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Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

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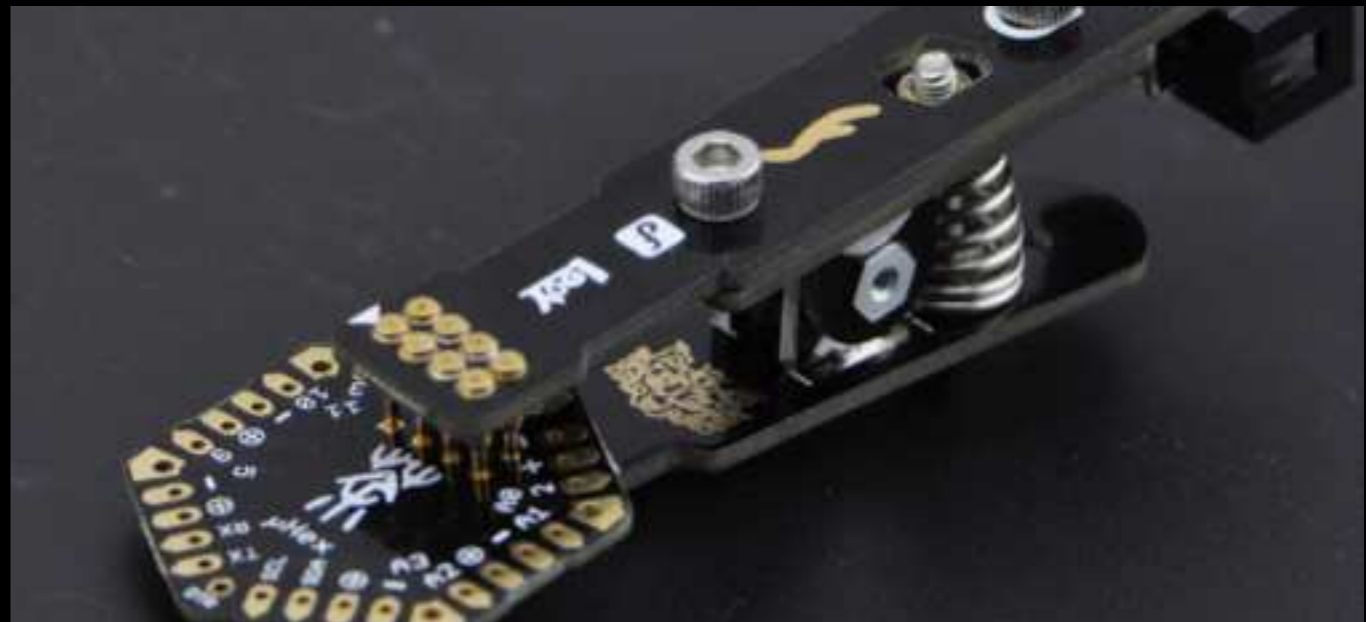
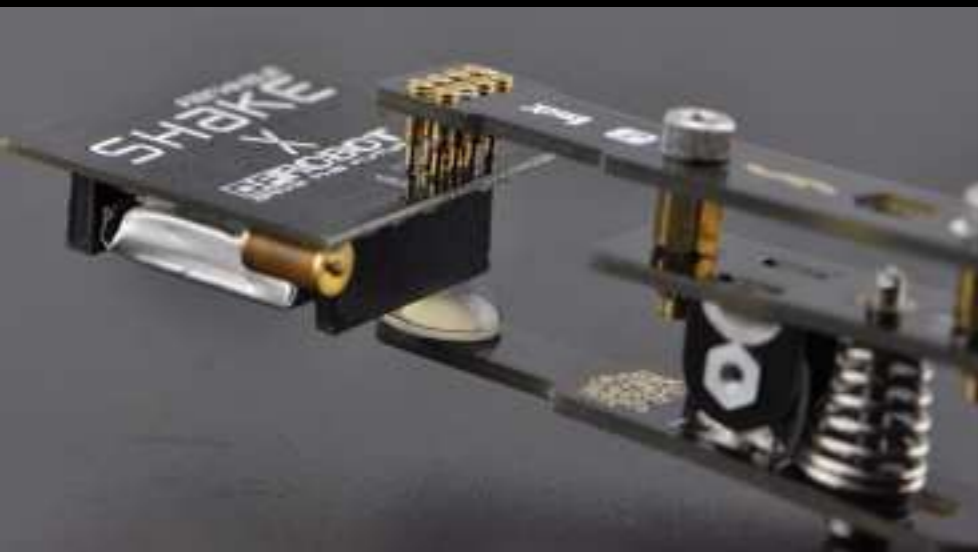
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



eClip Handbook

Leo Yan

2015-6
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- Introduction
- Make the Base
- Make the Function-Board
- Usage

eClip Introduction

eClip is an innovative programming/test tool, which can be used on small sized boards or products. With 2x4 pogo-pins function-board, it is easy to be used for Arduino/AVR MCU. This tool supports extension, you can designed dedicated function-board to meet your specific requirements.

It is a DIY kit, you can enjoy soldering and assembling.

Designed by LeoYan, Sold by DFRobot.

Features:





- 1、 The eclipse is made by two part: the Base and Function-board. You can design and use your own Function-Board.
- 2、 Support 2mm and 2.54mm programming interface (2x4) with golden pogo-pins, which could be applied to ICSP and FTDI.
- 3、 Adjustable clamping range and force.
- 4、 Based on PCB material, easy to DIY.



KIT List - Base

Part	Quantity	Sketch
Base PCB Panel	1	 A photograph of a rectangular PCB panel with several components mounted on it, including a microcontroller, resistors, and a connector.
Cast Insert-M3x4	3	 A photograph showing three small, cylindrical metal cast inserts of different sizes and finishes.
Screw-M3x18	1	 A photograph of a single long, silver-colored metal screw with a hexagonal head.
Screw-M3x5	2	 A photograph of a single short, silver-colored metal screw with a hexagonal head.
Coil Spring	1	 A photograph of a single metal coil spring.
Adhesive Semisphere-Mat	1	 A photograph of a single, circular, yellowish adhesive mat.
Internal thread Stud-M2x10	1	 A photograph of a single, cylindrical metal stud with internal threads.
Screw-M2x5	1	 A photograph of a single, silver-colored metal screw with a hexagonal head.
Standoff-M3*6	4	 A photograph of a single, cylindrical metal standoff with a hexagonal head and a threaded end.

KIT List - Function-Board

Part	Quantity	Sketch
Function-Board PCB Panel	1	
Pogo-2x7.5	8	
Pogo-1.5x8.0	8	
DC3-8P-2.54	2	

Note: There are some spare parts in the KIT.

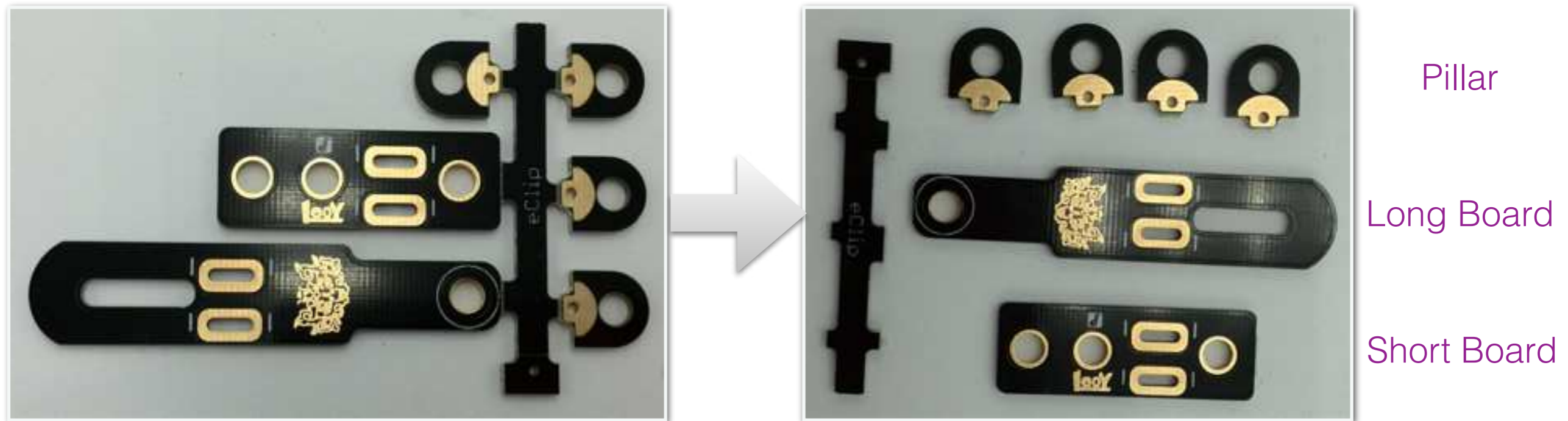
Preparing Tools

- Abrasive paper
- Small phillips screwdriver (M2 Screw)
- Soldering iron
- Soldering tin

- Introduction
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Make the Base

- Snap the base PCB panel apart



- Polish the edge of pillar



Make the Base

•Solder Pillar

- ① Plug the pillars into the mounting holes.
- ② Solder.

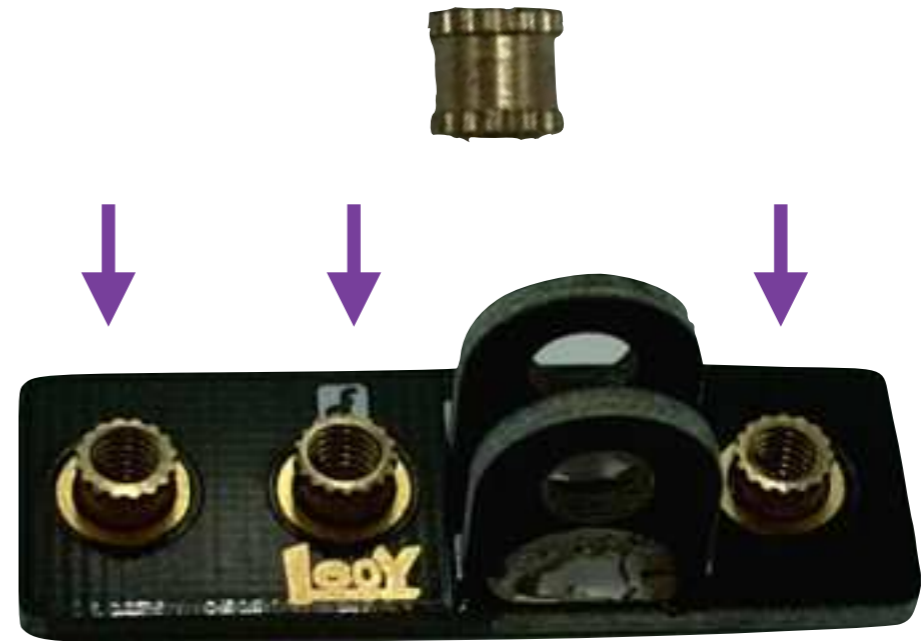


Make the Base

- Install cast insert

① Plug the cast insert into the mounting holes.

② Solder.



①

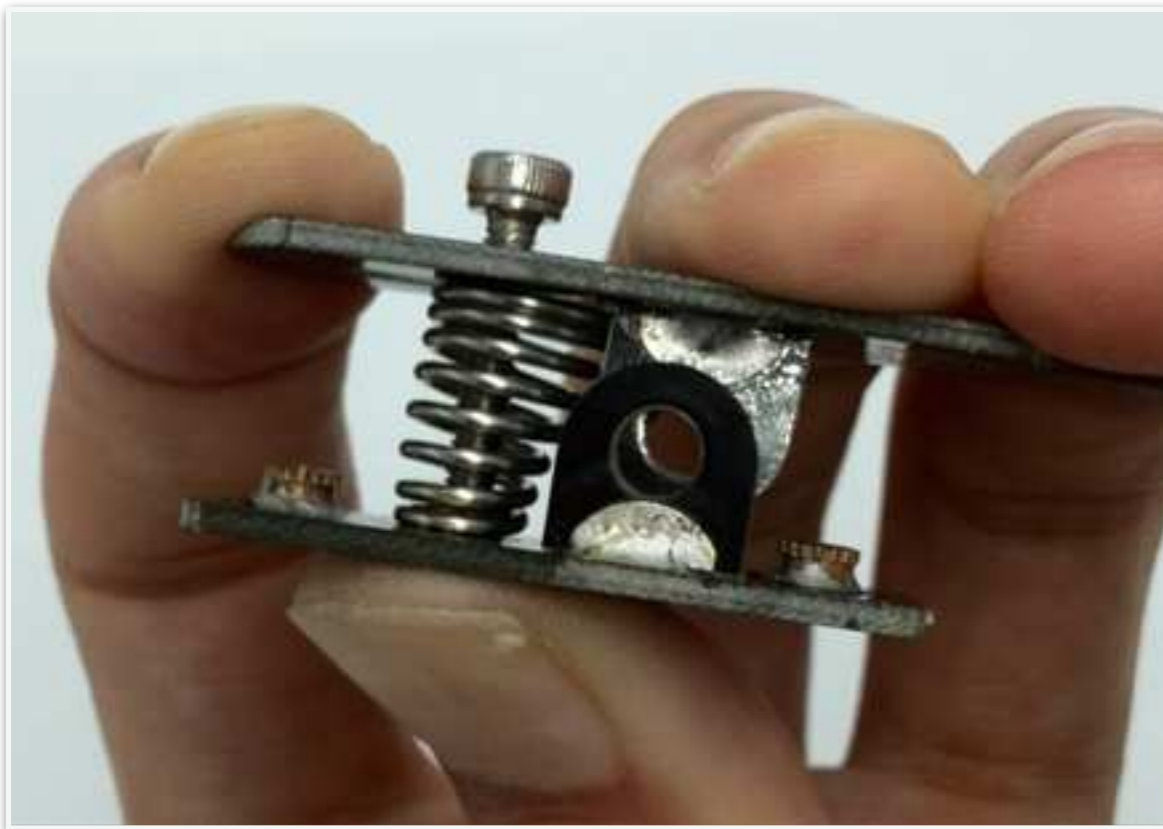


②

Make the Base

- Install coil spring

Follow the photos, install the spring between the long and short board by screw-M3x18.



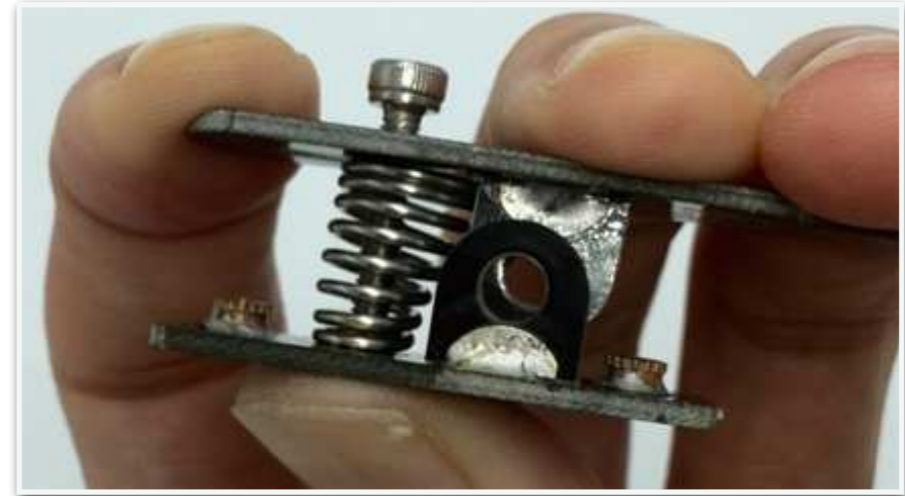
Make the Base

- **Install the shaft**

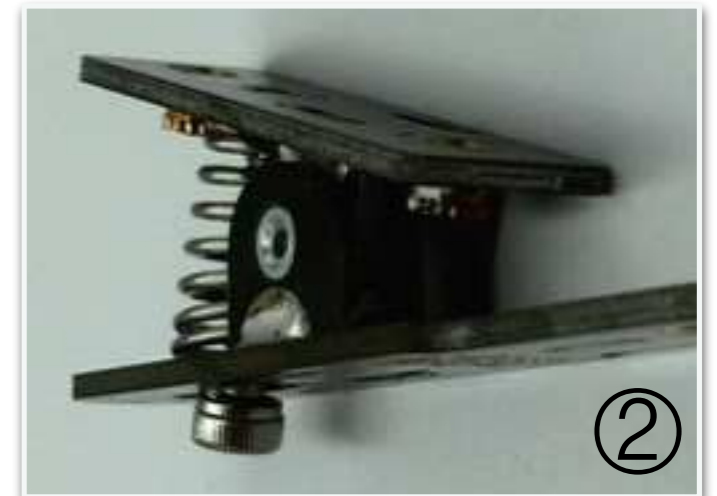
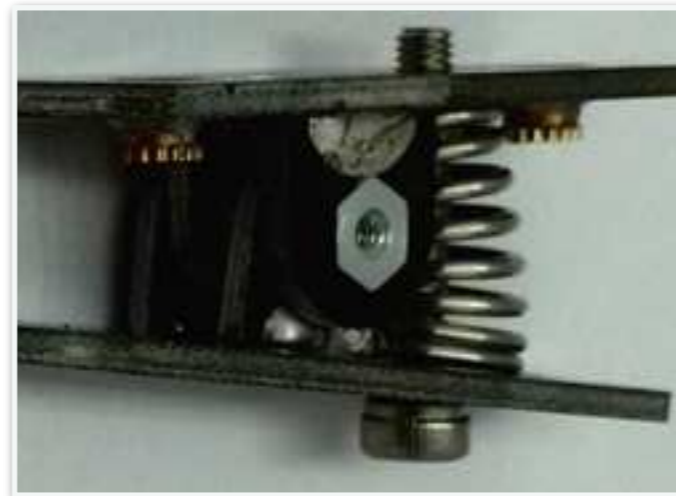
① Align the pillar's holes on long and short board.

② Leave internal thread stud-M2x10 inside holes.

③ Fix the stud with a Screw-M2x5.



①



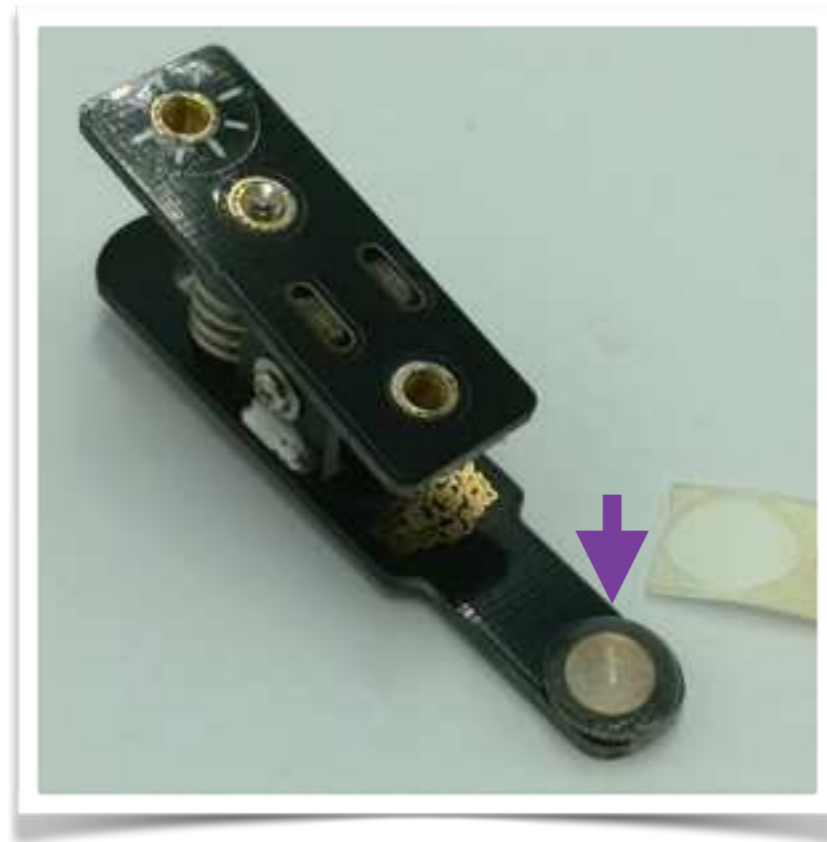
②



③

Make the Base

- Paste the adhesive semisphere-mat



Base Done. Congratulation!

- Introduction
- Make the Base
- Make the Function-Board
- Usage

Make Function-Board

- Snap the function-board PCB panel apart



2x4-2mm
Function-Board

2x4-2.54mm
Function-Board

Soldering
auxiliary
board

Make Function-Board 2.54mm

- **Solder the pogo-pin**

- ① Plug pogo-pins into pads.
- ② Turn over the board. (you can prevent the pogo-pins dropping down by using auxiliary board as a tray.)
- ③ Solder the pogo-pins. Please press firmly on the board to ensure the pogo-pins is vertical with the board.

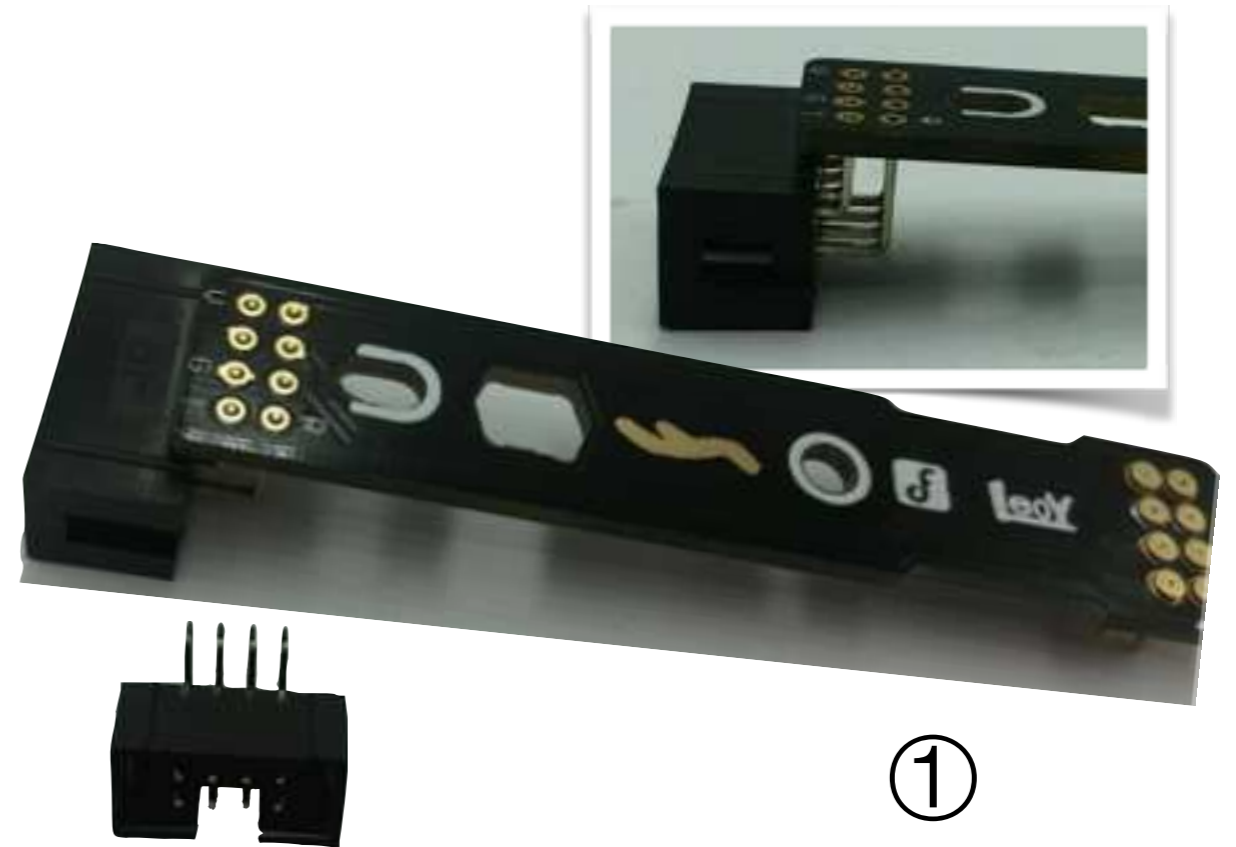


Make Function-Board 2.54mm

- Solder the DC3 socket

① Plug the socket on the back of the board and keep the pin slightly higher than the board to avoid prick the hand when using.

② Solder the pins.



Make Function-Board 2mm

- **Solder the pogo-pin**

① Plug pogo-pins into pads.

② Push pogo-pins into the holes (marked by 'B') in the auxiliary board to ensure the pogo-pins is vertical with the function-board.

③ Turn over the board.

④ Solder the pins.



Make Function-Board 2mm

- Solder the DC3 socket

Same to the 2.54mm function-board.

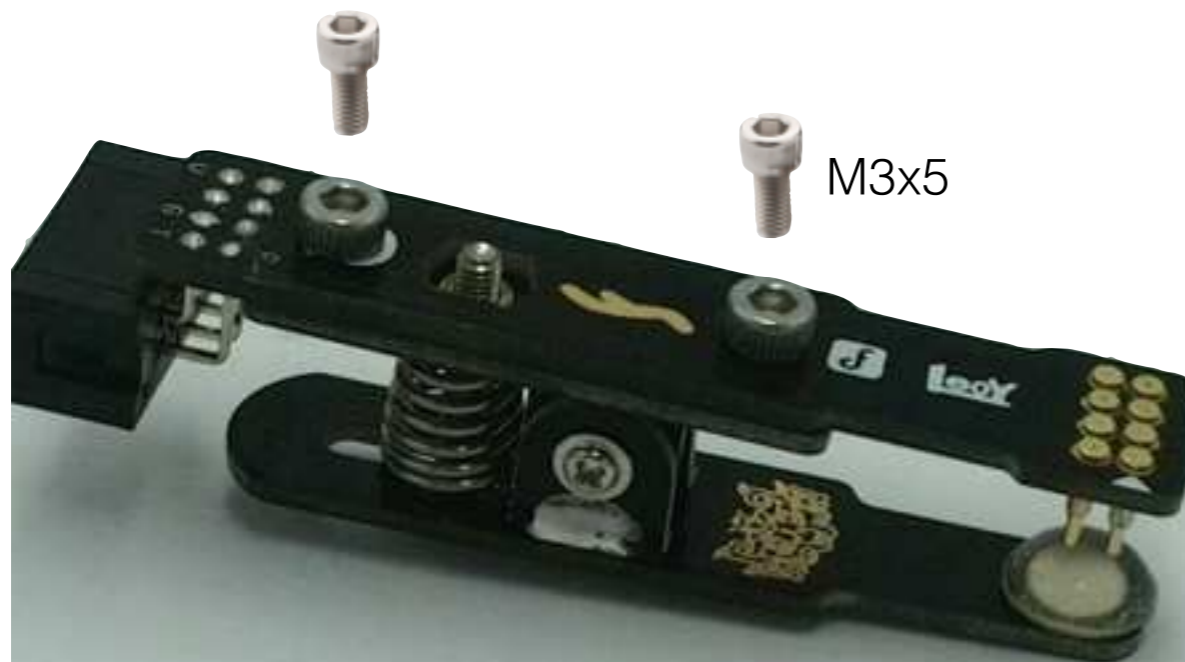


Function-Board done. Congratulation!

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Usage

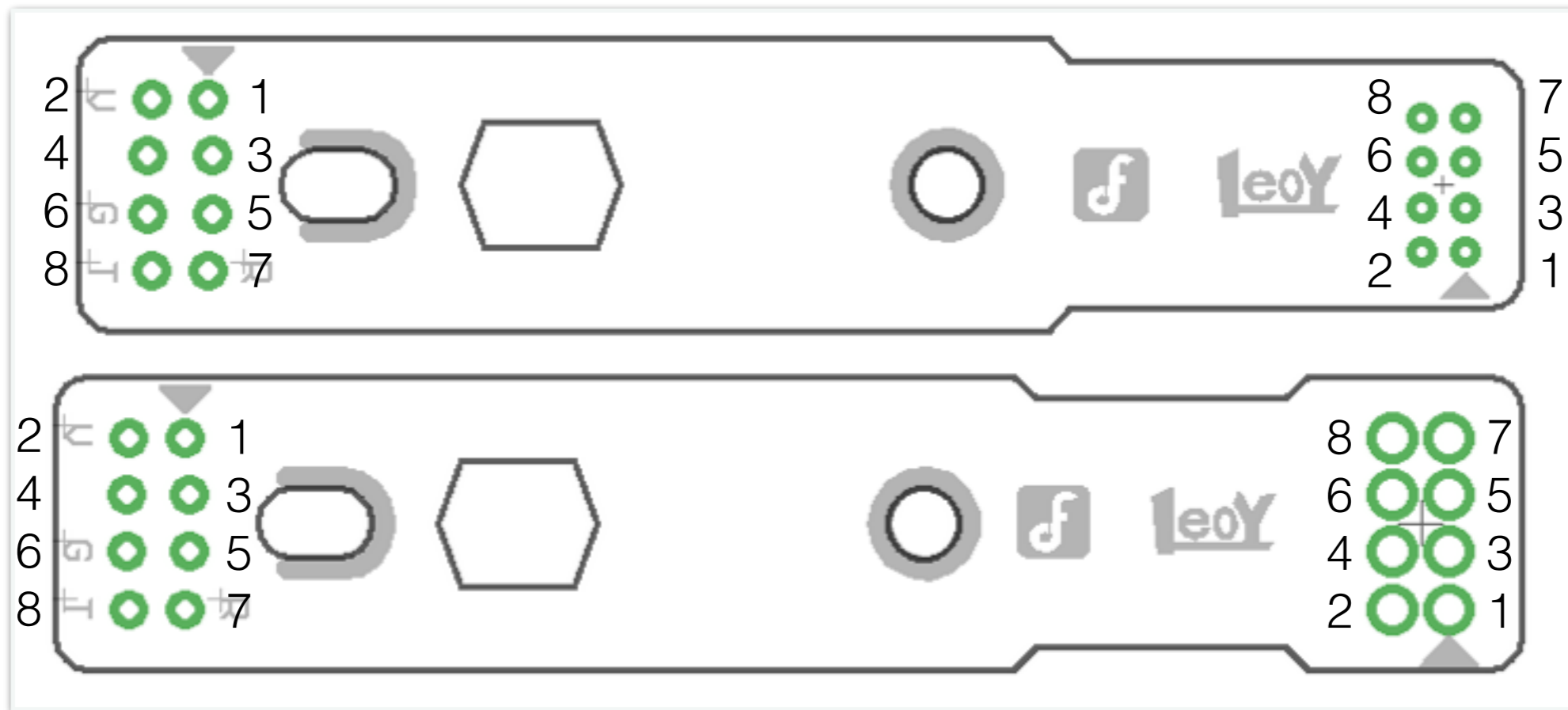
- **Fix the function-board on the base**
 - a. Select the appropriate function-board.
 - b. You could replace the copper standoffs according to your target size.
 - c. Fix the function-board on the base with screw-M3x5.



Usage

- Connect the cable

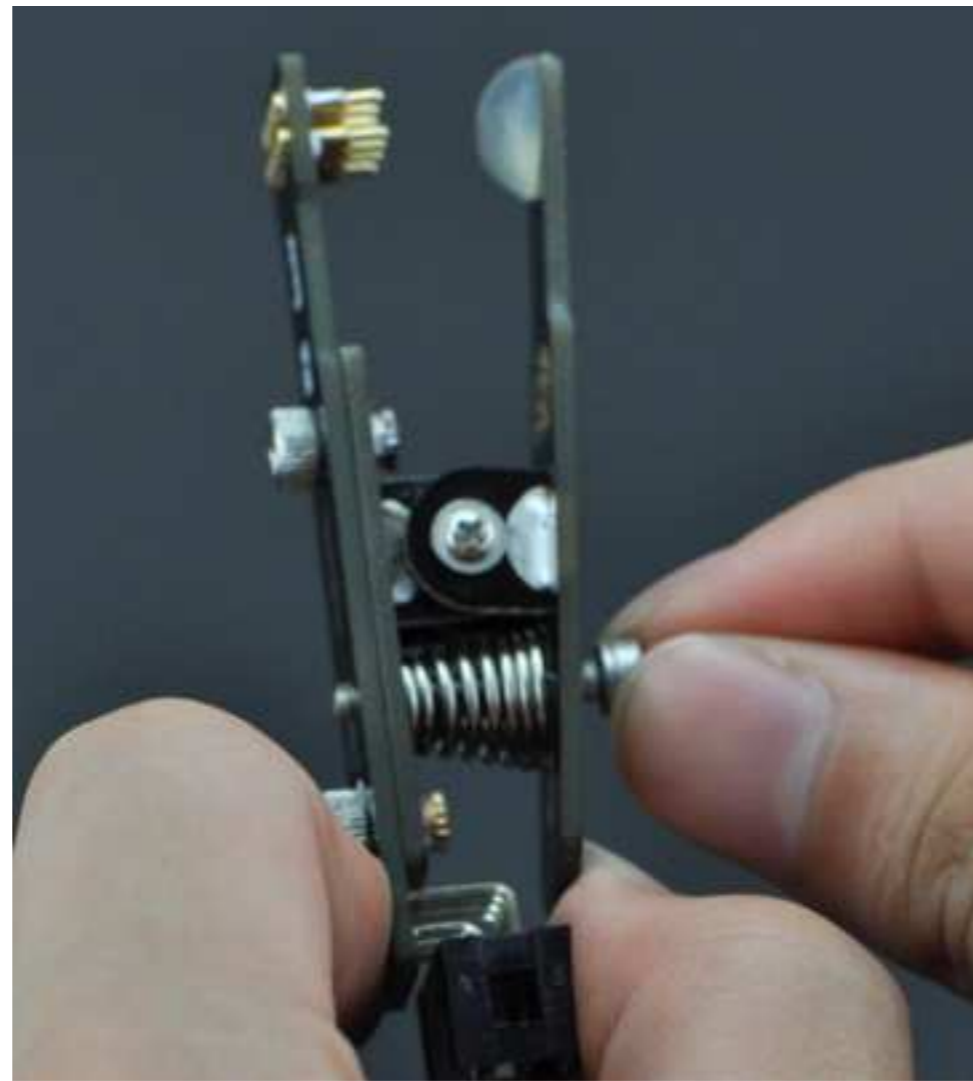
Pin Mapping:



Usage

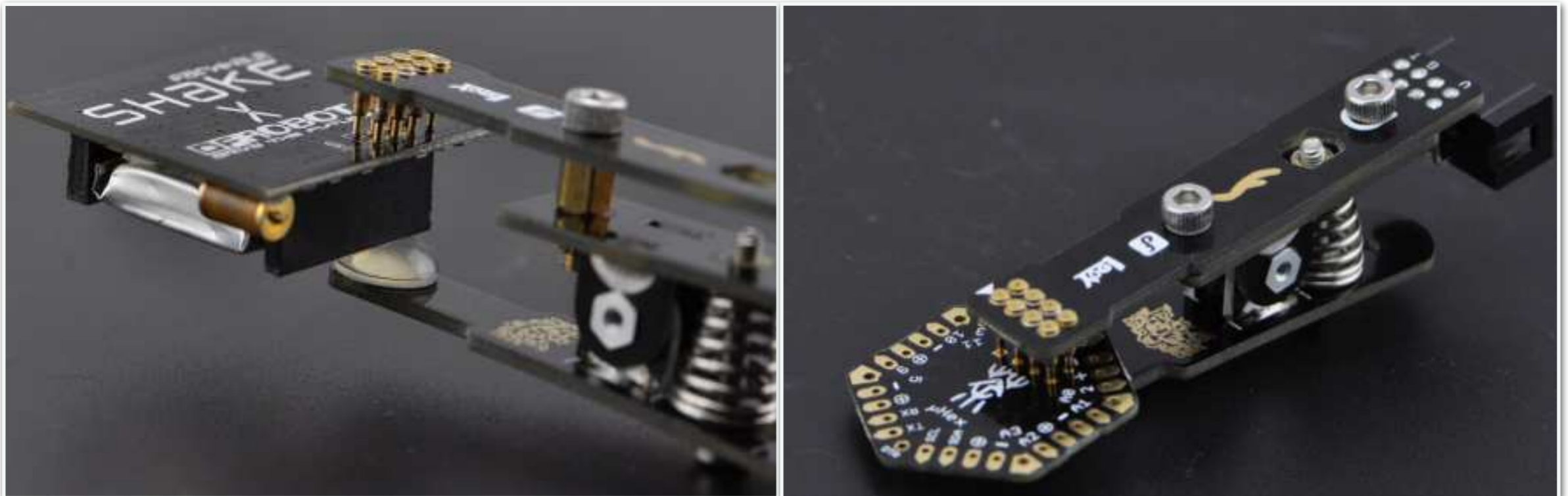
- Adjust clamping force of the eClip

Rotate the screw-M3x18 as follow:



Usage

- Grip the eClip on the module



Thanks