

Material List

Shock-absorber * 6PCS, Wheel Cap * 8PCS, Coupling * 2PCS, Driven Wheel * 8PCS, Driving Wheel * 2PCS, Ultrasonic Sensor Module * 1PC, Ultrasonic Sensor Module Bracket * 1PC, SG90 * 2PCS, Rocker 1-A * 2PCS, Rocker 1-B * 2PCS, Motor * 2PCS, Camera Module * 1PC, Camera Bracket * 1PC, Expansion Board * 1PC, GY-521 Module * 1PC, Rocker 2-A * 1PC, Rocker 2-B * 1PC, Bracket Base * 1PC, Cross Sleeve * 1PC, 4P Cables * 2PCS, 5P Cables * 1PC, Line-tracking Module * 1PC, Rocker 3-A * 1PC, Rocker 3-B * 1PC, Bracket Top * 1PC, Left Side of Bracket * 1PC, Right Side of Bracket * 1PC, USB Cable - Type Micro * 1PC, USB Cable - Type B * 1PC, UNO * 1PC, M2.5 Self-tapping Screw * 2PCS, M3*7 Phillips Screw * 4PCS, M3*10 Phillips Screw * 2PCS, M2.4 Phillips Screw * 4PCS, M2.5 Locknut * 4PCS, M2.8 Self-tapping Screw * 4PCS, M2.6 Self-tapping Screw * 8PCS, M3*5 Countersunk Screw * 2PCS, M2.5 Phillips Screw * 4PCS, M1.6 Nuts * 6PCS (2 for spare), M2.6*14 Self-tapping Screw * 2PCS, M3*8 Phillips Screw * 18PCS (1 for spare), M3.5*4 Countersunk Head-tapping Screw * 8PCS (2 for spare), M3.5 Phillips Screw * 2PCS, M3 Locknut * 15PCS, M2.5*20 Phillips Screw * 4PCS, M3*11 Copper Pillar * 1PC, M1.6*8 Phillips Screw * 6PCS (2 for spare), M3*5 Phillips Screw * 2PCS, M2.5 Locknut * 7PCS, M3*16 Phillips Screw * 15PCS (3 for spare), M2*6 Copper Pillar * 2PCS, M3*25+6 Copper Pillar * 4PCS, Baseplate * 1PC, Top Plate * 1PC, Phillips Screwdriver * 2PCS, Separation Pillar * 4PCS (for spare), Track * 2PCS, Left Side Board * 1PC, Right Side Board * 1PC, Remote Control * 1PC

Assemble the driven wheel

1. M2.6*8 Self-tapping Screw * 4PCS
2. Driven Wheel * 4PCS
3. Wheel Cap * 4PCS

The installation method of the right driven wheel is the same as above.

Assemble UNO

1. M3*8 Phillips Screw * 3PCS
2. Separation Pillar * 3PCS
3. UNO * 1PC
4. Baseplate * 1PC

Take 1 out from bag No.4. Take 2 out from bag No.5.

Wiring Diagram

This illustration is to give you an idea of the parts corresponding to each port on the control board for later installation. You are not required to plug all the parts to the corresponding port as shown in the picture at present.

Assemble top plate and track

1. M3*8 Phillips Screw * 4PCS
2. Track * 2PCS

The Final Image

Another method of assembling

To facilitate expansion, the control board and the expansion board can be mounted on the outside. Just changing the mounting position of the battery box and the circuit board as shown in the figure, and the other parts are mounted in the same way.

Assemble the expansion board

1. M3*5 Countersunk Screw * 2PCS
2. M3*11 Copper Pillar * 1PC
3. GY-521 Module * 1PC
4. Expansion Board * 1PC

Take 1 out from bag No.5. Take 2 out from bag No.5.

Calibrate the servo

The pictures for this step show only the parts used.

1. Connect the cable of the battery box and the servo to the expansion board as shown in the figure, and then the servo is mounted vertically to the half-arm. (Error range ±5°)

2. The servo above the bracket is connected to the expansion board as shown in the figure, and then the servo is mounted vertically to the half-arm. (Error range ±5°)

3. Install the screws and complete the calibration. Turn off the power and unplug the servo cable from the expansion board.

Assemble the ultrasonic sensor module

1. M1.6*8 Phillips Screw * 4PCS
2. M1.6 Nuts * 4PCS
3. Ultrasonic Sensor Module * 1PC
4. Ultrasonic Sensor Module Bracket * 1PC
5. M3*6 Phillips Screw * 2PCS
6. Top Plate * 1PC

Take 1 out from bag No.7. Remove the screw out from bag No.7.

Assemble the battery box

1. M3*8 Phillips Screw * 2PCS
2. Cell Box (lithium battery inside) * 1PC

Take 1 out from bag No.4.

Assemble the ultrasonic sensor module

1. M1.6*8 Phillips Screw * 4PCS
2. M1.6 Nuts * 4PCS
3. Ultrasonic Sensor Module * 1PC
4. Ultrasonic Sensor Module Bracket * 1PC
5. M3*6 Phillips Screw * 2PCS
6. Top Plate * 1PC

Take 1 out from bag No.7. Remove the screw out from bag No.7.

Using tutorial

Notice: We have updated the program before factory, thus you can skip the step and no need to upload the program repeatedly. However, you will need to re-upload them if you have modified the code of Tracked vehicle.

First of all, please go to our website below to download the Conqueror Robot Tank tutorial: <http://www.elegoo.com/download/> And then select the tutorial files based on your computers' running systems. For window system, please refer to "Upload Conqueror Robot Tank program for Windows.pdf". For OS system, please refer to "Upload Conqueror Robot Tank program for MacOS.pdf".

Control the Conqueror Robot Tank using the IR Remote Control.

Please remove transparent plastic insulation from the rear of the remote control before using it.

- Forward
- Backward
- Stop
- Turn Left
- Turn Right
- Line-tracking Mode
- Obstacle-avoidance Mode
- Increase the threshold value
- Auto-follow Mode
- Restore the initial default value
- Reduce the threshold value

Line-tracking Mode
Put the car on the track of the manual first. When pressing key 1 of the remote control, the car will enter the line-tracking mode and the status indicator light will always on green. The car will move along the runway under this mode.

Obstacle-avoidance Mode
The car will enter the obstacle-avoidance mode and the status indicator light is always on yellow when pressing key 2 of the remote control. The car will move forward automatically until encountered obstacles. And it will automatically turn to the direction without obstacles to continue moving forward when encountering obstacles.

Auto-follow Mode
The car will enter the auto-follow mode and the status indicator is always on blue when pressing key 3 of the remote control. If there are obstacles in the 20 CM ahead of the Ultrasonic Sensor Module, the car will automatically follow the obstacle to move; when there is no obstacle in front, the car will automatically rotate 90 degrees to the left and then rotate 90 degrees to the right and then stop.

Definition of button

Reset: Press this button to switch between the following four mode: Line-tracking Mode, Obstacle-avoidance Mode, Auto-follow Mode, and Standby Mode.

Status Indicator Light: The light is red when the battery is low.

Infrared Receiver: Receive the coded signal from the IR remote control.

Upload-cam Switching Button: Please toggle the button to "Upload" when upgrading the program and toggle to "Cam" when using the APP.

USB Port: Upload the program.

Assemble the left rocker

1. Shock-absorber * 3PCS
2. Rocker 1-A * 2PCS
3. Rocker 2-A * 1PC
4. Rocker 3-A * 1PC
5. M2.6*14 Self-tapping Screw * 1PC

Take 1, 2, 3, 4 out from the "left" label bag. Take 5 out from bag No.1.

Assemble the left side panel

1. M3*16 Phillips Screw * 7PCS
2. M3 Locknut * 7PCS
3. Left Side Panel * 1PC

Take 1, 2 out from bag No.2.

Assemble the line-tracking module

1. M3*8 Phillips Screw * 4PCS
2. M3*25+6 Copper Pillar * 4PCS
3. Line-tracking Module * 1PC
4. Camera Bracket * 1PC
5. Camera Module * 1PC

Take 1 out from bag No.4. Take 2 out from bag No.5. Take 3 out from bag No.6.

Assembling the camera biaxial bracket

A. M3*5*4 Countersunk Self-tapping Screw * 4PCS
B. M1.5*4 Countersunk Self-tapping Screw * 2PCS
C. M2*8 Self-tapping Screw * 2PCS
D. Bracket Top * 1PC

Take 1 out from bag No.6. Take 1 out from bag No.6.

Assemble the camera module

1. M2*6 Phillips Screw * 4PCS
2. M2*6 Copper Pillar * 2PC
3. Camera Bracket * 1PC
4. Camera Module * 1PC

Take the screws out from bag No.6.

Assemble the side panels

1. M3*8 Phillips Screw * 4PCS

Take the screws out from bag No.4.

Assemble the right rocker

1. Shock-absorber * 3PCS
2. Rocker 1-B * 2PCS
3. Rocker 2-B * 1PC
4. Rocker 3-B * 1PC
5. M2.6*14 Self-tapping Screw * 1PC

Take 1, 2, 3, 4 out from the "right" label bag. Take 5 out from bag No.1.

Assemble the right side panel

1. M3*16 Phillips Screw * 7PCS
2. M3 Locknut * 7PCS
3. Right Side Panel * 1PC

Take 1, 2 out from bag No.2.

Assemble the driving wheel

1. M3*7 Phillips Screw * 2PCS
2. Coupling * 1PC
3. M3*10 Phillips Screw * 1PC
4. Driving wheel * 1PC

Take 1, 2, 3 out from bag No.3.

The installation method of the right driving wheel is the same as above.

Assemble the motor

1. M2.5*20 Phillips Screw * 4PCS
2. M2.5 Locknut * 4PCS
3. Motor * 2PCS

Take 1, 2 out from bag No.3.

Assemble the driving wheel

1. M3*7 Phillips Screw * 2PCS
2. Coupling * 1PC
3. M3*10 Phillips Screw * 1PC
4. Driving wheel * 1PC

Take 1, 2, 3 out from bag No.3.

The installation method of the right driving wheel is the same as above.

Control the car with APP

STEP1: Application Installation
You can download the latest version of the "EleRobot" app on App Store and Google Play.

STEP2: Application Settings
Firstly, please toggle the upload-cam switching button of the Conqueror Robot Tank to "cam".

A. Turn on the WIFI on the phone and connect to "ELEGOO-123". (The number "123" is the physical address of the camera module, and the physical address of each camera module is different.) And then open the "EleRobot" app after the WIFI connection is successful.

B. Choose the language by clicking the setting icon in the top right corner.

C. Click "Remote Control", enter the control page, and click "OK" when it prompts up the window showing that the connection is successful. If we didn't connect to the WIFI successfully on the phone in advance, it will prompt up the window showing that the connection is failed when opening the app. Please click "OK" to go on.

D. Turn on the WIFI and connect to "ELEGOO-123" on the phone. Then switch to the APP, click the icon which shows that the WIFI is unconnected in the top right corner, and then it will show that the connection is successful.

Precautions:

1. When the power switch is turned on, the Tracked vehicle must be placed steadily, so as to avoid the inaccurate initial calibration value of GY-521 module, resulting in poor straight-line performance of Conqueror Robot Tank.

2. The battery should be fully charged before using. The status indicator light will flash red when the battery is low. Charge the battery through the USB cable.

3. Do not forcibly rotate the servo by external force to prevent damage to the servo when the power is on.

4. When the battery is too low, the WIFI may be automatically disconnected, or the camera may get stuck.

5. The physical address of each camera module is different. When the program is reprogrammed, the physical address of the same camera module will change.

Please view our assemble tutorial video on our official website: www.elegoo.com. If you find it is difficult to assemble the Conqueror Robot Tank, please feel free to contact us at service@elegoo.com, if you have any questions during assembling or testing.

ELEGOO Team

Wiring Diagram

FPV Mode
Rocker: Control the movement of the Conqueror Robot Tank and there is 8 direction in total.
Control the camera with two degrees of freedom gimbal (Horizontal and vertical control range: 0°-180°)

