

## **Blade Mounting Equipment**

All prices are in US dollars (USD).  
All prices are subject to change without notice.

### **Machinist Parallel Bars:**

Product Information: The Machinist Parallel Bars are used when mounting blades to ensure the blade is not twisted. These bars are precision tools and demonstrate the accuracy which blades are mounted. With the use of a straight edge and parallel bars a retailer can demonstrate the accuracy of their blade mounting. These bars have 5 holes per bar which can make it easier to identify if the bars are parallel to each other. PBHE has added a flat magnet to the edge of the parallel bars to make it easier for the bars to balance on the blade.



Price: \$34.99

PBHE's Recommendation on How to Use: Since the bars balance on the blade's edges, the blade's edges need to be of equal height. You can test if the edges are of equal height by using a Machinist Square, which is also available for purchase. The two bars should be tied together with string which has about 12" (30 cm) of slack. Wrap the string around the blade once to limit the bars from falling. Place one bar near the front of the blade and the other by the back of the blade. Step back and evaluate if the top edge of the bars are parallel. You can also use the holes in the bars to see if the bars are parallel (some customers feel this is a more obvious observation). If the bars are not parallel then the blade is twisted and it is necessary to tighten one side of the blade plate to level the mounting.



### **PBHE Adjustable Skate Anvil:**

Product Information: The PBHE Adjustable Skate Anvil is a huge asset when mounting blades properly. It holds the boot firmly in any direction and will easily level the blade plate for proper drilling. PBHE has these lasts specially made at a local aluminium foundry and then machines this product to fit a movable clamp. This product has been used in our shop for the last 15 years and allows us to do very accurate boot and blade work. Made in Canada.

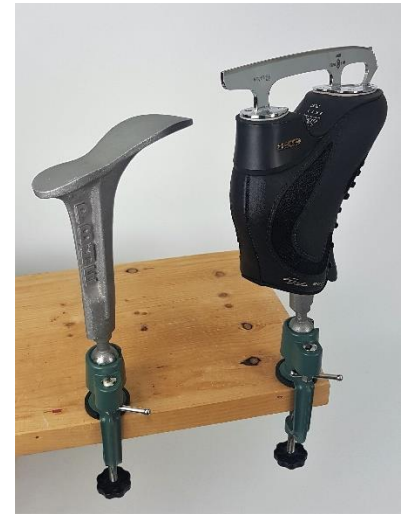
Items Included:

1. One Ball and Socket Swivel Base
2. One Aluminium Last
3. One 3/32" (2.5 mm) Brass Drill Stop (for Edea boots)



Price: \$149.99

PBHE's Recommendation on How to Use: The Ball and Socket Swivel Base can be clamped onto any flat surface up to 2" thick, such as a work table. Adjust the angle of the last and tightening the spherical ball to hold the boot in place. This unit is strong enough to hold a boot steady while drilling holes for screws and lightly hammering wooden dowels to plug prior holes. Care must be taken when mounting Edea boots because it is suggested by the manufacturer to drill right through the boot sole. If done freehand the drill could drill a hole in the aluminum last. PBHE has included the 3/32" (2.5 mm) Brass Drill Stop (for Edea boots) in this package to put on the drill bit to act as a "stopper" to ensure the drill bit does not come in contact with the last.



### **PBHE Blade Holding Vice:**

Product Information: The PBHE Blade Holding Vice makes it possible to sharpen and polish your skates at home! It is made out of aluminum and steel and fits securely on any work table up to 2" thick. The PBHE Blade Holding Vice will solidly secure all major blades including carrier blades.

The PBHE Blade Holding Vice has two different ways of gripping blades: the Adjustable Method and the Fixed Method. The Adjustable Method (illustrated on the left of Picture 1A) is beneficial when setting up blades for mounting, whereas the Fixed Method (illustrated on the right of Picture 1A) is important when using the Blade Root Honing Tool. The Fixed Method uses the PBHE designed and manufactured Horizontal Clamp. Made in Canada.



Picture 1A

### **Items Included:**

1. One Ball and Socket Swivel Base
2. One Vice
3. One Horizontal Clamp

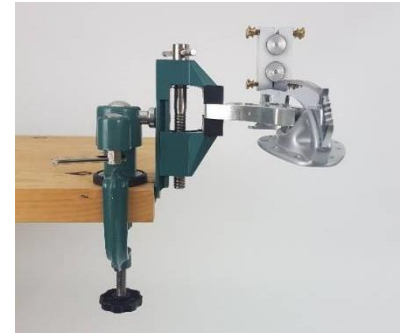
Price: \$99.95

PBHE's Recommendation on How to Use: To secure the blade with the Adjustable Method (shown in Picture 1B) simply secure the sides of the blade in the vice and adjust the ball and socket joint as required.



Picture 1B

In the Fixed Method the Ball and Socket Swivel Base is fixed horizontally and the Horizontal Clamp is held by the Vice. The Horizontal Clamp then holds the blade by its stanchions, providing enough space for a mounted boot underneath. Standard blades are easily clamped on the stanchions by tightening three screws. This is because each stanchion is parallel and the same thickness. The Fixed Method can also secure carrier blades, such as the Revolution, Matrix, and Paramount, as shown in Picture 1C. To secure carrier blades, only two clamping screws are required. Each manufacturer's carrier blades have a slightly different shape, so the clamping location will be slightly different. The clamping force must be on parallel parts of the carrier.



Picture 1C

### **Handheld Cordless Leveling Drill:**

Product Information: The Handheld Cordless Leveling Drill is a lightweight lithium 8 Volt drill with a 3/8" chuck. The level is mounted on the end of the drill so that when you are drilling down it is easy to see if the drill is level producing a hole that is square to the blade plate. This reduces tension and torque on the screws.

\*\* US and Canada charging voltage 120 V, AC only, 60 Hz, 0.15A

Individual Pricing:     \$ 94.95 (no chuck attachments)

Package Pricing:     \$249.99 Three drills (no chuck attachments)



PBHE's Recommendation on How to Use: After positioning and taping the blade on the sole of the boot, place a Bullseye Level on the toe plate and re-adjust the PBHE Adjustable Skate Anvil so that the blade plate is level. Then drill the holes you require using the 5/64" Self-centering Drill Bit, while insuring the Bullseye Level on top of the drill is level. By having the blade plate and drill level the hole will be square. Repeat this process for the heel plate.

For retailers mounting many pairs of competitive skaters' blades, PBHE recommends having three Handheld Cordless Leveling Drills. Each holding the following:

- 1<sup>st</sup> drill with the 5/16" Self-centering drill bit
- 2<sup>nd</sup> drill with 5/16" drill bit
- 3<sup>rd</sup> drill with 3/32" drill bit

Changing bits through the blade mounting process is time consuming and tedious when mounting multiple pairs of blades, so having three different drills already set up will save time.

## **Blade Mounting Toolbox:**

Product Information: The products described in the Blade Mounting Toolbox are necessary pieces of equipment required to properly mount figure skating blades. Each item is available to purchase individually as well as in a package.

Note: This list does not include general hand tools (screwdrivers, pliers, etc.) and the following larger tools that are still required for blade mounting:

- Adjustable Skate Anvil
- Blade Holding Vice
- Machinist Parallel Bars
- Hand Held Cordless Drill with Level

The specifications for each of the products in the Blade Mounting Toolbox are in the table below followed by additional information for each product.

<b>Product</b>	<b>Quantity</b>
5/64" Self-centering Drill Bit	1
Pin Chuck Sets	2
5/64" (~ 2mm) Drill Bit	1
3/32" (~2.5 mm) Drill Bit	1
3/32" Brass Drill Stop	1
Bullseye Level	2
Ruler 12" (30 cm)	1
PBLC Epoxy	1
10x Eye Loop	1
2" Machinist Square (~5 cm)	1

Self-centering Drill Bit: The 5/64" (~2 mm) self-centering drill bit is a basic requirement to properly drill blade holding screws. The screws must be centred and perpendicular to the blade plate holes to ensure the blade does not shift from side to side. When the screws are drilled on an angle and off centre there is excessive stress on the screw head and could lead to broken screws, which is a major concern.



Pin Chuck: The Pin Chuck is necessary for drilling the holes that are close to the side of the skate blade. A normal drill chuck hits the side of the blade and is one reason screws are installed on angles. Pin Chucks are very handy for general work with small drill bits, especially when enlarging and deepening the holes.



Drill Bits: The Drill Bits are High Speed Steel (HSS) which are very good quality drill bits. The 5/64" (2 mm) Drill Bit is the correct pre-drilled hole for a #6 screw. When using Edea's special screws or #8 screws the hole should be enlarged with a 3/32" (2.5 mm) Drill Bit. Using a 5/16" drilled hole for Edea screws will cause problems.



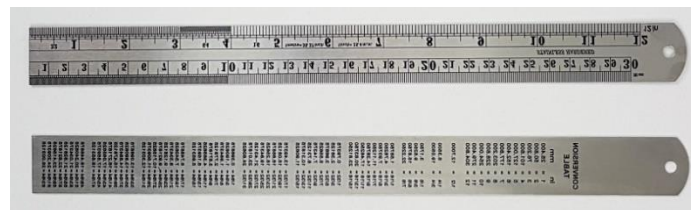
3/32" (2.5mm) Brass Drill Stop: The Brass Stop prevents the drill bit from going too deep and possibly damaging the aluminum boot last on the PBHE Adjustable Skate Anvil. Securely attach the Brass Stop onto the drill bit at an appropriate height so that it stops the drill from drilling too deep.



Bullseye Level: The Bullseye Level aids in drilling holes perpendicular to the blade plate which helps prevent screws from breaking. To ensure the holes are drilled straight there is a requirement for the use of two Bullseye Levels. One to ensure the plate is level and the second on the hand drill to ensure the drill bit is vertical.



Stainless Steel Ruler: The Ruler is used to check and make sure the blade is set straight. There should be no gap between the side of the blade and ruler when the ruler is placed along a mounted blade (check both sides of the blade).



PBLC Epoxy: PBLC Epoxy (Precision Blade Leveling Compound Epoxy) is used to set the blades straight, with no twist over the blade length and allow for full plate/sole contact.



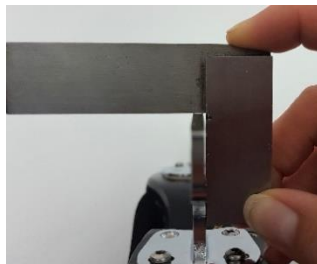
10 x Eye Loop: The Ten Power Eye Loop is great for checking out damaged blades and evaluating the edge quality relating to sharpness. This, combined with a good light source, is PBHE's general inspection process. If an edge is dull it will appear shiny.



2" (5 cm) Machinist Square: The Machinist Square can be used to ensure the blade's edges are of equal height. Place the Machinist Square on a flat part of the stanchion that is perpendicular to the blade plates. If both edges touch the Machinist Square then the edges are of equal height. If only one edge touches the Machinist Square then the edges are uneven. You can check if both edges are touching by holding the blade and Machinist Square up to a light or by using a 0.0015" shim stock (not included). Do this test multiple places along the blade length and on both sides of the blade.



The Machinist Square is showing equal edges in the below photos. The blade used was hollow ground, therefore the machinist square only touches the edges and where the blade is straight and parallel. This is illustrated in Picture 1A. The gap shown on the right side of the blade is due to the sides being hollow ground. A close up of both edges touching the Machinist Square is shown in Picture 1B. This identifies that the edges are of equal height.



Picture 1A



Picture 1B

- Individual Pricing:
- |                              |   |
|------------------------------|---|
| 1. Self-centering Drill Bit  | \$11.95   |
| 2. Pin Chuck                 | \$15.99 (or \$29.99 for two sets; two sets in Packages) |
| 3. 5/64" Drill Bit           | \$ 2.50   |
| 4. 3/32" Drill Bit           | \$ 2.50   |
| 5. 3/32" Brass Drill Stop    | \$11.99   |
| 6. Bullseye Level            | \$ 5.99 (or \$10.99 for two; two in Packages)           |
| 7. 12" Stainless Steel Ruler | \$ 7.99   |
| 8. 2" Machinist Square       | \$15.95   |
| 9. PBLC Epoxy                | \$14.99   |
| 10. Eye Loop                 | \$ 4.99   |

Package Pricing: Blade Mounting Package #1 (Includes items 1 to 5)                      \$49.99 (15% savings!)



Blade Mounting Package #2 (Includes items 1 to 10)                      \$94.99 (17% savings!)



PBHE's Recommendation on How to Use: Detailed instructions on how to mount blades can be found on PBHE's website and PBHE's Blade Mounting Video.

## Hardwood Dowels:

Product Information: The Hardwood Dowels are used to fill in old screw holes in a skating boot. It is used in combination with Original Barge Cement for leather and plastic soles. These hardwood dowels are the best solution PBHE has found for plugging predrilled holes in the sole of the boot. They work much better than plastic plugs. The Original Barge Cement is water proof and does not become brittle. Made in Canada.

There are three different sizing options:

1. Small (Tapered) Hardwood Dowels
2. Medium (Tapered) Hardwood Dowels
3. Mixed Hardwood Dowels - Extra Small (Not Tapered), Small (Tapered), and Medium (Tapered) Hardwood Dowels



Individual Pricing:     \$11.99 Hardwood Dowel Packet  
                                   \$ 5.95 Original Barge Cement 2 fl. oz.

Package Pricing:     \$18.99 Hole Filling Package (Mixed Hardwood Dowel Packet and Original Barge Cement)

PBHE's Recommendation on How to Use: Clean out the hole and select the correct size of dowel. For very small holes use an Extra Small Hardwood Dowel (these dowels need to be sanded to a point before using). Put a small drop of Original Barge Cement in the hole and on the point of the dowel. Position the dowel in the hole and tap the dowel into position with a small hammer. Once the dowel has filled the hole let the cement set for 20 minutes. Cut or sand off the excess material. Plugging holes with soft wood (such as match sticks or golf tees) does not work because the screws will pull out.

