

FOREDOM® AllSet®

Master Stone-Setting Kit Instruction Handbook



AK820 Master Kit with
Foredom® H.30® handpiece

AK825 Master Kit without
Foredom® H.30® handpiece

FOREDOM®

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FOREDOM® AllSet®

Master Stone-Setting Kit Instruction Handbook

The Allset prong, pavé and channel-cutting guides in this kit deliver precise, repeatable accuracy and flexibility whenever they're used. The result is higher quality, defect-free stone settings done faster and easier than ever before!

Here's what you'll find with your Master Stone-Setting kit:

Non-Rotating Guide Assembly. This lightweight assembly is the heart of the Master kit. It attaches easily to a ForeDOM® H.30® handpiece and includes body, collar, shaft and L-bracket.

The Easy-Cut Prong Guide. Create level, uniform and precise cuts time after time with this remarkable prong-cutting aid. Its unique design ensures a level and uniform-height cut on square, round or any other shape of prong. It also includes a new stop guide that precisely controls the depth of each cut.

Channel-Setting Guides. Create perfectly contoured channel settings for round, square and baguette stones quickly and easily with these precision guides. Kit includes three guides (small, large and knife-edge).

Prong Guides. Ensure the proper-depth cutting of prongs in single- or multiple-prong settings with these precise guides. Includes 13 separate guides.

Pavé Guides. Let you create the cobblestone effect of pavé in half the time it would take by hand. Includes seven stainless steel guides.

Allset Quality. Allset kits and components are made in the USA of highly durable materials and are versatile tools that stand up to multiple demands and configurations. All of the cutting guides are made of the highest quality stainless steel for a cleaner finish and a long, rust-free life.

Safety Notes

1. Always use eye protection when cutting prongs and channels with your AllSet Master Stone-Setting Kit or when using any power tool.
2. Some prong and channel-cutting operations may require close placement of the hands to sharp, cutting edges. To avoid injury, please pay careful attention to hand placement, avoid distractions and do not operate prong-cutting equipment without your full attention.
3. For safety and effectiveness with any power tool, maintain a clean work surface and general work area.

Introduction

The patented AllSet® guide assembly is a lightweight attachment that becomes part of a standard flexible shaft handpiece. When properly installed, you can leave the collar and body attached to the handpiece while doing other work with your flex shaft. You may even decide to dedicate an extra H.30® handpiece exclusively to the AllSet guide.

To use the AllSet guide, simply slide the shaft and L- bracket assembly into the body following the assembly instructions on pages 4 and 5. When the handpiece is needed for another operation such as polishing, simply loosen the rear shaft locking screw and slide the shaft out of the body.

Assembling Your AllSet® Guide

The AllSet tool is carefully engineered to adjust for normal manufacturing tolerance variations in the handpiece. Therefore, you need to carefully tune the body of the AllSet to your handpiece by adjusting the collar set-screws, using the Allen Key supplied with your AllSet Master Kit. These minor adjustments in the collar set-screws will center the hole in the bracket in front of the handpiece chuck. This procedure is explained in Steps 6 and 7 of the assembly instructions on pages 4 and 5.

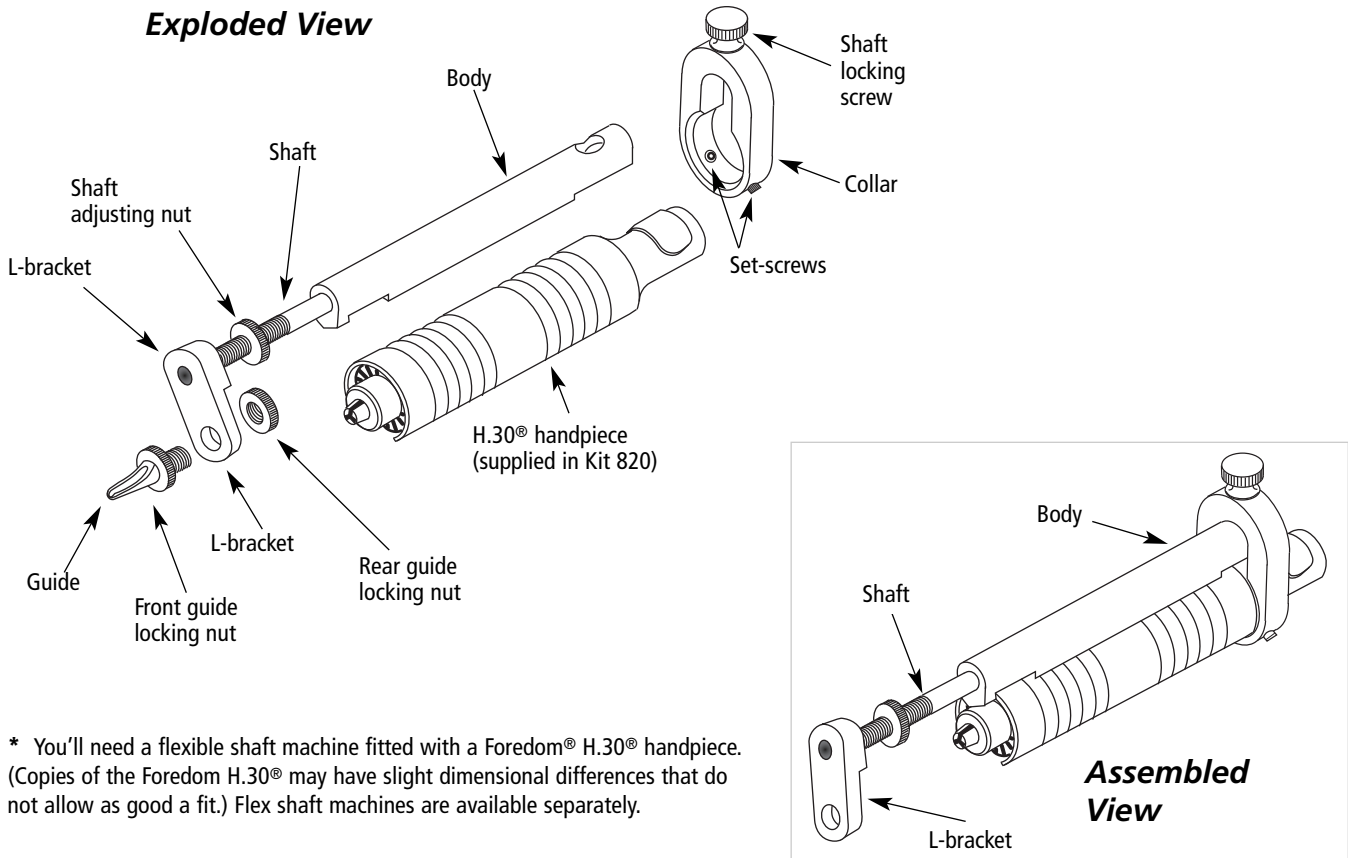
A Note About Burs

As a general rule, cutting seats for stones should be done with low-speed burs. Vanadium steel burs are an excellent choice because of their fine-vane design. This gives you greater control while cutting the seat and helps eliminate the tendency of the bur to grab and skip. As with most drilling operations, use a low speed.

To achieve precise cuts during prong-setting, we recommend using a flexible shaft machine with high torque at low speed such as the Foredom® Series L or TX machine with your AllSet® tool. For cleaner cuts during channel-setting applications, you will want to use a smaller bur and run it at a higher speed. For this, we recommend using the Foredom Series SR.

Before You Start

Detach the H.30 handpiece from the flex shaft. Follow Steps 1 through 7 (pages 4 and 5) to install the AllSet guide assembly on your H.30 handpiece.



* You'll need a flexible shaft machine fitted with a Foredom® H.30® handpiece. (Copies of the Foredom H.30® may have slight dimensional differences that do not allow as good a fit.) Flex shaft machines are available separately.

AllSet® Guide Assembly

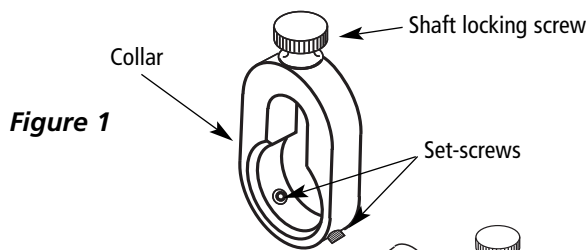


Figure 1

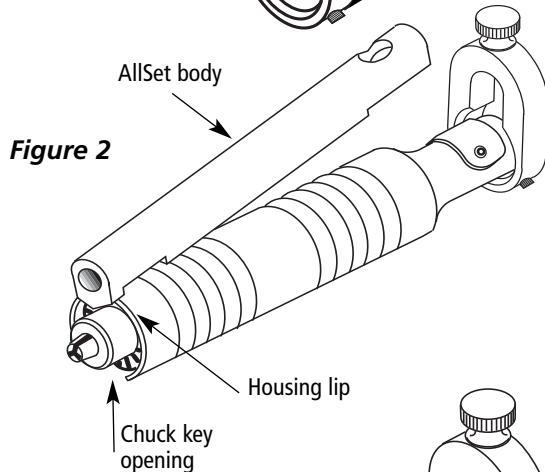


Figure 2

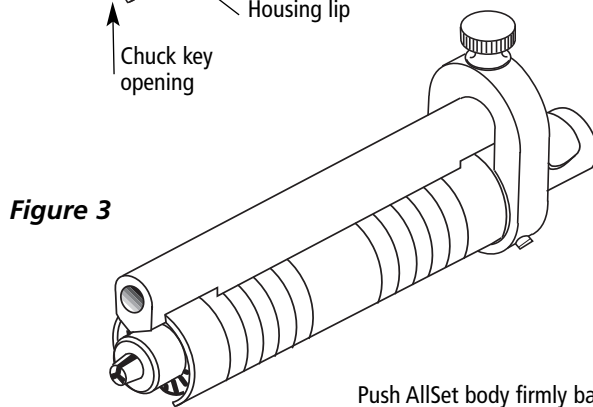


Figure 3

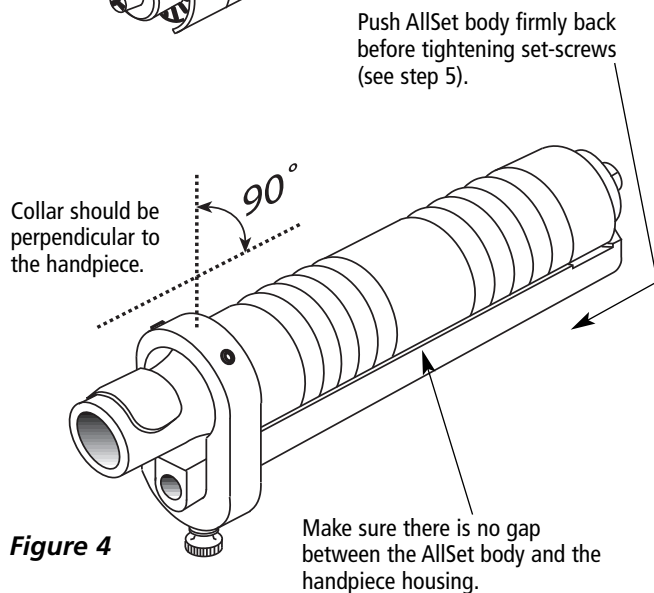


Figure 4

Step 1:

Unscrew both set-screws and shaft-locking screw, so none of them extend into the opening of the collar (Figure 1).

Step 2:

Hook the front of the AllSet guide body over the front lip of the handpiece housing, opposite the chuck key opening (Figure 2). Lower the back of the AllSet body until it is flat against the H.30® handpiece.

Please Note:
Be sure the front of the AllSet body is attached to an unbent, undamaged section of the housing lip. If the AllSet body does not lie flat on the handpiece, it is not hooked properly over the housing lip.

Step 3:

Slip the collar over the back of the handpiece and AllSet body, then push forward against the handpiece housing (Figure 3). Make sure the bevel on the inside edge of the collar is facing forward.

Step 4:

Turn over the handpiece, body and collar assembly (Figure 4). Screw in the shaft locking screw just enough to make sure it is in the hole at the back of the body. Do not tighten it all the way or the shaft will not slide completely into the body (see Step 7). This screw is used to lock the shaft in position and does not function to secure the collar on the body or handpiece.

Step 5:

While holding the body against the handpiece, push the front of the body toward the collar to be sure it is still hooked over the front lip of the handpiece housing. Evenly tighten the two set-screws until the collar is centered from side to side on the handpiece and the AllSet body is firmly against the handpiece housing. Snug down the set-screws with the Allen Key included in the kit. Do not over tighten.

Step 6:

Insert a 3/32" (2.35mm) shank diameter bur in the handpiece chuck (Figure 5). This bur will act as a reference for aligning the AllSet guide. Since you will slip a guide over the bur, be sure the bur head is smaller than the shank which is 2.35mm. A 2mm round bur is suggested.

Step 7:

Assemble the shaft adjusting nut and L-bracket as shown. Insert the shaft (grooved end first) into the body of the AllSet (Figure 5). Loosen the shaft locking screw enough to allow the shaft to slide past the locking screw. The bur should go through the center of the hole in the L-bracket. Tighten the shaft locking screw.

Assembly instructions (continued)

Please Note:

Test for centering by sliding one of the prong stop guides over the bur and into the hole in the L-bracket. If the guide slides easily through the hole in the L-bracket, the alignment is correct. The bur does not need to be perfectly centered, but it should not rub on the guide. The hole in the L-bracket is slightly larger than the threaded portion of the guide to adjust for minor variations in centering.

Installing Accessory Guides

Step 1:

Loosen the shaft locking screw and slide the shaft and L-bracket assembly out from the bur. Slip the rear guide lock nut over the bur (Figure 6). Slide the shaft and L-bracket back into the body and tighten the shaft locking screw. It's important to tighten the shaft locking screw before aligning the guide since the shaft will lift slightly when the screw is tightened.

Step 2:

To install a channel-setting guide or other accessory, slip the guide over the end of the bur and into the hole in the L-bracket. Tighten the rear guide lock nut to secure the guide, making sure the guide is centered around the bur.

Step 3:

Loosen the shaft locking screw which allows the shaft to slide freely. Adjust the guide using the shaft adjusting nut so the bur protrudes from the guide (Figure 7). To change the distance between the guide and the cutting edge of the bur, adjust the guide using the shaft adjusting nut. Tighten the shaft locking screw.

Please Note:

The smaller of the two basic channel-setting guides (see page 12) is designed for use with small burs that have tapered shafts below the bur head. Because the tip area of the small channel guide is less than the 3/32" (2.35mm) bur shank, the guide will not allow burs to slip or go deeper into the channel. Burs cannot be removed or inserted from the front of the small guide.

The large channel guide is designed to accommodate larger burs, such as ball burs, and is especially useful in setting stones with thicker girdles.

To Install Other Accessories

To install a table guide, the easy-cut prong guide or a pavé guide, follow steps 2 and 3 (Figure 8).

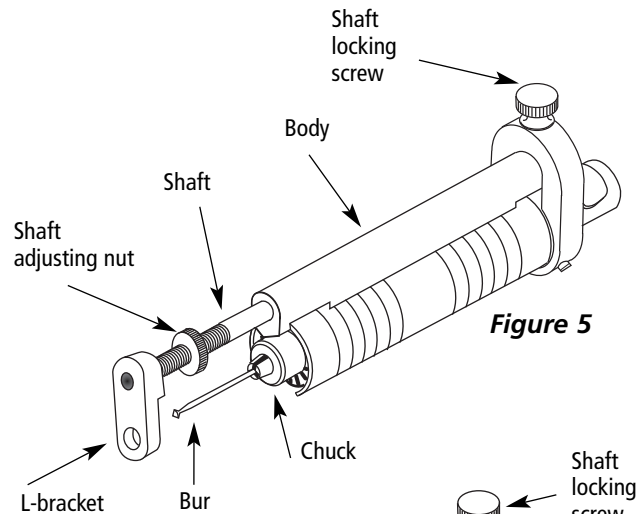


Figure 5

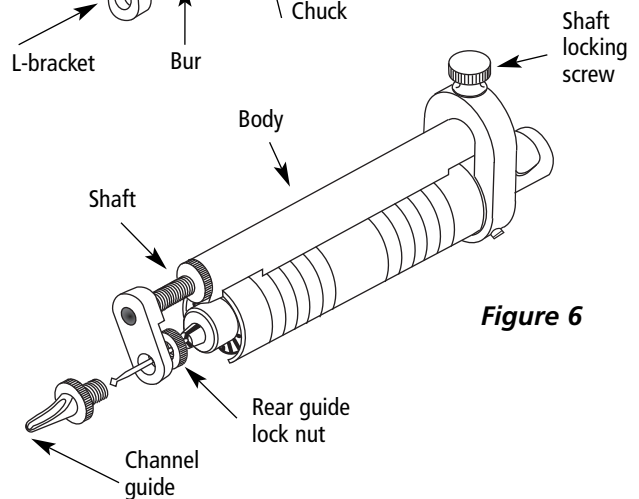


Figure 6

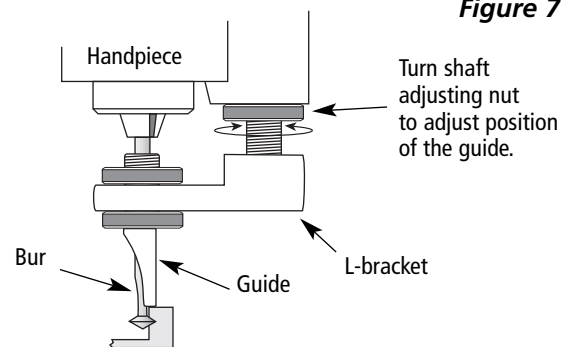


Figure 7

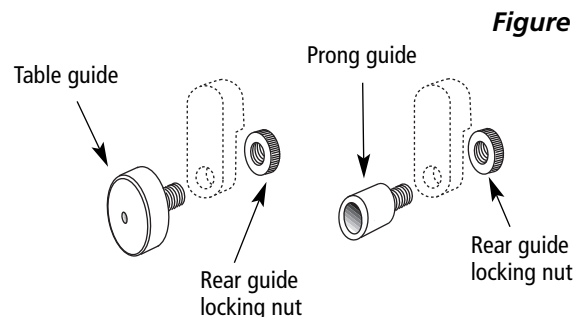


Figure 8

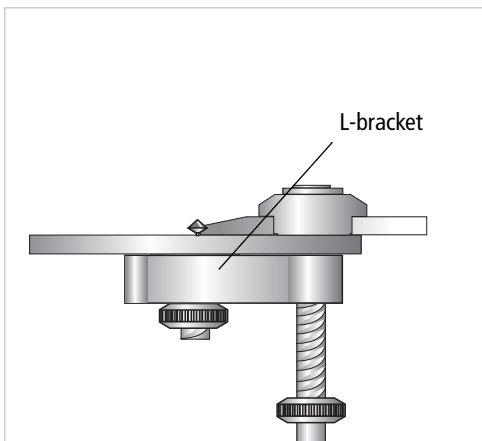
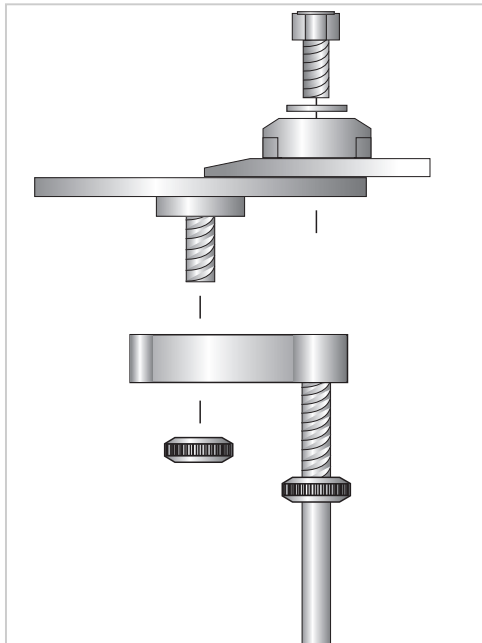
The Easy-Cut Prong Guide



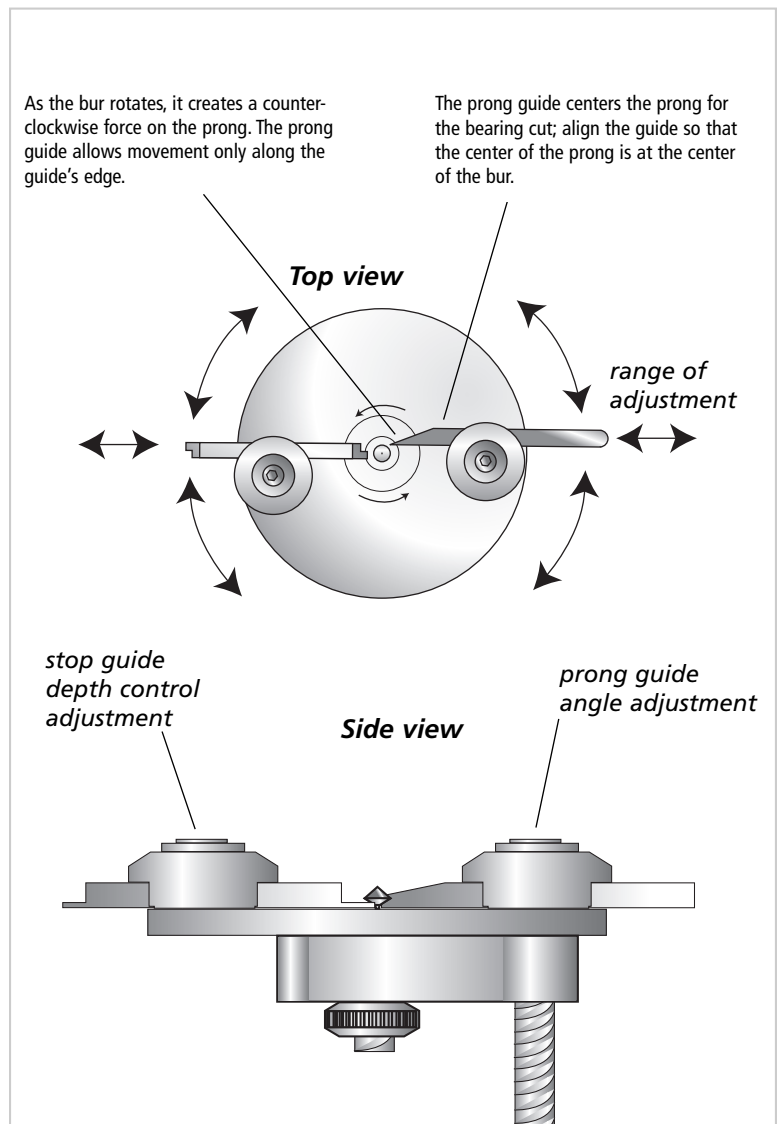
The AllSet® Easy-Cut Prong Guide helps ensure straight, uniform cuts on each prong—every time! It's completely adjustable and it positions the setting precisely so the bur won't grab or roll itself around the prongs, causing scratches. It adjusts to any stone shape and size. Perfect for 45°, 70° and 90° cuts, it allows you to cut perfect seats in the prongs of large pendants, basket settings, solitaire mountings and much more. An adjustable guide in back controls the depth of cut as well.

Use the Easy-Cut Prong Guide to:

- cut perfectly level stone seats regardless of the setting shape.
- gain precise, accurate control over the depth of cut so that finished prongs are stronger.
- reduce stone breakage because you don't have to force prongs while setting.



Exploded and assembled views of the Easy-Cut Prong Guide mounted on the L-bracket which is attached to the H.30® handpiece.

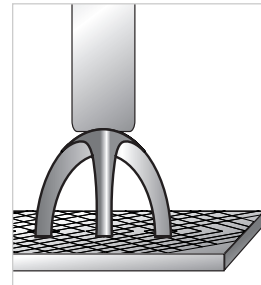


Assembled view showing guide adjustments.

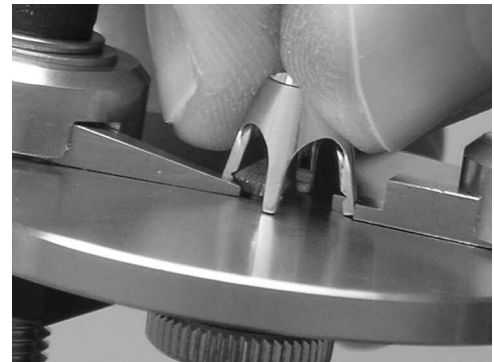
Using the Easy-Cut Prong Guide:

- 1.** Make sure all prongs are at the same angle. File the tops of the prongs so they are the same height and level with one another.
- 2.** Choose a low-speed bur that will make a cut appropriate for the stone (usually a 90° hart bur). Fine-cut, low-speed burs will work the best without chatter and skip.
- 3.** Make the cuts by moving the prongs across the bur, perpendicular to the inward direction of the cut. Cut about a third of the way into the prong, depending on how thick the prongs are.

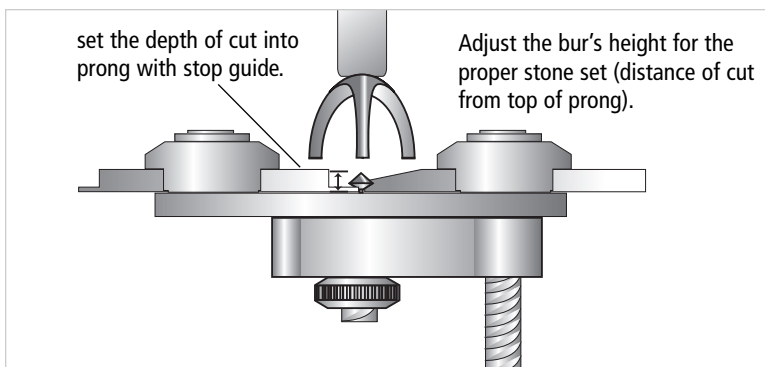
Many large colored stones have extra-thick girdles or some other irregularity. You will have to judge if cuts need to be wider or at different levels. Be sure to mark the stone and the setting for position as you try the fit and make adjustments. Well-cut stones benefit from settings made with AllSet® guides because there is little or no unusual torque or pressure from uneven cuts.



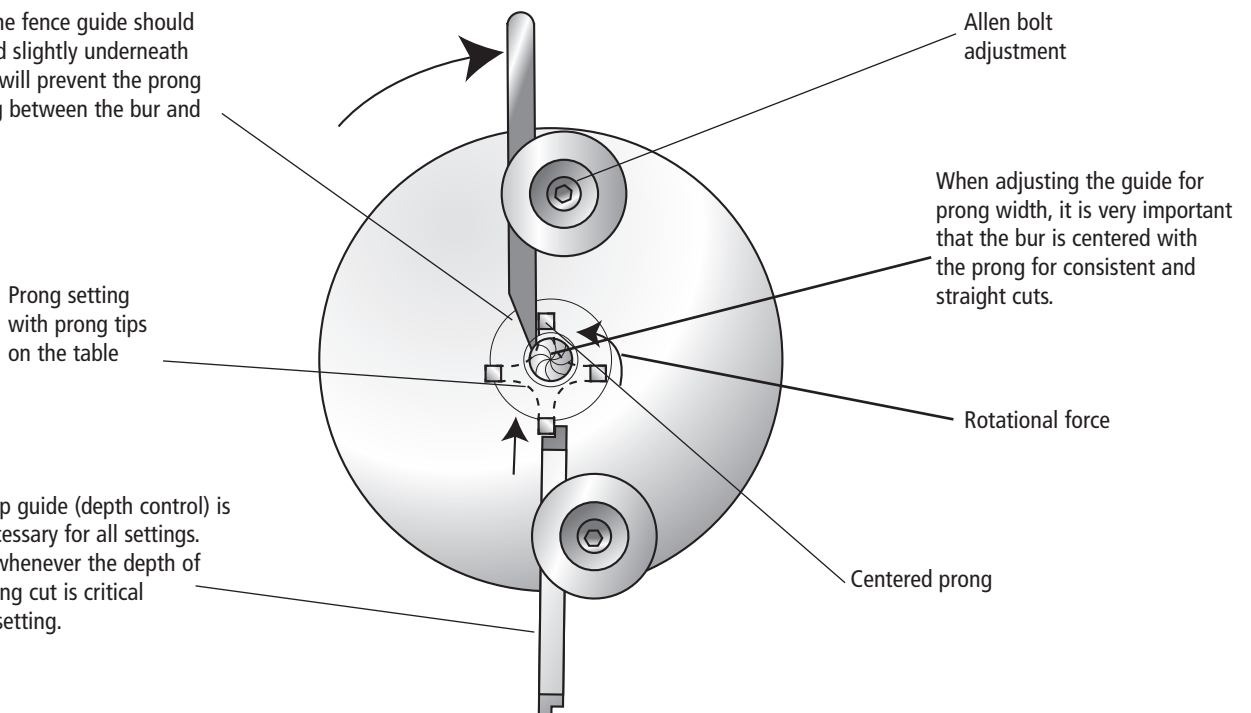
Make sure each prong is at the same angle and is the same length. File the top of the prongs flat.



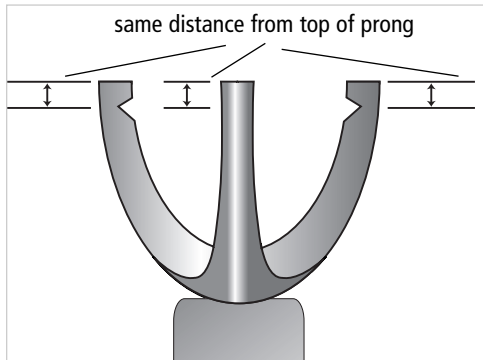
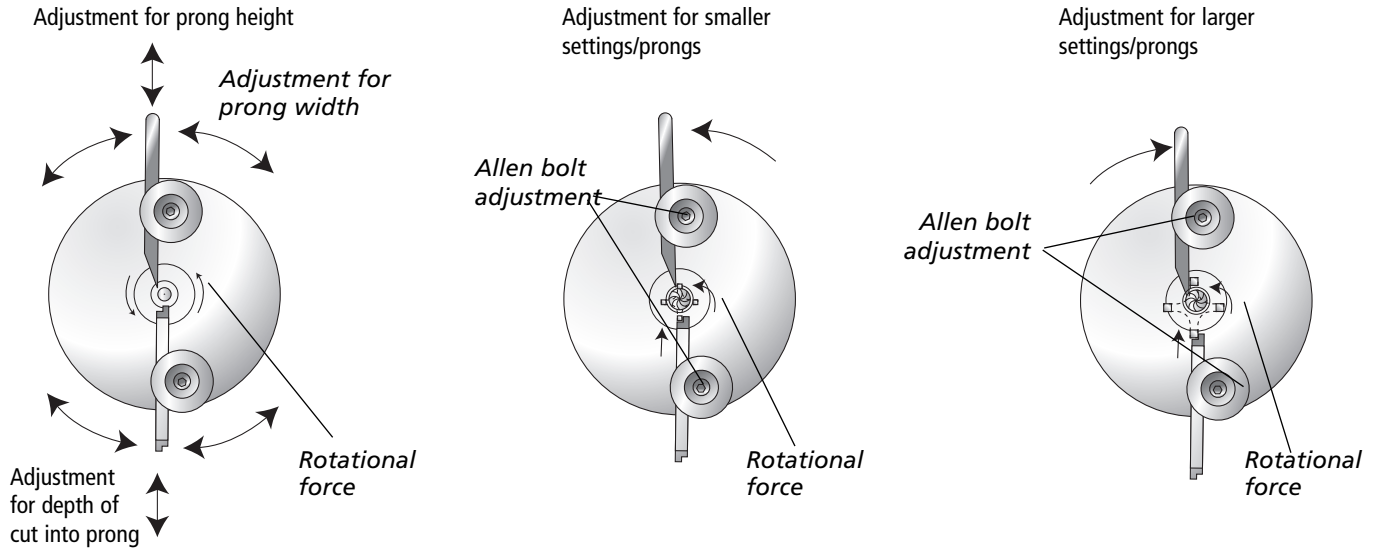
Check to be sure that the piece sits level on the table without wobbling. Position the piece on the table using the prong guide and depth control guide. Rotate the bur slowly at first while making the cut into the prong.



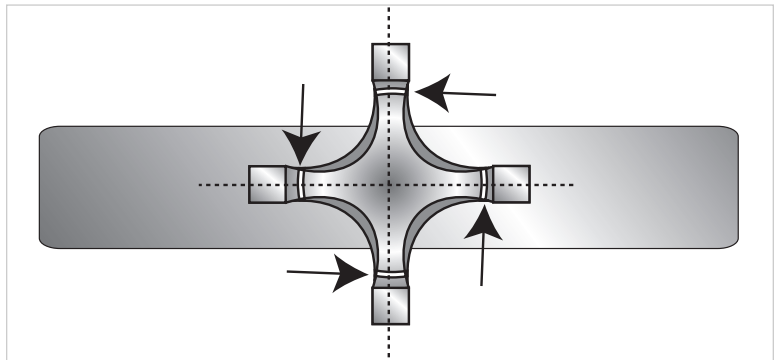
The end of the fence guide should be positioned slightly underneath the bur. This will prevent the prong from slipping between the bur and the guide.



The Easy-Cut Prong Guide offers a wide range of adjustability.

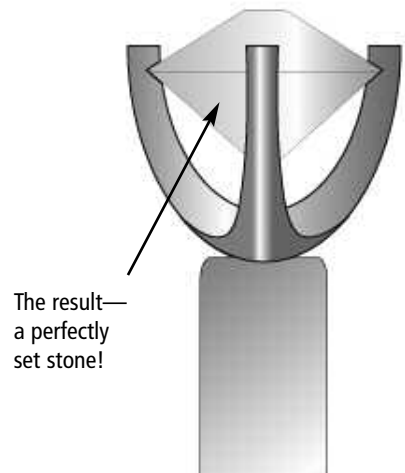
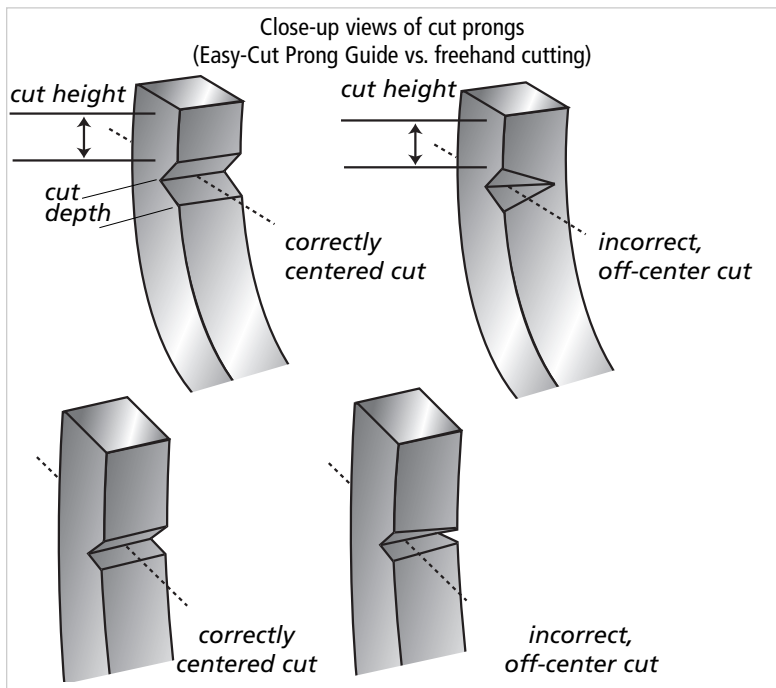


Side view of ring setting showing center-cut prongs with evenly cut heights.



Top view of ring setting showing center-cut prongs with evenly cut heights.

The Easy Cut Prong Guide produces consistent settings with perfectly even height and depth cuts.



Pavé Guide Set

The AllSet® Pavé guides make it quick and easy to create the field-of-stones effect of pavé.



- Includes seven pavé guides, 2–5mm, in 0.5mm increments.
- Solid, non-rotating guides let you complete rows of settings in a very short time and at the perfect depth for the material.
- Guides accept all 3/32" (2.35mm) shank burs such as ball burs, setting burs and hart burs.

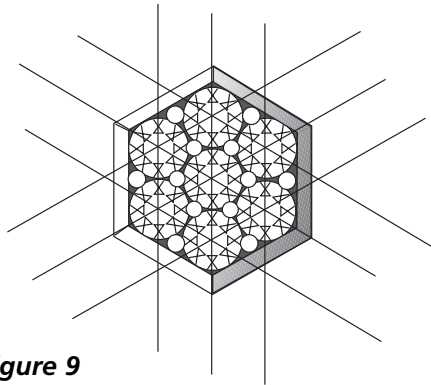


Figure 9

Pavé Setting

Step 1:

Determine the diameter of the stones you will be using, making sure all stones are the same size. Scribe the material with a crosshatch of lines that are only slightly further apart than the diameter of the stones. This pattern is usually a 60° offset design (Figure 9) but can be a square pattern. In any case, each line intersection must be slightly more than the diameter of the stone from the closest adjacent intersection.

Step 2:

At each line intersection, drill through the material with a small drill (smaller than the stone). This hole will provide a guide for the bur you use to make the seat.

Step 3:

The AllSet pavé guide will provide a stop for the bur, making all the seats exactly the same depth. Select a bur (usually a setting bur) the same size as the stone. Choose one of the pavé guides that is a little larger than the bur head. Mount the pavé guide in the AllSet and then the bur in the handpiece. Adjust the pavé guide for the depth you need to make the seat (Figure 10). This depth should allow the stone girdle to sit slightly below the surface of the material. Make all the seats in the material using the drilled hole to guide the start of the bur. Be sure to keep the tool perpendicular to the work.

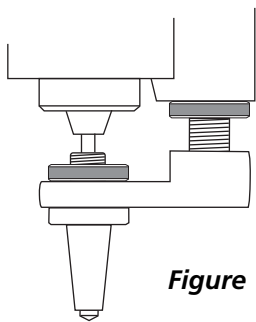


Figure 10

Step 4:

Place the stones in their seats to be sure they all fit. Finish the setting by using a beading tool to push the material down between the stones. For a square pattern or any other spacing where there is material around the stones, you will need to raise beads over the stones with a graver and then finish each bead with a beading tool.

Prong Guide Set

The AllSet® prong guides ensure proper depth cutting on all prongs in a single setting with one quick cut. This allows you to produce more settings with greater accuracy. Each prong is cut to precisely the same depth so the stone will be absolutely level.

- 13 adjustable depth prong-setting guides allow you to use bur sizes from 2.5mm to 8.5mm in 0.5mm graduated increments.
- Solid, non-rotating guides lets you hold settings firmly in place with no twisting or grabbing as you cut.
- Guides accept all $\frac{3}{32}$ " (2.35mm) shank burs.



Prong Setting

Step 1:

Make sure all prongs on the setting are evenly spaced and angled the same. The distance between opposing prongs should be adjusted to slightly less than the diameter of the stone at the height on the prongs where you intend to cut the seat.

Step 2:

Choose a setting bur that is just *slightly* smaller than the stone's diameter (too small a bur increases the chance that the bur will grab and skip). The best burs are non-aggressive, fine cut burs. Select the prong guide closest to the bur size that allows the head of the bur to fit down inside the guide.

Step 3:

Mount the prong guide in the AllSet L-bracket (Figure 11). Insert the bur through the guide and into the handpiece chuck. Tighten the chuck to secure the bur.

Step 4:

Loosen the shaft locking screw and adjust the shaft with the shaft adjusting nut so the shoulder of the bur is at the desired cut-depth below the guide (Figure 12). You can always cut deeper, so set the depth less rather than more for the first cut. The depth of the cut should end up being a little deeper if the stone has a thick girdle.

Step 5:

Hold the setting securely and make sure you approach the prongs as straight in as possible. Holding the setting with your fingers allows the setting to move and align itself as the prongs come in contact with the guide.

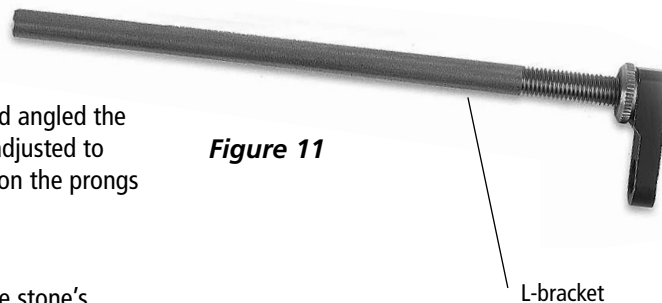


Figure 11

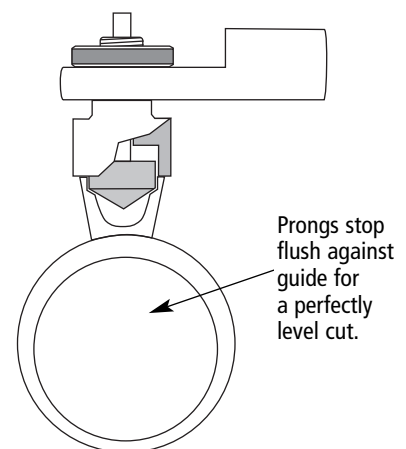


Figure 12

Channel-Setting Guides

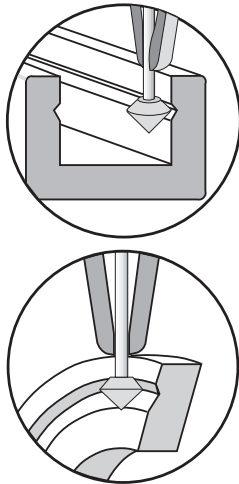
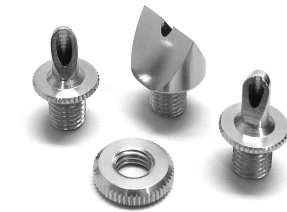


Figure 13



Cut continuous channels on straight or contoured pieces.

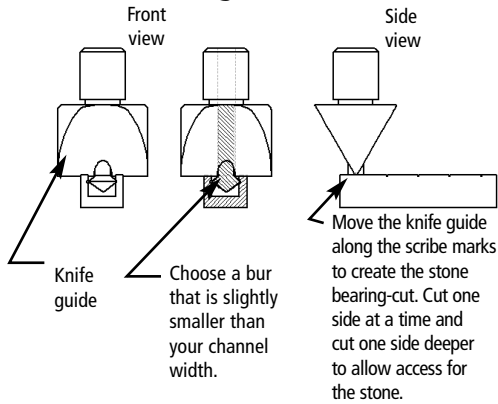
The AllSet® channel-setting guides allow you to cut perfect channels with precisely the same depth on each side of the channel for level stone setting. The set includes three adjustable depth channel-setting guides for all channel-setting applications.

- The rounded tips of the two basic guides (small and large) make it easy to cut continuous channels on straight or contoured pieces (Figure 13).
- The new double knife-edge guide ensures perfect spacing of separated stones.

Please Note: The smaller of the two basic channel setting guides is designed for use with small burs that have tapered shafts below the bur head. Because the tip area of the small channel guide is less than the 3/32" (2.35mm) bur shank, the guide will not allow burs to slip or go deeper into the channel. Burs cannot be removed or inserted from the front of the small guide.

The large channel guide is designed to accommodate larger burs, such as ball burs, and is especially useful in setting stones with thicker girdles.

Figure 14



Remove just enough of the corner edge to allow the stone to pass as it is set into the channel. For deep or thick-girdled stones, the lower corner edge may also be removed (use a bur or graver to preserve smooth edges on the bearing cut).

Channel-Setting Tips:

Square Stones

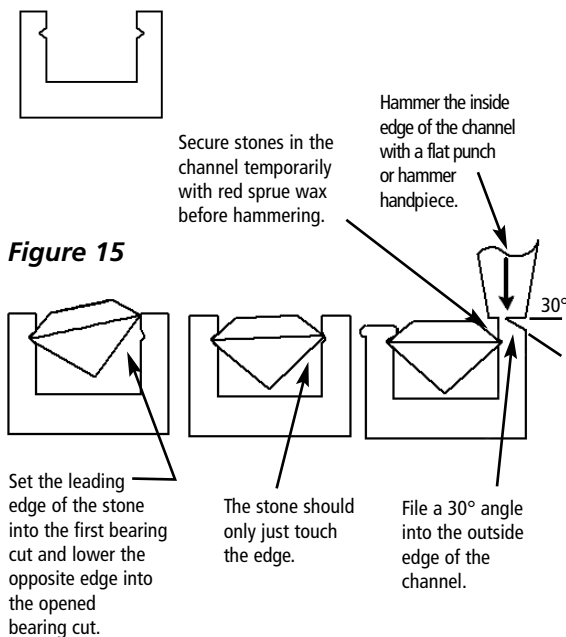
For setting stones that will touch, you can cut a continuous channel (Figure 13):

- Step 1:** Choose a hart bur with a diameter that will cut a channel to the proper depth in the material for the diameter of the stones you are using.
- Step 2:** Select one of the two basic channel guides (small and large) for the size bur you are using (see note above).
- Step 3:** Adjust the distance between the guide tip and cutting edge of the bur to the desired position of the channel.
- Step 4:** Cut each channel, making sure to keep the handpiece perpendicular to the material.

Round Stones (using the knife guide)

For a setting where there will be space between round stones:

- Step 1:** Choose a hart bur that is slightly smaller than the diameter of the stone (Figure 14).
- Step 2:** Scribe deep center marks on top of the channel wall and use the knife-edge channel setting guide as illustrated (side view).
- Step 3:** Cut individual seats for each stone by sliding the knife edge guide from one side to the other in the groove made by the scribe. When setting the depth of the seat, be sure to allow a little extra wall height for filing out the scribe marks (file out the scribe marks before hammering).
- Step 4:** Set the stones in the channel (Figure 15). File the outside channel wall at a 30° angle and hammer the top inside edge (not the outside) to tighten the material over the stones.



Hint:

Be sure to thoroughly clean shavings and metal debris from out of the setting before putting the stone in place.

Customize Your Own Setting Operation with Allset® Kits!

Customize your AllSet just the way you want it! Choose exactly what you need to maximize your efficiency and guarantee great results. If you already have a Foredom® handpiece or some of the equipment included in the kits, just add the AllSet components you want from the selection described below.



Master Kit

AK820

Quickly and easily achieve perfect results in all your stone-setting operations. Includes a H.30® handpiece, AllSet handpiece attachments, complete set of guides and video.

Master Kit

AK825 Without Foredom H.30® handpiece.



Prong-Setting Kit

AK826

Produce consistent settings nearly 10 times faster than by hand! Includes AllSet handpiece attachment for the H.30® handpiece, 13 prong-setting guides, guide locking nut, Allen wrench and instructions—all in a fitted box.

Prong Guides Only

AK827



Channel-Setting Kit

AK828

Cut perfect channels and maximize your production. Includes AllSet handpiece attachment for the H.30®, three channel-setting guides, (small, large for baguette and knife-edge), guide locking nut, Allen wrench and instructions—in a fitted box.

Channel Set Guides Only

AK-829



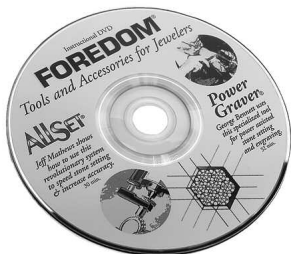
Pavé-Setting Kit

AK832

Allset handpiece attachment for the H.30® handpiece, seven pavé guides (for setting a number of stones in a pattern to produce a field-of-stones effect), guide locking nut, Allen wrench and instructions—all in a fitted box.

Pavé Set Guides Only

AK833



The Allset Accessory Video **A-DVD125**

Allset co-inventor, award-winning jeweler and tool designer, Jeffrey Mathews, shows you how to use this revolutionary system to speed stone-setting and increase accuracy. 31 minutes.



Easy-Cut Prong Guide Kit

AK847

Allset milling table, guide locking nuts, Allen wrench and instructions—in a fitted box. Handpieces and guides sold separately.