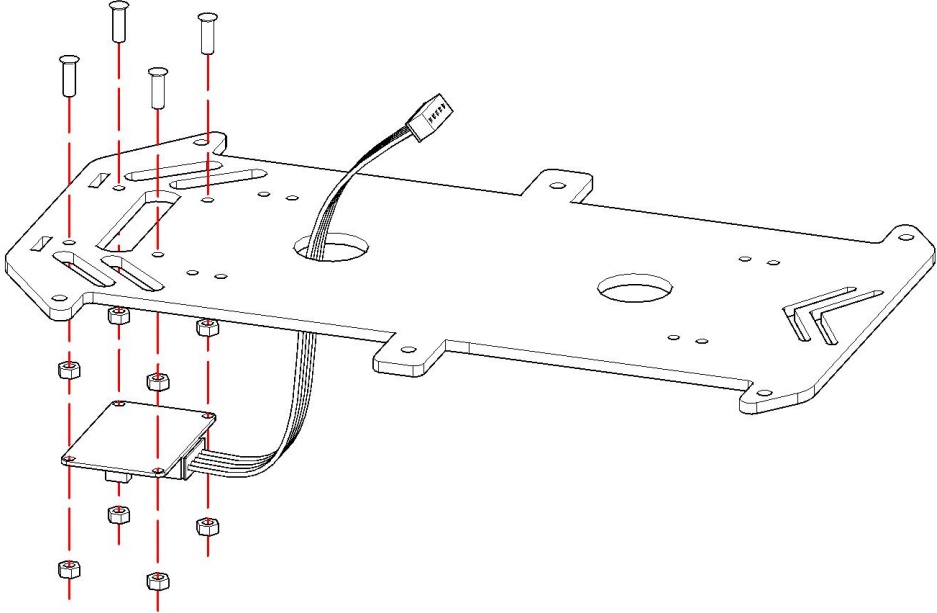
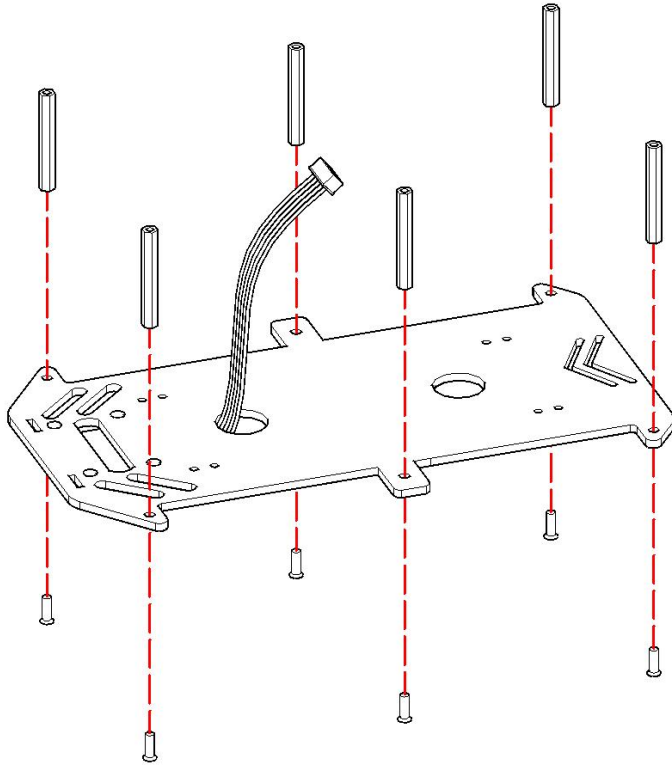
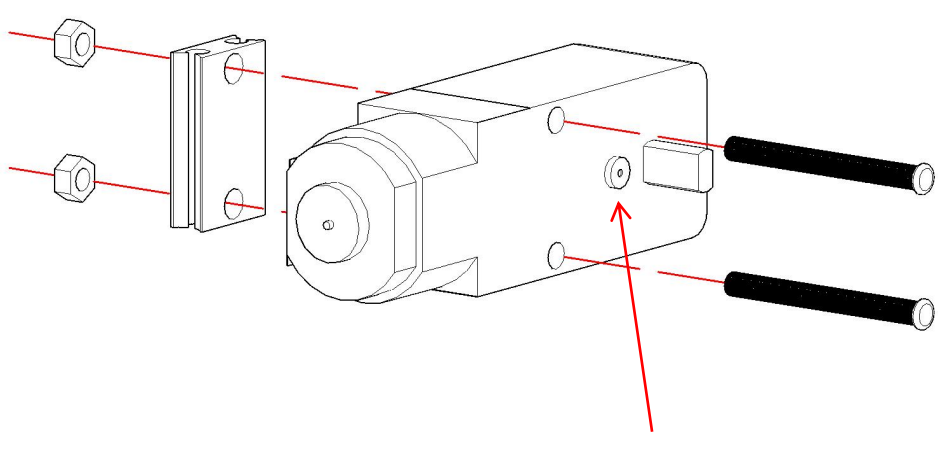


Step 1 Installing the Tracking Module			
Parts List	Acrylic Lower Base Plate	M3*10 mm Countersunk Head Phillips Screws*4	M3 Nuts*8
	Three-Way Tracking Module	5pin DuPont Cable with XH2.54 Terminals*1	
Splicing Diagram			
Notes	<p>1. Before installing the module, you can plug the DuPont cable into the corresponding port.</p> <p>2. Note that there are 8 nuts, and they should be installed in the right order.</p>		

Step 2 Installing the Copper Post.			
Parts List	Acrylic Lower Base Plate	M3*10 mmCountersunk Head Phillips Screws*6	M3*40 mmDouble Pass Copper Column*6
Splicing Diagram			
Notes	<p>1. Pay attention to the installation position of each copper post, do not install the wrong hole.</p>		

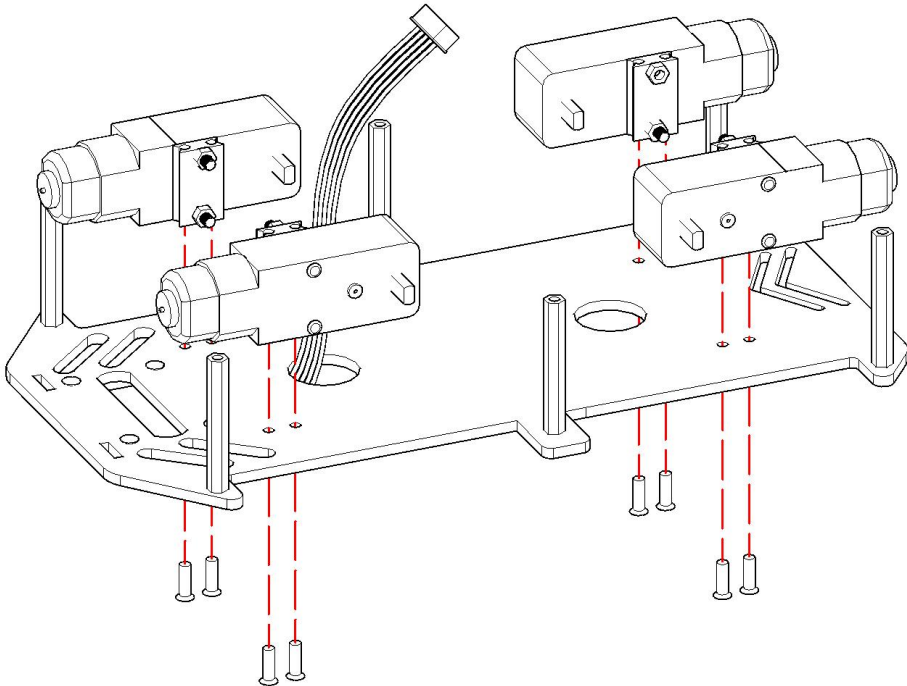
Step 3 Mounting the Motor

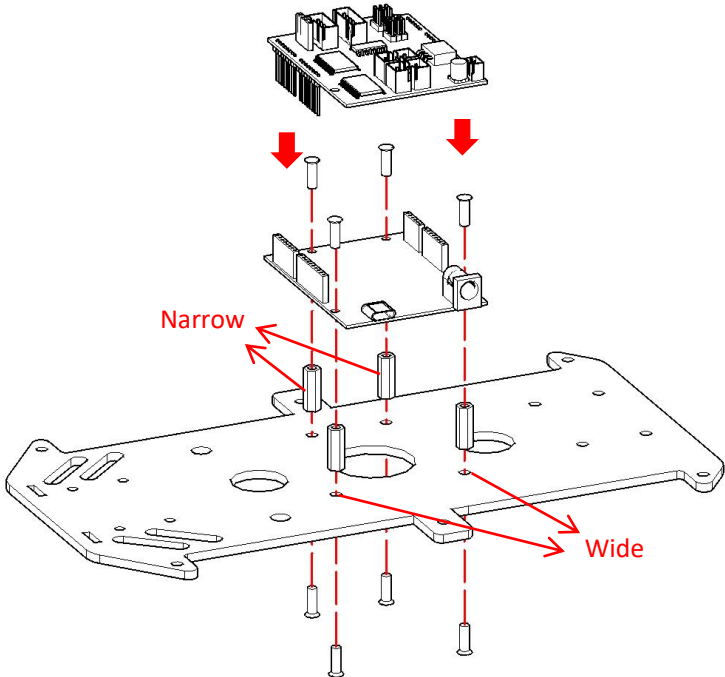
3.1 Mounting Motor Bracket

Parts List	TT Motor*4	M3*30 mmRound Head Phillips Screws*8	M3 Nuts*8
	Metal Motor Bracket*4		
Splicing Diagram	 <p>Motor Bump</p>		
Notes	<p>1. Note that the motor bracket should be mounted on the other side of the bump.</p> <p>2. Install the four motors using the same mounting method.</p>		

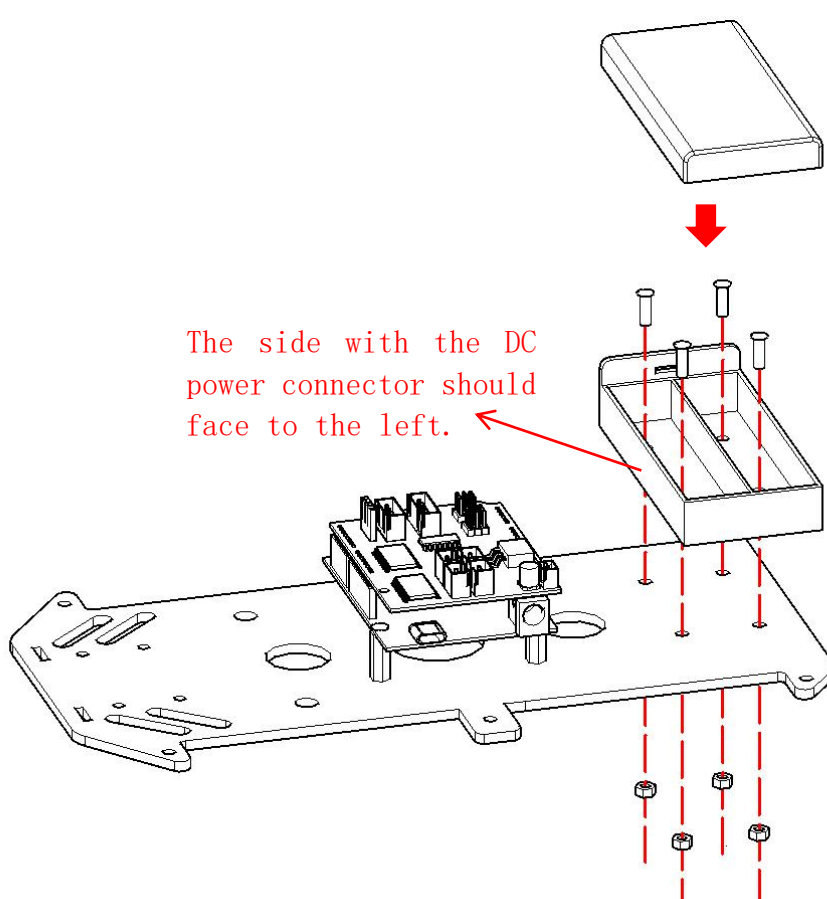
Step 3 Mounting the Motor

3.2 Fix the Motor

Parts List	Motor with Brackets Installed*4	M3*10 mm Countersunk Head Phillips Screws*8
Splicing Diagram		
Notes	<p>1. Note the orientation of the four motors, with the motor bump facing outward.</p>	

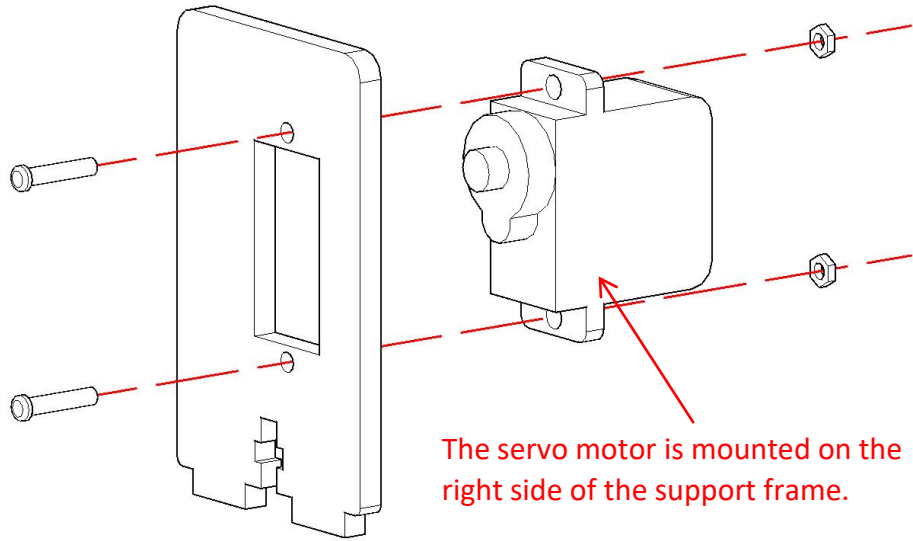
Step 4 Installing Controller Board and Extension Board			
Parts List	Acrylic Upper Base Plate*1	UNO Controller Board*1	L293D Extension Board*1
	M3*10 mmCountersunk Head Phillips Screws*8		M3*15 mmDouble Pass Copper Column*4
Splicing Diagram			
Notes	<div>1. Pay attention to distinguish between the positive and negative sides of the acrylic plate(The spacing between the two holes on the left side is wider than that on the right.).</div> <div>2. You can first screw the copper column on the acrylic plate and assemble it from bottom to top.</div> <div>3. Note the orientation of UNO controller board and L293D extension board.</div> <div>4. Do not blindly force when inserting the expansion plate to avoid damaging the stitches.</div> <div>5. If a screw on the UNO board does not go in, do not force it.</div>		

Step 5 Installing Battery Case

Parts List	Battery Case*1	M3*10 mm Countersunk Head Phillips Screws*4	M3 Nuts*4
Splicing Diagram	 <p>The side with the DC power connector should face to the left.</p>		
Notes	1. Note the orientation of the battery case.		

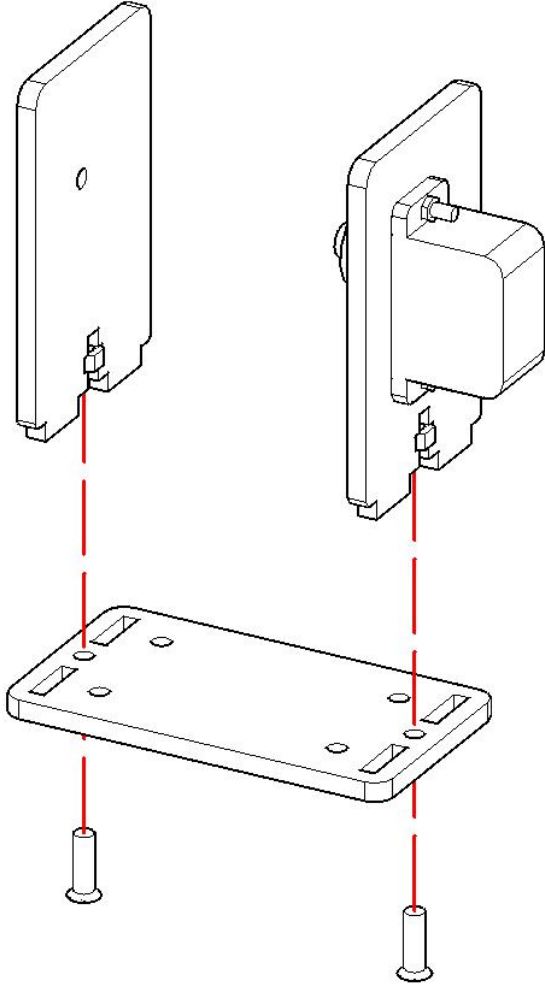
Step 6 Mounting the Support Frame for the Servo Motor

6.1 Mounting the Servo Motor

Parts List	Parts of Servo Support Frame*1	Servo Motor*1
	M2*10 mmRound Head Phillips Screw*2	M2 Nuts*2
Splicing Diagram	 <p>The servo motor is mounted on the right side of the support frame.</p>	
Notes	1. Note that the spindle of the servo motor is above.	

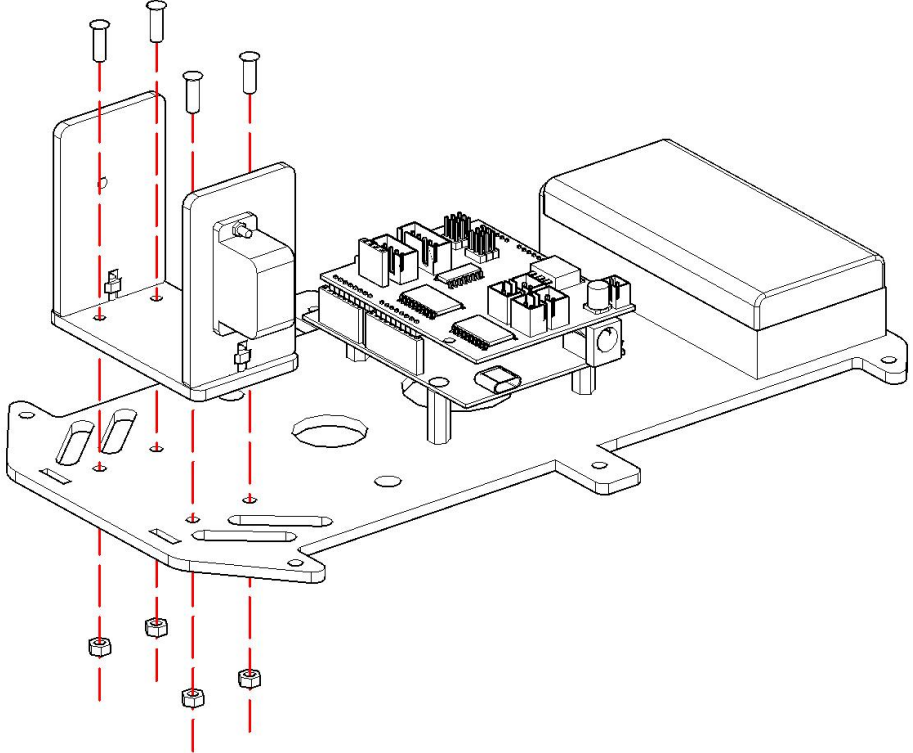
Step 6 Mounting the Support Frame for the Servo Motor

6.2 Assemble the Servo Motor Support Frame

Parts List	Parts of Servo Support Frame*3	M3*10 mm Countersunk Head Phillips Screws*2	M3 Nuts*2
Splicing Diagram			
Notes	<p>1. Note that the nut needs to be stuck in the corresponding hole position first.</p> <p>2. Note that the hole of the support part needs to be on the same side as the servo motor shaft, as shown in the figure, to avoid installing it backwards.</p>		

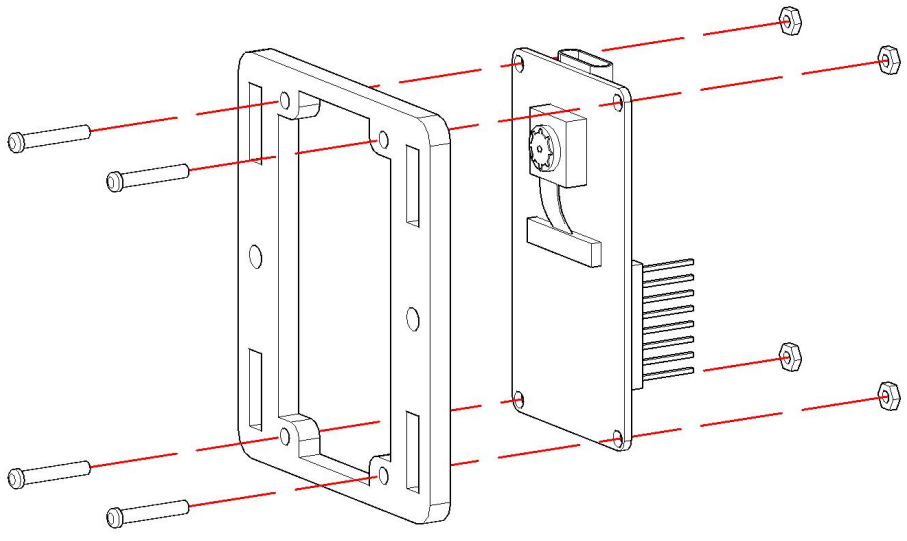
Step 6 Mounting the Support Frame for the Servo Motor

6.3 Fixed Servo Motor Support Frame

Parts List	M3*10 mm Countersunk Head Phillips Screws*4	M3 Nuts*4
Splicing Diagram		
Notes	1. Pay attention to the direction and position of the servo motor.	

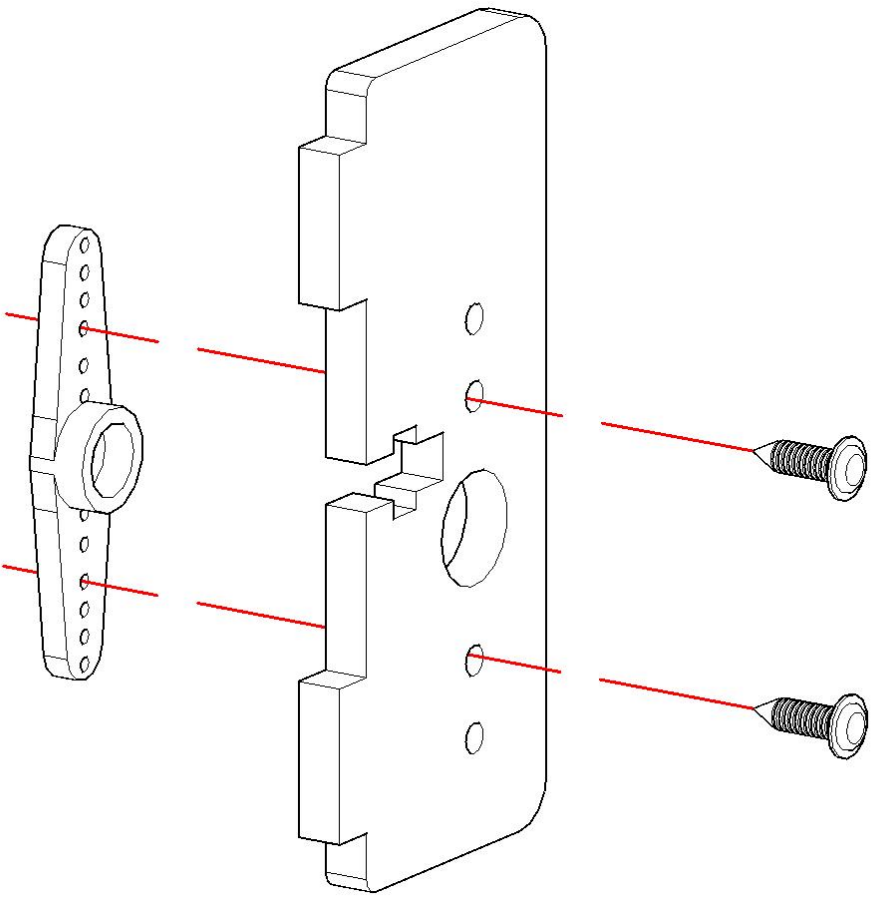
Step 7 Installing ESP32-CAM Module

7.1 Installing ESP32-CAM Module

Parts List	Parts of ESP32-Cam Support Frame*1	ESP32-CAM Module*1
	M2*10 mmRound Head Phillips Screw*4	M2 Nuts*4
Splicing Diagram		
Notes	1. Pay attention to the direction of the screws and nuts.	

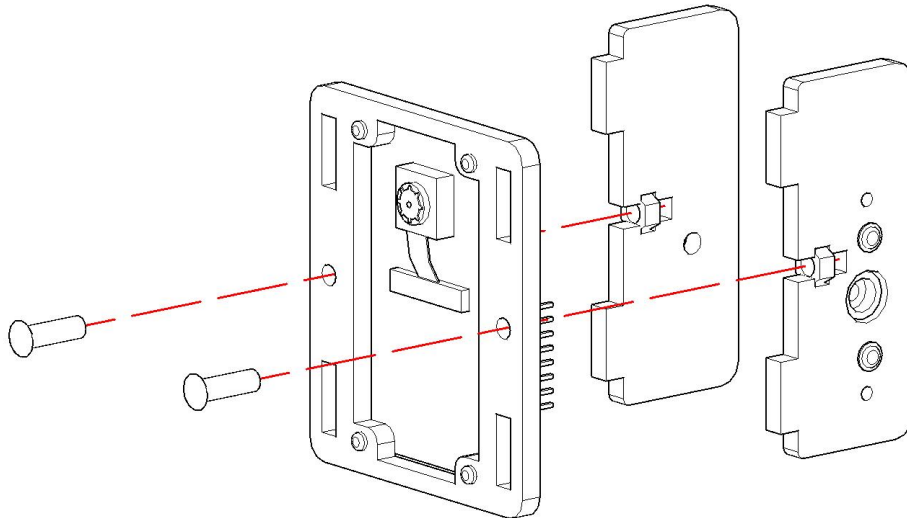
Step 7 Installing ESP32-CAM Module

7.2 Install Servo Motor Rocker Arm

Parts List	"1" Shape Servo Motor Rocker Arm*1	M1.4*5 mm Self Tapping Screw*2
	Parts of ESP32-Cam Support Frame*1	
Splicing Diagram		
Notes	<p>1. Note the orientation and position of the above two parts, as shown in the figure.</p>	

Step 7 Installing ESP32-CAM Module

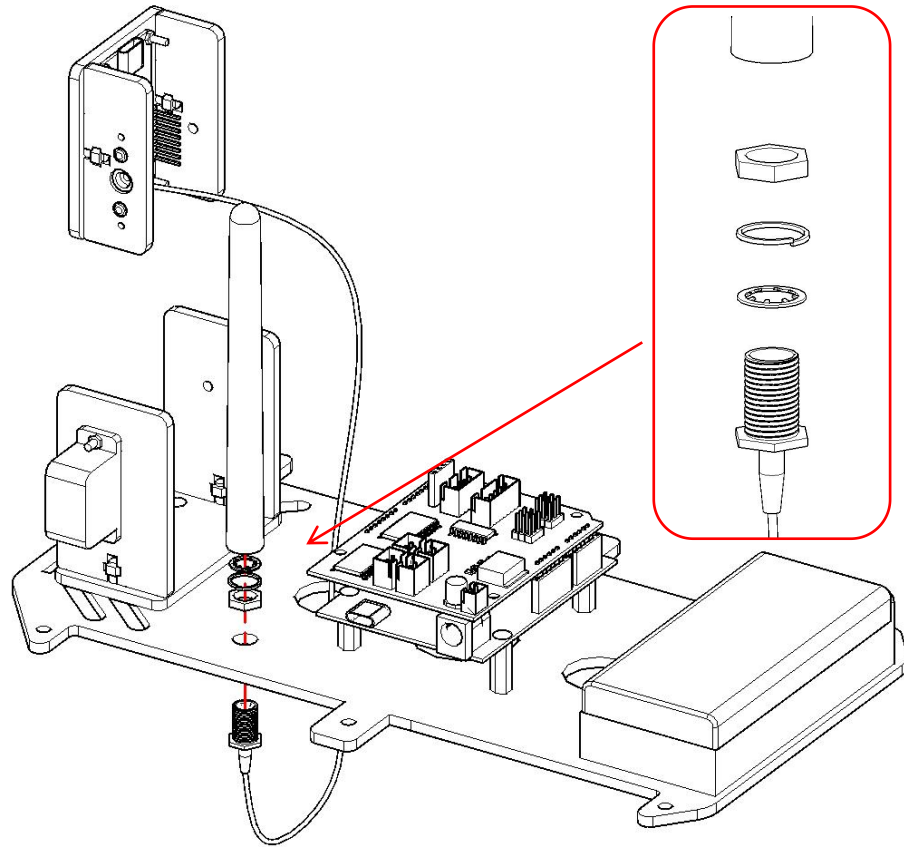
7.3 Assemble ESP32-CAM Support Frame

Parts List	Parts of ESP32-Cam Support Frame*3	M3*10 mm Countersunk Head Phillips Screws*2
	M3 Nuts*2	
Splicing Diagram		
Notes	<p>1. Note that the nut should be placed in the corresponding hole position and held down. And then turn the screw.</p> <p>2. Note that the hole of the support part needs to correspond to the hole of the servo motor rocker arm, which is on the lower side.</p>	

Step 8 Installing the Antenna Module

Parts List

Antenna Module*1

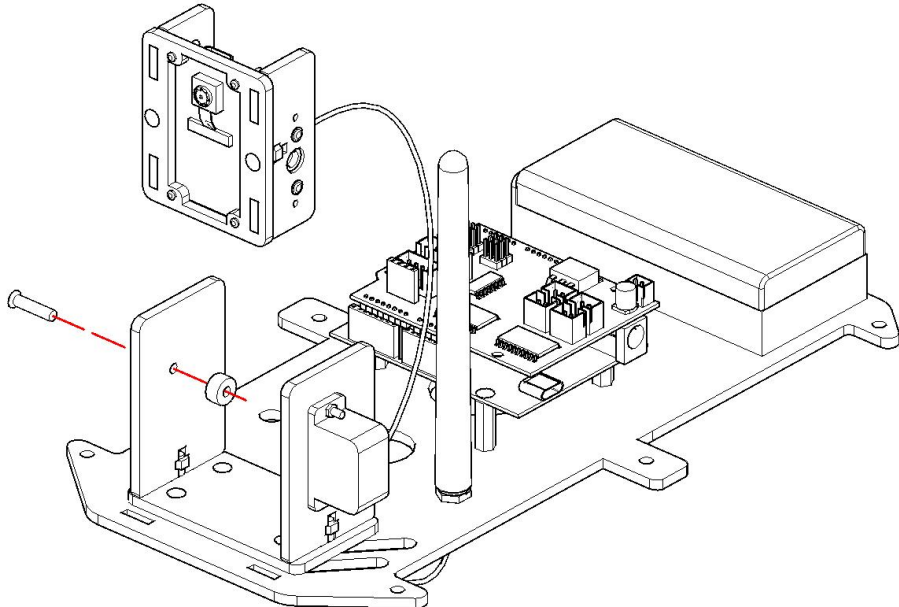
Splicing
Diagram

Notes

1. First, you need to put the wire through the hole and buckle it to the corresponding position of the ESP32-CAM module.
2. Note the order of the parts and install them in the order shown above right.

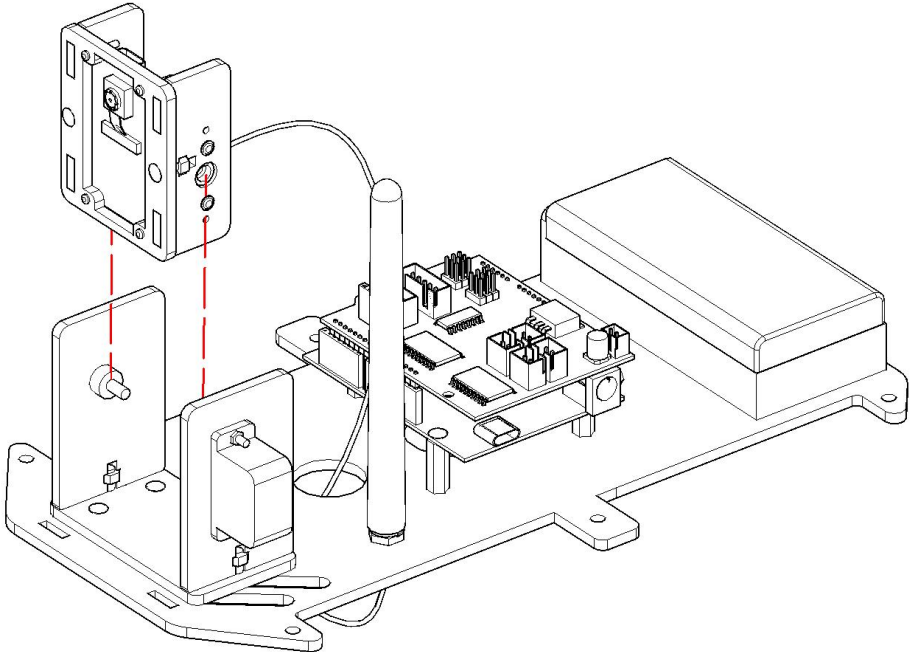
Step 9 Fixing ESP32-Cam Support Frame

9.1 Installing Screws and Gaskets

Parts List	M3*14 mmCountersunk Head Phillips Screws*1	M3*7*4 mmNylon Gasket*1
Splicing Diagram		

Step 9 Fixing ESP32-Cam Support Frame

9.2 Inserting ESP32-Cam Support Frame

Parts List	Assembled ESP32-Cam Support Frame
Splicing Diagram	
Notes	<ol style="list-style-type: none"> 1. Take care to hold the screw so that the screw and gasket don't fall off. The hole of the ESP32-CAM holder goes through the screw. 2. Put the servo motor on the rocker arm.

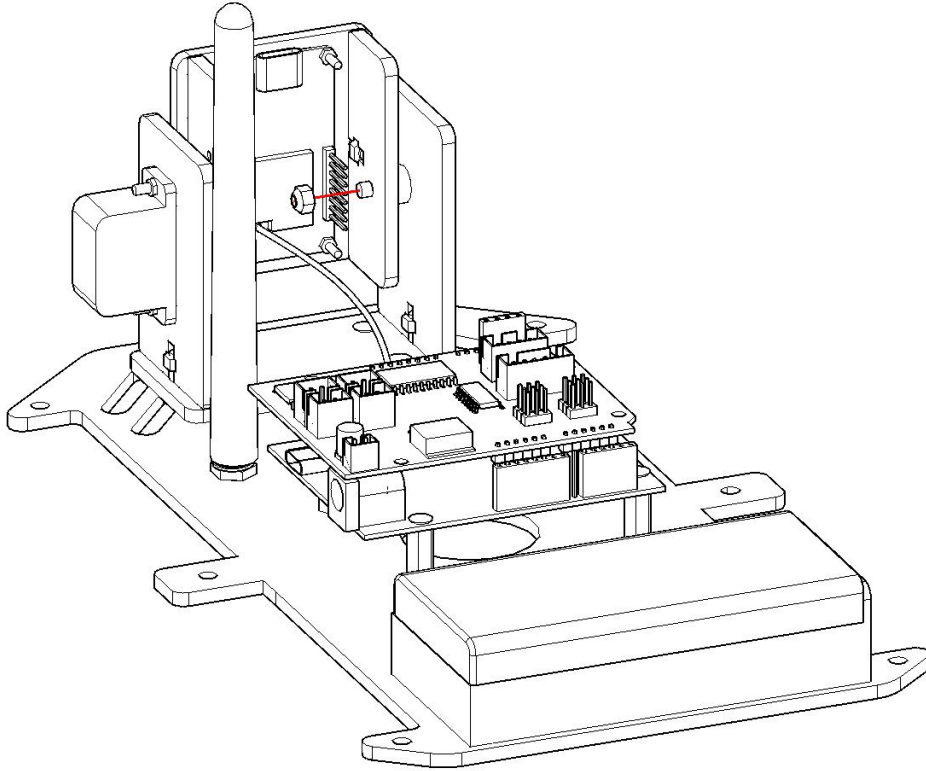
Step 9 Fixing ESP32-Cam Support Frame

9.3 Fixing the Frame

Parts List

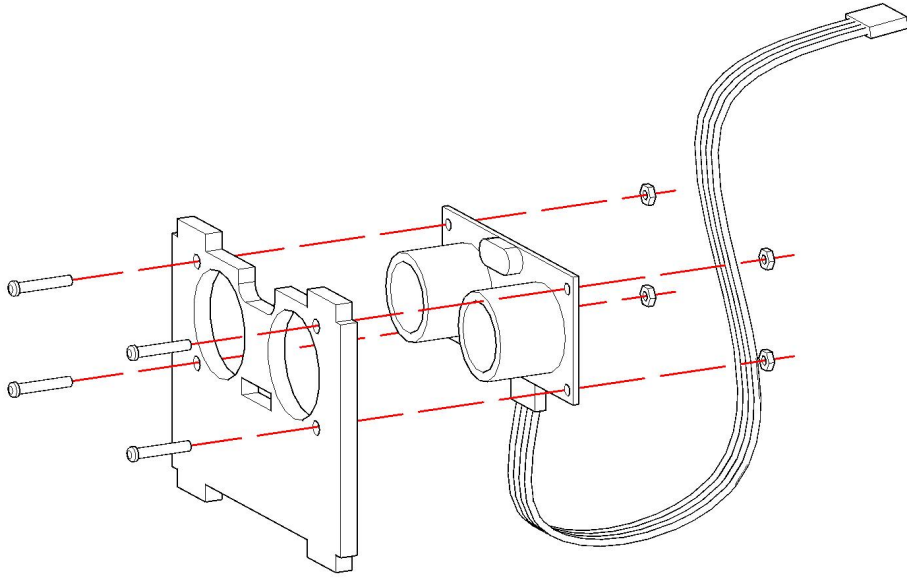
M3 Self-locking Nuts*1

Splicing
Diagram

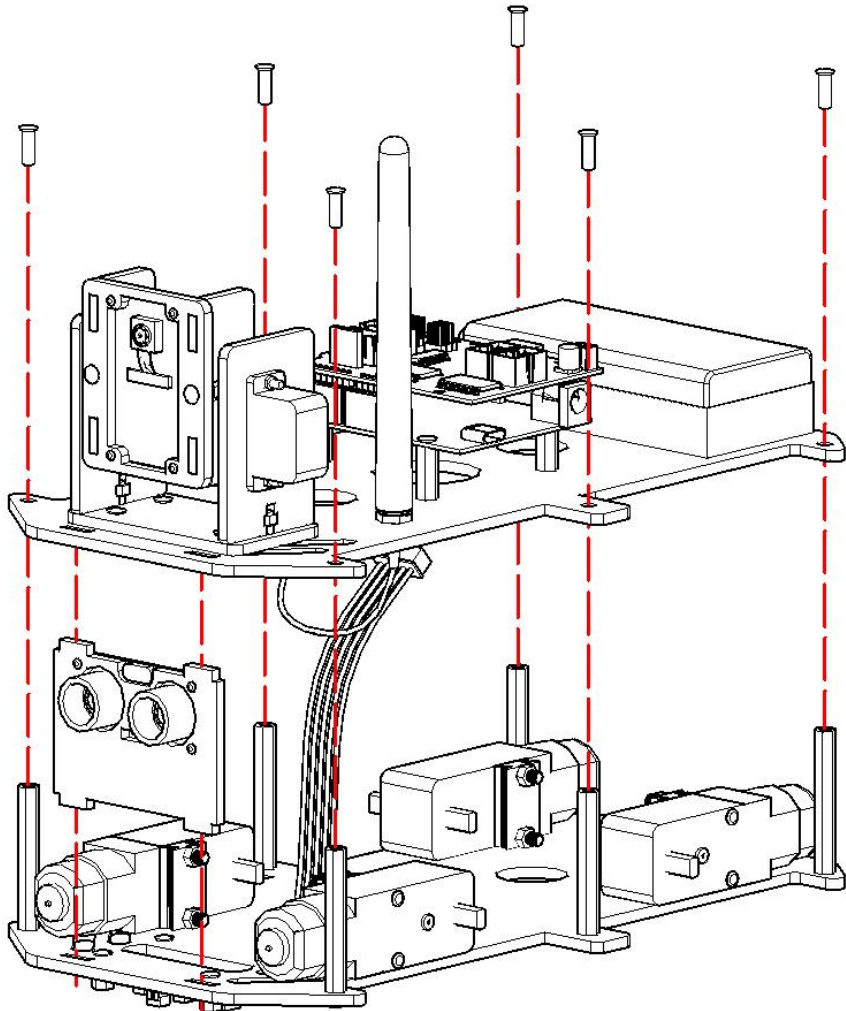


Notes

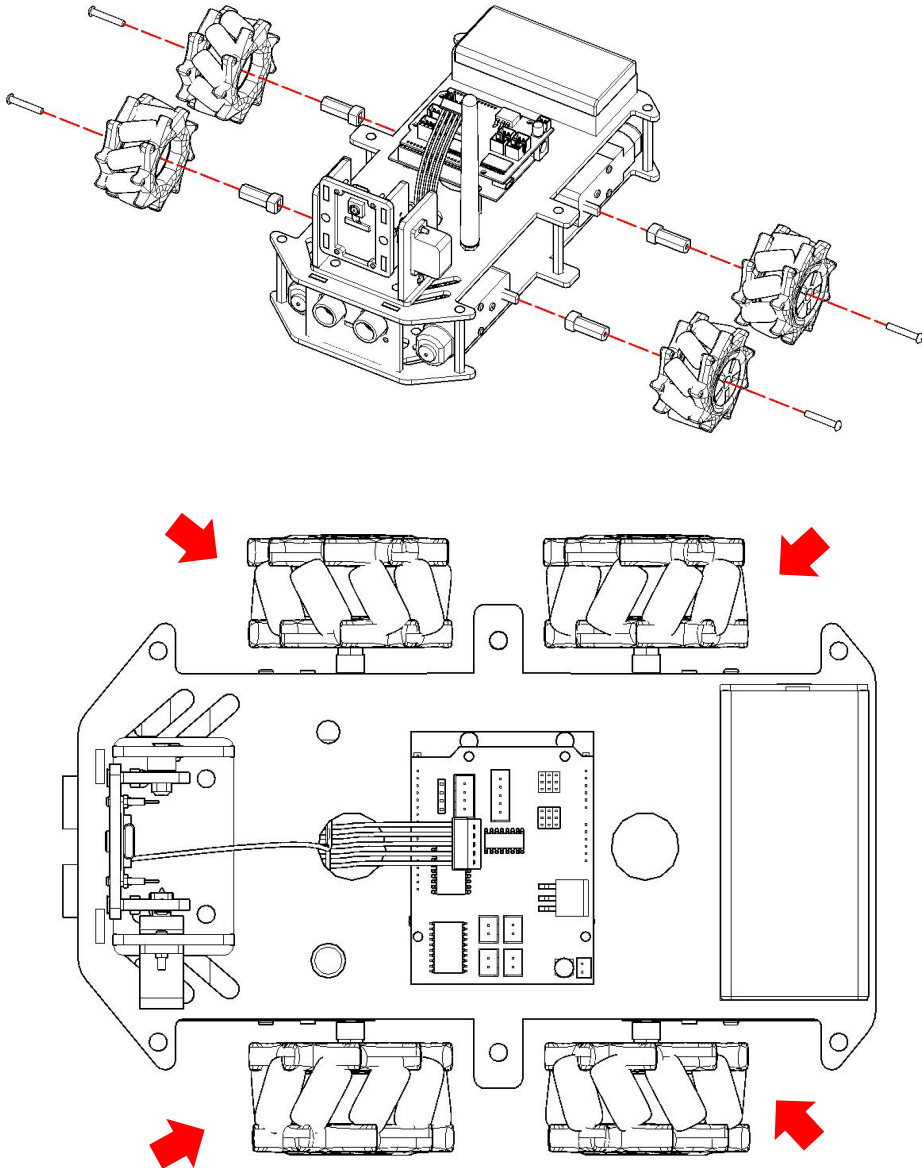
1. Twist until you can't twist it with your bare hand.

Step 10 Installing Ultrasonic Sensor			
Parts List	Ultrasonic Sensor*1	Ultrasonic Bracket*1	4pin Dupont Wire with One XH2.54 Terminal*1
	M1.6*10 mmRound Head Phillips Screws*4		M1.6 Nuts *4
Splicing Diagram			
Notes	<p>1. Before installing the module, the dupont head part of the 4pin ultrasonic line can be inserted into the corresponding port. The red color corresponds to VCC, and the black color corresponds to GND.</p> <p>2. Note the orientation of the ultrasonic bracket.</p>		

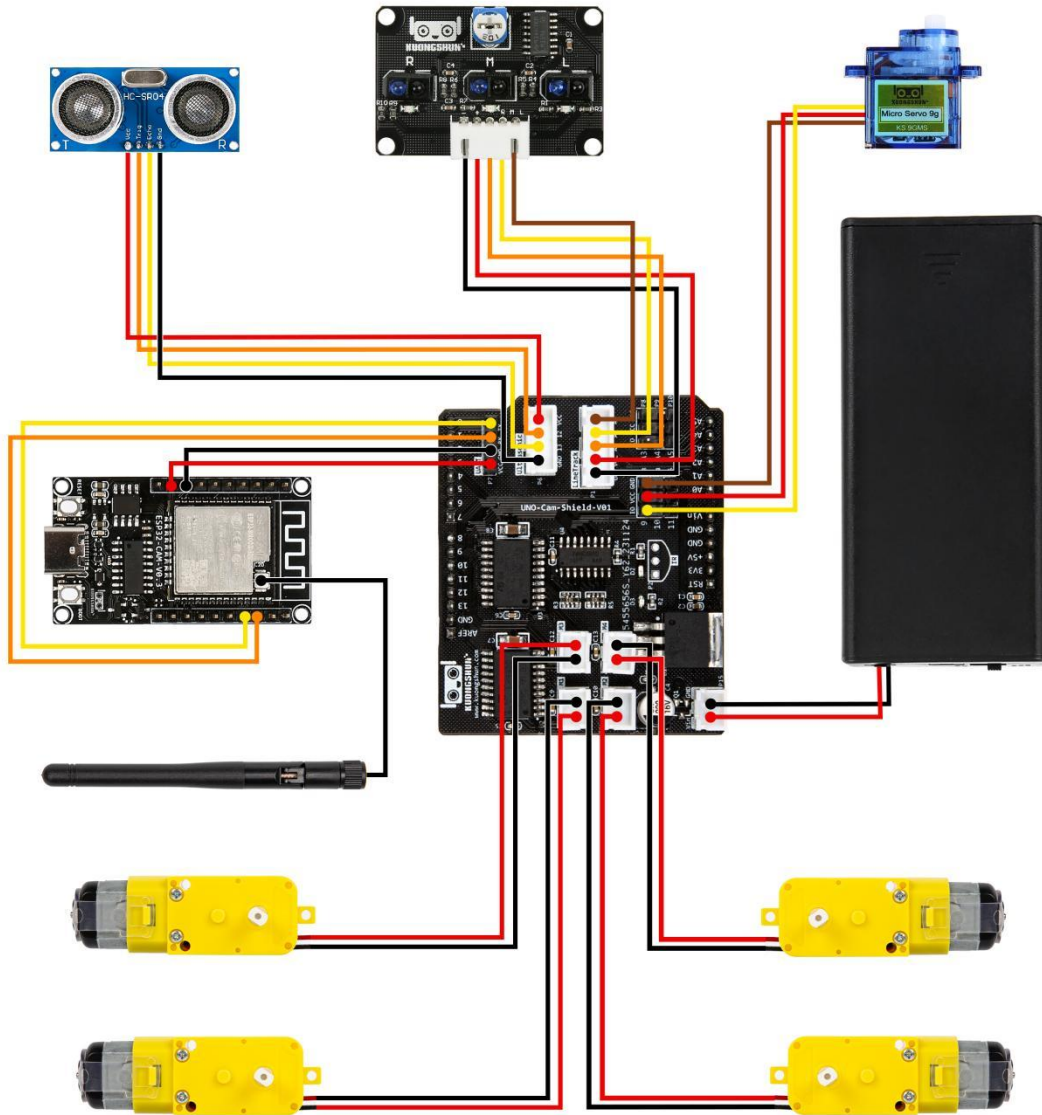
Step 11 Combine Upper and Lower Base Plates

Parts List	Assembled Upper Base Plate	Assembled Lower Base Plate
	Assembled Ultrasonic Bracket	M3*10 mm Countersunk Head Phillips Screws*6
Splicing Diagram		
Notes	<p>1. Note that before merging, you can thread the wires of the ultrasonic and the tracing module through the round holes of the upper base plate for subsequent wiring.</p> <p>2. Note that the ultrasonic bracket snaps between the two plates.</p>	

Step 12 Mounting Wheels

Parts List	Mecanum Wheels*4	M2*25 mmRound Head Self-Tapping Screw*4
	Coupling of Shaft*4	
Splicing Diagram		
Notes	<p>1. Note the regularity of the mounting of the small wheels in the shape of a cross.</p>	

Step 13 Wiring



1. Note the colors and pin locations.
2. The relative position of the motor is when the car head is facing left.