

# **BevelTech Instruction Manual**





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## Thank you for choosing Edge Pro.

#### Here are some quick tips:

- To keep things simple while you are learning to use your sharpening system, sharpen almost everything at 21°. The exceptions are Japanese Kitchen knives at 18° and heavy blades at 24°.
- 2. If you are sharpening and having a difficult time establishing a burr, go to a higher sharpening angle.
- 3. If you have a set of forged knives, you should know that all forged knives with bolsters will eventually develop a hollow spot in front of the heel, no matter what method you use to sharpen. However, if you sharpen correctly with the Edge Pro, this problem can be avoided longer than with any other system. Here's how: Stroke the stone all the way to the heel just as you would with a stamped knife. But as soon as a burr begins to develop a few inches down the blade, stop sharpening this area. If you try to sharpen the edge all the way to the heel, the edge will hollow out in front of the heel. This is just a result of the shape of the forged heel on these knives. If you do not burr the vulnerable area you will prevent this from happening for a very long time.



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## Recommendations

**Painters Tape** – Keep a clean piece of painters tape on the end of the blade table. It keeps you from cutting into the end of the blade table while you are learning to use the machine. It also helps to keep from scratching the blade. To further protect the blade, you can also tape the knife itself.

**Guide Clip** – This is the rubber clip on the front edge of the guide plate. It allows you to sharpen a double edge knife. It also provides a larger fence to rest the spine of the knife against making it easier to hold. Remove the guide clip any time it interferes with the sharpening stone.

**Magnets** – There are 2 small but powerful magnets at the front of your blade table to assist you in stabilizing the blade while you sharpen. You can alter the strength of the magnetized table. Leave them both in for FULL STRENGTH, remove 1 magnet for MEDIUM STRENGTH, or remove them both for NO magnetism. You may prefer to use the magnets while sharpening some knives and not others, or you may not like the magnetic assistance at all. That's why we made them very easy to remove and put back in. The magnets are not intended to hold the knife all by themselves. You still need to hold the handle of the knife.

There is a small screw at the bottom of the hole that holds the magnets in place. Use the "Magnet Key" (provided) to remove the magnets when desired. Be cautious with the magnets as they are very strong and can pinch your fingers. <u>Keep them away from children. Also use caution when you separate the magnets and lay them on the table. They can fly together and potentially shatter.</u>

## Set up Instructions

 $For \ video \ instructions, \ visit \ our \ You \ Tube \ channel \ www.youtube.com/Edge \ ProIncSharpeners$ 

**Mount your sharpener** - There are a number of ways you can mount your BevelTech knife sharpener to a table.

- A) Clamp it to a work station.
- B) Permanently mount it to your work station by screwing it down through the bottom stand piece.
- C) Attach it to the Weighted Base (not provided, but available for purchase)

**Insert the Pivot Shaft** in the back of the machine with the numbered lines facing toward you, tighten the thumb screw on the side of the machine to lock the pivot shaft in place.

**Insert the Arm in the Pivot** – You'll need to remove the collar and O-Ring from the end of the arm to insert the arm in the pivot. There is a thumb screw on the collar to make it easy to remove. Slide the arm through the pivot and immediately put the O-Ring and collar back on so you don't lose track of them.

**Set the arm length** – When you tighten the collar at the end of the arm you will be setting the arm length. Set the length of the arm so the sharpening stone goes to the end of the table, but does NOT fall off the end of the table.

**Changing Stones** – The stone is held in place by the tension of the spring. Apply forward pressure to the small stone holder to compress the spring to release or insert stones.

**Set the TILT screw** – With the ¼" hex key provided you can loosen and tighten the TILT adjustment screw. Set the knife sharpener to a comfortable work height and tighten the TILT adjustment screw.

**\*Important\*** The tilt of the machine will affect how the arm rests when not in use. To keep the arm from swinging around the back of the machine you'll need to tilt the blade table forward.

## Setting the Guide Plate

**Flexible Blades** – Position the knife so the narrowest part (usually the tip) is parallel to and just over the end of the BLADE TABLE. Move the guide plate against the back of the knife and tighten it down.

**Stiff Blades** – Center the blade across the BLADE TABLE. Set the guide plate so the edge of the knife is even with or slightly in front of the end of the blade table. Sharpen the whole blade without moving the knife.

#### TIPS

- 1. You want as much of the knife as possible resting on the BLADE TABLE, but you do not want the stone to cut into the end of the table as you sharpen.
- 2. Start with larger knives, they are easier to hold and learn on.
- 3. Keep the portion of the edge that you are sharpening parallel to the front of the Guide Plate as you draw the knife across the table.
- 4. The Guide Plate is not a clamp. Think of it as a fence to rest the spine of the knife against.



HINT: Keep the edge parallel to the front of the guide as you draw the blade across the BLADE TABLE.

# Set the Sharpening Angle

21° is a good <u>general recommendation</u> for sharpening most knives. Thick blades can be sharpened at a higher angle 24°, or 27°(sometimes even higher) and Japanese blades can be sharpened at 18°. 15° is used to thin blades out, and 10° angle setting is used for sharpening serrated knives. Keep in mind these are <u>general recommendations</u>.

The lower you set your sharpening angle, the longer it will take to create a new edge because you will need to remove more material. Sharpening at lower angles will create a sharper edge, however that edge will be more fragile.



The other extreme -

The higher you set your sharpening angle, the less time it will take to create a new edge because you will need to remove less

material. Sharpening at higher angles create a blunter edge that is more durable.

21° is a good setting for balance of sharpness and durability on most knives.



## Exact Method for Setting the Angle - Use a Felt Tip Marker



## Using a Digital Angle Gauge (short and simple instructions)

(angle gauge not included)

The RETAINER on the stone arm serves as a flat magnetic surface to rest an angle gauge.

1. Zero your digital angle gauge on the BLADE TABLE.



2. Place the angle gauge on top of the RETAINER for digital angle reading.



It is important to note, that this reading does display the <u>true sharpening</u> <u>angle</u>. The true sharpening angle will be close to this reading, but will vary slightly depending on the shape of the blade being sharpened.

### Using a Digital Angle Gauge (more detailed instructions)

#### Calculating the True Sharpening Angle



Resting on the face lowers the sharpening angle by <u>half</u> of the angle measured on the knife. Most kitchen knives measure at about a 4° slope.



Example: 4° ÷ 2 = 2° Take 2° and subtract it from the Pivot setting. Example: (If you are set at 21°) 21° - 2° = 19° This is your True Sharpening Angle. This is perfect for most kitchen knives.

#### Folders and Fixed Blades with Flat Along the Spine



When you are resting on the FLAT, and set to 21°, you are sharpening at 21°. However, most knives like this do not have a large enough FLAT area for a solid rest. Start a bevel at 21 degrees resting on the FLAT. Move to the FACE of the blade, put some marker on the new bevel, and reset your PIVOT. Now you will be set at a much higher angle, but you will be sharpening at 21 degrees on the blade. Plus you will have a solid rest.



## Choose the Appropriate Stone for the Task

120 Grit – For extreme metal removal. We only use this stone for thinning at a much lower angle than you are sharpening. Avoid developing a burr with this stone as it aggressively fractures metal at the edge.

**220 Grit** – This is the stone you start with on most dull knives.

**400 Grit** – Use this stone to start sharpening knives that are in good shape. Also, the next step on the way to finishing the edge.

**600 Grit** – This can be your finish stone on most kitchen knives. Leaves a toothy edge good for cutting fruits and vegetables with skin.

**1000 Grit** – Also a finish stone for kitchen knives and the next step toward polish.

#### 2000 & 3000 Grit Polish Tapes – Each polish

tape has adhesive and mounts on a "Polish Tape Blank" which can be mounted into the stone arm just like the stones. Polish tapes are used to finish the edge on pocket knives, sporting knives, and Japanese cooking knives.





# **Operating Instructions**

**Overview of how the machine works:** With one hand you move the STONE ARM forward and back. With the other hand, hold the knife (by the handle) under the moving stone, keeping the portion of the edge that you are sharpening parallel to the front of the guide plate. At first you will hold the knife tighter than necessary. But as you get comfortable, try to relax your hands. Clinching the knife can cause inconsistencies and lead to hand fatigue. You only need a small amount of pressure on the spine of the knife to hold it on the table, if you are using the magnets they will assist with this.

Use long and slow stone strokes, begin with almost no pressure, then gradually add pressure until you can feel the stone cutting.

#### \*IMPORTANT NOTE REGARDING USE OF THE MAGNETS\*

Be prepared to alter the strength of the magnets by removing 1 of them or both of them anytime you are sharpening a knife that requires you to draw the knife across the table for blade support. Some knives will pull much harder to the magnets than others depending on the properties of the steel. Both magnets are often too strong to use with the weighted base mounting option because they can cause the base to wobble. In some cases even 1 magnet may be too strong.

- Put a couple drops of dish soap in the bottle and fill it with water. Use enough water on the stone to cover the surface and let it sink in. You do not need to soak the stones.
- 2. Begin at the heel of the blade and work your way toward the tip. Keep the edge parallel to the front of the GUIDE PLATE for flexible blades (most kitchen knives.) If you are sharpening a stiff blade, you can center it on the BLADE TABLE and leave it in one position as you sharpen.
- 3. The Stone Stroke: **Push** the STONE ARM forward and at the same time let it slide to the opposite side of the BLADE TABLE (diagonal motion). You want to make about a 2" wide cut with each stroke. **Pull** the STONE ARM back to the starting position along the same path. Apply just enough pressure to get the stone to cut. Most of the sharpening is done on the push stroke. Don't pick the stone up on the pull stroke, just let it slide on the edge and remain in contact with the knife. Make smooth, long, slow strokes so you just bump the stops gently. Hold the knob loose in your hand so it is free to follow the shape of the blade. Do not move in circles, as it will concentrate all the sharpening in only one area of the stone.



4. Draw the blade across the BLADE TABLE. Make 3 or 4 push and pull strokes staring at the heel of the knife. Stop sharpening. Move the knife 1". Make 3 or 4 Strokes. Then move the knife 1" again. Continue in this manner until you reach the tip of the blade. If you have trouble controlling the STONE ARM at the tip of the blade, only sharpen on the FORWARD stroke, and lift the STONE ARM off the blade for the PULL stroke. Make sure the tip of the knife is directly over the corner of the BLADE TABLE for support as you sharpen it.



5. Switch the knife and STONE ARM to opposite hands and repeat the process on the opposite side of the blade. Sharpening with your non-dominant hand feels awkward at first, so go very slow. Normally this starts to feel much more comfortable after just a few knives.

- 6. Clean the stone and wipe the blade off every one or two passes (with the STONE ARM off to the side, so the water runs away from the pivot). Put just enough water on the stone to cover the surface, then wipe the stone off with a wet microfiber towel.
- 7. Bring the edge to a burr. Continue making equal passes down each side of the blade. When the two sharpening cuts come together at the edge, the metal breaks down and forms a burr, which can be felt by drawing your thumb across and away from the edge on the opposite side of your last sharpening pass. Step 7 is VITAL to the sharpening process



- 8. Check the edge for a burr each time that you switch sides. The burr will begin to form in some areas but not others, and will only be on one side of the knife at a time. Concentrate your sharpening in areas with no burr and pass lightly over the areas that have started to burr. When you have an even burr down the full length of the blade, switch to a finer stone and make a few light passes to remove the scratches from the previous stone. Keep progressing through the stones until you reach the one you want to finish with.
- 9. Remove the burr. Wipe the stone and knife off. Make two or three passes down each side of the blade with extremely light pressure on the stone, and do not hit the STOP. Just sweep lightly once over each area of the blade. Check to see that the burr is gone. If you use too much pressure or too many strokes you will keep making a new burr.

#### Sport Knives and Stiff Blades

Stiff blades 3" to 6": Center the knife on the BLADE TABLE and sharpen without moving it. For longer knives, just slide it far enough to bring the tip close to the BLADE TABLE, and sharpen around the tip.

#### Short Blades - without the Small Knife Attachment

Sharpen the main part of the blade as usual. As you reach the tip, draw the knife out and pivot the tip out over the end of the BLADE TABLE so you can sharpen it. GO SLOWLY. Do not let the stone slide off the blade and cut into the BLADE TABLE. (The blade table will get cut up over time, but you can keep it to a minimum.) Try to pivot the blade the same manner on each pass for a more consistent bevel. If you sharpen a lot of small knives, you may want to consider purchasing the small knife attachment.



#### Short Blades - with the Small Knife Attachment

The Small Knife Attachment was developed to make sharpening small knives easier, and to preserve the main BLADE TABLE of your knife sharpening system better over time. Think of the Small Knife Attachment as a miniature blade table that mounts on top of your existing table. Once installed, you can center knives between 2" & 3" on the table and sharpen without having to reposition the knife. The Small Knife Attachment does not come as a stock component in any of the sharpening kits, but can be added separately.



#### Thinning the Blade – Double Bevels for Very Dull Knives

As a knife is sharpened over and over, the bevel of the knife will keep getting wider and wider as the edge moves into a thicker part of the blade. As the bevel gets wider, the contact surface area for the sharpening stone increases, and it slowly becomes more difficult to sharpen over time. To cure this problem, thin the blade by creating a second bevel. This procedure makes the knife easy to sharpen once again and improves the shape of the blade so it cuts more easily.

- 1. Use a medium or coarse stone and set the PIVOT down 6 degrees from the sharpening angle. If you are sharpening at 21°, thin at 15°.
- 2. Make several passes on each side of the blade. The sharpening bevel will get smaller with each pass. You can continue with this until the sharpening bevel is 1/64" wide.
- 3. Return to the original angle and finish the edge.
- 4. Last, finish the low angle with a finer stone or polish tape.



#### **Sharpening Serrated Edges**

Some serrated knives can be sharpened, and some cannot. If the serrations are cut into both sides of the blade – you cannot sharpen it, these are considered "throw away" knives.

If the serrations are cut into 1 side of the knife, and the other side is flat – you can sharpen it. ONLY sharpen the flat side of the knife with your sharpening stones, then flip the knife over and use the ceramic hone by hand to go through each serration and de-burr.

- 1. Put some magic marker on the flat side of the knife (opposite of the serrations).
- 2. Use a 400 or 600 grit stone.

- 3. Set the sharpening angle so the stone is making a cut from the tip of the serrations, all the way to the valley of the serration. You will be set at an extremely LOW angle and will be making a wide cut. If you are set too high, you will just knock the points of the serrations off. If you can't set the angle low enough to reach the valley of the serration, slide a piece of cardboard under the knife guide and let it stick out ¼". Set the back of the blade on the cardboard, this will lower the angle a little further.
- 4. Make a few passes, then turn the edge up into a good light. Look at the points of the serrations. If the knife is dull there will be shiny spots on the points. Continue sharpening until the shiny spots begin to disappear and stop before the points begin to burr.
- 5. Turn the knife over and lightly run a ceramic stick through each serration to remove the burr.

#### **Polish Tape Instructions**

- 1. Remove the backing from a new tape. Holding it by the sides, lower it onto the blank. Press the tape in place with a clean paper towel.
- 2. Wipe the knife clean of all stone grit.
- 3. Use a pull stroke (edge trailing) on the first few passes with extremely light pressure. After a few passes you can add just a little pressure.
- 4. If you do not notice an improvement in the sharpness of your blade, raise the PIVOT just enough to see it move. Make a few more passes. You can also check the edge with a felt tip marker to make sure the tape is polishing all the way out to the edge and not just polishing the bevel.
- 5. Clean the tapes. Put a little soapy water on the tape and wipe with a clean paper towel after each knife. You can also clean them with alcohol and a paper towel.

#### Most polishing tapes need to be replaced after every 3-6 knives.

#### Directions for 8" 1200 Grit Travel Ceramic

The black tubing that the ceramic is stored in doubles as a handle. Insert the bare end of the ceramic into the pinned end, twisting firmly.



After 2 – 3 weeks of use, the edge starts to fade on most kitchen knives. Using the ceramic hone should bring the edge back many times before you need to resharpen.

#### Quick Tips:

- Use light pressure when using the hone.
- Do not use the ceramic on a recently polished edge
- Using a felt tipped marker on the bevel will help you see the micro bevel. It is very small, only .001" wide, so look closely
- Clean the ceramic often by scrubbing it with a damp cloth and cleanser (Ajax or Comet)
- Caution: Ceramic will break if you drop it.
- DO NOT USE A REGULAR STEEL They are too coarse and will damage your knifes edge.

#### **Operating Instructions**

- 1. Stand the ceramic hone vertically against the counter.
- 2. Starting at the heel of the knife and the top of the ceramic, draw the knife toward you, and let it slide down the ceramic.
- 3. When using the ceramic hone, you need to be angled a couple of degrees higher than the angle you sharpened the knife at so it is touching the cutting edge.

#### **Leveling Your Stones**

Sharpening stones require maintenance. With the Stone Leveling Kit, resurfacing your stones is simple and easy. The kit includes a 12" diameter piece of glass with rubber trim and 2 abrasive options, 60 grit (silicon carbide) or 240 grit (aluminum oxide).

Feel free to source your own flat piece of glass and pair it with our abrasive.

- 1. Wet the glass with water.
- 2. Sprinkle 1 teaspoon of leveling abrasive (silicon carbide or aluminum oxide).
- 3. Grind the stone in a circular motion, face down on the glass.
- 4. Switch the stone end for end when leveling to ensure the stone is completely flat.



#### TIPS

- Lay down a sheet of newspaper below your leveling kit, the silicon carbide will scratch any counter surface.
- When using the 60 grit silicon carbide, level your coarser stones first to break down the abrasive, or it may cause unnecessary wear to your finer stones.
- Check the cutting surface of the stone with a straight edge to determine when it is flat.
- Generally speaking, we recommend using the 60 grit silicon carbide with the stock Edge Pro Stones, and the 240 grit aluminum oxide with the Diamond Matrix stones. However, having a bag of each abrasive can be beneficial. You can use the 240 grit Aluminum Oxide on the 400, 600, and 1000 grit water stones if you choose.

#### Sharpening Without Scratching the Blade

- 1. Cover both sides of the blade with blue painter's tape.
- 2. Trim the tape off the edge bevel so it won't gum up the stone.
- 3. Sharpen as usual, but do not run the stone all the way to the STOP. Sometimes the end of the stone will make scratch marks on the edge.
- 4. Finish sharpening the edge and remove the tape.

#### Recycling Stone Blanks / Mounting stones

For those who are DIY savvy – Mounting your own stones is a great way to save money on future stone purchases if you are willing to do a little work. You can recycle the aluminum backing on your stones and purchase "Unmounted Stones" and glue them on yourself.

- 1. Place the stone blank in a bench vise so the top of the blank is even with the jaws of the vise.
- 2. Heat the blank with a propane torch or heat gun for 20 seconds.
- 3. Slide the stone off with a putty knife, and allow time for the stone blank to cool down before you touch it.

- 4. Use any type of contact cement to bond an unmounted stone to a stone blank.
- 5. Make sure the stone is centered on the blank.
- 6. Allow the glue to dry in accordance with the manufacturers instructions. When in doubt, let it dry over night.

#### **Sharpening Tips**

- If you get a lot of burr as soon as you start sharpening, the angle is too high.
- If you sharpen for 5-10 minutes and don't get a burr, the angle is too low.
- · Switch the stone end for end every few knives and it will stay flat longer

#### **Safety Features**

- The BLADE STOP Prevents your hand from contact with the knife edge.
- The RETAINER If you should jump over the blade stop, the STONE ARM will only travel <sup>1</sup>/<sub>4</sub>" before the RETAINER stops against the PIVOT.









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