

MPP SABER KIT INSTALL GUIDE

In collaboration with:





SLOTHFURNACE



Chassis' designed by Jimmy's Saber Junk



Install Guide by Sabers Forever April 2025

INSTALLATION DIFFICULTY:

Even though these are not Master Chassis, they are not without their difficulty. We have decided to add a gauge based on the process of installing the electronics in each chassis. Hopefully this will help you understand the challenge of the install.

אבדערגה זוגוזוה פותופותטע אבדערגה זוגוזוה פותופותטע

ECO - You have a saber build under your belt and declare "I'm not afraid"

ECO CC - You are more confident in your skill and are ready for the next trial.



ECO CAST - "It's like something out of a dream." Almost identical to the ECO CC



This guide will provide you with a visual index of the saber parts, along with assembly instructions for the "**MPP SABER KIT**" ECO, ECO CC and ECO CAST Chassis'

You will need to possess basic soldering skills and an understanding of how to read wiring diagrams in order to complete this installation.

Please note: ALL IMAGES ARE PROVIDED FOR VISUAL REFERENCE ONLY. THE PHOTOGRAPHS ARE NOT SHOWN AT A 1:1 SCALE.

First thing to note is that there are 3 different variants of this lightsaber. ANHv1, ANHv2 and ESB. The changes are subtle, but not enough for there to be 1 Idealized version of this saber.

STEP 1 - HILT PREP

ANHv1 kit "Bent Nail"

- 1. Hilt & crinkle shroud
- 2. Microflash display plate
- 3. Bubble strip
- 4.7x T-grips



ANHv2 kit

- 1. Hilt & crinkle shroud
- 2. Microflash display plate
- 3. LED & PCB set
- 4. LED leg bending jigg
- 5.7x T-grips



ESB kit

- 1. Hilt & painted shroud
- 2. Microflash display plate
- 3. Bubble strip & PCB
- 4. 6x T-grips
- 5. Faux wire accents
- 6. Alt. blade holder (for faux wires)



HILT BREAKDOWN FOR INSTALL

All three lightsaber variants function and open the same way.



The blade retention screw is in the top window above the S on the saber body. It takes a 1.5mm allen wrench.



All kits will come with the MICROFLASH plate, but this is only for those that want to display it as the original flash cell. All of the plates were removed from the prop for the movies. For that reason, the application of the plate is not shown in this guide.



Remove the shroud to avoid damaging it during install. This can be done by loosening the top knurled thumb screw on the emitter. Once loose, it should slide off easily.





The goal now is to remove the inner blade holder to access the switch PCB for installation. Completely remove the flat head screws that hold on the switch actuators. There are springs that you will not want to lose under the actuator plate. be careful on removal.







Remove the bottom of the saber (where the T-grips will go) to allow for the blade holder to drop out once the two small screws above the windows with "E" on the body are removed. The blade holder should slide out easily giving access to the switch PCB.





STEP 2 - COMPONENTS

The Install kit will come with the components seen below. The "added parts" are referring to parts that are different or added to the base ECO kit that make up the high end chassis designs.

ECO INSTALL KIT

- 1. ECO chassis
- 2. Killswitch
- 3. 31mm Speaker
- 4. Positive terminal
- 5. Negative terminal
- 6. NPXL blade connector
- 7. Soundboard
- 8. 18650 Li-Ion battery



ADDED ECO CC PARTS

- 9. ECO CC chassis
- 10. Crystals
- 11. Rotary connector (f)
- 12. Rotary connector (m)
- 13. Crystal NPXL PCBs



ADDED ECO CAST PARTS

- 14. ECO CAST chassis
- 15. Crystals
- 16. Rotary connector (f)
- 17. Rotary connector (m)
- 18.Crystal NPXL PCBs



ANATOMY OF THE ECO CHASSIS



ANATOMY OF THE ECO CC CHASSIS



ANATOMY OF THE ECO CAST CHASSIS





STEP 3 - TEST FIT COMPONENTS

If something is too tight, use your best judgment and determine if the chassis or the component should be altered. For example, the NPXL PCB is easy to sand/file, where as the speaker holder might only need the lip of the holder chamfered.



The following section will provide insight on soldering the wire leads to the components and recommended wire paths. Wire color is not critical but to avoid confusion, it is recommended to use different color wire to identify where it is coming from when connecting each wire to your chosen soundboard.

ELU		<u>WIRE LENGTH</u>	<u>WIRE GAUGE</u>	COLOR RECOMMENDATION
LCU	Blade Connector-	5 inches (130mm) 5 Inches (130mm)	one 28AWG wire one 22AWG wire	(green) (black)
	Switch PCB-	7 inches (180mm)	three 28-32AWG wire	(blue, orange, white)
	Speaker-	6 inches (150mm)	two 28AWG wire	(yellow)
	Negative-	5 inches (130mm)	one 22AWG wire	(black)
	Killswitch-	5 inches (130mm)	one 22AWG wire	(red)
	Positive-	8 inches (200mm) 3 inches (80mm)	two 22 AWG wire two 28AWG wire	(red) (red)

Crystal Pixel- 5 inches (130mm)

six 28AWG wire

(2 red, 2 brown, 2 black)



STEP 4 - ELECTRONICS INSTALLATION

Begin your install by starting with the positive terminal. For ease of installation, even if there is a crystal chamber, the positive terminal will be wired the same. The power for the crystal pixels will be borrowed from the blade connector.



The chassis' only requires power to the killswitch and blade connector from the positive terminal. Feed the wires accordingly.



ECO- Wires should come out of the killswitch and blade connector holders.

ECO CC- Wires should come out of the killswitch and one side of the chassis wire passages. The side you choose does not matter.

Push the Positive Terminal into its holder.

Solder the wire to the negative terminal and push it into its holder. The wire needs to simply come out the other side of the chassis to the soundboard holder.





Trim one of the outside legs of the killswitch all the way down. You will only need the middle leg and one outside leg. Solder the pre-cut 22awg wire to one of the killswitch legs. Add heat shrink.





Solder the wire coming out of the killswitch holder to the killswitch.







The wire coming from the killswitch needs to lead to the soundboard holder. Push/glue the killswitch into the holder and feed the wire up to the soundboard holder. Solder the wires to the speaker and feed them through the chassis to the soundboard holder. Glue the speaker into the chassis.





ECO

Next is the Neopixel blade connector. Prep the blade connector by soldering the negative and data wires. Then solder the positive from the chassis to the connector. Feed the wires into the blade connector holder and out of the soundboard holder.





Finally, Feed the wires for the switches into the chassis via the hole right under the blade connector. Once the soundboard is soldered, the last step will be to solder the wires to the switch PCB that is attached to the blade holder.



Please continue the **ECO** guide on page 18.

ECO CAST

The only difference between the ECO CAST and the ECO CC is that the top chassis connector needs to be firmly secured onto the cast part. You can simply glue the two pieces together, or if you want extra support. Tap the holes in the top of the cast chamber with an M2 tap and use M2 button head screws to secure it down.





It is still recommended to glue the two pieces together even if you tap the cast part.





Continue following the rest of the steps for the ECO CC Chassis.

Glue the accent pixels into the bottom of each crystal. Both crystals will be soldered differently, but they will be in series. The first crystal which will be at the top of the crystal chamber should have a positive wire soldered to both the "in and out" positive pads while 1 data and negative should be soldered to the "In" corresponding pads.





Feed the crystal in through the bottom of the crystal chamber. Following the diagram above, feed the wires down to the bottom of the crystal chamber via one of the wire passage ways. The positive to the rotary connector can be left alone hanging out the top for now. I recommend glueing the crystal in place.

Feed the wires from the bottom of the crystal chamber into the bottom part of the chassis, the wires will need to come through the soundboard holder, then routed up through the crystal holder.



Solder the wires to the other crystal following the diagram below.





Pass the wires labeled "to soundboard" back into the crystal holder and out the soundboard holder. Before glueing the crystal, If you have a way of testing your work, please do so now. If not, you may want to wait to glue things shut until you can test the install when it is completed.





Pre solder your switch wires and the wires cut for the blade connector to the rotary connector. Then push the wires through the crystal chamber to the soundboard holder. Once the wires are run through, solder the positive wires coming from the crystals and positive terminal to the positive pads on the rotary connector. Glue the connector into the chassis top.





The crystal chamber chassis has a locking top that will connect the bottom chassis to the switches and blade connector via the rotary connector (m). The cap will be retained inside the hilt with a screw that is provided with the install kit.





Glue the rotary connector(m) into the chassis cap and feed the switch wires through the hole below the blade connector. The negative, positive and data should be coming out of the blade connector holder. Solder the blade connector and glue it into the cap.



Place the wires though the hole in the blade holder and line up the divot in the cap with the set screws on the opposite side the switch wires are coming out of. The install kit included a small 3mm set screw to secure the cap inside the blade holder.





Once the cap is secured in place, test that it is snug enough by putting the chassis in and twisting to lock it in place. release it by twisting the opposite way. Tighten the set screw accordingly.

ECO

Slide the chassis into the blade holder taking care to thread the switch wires through the hole under the switch PCB holder. Align the divot on the chassis with the circled hole. Use the supplied 3mm set screw to secure the chassis into the blade holder.





Solder the switch wires to the switch PCB and secure it onto the blade holder with the original screw that was holding it.





Make sure all the wires are cleanly tucked.



Please note that if you are installing the ESB kit, there will be an alternate blade holder to allow the faux wires to be inserted into the saber when assembled. Please use this blade holder if that is the case. ANHv1 and ANHv2 will use the standard blade holder with no faux wires added.



ESB blade holder with holes

ANH blade holder without holes

The top emitter accent ring and spring will need to be swapped over to the ESB blade holder from the ANH as well. Unscrew the top ring and the spring will fall out. Place them both inside the alternate blade holder.



Before moving forward with assembly of the outer parts of the saber, It would be best to finish soldering the soundboard. This will avoid any unwanted scratches or scuffs while working on finishing the install.

PART 5 - Soldering the Soundboard

Next the soundboard is ready to be soldered. Please find your selected soundboard wiring diagram on the following pages. The rest of the install will resume after the soundboard is wired.

Please note, this guide is provided to assist with the wiring and assembly of this kit. For further details relating to the programming or setup of your chosen soundboard, please refer to the users manual. All wiring diagrams show crystal accent neopixels for the ECO CC chassis. If you have an ECO chassis, disregard them.









Once you have cleanly soldered all your wires to the soundboard. Tuck the soundboard into the chassis using Jimmy's Saber Junk's amazing soundboard holding system. No glue needed, simply slide the soundboard in top first!

I strongly recommend putting a battery in the chassis at this point and making sure everything lights up and functions as intended.





The **ECO** chassis is permanently affixed inside the blade holder, but the **ECO CC and ECO CAST** can be removed giving a nice view of the crystal chamber.





Slide the blade holder into the outer shell of the saber body.



We will begin assembling the saber to test normal control and functionality before finally adding all the various saber greeblies. Attach the activation box and tiny side screws to secure the blade holder in place. If you have an ECO CC chassis, test that all your connections are good by placing the chassis into the saber and testing the buttons work and blade connector lights up.



STEP 6 - T-GRIPS

This apply's to all MPP variants. Alignment for your chosen saber is easy with the Tgrip guides designed by WannaWanga. These guides can be printed at home or purchased on TheSaberArmory.com. Simply align the guide with the shroud, then align your clamp with the guide. Finally apply the grips!





Please note that each T-grip on the side with the adhesive strip is a notched area without any adhesive. This is meant to be the bottom of the T-grip and allows clearance over the ribbed bottom of the saber.



Take your time with the first T-Grip as this will set the alignment for every other T-grip. Once the first is down, the rest will be easy to apply.





STEP 7 - GREEBLIE ASSEMBLY

Each variant of the MPP has its own distinct features. This portion of the guide will address how to assemble any extra greeblies that are supplied with the model you have chosen.

When installing your clamp card, either a bubble strip or the Blue PCB. The clamp sleeve is malleable enough to bend the clamp walls with your fingers. This will bring the parallel walls closer together (or further apart) and allow for the clamp to hold the bubble strip or blue PCB. Depending on the direction you are trying to bend the clamp, It might be required to remove the clamps lever(screw) or to completely remove it from the body of the saber.

anh Vi

This variant is the most straight forward. The clamp comes with a fastener known as the "bent nail" it is theorized by many that the lever on the activation box was just that. A quick and easy way to secure the clamp section for the movie. The way KR Sabers designed this allows you to remove the head of the "nail". The head is threaded into the body of the nail.





The Bubble strip will be loose in the clamp. Apply some E6000 in the clamps inner groves and slide the bubble strip into the position you desire. The cut off bubble on the card should be at the bottom of the clamp.





auh ns

The v2 variant has a distinct clamp card and a refined lever to close the clamp. The clamp card will require some assembly. Start by cutting the red LEDs apart. First cut the boarder off of the legs using a pair of sharp scissors.

Then separate the red LEDs with a pair of sharp flush cutters until you have 7 individual pieces. Be careful not to bend or distort the legs of the red LED's.







It is recommended to clean up the edges of the LED's by the legs and on the sides to make them nice rectangles. I did not clean mine up so you can see how it looks a bit messy as we move forward.

Place the LED's in the supplied leg bending jigg designed by WannaWanga. The LED's will snap into the bottom jigg and then the legs will be bent into the correct shape with the top part when they are pressed together. It is important to watch the legs bend as you push the pieces together. They should not bunch up or move to other legs tracks in the jigg. Take your time with this. The LED will come out on the opposite part of the jigg.



auh ns

Once all the LED's are cut and in the PCB, flip it over and secure it down to a flat surface. Solder each line, The first solder joint of each LED will tac it in place and stop it from moving around easily. You can then pick up the PCB and trim the legs using flush cutters.



The PCB should fit snuggly in the clamps groves. It is a little bit longer than the clamp, but this is accurate to the prop.



ESB

The ESB has exposed wires, a PCB under the bubble strip and an even further refined screw to secure the clamp. Start by gluing the faux red wire into the metal sleeves. Glue it into the designated spot.







Next glue in the brown and grey faux wires next to the red wire we just attached. The order of all three should be the same. Red, Brown, Grey for all ESB sabers.

Finally on the other side of the saber, glue in the Blue and White wires in the same order as the photo to the right.







With a light sanding on one side of the PCB, it should snap right into the bubble strip.

ESB

The Bubble strip will be loose in the clamp. Apply some E6000 in the clamps inner groves and slide the bubble strip into the position you desire. The cut off bubble on the card should be at the bottom of the clamp.







FINAL TIPS

I have noticed the top plunger could benefit from being glued together. The switch is a 3 part assembly. The little set screw should be glued into the aluminum accent nut and then finally glued into the plastic plunger piece in the activation box plunger.









If your clamp is moving around too much, you can add a small bit of double stick tape on the body of the saber where the clamp sits. It will be easier to put the plastic part onto the body of the saber before the metal clamp it self.







Congratulations on completing the installation of your saber! We hope you had much success with this guide.

May the Force be with you.









