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Thank you for choosing the MarkinBOX to meet your marking and traceability needs. This manual contains detailed information to help you use your MarkinBOX. Please read these instructions carefully and keep this document for future reference.

TOCHO MARKING SYSTEMS, Inc.

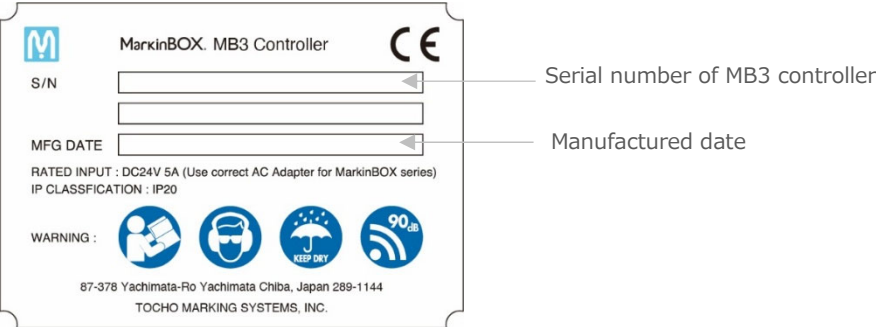
This is a translation of the original instruction in Japanese.




Introduction & Safety information

System requirements

Computer OS	Higher than Windows 10
Computer Memory	Higher than 8GB
CPU	Equal to or greater than Intel Core i5, the 10 th generation
Monitor Resolution	Higher than 1920×1080
Power supply	AC100V~240V 50/60Hz
Electricity Consumption	120W

Copy of the marking plate



	<p>Beware of high temperature</p> <p>Prolonged continued use would heat up the solenoid. This will not affect the quality of marking. However, do not touch the area around the stylus pin or the solenoid with bare hands after continued use. In particular, refrain from using the system around small children. *Continued use (non-stop run) at marking force 99 (maximum power) and speed 1 (slowest speed) combination sometimes causes the surface temperature to rise to approx. 120°</p>
	<p>Beware of loud noise</p> <p>Loud noise will occur when the marking force is set high or depending on material properties and the shape of the workpiece especially thin and hollow ones such as pipes. Therefore, always wear an ear plug when operating the system.</p>
	<p>Using near water and in a humid area is prohibited</p> <p>MarkinBOX series are IP20 classification</p> <p>To prevent fire, electric shock, and damage, do not use the system around water. Also, do not touch the system with wet hands.</p>



Beware of unwearing property gears

For your safety, wear a protection glass when operating the tool and wear PPE for hearing protection when operating the tool

General Power Tool Safety Warnings

WARNING: Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire, and/or serious injury.

Save all warnings and instructions for future reference.

The term "power tool" in the warnings refer to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

1) Work area safety

a) **Keep the work area clean and well lit.**

Cluttered or dark areas invite accidents.

b) **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.**

Power tools create sparks which may ignite the dust or fumes.

c) **Keep children and bystanders away while operating a power tool.**

Distractions can cause you to lose control.

Note : Not expected to use or produce under potentially explosive atmosphere, as well as toxic, corrosive, flammable and explosive substances. Not expected to use under ATEX.

2) Electrical safety

a) **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.

b) **Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators.**

There is an increased risk of electric shock if your body is earthed or grounded.

c) **Do not expose power tools to rain or wet conditions.**

Water entering a power tool will increase the risk of electric shock.

d) **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged

or entangled cords increase the risk of electric shock.

- e) **When operating a power tool outdoors, use an extension cord suitable for outdoor use.**

Use of a cord suitable for outdoor use reduces the risk of electric shock.

- f) **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.**

Use of an RCD reduces the risk of electric shock.

Note : The term "residual current device (RCD)" may be replaced by the term "grounded fault circuit interrupter (GFCI)" or "earth leakage circuit breaker (ELCB)".

3) **Personal safety**

- a) **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.**

A moment of inattention while operating power tools may result in serious personal injury.

- b) **Use personal protective equipment. Always wear eye protection.**

Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injury.

- c) **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.**

Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.

- d) **Remove any adjusting key or wrench before turning the power tool on.**

A wrench or key left attached to a rotating part of the power tool may result in personal injury.

- e) **Do not overreach. Keep proper footing and balance at all time.**

This enables better control of the power tool in unexpected situations.

- f) **Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts.**

Loose clothes, jewelry or long hair can be caught in moving parts.

- g) **If devices are provided for the connections of dust extraction and collections facilities, ensure these are connected and properly used.**

Use of dust collection can reduce dust-related hazards.

4) **Power tool use and care**

- a) **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- b) **Do not use the power tool if the switch does not turn it on and off.**
Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- c) **Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.**
Such preventive safety measures reduce the risk of starting the power tool accidentally.
- d) **Store idle power tools out of the reach of children and do not allow people unfamiliar with the power tool or these instructions to operate the power tool.**
Power tools are dangerous in the hands of untrained users.
- e) **Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.**
Many accidents are caused by poorly maintained power tools.
- f) **Keep cutting tools sharp and clean.**
Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- g) **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.**
Use of the power tool for operations different from those intended could result in a hazardous situation.

5) Service

- a) **Have your power tool serviced by a qualified repair person using only identical replacement parts.**
This will ensure that the safety of the power tool is maintained.

WARNING : Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

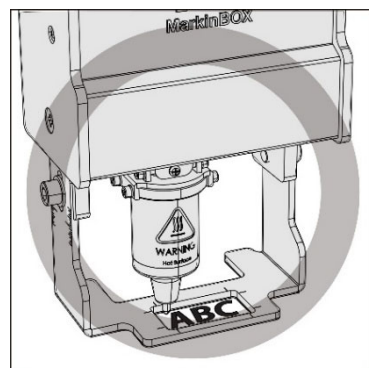
Save all warnings and instructions for future reference.



Contains precautions against actions that are prohibited at all time. Negligence could result in death or serious injury.

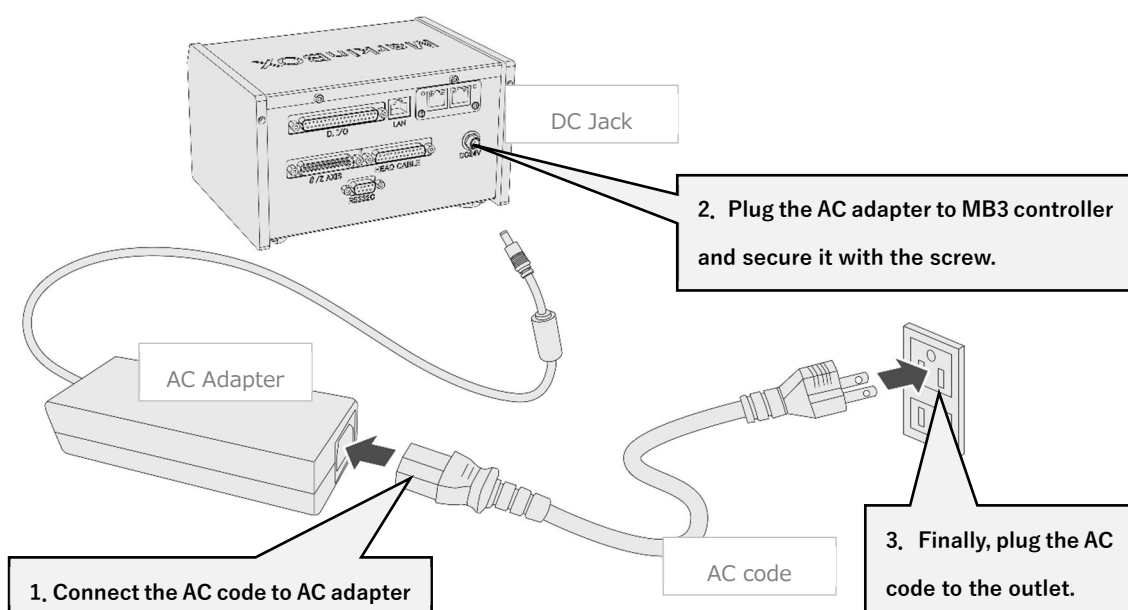
Using system for purposes other than marking is prohibited

The MarkinBOX series is a marking machine. Using the machine for purposes other than marking may result in unexpected accidents and injury, which will not be covered by the warranty.



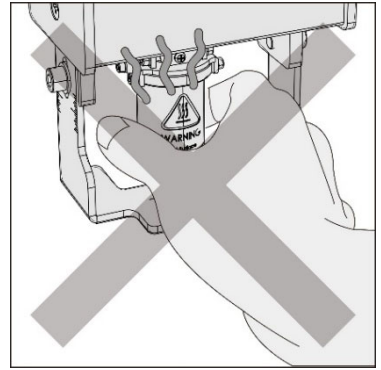
Handle power with care

When you connect the AC adapter to the controller, please follow the proper sequence by which it should be connected. Otherwise, static charge could be created in the DC output plug of the AC adapter, potentially resulting in electric shock or weak injury. Also, make sure the adapter's plug does not touch metal parts other than the controller's power connector.



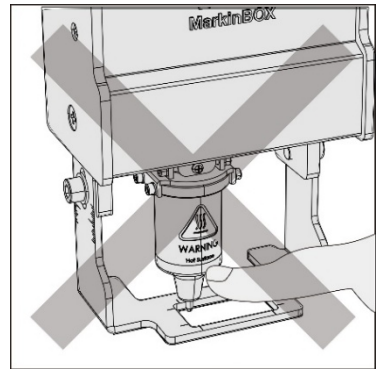
Beware of high temperature

Prolonged continued use would heat up the solenoid. This will not affect the quality of marking. However, do not touch the area around the stylus pin or the solenoid with bare hands after continued use. In particular, refrain from using the system around small children.



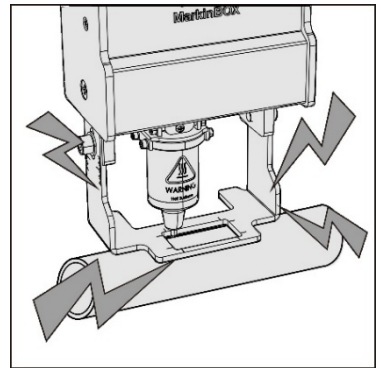
Take care not injury finger

The distance between the stylus pin and the workpiece is approximately between **0.1mm and 5mm**. Be careful not to get your finger stuck between the pin and the workpiece. In particular, refrain from using the system around small children.



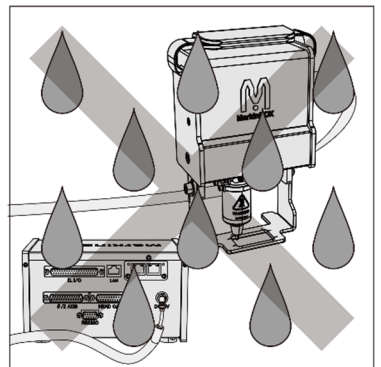
Beware of loud noise

Loud noise will occur when the marking force is set high or depending on material properties and the shape of the workpiece especially thin and hollow ones such as pipes. Therefore, always wear an ear plug when operating the system.



Using near water in a humid area is prohibited

To prevent fire, electric shock, and damage, do not use the system around water. Also, do not touch the system with wet hands. MarkinBOX series are IP20 classification

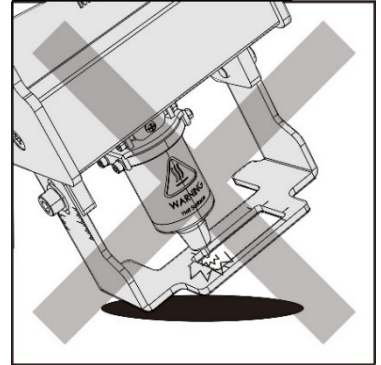




Contains precautions against actions that could result in injury and damage to the system if they are neglected.

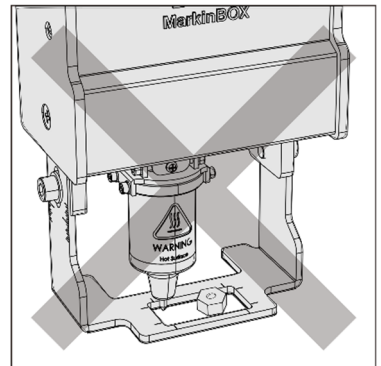
Check for workpiece before marking

Do not conduct marking without a workpiece. Always set the workpiece so that the stylus pin touches the workpiece, including during the test run. Negligence could result in damage to the stylus pin.

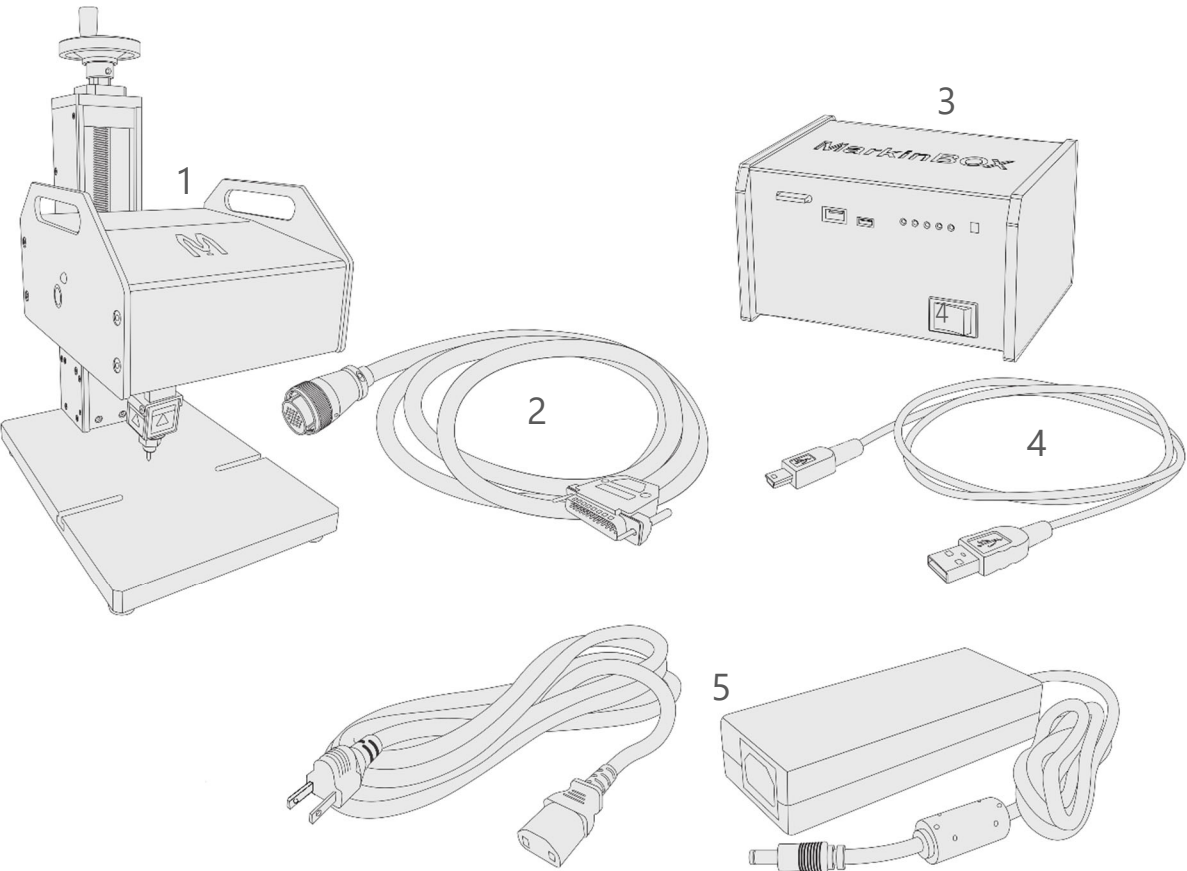


Beware of any obstructions

MarkinBOX will operate automatically upon applying power. Because the stylus pin will automatically reposition itself to the origin, do not put objects in the marking area that would obstruct the stylus pin from repositioning. Negligence could result in damage to the system.



Contents in MarkinBOX

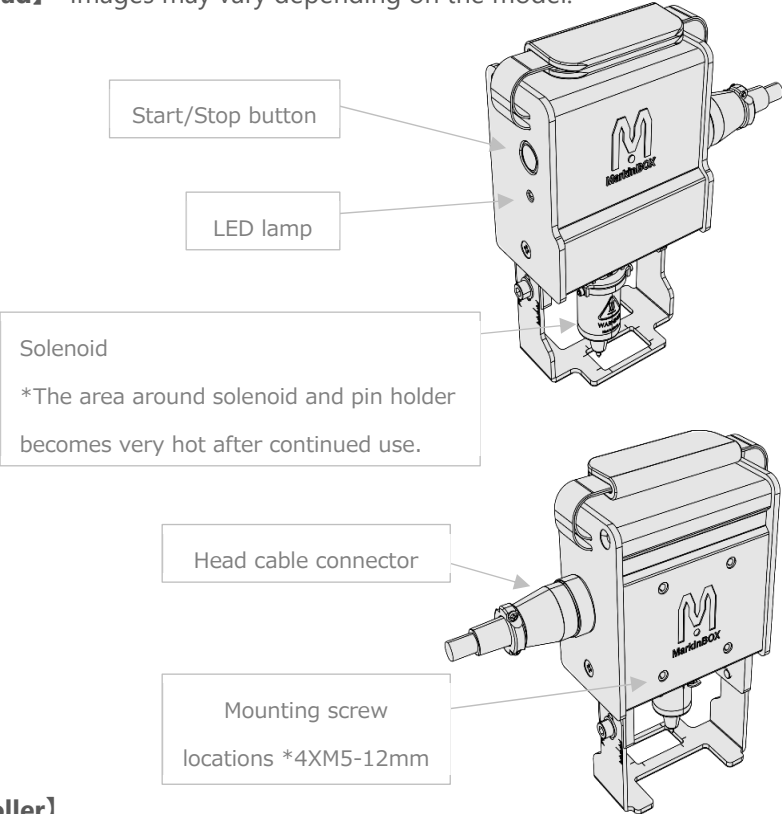


No.	Name	No.	Name
1	Marking Head *1	4	USB Cable Type C
2	Head Cable	5	AC/DC Adapter
3	MB3 Controller		

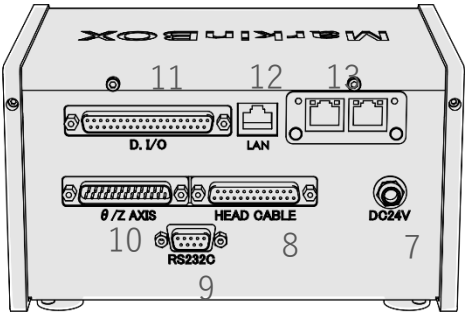
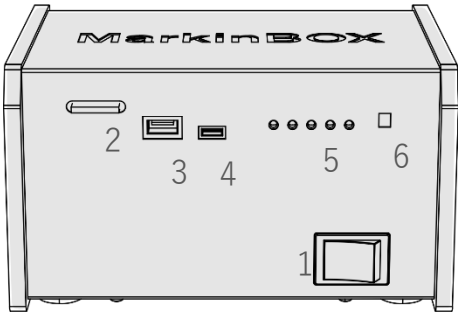
*1 Images may vary depending on the model.

Names of the part

【Marking Head】 *Images may vary depending on the model.



【MB3 Controller】



No.	Name on the front panel
1	Power switch
2	WiFi module *option
3	USB connector for Barcode scanner
4	USB connector type C for Win PC
5	LED lamps
6	Dip switch for updating firmware

No.	Name on the back panel
7	DC jack
8	Head Cable Connector
9	R232C D-sub 9 pins connector
10	Z axis D-sub 15 pins connector *option
11	D.I/O D-sub 37pins connector
12	LAN port
13	Ethernet IP connector *option

Start button on marking head

Start	Push the start button once after sending marking data.
Pause	Push the start button once during marking.
Restart	Push the start button once during pause.
Cancel	Holding down the start button 3 seconds during pause, pin will be back to original position.

LED lamp

Marking head

Standing by	Green lit
Marking	Green blinking
Returning to the home	Red blinking

MB3 Controller

Power ON	Blue lit, Green blinking
Returning to the home	Blue blinking (0.5sec.)
Marking	Blue blinking (0.25sec.)
Alarm	Refer to the Alarm list

Installation

1. Download the sketchbook3 software

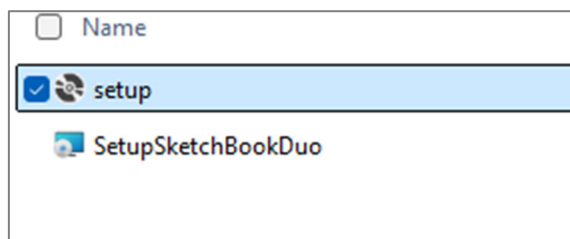
Access the following website and download the latest version software.

<https://www.tokyo-chokoku.co.jp/en/softwear/>



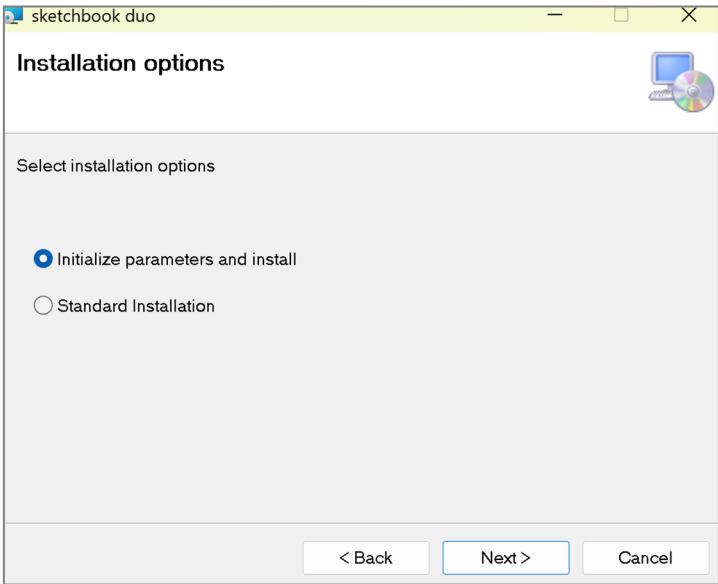
2. Install into the computer

Following unzipping, click the [Setup] application to start the installation. **You should unzip the folder and start the installation.**



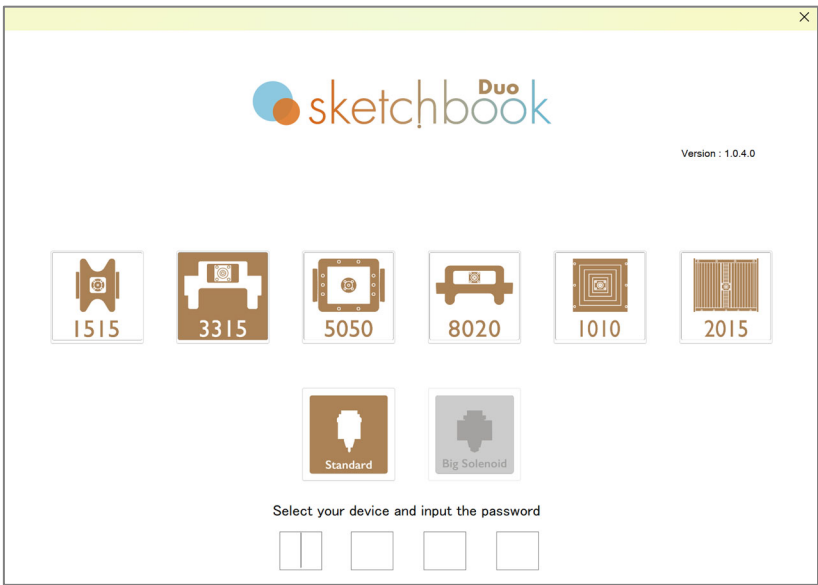
The following screen shows the installation option. If this is the first time to install, leave the default setting with "Initialize parameters and install." If you are already a user and want to

keep the parameters, select "Standard Installation."

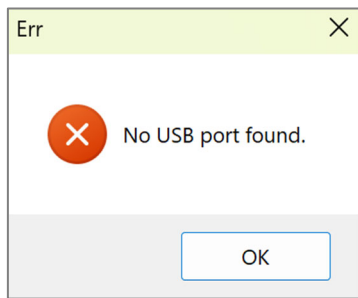


3. Start sketchbook Duo

Turn on the power on the SB3 controller. Then connect the USB cable to the PC and the SB3 controller and double-click the sketchbook Duo icon on the desktop to start the software. When the startup screen appears below, select the model and solenoid type, and enter the initial password [0000]. then



If the error message below appears, click "OK" and then reinsert the USB cable.



Go to "Communication" on the menu bar, and click "USB" as shown below, select the "Port number," and then click the "OK" button to connect.



*Port No. will vary depending on your PC environment.

WiFi, LAN communicaiton

If you want to communicate other than USB, go to "Preferences" → "Communication" and choose the icon on the communication on the selection screen.

Confirm the software version

Go to "Preferences" → "Information" to confirm the software version.

Uninstall sketchbook Duo

If you want to uninstall sketchbook Duo software, follow the steps below.

1. Close the sketchbook Duo software.
2. On your PC settings, select "Apps" → "Installed apps" → "sketchbook Duo" and select "Uninstall".
3. Go to the C drive and delete the "TOCHOMARKING" folder, which saved all created data and files.

Maintenance and inspection



When conducting maintenance, inspection and parts replacement, switch off the MB2S controller and remove the plug from the power socket without fail.

1. Inspection of tightening screws

Check for any loose screws. Retighten if there is any looseness.

2. Care after use

Wipe away any oil and grease stains and keep in a good condition for use. Wipe main unit with a dry cloth. Do not use gasoline, thinner or petroleum for cleaning, otherwise the main unit could be damaged. Concerning maintenance around pins and pin holders, refer to the "maintenance manual".

3. Storage after work

Store in a dry place away from high temperatures and high humidity. Do not store within reach of children or where there is a risk of falling.

Concerning overseas use of products purchased in Japan

We have prescribed the following regulations concerning cases where our products that have been purchased in Japan are used overseas. We would appreciate your understanding upon confirming these contents in advance.

1. Issue or failure occurring in a product purchased in Japan will be handled inside Japan. Please send it to our support desk via the dealer of purchase. If this occurs within one year of purchase, we will handle the problem free of charge, however, please understand that you will be charged for transportation, customs or other incidental expenses, even if the warranty period is still in effect.
2. Following repair, we will send the product back to the place of purchase in Japan. Please understand that we do not make overseas deliveries.
3. If you wish to receive repair or other support from an overseas local agent due to circumstances, please understand that this will be charged, even if it is within the warranty period.
4. If you are using the product in a country that does not have a local agent of our company, problems can only be handled inside Japan. Please send it to our support desk via the dealer of purchase. If this occurs within one year of purchase, we will handle the problem free of charge, however, please understand that you will be charged for transportation, customs or other incidental expenses, even if the warranty period is still in effect.

5. Overseas local agents are sometimes subject to revision without prior notice. Please either confirm on our company's website or inquire at our sales department in advance.

Warranty

1. If the unit fails while in normal use according to the manual or service manual, etc., free repairs will be provided during warranty period. Please request repair at your store of purchase or our support desk.
2. Repairs will be charged in the following cases, even if they occur during the warranty period:
 - Failure and damage arising from wrong usage, remodeling or improper repair
 - Dropping after purchase or failure and damage arising during transportation
 - Failure and damage arising from fire, earthquake, flooding, lightning strike, other natural disasters, abnormal voltage and so on
 - Replacement of consumption parts (See appendix 2 Spare Parts List)

Model		S/N Marking Head	
Ship date		S/N Controller	
Warranty Period	1 year		

Inquire about items

Please contact our distributor if you have an inquiry for operation and malfunction.

Manufacturer information:

Company : Tocho Marking Systems, Inc.

Address : 87-378 Yachimata-Ro, Yachimata, Chiba, Japan 289-1144

Tel : +81-43-308-4301 Fax : +81-43-308-4302

URL : <http://www.tokyo-chokoku.co.jp>

Tech & support

YouTube



Contact us



Appendix 1 : Distance between the stylus pin and the workpiece

The distance between the stylus pin and the workpiece will vary according to the material properties of the workpiece and the marking force. Always do a trial marking run and use the proper settings (marking force and distance).

Standard Solenoid		Distance pin and workparts (mm)							
		~	0.5	1.0	2.0	3.0	4.0	5.0	6.0
Force	~9	○	△	△	×	×	×	×	×
	10~19	△	○	○	○	△	△	×	×
	20~29	△	○	○	◎	◎	○	△	△
	30~39	△	○	○	◎	◎	◎	◎	○
	40~49	△	○	○	◎	◎	◎	◎	○
	50~59	△	○	○	◎	◎	◎	◎	○
	60~69	△	○	○	◎	◎	◎	◎	○
	70~79	△	○	○	◎	◎	◎	◎	○
	80~89	△	○	○	◎	◎	◎	◎	○
	90~99	△	○	○	◎	◎	◎	◎	○

BSD		Distance pin and workparts (mm)							
		3.0	4.0	5.0	6.0	7.0	8.0	9.0	10
Force	~9	○	○	◎	◎	◎	◎	○	○
	10~19	○	○	◎	◎	◎	◎	○	○
	20~29	○	○	◎	◎	◎	◎	○	○
	30~39	○	○	◎	◎	◎	◎	○	○
	40~49	○	○	◎	◎	◎	◎	○	○
	50~59	○	○	◎	◎	◎	◎	○	○
	60~69	○	○	◎	◎	◎	◎	○	○
	70~79	○	○	◎	◎	◎	◎	○	○
	80~89	○	○	◎	◎	◎	◎	○	○
	90~99	○	○	◎	◎	◎	◎	○	○

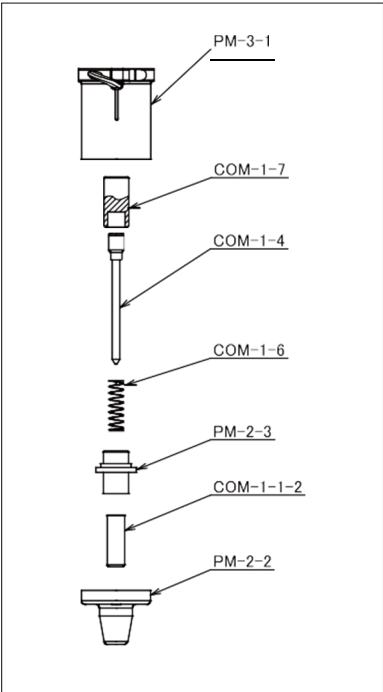
*The above is set speed 30.

◎:recommended, ○:acceptable, △:acceptable but not recommend, ×: can not mark

Appendix 2 : Spare parts list

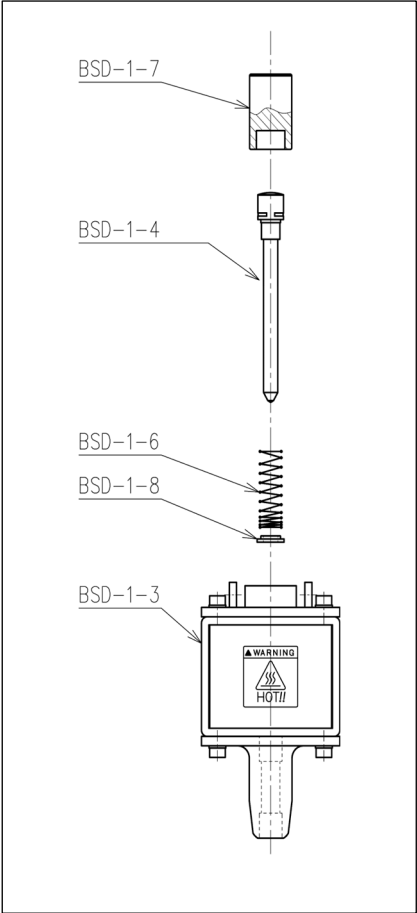
Please change the following consumption parts when you got some quality problems.

【Standard solenoid】



No.	Name
PM-2-2	Pin Holder
COM-1-1-2	Socket Bush
PM-2-3	Pin Guide
COM-1-6	Spring
COM-1-4	Stylus Pin
COM-1-7	Hammer
PM-3-1	Solenoid Assy

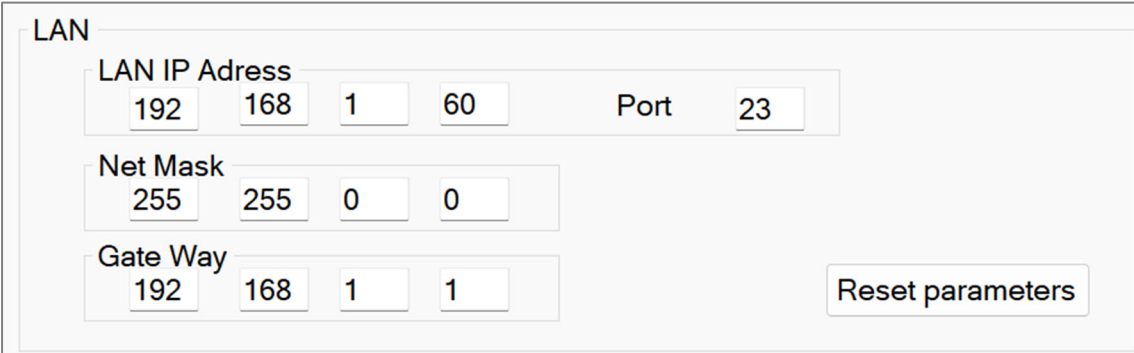
【BSD】



No.	Name
BSD-1-3	BSD Solenoid Block
BSD-1-4	BSD Pin
BSD-1-6	BSD Spring
BSD-1-7	BSD Hammer
BSD-1-8	BSD Washer

Appendix 3 : LAN connection

The default TCP/IP settings on the MB3 are below. Go to "Preferences" → "Communication".



LAN

LAN IP Address

192 168 1 60 Port 23

Net Mask

255 255 0 0

Gate Way


192 168 1 1

Reset parameters

Update the settings for the peer-to-peer or router network after the connection has been confirmed via USB or WiFi.

1. Peer-to-Peer Connection

Connect the PC and MB3 directly using a crossover cable or a switching hub. After establishing the connection, check the IPv4 address on the PC, update the LAN IP address shown as below, and confirm by clicking the OK button.



LAN

LAN IP Address

169 254 1 60 Port 23

Net Mask

To check the IP address on Windows 11, go to "Settings" → "Network & Internet" → "Advanced network settings" → "Hardware and connection properties". Find the connected device name and check the IPv4 address.

2. Router network

If you are connecting through a router and the local IP address is set to 192.168.X.X, you can easily connect by plugging the LAN cable into the router. If there is a conflict, change the LAN IP address of the MB3.

Tocho Marking Systems, Inc.

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