

# Quick Start - Section A

## Start here

**Step 1...** To understand the diagrams you must first number and mark your Morton Surface. Use pages 2 & 3 in "Quick Start - Section B" to prepare your Morton Surface.

**Step 2...** Learning to set sizes. Use diagram ① as your setup guide.

- Start with a "standard setup". Our standard setup uses the top center mark to position a squaring block and the bottom center mark to position the squaring fence. Together the fixtures hold the cutting bar at a 90 degree angle to the squaring fence.

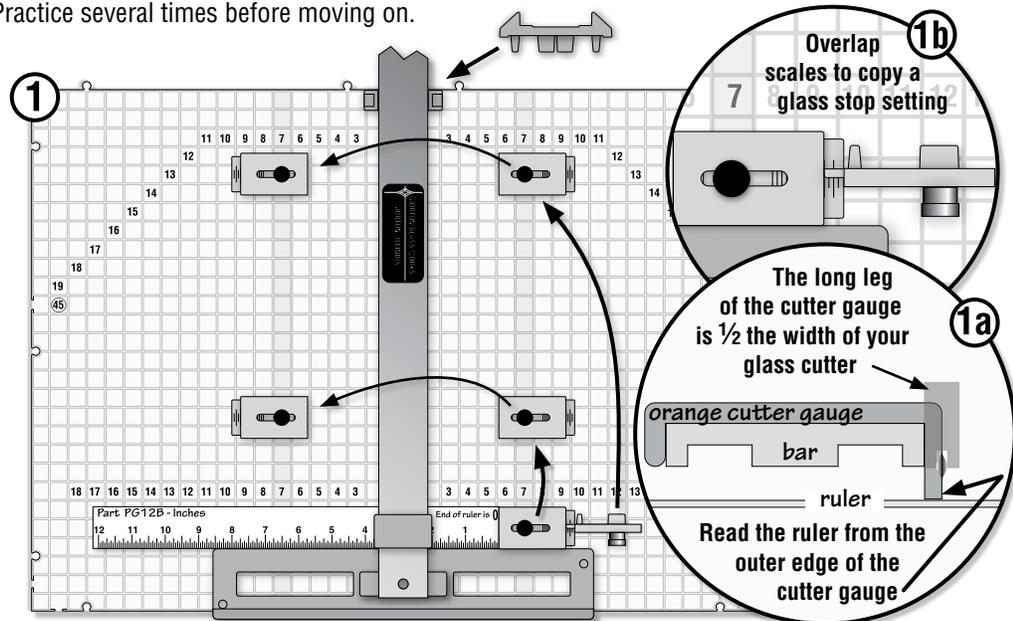
- Place the ruler under the cutting bar as shown. In diagram ① we are making a 2 inch size setting (50 millimeters for metric). The ruler that came with your PG01B has both metric and inches and the end of the ruler is "0" to make setting sizes easy.

- Place the cutter gauge on the cutting bar with the long leg to the right side. Review the circle marked ①a to identify the fixture and to start understanding that you must always allow for your glass cutter when setting sizes.

- Take one of the yellow glass stops. Loosen the black knob and close the fixture. Plug the glass stop into column 7 on the right side above the squaring fence.

- Move the ruler under the bar until the outer edge of the orange cutter gauge is just splitting the 2 inch or 50 mm line on the ruler.
- Holding the ruler in place, slide the top of the glass stop to the ruler end and tighten the black knob. Practice this a few times before moving on.
- To make strips you will need 2 glass stops set the same and located in the same column. Duplicating a setting is best done by matching the scale ends of the glass stops. Circle ①b will help you get started with this concept. Practice several times before moving on.

- The second stop is plugged into the same column as the first glass stop. The first stop can be move up for stripping setups as long as the same column is used. For this example column 7 is used. The glass stops can be moved to the left side for left handed setups. Just remember to always use the same column number. Practice moving the stops around before moving on to Step 3.
- Later you will use this setup to make a glass strip. Use window glass to practice.



**Step 3...** Set up and make a 2 inch or 50 mm parallel strip. Quick Start - Section B, page 1 has tips to help with your first scores.

- Use diagram ① as a guide to set the size. If you are left handed your setup will look like diagram ②a. If you are right handed your setup will look like diagram ②b.

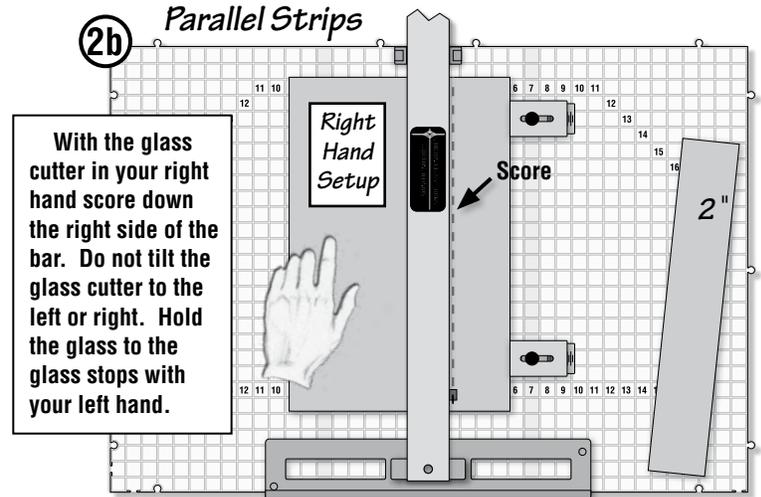
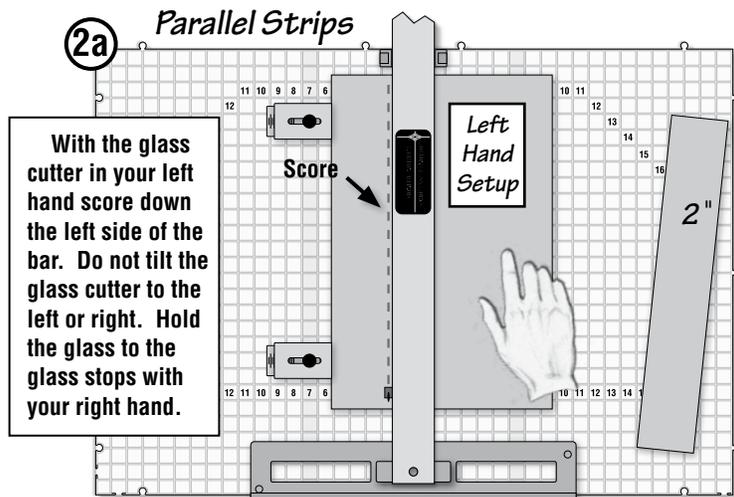
- For parallel strips pick a setup based on

your left or right handedness. For most other setups you can use what feels comfortable. I am left handed and tend to use many setups that are deemed right handed. You should experiment as you are learning.

- Important fundamental... Always remember, when making parallel strips, to move the glass away from the squaring fence. If the glass is not square, moving the glass up will help keep the strips parallel.

- Note that the top glass stop is moved down from the top edge of the glass sheet and the lower glass stop is moved up. This is a good practice because burrs or flares are more likely to be found at the beginning or end of a score. You will be more accurate with strip cutting if you adopt this as standard technique.

- After the score, remove the glass sheet from the setup to break the strip.

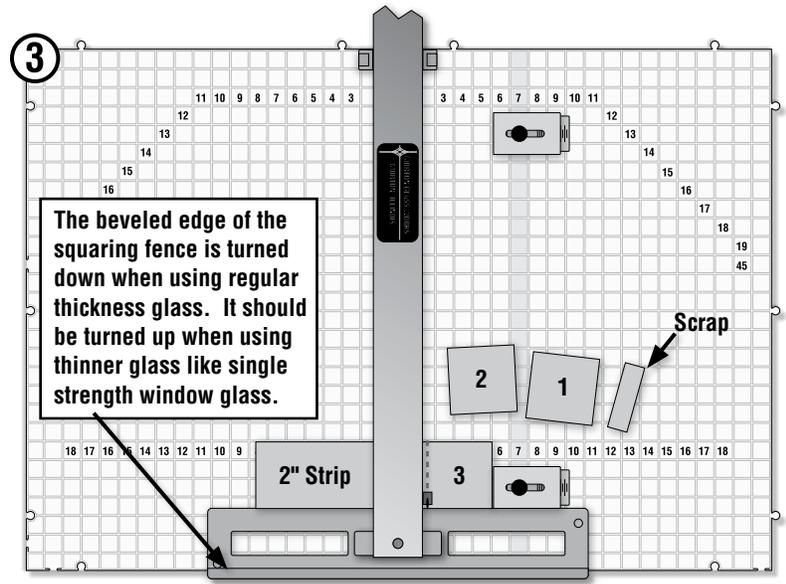


## Squares from a Strip

**Step 4...** Start with a 2 inch or 50 mm strip of window glass. Use diagrams ① for the size and ②a or ②b for making the strip.

- The strip used a 2 inch setting. This square will use the same setting. The glass stop will be moved down to the squaring fence in the same column.
- Position the glass strip as in diagram ③. I am showing what remains of the strip after a small scrap and 2 squares are removed from the strip.

- It is a good practice to always square the end of the strip. I removed about ½ inch of glass.
- The strip is removed from the setup for breaking after each score. It is important to have equal pressure on each side of the score when breaking the piece free of strip. A good scoring and breaking technique is very important to the accuracy of the parts you are making.
- I am left handed and I use this setup. If you learn to score on either side of the bar it will not be a problem for you.

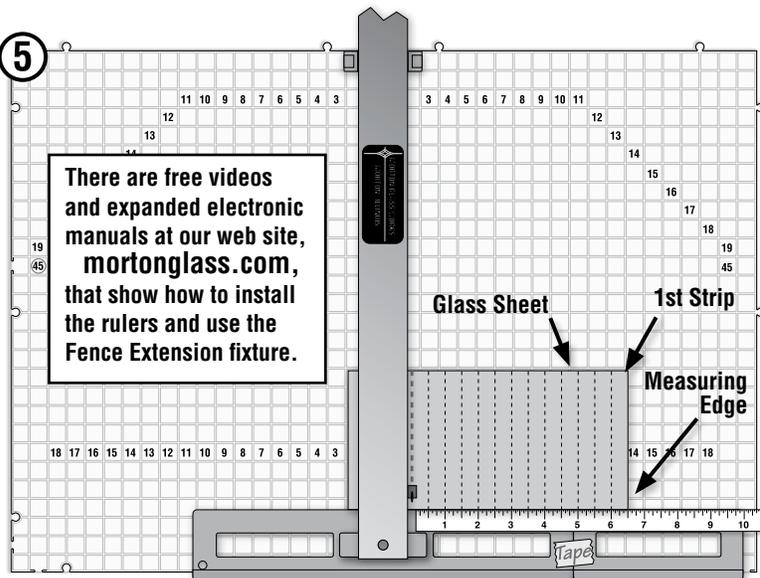
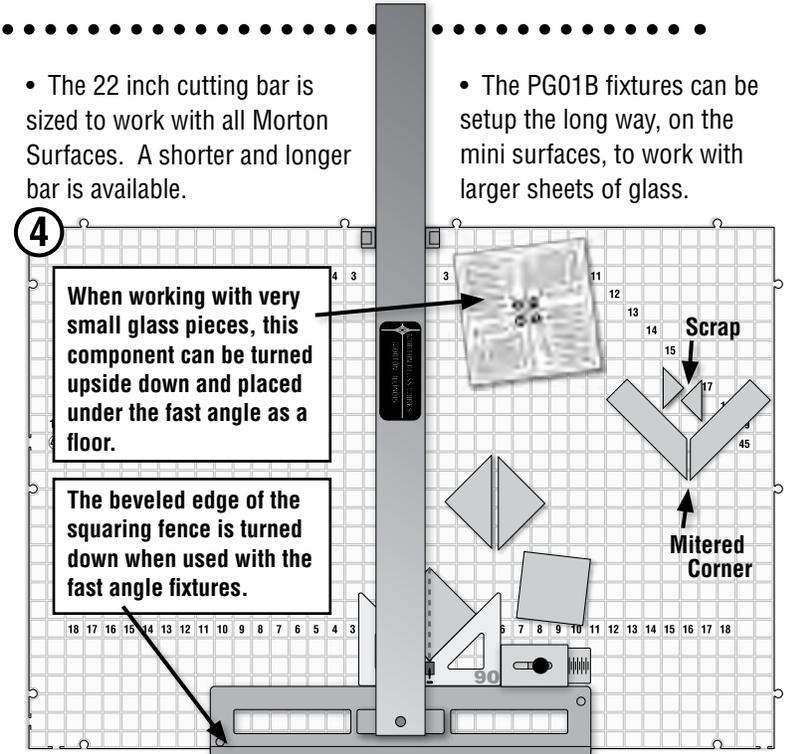


## Right Triangles

**Step 5...** Start with a glass square. Step 4 shows how to make a 2 inch or 50 mm square from the strip made in Step 3.

- Use diagram ④ as a guide. Position the 90° Fast Angle on either side of the cutting bar with the center post up. The center post holds the center of the fixture ½ cutter width away from the bar. Hold the fast angle in place with a yellow glass stop.
- Position the glass square as shown in diagram ④. I am left handed and use the setup shown in diagram ④. Try moving the setup to the left side. You will be

- holding the glass steady with one hand and scoring with the other. Use what works for you.
- Start as near to the top point as you can and score point to point.
- Remove the glass for breaking. I use the runner from the Safety Break. It is important to start the break in the middle of the score with even pressure to both sides. Try this breaking tip. Turn the scored side of the glass square down on the surface and apply steady pressure with your thumb in the middle of the square.
- Mitered corners can be made by replacing the square with a rectangle. Practice with window glass.



## Fence Extension

**Step 6...** Use page 4 of Quick Start - Section B to add a ruler to the body.

- The Fence Extension can only be used with a 90° setup.
- When installing the ruler, you allowed for the glass cutter by using the cutter gauge. Now when you use the ruler the glass cutter allowance is always there.
- It is a good practice to use a small strip of masking tape to hold the fence extension to the squaring fence.

- In diagram ⑤ several ½ inch strips are being scored. The strips will be broken after all scores are made.
- The first strip in diagram ⑤ may not be square. I always view the first strip as possible scrap.
- ½ inch strips are being made in diagram ⑤. The 1st score has the right edge on the ½ inch line. 2nd score is on the 1 inch line.
- Remember that the ruler is allowing for the glass cutter. Other than that, there are no rules on how you should use your Fence Extension.

## Diamonds from a Strip



Diamonds are best made from a strip and come in all shapes and sizes. The shape is determined by the angle of the cutting bar and the size is determined by the strip width.

Your PG01B has 60° & 120° Fast Angle fixtures that are used with a diamond made from a strip using a 60 degree cutting bar angle. These fast angles can help you make equal triangles, hexagons and half and quarter diamonds. This Quick Start can only get you started. Advanced electronic manuals, tutorials and videos are free and available at our web site, [mortonglass.com](http://mortonglass.com).

To get you started with angles I am going to limit the instruction to a 60 degree angle. After you learn to set a 60° angle, on the PG01B, you will be able to set any angle.

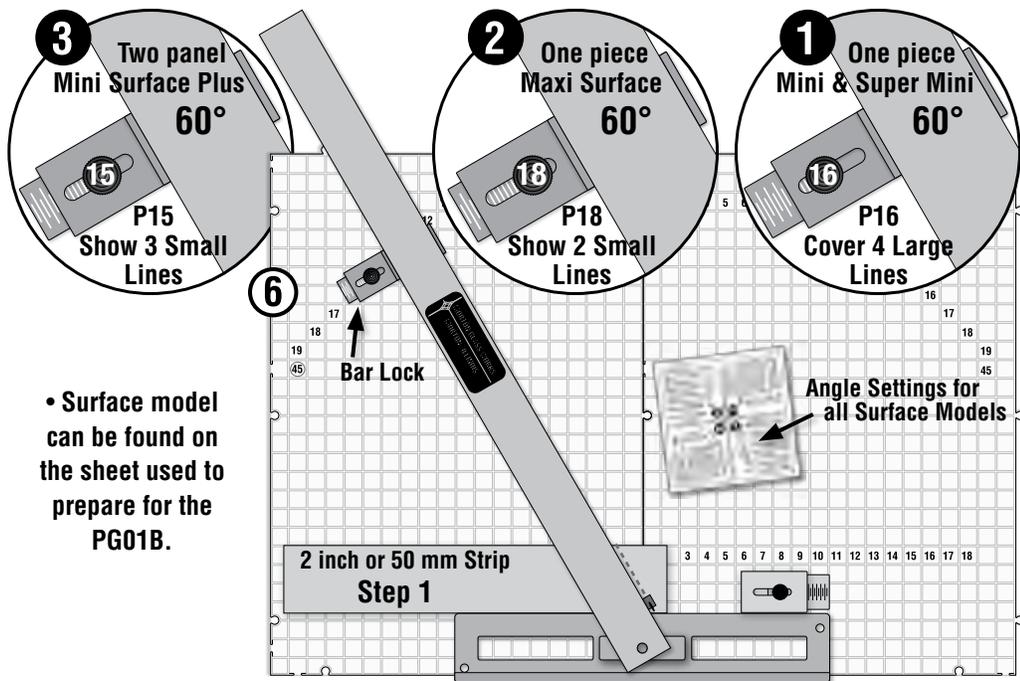
Diamonds are made from a strip. Use a 2 inch or 50 mm strip. See page 1, Step 3 for strips.

- Diagram ⑥ is showing a Bar Lock holding the cutting bar at a 60° angle. The bar lock was adjusted and placed on the surface with information from the component with the angle settings label. When you numbered your surface, the surface model was listed as ①, ② or ③. There is a ④ surface not listed here that is a 4 panel Maxi Surface. You can learn more about the 4 panel Maxi at our web site, [mortonglass.com](http://mortonglass.com).

- Diagram ⑥ is a ③ surface and the setting for 60°, using the angle settings component, is 60° - P15 Show 3 Sm. If your surface is a ① or ② you have a different 60° setting. The P15 of the 60° setting, is telling you which numbered cell will hold the orange bar lock. **P is Position 15 or cell number 15.** Always use the upper numbers and always point the part of the bar lock, that holds the bar, at the top center of the surface.

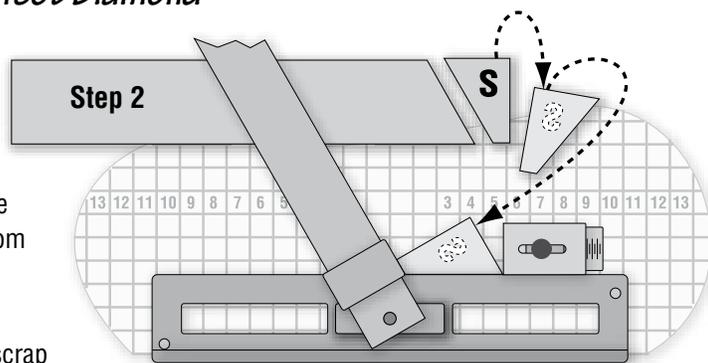
- The 60° angle can be set on the left side of the surface or on the right side of the surface. Shapes like the trapezoid will often use both left and right settings. For the diamond we will only need the left 60° angle.

- The bar lock has a scale that is made of short and longer lines that are either covered or exposed by bar lock top. The shorter line closest to the end is 1 Sm (1st small line). The longer line closest to the end is 1 Lg, (1st large line). 2 Sm is the 2nd small line and 2 Lg is the 2nd large line.

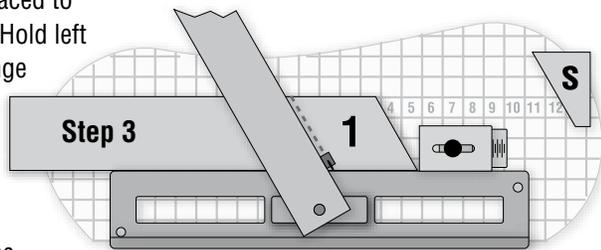


## Five Steps to a Perfect Diamond

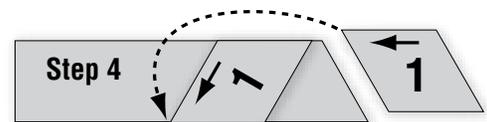
**Step 1...** Set the Cutting Bar angle. Any angle can be used but a 60° angle is needed if you are intending to use the Fast angles. Score and remove a small scrap from the strip as shown.



**Step 2...** Use the orange Cutter Gauge and the small scrap removed from the end of the strip in step 1 to set the yellow Glass Stop. The small scrap (marked S) is turned over and placed to the orange Squaring Fence as shown. Hold left side of the glass scrap tight to the orange Cutter Gauge and adjust the yellow Glass Stop to the point of the glass scrap.



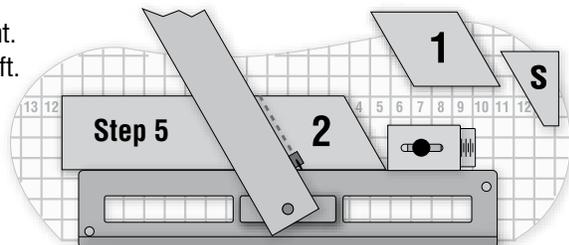
**Step 3...** Place the strip to the Squaring Fence and slide the strip to the yellow Glass Stop. Score and remove the 1st diamond. **Important:** Do not skip Step 4.



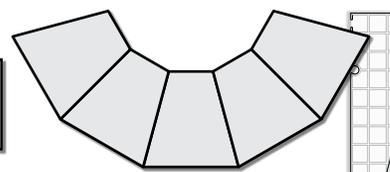
**Step 4...** After making the 1st diamond, check your accuracy by rotating the diamond to the strip as shown. The diamond, in this position, must be the same width as the strip. If the diamond is not the same width you must adjust the Glass Stop.

- Strip is wider - adjust Glass Stop to right.
- Diamond wider - adjust Glass Stop to left.

**Step 5...** If you made adjustments to the yellow Glass Stop in step 4, your 1st diamond must be discarded and the 2nd diamond rechecked.

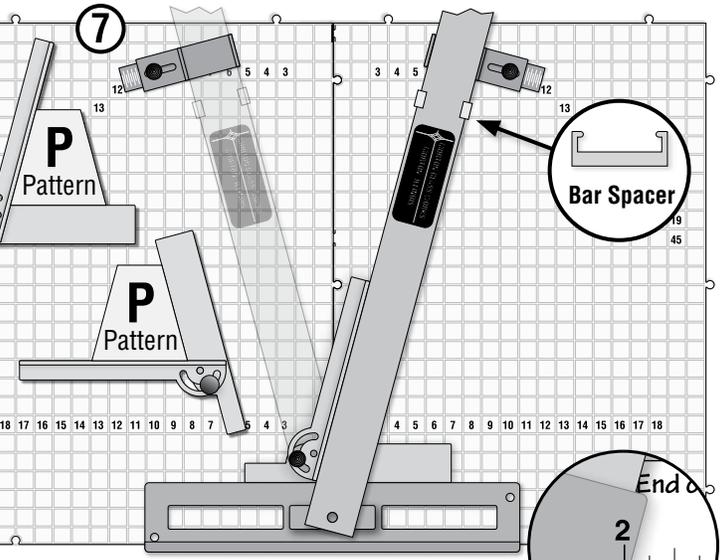
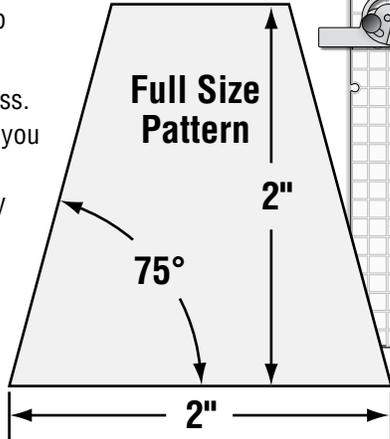


# Trapezoids from a Strip



Trapezoids are made from a parallel strip using the same angle on both sides.

- Start with a 2 inch strip of window glass. The setup will look like diagram ⑦ and you will be using the Angle Copy, yellow Bar Spacer and 2 Bar Locks. The angle copy will be used to copy the angle from the pattern and set the angle of the cutting bar. The bar spacer just slides onto the bar to hold it level during the setting.
- Use the full size pattern and ruler to find the strip width and base size. The angle will be found with the angle copy as shown in the diagrams. Both lower corners of the pattern must always be checked. In this pattern both angles will be the same. Many patterns are distorted and the angles are not the same. When the angles are not the same you must split the difference to make one angle. If you do not make the adjustment the top of the trapezoid will not be correct.
- The angle is 75° and is listed with your angle settings. Try to set the angle from the pattern and then check to see if it is the same as the listed 75° setting.
- Carefully set the angle copy to match the pattern and tighten the black knob. **This next information is very important.** Slide the bar spacer onto the cutting bar and set the bar locks to the side for now.
- Use the angle copy to adjust the cutting bar angle as seen in diagram ⑦. For now pretend the bar lock is not there. When the bar angle matches the angle copy you must find the numbered cell that will be used for the bar lock. Pick the first fully exposed cell to the right of the cutting bar.
- Loosen the black knob of the bar lock and place it in the square you selected. With the cutting bar in the bar lock, carefully use the angle copy to adjust the bar to the needed angle. Once you have the angle set, you can check your accuracy by looking up the 75° setting for your surface model. If you are very close to the setting, pat yourself on the back. If not, start over.
- Match the setting to the 2nd bar lock and install it in the same number on the left side. Now you can move the bar from left to right side as needed.



## Making the Trapezoid

- Step 1...** Use the ruler, cutter gauge and glass stop to set the base size (2 inches for this example). This setting can be tricky because your number 2 is covered with the bar and cutter gauge.
- Step 2...** Place the 2 inch glass strip under the cutting bar as shown. Score and remove a small scrap (s) from the strip. Note: Draw an arrow on the glass strip as shown.
- Step 3...** Move the bar to the right. Carefully slide the strip to the glass stop as shown. Score and remove the trapezoid (1).
- Step 4 Option 1...** If the glass can be scored on either side, turn the glass over and place the angled end to the glass stop. Score and remove the trapezoid (2).
- Step 4 Option 2...** If the glass can only be scored on one side, turn the glass strip end for end (watch the arrow). Move the bar and the glass stop to the left. The glass stop will be in the same but opposite column (8). Place the angled end to the glass stop. **Score on the left side** of the bar and remove the trapezoid (2).
- Step 5...** The bar and glass stop are to the right. See the position of the arrow.

**If you used Option 1 in step 4...** just turn the glass over. Score and remove trapezoid (3). **If you used Option 2 in step 4...** change the bar and glass stop to the right and turn the glass end for end. Score and remove trapezoid (3).

**Step 6...** Not shown but is just a repeat of steps 4 and 5.

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