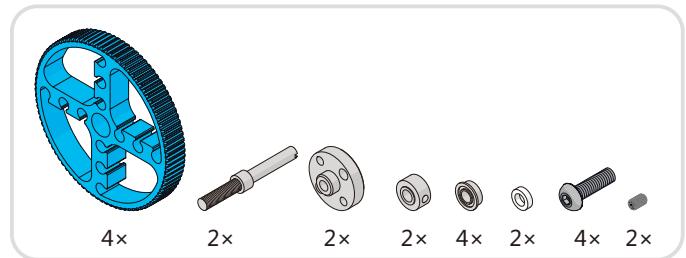
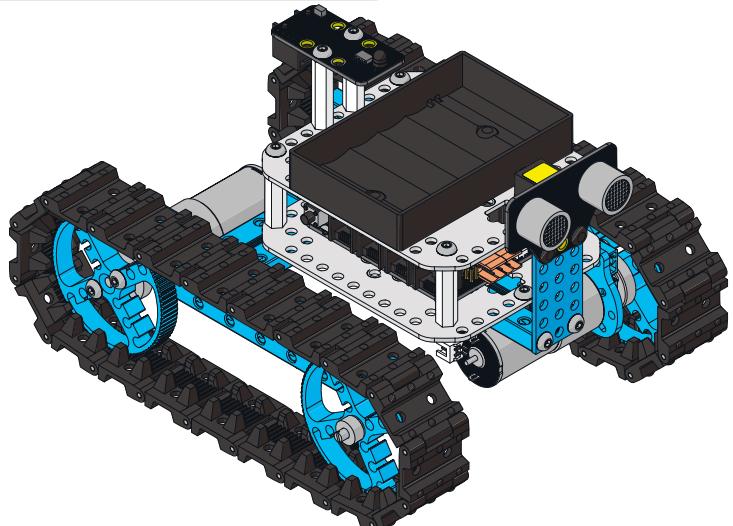
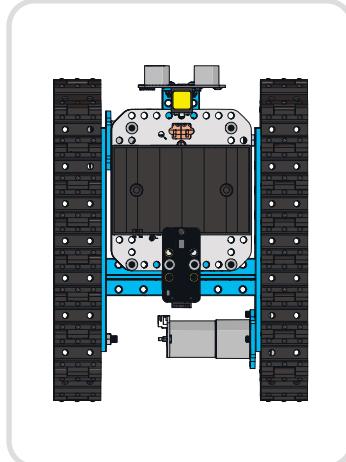
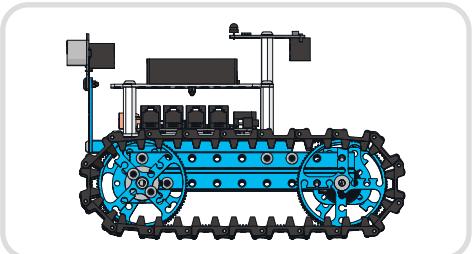
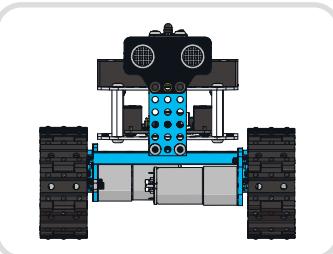
Wrench



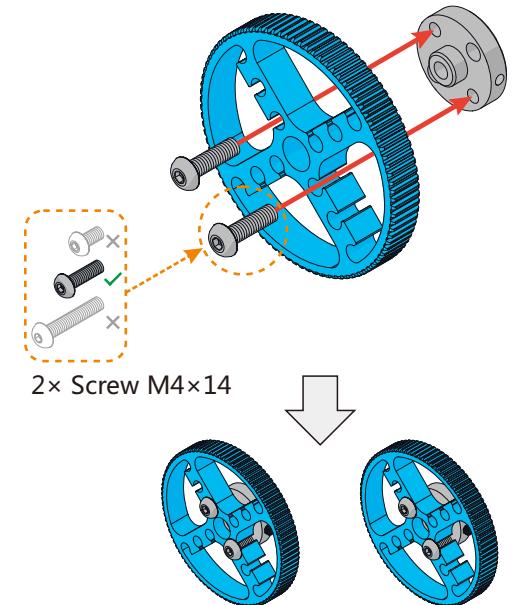
Nut M4



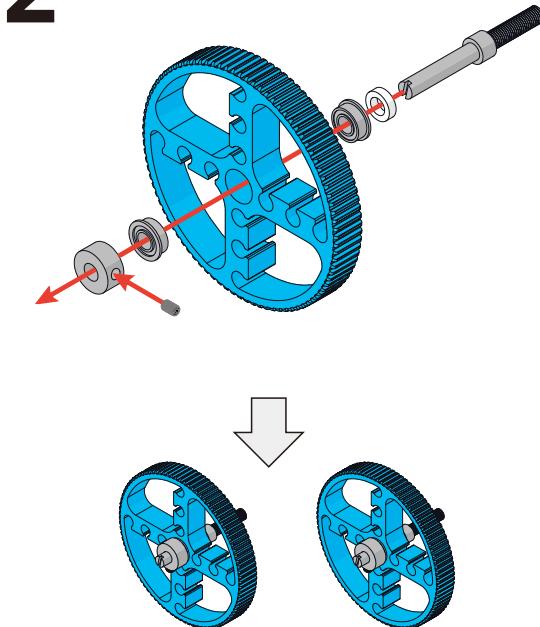
# Build the Robot Tank



1

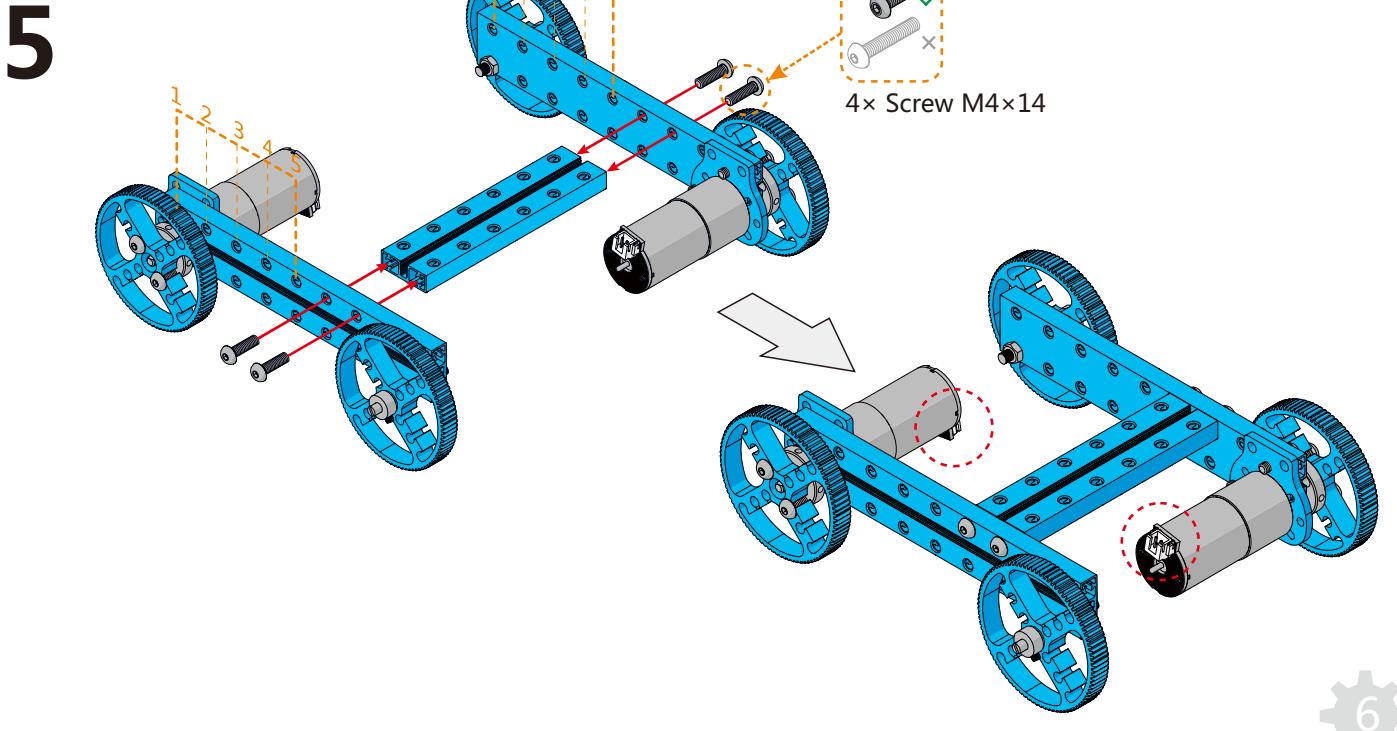
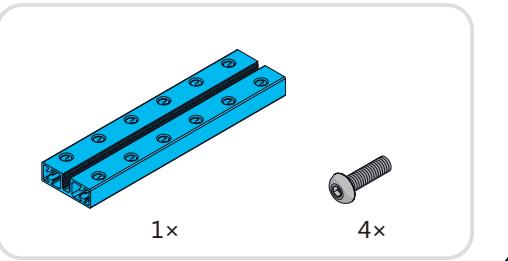
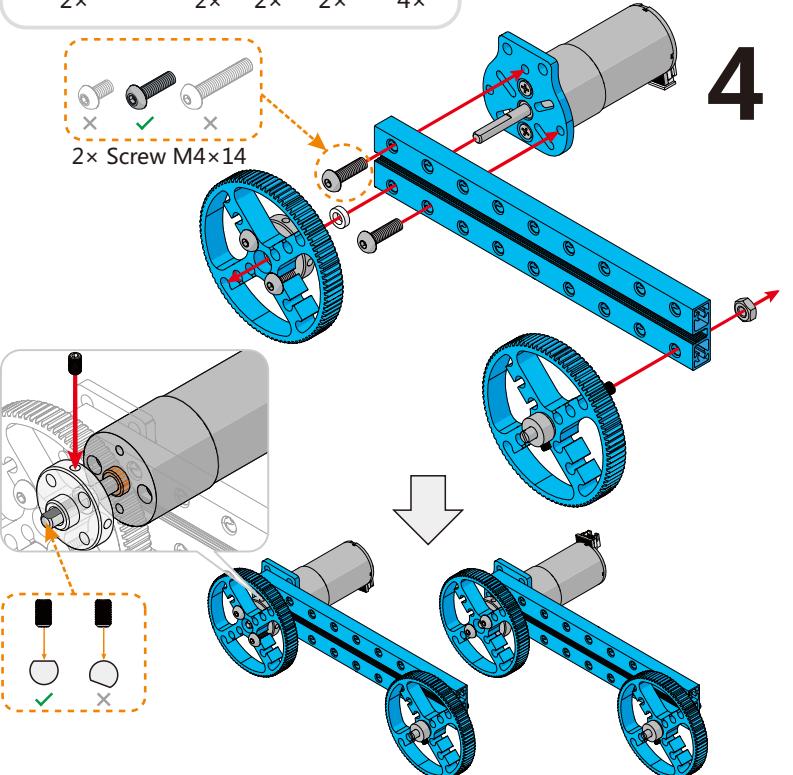
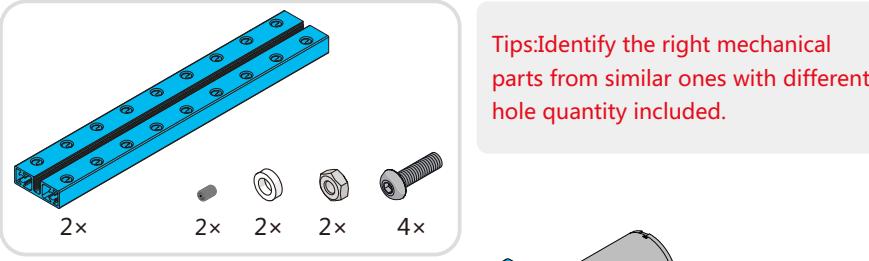
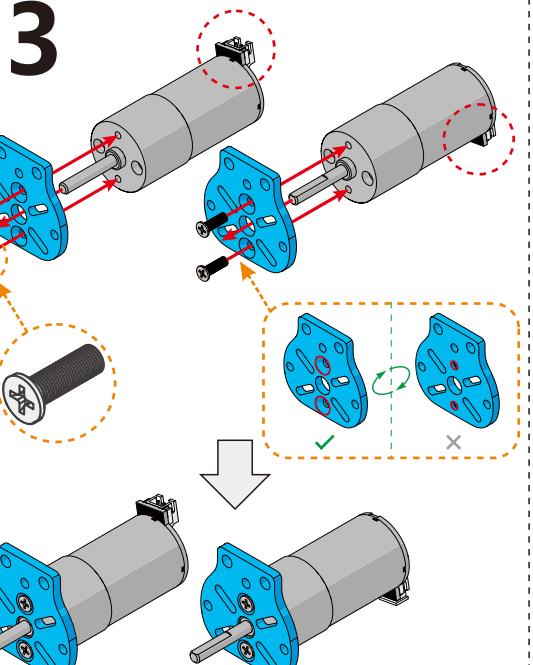
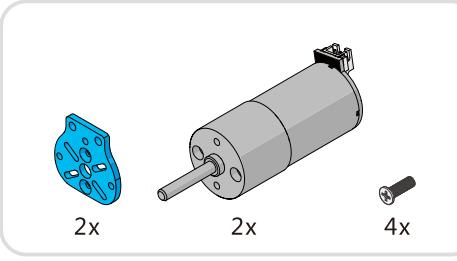


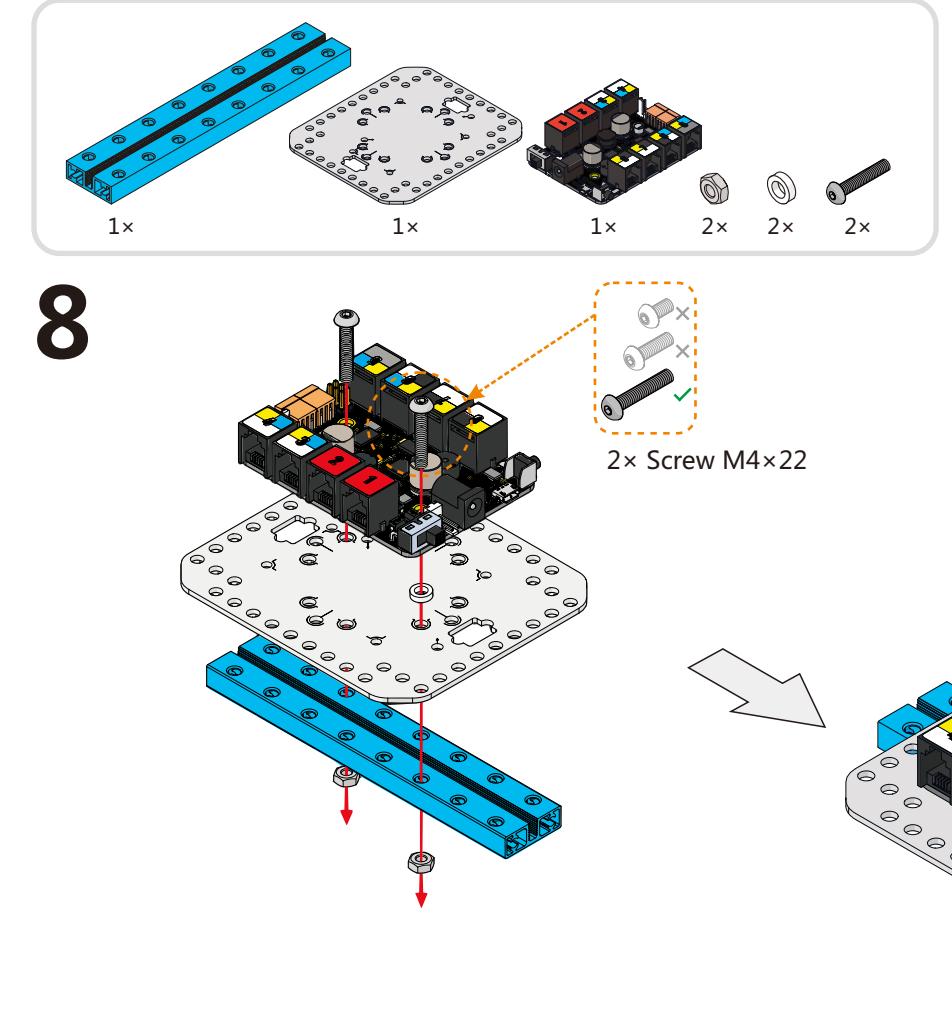
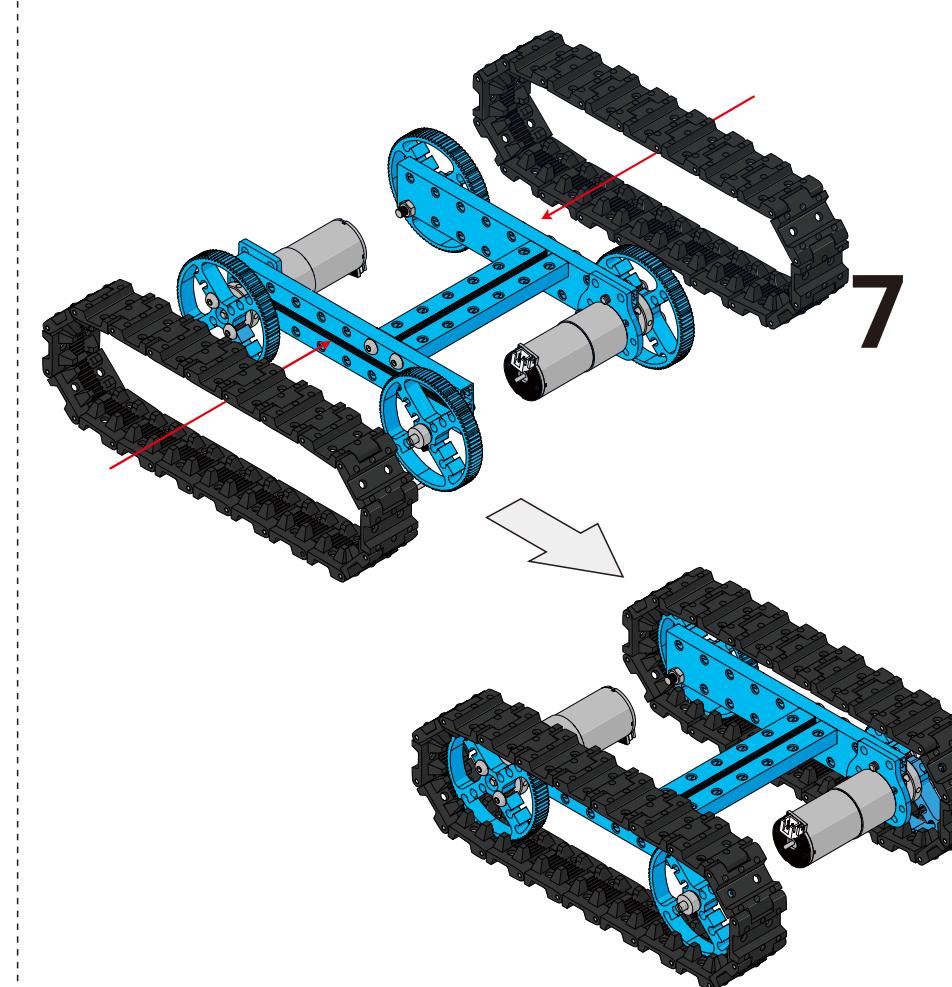
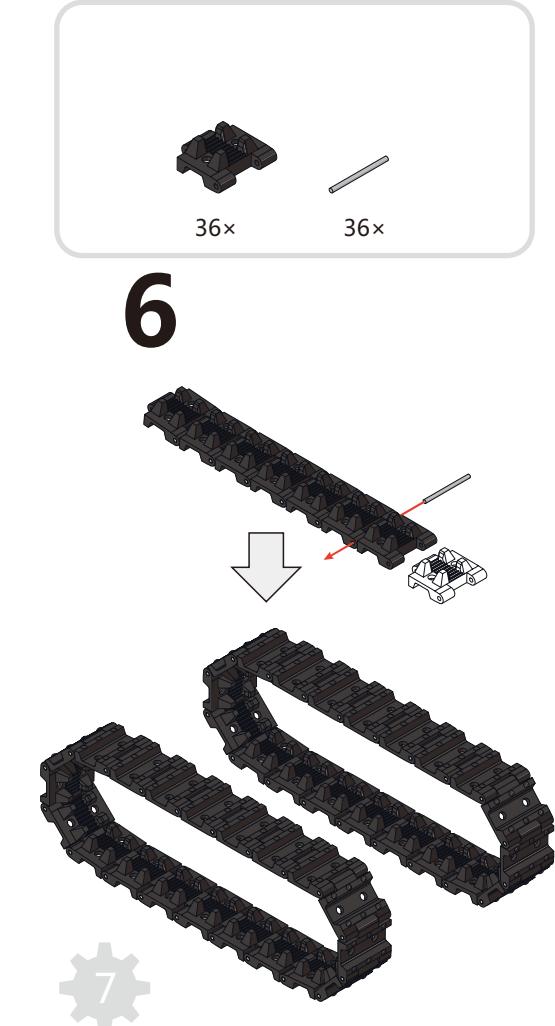
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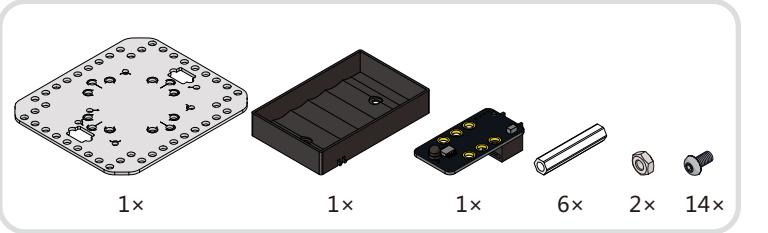


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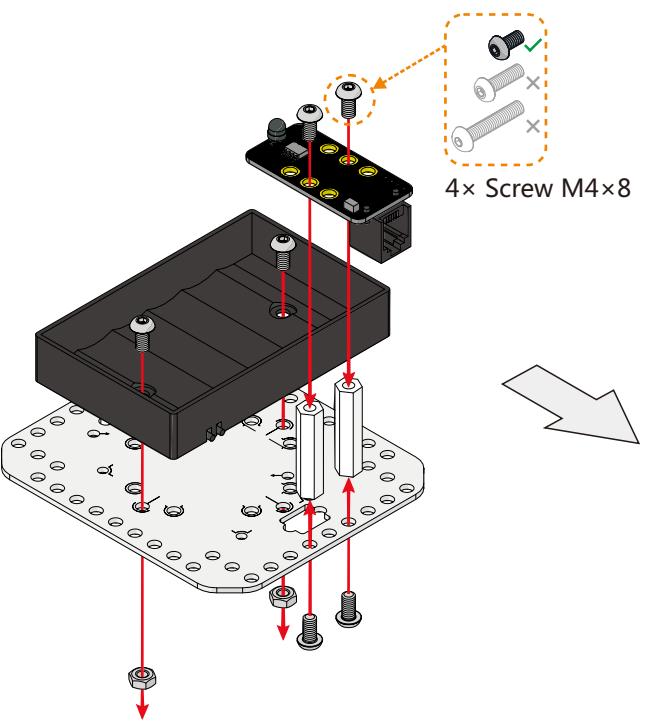
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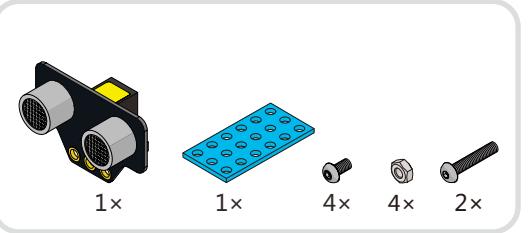
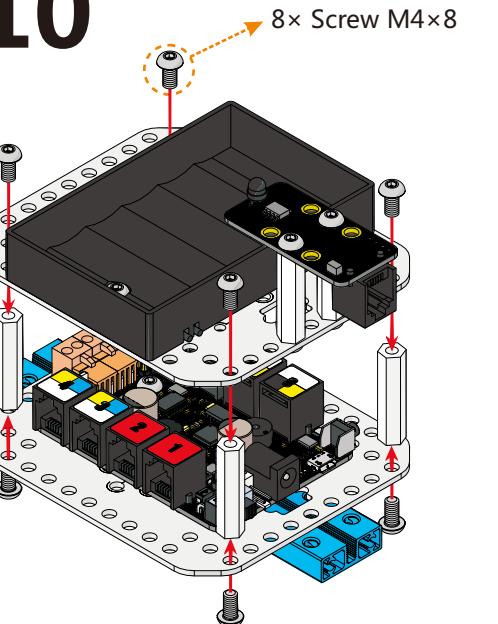




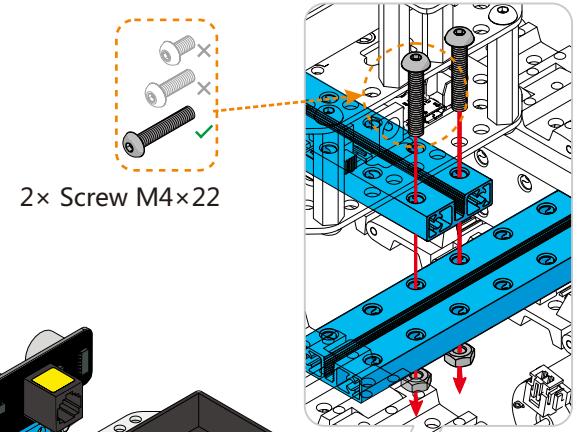
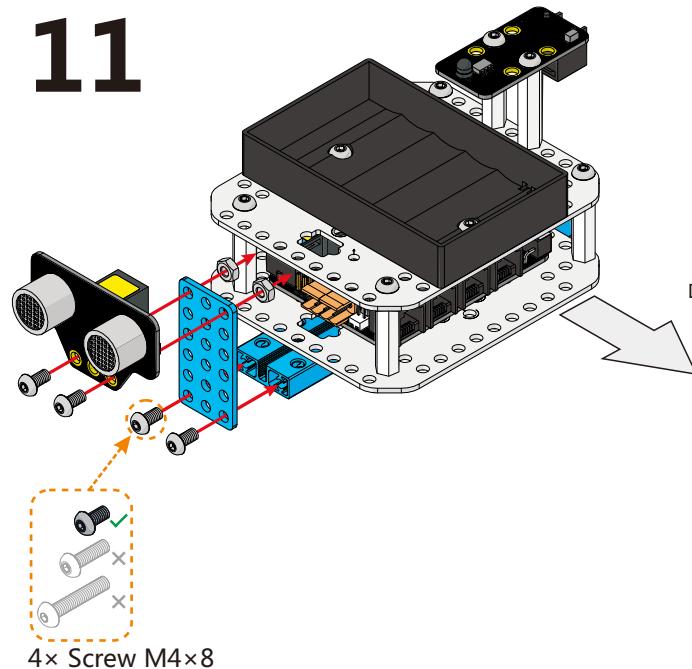
**9**



**10**



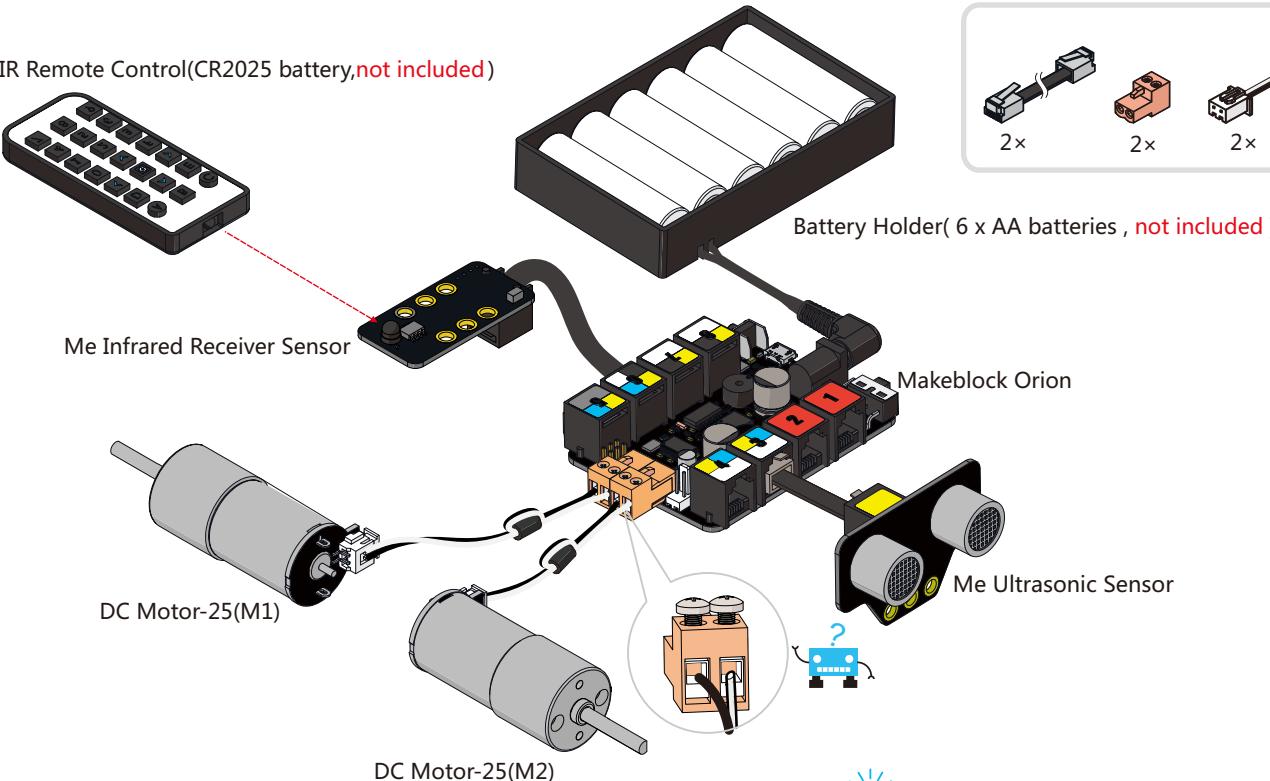
**11**



**10**

# Wiring

Me IR Remote Control(CR2025 battery,not included)



You may need to switch the order of two wires to correct the rotation direction.

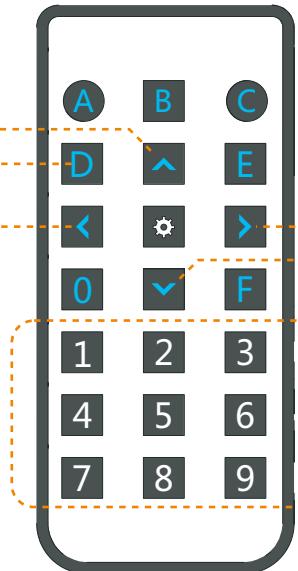
## Working with remote control

—Construct It Once, Control It Everywhere

Forward  
Switch mode  
Left

Right  
Backward

Speed



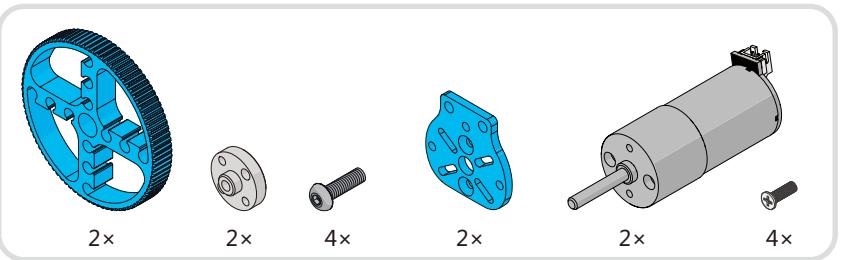
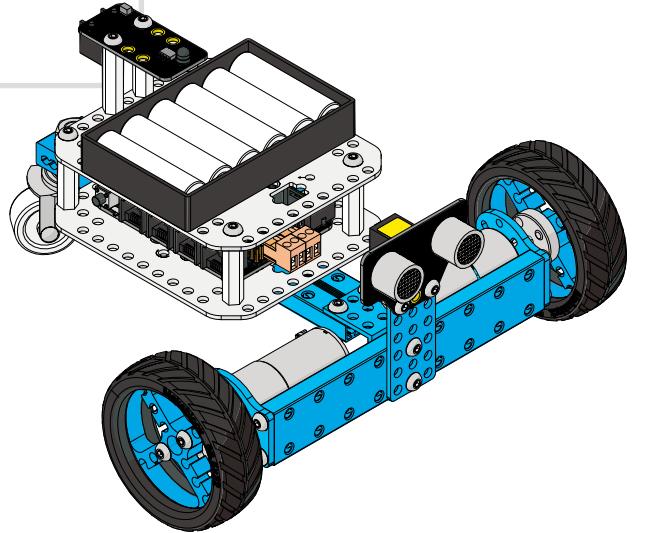
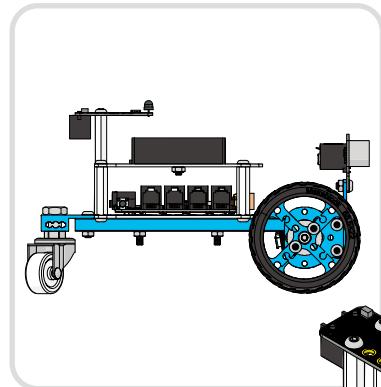
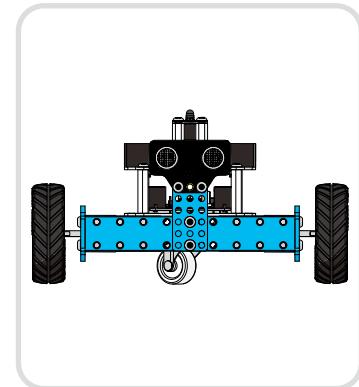
**Remote control :**  
**Press key D to switch modes**

**Manual mode :**  
Press direction keys for car direction and number keys for speed.

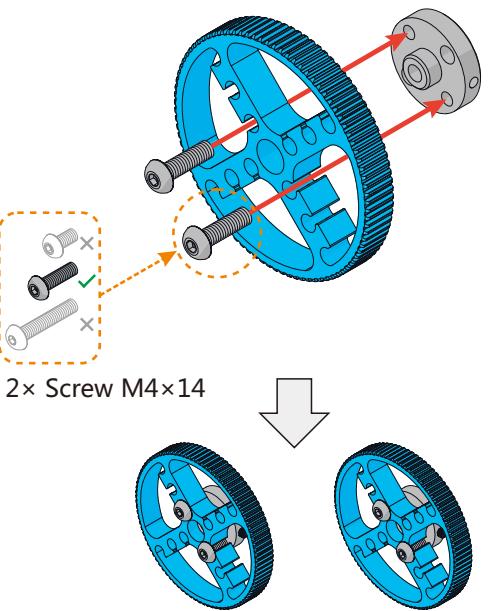
**Ultrasonic obstacle avoidance mode:**  
The car will run and avoid obstacle automatically. No response when press any keys until you switch mode.

Now it's time to play your robot!

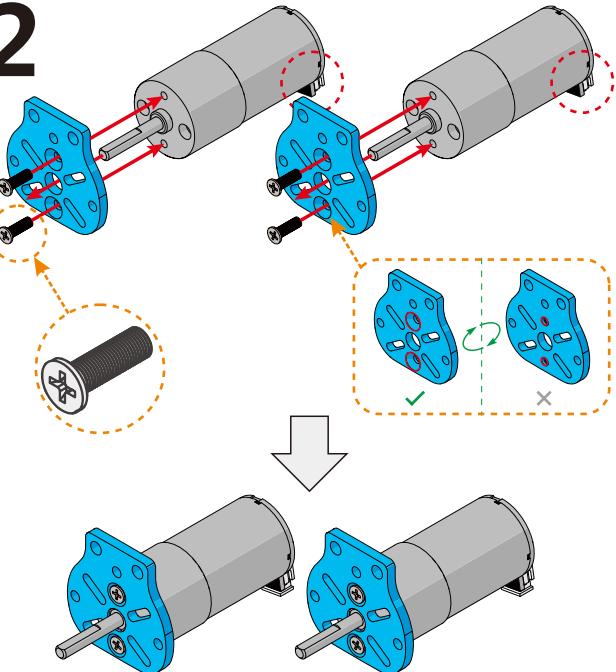
# Build three-wheeled Robot Car

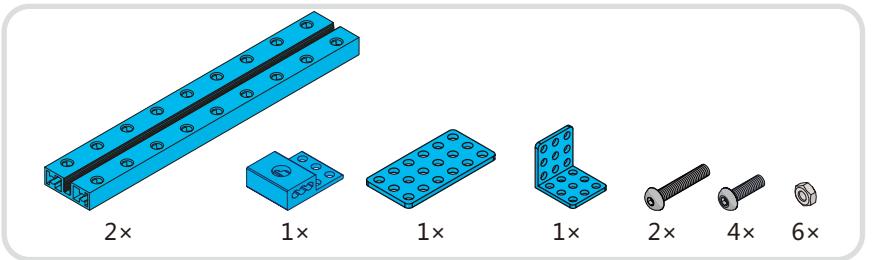


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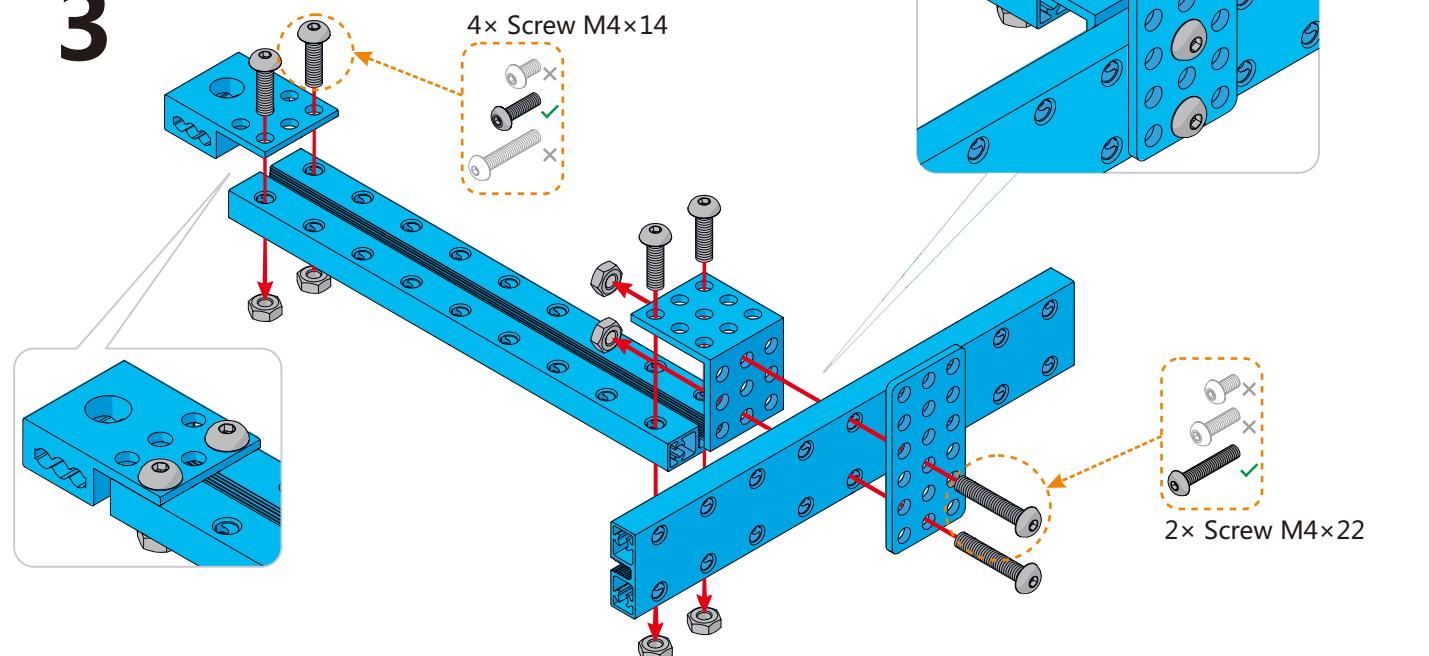


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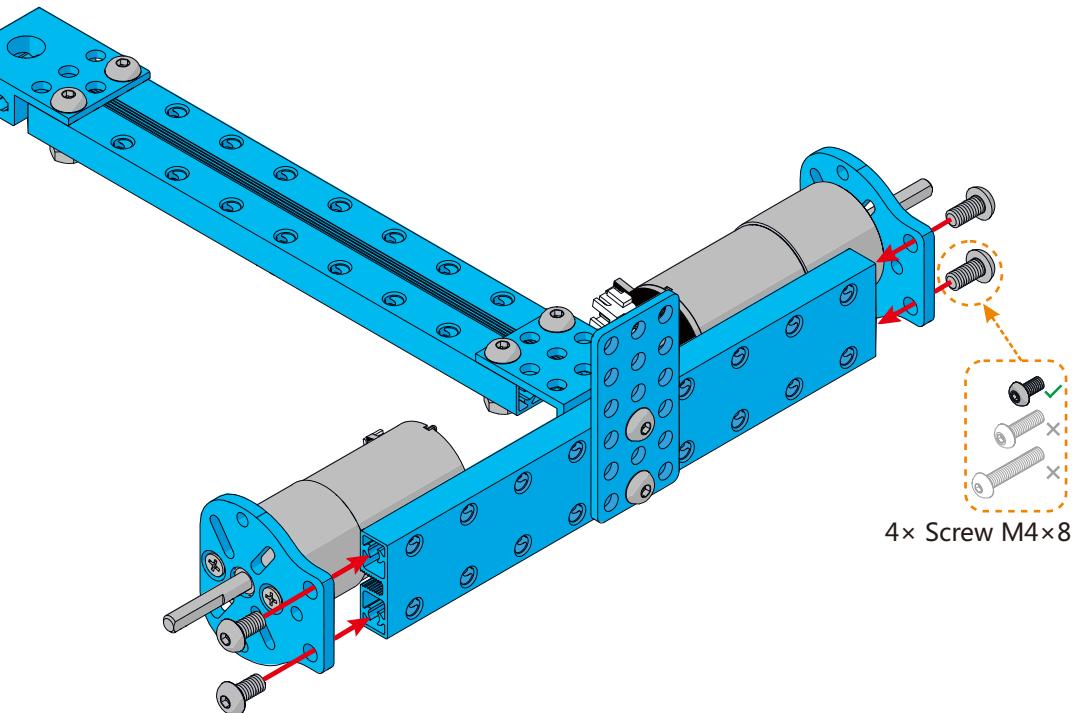


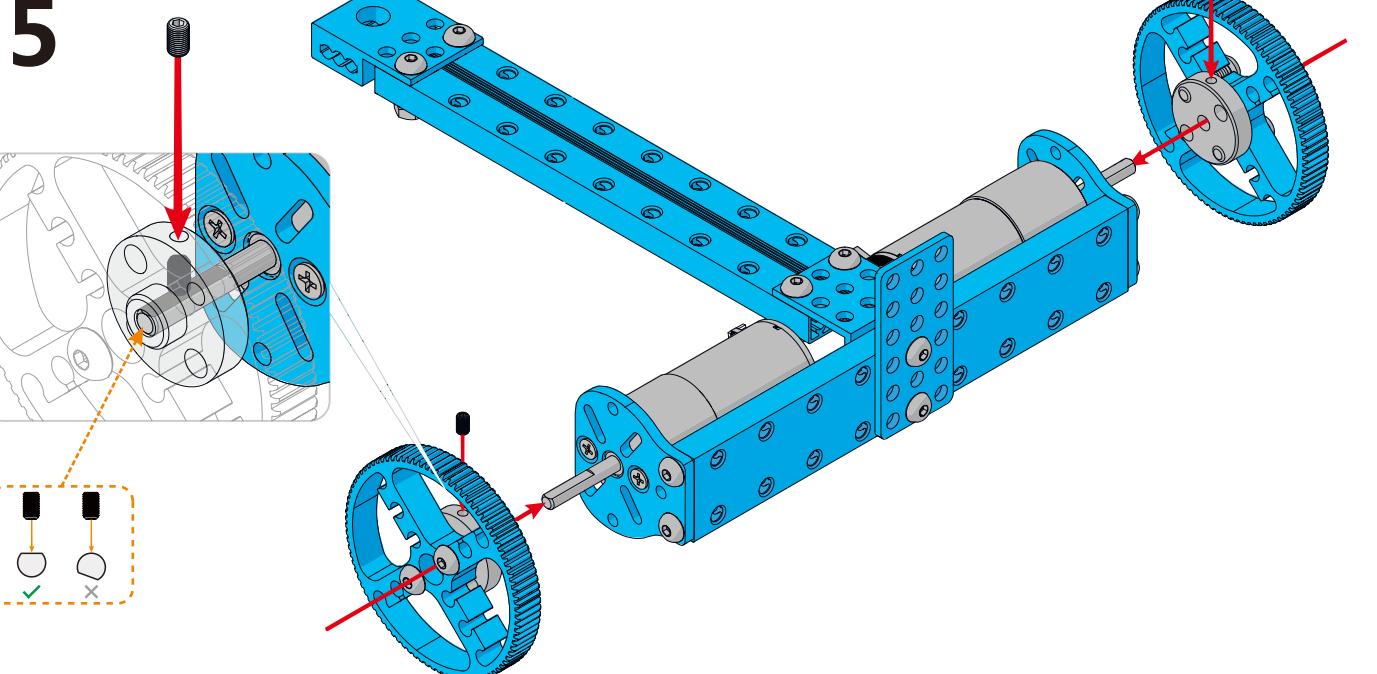


**3**

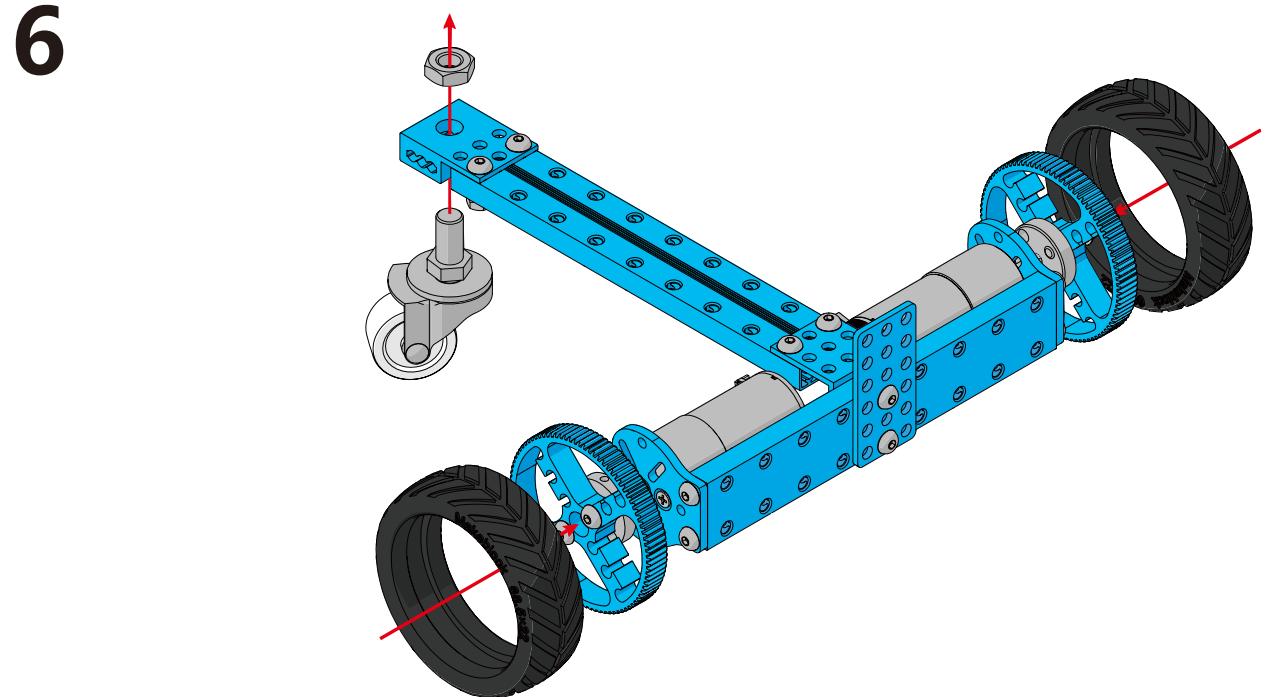
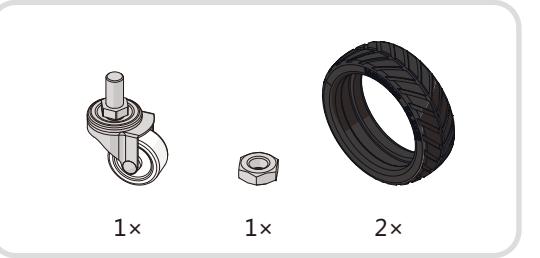


**4**

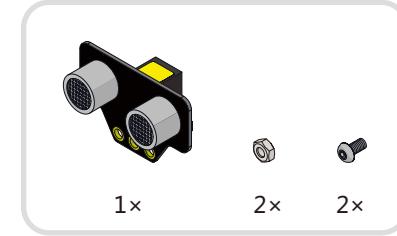




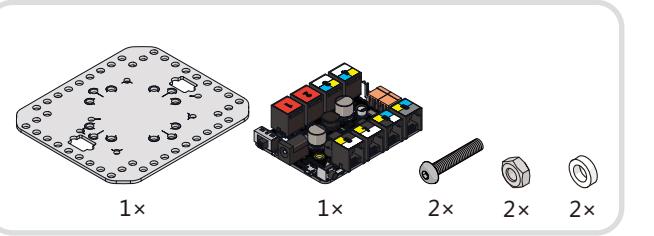
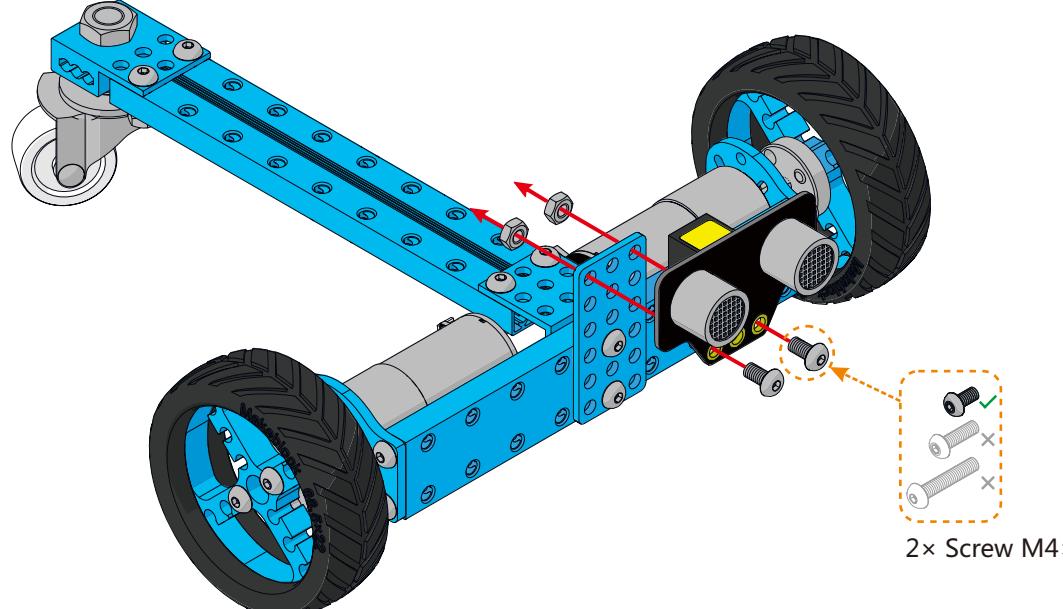
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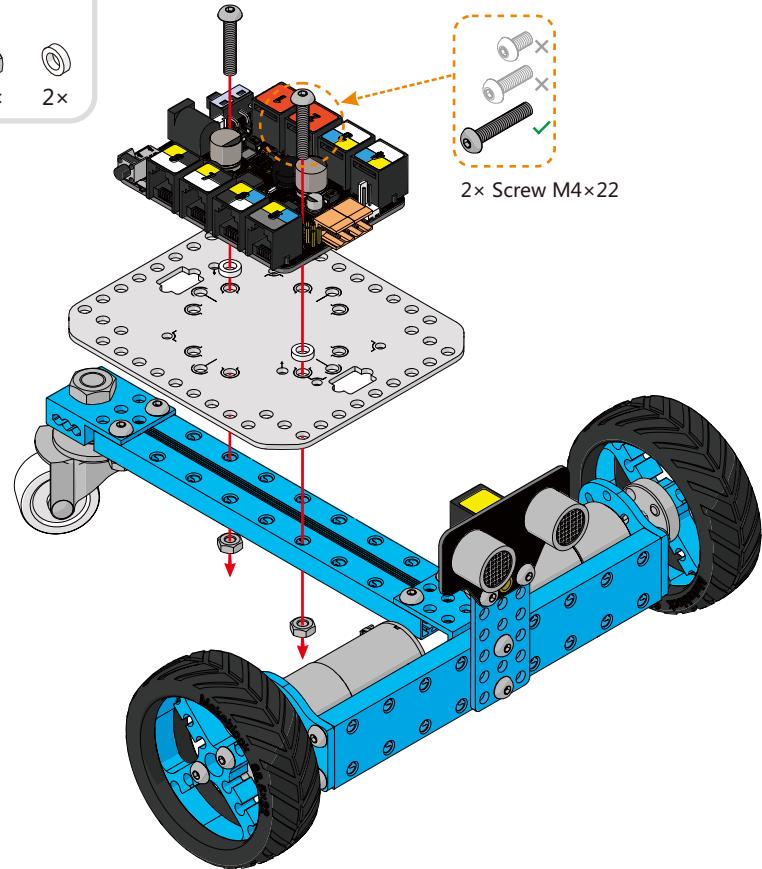
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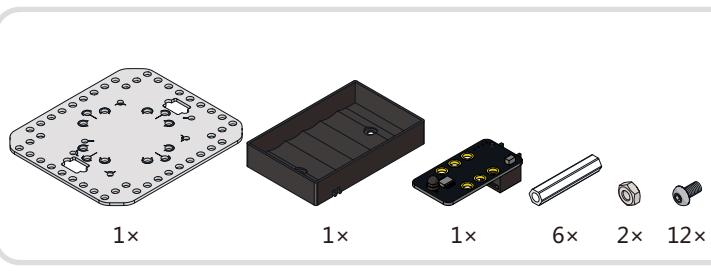


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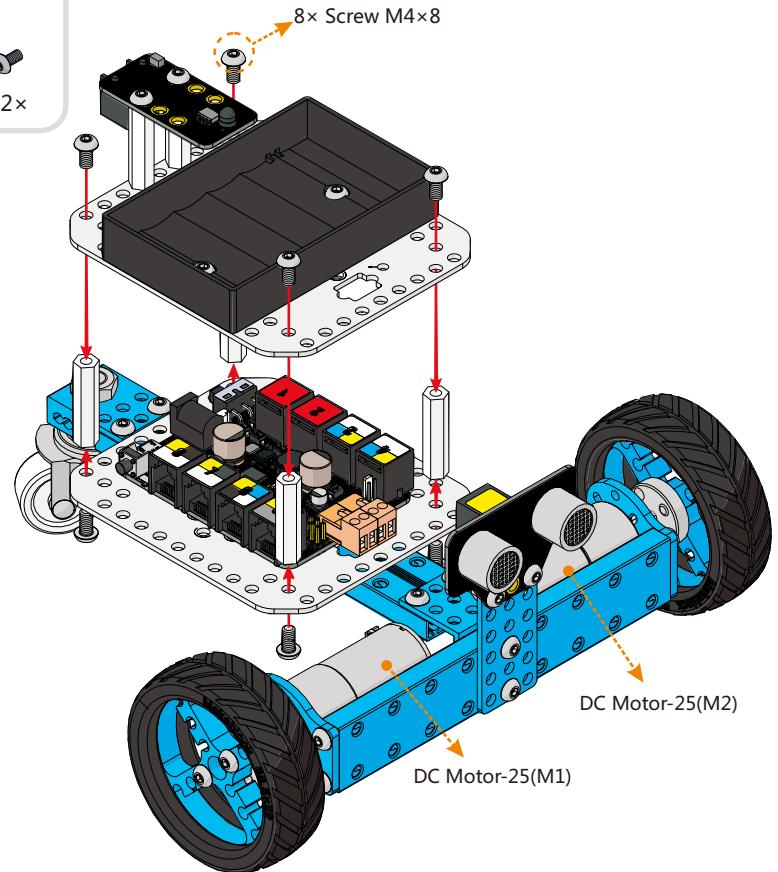
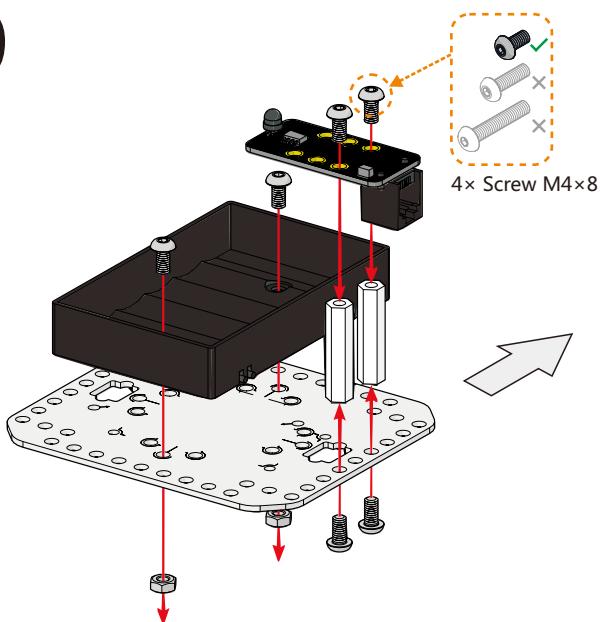
8





Please follow page 11 for wiring and remote control.

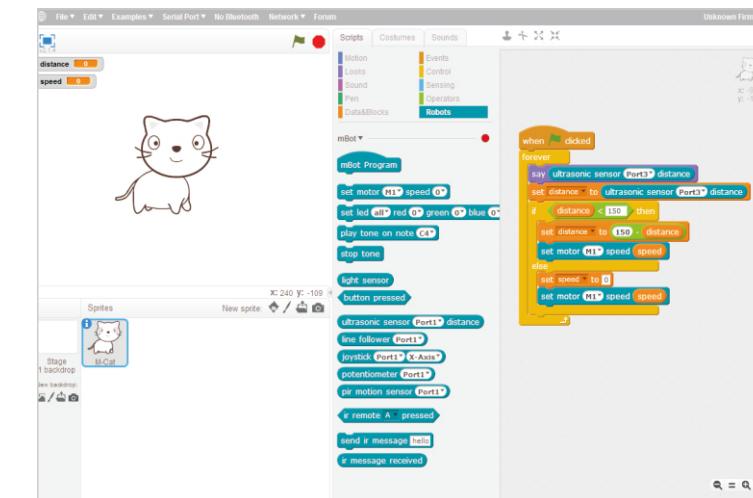
**9**



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## Programming--Further exploration

### Working with mBlock--Hack the Physical World



The Starter Robot Kit support mBlock perfectly which allow you re-programming your robot by simply drag and joint the blocks of mBlock. No more difficult coding.

mBlock is a free modified version of Scratch 2.0 developed by MIT Media Lab, mBlock add some hardware-related blocks in the original Scratch, with these blocks, users can read sensors, control motors and even a whole robot.

Besides blocks for the basic microcontroller functionalities, analog and digital writes and reads, PWM outputs. There are also blocks for each specific electronic modules, such as ultrasonic sensor, temperature sensor, light sensor, DC motor driver, stepper driver, etc. With these blocks, it's simple to interact with many kinds of electronic modules.

Visit the following URL for more details:  
<http://learn.makeblock.cc/learning-scratch>

### Working with Arduino IDE --Learn Programming the Fun Way

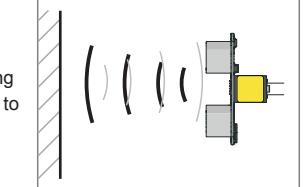
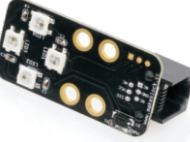
Arduino is an open-source electronics prototyping platform based on flexible , easy-to-use hardware and software.The Arduino software consists of a development environment (IDE) and the core libraries. The IDE is written in Java and based on the Processing development environment.

Visit the following URL for more details: <http://learn.makeblock.cc/learning-Arduino>

Download the library zip package: <https://github.com/Makeblock-official/Makeblock-Library/archive/master.zip>

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## Electronic modules on makeblock--Further exploration

	<p><b>Ultrasonic module</b> works for measuring distance from 3cm to 400cm.</p>	
	<p><b>Me 7-Segment Display</b> is a display module with four digit tube which can show some data ,such as speed ,time ,score etc.</p>	
	<p><b>Me RGB LED</b> module contains four programmable RGB LEDs. Color of each LED can be set by editing components of red, green, and blue.</p>	
	<p><b>Me Joystick</b> is normally used to control the move direction of object.</p>	

see more on makeblock platform

## Kits on Makeblock--Further exploration

