



Wizard™ CMC Model Z1 Getting Started Manual FrameShop



For sales, service and spare parts

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Wizard CMC Model Z1 Getting Started Manual

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Wizard CMC Model Z1 Hardware and Software Getting Started Manual

Check Contents

Review equipment upon arrival for shipping damage. Contact Wizard if any damage is noticed. Verify that the contents shown in the packing slip are received. Please save the packaging.

Equipment Required

The CMC Stand **must be assembled first** before unpacking the Wizard™ CMC (Computerized Mat Cutter)

1/4" NPT female fitting on main air line, or quick disconnect attachment

110 Volt Electrical outlet

Air source - You will need an air compressor that supplies between 100psi and 120psi.

Surge protector

Table for the computer/monitor

Where to Find More Information

Knowledge Base

The online help and Knowledge Base contains a wide assortment of searchable documentation and information. They can be found at:

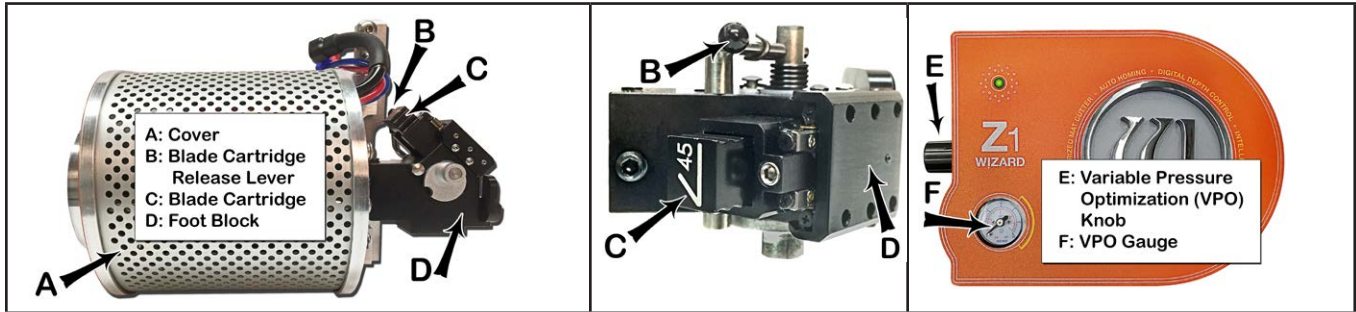
- FrameShop Software Online Help: <https://wizardcutters.atlassian.net/wiki/spaces/FrameShop4x/overview?homepagelId=65929268>.
- Z1 Hardware information can be found on the Knowledge Base: <https://wizardcutters.atlassian.net/wiki/spaces/KB/overview?homepagelId=229492>.

Website

Check out the Wizard website at www.wizardcutters.com for additional information.

CMC Parts

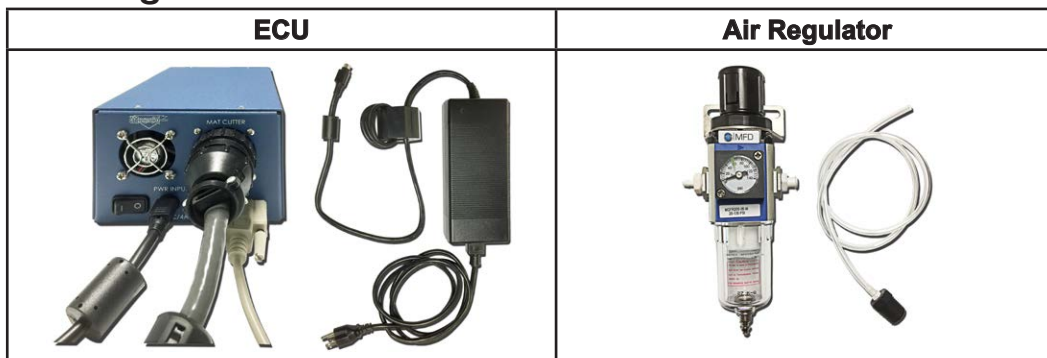
Head Labeled



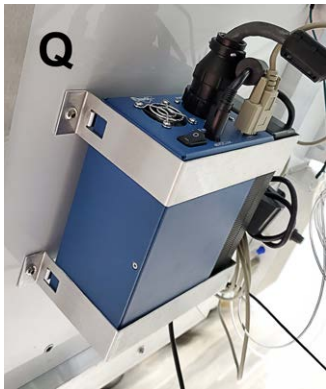
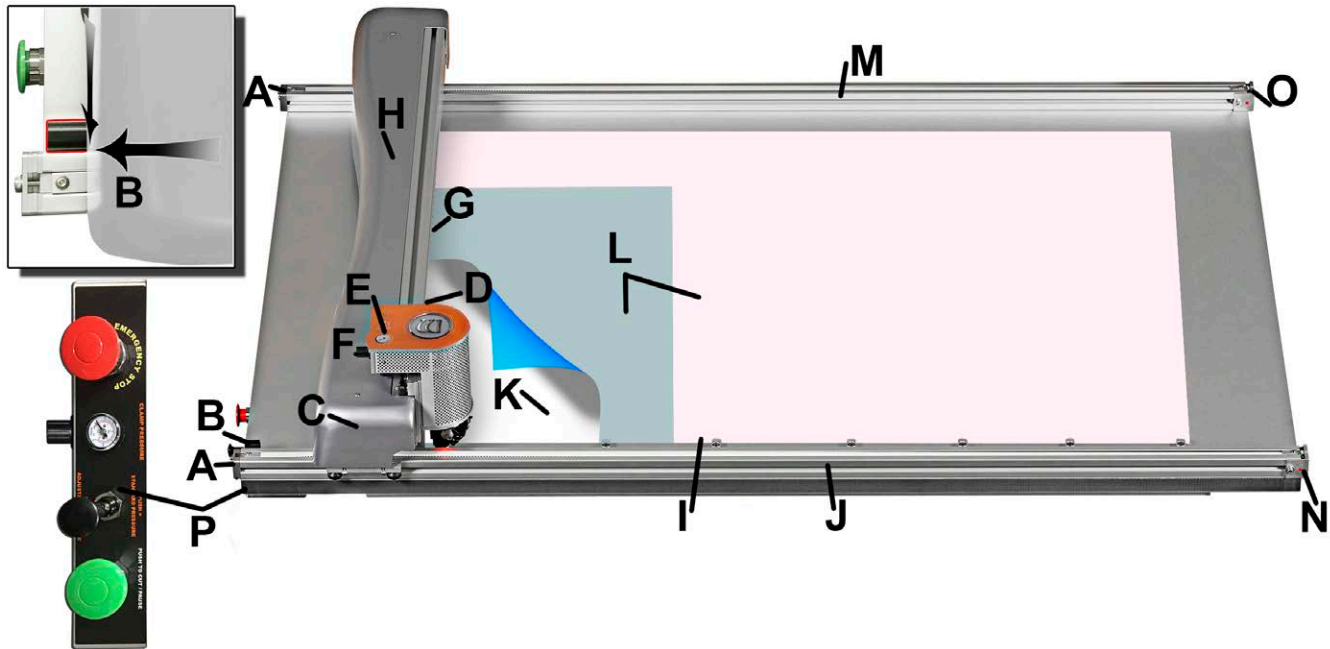
Cartridges

45°	45°+	52°	90°	Deboss Thin	Deboss Medium	Deboss Wide	Pen

ECU and Air Regulator



CMC Parts Labeled



- | | |
|--|--|
| <p>A: Belt anchor
 B: Magnetic Stop
 C: Vertical belt tensioner (not visible)
 D: Head grabber arm
 E Variable Pressure Optimization (VPO) gauge
 F: Variable Pressure Optimization (VPO) knob
 G: Vertical clamp
 H: Gantry</p> | <p>I: Horizontal clamp
 J: Lower rail, containing drive belt
 K: Mat to be cut
 L: Slipsheets (1-2 sheets of 4-ply)
 M: Upper rail, containing drive belt
 N: Horizontal tension adjustment (lower rail)
 O: Horizontal tension adjustment (upper rail)
 P: Control Panel
 Q: ECU Brackets (attach to back of CMC)</p> |
|--|--|

Setting up the CMC

Congratulations on acquiring the **Wizard™** computerized mat cutter (CMC). The following instructions will walk you through unpacking and setting up the CMC.

Begin by clearing an area for the CMC. Refer to the Stand Instructions for the minimum amount of space needed.

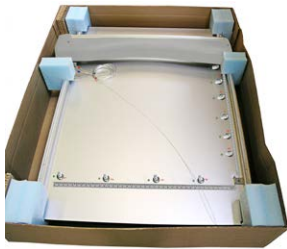
Setting up the Stand or Wall Mount

*** ⚠ CAUTION: The stand MUST be assembled before unpacking the CMC so that the CMC can be immediately installed in the operating position.***

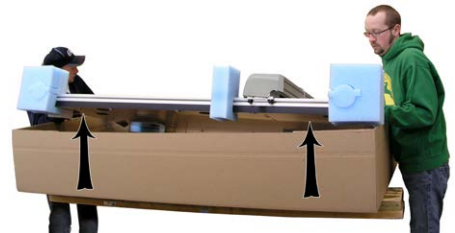
Assembling the Stand Assembly

Refer to the stand assembly instructions located in the box. If the instructions or any parts are missing, call Technical Support at (888) 855-3335.

Taking the CMC out of the Box



1. With the help of a second person, place the box on a flat surface, cut the strapping tape and lift the cover of the box away. Take care to save the packaging.



2. Working together, carefully lift the CMC straight up out of the box.

3. Gently set the CMC upright resting on the foam corners.

4. Position the CMC directly on the stand, making sure that none of the air lines are crimped, and that the grounding strap on the right rear side of the board is not crimped between the board and stand arm.



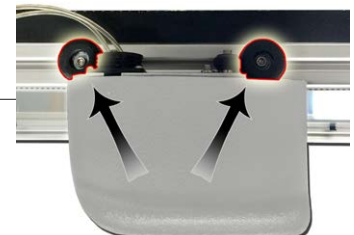
5. Remove the foam corners and move the box out of the way.

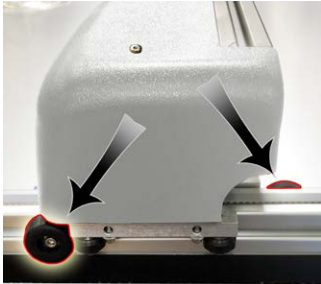
6. Follow the instructions that came with the stand to secure the CMC into place and attach the grounding strap.

7. Place the foam corners back into the box. Save packaging, foam corners and shipping blocks (removal instructions below) for future use. See Contract Section 1 "Shipping Charges."

Removing the Shipping Blocks

1. Locate the four shipping blocks holding the gantry in place. There are two on either side of the gantry on top of the upper rail.

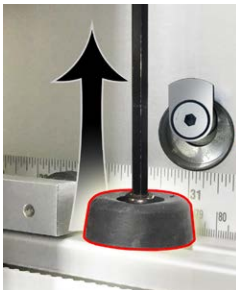




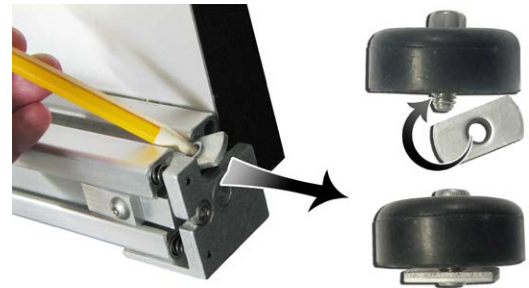
2. There are two shipping blocks on either side of the gantry on the bottom rail. One is to the left side of the gantry on the underside of the bottom rail. The other is to the right of the gantry on the top of the bottom rail.



3. Remove the two screws holding the gantry cover in place, and set the cover and screws aside.

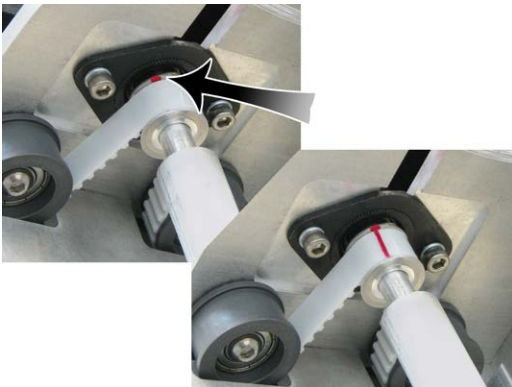


4. Remove the shipping blocks by loosening the 3/16" Allen screw from the T-Nut. Slide the T-Nuts to the right end of the rail; a pencil tip helps. Reattach the T-Nuts to the shipping blocks and place them in the shipping box for storage.



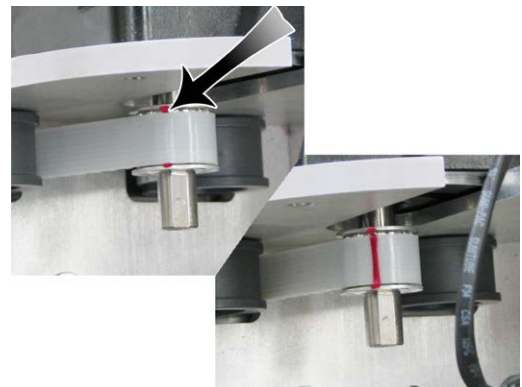
Check Squareness

Check the Drive Belt Lines



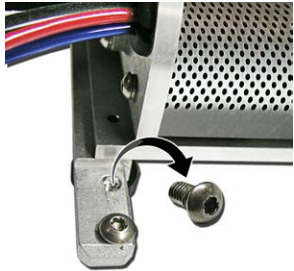
1. Move the gantry all the way to the left. Move the gantry slowly toward the right until a red mark is visible on the drive belt of the upper gantry. Confirm that the red mark lines up with the red mark on the toothed pulley.

2. Without moving the gantry, look at the lower drive belt of the gantry and make sure the red mark lines up on the lower drive belt and the toothed pulley. If they do not, call Wizard Technical Support.

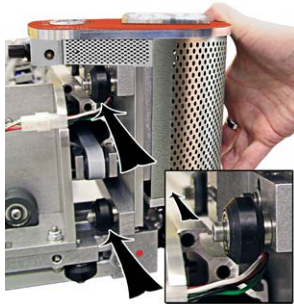
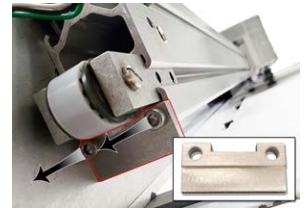


Head Installation

Install the Head onto the Gantry



1. Remove the two 5/32" screws from the head and set aside.
2. Move the gantry to the right edge of the CMC.
3. If present, remove the Head Stop Plate at the bottom of the gantry under the belt tensioner. Two screws hold it in place. Set plate and screws aside.



4. Point the head so that the foot block faces toward the CMC and the wheels are close to the bottom of the gantry.

5. Line up the wheels on the head to the center channels of the gantry arm and ease the head onto the gantry.



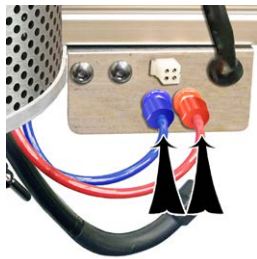
6. Roll the head up the gantry until it lines up to the head grabber arm on the right side of the gantry.



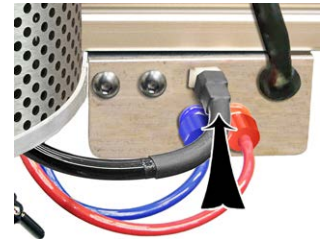
7. Holding the head in position so that the head lines up neatly to the head grabber arm, replace the two 5/32" screws, making sure they go into the head grabber arm and into the head and tighten firmly.



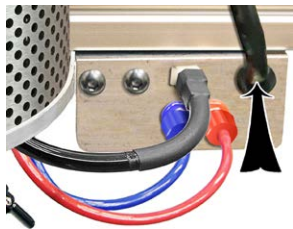
8. If removed, replace the Head Stop Plate to the bottom of the gantry under the belt tensioner after the head is slid onto the gantry. Note that the notched side is placed toward the gantry.



9. Connect the air to the head by twisting the two air fittings together, **matching the colors**.



10. Connect the head power plug (square connection) to the head grabber arm.



11. Locate the M12 cable that is attached to the grabber arm.

12. Plug the other end of the M12 cable into the M12 port at the top of the head, twisting the thumbscrew to secure it.



Hooking up the Gantry and Air Lines

Connecting the Board Cable



Carefully align the pins of the board cable before applying pressure to plug it in. The connector is keyed to avoid incorrect pin alignment. Forcing the connector will result in damage.



1. The board cable connects the gantry on the CMC to the ECU. Connect the male end of the board cable to the back of the ECU by aligning the pins and turning the locking ring until it seats itself and locks into place.

2. Connect the female end of the board cable to the back of the gantry in the same manner.

3. Move the gantry to the far right of the CMC and back to the left to make sure the board cable does not get caught on anything. If the board cable is obstructed,

this will affect the cuts.



Attaching the Air Lines



1. Follow the air line with the blue connector from the top of the gantry. Make sure that it is connected to the blue connector on the control panel box on the back of the board, and that none of the air lines are crimped.
2. Follow the air line with the red connector from the top of the gantry. Connect it to the right side of the air regulator by inserting the red connector on the end and twisting it into place.
3. If it's not already connected, insert the air regulator line (short air line with reducer) onto the left connector of the air regulator.



4. Plug the reducer located on the short air line from the left side of the air regulator into the main air supply via 1/4" NPT female connector or quick disconnect, whichever type was purchased (shown is the 1/4" NPT female adapter). Teflon tape can be used on the thread to reduce possible air leakage.
5. The air compressor should supply at least 100psi.
6. Strap the air regulator with the glass bowl down to the left large wall bracket or side of stand, making sure not to crimp any air lines. The hardware to connect the air regulator to the stand is included in the stand hardware kit.

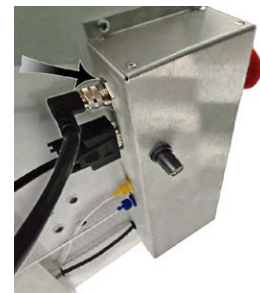
*** ⚠ CAUTION: The air regulator is factory-set. Do not make adjustments to it.***



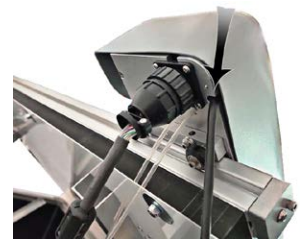
Attach the M12 Cable to the Control Panel



1. Locate the M12 cable that is plugged into the back plate of the gantry.
2. Plug the other end of the M12 cable into the M12 port located on the Control Panel on the back of the board, twisting the thumbscrew to connect it.



3. Replace the gantry cover and attach using the two screws that were removed earlier.
4. Make sure that the M12 cable lies within the gantry channel so that it is not pinched in the gantry cover.
5. Turn on the air.



Hook up the Computer

Hook up Computer and Peripherals



1. Place the computer on the computer stand.

2. Locate the Ferrite tube, which looks like a black doughnut and open it.. Wind the ECU power supply output cable around the inside of the Ferrite three times, then close it shut.

Ferrite three times, then close it shut.



3. Place the ECU and its power supply into the ECU bracket on the back of the board.

4. Locate one of the zip ties. Slip it through the plastic mount on the side of the ECU bracket and attach it to the Ferrite on the output cable of the power supply then secure it in place.



5. Hook up the keyboard and mouse by plugging their USB cables into the computer. Some of the USB connections are in the back, and some are available along the side of the computer.

6. Plug in the computer power cord into the matching port on the computer, then plug the power cord from the computer into a surge protector.



Connect the ECU

⚠ WARNING: High voltage. No user serviceable parts inside the ECU.



1. Connect ECU USB cable to the matching port on the front of the ECU.
2. Plug the other end of the USB cable into the USB port on the computer. If your system came with a USB hub, plug it in between the ECU and the computer.



3. Connect the power output cable to the back of the ECU.
4. Connect the ECU power supply to the surge protector.

5. Connect the DB9 cable to the ECU.



6. Connect the other end of the DB9 cable to the control panel box on the back of the board.
7. Locate the zip tie and slip it through the plastic mount attached to the back of the board.
8. Take the excess DB9 cable and loop it around a couple of times then use the zip tie to attach it to the plastic mount on the back of the board.



9. The board cable was plugged into the back of the ECU when we hooked up the gantry previously. [See "Connecting the Board Cable" page 11 for more information.](#)
10. The ECU is now connected.

Control Panel

The control panel is located on the left side of the board, and contains the most commonly used buttons.

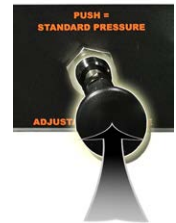


Red Abort Button

Hit the red Stop Button to immediately abort the current cut; the cut will be stopped and the motors will be disengaged. Pull out the Stop Button to return to cutting. You will be asked to Align the Head before cutting again. [See “Align the Head” page 21 for instructions on how to Align the Head.](#)

Mat Clamp Pressure Knob

The Mat Clamp Pressure Knob switches between standard and low clamp pressure. Push the knob in to use standard pressure or pull it out to use lower pressure for fragile material such as foamcore.



Clamp Pressure Adjustment

The Clamp Pressure Adjustment is used to adjust the low clamp pressure setting. The gauge displays the clamp pressure as it is cutting. To adjust the clamp pressure, pause the current cut, then pull out the black pressure knob underneath the control panel and turn it. Turn the knob clockwise to increase the pressure adjustment or counter-clockwise to decrease it. Push it back in to set it to this pressure.

Green Cut Button

Push the green Cut button to cut the current design on the Cut Preview Screen. If required, you will be asked to Align the Head. [See “Align the Head” page 21 for instructions on how to Align the Head.](#) During cutting, you can also push the green Cut button to pause the cut.



Turn the System On

Power up the ECU

Press the | on the rocker switch on the back of the ECU to turn on the ECU.

The ECU must be on for the CMC to cut. Press | on the rocker switch to turn it on.



Boot up the Computer

1. Turn on the computer. Allow a minute or so for it to power up.



2. Double-click on the FrameShop icon to start the software.



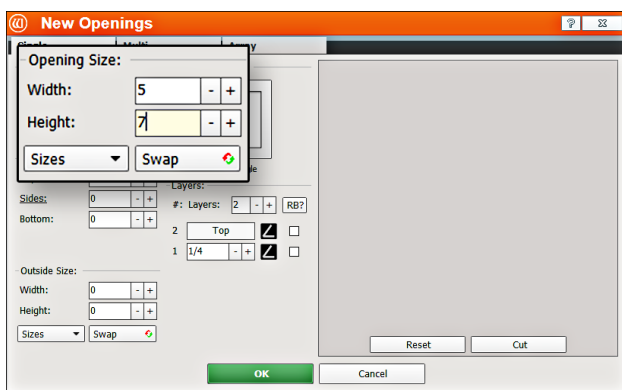
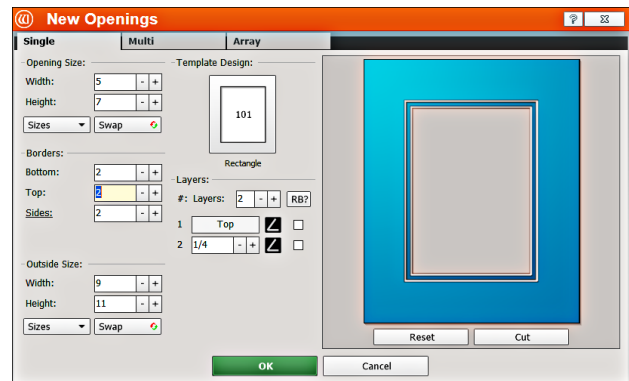
Design the First Mat

Edit New Mat



1. Click **Design** on the main screen to create a new design.

2. Stay on the **Single** tab. There are three tabs to select from: **Single**, **Multi**, and **Array**.



Opening Size

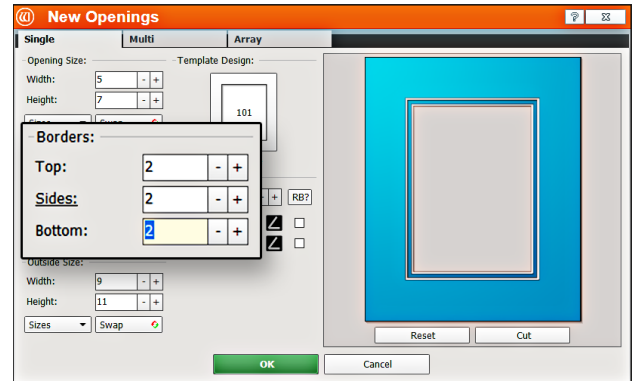
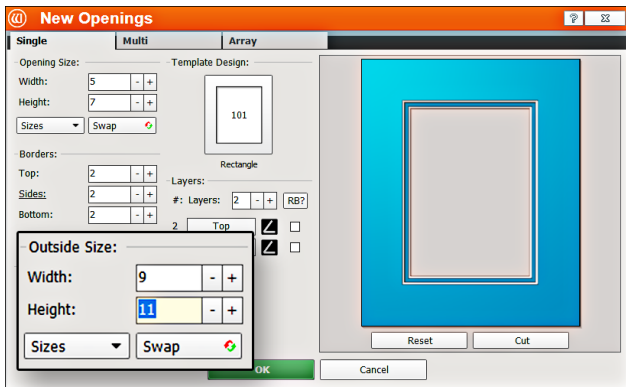
1. Enter 5x7 (approx. 13x18 cm) for the width and height of the opening.

NOTE: The Outside size field will display on the top if **Edit Opening Size First** is unchecked in the **Admin > Defaults**.

Optionally, enter the outside dimensions first.

Borders

1. Enter 2 (approx. 5 cm) for the *bottom, top and side* mat border widths.



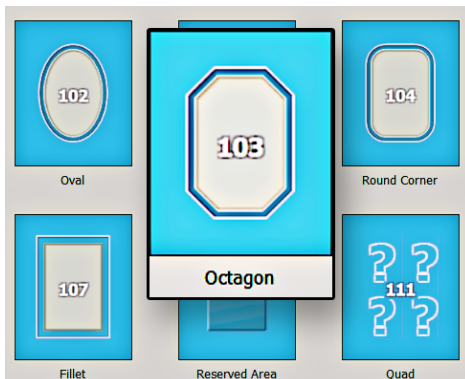
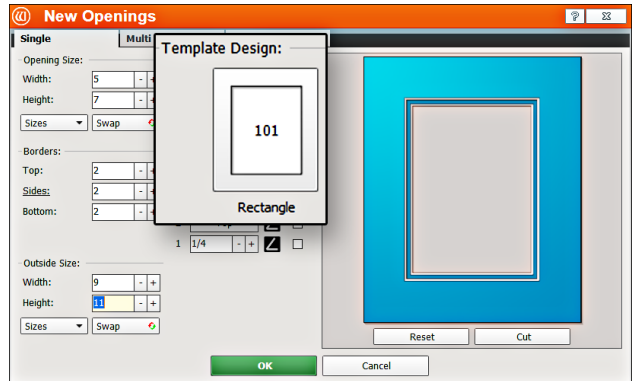
Outside Size

1. Make sure outside size is 9x11 (approx. 23x28 cm). Don't Click OK yet.

If the opening size and borders are entered first, the program automatically calculates the outside size when tabbing out of the borders field.

Select Template

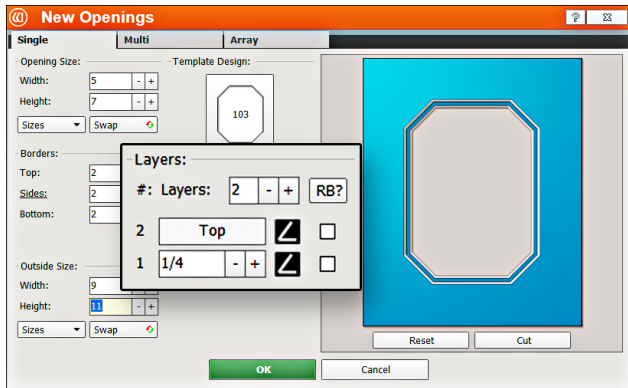
1. Click on the template thumbnail under template design.



2. The **Template Library** opens.

Note: There are several pages of templates. Click on one of the numbered tabs to see a new page.

3. Click on new template thumbnail to select it.
4. The new template is displayed.



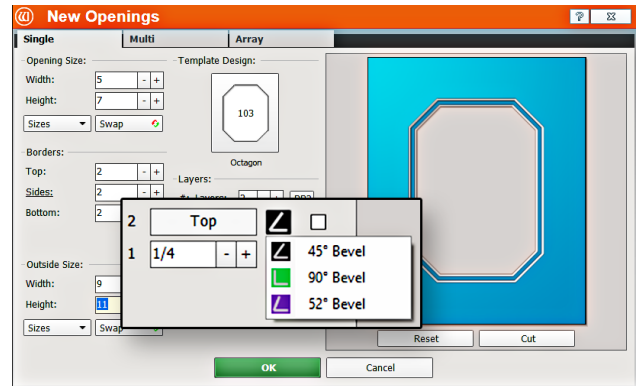
Layers

1. Select the number of layers desired for this project. Leave it at the default of 2 layers.

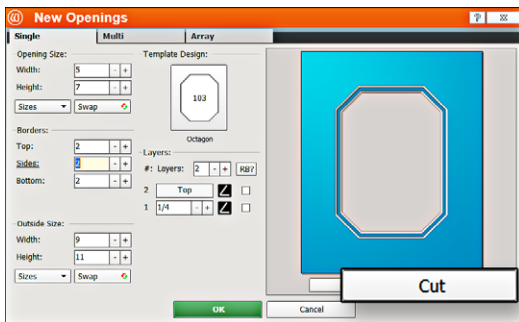
Cartridge Selection

1. Click on the cartridge icon and select the desired cartridge for this layer. For this project, leave it at the default cartridge, which is the 45° cartridge.

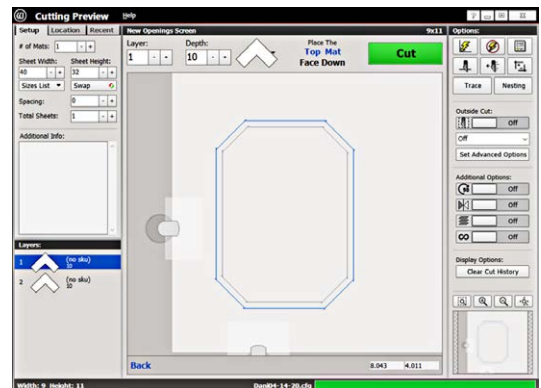
NOTE: Cartridges not currently available will be greyed out.



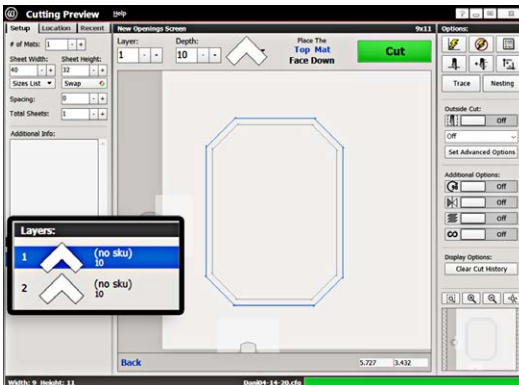
Go to Cut Preview to Cut the First Mat



1. Click **Cut** on the New Openings Screen to take the design to the Cut Preview.

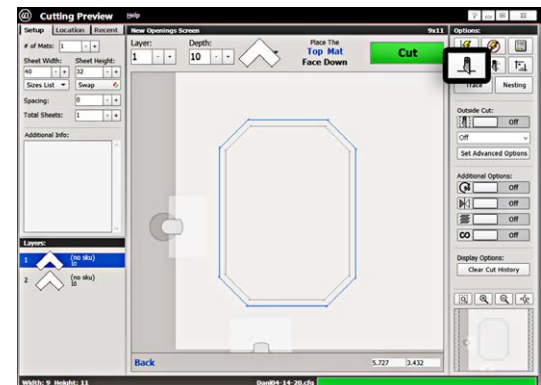


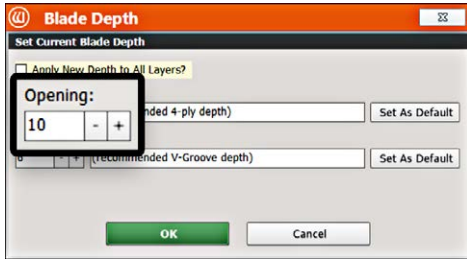
Blade Depth Settings



1. Select the desired **Layer** on the Cut Preview Screen.

2. Click on the **Blade Depth** button.





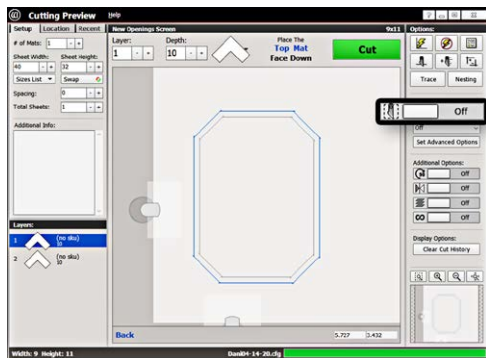
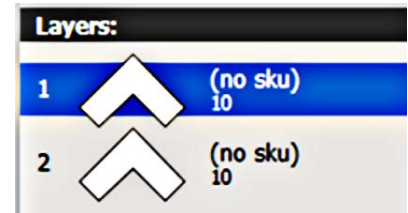
3. On the Blade Depth screen, select the new blade depth number under **Opening**.

For this first mat, leave it at the default setting.

4. Click **OK**.

5. If we had changed the Blade Depth, the new blade depth number would be listed next to the current Layer.

NOTE: Returning to the Editor then back to the Cut Preview reloads the default blade depth.



Not Cutting the Outside

1. Click the **Outside Cut** toggle to **Off** to not cut the outside of the mat. You will be placing a piece of pre-cut matboard into the machine.

Install a Blade



The 45° cartridge is labeled 45° on the end and is black.

1. Push blade cartridge release down to eject the current blade cartridge.



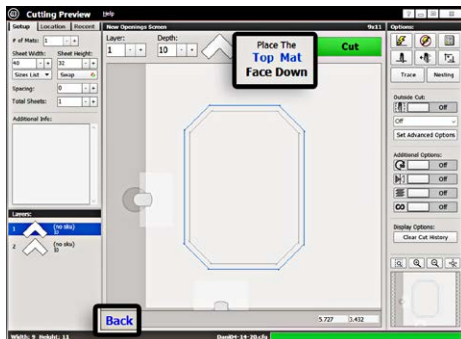
2. The blade cartridge displays a diagram of the blade orientation (shown in contrast). Place the new blade into cartridge with the longest straight side to the right and the bevel face down, lining up the holes of the blade over the pins in the cartridge. The blade should fit snugly into the recess space provided for it.

3. Turn the cartridge over and reinsert into the head with the blade facing the CMC board and the notch on the back of the cartridge facing the head, until it clicks into place. It can only be inserted one way.



WARNING: Do not run the CMC without the blade cartridge in place or damage to the blade cartridge release lever could occur.

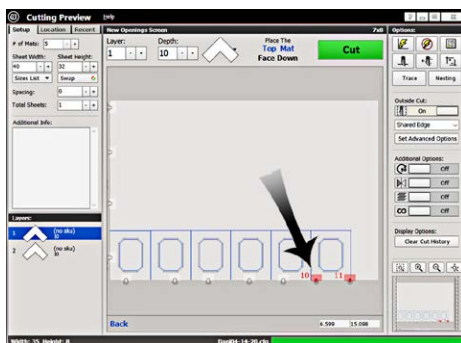
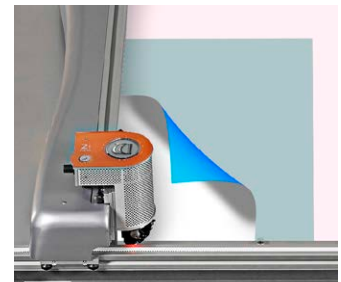
Put Matboard onto CMC



Make sure there are two layers of disposable slipsheets of adequate size underneath the matboard to be cut.

1. The cut preview displays whether the current layer is to be cut from the front or from the back of the matboard. This determines how to place the matboard into the CMC.

2. When cutting from the back, place the matboard face down onto the CMC (facing away from the operator). Make sure the matboard nestles tightly under the horizontal and vertical clamps of the CMC. Since we're not cutting the outside, place a pre-cut matboard of adequate size.



3. If there are any red indicators showing that any of the clamps are in the way of cutting, the clamps will need to be rotated. See [“Adjusting Clamps for Zero Waste”](#) on page 24.

Push Cut

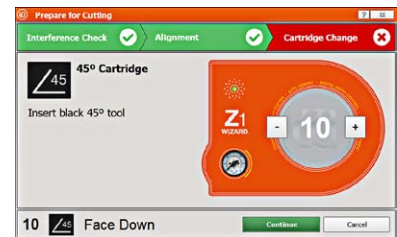


1. Push the green **Cut** button on the control panel on the left side of the board to cut the design. Optionally, you can click the **Cut** button on the Cut Preview Screen.



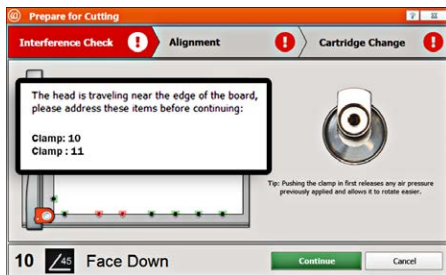
2. If the motors are disengaged, the software will prompt to **Align the Head**. When the motors are disengaged, the gantry can be moved easily back and forth and the head moves easily up and down on the gantry. See [“Align the Head”](#) page 21 for instructions on how to **Align the Head**.

3. If the head is aligned but a different cartridge or blade depth is needed, the user will be prompted to change the blade cartridge and confirm the blade depth. See [“Insert Blade Cartridge and Adjust Blade Depth”](#) page 22 for more information.



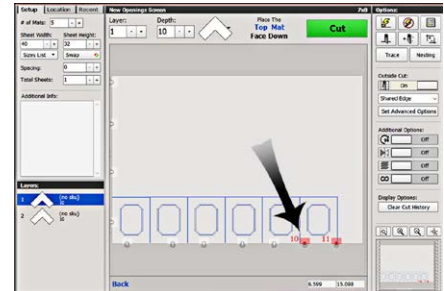
Align the Head When Motors are Disengaged

Align the Head



1. The CMC will do an interference check to see if any of the finger-clamps are in the way of the current cut sequence.

2. If any of the finger-clamps are in the way, the light above the specific finger-clamp on the board will flash red and the Cut Preview screen will highlight in red which finger-clamp number needs to be rotated out of the way before you cut the mat. See

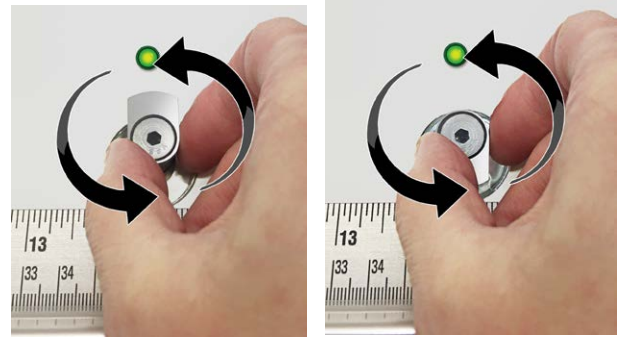


“Head LED Behavior” page 29 and “LED Clamp Behavior” page 30 for information on the LED head and clamp indicators.

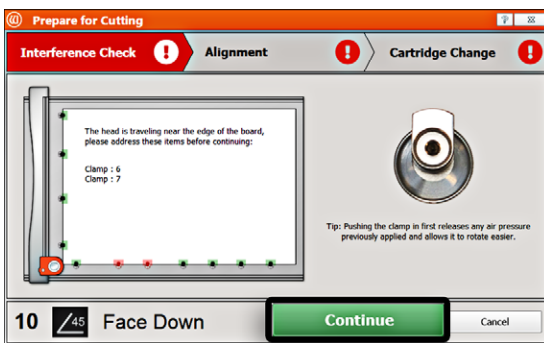
3. To rotate the finger clamp out of the way, push the indicated clamp toward the board to release the pressure.



4. Rotate the indicated clamps so that they are facing away from the center of the board.



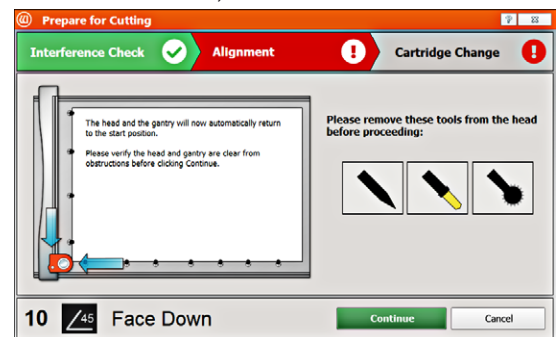
5. When the clamps are engaged, they will be retracted flush with the board.



6. For the next cutting job, the clamps should be rotated back toward the center of the board to hold down the next mat.

7. Click **Continue** on the Interference screen. It will perform the interference check again to make sure that all of the finger-clamps have been correctly rotated.

8. If it passes the interference check, it will continue to the Alignment screen.



9. Make sure that the Pen, Vinyl and Crease tools are not in the foot block. It will then align the head as described below.

10. After aligning the head, it will immediately proceed to the Cartridge Change screen.



12. The Head and Gantry will now automatically move to the left side of the board, regardless of what position on the board they started.

13. The Head will move down until the foot block rests against the Head Alignment Stop.

14. The foot block will align to the home position.

15. If you had clicked the **Align the Head** button, the CMC is now aligned and ready to cut.

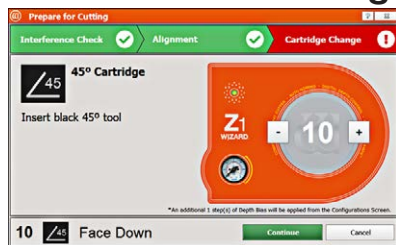
16. If you had clicked the **Cut** button, the CMC will now prompt for the blade cartridge and blade depth.



Adjusting the Air Pressure for Denser Matboard

See [“Adjusting Clamps for Zero Waste” on page 21 for more information.](#)

Insert Blade Cartridge and Adjust Blade Depth



1. After **Aligning the Head**, the user is prompted for the Blade Cartridge and to confirm the blade depth.

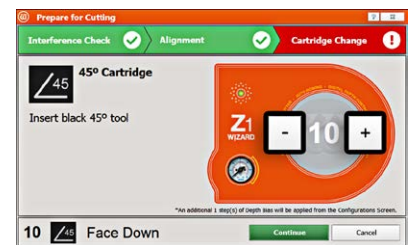
2. If you are using the same blade cartridge as the last mat cut, you will not need to change the cartridge. If it is different, change the current cartridge for the requested cartridge.

3. The screen will also prompt you with the Blade Depth that it will cut. If you wish to change the blade depth, click the minus

(-) or plus (+) buttons on the cartridge change screen to select the desired depth. When you click **Continue**, the hardware will automatically change to that blade depth.

4. The 45° blade cartridge and blade have already been inserted. The blade depth prompt displays what depth it will cut at. Since we don't need to make any changes, click **Continue**.

5. The CMC will begin to cut.



After the CMC Has Cut the Mat

1. After the cut has finished, the head will return to the Home position, and the foot block will rotate to the Aligned position for access to the blade cartridge. Unless the screen prompts to align the head, do **NOT** turn the foot block.

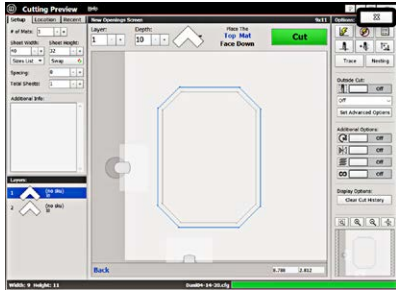
2. Remove the matboard from the CMC. The first mat has been cut.

If The Cut Doesn't Look Right

See [“Troubleshooting” on page 29](#) for more information.

Design a Different Mat

Select a Different Template

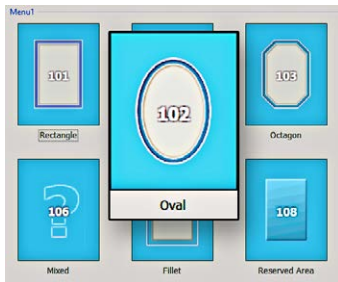


1. Click the “X” on the Cut Preview screen to close this screen and return to the New Openings Screen.

The current design can be easily altered for the next project by changing the size and other parameters.

This next project is an oval instead of an octagon.

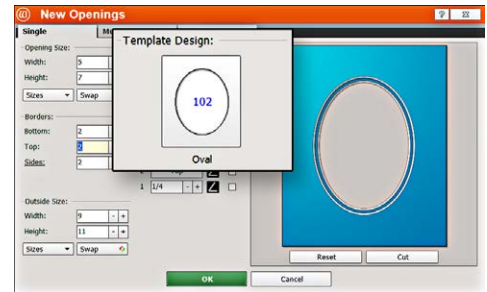
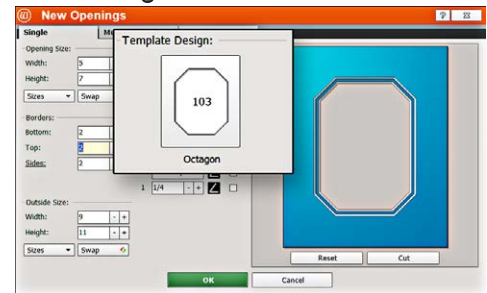
2. Click on the template thumbnail under template design.



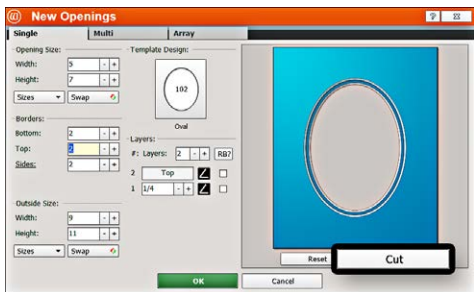
3. Template Library opens.

4. Click on new template thumbnail to select it.

5. The new template is displayed.



Go to Cut Preview

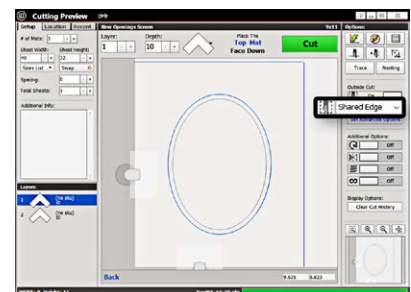
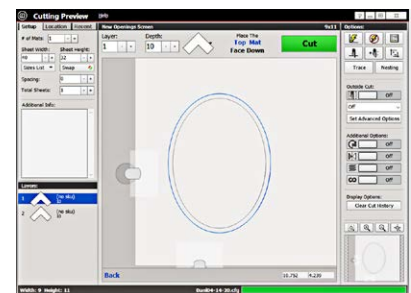


1. Click *Cut* to go to the Cut Preview screen.

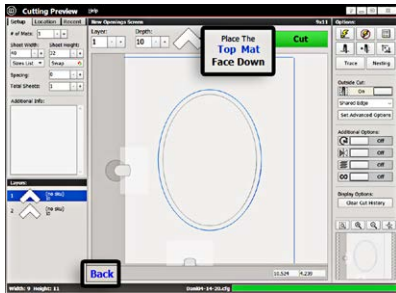
Cutting the Outside

1. Click on the **Outside Cut Options** dropdown control and select **Shared Edge**. If cutting one design, it will cut only the top and right lines of the outside cut. If cutting a tiled mat, this will cut the shared outside lines as one cut, rather than cutting each design’s outside cut individually.

2. If you have Remnant Trimming on, located under **Set Advanced Options**, it will also cut off the scrap edge.

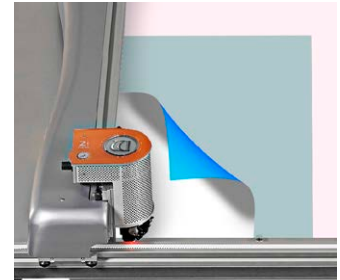


Put Matboard on the CMC

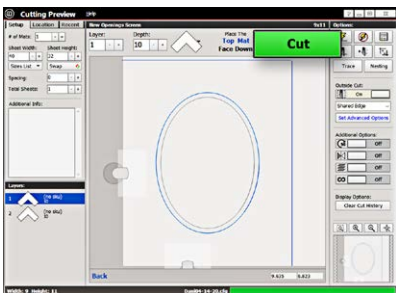


1. Make sure there are two layers of disposable slipsheets of adequate size underneath the matboard to be cut. This design is cut from the back.

2. Place the matboard face down onto the CMC (facing away from the operator). Make sure the matboard nestles tightly under the horizontal and vertical clamps of the CMC.



Click Cut



1. Click the green cut button to cut the mat.

2. Because the motors are still engaged, the CMC will automatically begin to cut.

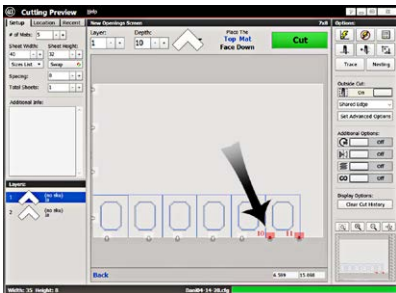
Note that because we made no changes to the blade depth nor the cartridge, the CMC did not prompt for a change before cutting.

3. After it has finished cutting, remove the matboard from the CMC. The second mat has been cut.



4. Click the "X" button to return to the New Openings screen or click the "X" button three times to return to the Main Screen.

Adjusting Clamps for Zero Waste



1. The adjustable clamp system allows the user to cut right up to the edge of the mat, thus not wasting any material. This is especially useful when tiling.

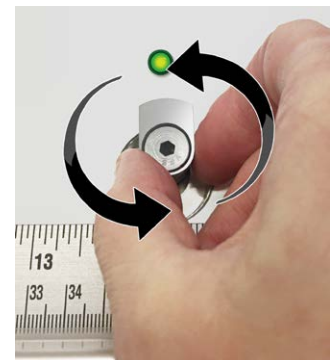
2. The Cut Preview Screen will indicate if any of the clamps are in the way of the foot block.

3. When you click Cut, the Interference Screen will also indicate the clamp numbers that need to be rotated out of the way.



4. Push the clamp toward the board to release it.

5. Rotate the clamps highlighted in red so that they are facing away from the center of the board. When the clamps are engaged, they will be retracted flush with the board.





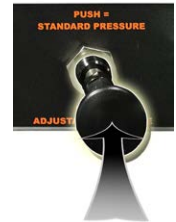
6. After clicking Continue, the system will do another interference check. If a finger clamp is still in the way, the screen will display which clamp number. Rotate the finger clamp out of the way and click Continue.

7. For the next cutting job, the clamps should be rotated back toward the center of the board.

Mat Clamp Pressure

Setting the Mat Clamp Pressure

You can toggle the air pressure to the mat clamps between standard and low pressure with the Mat Clamp Pressure Knob located on the control panel on the left side of the board. This will allow you to cut delicate material such as foam core without crushing the material in the clamps. The amount of pressure can be adjusted with the regulator knob mounted under the control panel.



Standard Clamp Pressure

Push the Clamp Pressure Knob in to use the standard clamp air pressure, which is suitable for most material.

Low Clamp Pressure

Pull the Clamp Pressure Knob out to use low clamp pressure, which is suitable for more delicate material, such as foam core. Lower pressure is applied to the mat clamps so that it does not crush the material. When you have finished cutting the delicate material you can push the knob in to reapply the standard air pressure to the clamps.



Adjusting the Clamp Pressure

Clamp Pressure Adjustment

To adjust the clamp pressure, see “Clamp Pressure Adjustment” page 15”.

Variable Pressure Optimization (VPO) Feature

Adjusting the Head Air Pressure for Regular or Dense Matboard

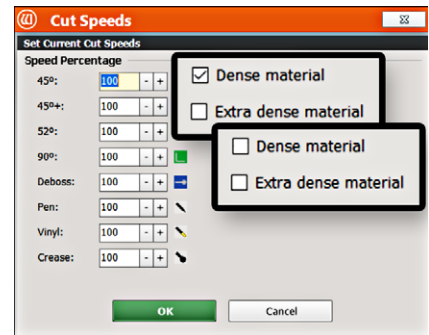
The head air regulator is located on the left side of the head and controls the pressure of the foot block against the matboard as it is cutting.

- The minimum air pressure should be 35 psi, otherwise the blade may not cut through the matboard.
- The maximum air pressure should be less than or equal to 60 psi to avoid crushing the matboard.

The software will prompt for a head pressure change **only** if the current mat is a different setting than the previously cut mat. If the settings are the same as the previously cut mat, the CMC will skip the following instructions and proceed to **“Insert Blade Cartridge and Adjust Blade Depth” page 22.**

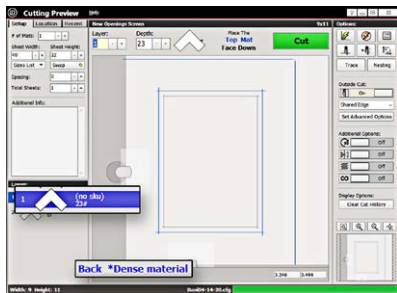


1. Select the desired layer on the Cut Preview.
2. Click the Cut Speeds button to open the Cut Speeds Screen.
3. Check/Uncheck the appropriate setting:



- Uncheck Dense for regular matboard
- Check Dense for dense matboard

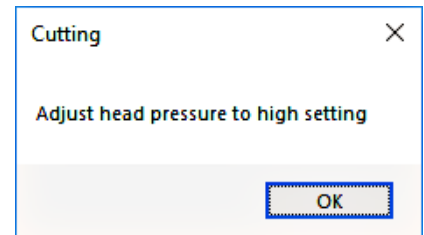
4. Change the Blade Depth to the appropriate setting for this matboard.



5. Click OK. The Cut Preview displays the selection of matboard.

- Regular matboard displays no indicator.
- Dense matboard displays the dense layer with an asterisk and indicates that this layer is dense.

6. Click Cut to cut the mat and Align the Head if requested.



7. The Head plunges at the home position and applies the current pressure. It then displays a prompt to adjust the head pressure to either the high or low setting.



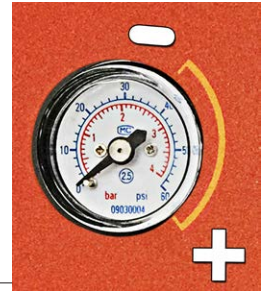
8. Pull out the air regulator pressure knob by pulling it to the left.

9. Adjust the air regulator.

- For High Setting: Turn the air regulator pressure knob clockwise until the marker on the gauge is at the high setting. Make sure the gauge does not go above 60 psi.



- For Low Setting: Turn the air regulator pressure knob counter-clockwise until the marker on the gauge is at the low setting. Make sure the gauge does not go below 35 psi.
10. Set it by pushing the air regulator pressure knob back in.
 11. Click OK to cut the mat with this setting.

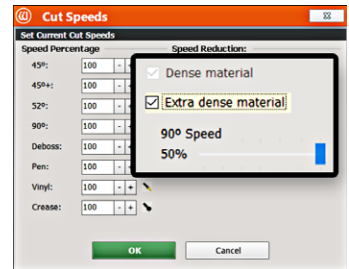


Cutting an Extra Dense Layer with the 90° Cartridge

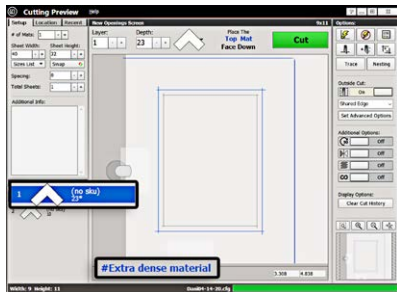
This setting is only for the 90° Cartridge and will not take affect if another cartridge is selected. This setting will allow the 90° Cartridge to cut at a slower pace.



1. Select the desired layer on the Cut Preview.
2. Click the Cut Speeds button to open the Cut Speeds Screen.
3. Click the checkbox for Extra Dense Material.



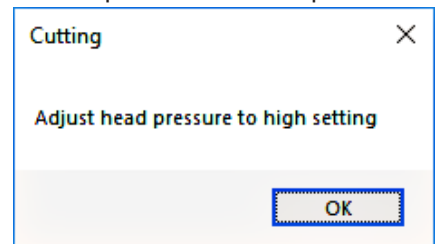
4. Adjust the slider to the desired percentage of cutting speed. For instance, 50% is 50% of the standard cutting speed for the 90° Cartridge.



5. Click **OK**. The Cut Preview displays the extra dense layer with a pound sign and indicates that this layer is extra dense.

6. If needed, click on the **Blade Depth** button to open the Blade Depth screen to adjust the Blade Depth to the appropriate setting for this matboard then click **OK**.

7. Click Cut to cut the mat and Align the Head if requested.



8. A prompt to adjust the head pressure to the high setting displays.



9. Pull out the air regulator pressure knob by pulling it to the left.



10. Turn the air regulator pressure knob clockwise until the marker on the gauge is at the high setting. Make sure the gauge does not go above 60 psi.

11. Set it by pushing the air regulator pressure knob back in.

12. Click OK to cut the mat with this setting.

90° Cartridge

See the Knowledge Base topic on 90° Cartridge and Blades at <https://wizardcutters.atlassian.net/wiki/spaces/FrameShop4x/pages/247267451/90+Degree+Blade+Cartridge> to find additional information on the 90° cartridge and changing the blades.

Changing the Blade

Using the 45° Cartridge

Changing the Blade



The 45° metal cartridge is labeled 45 on the end and is black.

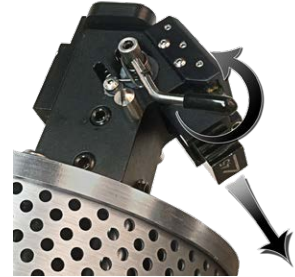
1. Push the blade cartridge release down to eject the blade cartridge.
2. Remove the blade from blade cartridge.



3. The blade cartridge displays a diagram of the blade orientation (shown in contrast). Place new blade into cartridge with the longest straight side to the right and the bevel face down lining up the holes of the blade over the pins in the cartridge. The blade should fit snugly into the recess space provided for it.

4. Turn the cartridge over and reinsert into the head with the blade facing the CMC board and the notch on the back of the cartridge facing the head, until it clicks into place. It can only be

inserted one way.



Using the Pen Cartridge

Changing the Pen in the Pen Cartridge



The pen cartridge is unlabeled and is black with a metal pen holder column attached to the base. The pen icon within the software is a small stylus symbol.

1. Push the blade cartridge release down to eject the pen cartridge.



2. Turn the pen locking screw counter-clockwise to loosen it and slide the pen locking bolt away from the cartridge base.

3. Remove the existing pen by extracting it from the pen holder.

4. Replace with a new pen by placing the tip in first and inserting the pen into the pen holder.

5. Slide the pen locking bolt back into place and tighten the pen locking screw clockwise snug (do not overtighten screw) to lock it into place.

6. Place the pen cartridge into the head. The pen holder should be to the right, with the pen tip facing toward the CMC.

7. Continue to the *Install Pen* utility on the pen configurations tab. You may need to run this utility again if you change pen types.

8. If the pen is not going to be used for a while, please remove it from the pen holder and replace the pen cap to keep it from drying out.



Blades and Cartridges

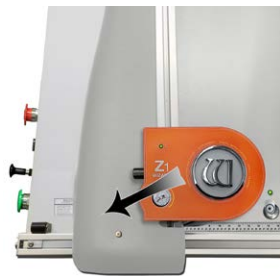
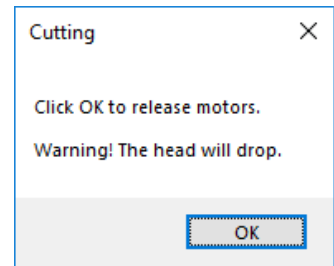
See the FrameShop Getting Started Cartridge Manual at <https://wizardcutters.atlassian.net/wiki/spaces/FrameShop4x/pages/251363329/Wizard+Getting+Started+Cartridge+Manual+CMC+8000+9000+9000z+and+Z1> to find additional information on the other cartridges and on changing the blades.

Aborting a Cut



1. Hit the red Stop button on the control panel on the left side of the board to abort the cut. Alternatively, hit any key on the keyboard. Hitting the spacebar pauses the cut and gives the option to abort.

2. A prompt to click OK to release the motors will display.



3. The motors will immediately release. Grasp the head and click OK, then manually lower the head back to the home position. Pull out the red Stop button and Realign the Head for the next cut. See ["Align the Head" page 21 for instructions on how to Align the Head.](#)

Head LED Behavior

State	Color	Intensity
No power to ECU.	Off	
Power to ECU, FrameShop not communicating	White	Solid
FrameShop communicating,	Amber	Solid
Head is being homed.	Blue	Blinking
Head is homed. Ready to cut.	Green	Solid
CMC is cutting	Green	Blinking
Waiting for a cartridge/blade change	Green	Solid
Depth is being changed.	Purple	Blinking
Error State.	Red	Solid
Emergency Stop Pressed	Red	Blinking

LED Clamp Behavior

Circumstance	Clamp Color and Behavior
When ECU is powered up.	The clamps LEDs will be green. (Test Mode).
FrameShop startup.	All clamp LEDs should turn green.
Designing a mat.	All clamp LEDs remain green.
Going to the Cut Preview screen.	FrameShop verifies if the head will hit a clamp. If the head will traverse over a clamp, the LED will turn red irrespective of the clamp position. All other LEDs will be green.
When the Cut button is pressed, or the green Cut button on the CMC is pressed.	The clamps are energized and the position of the sensor is read. If the sensor indicates that the clamp is still engaged, then that clamp's LED will flash red.
FrameShop verifies a second time if the head will hit a clamp. Clamp is rotated out of the cut area.	The flashing will cease and the LED will turn green when the user rotates the clamp to the safe position.
After cutting the mat.	The clamp LEDs will stay green.
Aborting a cut.	If the user aborts the cut, the LEDs will stay green.
User cancels/exits the Cut Preview screen.	The LEDs will be set to green.
User cancels the cut during the cut.	The LEDs will be set to green.
User clicks Cut and a clamp is not engaged.	If the user hits cut and a clamp is not engaged and it should be, the clamp LED will flash green.

Circumstance	Clamp Color and Behavior
User hits Emergency Stop.	If the user hits the Emergency Stop, all Clamp LEDs blink red.
Clearing Emergency Stop.	The clamp LEDs go back to the state it was.
Clicking Continue for flashing Red/ Green clamps.	If any LEDs are flashing, the clamps are disengaged and the user has the opportunity to rotate the clamp. The dialog box will not allow the user to continue if the flashing LED is red, however, it will allow the user to continue if the flashing LED is green.
Diagnostic Screen	Diagnostic screen will need to add a feature to allow the customer to disable the input of a clamp. If a clamp is disabled, the LED should be off.

Troubleshooting

Cuts Look Wavy

Check for squareness. See [“Check Squareness” page 9](#).

Make sure the board cable is unobstructed. See [“Connecting the Board Cable” page 11](#).

Check the head wheels. See Head Wheel Adjustment at <https://wizardcutters.atlassian.net/wiki/spaces/KB/pages/398950497/Head+Head+Wheel+Adjustment+Documents+CMC+8000+9000+9000z+and+Z1>.

Check the blade depth - See [“Blade Depth Settings” page 18](#) and Blade Depth Adjustment at <https://wizardcutters.atlassian.net/wiki/spaces/FrameShop4x/pages/94702289/Blade+Depth+Button+FrameShop+Cut+Preview+Screen>.

Blade Keeps Breaking

Check how the blade is installed. See [“Install a Blade” page 19](#) and [“Adjusting the Head Air Pressure for Regular or Dense Matboard” page 26](#).

Check to make sure the head is properly aligned. See [“Align the Head” page 21](#).

Check the Blade Depth. See [“Blade Depth Settings” page 18](#) and Changing the Blade Depth in FrameShop at <https://wizardcutters.atlassian.net/wiki/spaces/FrameShop4x/pages/95129076/Changing+the+Blade+Depth+FrameShop+Cut+Preview+Screen>.

Frequently Asked Questions

Q: When I click cut, it makes a lot of noise and breaks the blade even though I've followed the troubleshooting suggestions. What do I do?

If the motors have been idle (i.e., you can move the head because there is no power to the motors), or if a cut has been aborted, the head will have to be aligned before cutting. Otherwise, the head is rotated into the incorrect position and will break the blade. See **“Align the Head” page 21** in this document for more information.

Q: I click cut and the matboard moves around and does not cut correctly. How do I fix this?

Make sure that the air compressor is turned on, and that the air lines are not pinched. The CMC requires air pressure to engage the clamps and cutting head.

Q: My opening is cut in the wrong place, what should I check?

Make sure you are placing the matboard correctly into the CMC. See **“Go to Cut Preview to Cut the First Mat” page 18** in this document for further instructions. If the CMC is not cutting the outside of the mat, re-measure the mat again and make sure that it was trimmed down to the correct size. If the CMC is cutting the outside of the mat, see the FrameShop online help Configurations section at <https://wizardcutters.atlassian.net/wiki/spaces/FrameShop4x/pages/95129177/Configurations+FrameShop> to determine if the opening adjustment needs to be adjusted.

Q: What process does the computer use to download corners?

Click check for corners on the license screen. FrameShop will use the internet connection to download corners. If not connected to the internet, FrameShop can connect to Wizard via a modem.

Q: My FrameShop keeps opening in demo mode and will not cut. What should I check?

Make sure that the ECU is properly hooked up, plugged in and turned on. See **“Connect the ECU” page 14** in this document for more information.

Q: How do I order Blades?

You can access our Web Store at <http://webstore.wizardint.com/default.aspx> or by calling order processing at 888/855-3335.

Q: Do I need to save the packaging the CMC came in?

YES – for warranty purposes, if you ever need to return a part, these boxes will be needed. Rental customers are required to keep all packaging to return the machine at the end of the rental period.

Q: Why is air leaking from the air regulator when I turn on the air compressor? Is this an issue?

This is normal. One of the purposes of the air regulator is to collect moisture that may be trapped within the air line. The air regulator is self releasing when the air compressor is turned off. When the air regulator has built up enough pressure after turning on the air compressor, the air leaking will stop. If the air compressor is not building enough pressure, the user may install a shut off valve to allow the compressor to build up enough air pressure.

Q: Where can I get more information on specific questions?

FrameShop Software Online Help at <https://wizardcutters.atlassian.net/wiki/spaces/FrameShop4x/overview?homepageld=65929268>.

Z1 Hardware can be found on the Knowledge Base at <https://wizardcutters.atlassian.net/wiki/spaces/KB/overview?homepageld=229492>.

Check out the Wizard website at www.wizardcutters.com for additional information.

You can also call Technical Support at 888/855-3335 or send an e-mail to SupportAdmin@wizardcutters.com.

Hardware Maintenance

Paper dust is very abrasive. The CMC is a precision piece of equipment that requires periodic tuning for accurate mat cutting. Damage caused by improper maintenance is not covered by warranty and will necessitate return of the CMC to the factory for rebuilding or repair. Follow this maintenance schedule to ensure a smooth-running machine.

Maintenance Schedule

Do not spray *anything* directly on the CMC; spray onto a cloth and then wipe.

Daily:

1. With compressed air or soft brush, clean lower rail, horizontal/vertical clamps and head of any matboard debris.
2. Check backing mat for excessive wear, and change if necessary.
3. Check blade depth and blade installation.
4. Properly shut down computer and ECU at night.

Weekly:

1. Clean CMC rails with a soft cloth and general purpose cleaner, especially the lower rail where wheels have the most contact with the machine.
2. Offload the Air Regulator. See **“Offload Air Regulator” page 33** for instructions.

Monthly:

1. Clean and drain the air compressor to ensure that the air line is free of moisture and oil. Moisture is very detrimental to hardware and can cause a variety of problems. Check your air compressor documentation for instructions.
2. Wipe down foot block on head with a soft cloth and mild cleaner.
3. Remove and clean blade cartridges with adhesive release.
4. Check the blade cartridges for wear and tear. There should not be excessive side-to-side movement of the blade within the cartridge.
5. Make sure that the CMC is still secure in the brackets/stand to avoid any tip-over hazard.
6. Readjust the head wheels after 250-500 mats. See Head Wheel Adjustment at <https://wizardcutters.atlassian.net/wiki/spaces/KB/pages/398950497/Head+Head+Wheel+Adjustment+Documents+CMC+8000+9000+9000z+and+Z1>.

Offload Air Regulator

One of the purposes of the air regulator is to collect moisture that may be trapped within the air line. The air regulator is self releasing when the air compressor is turned off.

Check the air regulator at least once a week for any buildup of moisture or oil. If there is any oil visible in the air regulator, the air compressor needs to be cleaned and drained to remove the oil in the air line. Refer to the compressor’s documentation for instructions.

The dial on the air regular should read 60psi when the air source is on and at full pressure. If it does not read 60psi on the gauge, call technical support.



Disclaimers

- ⚠ Caution:** The CMC is designed to be used as directed. Any use other than that described within the documentation is not supported and potentially harmful to the operator.
- ⚠ Caution:** The CMC should not be operated when operator is fatigued, under the influence of alcohol or narcotics, or other medication where operating heavy machinery warnings are provided.
- ⚠ Caution:** Due to the size and weight of the CMC, two people must perform identified installation operations. Noted operations performed by a single person may result in injury.
- ⚠ Caution:** The CMC contains moving parts that may cause injury if not operated in accordance with the instructions. Only trained operators should operate machinery. Operators should not touch the CMC while it is cutting a mat.
- ⚠ Warning:** Blades used within the CMC are sharp and will cause injury if not disposed of properly. Blades must be disposed of in an appropriate sharps disposal container.
- ⚠ Warning:** Hazardous voltages exist within the ECU. No user serviceable parts are located inside the ECU. Opening of the ECU is prohibited.
- ⚠ Warning:** Do not turn on ECU if board cable is disconnected on either end. Risk of electrical shock is present through the ECU plug or non-terminated board cable.

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