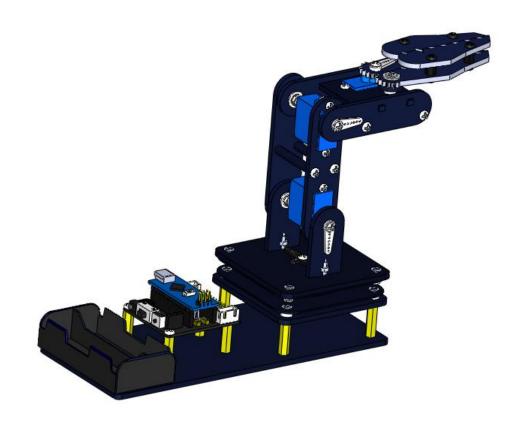


# Assemble the robot arm



- Xi'an Cokoino Intelligent Technology Co., Ltd
- cokoino@outlook.com
- www.cokoino.com

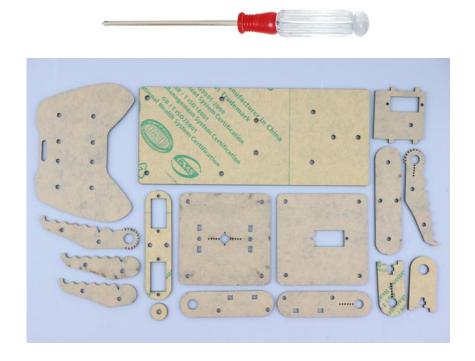
After-sales: If you have any question or suggestion about our company, products or manual, please contact us at <a href="mailto:com/com/com/com/">cokoino@outlook.com/</a>

# **Components List**

NANO board*1		NANO shield*1
USB Cable*1		Joystick module*2
A pair of Acrylic sheet		SG90 Servo*3
18650 battery case*1	The state of the s	MG90S Servo*1
turntable*1		DuPont line*8
P1.2*4mm self-tapping screw*17	(1) 130 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	M2*8mm round head screw *8
M2 nut*8	(Eastername)	M3*6mm round head screw*20
M3*10mm round head screw*10		M3*10mm countersunk head screw*2
M3*8mm countersunk head screw*6		M3*12mm countersunk head screw*4
M3*18mm countersunk head screw*1		M3 mm nut*12
M3 mm self-locking screw*7		M3*20mm copper column*4
M3*30MMAluminium column*2		M3*37MMAluminium column*2
φ3*3mm nylon column*12		M3*6 black nylon stud*4
M3*6 black nylon screw*8		ф3*8*4 flange bearing F693ZZ*4
M2 Phillips screwdriver		M3 Phillips screwdriver
5.5-4 spanner	0	M3 Flat pad*2
	USB Cable*1  A pair of Acrylic sheet  18650 battery case*1  turntable*1  P1.2*4mm self-tapping screw*17  M2 nut*8  M3*10mm round head screw*10  M3*8mm countersunk head screw*6  M3*18mm countersunk head screw*1  M3 mm self-locking screw*7  M3*30MMAluminium column*2  ф 3*3mm nylon column*12  M3*6 black nylon screw*8  M2 Phillips screwdriver	USB Cable*1  A pair of Acrylic sheet  18650 battery case*1  turntable*1  P1.2*4mm self-tapping screw*17  M2 nut*8  M3*10mm round head screw*10  M3*8mm countersunk head screw*6  M3*18mm countersunk head screw*1  M3 mm self-locking screw*7  M3*30MMAluminium column*2  ф 3*3mm nylon column*12  M3*6 black nylon screw*8  M2 Phillips screwdriver

### **Start assembly**

1. Before assembly, we need to use a screwdriver to peel off the acrylic sheet

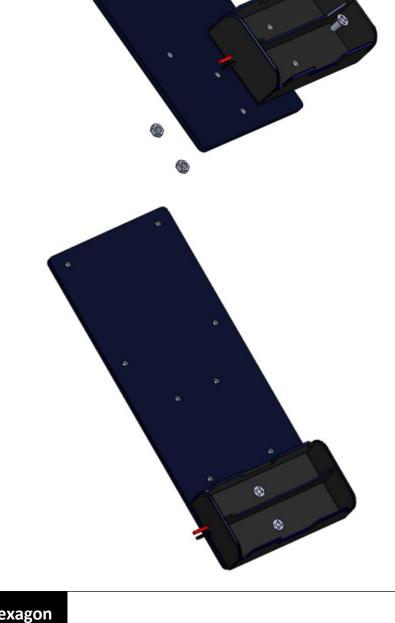


Step 1: Assembling the Bar	ttery Box	Tool:
Need to prepare:		
acrylic plate A	1	
the Battery Box	1	HIM MI OF THE MANAGE OF THE PARTY OF THE PAR
M3 * 8 countersunk head screw	2	
M3 nut	2	
M3 nut	2	

Use M3 \* 8 countersunk head screws and M3 nuts to install the battery box on the structure A;

Pay attention to the installation

direction of the battery box;



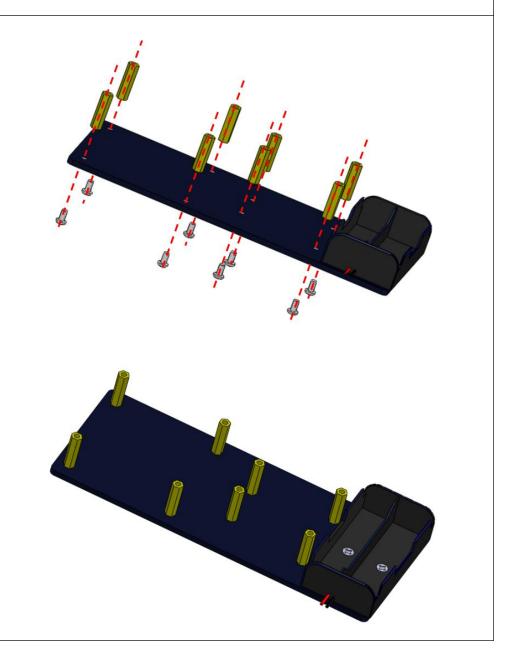
Step 2: Assembling the M3 \* 20MM hexagon copper pillar

Tool:

M3 * 20MM hexagon copper pillar	8	
M3 mm nut	8	
Step 1 structure	1	

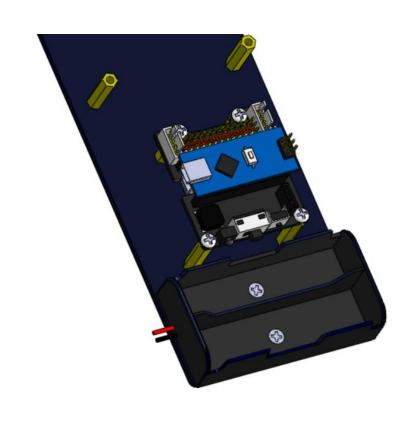
#### <u>Demo:</u>

Use M3 \* 6MM round head screws to install M3 \* 20MM hexagonal copper pillars on structural member A;



3: Assembling nano board a	nd nano shield	Tool:
d to prepare:		
M3*6mm round head screw	4	TTTT
Nano board	1	
Nano shield	1	
Step 2 structure	1	

Use M3 \* 6MM round head screws to fix NANO and NANO expansion board on structure A;

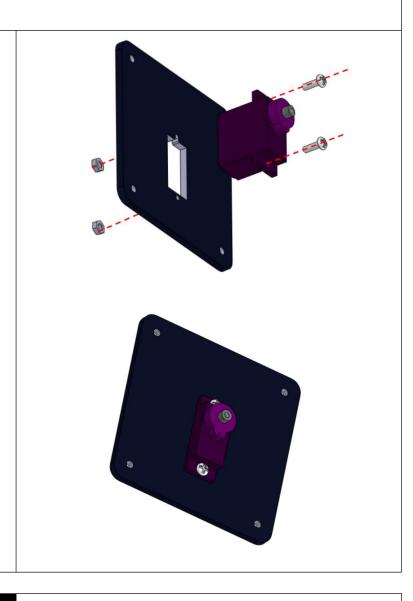


Step 4: Assembling the MG90 servo		
	Step 4:	Assembling the MG90 servo

Tool:

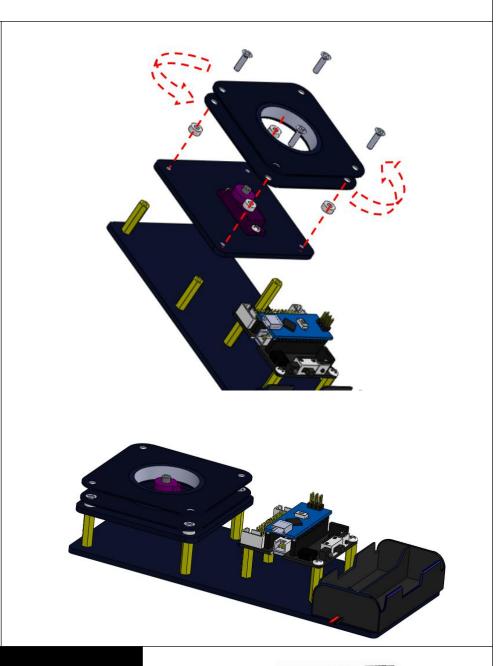
Structure B	1	
MG90 servo	1	
M2 mm nut	2	
M2*8 round head screw	2	<u> </u>

Use M2 \* 8MM round head screws and M2 nuts to install the MG90 servo on the structural member B;



Step 5: Assembling the turntable,	structure B,	Tool
structure A		Tool:
Need to prepare:		
Step 3 structure	1	
Step 4 structure	1	
turntable	1	
Φ 3*3mm nylon column	4	0 0
M3*12mm countersunk head screw	4	

Use M333 \* 12 countersunk head screws to fix the turntable, structure B, and nylon post on structure A;



#### Step 6: Assembling the MG90 servo cross

Tool:

Need to prepare:		
Structure C	1	
MG90 servo cross	1	
P1.2*4mm self-tapping screw	6	

Use M1.2 \* 4 self-tapping screws to fix MG90 servo cross on structural member C;

Pay attention to the installation direction of MG90 servo cross



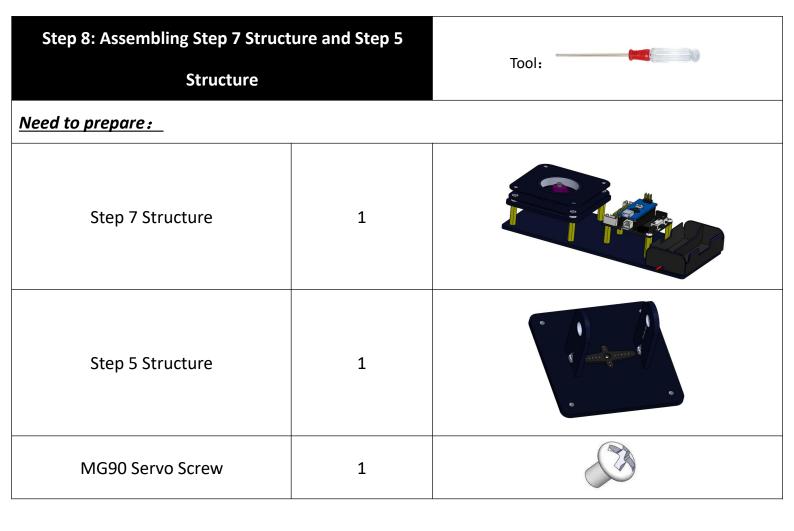


Step 7: Assembling Structure D, Structure E and Structure C

Tool:

Structure D	1	<b>+</b>
Structure E	1	-
Step 6 structure	1	
M3*10mm countersunk head screw	2	
P1.2*4mm self-tapping screw	3	<b>C</b>
M3 nut	2	
Servo arm	1	••••••

# Use M1.2 \* 4MM self-tapping screws to fix the servo arm on the structure D; Pay attention to the direction of servo arm Use M3 \* 10MM countersunk head screws and M3 nuts to fix structure D and structure E to structure C; Pay attention to the installation direction of structure D and E;



Use MG90 servo screw to install Step 7 Structure on the servo of Step 5 Structure;

#### note:

- 1. Pay attention to keep the structural parts B and C parallel;
- 2. Make sure the steering gear has been adjusted to the specified angle



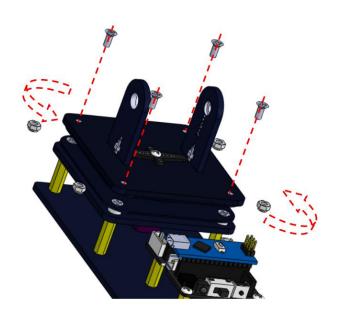
**Step 9: Assembling Structure C and turntable** 

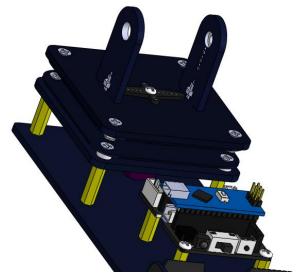
Tool:

Step 8 Structure	1	
M3 * 8 countersunk head screws	4	TTTT
M3 self-locking nut	4	

Use M3 \* 8 countersunk head screws and M3 self-locking nuts to fix structure C on the turntable;

The self-locking nut cannot be locked too tightly, as the turntable needs to rotate smoothly.





#### Step 10: Assembling Structure F and SG92 Servo

Tool:

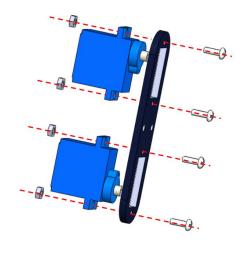
#### Need to prepare:

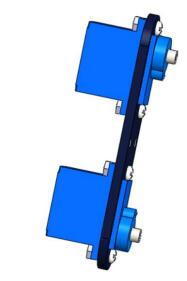
Structure F	1	
M2*8mm round head screw	4	THORAGORAGE.
M2 nut	4	

#### Demo:

Use M2 \* 8MM round head screws and M2 nuts to install the servo on the structural part F;

Note the install direction of the servo;





Ste	p 11: Assem	bling Struct	ure G and Structi	ıre H

	A C
Tool:	5)

Need to prepare:			
Structure G	1		
Structure H	1		
Step 9 Structure	1	FIG.	
φ3*8*4 flange bearing F693ZZ	2		
M3 mm self-locking screw	2		
M3*10mm round head screw	2	-	

#### <u>Demo:</u>

Use M3 \* 10MM round head screws and M3 self-locking nuts to fix structure G, structure H and bearing;
Pay attention to the installation order of structure G, structure H, and bearings;



#### **Step 12: Assembling** Step 11 Structure **and** Step 10

#### Structure

Tool:

Step 11 Structure	1	
Step 10 Structure	1	
SG90 servo screw	1	

#### <u>Demo:</u>

Keep structure D and structure F parallel, shown by the red dotted line;



#### Step 13: Assembling M3\*30MM aluminium column

Tool:



Step 12 Structure	1	
M3*30MM aluminium column	2	
M3*6mm round head screw	4	£

Use M3 \* 6 round head screws to install the M3\*30MM aluminium column on the step 12 Structure;





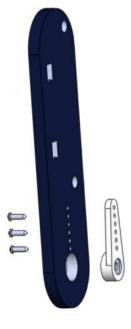
#### Step 14: Assembling Structure I and servo arm

Tool:



Structure I	1	
P1.2*4mm self-tapping screw	3	•—• •—•
servo arm	1	(000000)

Use M1.2 \* 4 self-tapping screws to fix the servo arm on the structure I; Pay attention to the mounting direction of the servo arm





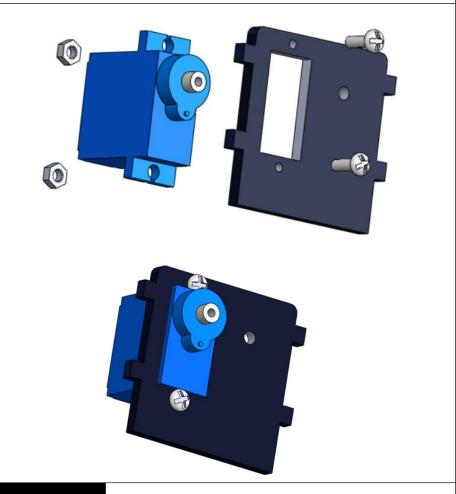
Cton 1E.	Accomblir	a Ctructu	ro Long	COMIC
Step 15:	Assemblir	ig Structu	ire Janic	i servo

Tool:

Structure J	1	
SG90 Servo	1	
M2*8mm round head screw	2	11 <del>0000000000</del>
M2 nut	2	

Use M2 \* 8MM round head screws and M2 nuts to install the servo on the structure J;

Pay attention to the installation direction of the servo;



Step 16: Assembling Step 13 Structure, Step 14

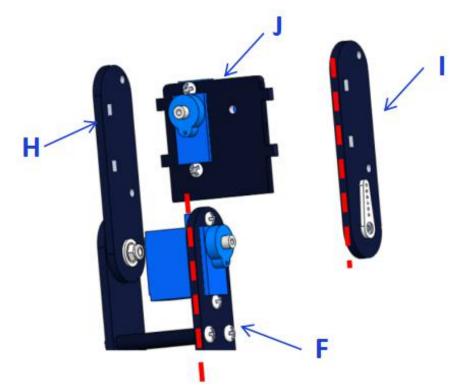
Structure and Step 15 Structure

Tool:

Need to prepare:		
Step 13 Structure	1	
Step 14 Structure	1	(SIRIN)
Step 15 Structure	1	
M3*37MM Aluminium column	2	
M3*6mm round head screw	4	Emme Emme
Servo screw	1	

Assemble the four parts together as shown on the right

- 1. Stuck structure J between structure H and structure I
- 2. Note that the steering shaft of structure F is connected to the steering arm of structure I



Assemble the four parts together as shown on the right

- 3. Stuck structure J between structure H and structure I
- 4. Note that the steering shaft of structure F is connected to the steering arm of structure I





#### Step 17: Assembling the left finger of the hand

Tool:

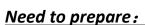
<u>Need to prepare:</u>		
Structure K	1	
Structure L	1	
Servo arm	1	000000
P1.2*4mm self-tapping screw	3	
M3*6 black nylon stud	2	
M3*6 black nylon screw	4	TTTT

Pay attention to the mounting direction of the servo arm;



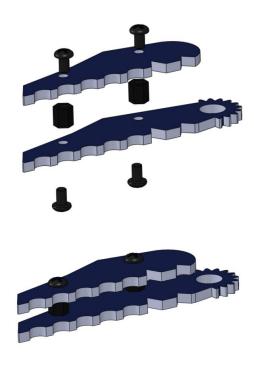
#### Step 18: Assembling right finger of the hand

Tool:



Structure M	1		
Structure L	1		
M3*6 black nylon stud	2		
M3*6 black nylon screw	4	TTTT	

Use nylon screws and nylon studs to fix the structure L on the structure M;



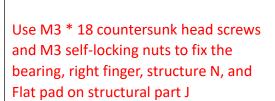
#### **Step 19: Assembling** Step 16 Structure and robot

finger

Tool:

receu to prepare.		
Step 16 Structure	1	
Left finger	1	
Right finger	1	The state of the s
Structure N	1	0
ф3*8*4 flange bearing F693ZZ	2	
M3 Flat pad	2	
M3*18mm countersunk head screw	1	
M3 mm self-locking screw	1	

Demo:	
Use servo screw to fix the left finger to the servo shaft	



#### Note:

- 1. Install in order;
- 2. Be careful not to damage the gear;





#### Step 20: Assembling the joystick controller

Tool:

Structure K	1	
Structure L	2	
M3*10mm round head screw	8	•
N3 nut	8	
ф 3*3mm nylon column	8	

rection

Pay attention to the mounting direction of the servo arm;

# Congratulations, a cool robot is done.



# Wiring diagram

