

Manipulator installation manual left hand

one. Parts list:

The first joint of the fingers 5 including the thumb 1

The second joint of the fingers 5 including the thumb 1

The third joint of the fingers 5 including the thumb 1

palm 1

Palm L connection piece 1

guard plate 1

front lever 5 including thumb 1

back lever 5 including thumb 1

Fixed bracket 5

Tie rod support 5 includes 1 counter support with thumb

Anti-burning servo 5

(Servo voltage **5 to 6 volts** Servo wire sequence: brown wire power negative, red wire power positive, orange wire control signal.

The steering gear control protocol is 1.0ms-2.0ms corresponding to the steering gear from 0 degrees to 180 degrees. If you write your own program,

The PWM range should be determined first to ensure that there is no overrun before connecting to the control servo, otherwise the overrun PWM

The wave will make the angle of the steering gear out of control, and can instantly crash the steering gear.)

| | |
|--------------|------------|
| winding tube | one period |
|--------------|------------|

| | |
|-------------|--------|
| M2*12 screw | 8 sets |
|-------------|--------|

| | |
|-------------|---------|
| M2*10 screw | 20 sets |
|-------------|---------|

| | |
|------------|---|
| M2*6 screw | 6 |
|------------|---|

| | |
|-------------|----|
| M3*14 screw | 16 |
|-------------|----|

| | |
|----------------------------|----|
| 5mm diameter brass bearing | 16 |
|----------------------------|----|

| | |
|--------|-----------|
| M3 pad | 20 pieces |
|--------|-----------|

| | |
|------------------|----|
| M3 anti-skid nut | 18 |
|------------------|----|

15 Phillips countersunk head M2*10 screws

| | |
|--------|-----------|
| M2 pad | 25 pieces |
|--------|-----------|

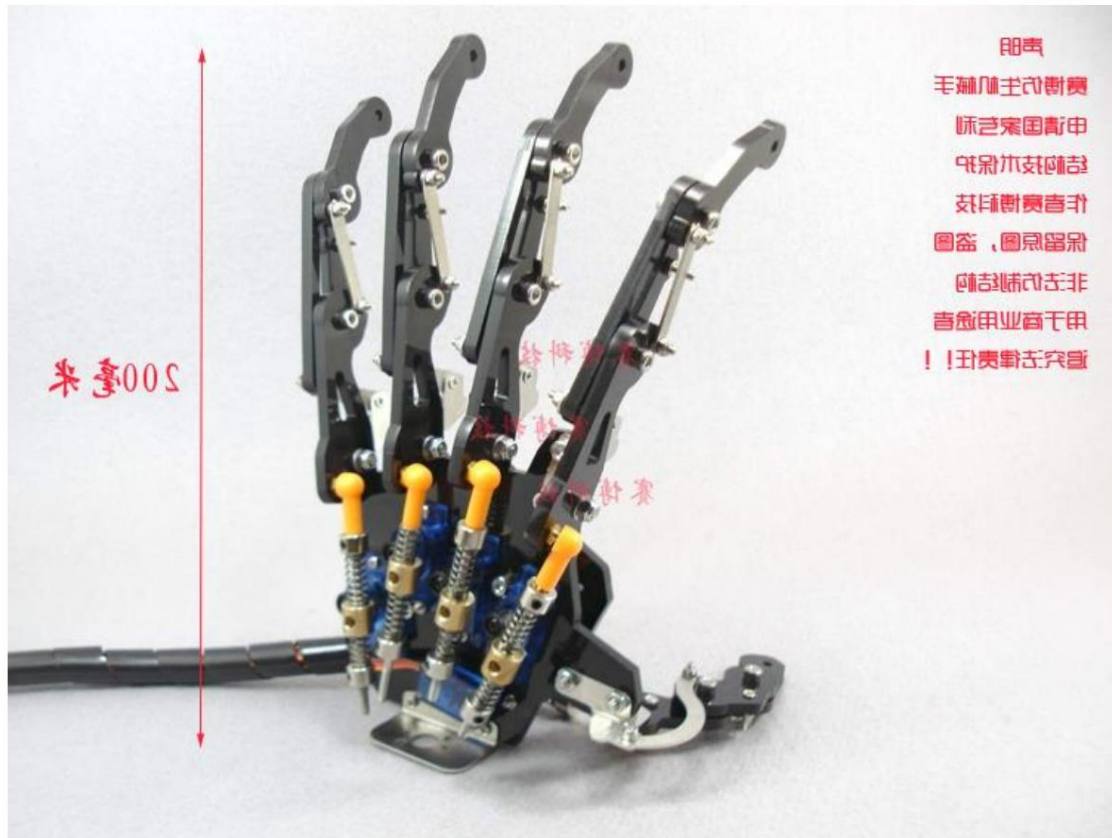
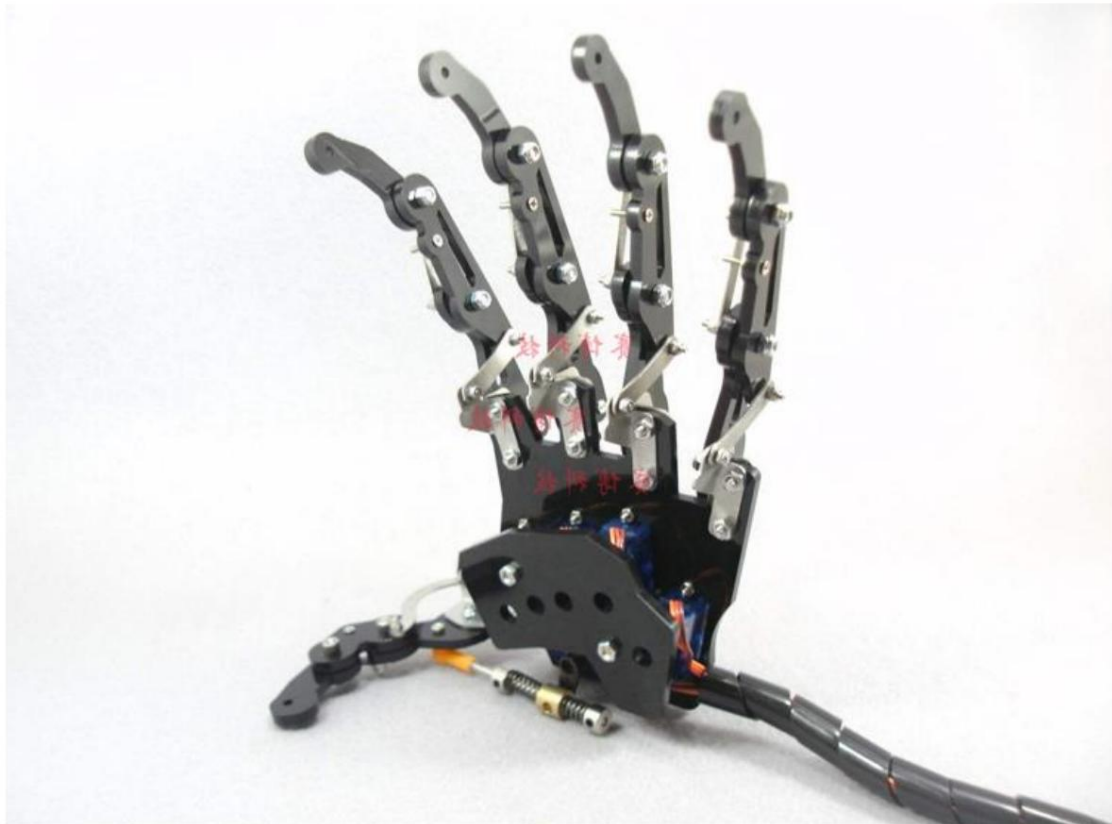
| | |
|------------------|-----------|
| M2 anti-skid nut | 20 pieces |
|------------------|-----------|

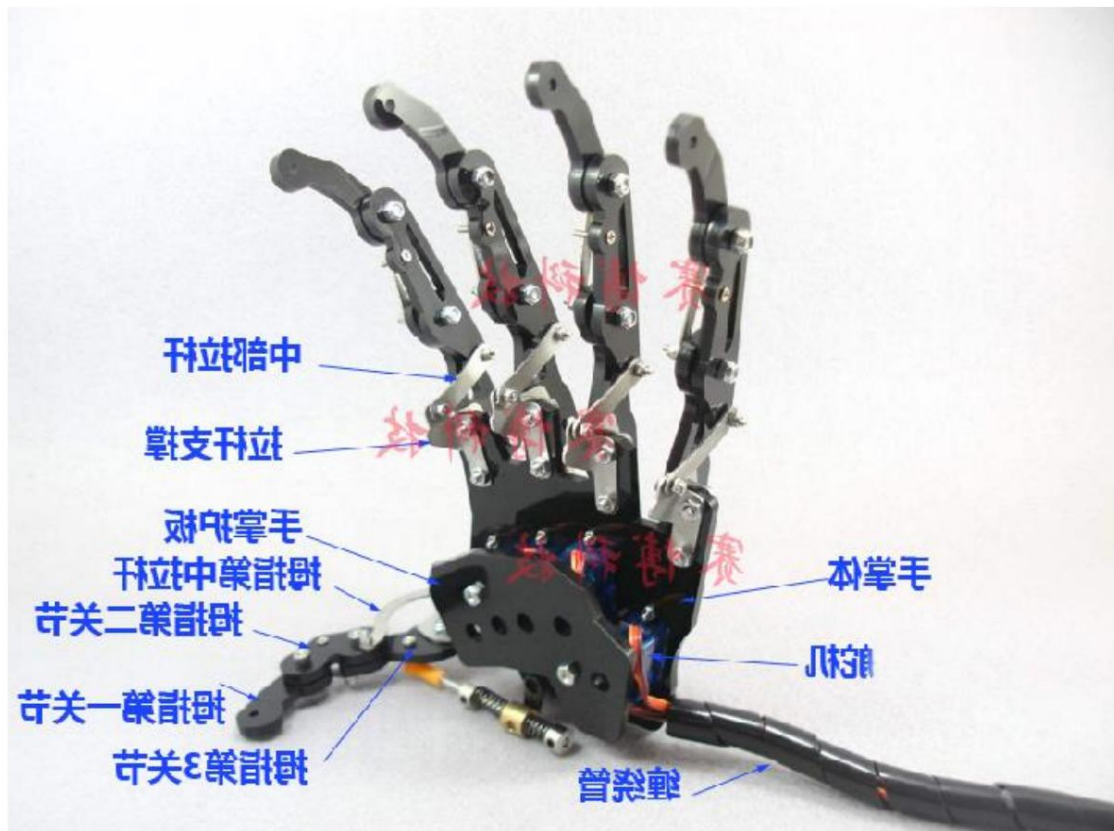
| | |
|---------------------------------|----------|
| M3*15 double-pass copper column | 2 pieces |
|---------------------------------|----------|

| | |
|-------------|---------|
| M3*10 screw | 15 sets |
|-------------|---------|

| | |
|--------------------------|----|
| M3*9 | 6 |
| Fixed sleeve | 10 |
| long spring | 5 |
| short spring | 5 |
| Brass sliding sleeve | 5 |
| M2*6 Self-tapping screws | 6 |
| Swing arm | 5 |
| M2*4 screw | 6 |
| tie rod | 5 |
| spherical piece | 5 |
| 1.5 Allen wrench | 1 |

two. Finished picture:





3. Installation steps:

Note: The spring washer is used for tightening the screw in the fastening part, and the flat washer is used for the rotatable joint part.



1. The second joint part of the index finger, middle finger, ring finger and little finger,

The screw on the right is a 2*12 countersunk head. Pass through from bottom to top, use spring lock washer, add M2

Nut fixed.

The middle screw goes through from top to bottom, the order of parts is M2*10 Phillips countersunk head screw, the second level

Section fittings, M2 flat washer, rear tie rod, M2 anti-skid nut. The installation requirement is to press to two

Pieces can rotate freely.

The screw installation on the left side is M2*6 screw, M2 flat pad, tie rod support, rear

Tie rod, M2 flat washer, M2 non-slip nut. The installation requirement is to press the two accessories to be able to rotate freely

move.



2. The second joint part of the thumb,

The screw on the right is a 2*12 countersunk head. Pass through from bottom to top, use spring lock washer, add M2

Nut fixed.

The left screw passes through from top to bottom, the order of the parts is: M2*10 Phillips countersunk head screw, thumb

Finger second joint accessories, M2 flat pad, rear pull rod, M2 non-slip cap.

The installation requirement is to press the two fittings so that they can rotate freely.



Installed neatly as shown in the figure.

3. Index finger, middle finger, ring finger, little finger, 1st joint part, 3rd joint part.



The order of the right screws from bottom to top is, M2*10 Phillips countersunk head screw, the first joint, M2 flat
Spacer, front tie rod, M2 anti-skid nut.

The order of the left screws from bottom to top is, M2*10 Phillips countersunk head screw, third joint, M2 flat

Spacer, front tie rod, M2 anti-skid nut. The installation requirement is to press the two accessories to be able to rotate freely
move.

4. Thumb 1st joint part, 3rd joint part.



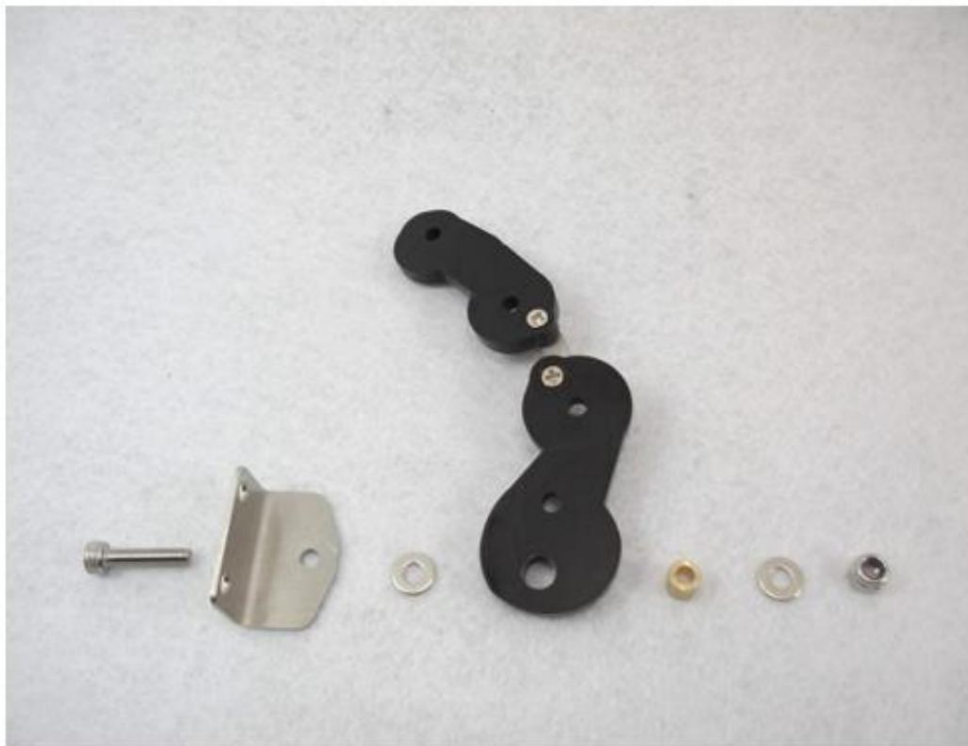
The order of the right screws from bottom to top is, M2*10 Phillips countersunk head screw, the first joint, M2 flat
Spacer, front tie rod, M2 anti-skid nut.

The left screws are in order from bottom to top, M2*10 Phillips countersunk head screw, third joint, M2 flat washer
sheet, front tie rod, M2 anti-skid nut. The installation requirement is to press the two fittings so that they can rotate freely.



Installed neatly as shown in the figure.

5. Install the thumb mount, paying attention to the viewing direction.

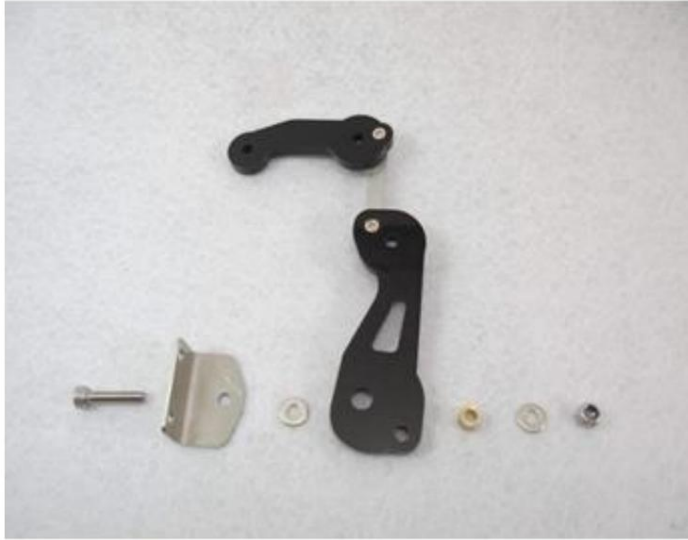


The first screw on the left is inserted from left to right. The order of the parts is: inner hexagonal M3*14 screw

Wire, Fixing Bracket, M3 Flat Pad, Thumb 3rd Joint, Brass Bearing, M3 Flat Pad, M3 Anti

slip cap. Installation requires tightening.

6. The index finger, the middle finger, the ring finger, and the little finger are installed with the fixed seat, and pay attention to the observation direction.



The first screw on the left is inserted from left to right. The order of the parts is: inner hexagonal M3*14 screw

Wire, Fixing Bracket, M3 Flat Pad, Finger Joint #3, Brass Bearing, M3 Flat Pad, M3 Anti

slip cap. Installation requires tightening.



Installed neatly as shown in the figure.

7. Install the fingers.





Installed together, the screws pass from bottom to top.

The order of the parts on the right is: M3*14 hexagon socket screw, third finger joint, M3 flat washer,

Brass bearing, second finger joint, M3 flat pad, M3 non-slip cap.

The order of the parts on the left is: M3*14 hexagon socket screw, finger joint 1, M3 flat washer,

Brass bearing, second finger joint, M3 flat pad, M3 non-slip cap.

Installation requires tightening.



The order of the parts on the right is: M3*14 hexagon socket screw, third finger joint, M3 flat washer,

Brass bearing, second finger joint, M3 flat pad, M3 non-slip cap.

The order of the parts on the left is: M3*14 hexagon socket screw, finger joint 1, M3 flat washer,

Brass bearing, second finger joint, M3 flat pad, M3 non-slip cap.

Installation requires tightening.



8. Incorporate mounting fingers

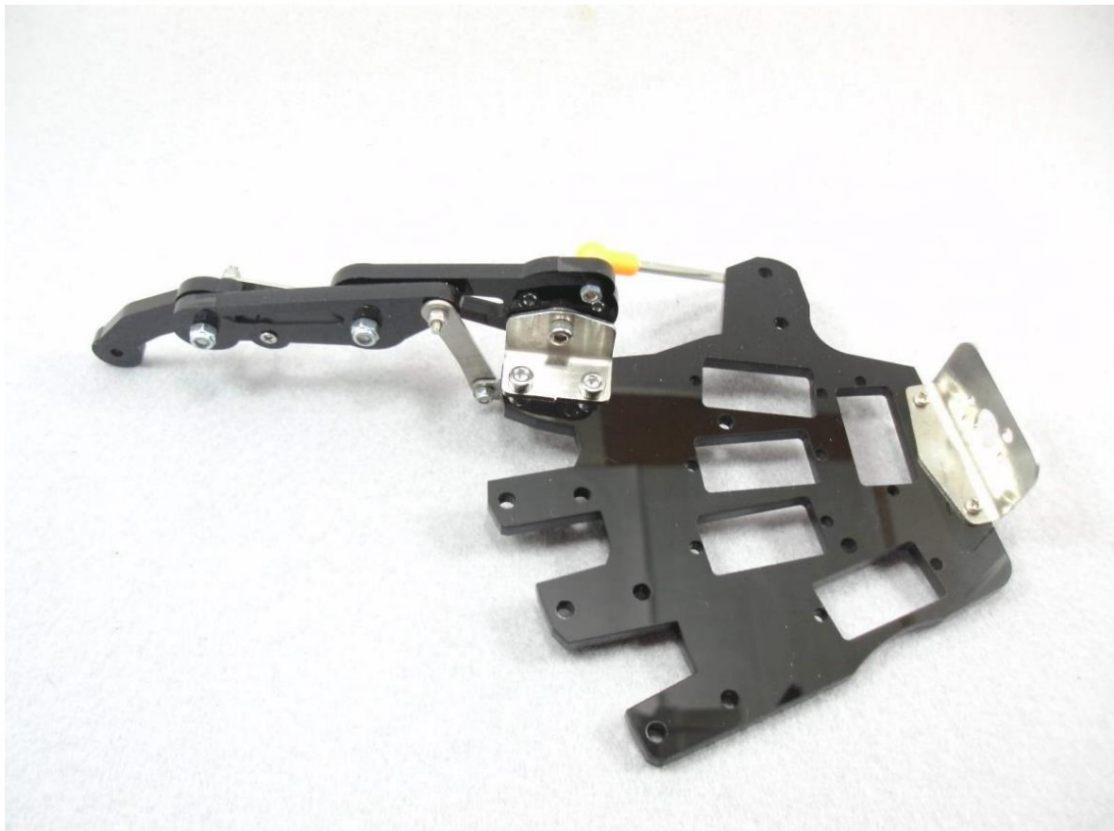
Combine the installed fingers and palms. Use M3*10 hexagon socket screw at the connection position with the palm

Silk. The order is, M3*10 hexagon socket screw, fixing bracket, palm, tie rod support, nut.

Tighten. Install the ball tie rod as shown below.

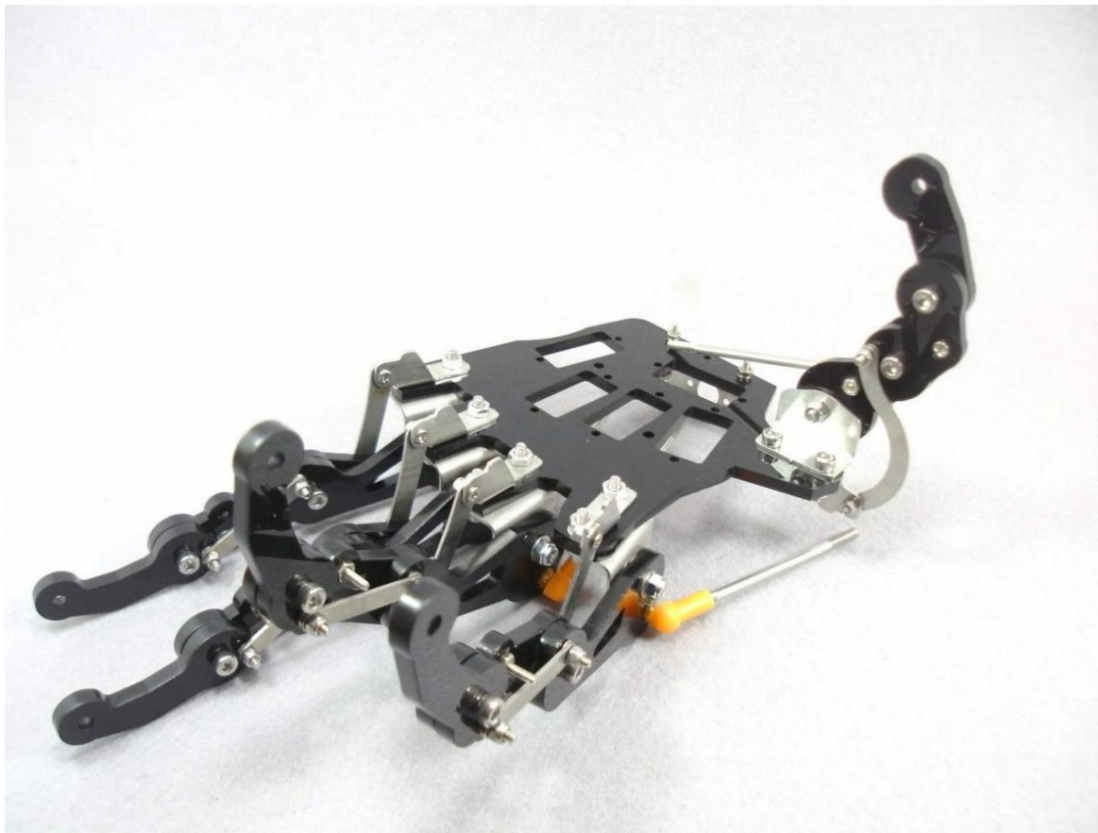
Note: The yellow joint pull rod screw is made of brass, which is relatively fine and easy to slip when screwing the screw.

You can first point 502 and then install, that is, point a little glue on the screw, and then pass through the small hole.





The installation of thumb is the same as above.



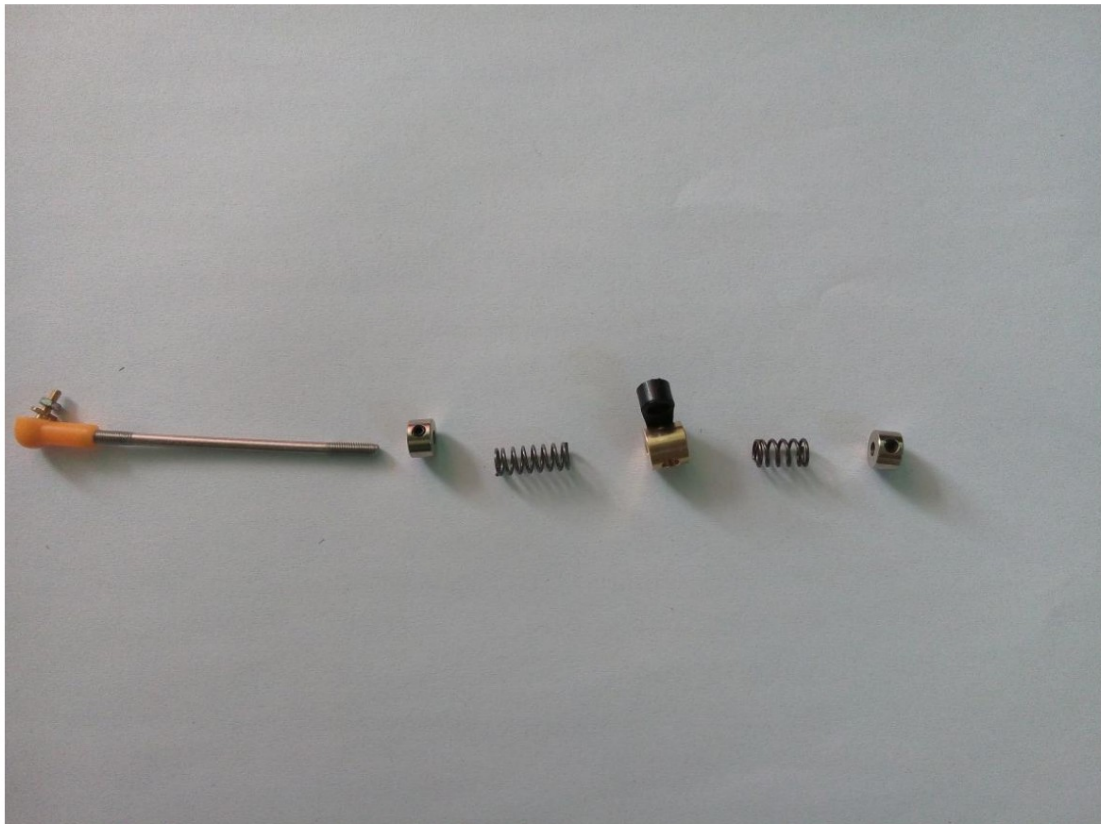
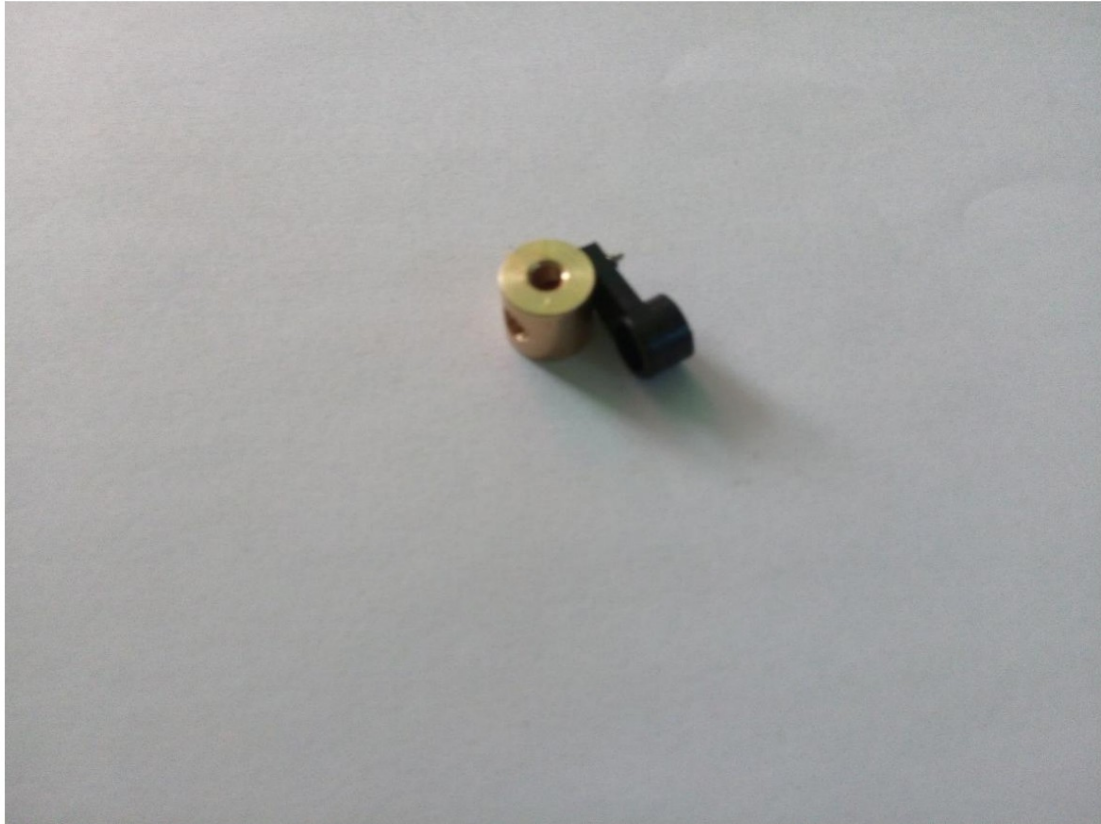


9. Put on the servo, use 2*10 screws to fix the servo, the position of the servo should be at 90 degrees.



10. Installation of joint sliding copper sleeve.

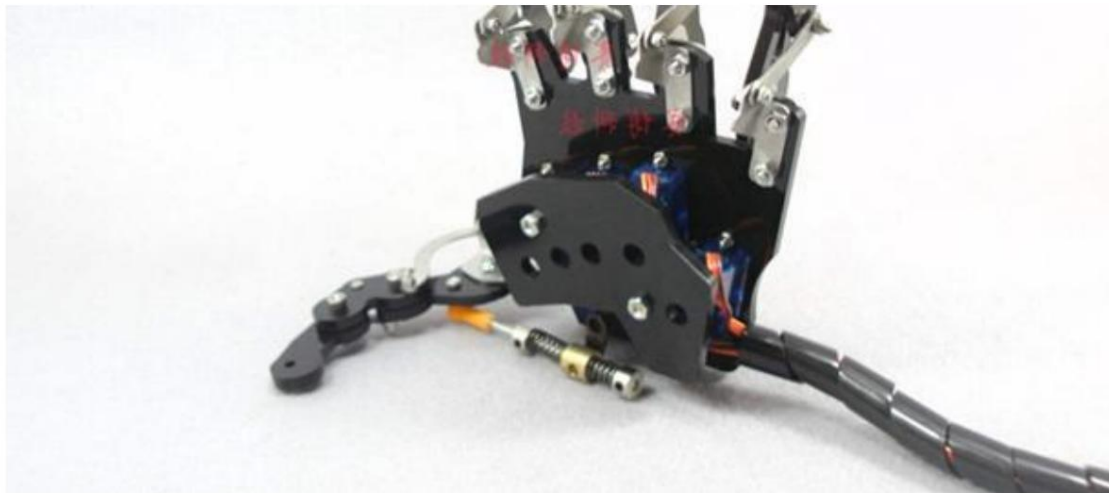






11. To install the palm guard, use 4 3*9 screws, M3*15 double-pass copper posts and 2 handle guards

Fixed on the palm.



12. Adjust the position of the joint fixation sleeve to adjust the initial position of the mechanical finger.



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