

## **IMPORTANT SAFEGUARDS**

When using electrical appliances, basic safety precautions should always be followed including the following:

1. Read all instructions. Every user should read this manual.
2. To protect against electrical hazards, do not immerse the AngleSelect® Model 1520 in water or other liquid.
3. Make sure that only clean knife blades are inserted in Model 1520.
4. Disconnect the appliance from its power source when not in use, before cleaning, during service and when replacing parts.
5. Avoid contacting moving parts.
6. Do not operate any appliance with a damaged cord or plug or after the appliance malfunctions, or is dropped or damaged in any manner.

**U.S. customers:** You can return your sharpener to The Legacy Company's factory for service where the cost of repair or electrical or mechanical adjustment can be estimated. When the electrical cord on this appliance is damaged, it must be replaced by the Chef'sChoice® distributor or other qualified service to avoid the danger of electrical shock.

**Outside U.S.:** Please return your sharpener to your local distributor where the cost of repair or electrical or mechanical adjustment can be estimated. If the supply cord of this appliance is damaged, it must be replaced by a repair facility appointed by the manufacturer because special tools are required. Please consult your Chef'sChoice® distributor.

7. **CAUTION!** This appliance may be fitted with a polarized power plug (one blade is wider than the other). To reduce the risk of electric shock, this plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician. Do not modify the plug in anyway.

8. The use of attachments not recommended or sold by The Legacy Companies may cause fire, electric shock or injury.
9. The Chef'sChoice® AngleSelect® Model 1520 is designed to sharpen American, European, and Asian style knives. Do not attempt to sharpen scissors, ax blades or any blade that does not fit freely in the slots
10. Do not let the cord hang over edge of table or counter or touch hot surfaces.
11. When in the "ON" position (Red flash on switch is exposed when "ON"), the Chef'sChoice® sharpener should always be on a stable countertop or table.
12. **WARNING: KNIVES PROPERLY SHARPENED ON YOUR AngleSelect® Model 1520 WILL BE SHARPER THAN YOU EXPECT. TO AVOID INJURY, USE AND HANDLE THEM WITH EXTREME CARE. DO NOT CUT TOWARD ANY PART OF YOUR FINGERS, HAND OR BODY. DO NOT RUN FINGER ALONG EDGE. STORE IN A SAFE MANNER.**
13. Do not use outdoors.
14. Appliance is not intended to be used or cleaned by children or persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge of the hazards involved.
15. Do not use honing oils, water or any other lubricant with the AngleSelect® Model 1520.
16. For household use only.
17. This appliance is intended to be used in household and similar applications such as: - staff kitchen areas in shops, offices, and other working environments; - farm houses; - by clients in hotels, motels, and other residential type environments; - bed and breakfast type environments.

## **SAVE THESE INSTRUCTIONS.**

## GETTING ACQUAINTED WITH THE MODEL 1520 SHARPENER

The Model 1520 (Figure 1) is a unique three stage sharpener with Stage 1 designed exclusively to sharpen Asian style (15° faceted) knives. Stage 2 is designed primarily to sharpen conventional American and European knives. Stage 3 contains the proprietary Chef'sChoice® ultrafine abrasive stropping disks designed for both Asian and Euro/American blades to create a microscopic bevel along the edge and to polish it to astonishing sharpness.

Asian knives (15 degrees) are sharpened first with fine diamond abrasives in Stage 1, and then stropped and polished in Stage 3. Optionally for a stronger edge on Asian style blades two pair of pulls can be added in Stage 2 to form a small second bevel, before proceeding to Stage 3 which creates the third microscopic bevel and polishes the resulting edge with micron size abrasive.

American and European knives (20 degrees) are sharpened first with fine diamond abrasives in Stage 2, followed by stropping and polishing with micro abrasives in Stage 3. Knives of the 20° design are not sharpened in Stage 1 unless as described later you wish to convert this 20° edge facet to the smaller Asian angle of 15°.

Special procedures for sharpening serrated blades are included beginning on page 12. All traditional-single sided Asian knives such as sashimi knives require special care and must be sharpened primarily on one side of the edge as explained in later sections.

The Model 1520 is equipped with a manually actuated diamond cleaning system that can be used, when necessary, to clean any accumulated food or sharpening debris from the surface of the ultrafine abrasive Stage 3 polishing/stropping disks. We strongly urge that you always thoroughly clean your knives before sharpening them. Unless you are a heavy user of the sharpener, you will be able to sharpen for months or even a year or more before you need to clean the stropping/polishing disks. Only if you sense a distinct decrease in polishing efficiency in Stage 3 is there any need to use this convenient feature described on page 13.

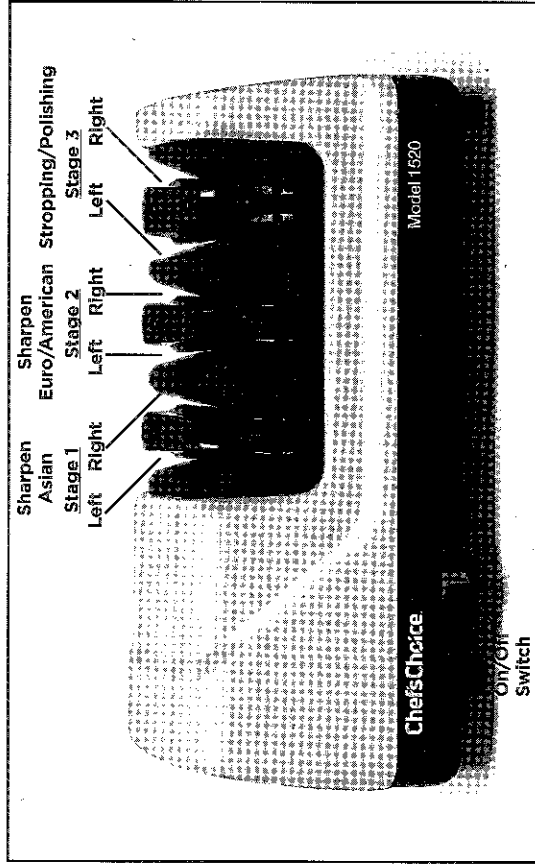


Figure 1. Chef'sChoice® Angleselect® Sharpener Model 1520 designed to sharpen both Asian and the Euro-American style knives.

Because of their thickness and heavy duty blade design we do not recommend the Model 1520 for the much older thick European cleavers. These can be readily sharpened in Models 120, 2000 and 2100. However, the Model 1520 is ideal for sharpening Asian cleavers. Never operate the sharpener from the back side. Use just enough downward pressure when sharpening to ensure uniform and consistent contact of the blade edge with the abrasive disks on each stroke. (See Suggestions, page 14.) Additional pressure is unnecessary and will not speed the sharpening process. Avoid excessive cutting into the plastic enclosure. Accidental cutting into the enclosure however will not functionally impact operations of the sharpener or damage the edge.

Try a practice pull through the sharpener with the power "OFF". Slip the knife blade smoothly into the left slot between the left angle guide of Stage 1 or Stage 2 and the plastic knife holding spring. Do not twist the knife. Move the blade down in the slot until you feel it contact the diamond disk. Pull it towards you lifting the handle slightly as you approach the tip. This practice pull will give you a feel for the spring tension. Remove the knife and read the following instructions specific to the type of knife you will be sharpening.

## DESCRIPTION OF EURO/AMERICAN AND ASIAN BLADES

Over the years, the European and American blades have been designed to prepare foods common to their own culture and heritage - namely for heavier foods including a wide variety of meats and more fibrous vegetables. As a result these knives are generally heavier, thicker, and sharpened with sturdy 20 degree facets (40 degree total angle) (See Figure 3b). By contrast the Asian foods have been lighter, designed primarily for seafood, and less fibrous vegetables. Consequently many of the Asian knives are thinner and sharpened with the more delicate 15 degree facets. (See Figure 3a). Some Asian blades are very specialized such as the traditional Japanese blades which are formed as single sided blades with a single 15 degree facet. Sharpened correctly they are exceedingly sharp.

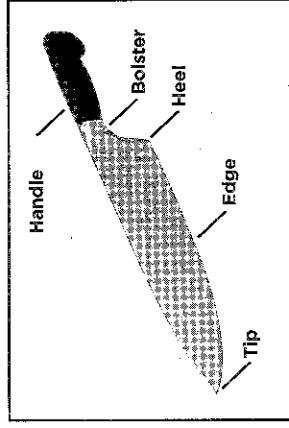


Figure 2. A typical kitchen knife.

In recent years, as cultures and foods of the eastern and the western countries have become more ubiquitous and available on a global scale, the knives commonly associated with those foods also have become widely available. Many European and American brands are selling Santoku blades and certain traditional European styles are now sold under Asian brands.

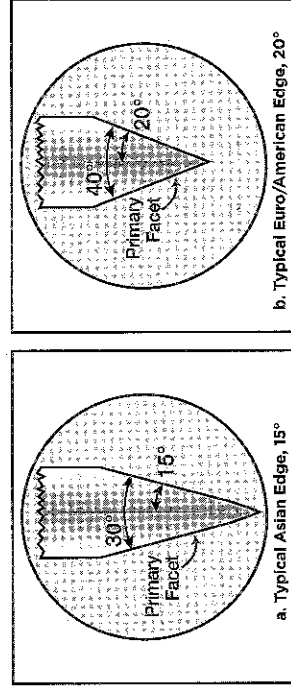


Figure 3. Typical edge, illustrating the primary facet.

The Model 1520 is designed to sharpen virtually any of this growing variety of blades and to maintain the angles and edge designs of their tradition.

If one can identify the manufacturer of a knife or establish its country of origin it is relatively easy to classify the edge as Asian (15 degrees) or as American/European (20 degrees) and to sharpen accordingly. For example the Santoku knife is characteristically sharpened as an Asian blade (15 degrees) regardless of where the knife is manufactured. Otherwise if you are using a given knife for heavier cutting or chopping it probably is best sharpened as an American/European blade at 20 degrees. If you use a small or medium size knife only for light work such as paring, peeling, or light slicing you may prefer to sharpen it as an Asian knife at 15 degrees in order to take advantage of its increased sharpness.

The following descriptions may be helpful in identifying your knives or in explaining their edge structures.

### EUROPEAN/AMERICAN BLADES (20 DEGREE FACETS)

European/American fine edge blades are universally double beveled and are sharpened on both sides of the blade. Most of the Euro/American knives, shown on the right, Figure 4 have a thick cross-section designed for heavier work. However, the associated conventional paring, fillet and utility blades, are smaller and have a relatively thin cross-section well suited to their intended application.

### CONTEMPORARY ASIAN KNIVES (15 DEGREE FACETS)

The most popular Asian blades; the thin, light weight Santoku and Nakiri for example are generally double faceted (sharpened on both faces of the blade) as shown in Figure 5. Occasionally Santoku knives are sold with single facets but these are not readily available in the United States.

There are other but somewhat heavier double-faceted Asian knives, the Deba and Gyutou, popular in Asia, which are used for chopping hard vegetables, for tailing and filleting fish and for meats. These are basically Asian chef's knives designed for heavier duty work. While these heavier knives are commonly sold with 15 degree facets, you may wish to sharpen them with 20° angles. The Chinese cleaver is included in this class.

### TRADITIONAL JAPANESE KNIVES (15 DEGREE FACETS)

The traditional Japanese knife is single beveled and has a large factory bevel A along the lower section of the front face of the blade. These are sold as either right handed or left handed versions as shown in Figure 6. The large wide factory bevel A is ground, commonly at about 10 degrees. The most popular example of this type blade is the sashimi knife also known as Yanagi and Takohiki, designed as shown in Figure 6. This lengthy, thin slicing blade is ideal for preparing very thin slices

of raw tuna or salmon. The back side of this blade is commonly slightly hollow ground. A small single cutting facet of about 15° is created below the large factory bevel along the front side of this type blade as shown in Figures 6 and 7 in order to establish the geometry of the cutting edge. An even smaller cutting microfacet (barely visible to the unaided eye) is customarily created at the edge on the back side of the blade to enhance the sharpness of the finished edge. Figure 7 shows a greatly enlarged cross-section view of a typical traditional single-bevel Japanese knife edge as sharpened at the factory. The large factory bevel A serves to deflect the food slice away from the blade as it is cut. When sharpening the traditional Japanese blades, you should always follow these instructions carefully. Always sharpen this style knife at 15° (Asian style) unless it is a thicker specialized blade designed for heavy duty work. Always remember these knives will be extremely sharp.

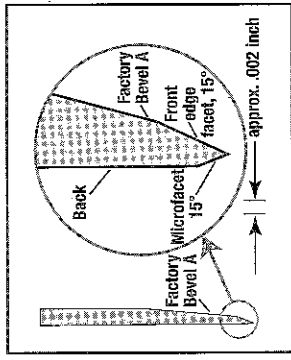


Figure 7. Cross-section of a typical factory traditional Asian knife edge, magnified 50X (right-handed).

## SHARPENING THE CONTEMPORARY ASIAN KNIFE OR OTHER DOUBLE-FACETED EDGE AT 15 DEGREES (30° TOTAL)



Virtually all Asian blades are factory sharpened at 15 degrees. The popular Santoku blade shown above is a typical contemporary Asian style, double faceted and each of its facets is sharpened on each side at 15 degrees to create a total edge angle of 30°.

### HONING THE EDGE IN STAGE 1

Turn-ON the power and pull the blade thru the left slot (Figure 8) of Stage 1, then thru the adjacent right slot. Repeat pairs of pulls in Stage 1 using the left and right slots on alternate pulls. Take about 4-5 seconds for each pull of a 5" long blade. Take longer for longer blades and slightly less if shorter. The first time you sharpen this type of knife it may take up to 10 pair of pulls (alternating left and right slots) to fully re-angle the edge of a thin blade. Thicker blades will require more pulls. After 3 pairs of pulls check for a burr as described below and as necessary continue to make more pairs of pulls until you create a small burr along the entire length of the blade.

If you are sharpening a contemporary Asian blade (which probably has been sharpened previously at 15 degrees) you will find that only a few (2-4) pairs of alternating pulls (alternating left and right slots) will be needed to develop a burr. Do not over sharpen. When you have developed a burr along the full blade length proceed to Stage 3.



Figure 8. Sharpen contemporary Asian knives first in Stage 1.

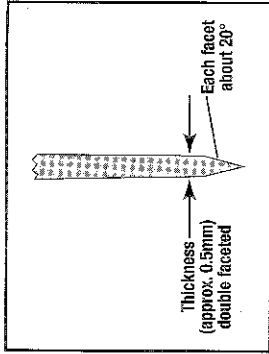


Figure 4. European/American blades are generally thicker.

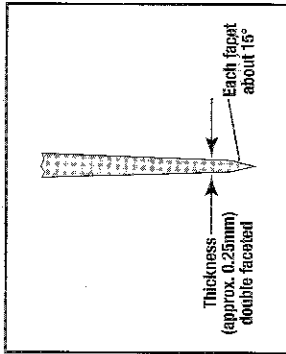


Figure 5. Double faceted contemporary Asian blades are usually thinner.

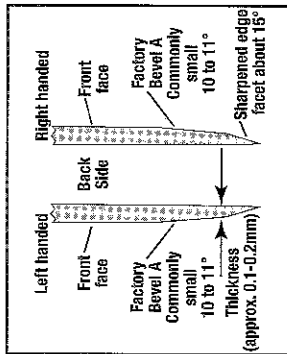


Figure 6. Single beveled traditional Asian blades are thinner and sharpened primarily on one side.

## DETECTING THE BURR

To confirm the presence of a burr (see Figure 9) move your forefinger carefully across the edge in the direction shown. Do not move your finger along the edge - to avoid cutting your finger. If the last pull was in the right slot, the burr will appear only on the right side of the blade as you normally hold it; and vice versa. The burr, when present, feels like a rough and bent extension of the edge; the opposite side of the edge feels very smooth by comparison. If there is no burr continue sharpening in Stage 1, alternating left and right slots until a full burr develops. When a burr is present along the entire blade length proceed as below to Stage 3.

## STROPPING/POLISHING THE CONTEMPORARY ASIAN EDGE IN STAGE 3

Pull the blade through the left slot (see Figure 10) and then through the right slot of Stage 3. Make 4 pairs of pulls, (each pull 4-5 seconds) alternating each pull in the left and right slots of Stage 3. You should then make about 4 to 5 pairs of alternating faster pulls in this stage, about 1-2 seconds per pull for a 5 inch (12 cm) blade to put a final polish on the edge. Check the blade for sharpness. For a sharper edge make a few more pairs of fast pulls and check for sharpness. Repeat this procedure as needed to create an exceedingly sharp edge.

## RE-SHARPENING THE CONTEMPORARY ASIAN BLADES

Depending on its use, you should be able to re-sharpen to a razor sharp edge 3 or more times using only Stage 3 before finding it necessary to again hone in Stage 1. Hone in Stage 1 only when you find it is taking too long or too many pulls in Stage 3 to bring the edge to razor sharpness. In that event, follow the entire honing and stropping/polishing sequence in Stages 1 and 3 as described above.

Note: To recreate the special stronger Trizor® edge (discussed in the following section) on the Asian style blades as you re-sharpen make two pair of pulls (3 second pulls) in Stage 2 after the burr has been developed in Stage 1. Finish re-sharpening in Stage 3 as described in this section.

## DEVELOPING THE TRIZOR® TRIPLE BEVEL EDGE FOR CONTEMPORARY ASIAN AND 15 DEGREE KNIVES

The thin 15 degree edge (30 degree total) noted for its sharpness is generally considered slightly less durable than the 20 degree (40 degree total) faceted edge. The unique Chef'sChoice Model 1520 is designed, at your option to create in Stage 2 a small intermediate bevel along the edge of the 15 degree facet before the final microbevel is created in Stage 3 where the edge is polished to astonishingly sharpness.

To create the Trizor® edge, sharpen the 15 degree edge first in Stage 1 as described above until a burr is fully developed. Then move to Stage 2. Make two pairs of pulls of about 2 seconds for a 5" blade. A small burr will exist along the edge. Do not make more pulls in

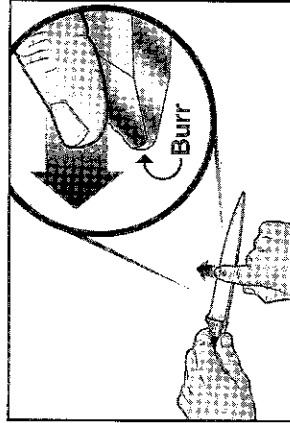


Figure 9. When you create a distinct burr along the blade edge, it can be detected by sliding finger across and away from the edge. Caution! See text.

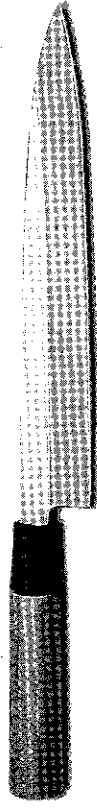


Figure 10. Stropping/Polishing a contemporary Asian knife in Stage 3.

Stage 2. The small bevel developed by the two pair of pulls will make a micro-arch at the very tip of the primary edge facet and leave you with a stronger edge without a noticeable change in sharpness of the knife.

Proceed to Stage 3 and follow the instructions in the proceeding section for Stropping/Polishing in Stage 3.

## SHARPENING THE TRADITIONAL (SINGLE SIDED) JAPANESE BLADE



Traditional Japanese knives such as the sashimi blade shown above are single sided, and have a large factory bevel (Bevel A, Figure 6) on the front side of the blade. There are a large number of manufacturers of knives of this type used widely to prepare sashimi. The factory bevel (Bevel A) is commonly ground at about 10 degrees, but there are exceptions as that angle is not standardized at the Asian factories. Designs of the traditional Japanese knives and the detailed structure of the cutting edges likewise varies widely from one manufacturer to the next, however there are some similarities. The cutting edge consists of a small primary facet on the front face of the blade below the large factory bevel and includes a much smaller secondary microfacet along the back face. Commonly the back side microfacet (Figure 7) can be easily seen only with a hand magnifier. The back face is ground flat at the factory or more commonly it is slightly hollow ground to ensure that an effective microfacet can be formed there as part of the cutting edge. Because of the lack of standardization, the manual approach is commonly used to sharpen these knives in Asia. Consequently sharpening these knives continues to be difficult, laborious and time consuming. The Chef'sChoice® Model 1520 Sharpener is designed to sharpen virtually all traditional Asian blades and to create a factory-quality edge.

Before you start to sharpen a traditional Japanese blade, examine it carefully in order to confirm that you have the traditional single bevel blade and to determine whether you have a right or left handed type as described on page 6, Figure 6. It is essential that you follow carefully the sharpening procedure and sequence as described below in order to achieve the optimum edge on your traditional blade.

Confirm which side of the blade has the large factory Bevel A. Hold the blade in your hand (as when you are cutting) and if the large factory bevel is on the right side of the blade, the blade is right handed. For the **right handed** blades sharpen only in the **left slot** of Stage 1 so that only the beveled side (right side) of the edge will contact the honing wheel. Proceed as described below.

## STEP 1

### HONING TRADITIONAL JAPANESE KNIVES IN STAGE 1 (RIGHT HANDED BLADES)

In this example which assumes your traditional blade is right handed, you must hone only in the left slot of Stage 1 (see Figure 11). The number of pulls that you will need to make depends on the factory angle of Bevel A (Figure 6 and 7) and how dull your blade may be.

Make five (5) to ten (10) pulls (3-4 seconds) in only the left slot of Stage 1 and then check for a burr along the entire back side of the blade edge. (The burr created in Stage 1 will be small but can be felt as shown in Figure 9. Make certain the burr is present; along the entire length of the edge. If there is no burr or only a partial burr, continue to make additional pulls all in the left slot about five (5) at a time and check for a burr after each group of five (5) pulls. In general 20-30 total pulls in the left slot will be adequate to raise a burr; it is unlikely to take more than 50 left slot pulls to create the burr. When a burr is confirmed, proceed to Step 2.

## STEP 2

### STROPPING/POLISHING THE FINAL EDGE ON TRADITIONAL JAPANESE BLADE IN STAGE 3 (RIGHT HANDED BLADES)

- a. Make five to eight (5-8) slow pulls, 3-4 seconds each, only in the left slot of Stage 3 (Figure 12) and then proceed to remove the burr in step b below.
- b. Make one (1) regular pull in right slot of Stage 3 along the back side of the edge. (Pull about 3-4 seconds.)
- c. Make 2-3 pair of fast pulls (1-2 seconds each) alternating in left and right slots of Stage 3. Test blade for sharpness using a thin sheet of paper. It should be razor sharp but if not repeat steps a, b and c above.

### RESHARPENING THE TRADITIONAL JAPANESE BLADE (RIGHT HANDED)

In general you will be able to re-sharpen quickly by following the sequence of Step 2 above. Repeat this if necessary to obtain a razor sharp edge. When re-sharpening only in Stage 3 fails to develop a sharp edge or if the edge has been substantially dulled you will need to re-hone the edge in Stage 1. Use only the left slot of Stage 1. Generally you will find that about five (5) re-honing pulls will be sufficient in Stage 1. In any event develop a burr before moving again to Stage 3. Finish the edge in Stage 3 following Steps 2a, b and c.

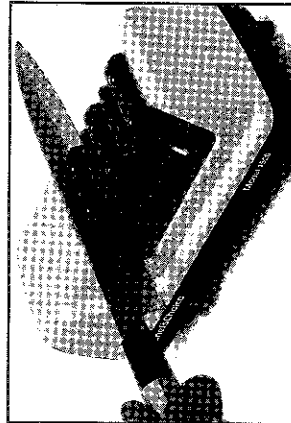


Figure 11. Hone traditional Japanese knife only in left slot of Stage 1 (right handed).

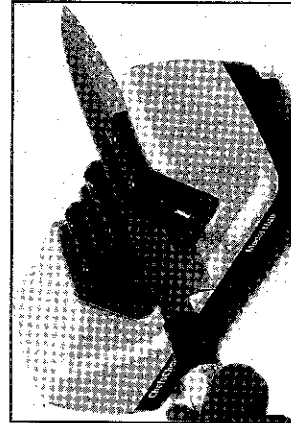


Figure 12. Strop and Polish edge of traditional Japanese knife in Stage 3. Follow instructions carefully.

### SHARPENING LEFT HANDED TRADITIONAL JAPANESE BLADES

The procedure you must use with left handed blades is similar to that procedure for right handed blades as detailed above - Except in all cases the slots you must use are reversed. Where the sharpening procedure for right handed blades calls for use of just the left slot, you must use only the right slot when sharpening a left-handed blade. Likewise use the left slot where ever the right handed instructions call for using the right slot.

## SHARPENING EUROPEAN/AMERICAN KNIVES



All knives from European or American manufacturers are double sided, and consequently must be sharpened on both sides of the blade. The edge is customarily sharpened at 20 degrees forming two facets at that angle to create a total edge angle of 40 degrees. Where these knives are generally used for heavier tasks the stronger 20 degree faceted edge is usually most appropriate.

Sharpening the European/American knife is a two step sharpening process, honing first in Stage 2 and followed by stropping/polishing in Stage 3. (You do not use Stage 1 for these knives unless you wish to convert them to the Asian angle of 15 degrees as described later.)

### STEP 1: HONING, STAGE 2

Do not use Stage 1.

Stage 2 will create the primary facet of 20 degrees on the European/American knife. Turn on the power switch. Start by slipping the blade between the left angle guide of Stage 2 (Figure 13) and the knife holding spring while pulling the blade toward you and simultaneously moving the blade downward in the slot until it engages the diamond coated disk. You will hear it contact the disk. Insert the blade as close as possible to the bolster or handle. If the blade is curved lift the handle slightly as you sharpen near the tip of the knife. Sharpen the entire blade length. Then repeat with one full length pull in the right slot of Stage 2. Always make pairs of pulls, alternating pulls in the left and right slots of that Stage. Each pull should be about 4-5 seconds for 5" long blade and slightly slower for longer blades. Make about five (5) pairs of pulls, then check for a burr along the entire edge length. (See page 8 and Figure 9). Continue with more alternating pairs of pulls until the presence of a burr is confirmed. More pulls will be needed if the knife is very dull.



Figure 13. Honing in Stage 2 (left slot). European and American style blade.

### **STEP 2: STROPPING/POLISHING, STAGE 3**

In Stage 3 make three (3) to four (4) pairs of slow pulls each about 4 seconds, alternating in the left and right slots.

Follow this, still in Stage 3, with three (3) pairs of faster pulls each about 1-2 seconds, alternating in the left and right slots. There should not be a noticeable burr along the edge. Test blade for sharpness; it should be incredibly sharp. If not sharp repeat this Step 2.

### **RESHARPENING EUROPEAN/AMERICAN KNIVES**

Re-sharpen the European/American knives whenever practical using just Stage 3 following the instructions (Step 2) above. When that fails to quickly re-sharpen, return to Stage 2 and make two or three pairs of alternating pulls. Check for a burr along the edge and when a burr exists proceed again to Stage 3 following the instructions in the preceding section.

## **CONVERTING EUROPEAN/AMERICAN KNIFE EDGE TO 15 DEGREE ASIAN STYLE EDGE**

With the Model 1520 you can convert any European or American style knives that are used primarily for light duty work to the 15 degree Asian edge. For example you might consider converting light duty paring knives and thin utility blades to 15 degrees. To make this conversion follow the instructions for Sharpening Asian Blades, pages 7 to 9. Initial sharpening in Stage 1 will take longer than you might expect but subsequent resharpening time will be normal.

## **PROCEDURE FOR SHARPENING SERRATED BLADES**

Serrated blades are similar to saw blades with scalloped depressions and a series of pointed teeth. In normal use the pointed teeth do most of the cutting.

Serrated blades of all types can be sharpened in the Chef'sChoice® Model 1520. However, use only Stage 3 (Figure 14) which will sharpen the teeth of the serrations and develop microblades along the edge of these teeth. Generally five (5) to ten (10) pairs of alternating pulls in left and right slots of Stage 3 will be adequate. If the knife is very dull more pulls will be needed. If the knife edge has been severely damaged thru use make one fast pull (2-3 seconds for an 8" blade) in each of the right and left slots of Stage 2, then make a series of pulls in Stage 3, alternating right and left slots. Excessive use of Stage 2 will remove more metal along the edge than is necessary in order to sharpen the teeth. Because serrated blades are saw-like structures, the edges will never appear to be as "sharp" as the edge on a straight edge knife. However, their tooth-like structure can be helpful - for example to break the skin on hard crusty foods or to cut tough paper based materials.



Figure 14. Use only Stage 3 for sharpening serrated knives.

### **DRESSING OF STROPPING/POLISHING DISKS - STAGE 3**

The Model 1520 is equipped with a built-in system to manually clean/dress the stropping/polishing disks in Stage 3. In the event these disks become glazed with grease, food or sharpening debris, they can be cleaned and reshaped by actuating the manual lever on the rear of the sharpener. This lever is located within a recess as shown in Figure 15 on the lower left corner as you face the rear of the sharpener. To actuate the cleaning/dressing tool, make sure the power is "ON" and simply press the small lever in the recess to the right, hold about 3-4 seconds and then press to the left holding for 3-4 seconds. When the lever is moved in one direction, the dressing tool cleans and reshapes the active surface of one stropping/polishing disk. By moving the lever in the opposite direction you clean the other disk.

Use this clean/dress mechanism only if the Stage 3 white disks are seriously darkened and when Stage 3 no longer appears to be stropping/polishing well. Using this tool removes material from the surface of the Stage 3 disks and hence, if used excessively, it will unnecessarily remove too much of the abrasive surface - wearing the disks prematurely. If that should occur, factory replacement of the disks will become necessary. If you clean your knives regularly before sharpening you will likely need to clean or dress the Stage 3 disks less than once a year.

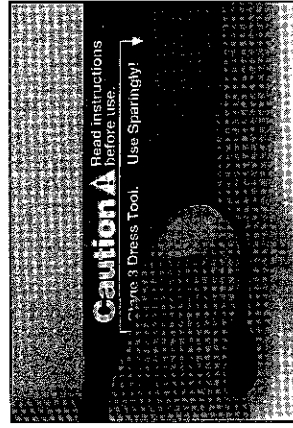


Figure 15. Use dressing tools sparingly.