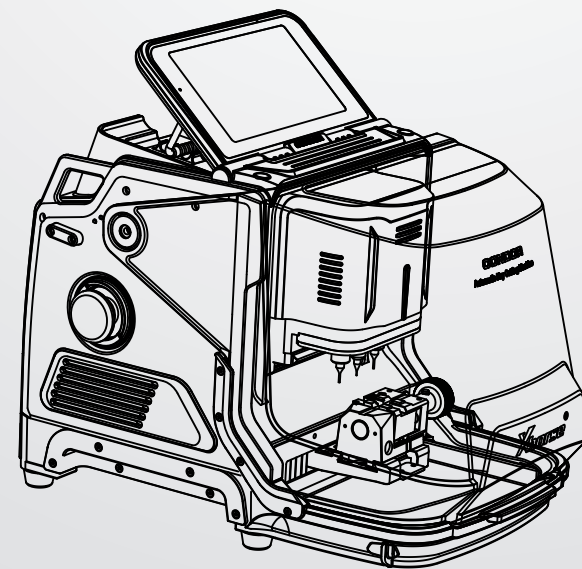


CONDOR

Automatic Key Cutting Machine
XC-TWINS

User Manual

V1.0





XC-TWINS
Automatic Key Cutting Machine

TABLE OF CONTENTS

1 Safety Precautions and Warnings	02
2 General Information	03
3 Product List	04
4 Overview	
4.1 Structure Diagram	06
4.2 Features	06
4.3 Specifications	07
5 Installation Instruction	
5.1 Probe/Cutter Installation	08
5.2 Probe/Cutter Removal	09
5.3 Clamp Installation	10
5.4 Clamp Diagram	11
5.5 MSL Clamp Instruction	12
6 Operation Instructions	
6.1 Activate the Machine	13
6.2 Online Upgrade	17
6.3 Machine Calibration and Detection	
6.3.1 Height Calibration of the Probe and Cutter	18
6.3.2 Cutting Calibration	20
6.3.3 Probe Cutter Continuity Detection	23
6.3.4 Motor Testing	26
6.3.5 Camera Calibration	27
6.4 Household Keys	
6.4.1 Household Key Duplication	34
6.4.2 Household Key Cutting	42
6.4.3 Household Key Customization	46
6.5 Automotive/Motorcycle Keys	
6.5.1 Automotive/Motorcycle Key Duplication	51
6.5.2 Automotive/Motorcycle Key Cutting	60
6.5.3 Automotive/Motorcycle Keys Customization	66
6.5.4 All Key Lost	71
6.5.5 Find Bitting	74
6.6 Special Function	
6.6.1 Key Blank Engraving	77
6.6.2 Manual Cutting	80
6.6.3 Key Blank Modification Function	81
6.6.4 Key Tail Modification Function	84
6.6.5 Acquire Key Image	86
7 Maintenance	90
8 Warranty and After-Sales Instructions	90

1 Safety Precautions and Warnings

To avoid personal injury or machine damage, please carefully read this user manual before operation and follow the safety precautions shown below.

- Always use the machine under safe environment.
- Wear safety goggles that are in line with ANSI standard.
- Put down the protective shield while the machine is in operation.
- Do not have clothes, hair, hands, or other tools close to the machine while it is running.
- Do not leave the machine unattended when it is working.
- Do not use damaged or loose power sockets.
- Do not place the machine in a place that is damp, greasy, or dusty.
- Do not place any tools or containers on the machine.
- Unplug the machine when it is not in use for a long time.
- Place the machine on a flat and firm surface.
- Keep the machine dry and clean.

Warning: In case of any abnormal situation, cut off the power supply immediately.

2 General Information

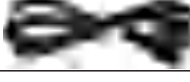
Dear customer, thank you for purchasing and using CONDOR XC-TWINS automatic key cutting machine. This product will improve your work efficiency and bring great convenience to your work. In order to avoid causing harm to users and property losses, this user manual contains important textual content such as the correct and safe usage methods. Please keep the user manual properly for future reference. This manual contains important precautions. Please read it carefully before use to ensure proper operation.

All rights reserved. Without permission, any part of this manual shall not be reproduced, stored, or transmitted in any form or by any means (including mechanical, electronic, photocopying, recording, or other means).

3 Product List

The following items are included in the packaging of the whole machine. If any item is missing, please contact your distributor.

Name	Illustration	Quantity	Description
Machine		1	Key cutting machine
1.0mm Milling Cutter		1	Cutting tool (Ø1.0xØ6x40L)
1.5mm Milling Cutter		1	Cutting tool (Ø1.5xØ6x40L)
2.5mm Milling Cutter		1	Cutting tool (Ø2.5xØ6x40L)
90° Dual-pin Dimple Cutter		1	Cutting tool (Ø6x40L)
95° Internal Dimple Cutter		1	Cutting tool (Ø6x40L)
100° External Dimple Cutter		1	Cutting tool (Ø6x40L)
Probe		2	Probing tool (Ø 0.5× Ø 5×40L)
2mm Hexagon Bar Wrench		1	Changing probes and cutters, keys fixation
1.5m Power Cord of China Standard		1	Connect to power

Name	Illustration	Quantity	Description
1.5m Power Cord of UK Standard (Optional)		1	Connect to power
1.5m Power Cord of US Standard (Optional)		1	Connect to power
1.5m Power Cord of EU Standard (Optional)		1	Connect to power
Brush		1	Cleaning tool
Stopper		1	Key blank shoulder alignment
Camera Calibration Block		1	Calibrating the camera
M5L Clamp (Standard)		1	Clamp
M3 Clamp (Standard A/B)		1	Clamp for Ford FO21/ Citroen Sx9
M6 Clamp (Standard Configuration)		1	Household clamp
M4 Clamp (Optional Configuration)		1	Household clamp
Product Quality Certificate		1	Factory inspection report and packing list
User Manual		1	Machine assembly /adjustment/operation instruction

4 Overview

4.1 Structure diagram



4.2 Features

CONDOR XC-TWINS is a new-generation portable automatic key cutting machine. This machine has the following features:

- 1) Adopts pressure sensing technology and supports non-conductive material key such as plastic and aluminum key, avoiding probe breaking and ensuring greater safety.
- 2) Brand-new double cutter design. All-aluminum body. Supports key cutting without frequent cutter changes, saving both time and effort.
- 3) Adopts Android system, equipped with an 8-core CPU. Supports Bluetooth and WiFi, OTA upgrades, and Bluetooth connection with APP.
- 4) 7-inch touch screen design for easier operation and clearer display. Adjustable screen angle for various scenarios.
- 5) Built-in database of automotive keys, motorcycle keys, and household keys. Supports different specifications of keys, such as external, internal, double/single row smiley dimple type, etc. (refer to Chapter 5.4) Note 1.
- 6) Supports multiple languages.
- 7) Supports key blank engraving function.
- 8) Equipped with Advanced AI camera, which can automatically identify various key types.

Note: For the household version, the automotive key database can only be supported after the relevant permissions are activated.

*Supports M5L Clamp (Standard), M6 Clamp (Standard), M3 Clamp (Standard), and M4 Clamp (Optional).

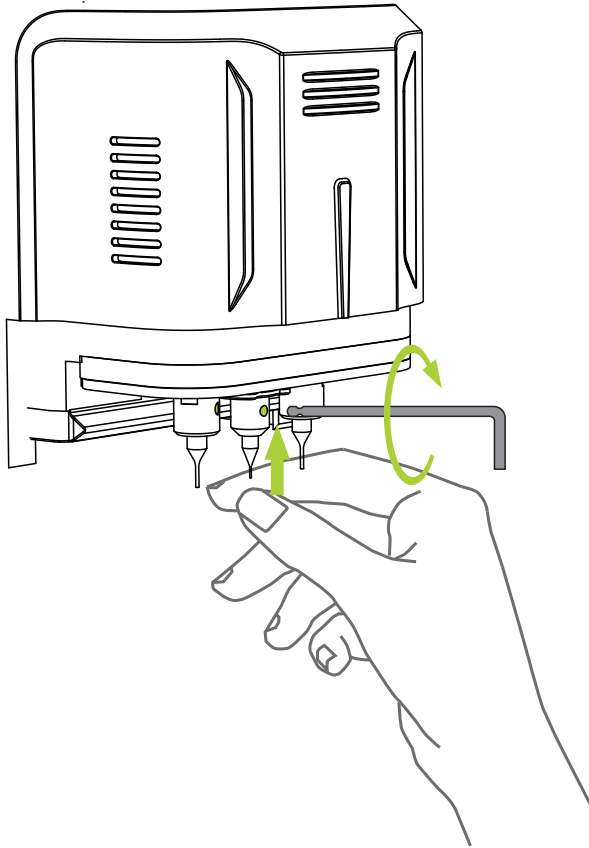
4.3 Specifications

Input Voltage	100-240V AC/24V DC
Power	150W
Spindle Rotation Speed	9000rpm
Camera Resolution	640×480
LED Screen Resolution	1280×720
Operating Temperature	0~50°C
Humidity	10~90%
Net Weight	21Kg
Gross Weight	26Kg
Machine Dimensions	250×413×300mm
Packing Dimensions	515×480×380mm



5 Installation Instruction

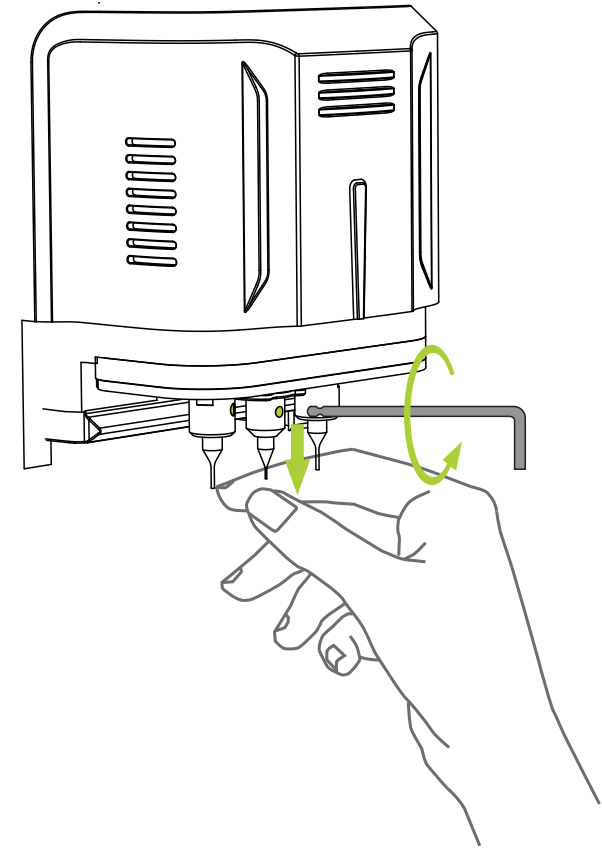
5.1 Probe/Cutter Installation



Installation Steps:

- 1) Insert the probe/cutter into the installation hole, and push it upward until it reaches the top limit.
- 2) Rotate the tightening wrench clockwise to secure the probe/cutter.

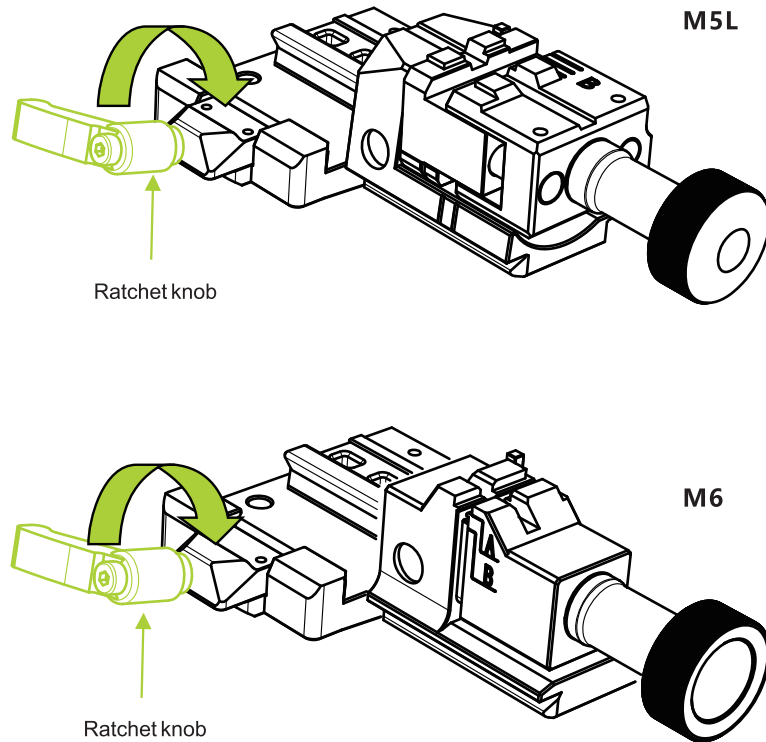
5.2 Probe/Cutter Removal



Removal Steps:

- 1) Slightly hold the probe/cutter and rotate the tightening wrench counterclockwise to loosen it.
- 2) Take the probe/cutter off when it is loose.

5.3 Clamp Installation



Installation Steps:

- 1) Rotate the ratchet knob counterclockwise to loosen the clamp base.
- 2) Push the clamp into the base from the right side until it reaches the limit position.
- 3) After the clamp is completely placed on the base, rotate the ratchet knob clockwise to tighten it.

5.4 Clamp Diagram



M5L Clamp

Support type
(as shown in the following figure)

Side A:

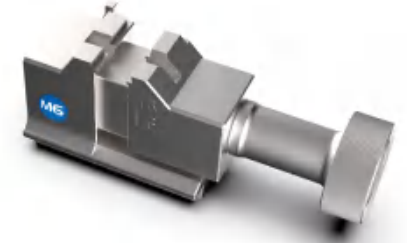


4 track external 2 track external

Side B:

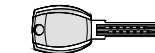


4 track internal Channel track

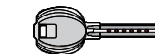


M6 Clamp

Support type
(as shown in the following figure)



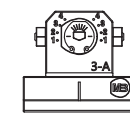
Double row smiley dimple type



Single row smiley dimple type



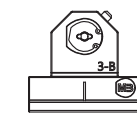
M3 Clamp



Supported types (eg. Fo21)



Mondeo Rod Clamp



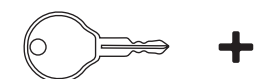
Supported types (eg. Sx9)



Citroen Cross Clamp

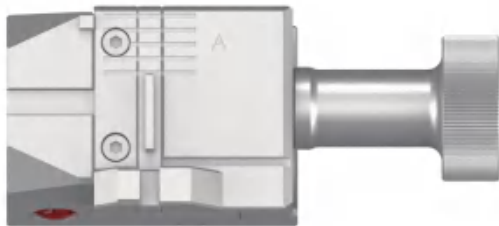
M4 Clamp

Support type
(as shown in the following figure)

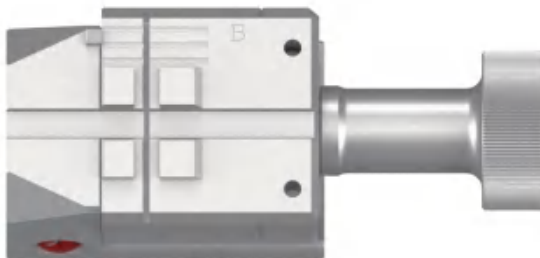


5.5 M5L Clamp Instruction

This machine features M5L Clamp, and users can choose either side A or side B of the clamp according to their needs. Instruction is as follows:



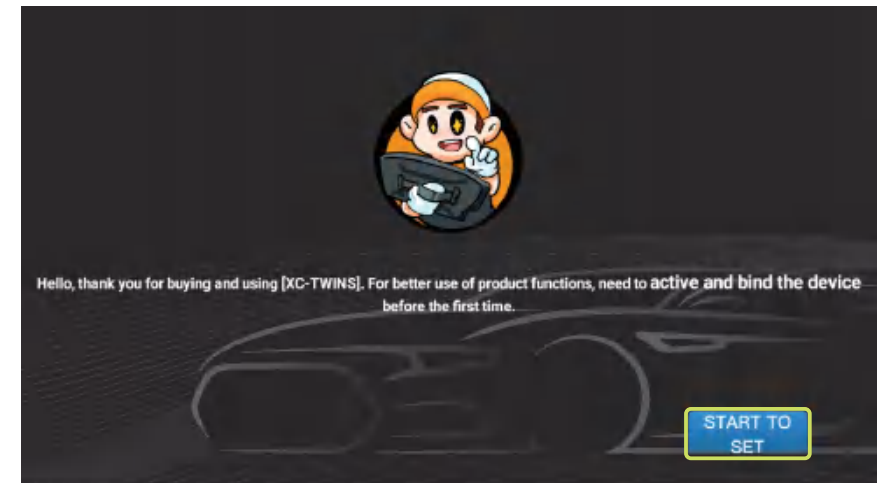
- 1) Loosen the key tightening knob counterclockwise to move the right sliding block of the clamp to the right limit position.



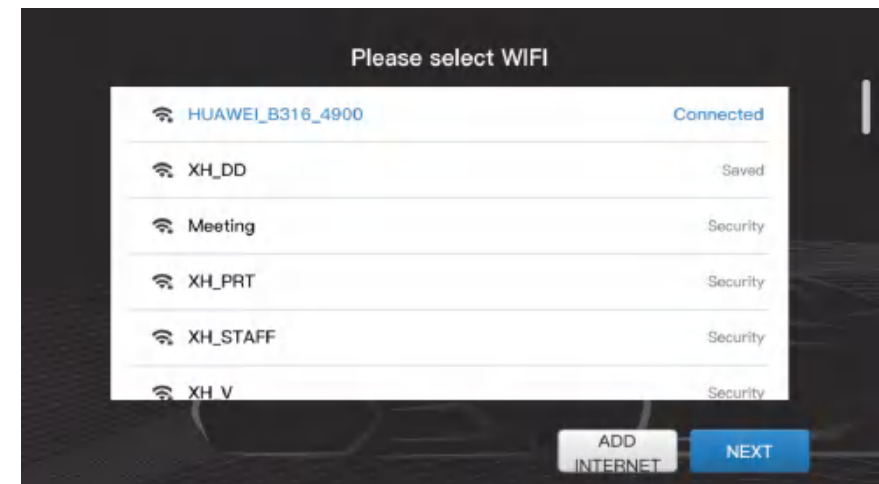
- 2) Flip the sliding block clockwise to turn the clamp from side A to side B, and then rotate the key tightening knob clockwise to lock the clamp.

6. Operation Instructions

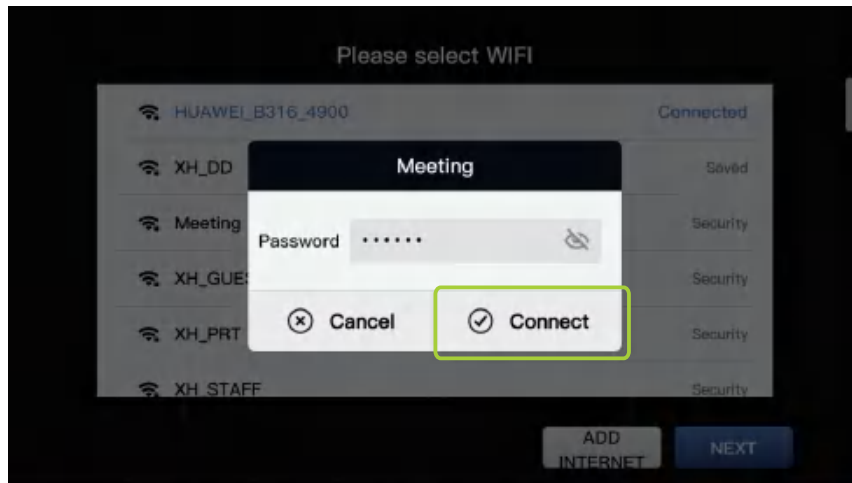
6.1 Activate the machine



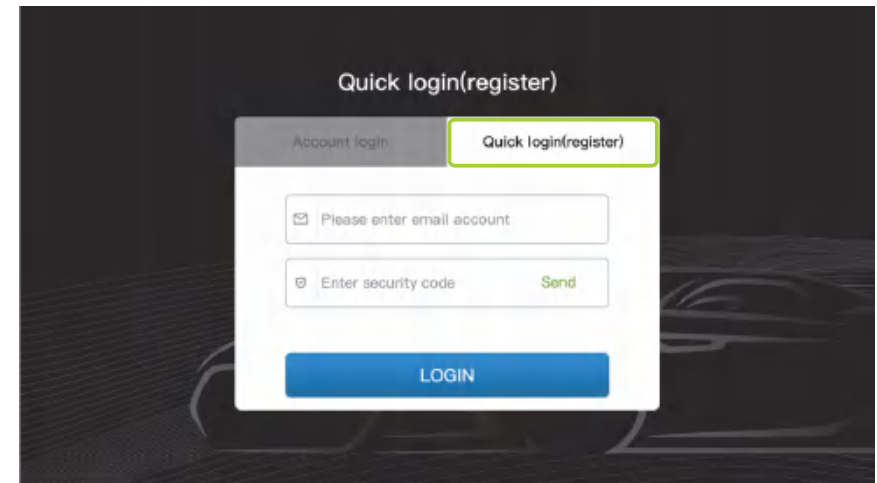
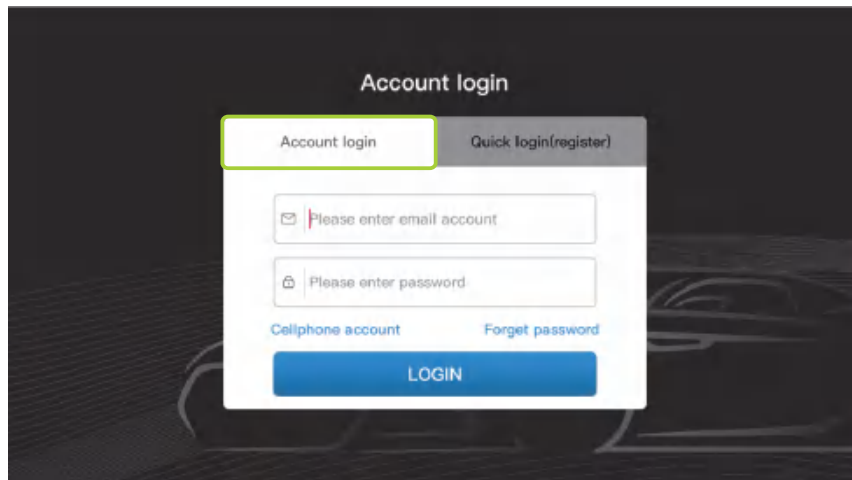
- 1) Plug in the power cord, power on the machine, and click on "START TO SET".



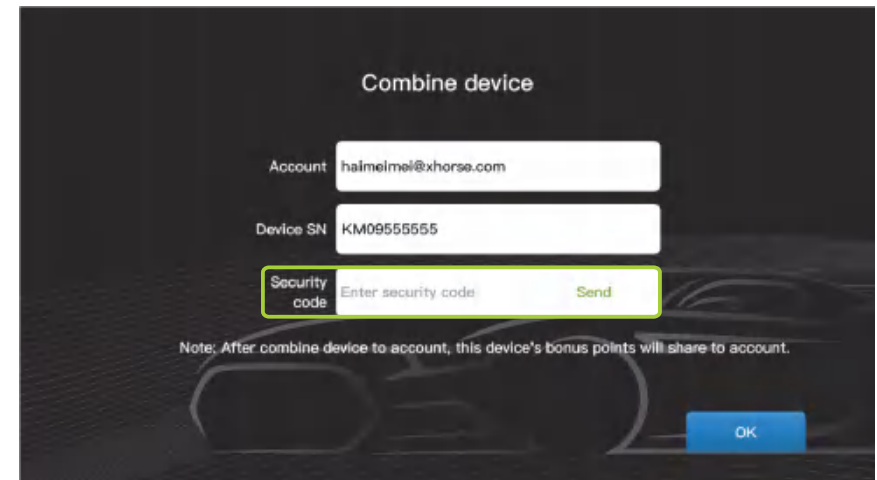
- 2) Click to select a WiFi network.



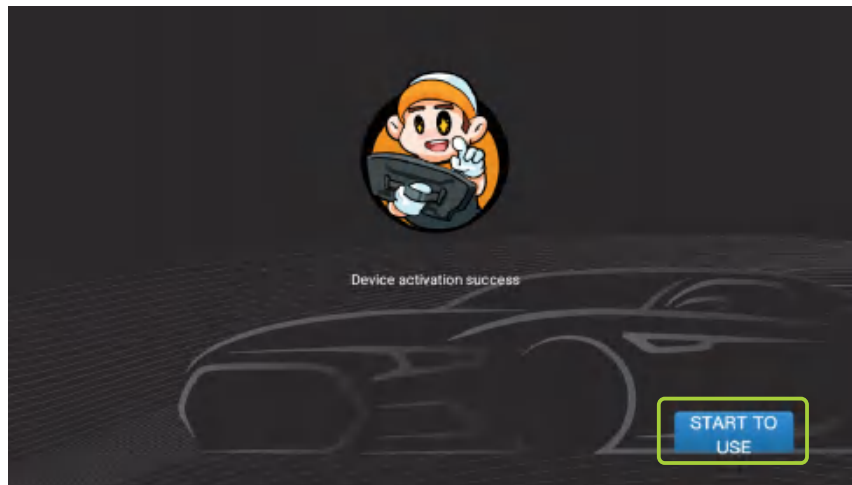
3) Enter the password and on click on "Connect". After the connection is successful, click on "Next" at the bottom.



4) Users can choose to log in with an account or use quick login (new users need to select quick login and register).

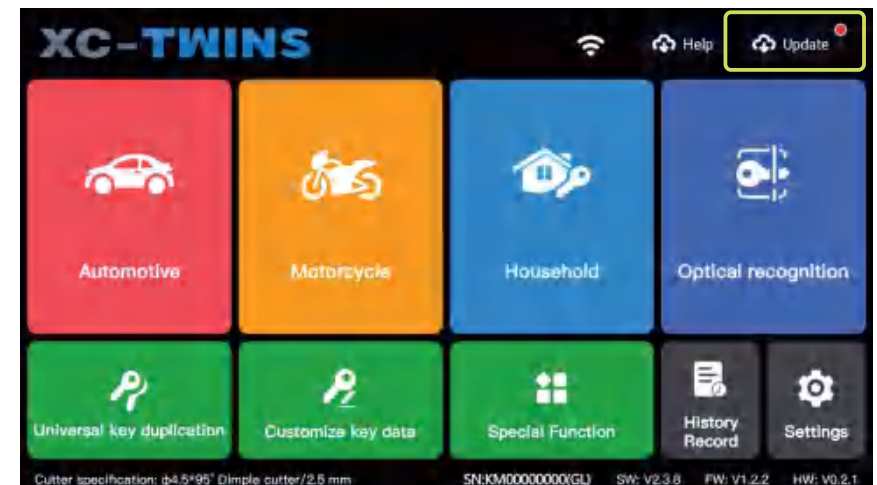


5) After a successful login, click to send the verification code to bind the device.

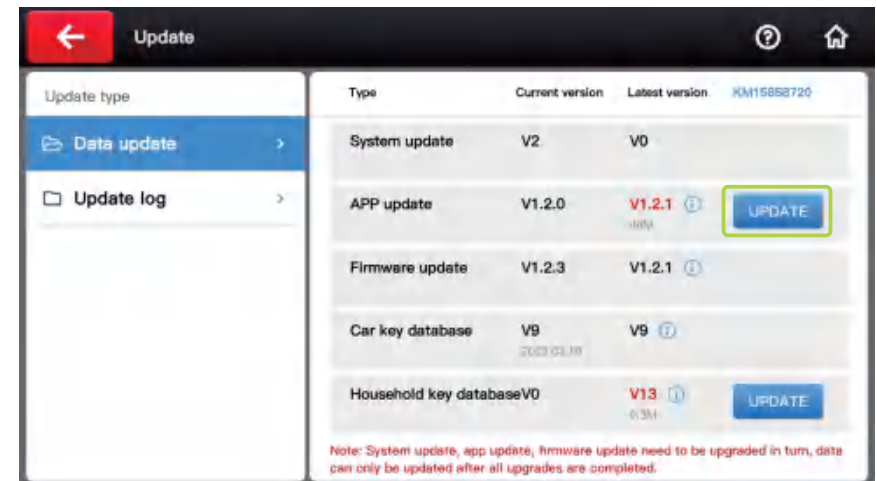


6) Once the device is successfully activated, click "START TO USE".

6.2 Online Upgrade



1) After the device is connected to the Internet, click on "Update" in the upper right corner of the main page.



2) Click the "UPDATE" button on the right side to upgrade.

6.3 Machine Calibration and Detection

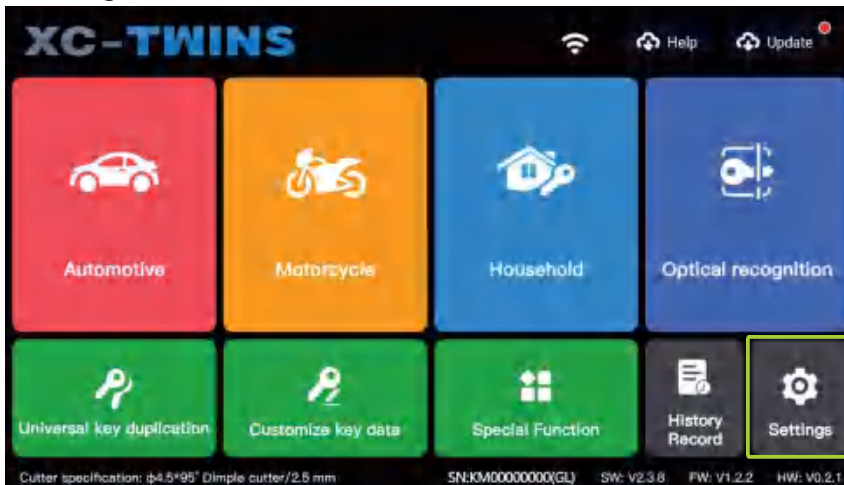
After installing the cutter and probe of a new machine, the following two calibration steps are required before use.

Step 1: Carry out height calibration to ensure the cutter and probe are at the same height.

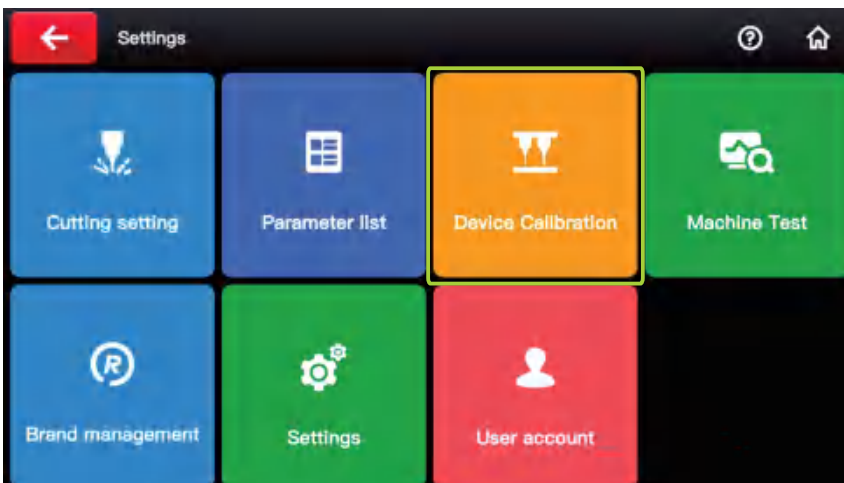
Step 2: Carry out cutting calibration to ensure the key cutting accuracy.

Probe cutter continuity detection, motor detection, and camera calibration only need to be operated when the machine is in an abnormal state. These have been pre-set to optimal values at the factory.

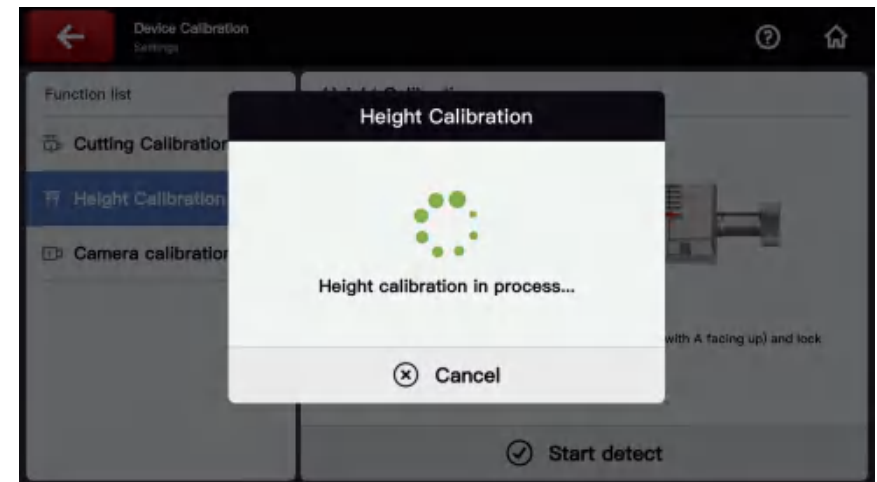
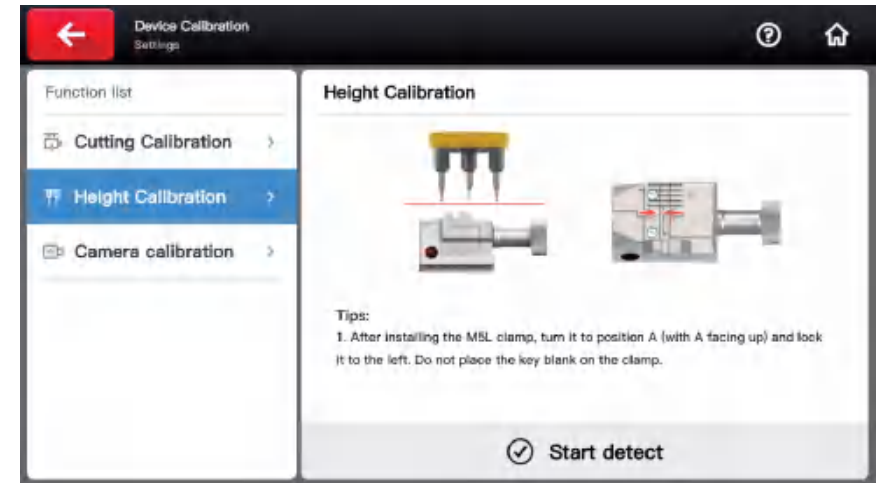
6.3.1 Height Calibration of the Probe and Cutter



1) Click to enter the "Settings" interface.

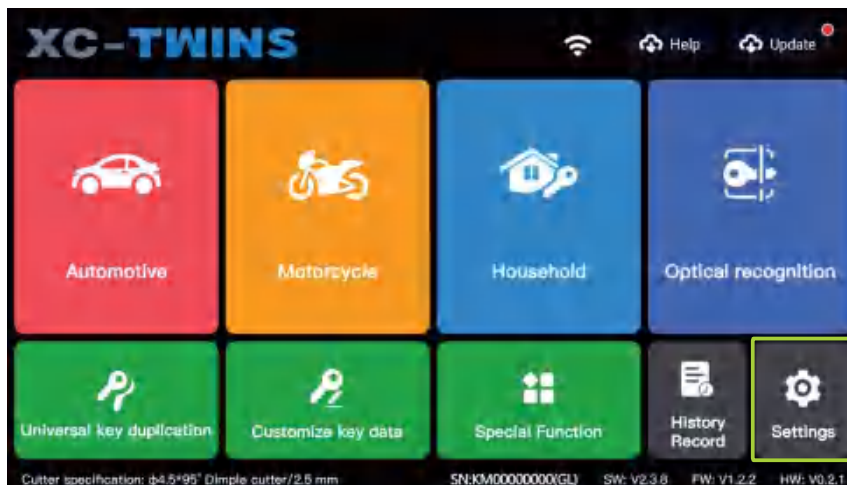


2) Click to enter the "Device Calibration" interface.

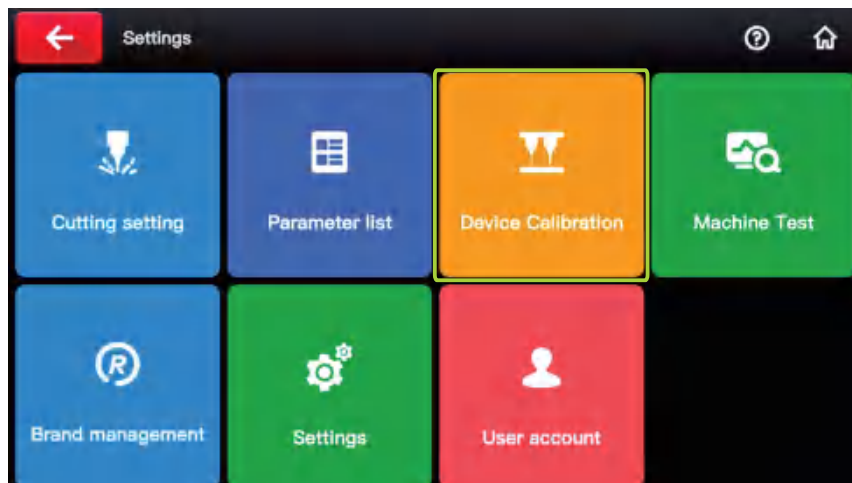


3) Select "Height Calibration" and then click on "Start detect".

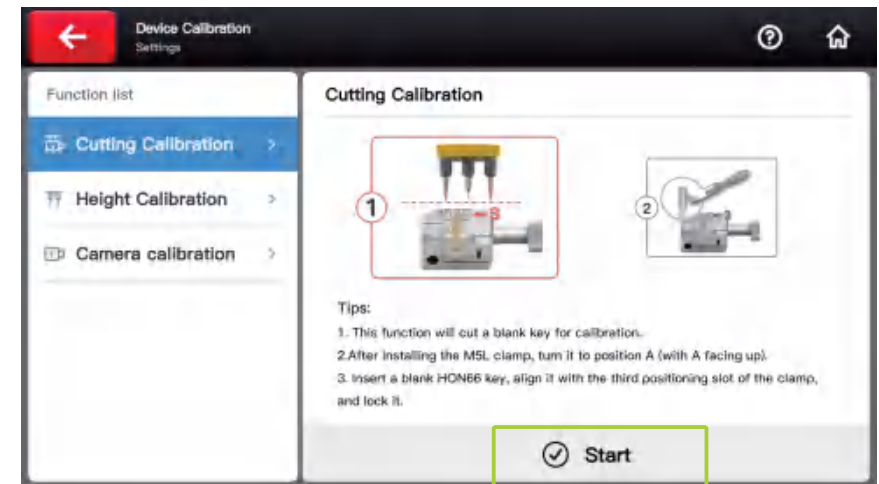
6.3.2 Cutting Calibration



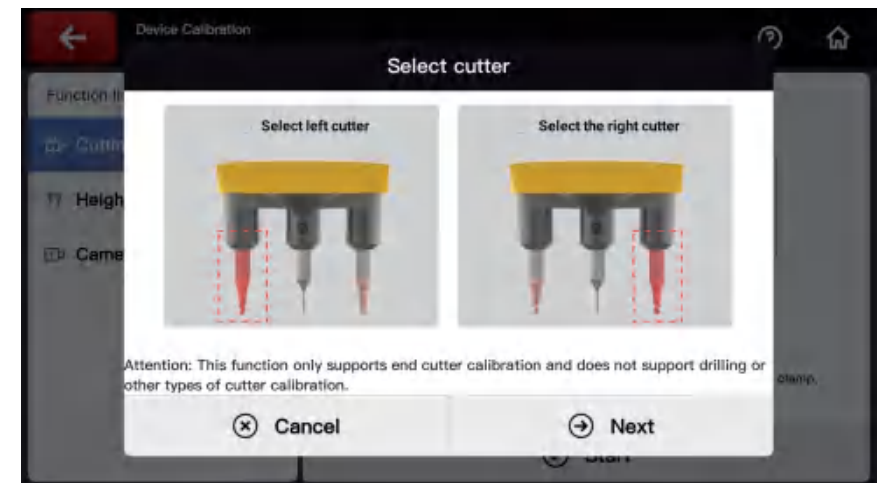
1) Click to enter the "Settings" interface.



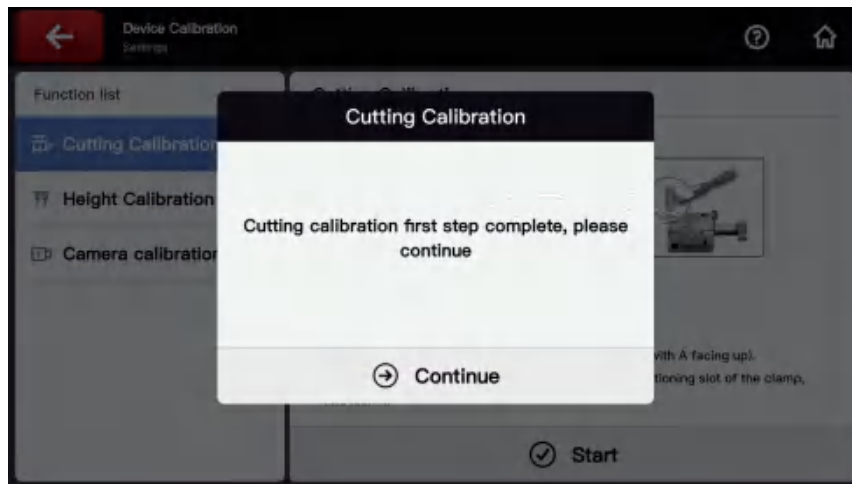
2) Click on "Device Calibration".



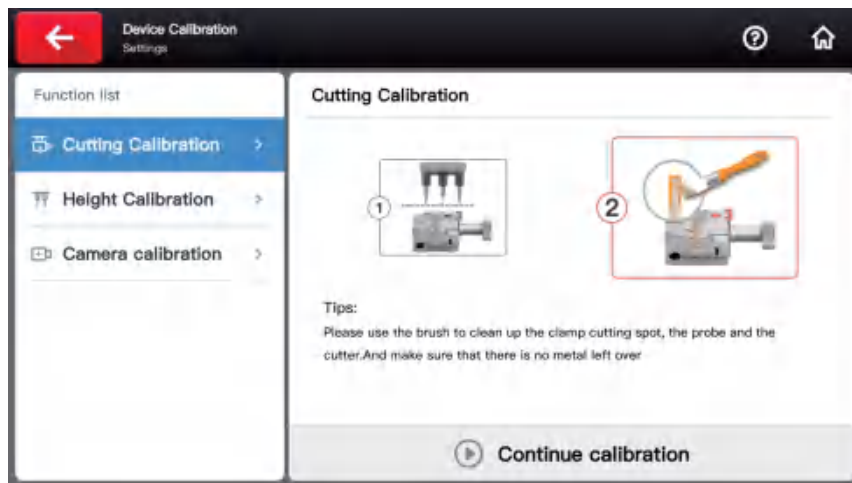
3) After operating correctly according to prompts, click on "Start".



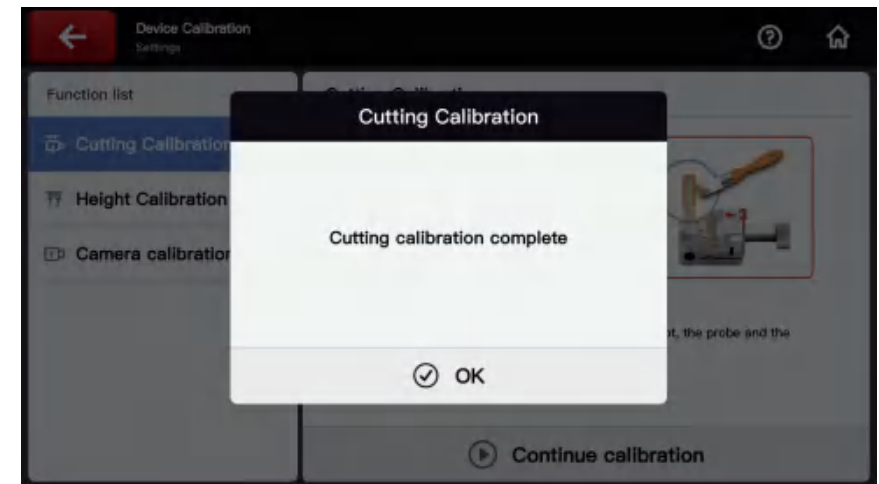
4) Select the left cutter or the right cutter for cutting calibration.



5) After the first step is completed, click on "Continue" to proceed with the second step.

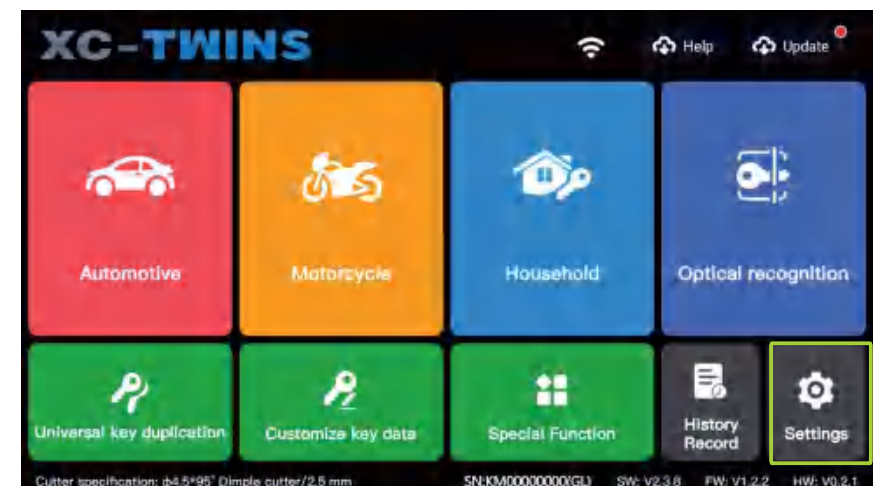


6) After the cutting is finished, clean up the metal shavings with a brush, click on "Continue calibration".

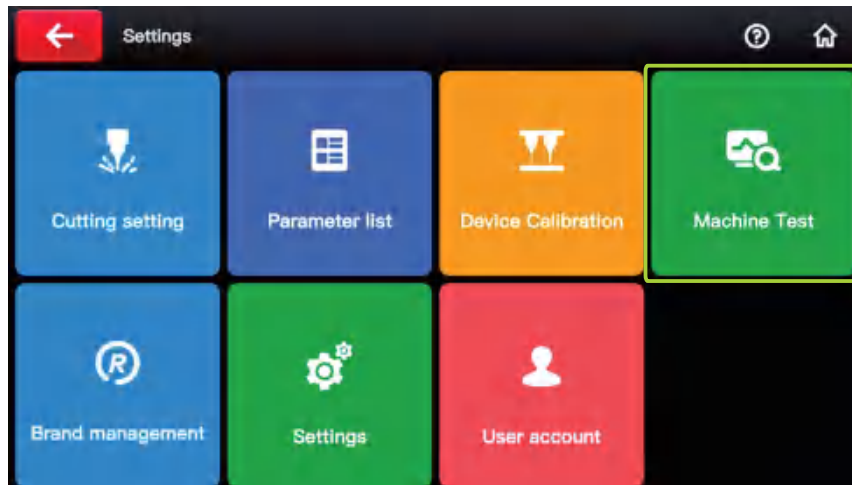


7) The cutting calibration is completed.

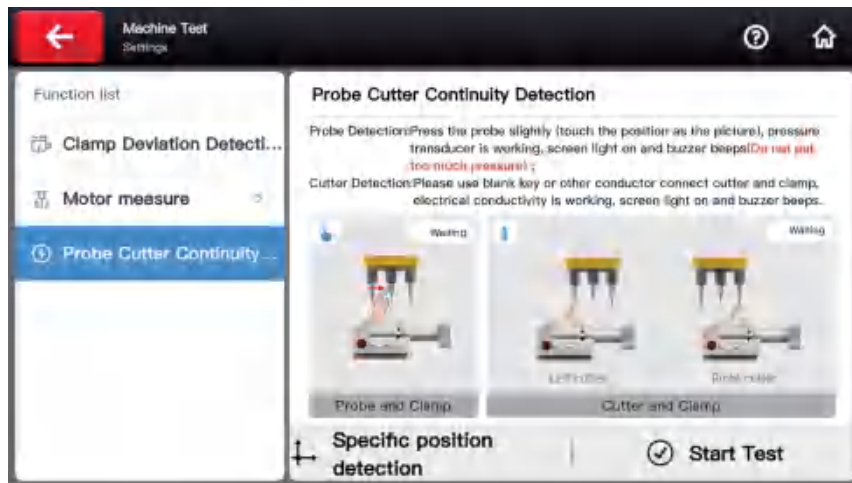
6.3.3 Probe Cutter Continuity Detection



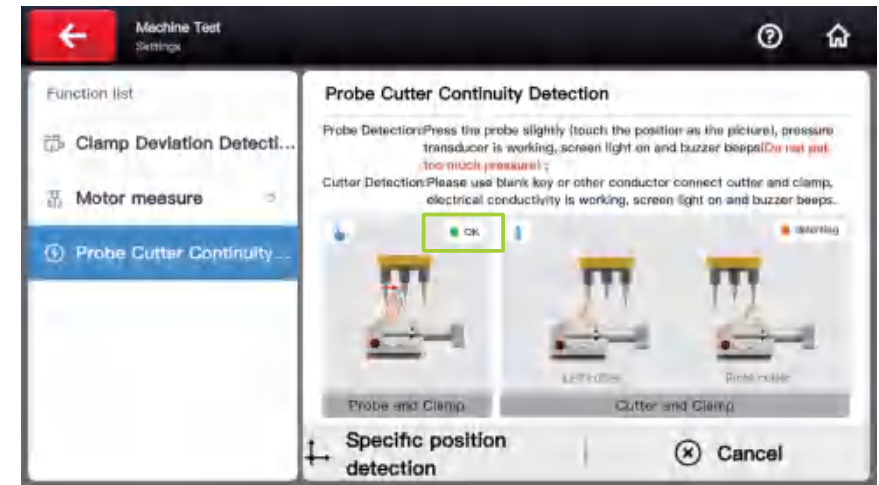
1) Click to enter the "Settings" interface.



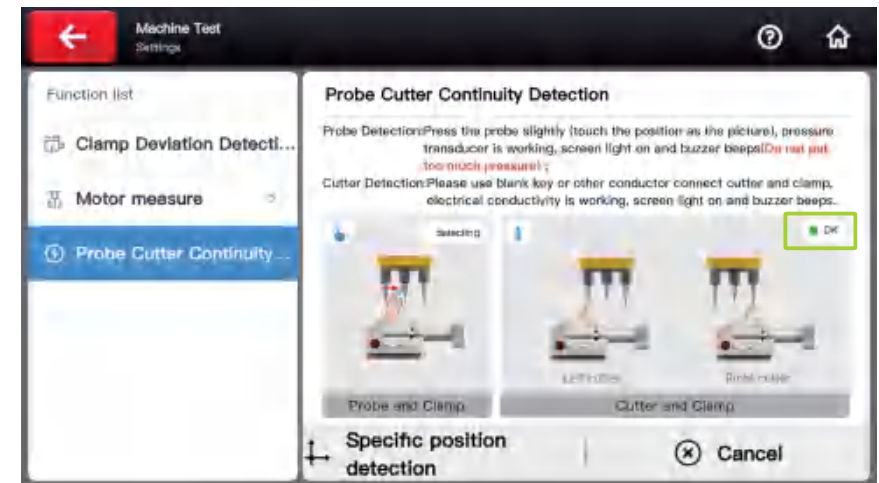
2) Enter the "Machine Test" interface.



3) Select "Probe Cutter Continuity Detection". Use this function to check whether the pressure sensor at the probe is normal and whether the conductivity at the cutter is normal.

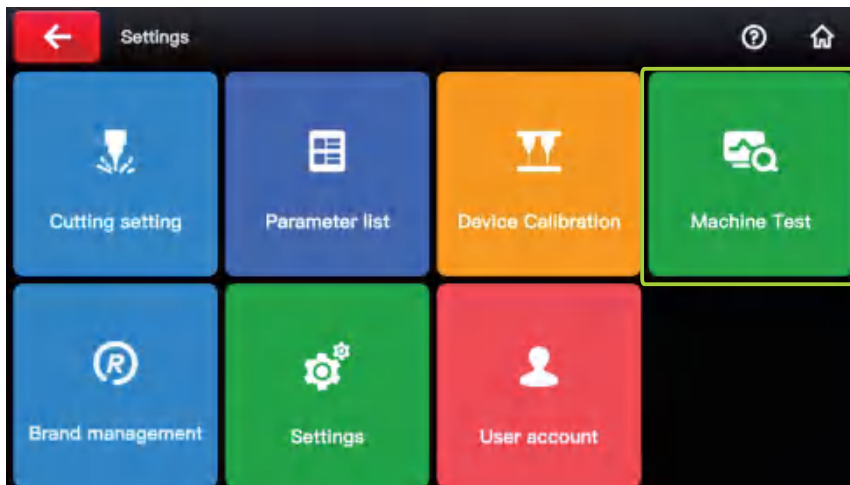


4) Slightly press the probe with your finger, pressure transducer is working, screen light on and buzzer beeps, indicating that the probe detection is normal.

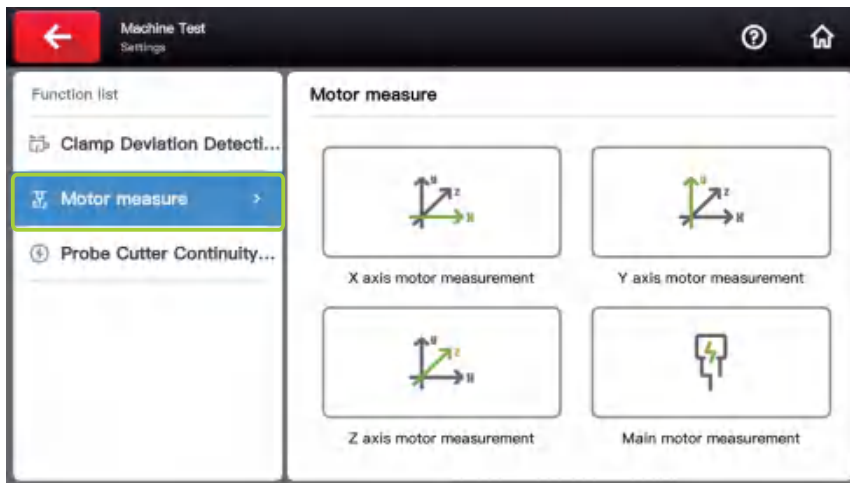


5) Use a key blank or other conductive metal to connect cutter and clamp. Place one end on the cutter and the other end on the clamp, electrical conductivity is working, screen light on and buzzer beeps, indicating that the cutter continuity detection is normal.

6.3.4 Motor Testing

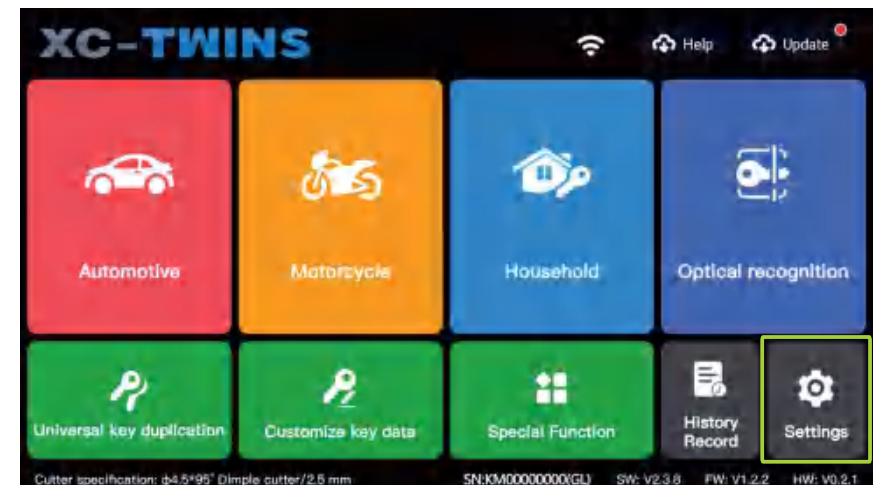


1) Enter the "Settings" interface and select "Machine Test".

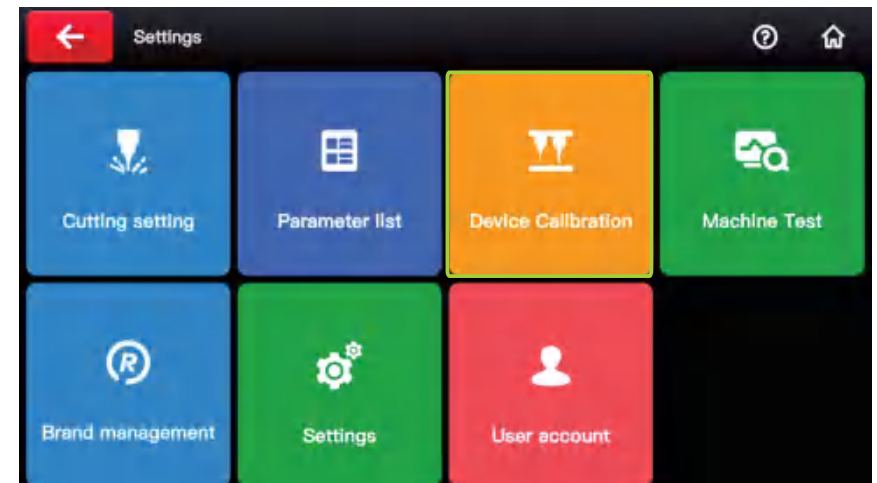


2) Select "Motor measure", and choose the X-axis, Y-axis, or Z-axis for motor measurement. No abnormal noise or positional deviation indicates normal operation.

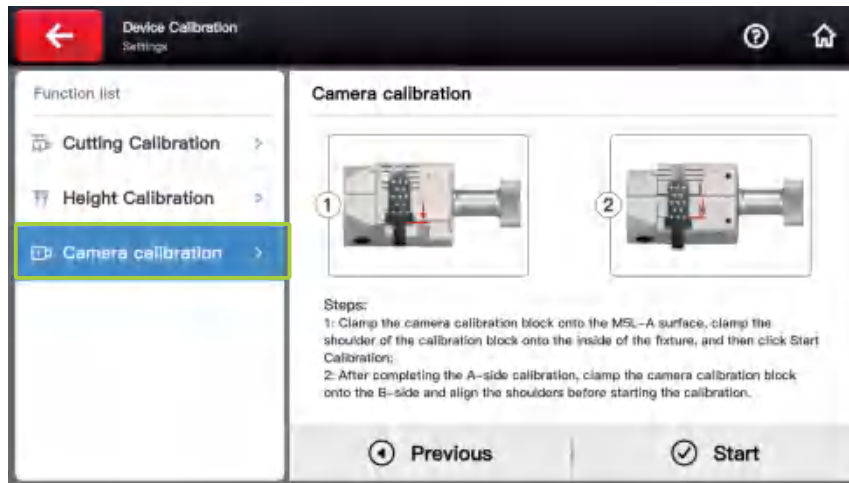
6.3.5 Camera Calibration



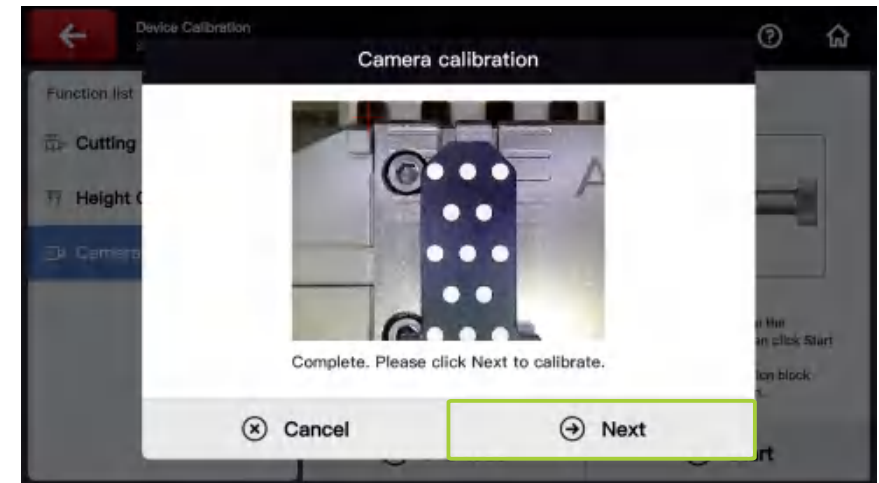
1) Enter the "Settings" interface.



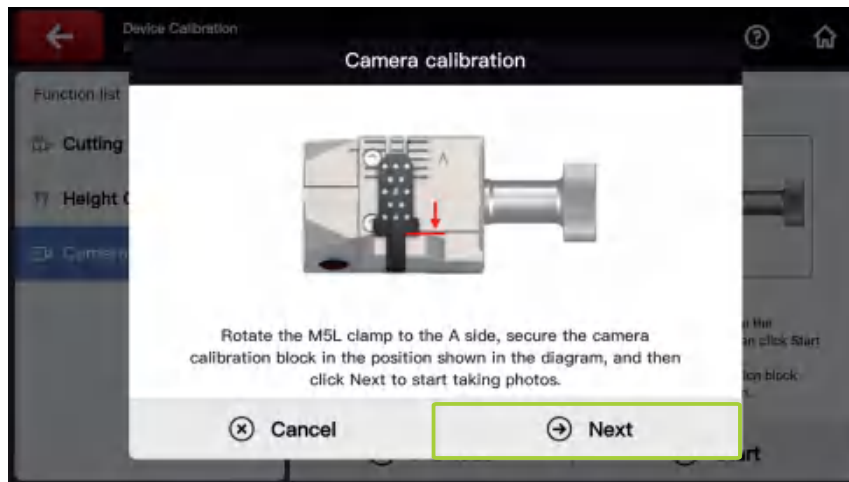
2) Enter the "Device Calibration" interface.



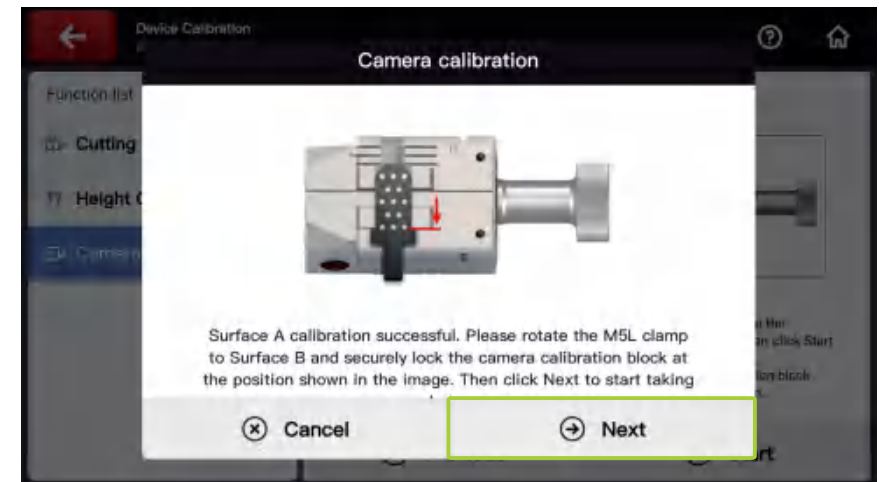
3) Assemble and select M5L Clamp for "Camera Calibration". Read instructions and click on "Start".



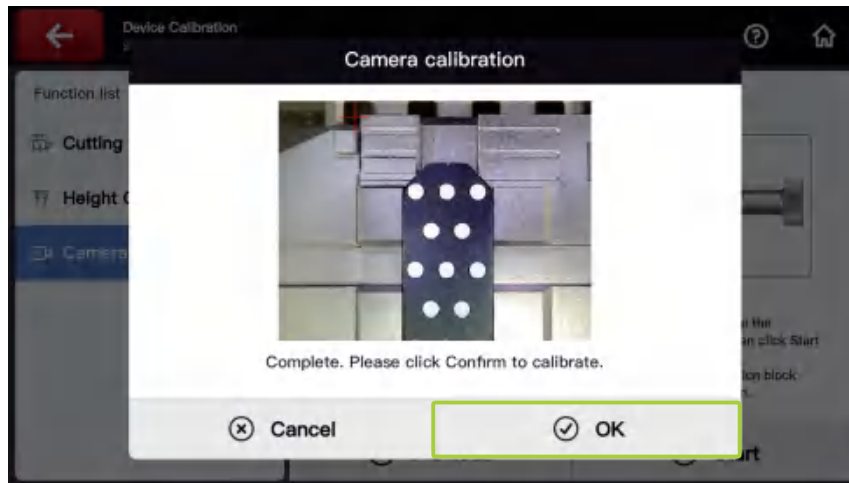
5) After photo capture, click on "Next" for auto calibration.



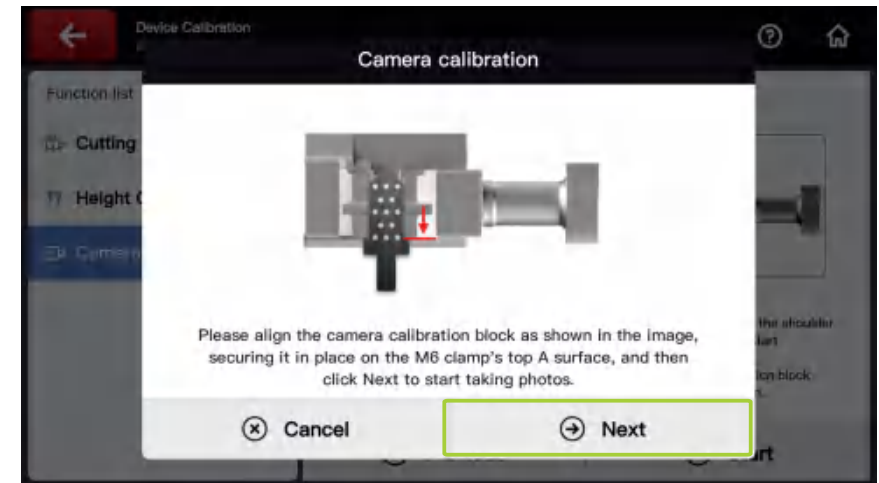
4) Rotate M5L Clamp to side A, lock the camera calibration block, and click on "Next" to take photos.



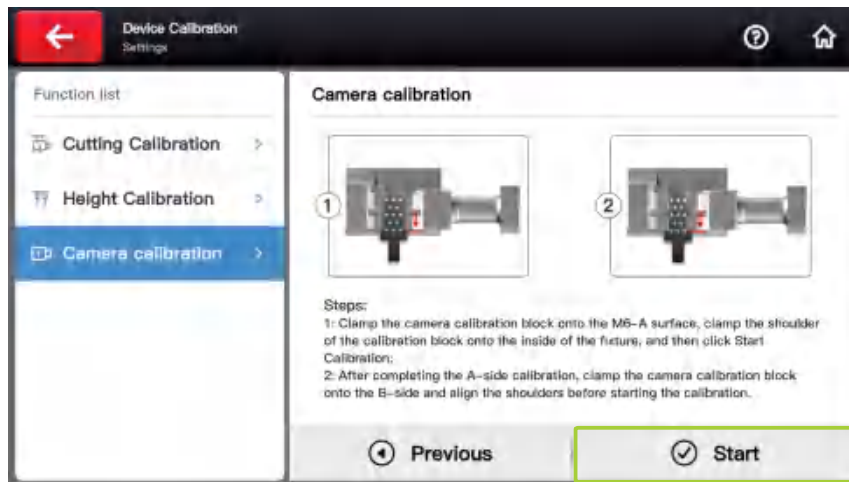
6) After side A calibration, rotate M5L clamp to side B, lock the block, and click on "Next" to take photos.



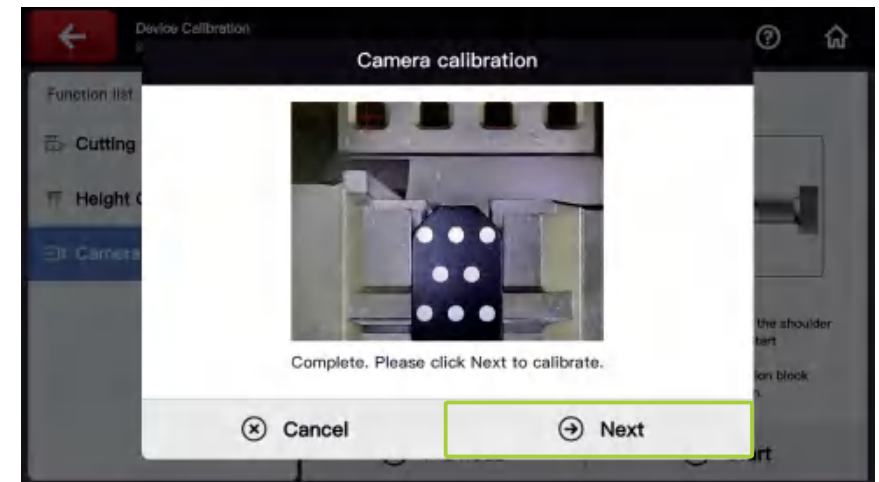
7) After M5L calibration, click on "OK".



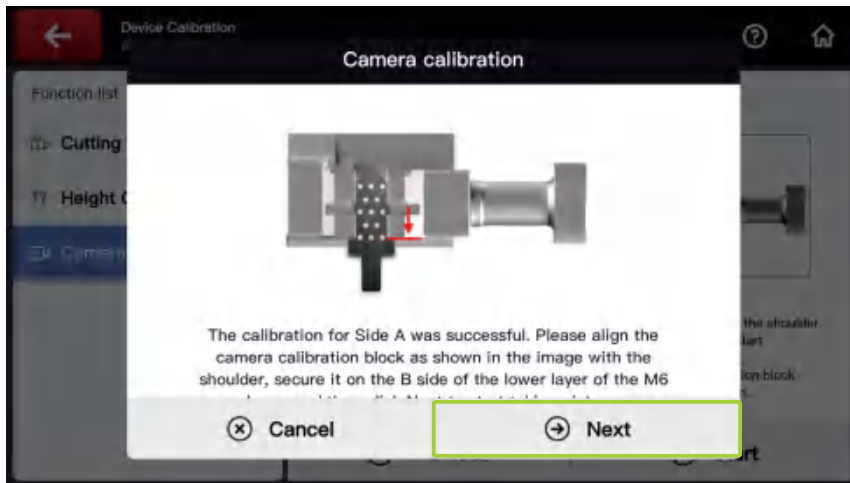
9) Place camera calibration block as shown, align shoulder, lock on upper side A of M6 Clamp, then click on "Next" to take photos.



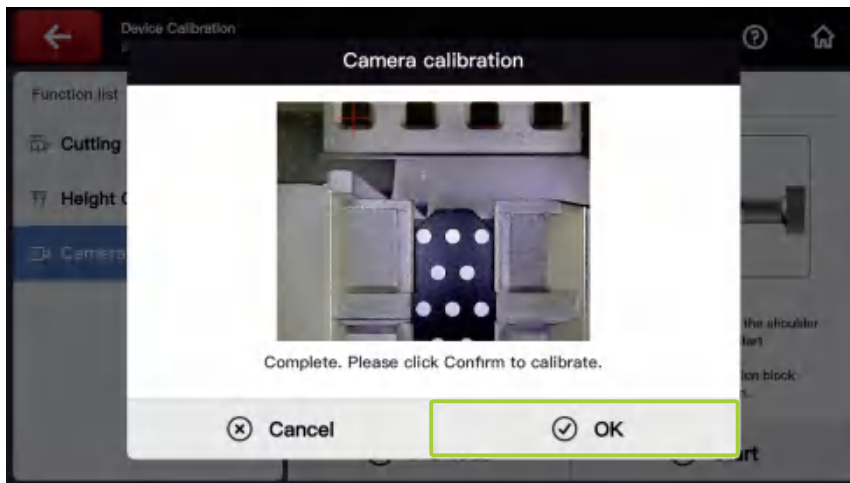
8) Assemble and select M6 Clamp for calibration, read prompts, and click on "Start".



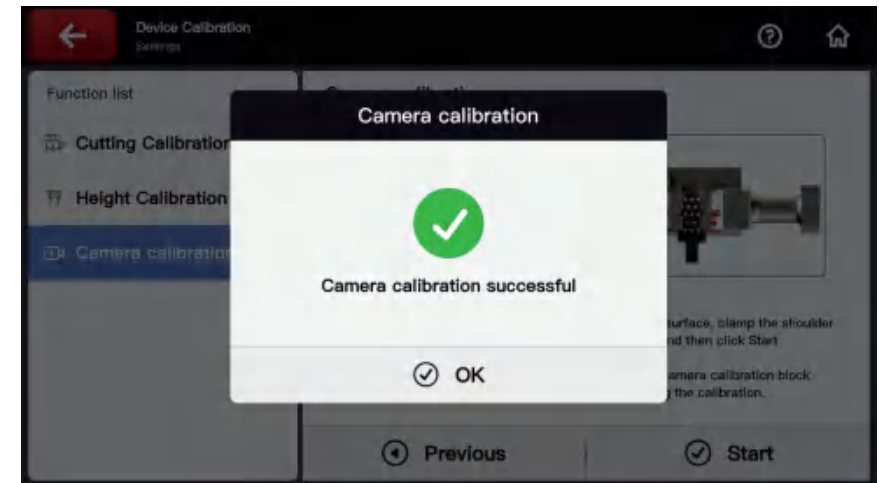
10) After photo capture, click on "Next" for auto calibration.



11) After side A calibration, lock block on lower side B of M6 Clamp, click on "Next" to take photos.



12) After photo capture, click on "OK" for auto calibration.



13) Camera calibration is completed.

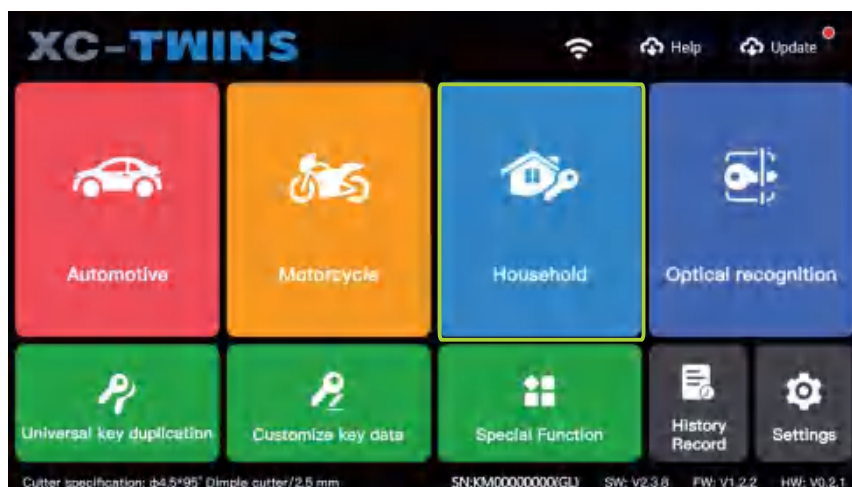
6.4 Household Keys

6.4.1 Household Key Duplication

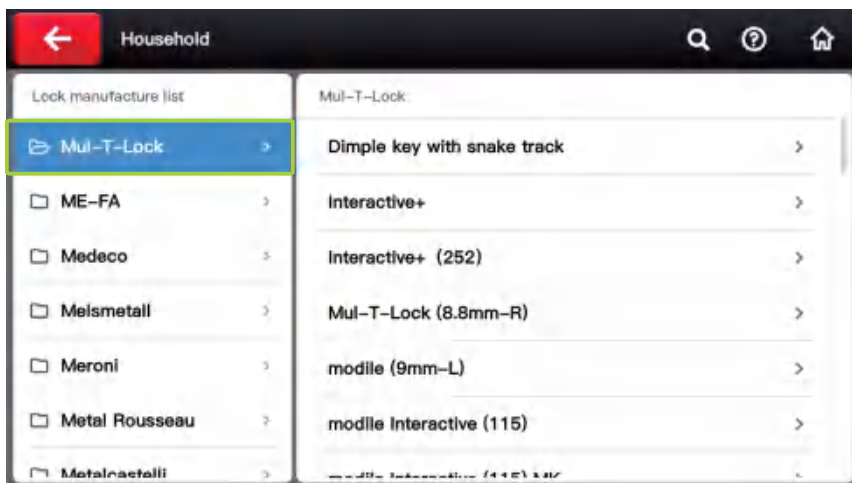
CONDOR XC-TWINS offers two methods for household key duplication: database-based duplication and optical recognition for universal duplication.

When the brand and data type are known, database method is faster. If the key biting data is unavailable or brand is unknown, optical recognition is used. This method suits nearly all household key duplications.

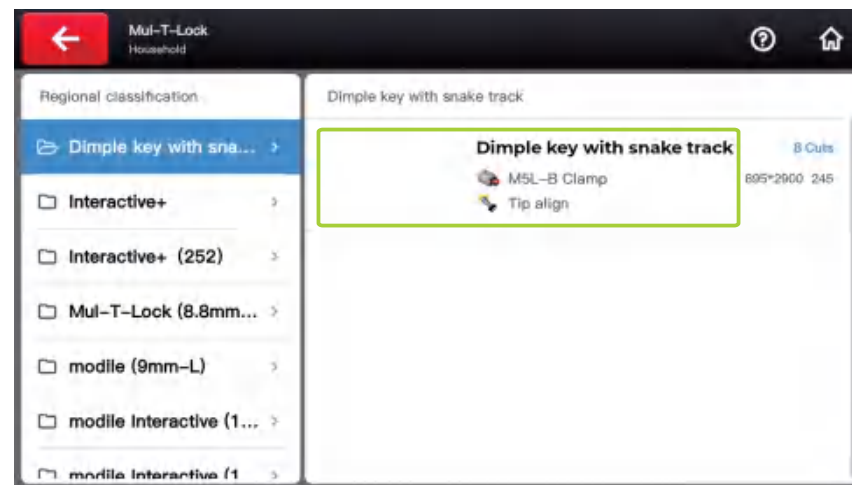
6.4.1.1 Household Database Duplication



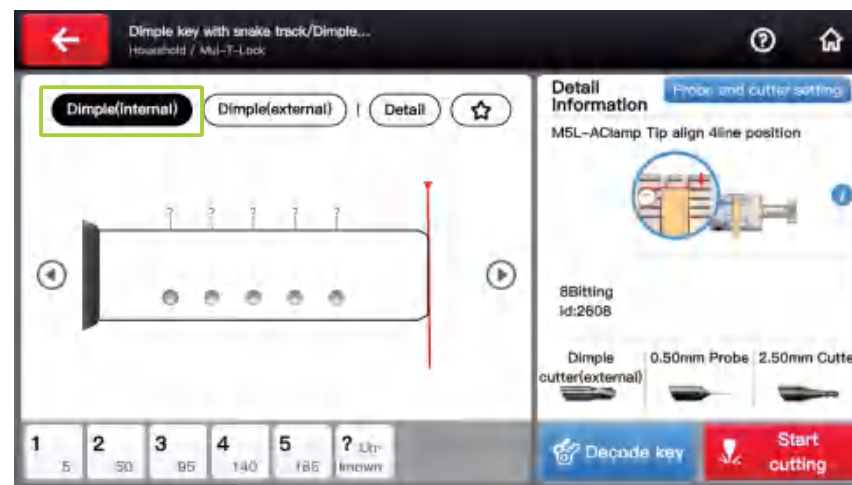
1) Enter the "Household" interface.



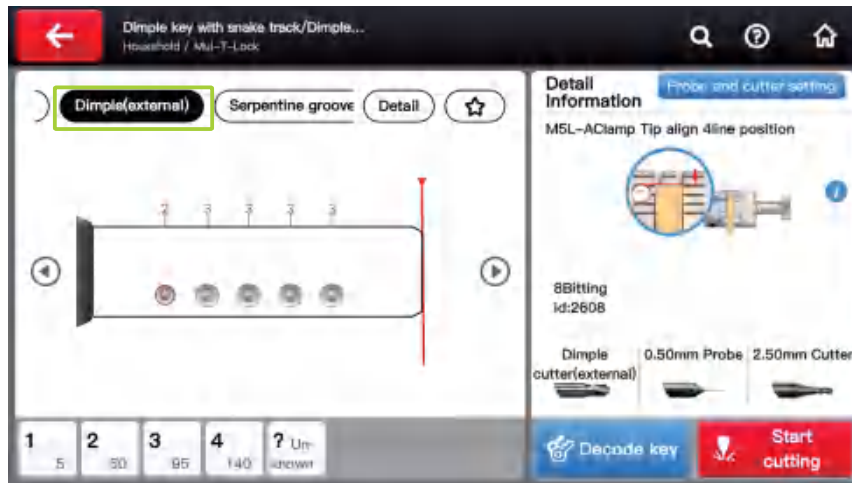
2) Select lock manufacturer and key options.



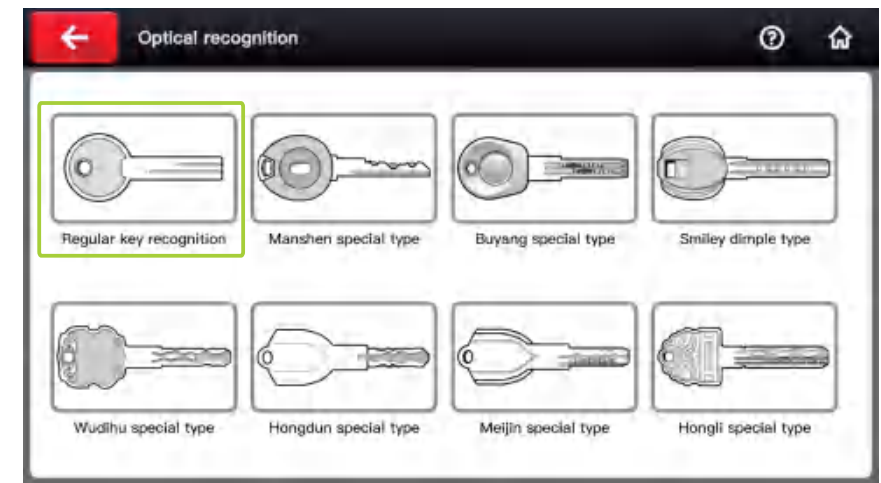
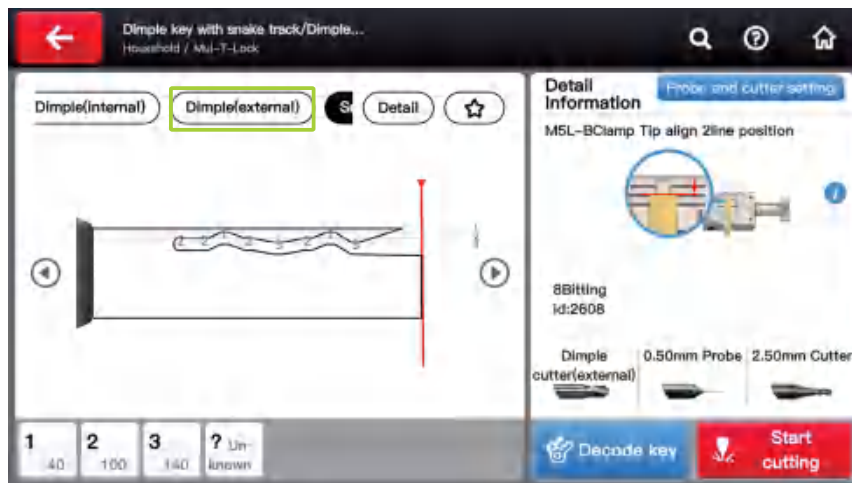
3) Select the key blank.



6.4.1.2 Universal Duplication (Optical Recognition)



1) Click on "Optical recognition".



4) Clamp original key as shown, click on "Decode key" to learn key information.

2) Click on "Regular key recognition".