

# DIAMOND SHARPENING SOLUTIONS



SHARPENING  
MADE EASY  
BY  
JAMES BARRY



**trend**<sup>®</sup>  
routing technology



James Barry has more than 25 years experience in the diamond sharpening abrasive industry. From his home in Leicester, England, James has designed a comprehensive range of precision diamond sharpening products for Trend. He is widely regarded as one of the leading experts in the field of diamond sharpening in the world.

He has travelled the world extensively working with American, Swiss and Japanese manufacturers of diamond whetstones. Through this experience, he has gained a vast knowledge of sharpening techniques and solutions to sharpening problems.

### **James Barry's Philosophy of Sharpening.**

*"Maintaining your tooling yourself prolongs it's life, improves efficiency & saves money.*

*Do not be frightened or wary of this new concept of in-house maintenance, you can do it yourself.*

*Businesses, tradesmen and hobbyists are looking at ways of reducing their costs and overheads, it is no longer a disposable society that we live in.*

*The ability to be able to sharpen easily in seconds with precision diamond whetstones from Trend achieves this aim.*

*Sharpening is NOT rocket science and it is not complicated, it can be simple and easy, anyone can do it".*



### **Basic tips for sharpening hand tools with precision quality diamond abrasives for the most effective results every time:**

- Use with very little pressure, using the weight of the tool on the diamond surface is sufficient.
- "Let the diamond do the work".
- Use with a lubricant, using a diamond surface dry results in it clogging up.
- Recommended use with Trend lapping fluid to prevent the threat of clogging & rusting, do not use water or water based fluids. (see page 23 & 24.)
- Applying extra pressure does not result in a quicker faster cut, in fact, soft pressure creates a "feel" for what you are achieving when honing.
- "Soft and slow" is the key to success in sharpening with diamond abrasives.
- You can achieve an edge in 3 or 4 light strokes, diamond works up to 98% faster than traditional stones.

## ROUTER BIT SHARPENING

Always sharpen the router bit on the flat side – never touch the profile otherwise you will change the shape of the cutter.

Sharpen the bit from new with three or four light strokes to each face. Be sure to count the amount of strokes on one side of the bit and then repeat to the other to keep it in balance.

Keep the bit sharp so that it works as it is designed to do. Do not wait until it is blunt before sharpening as this will require excessive honing or professional re-sharpening.

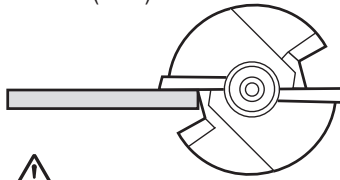
Sending bits away for professional re-sharpening may result in losing excessive surface material.

Regular maintenance will result in the life of the bit being prolonged.

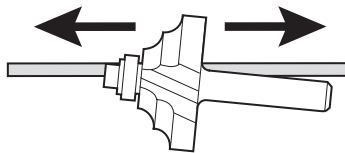
Narrow thickness of the credit card sharpener 1/16" (1.5mm) allows easy access to small and round form anti-kickback cutters.



- Fine (600 grit) for tungsten carbide (TCT).
- Coarse (350 grit) for high speed steel (HSS).



Always sharpen the flat face, never touch the profile edge. Count the amount of strokes to one side then repeat on the other to keep the bit in balance.



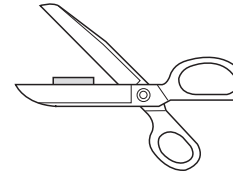
Good Woodworking Magazine  
Recommended Kit 10/10

## SCISSORS/SHEARS



Place the blade on a work surface  
Turn the blade until the bevel edge becomes horizontal (as in the picture)

Place the sharpening stone flat on this edge



In slow soft circular movements work the stone up and down the length of the blade  
Then turn the blade over (on the flat side)  
place the stone flat on the back & with one stroke remove any burr that has been created  
Repeat the procedure to the other blade

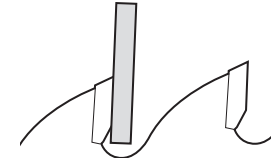
## SAWBLADES



Switch the machine off!  
Isolate power supply.

Leave the blade in situ & mark up the first tooth

Sharpen the carbide face which is running vertically - you do not sharpen the top edge



Two or three light strokes removes enough carbide to hone the blade  
Work your way around the blade until you reach the starting point  
Sharpen like this about three times and then send the blade away to be precision ground in case you have put a slight roll on or rounded some of the teeth.

**Interim sharpening saves money & prolongs the life of the blade.**

**In house maintenance keeps your tooling sharp.**

## SHARPENING A CHISEL / PLANE BLADE

The most fundamental thing that you must do first is to make sure that the back of the tool is perfectly flat.

You will never achieve a keen edge if the back is not flat.

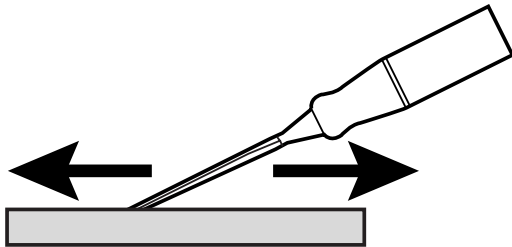
Working with a precision flat diamond stone is therefore paramount as a quality one does not dish and remains true.

**See page 6 & 7 precision bench stones.**

A coarse grit is usually more suitable for this procedure.



Once you have achieved a flat back you can begin to work on the bevel edge. A diamond stone cuts both ways so lightly rub the blade forwards and backwards to create the initial bevel edge. Be careful not to “roll” the edge over, maintain the angle.



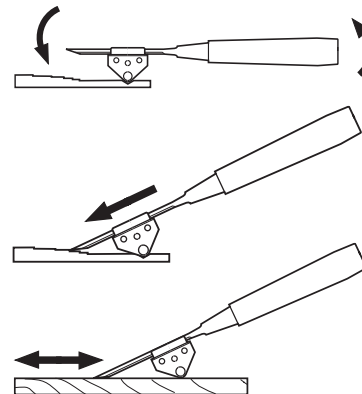
A fool proof way of achieving perfect results every time is to use a honing guide but make sure that it clamps from the sides (keeping the tool square to the stone) and not clamping from top & bottom which means it can come off square and is unstable. Use the weight of the honing guide only no extra pressure is required.

## SETTING THE ANGLE WITH THE HONING GUIDE

Clamp the blade from the sides in the honing guide so that it finger tight.

Place the large roller into the “cradle” on the angle setting plate and feed the blade up to whatever angle you have chosen for your primary bevel edge.

The angle plate is like a set of steps and once you have found the angle turn the brass knob to tighten the blade in place.



Use a coarse grit for damaged or unrefined edges & after the majority of stock has been removed, change to a fine 1000 grit finish to achieve a clean razor edge.

A secondary angle can be applied in the same manner & a micro bevel can be achieved by simply keeping the blade in the guide, lifting it slightly (1-2 degrees) and dragging it backwards once.

Finally, always remove any burr that has been raised by a few rubs flat on the back of the blade.

## PRECISION BENCH STONES

Monocrystalline diamond electroplated onto a precision ground substrate of +/- 0.0005".

Fine grit is suitable for achieving a razor, shaving edge in seconds, ideal for Cabinet making and fine woodworking.

Coarse grit re-shapes and re-hones damaged edges and is ideal for site work, general joinery & flattening chisels & plane blades.

Precision flatness enables the sharpening of Carbide and HSS inserts, spindle knives and clipper blades.

Complete with non-slip mat and cleaning block.

Recommended use with trend lapping fluid.

Unprecedented 5 year warranty.

3 Different sizes to suit all needs:

u•DWS/W6/FC - 6" x 2"

u•DWS/B7/FC - 7" x 2.5"

u•DWS/CP8/FC - 8" x 3"

- Double sided
  - Fine 1000 grit 15 Micron
  - Coarse 300 grit 50 Micron
- Precision Flatness
- Substrate pre-ground +/-0.0005"
- Grit size lasered on surface

"This is the best stone that I have ever used"

**Rick Weibe**  
Professional Carver and Instructor



"The instructors say that 10 to 15 mins of sharpening with an Arkansas is reduced to 10 to 20 seconds on the diamond stone. I agree ! I have found no easier way to sharpen my tools in my 25 years of woodworking"

**Review of Classic Professional posted on Amazon US June 2013**

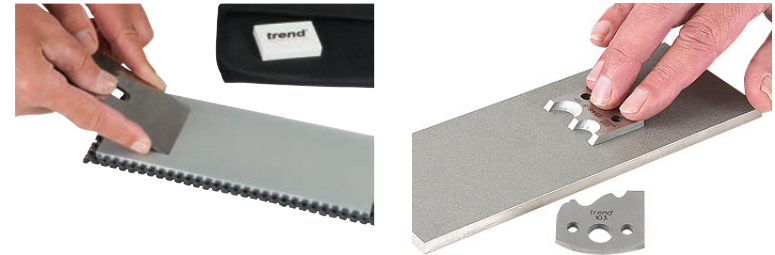
## CLASSIC PROFESSIONAL 8" X 3" MK II

Unique combination of surfaces for optimum performance.

Precision flatness, substrate pre-ground to +/-0.0005".

Continual diamond Fine 1000 grit (15 Micron) surface gives a smooth razor edge in seconds.

Prevents snagging in holes when sharpening small or pointed tooling.



Clearance channels on the Coarse 300 grit (50 Micron) surface disperses the residue faster when heavy stock removal is required, thus increasing the speed of cut.

Unique diamond shaped design prevents snagging of small and pointed tooling.

Ideal for flattening & re-shaping damaged chisels & plane blades.



Also available with clearance channels:

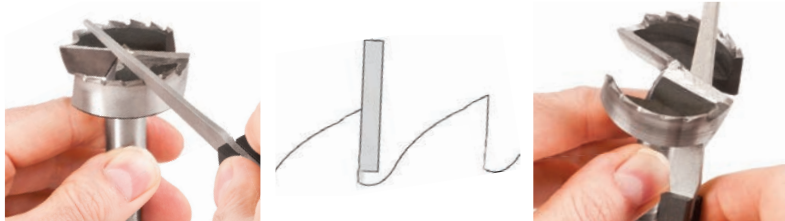
The Trend "Grinding Stone" 180 Grit Coarse (70 Micron) Single Sided 8" x 3".

Product Ref u•DWS/W8/X

## FORSTNER BIT SHARPENING

Don't let your forstner bits go dull, they are so easy to sharpen. You need to use the tapered Mini 3" file, it is the perfect tool for the job.

Firstly place the flat side of the file on the flat face of the tooth of the bit.



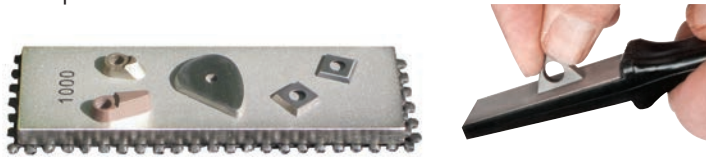
Work your way around the cutting edge honing each of the teeth, 3 or 4 strokes is usually enough.

Then as in sharpening router bits, ("flat side on flat side") sharpen the 2 straight edges from the back. Simple as that !

## CARBIDE INSERTS SHARPENING

"Flat on flat" is the key again. All carbide inserts CAN be Sharpened simply & effectively in seconds. Inserts are NOT disposable, they CAN be honed, in the same manner as sharpening a router bit.

Sharpening from the flat side only perfectly hones the profile, whatever its shape.



For best results, use either a precision flat bench stone, the double sided credit card or the machinist file.

Sharpening inserts saves 100's of \$ for the Woodturner.

## TURNING TOOLS SHARPENING

Using diamond hones to sharpen saves time and prolongs the life of your tools. These hones should be used in conjunction with your grinder, they do NOT replace it.

Use the grinder to re-shape or hollow grind and then for the rest of the day use diamond hones.

In some cases , such as skewes, you will not have to resort to the grinder for days,

**"I have used my Trend Diamond File to keep a razor edge on my skew for two months without going to the grinder"**

*Morris Schlesinger, Professional Woodturner & Master Woodworker*



Use softly and slowly. A light circular motion keeps the hone in contact with the edge at all times giving a "constant cut" rather than inconsistent strokes.

Hold a gouge vertical so that you can see the edge.

The tapered files, machinist and credit card stones all do an excellent job on turning tools.

To achieve a micro bevel slightly increase the angle (by 1 or 2 degrees) for your final pass.

Check live demonstrations on You Tube , search "James Barry Sharpening Turning Tools"



## MACHINIST DIAMOND FILE



A multi-purpose double sided Diamond Hone with a rigid polycarbonate black moulded handle.

Suitable for Carbide & HSS, plastics, glass & wood.

Engineering, Woodworking, Carving, Turning, Domestic, Gardening.

Use with little pressure.

Versatile and durable, unique design.



Recommended use with Trend lapping fluid, clean occasionally with Trend cleaning block to remove excess residue.

Monocrystalline electroplated construction.

Diamond surface 2 3/8" (60mm) x 2 5/32" (20mm) on either side, 600 grit fine (25 Micron) and 300 grit coarse (50 Micron).

**Visit the Jimmy Clewes website for Woodturners demonstrations, techniques & live clips**

[www.jimmyclewes.com](http://www.jimmyclewes.com)

## "The Woodturners' Accessory of the year 2012"



### Jimmy Clewes & James Barry

**"I use the Trend Machinist file every day on all my skewers, gouges and scrapers. It does an incredible job. It is quick and simple to use.**

**I find it particularly good on my carbide inserts which last much longer and stay remarkably sharp. I now use the grinder less and less saving my tooling".**



## KNIFE SHARPENING USING DIAMOND STEELS

### DWS/DS10/F & DWS/DS12/F

Sharpens blunt knives easily in seconds.

Use with little pressure.

Sharpens all blades.

Professional & domestic use.

Unlike a traditional steel which merely re-aligns the edge (eventually leaving the blade rounded and blunt) a diamond steel removes material from the blade on each stroke maintaining a sharp edge.

Alternate strokes on either side of the blade, slowly and softly. Bring the knife down the length of the steel as shown in the diagrams.

Use a shallow angle for a fine or filleting edge. Use a steeper angle to achieve a boning edge.

Clean with a damp cloth or a cleaning block.

Serrated/scallop edged knives can be sharpened by running the serrated edge up and down the length of the steel and then turn the blade over and one wipe on the flat side to remove and burr created.

Exceptional life span.

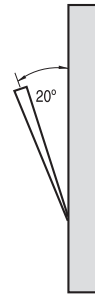
Fine grit in 10" (254mm) or 12" (305mm) lengths available, ideal for domestic, butchery catering & fishing.

Knives can also be sharpened using the pocket or bench stone variations shown in the diagram.

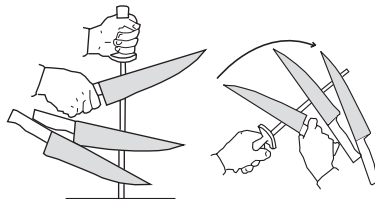


Keep same angle as knife bevel on the whetstone. The angle is 20° for most knives.

Stroke away from the body, alternating on each side of the knife. Light strokes will produce a finer edge.



### Sharpening Techniques



## KNIFE SHARPENING

Begin by placing the tip of the blade on the stone and slowly push the blade forwards up the stone sharpening all the bevel edge.

The shallower that you work the blade to the stone the finer the edge (a "filleting edge") increase the angle to create a "boning edge".



Then repeat this method on the other bevel edge starting at the top and pulling the blade towards the bottom edge of the stone.



Alternate strokes will achieve the best finish and NOT three or four strokes on each bevel edge. Many slip stones & files can also be used very effectively.





## THE DIAMOND PEN FILE

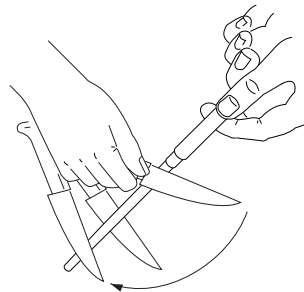


The outer body becomes the handle.  
 Professional & domestic use.  
 Self contained - ideal for use in the field.  
 Suitable for all sharpening especially shaped tools.  
 Sharpens tungsten carbide and high speed tooling.  
 Garden tools - pruners/shears/budding knives.  
 Serrated tools.  
 Hoof knives.  
 Re-shaping profile edges.  
 Turning & Carving tools.



## HINTS ON KNIFE SHARPENING

Use softly and slowly with alternate strokes to either side of the blade, bring the knife down the length of the diamond file as shown in the diagram.  
 Use a shallow angle for fine or filleting edge and a steeper one to achieve a boning edge. Clean regularly with a damp cloth or cleaning block.



## THE MULTIPURPOSE VERSATILE DIAMOND PEN FILE

Suitable for all tools and difficult shaped tooling such as hoof knives, gouges profiles etc.

The perfect companion for touching up **hunting knives** in the field.

Woodworking, Gardening, Domestic & Outdoor pursuits.



## DIAMOND NEEDLE FILES

Needle files are ideal for sharpening quality hand saws

Used in the Aerospace Industry - Precision quality

Used on plastics, wood, ceramics, glass & metals

### Precision needle file pack of 4

Precision quality electroplated Monocrystalline diamond  
 Overall length 160mm  
 Handle 70mm  
 Diamond coverage 85mm  
 Fine 400 grit



Triangular & taper  
 Flat  
 Round and tapered  
 Half round / flat & tapered

As supplied to the Aerospace Industry

Ideal for Wood, metals, plastics, glass & ceramics

u=DWSNFPK

# A RANGE OF VERSATILE TAPERED/ROU ND/FLAT FILES 3" & 6" LENGTHS

Suitable for all tooling:

- Carbide and HSS
- Woodturning
- Gouges
- Forstner bits
- Carving
- Shaped profiles
- Serrated knives
- General purpose
- Gardening
- Engineering
- Domestic
- Use with little pressure
- Clean with Trend cleaning block
- Use with Trend lapping fluid



Turning Tools



Saw blades



Forstner bits



Shaped hoof knives



Serrated blades



Router bits



Gouges



Knives

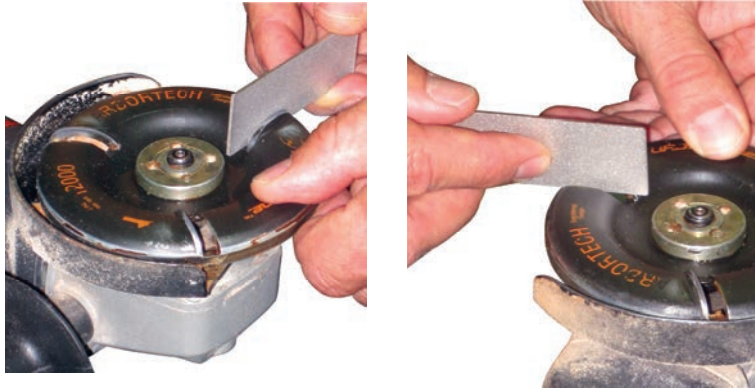
**"This product does a real nice job for you. Handy and versatile, a cool new product."**

*- George Vondriska, WoodWorkers Guild of America -*

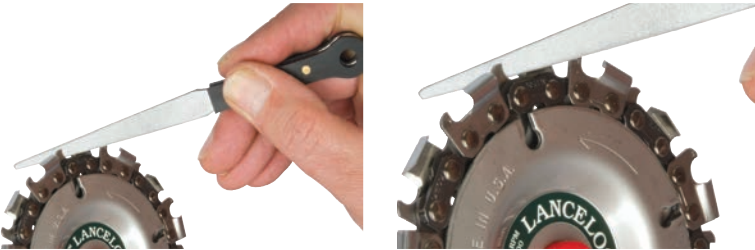


## ROTARY CARVING TOOLS

One of the most popular rotary carving tools currently employs carbide tipped blades which can be sharpened on the flat side as in the same method as that of sharpening carbide tipped router bits. (see page 3).



Other rotary carving tools require a round surface such as the mini taper file (half round & flat) or the penfile.



Regular maintenance keeps these blades sharp & more effective

\*Wherever possible sharpen from the flat side to maintain the profile edge.

## CARVING TOOLS

Carvers require the keenest of edges. Diamond products are the ideal medium to re-hone , re-shape. Use the 1000 grit , 15 micron & the fine finish will produce a shaving, razor edge easily in seconds.

Carving tools can be then maintained using a combination of leather, paste & strops.



Live demonstrations & video clips are on You Tube, search **“James Barry Sharpening Carving Tools”** for handy tips & techniques covering, Gouges, knives, Vee gouges, scrapers, profiles etc.

“This is the best stone that I have ever used”

**Rick Weibe**  
Professional Carver and Instructor

The recently released credit card size “Carvers Stone” & the popular 6” x 2” bench stone (both 300 & 1000 grit) are perfect compliments for the carvers sharpening system.

The Needle files are widely used by carvers on wood (as rasps) as well as for sharpening smaller gouges, profiles & burr removal.

**“I tried one of the carver’s stones last night with a scrap of wet and dry to finish (before the final strop) - fantastic edge.”**

*Nic Westerman, Hand forged hand tools-*

## FLATNESS OF DIAMOND STONES

Flattening traditional stones has always been a problem for the Woodworker as these stones continually dish, groove and do not remain flat.

To try and combat this problem affordably, Trend is introducing The “Grinders stone” , a single sided 180 grit (70 micron ) Diamond stone with the clearance channels (see page 7) for swifter more efficient removal of residue when in use.

Place the diamond stone on top of the traditional stone & using the weight of the diamond stone only slowly and softly stroke it 4 or 5 times to regenerate the flat surface.

For those wanting an exceptionally fine finish on the surface of their traditional stones you may repeat this process with the finer grit 300 (50 micron) stone.

## CERAMIC STONES - TIP

Any type of sharpening stone should be used with a lubricant (preferably the Trend lapping fluid – see page 23) otherwise the surface will just become clogged, the residue has to go somewhere !

A lot of users of ceramic stones have complained to me about this problem of clogging – the answer is simple and was discovered by an employee of Sorby’s only this year.

Trend Lapping fluid !! It was tested & used extensively at a show on ceramic stones and they remained clear, unclogged at effective as they are supposed to be.

## THE ROLE OF DIAMOND PRODUCTS IN SHARPENING

Diamond products do not replace traditional stones, grinders, sand paper or any other abrasives.

Diamond products work in harmony with these other sharpening mediums.

Like all these mediums diamond products have their own place. However, the definite advantages are :-

- Cuts up to 98% quicker than traditional methods
- Remains flat and true
- Cuts carbide and HSS very quickly
- Extremely durable
- Simple to use
- Easy to maintain (see page 23)
- Five year warranty (on Trend products)

A “quality” diamond product used daily, even in a professional environment, should last for a minimum of a 10 year period.

### Therefore invest in quality products for quality results.

Grinders are an important part of the armoury for your sharpening station, there is no golden rule, there are several on the market, I suggest you find one that you feel comfortable using and then the results will be forthcoming.

Remember my philosophy,

Sharpening is not difficult with the right tools, too many “experts” try to make it so. It is NOT a rocket science, I believe in sharpening a tool to a fine edge and getting to work NOT taking hours on end and then finding I’m too tired to do any work or even have forgotten what I was going to do in the first place!!!!

# DIAMOND SHARPENING USAGE GUIDE

This chart provides an easy to use reference for all your sharpening needs, showing you which stones to use with your tools.



|               | POCKET 3"<br>3" x 1" | CREDIT CARD<br>3 1/2" x 2" | CARVERS STONE<br>3 1/2" x 2" | POCKET 5"<br>5" x 1" | BENCH STONES<br>6", 7" & 8" | TAPERED FILE<br>3" & 6" | MACHINIST<br>FILE | PENFILE | OUTDOORSMAN | NEEDLE<br>FILES | DIAMOND<br>STEEL |
|---------------|----------------------|----------------------------|------------------------------|----------------------|-----------------------------|-------------------------|-------------------|---------|-------------|-----------------|------------------|
| Grit          | 340/600              | 340/600                    | 600/1000                     | 340/600              | 300/1000                    | 400/600                 | 300/600           | 600     | 600         | 600             | 600              |
| Fine / Coarse | F/C                  | F/C                        | F/F                          | F/C                  | F/C                         | F/C                     | F/C               | F       | F           | F               | F                |

## WOODWORKING

|                      |   |   |   |   |   |   |   |   |   |   |   |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|
| Chisel & Plane Irons | X | ✓ | ✓ | ✓ | ✓ | X | X | X | X | X | X |
| Router Cutters Bits  | ✓ | ✓ | ✓ | ✓ | X | ✓ | X | X | X | ✓ | X |
| TCT & HSS            | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X |
| Circular Sawblades   | ✓ | ✓ | ✓ | ✓ | X | ✓ | X | X | X | X | X |
| Hand Saws            | X | X | X | X | X | X | X | X | X | ✓ | X |
| Turning Tools        | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | X | X |
| Skews & Gouges       | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | X | X |
| Carbide Inserts      | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | X | X | X |
| Carving Tools        | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X |
| Rotary Carving Tools | ✓ | X | X | ✓ | X | ✓ | X | X | X | X | X |
| Spindle Knives       | X | X | ✓ | X | ✓ | X | X | X | X | X | X |
| Forstner Bits        | X | ✓ | ✓ | X | X | ✓ | X | X | X | ✓ | X |

## GARDENING

|                   |   |   |   |   |   |   |   |   |   |   |   |
|-------------------|---|---|---|---|---|---|---|---|---|---|---|
| Pruners/Secateurs | ✓ | ✓ | ✓ | ✓ | X | ✓ | ✓ | ✓ | X | X | X |
| Shears            | X | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | X | X |
| Axes              | X | X | X | ✓ | X | ✓ | ✓ | X | X | X | X |
| Lopers            | ✓ | ✓ | ✓ | ✓ | X | ✓ | ✓ | ✓ | X | X | X |
| Budding Knives    | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | ✓ |

## DOMESTIC & OUTDOOR

|                            |   |   |   |   |   |   |   |   |   |   |   |
|----------------------------|---|---|---|---|---|---|---|---|---|---|---|
| Kitchen knives             | X | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | ✓ |
| Scissors                   | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X |
| Hunting Knives             | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | ✓ |
| Hoof Knives                | X | X | X | X | X | ✓ | X | ✓ | ✓ | ✓ | X |
| Dog & Horse Clipper Blades | X | X | ✓ | X | ✓ | X | X | X | X | X | X |
| Fish Hooks                 | X | X | X | X | X | X | X | X | ✓ | X | X |

## FLATNESS OF DIAMOND STONES

Flatness is one of the most important features for a diamond whetstone. Some manufacturers give wild claims of flatness which, in my experience, are rarely warranted or true. The following information gives the facts so that you can draw your own conclusions when making your choice of manufacturer.

The only way that a manufacturer can state with confidence a flatness measurement is by quoting the flatness of the substrate (the base) because once the diamond is electroplated on to the surface there are just too many variables to be considered. This is not just my opinion but also the opinion of a leading American & European manufacturer of diamond abrasive products & also leaders in fine micronisation (grading) of diamond grits.

To fully understand the complexity of flatness issues one has to realize the procedure of electroplating fine micronized monocrystalline diamond on to a precision ground substrate whilst maintaining consistency of finish & quality.

- A tank of nickel solution (100%) with the micronized diamond is heated to a certain temperature.
- The precision ground substrate is then lowered into the tank.
- An electrical current is then passed through the tank.
- The nickel & diamond are then attracted (through electrolysis) onto this surface.
- The process is complete after enough nickel has been attracted to bury the diamond particles by 2/3 & leaving 1/3 exposed, this occurs after a pre-set time.

The two major variants are that firstly the concentrate of nickel at 100% decreases after time & usage, down to approximately 40% strength. The time factor increases to compensate for the strength of the nickel solution.

The second variant is the size of the micronized diamond, all graded micronized diamond has a variation of approximately +/- 14 % . Grit/micron sizes quoted by any manufacturer are always an average figure, if the grit size is quoted as 600 grit, 25 micron, the micron size is in fact 28.75 – 21.25. (from worst scenarios a variation of 7.50 micron). Therefore, even with the best of intentions and care, on rare occasions a stone with a pre-ground substrate of +/- 0.0005" may well actually be +/- 0.001" flat.

The flatness of the substrate therefore is the most critical factor when trying to achieve precision flatness before plating NOT afterwards because of these variables. This is the only effective, accurate and efficient method of gauging flatness. It is also vitally important that the diamond is electroplated onto this surface NOT electroplated onto a thin metal sheet which is then stuck onto some other plastic or metal base which then is quoted as being allegedly flat.

There is no point in having a precision flat surface which then has another thin plate stuck on top of it. If you require precision flatness ensure the diamond has been electroplated directly on to a pre-ground substrate and not a plate stuck onto a plastic or metal base. This should explain why sometimes when a stone may appear to be +/- 0.001" or +/- 0.002" flat the wrong measure is being used as the barometer.

## MAINTENANCE OF DIAMOND WHETSTONES

**Diamond whetstones allow fast, clean stock removal, with less effort and time required and can be used on a variety of cutting edges. When using diamond whetstones certain guidelines should be followed to ensure lasting performance.**

Lapping fluid used in conjunction with the cleaning block will benefit the product and greatly lengthen it's exceptional life span. We strongly recommend that you use Trend Lapping Fluid as a lubricant and NOT water or water based products on all diamond stones for the following reasons;



### History

Lapping fluid was developed in the Engineering Industry more than 35 years ago. It is solely designed for use on all types of diamond abrasives. It prevents the threat of rusting, clogging and assists in the results & effectiveness of using Diamond abrasives.

### Prevents Rusting and Clogging

Using Trend Lapping Fluid prevents the build up of residue which can occur when sharpening. The fluid is petroleum based and inherently a very effective preventative combatant against the threat of rusting.

### Cleaning block

The Trend Cleaning Block is similar to a drawing office eraser. It needs to be of this consistency i.e. "soft, white and putty like". If the surface of the stone becomes discolored, use the cleaning block to restore a perfectly clean surface.

### Storing of diamond whetstones

After use, spray diamond stone with Trend Tool & Bit Cleaner. Allow grime to loosen and wipe dry with soft cloth. After the stone is dry, rub remaining grime with Trend Cleaning Block. Apply a small amount of lapping fluid to both sides of the stone and spread evenly. Place in storage pouch.

### Warranty / Guarantee

Use Trend Lapping Fluid to give an unprecedented 5 year warranty on all the products in the Trend range of precision diamond whetstones, slip stones and files.

"Several of my old diamond stones have suffered with rust problems as It stated that I should use water on them. Now I use Trend lapping fluid and it not only keeps the surface clean but there is no rust build up."

**Richard Mee**

*Professional Cabinet Maker & Joiner*



## FREQUENTLY ASKED QUESTIONS

### Q: Do I have to use a lubricant?

A: Yes, you need a lubricant to keep the surface clear of build up of residue.

### Q: What do you recommend?

A: We recommend the Trend Lapping Fluid, designed in the engineering industry over thirty years solely for the purpose of being used on diamond abrasive products. It prevents the threat of rusting, clogging and consequently prolongs the durability of the product that you are using it upon.

### Q: What is it made from?

A: It is a petroleum based product, therefore if for any reason if the fluid is left on the surface for a period of time, it will eventually evaporate thus not damaging the surface.

### Q: Can I use it on any type of diamond whetstone?

A: We recommend that you use it on all types of diamond whetstone.

### Q: If I do not use it will it effect the guarantee?

A: Yes, all the Trend diamond product are guaranteed for a period of five years so long as they are used in accordance of our usage instructions of which using the Trend Lapping fluid is one of them.

### Q: Can I use a light oil or WD 40®?

A: No. Basically alternatives are too thick. For example, the fine side of the bench stones use a diamond size of approx. 20 micron. (A human hair cut in half is approx. 50 – 60 micron) The diamond is electroplated onto the surface in nickel. The nickel grows around the diamond only leaving the top third of the diamond proud of the surface, thus the sharpening medium is a third of 20 micron, about 7 micron. WD 40® or oils are simply just too thick and you will tend to "skate" over the surface of the designed diamond abrasive.

### Q: Can I use water?

A: No. If you use water or any water based product then you are inviting rusting problems because nickel is basically porous, use the correct fluid on your stones and you will many years satisfaction from these precision diamond whetstones.

### Q: Where can I get the Trend diamond Lapping Fluid?

A: At any Trend dealer or alternatively call Trend sales line or order from the internet on the Trend web site.

### Q: What size bottles do you supply?

A: You can get the Lapping fluid in either 3.4 floz (100ml), 8.5 floz (250ml) or 17 floz 500ml bottles.

### Q: How flat is your precision diamond stone?

A: The sub-straight of our bench stones is pre-ground to +/- 0.0005" See page 14 Flatness for more details

### Q: How long do they last?

A: Used professionally (every day) the average life span is approx ten years.

All diamond products wear in time, there is no such thing as "lifetime guarantee" – any products purporting to use this slogan, beware !

### Q: Do you make different grades or grits?

A: Most of our products are double sided. (Fine on one side and a coarser cut on the other) This is to make choice simple. There is no need for several different grades, we have made life easy by following the requests of our customers by producing stones with a coarse side good enough to re-shape and back off (flattening the backs) and a fine side good enough to achieve a shaving edge in four or five strokes.

### Q: Why is there such a difference in prices of various diamond stones on the market?

A: Basically there are two types of way that diamond stones are manufactured and two different types of diamond used.

1. Impregnated (means a layer of glue is applied to the surface and then the diamond to put on top) Cheap to produce but the stone is as good as the adhesive, exceptionally short life span. These products use polycrystalline diamond which are cheap as well, every time that you sharpen over these cheaper diamonds that shatter off a new face ready for the next application. Not long lasting and cheap to produce.

2. Electroplated (diamond is put into a solution of Nickel and is then electroplated onto the surface locking the diamond in place by two thirds and leaving one third of the diamond exposed). A complex manufacturing procedure. Monocrystalline diamond is used which stays complete, it does not shatter, therefore giving long durable life span for the products.

## FIND TREND ON YOUTUBE AND FACEBOOK

View video clips on the Trend website, on YouTube or through our video tab on our Facebook page.

The screenshot displays the YouTube channel page for Trend Machinery. At the top, there's a navigation bar with links for Home, About Trend, Stockists, Safety, Technical Support, Contact Us, Help, Shipping, and Export. Below this is a 'Product Videos' section with a grid of video thumbnails, each with a 'Play video' and 'Download video' button. The main video player shows a video titled 'Trend Lapping Fluid with James Barry' with 1,507 views. Below the main video is a grid of smaller video thumbnails, each with a duration. The thumbnails include: 'Knife Sharpening on a Trend' (1:11), 'Trend Lapping Fluid with James Barry' (1:48), 'Pencil & The Outdoorman with...' (2:31), 'Bench Stones & Complete' (2:43), 'Kitchen Diamond Steel with James Barry' (2:55), 'Tapered 4" Diamond File with...' (2:55), 'Tapered 8" Diamond File with...' (6:33), 'Double Sided Credit Card Stone' (7:50), and 'Double Sided Credit Card Stone' (8:22). The YouTube logo is prominently displayed at the bottom of the page.

### Latest clips on



**James Barry Sharpening Forstner bits**  
**James Barry Sharpening Router bits**  
**James Barry Sharpening Hunting knife**  
**James Barry Sharpening Carving tools**  
**James Barry Sharpening Turning tools**

## MANUFACTURING DIFFERENCES OF DIAMOND PRODUCTS ON THE MARKET

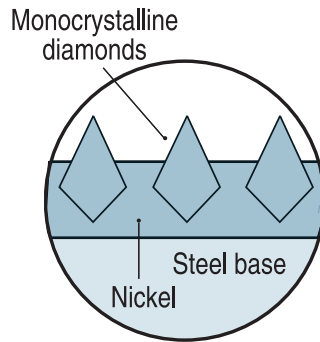
There is a vast difference of price, quality and durability of products available in stores and on the internet. There are reasons for this which I will explain but as a general rule of thumb remember,

“You get what you pay for, quality is everything.”

Cheaper products are generally Impregnated. This means a layer of glue is applied to the base surface and then the diamond is stuck on top. Cheap to produce but the stone's life is as good as the adhesive and can have an exceptionally short life span. These products use polycrystalline diamond which are cheap & every time that you sharpen over these cheaper diamonds they shatter off a new face ready for the next application.

Not long lasting & cheap to produce. The more expensive production method is Electroplating. Diamond is put into a solution of Nickel in a tank and is then heated to a certain temperature. Then a current is passed into the tank and the nickel is electroplated onto the surface locking the diamond in place by two thirds and leaving one third of the diamond exposed – a bit like an iceberg)

A complex manufacturing procedure. Monocrystalline diamond is used which stays complete, it does not shatter, therefore giving long durable life span for the products. A quality Electroplated diamond product, such as Trend, if used professionally daily, should last at least 10 years.



Trend's uses finely micronized monocrystalline diamond



Fine

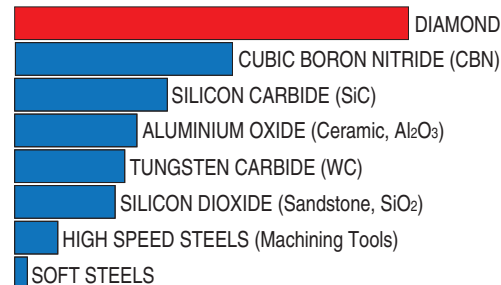


Coarse

## DIAMOND SHARPENING PRODUCT RANGE

| Product Ref.         | Grade | Grit     | Description                      |
|----------------------|-------|----------|----------------------------------|
| <b>u-DWS/P3/FC</b>   | F/C   | 300/600  | 3" Slip Stone                    |
| <b>u-DWS/P5/FC</b>   | F/C   | 300/600  | 5" Slip Stone & Case             |
| <b>u-DWS/PP5/FC</b>  | F/C   | 300/600  | 5" Slip Stone                    |
| <b>u-DWS/CC/FC</b>   | F/C   | 300/600  | Credit Card Stone                |
| <b>u-DWS/CS/FF</b>   | F/F   | 600/1000 | Carvers Stone                    |
| <b>u-DWS/W6/FC</b>   | F/C   | 300/1000 | 6" Bench Stone                   |
| <b>u-DWS/B7/FC</b>   | F/C   | 300/1000 | 7" Bench Stone                   |
| <b>u-DWS/W8/FC</b>   | F/C   | 300/1000 | 8" Bench Stone                   |
| <b>u-DWS/CP8/FC*</b> | F/C   | 300/1000 | 8" Bench Stone                   |
| <b>u-DWS/W8/X*</b>   | C     | 180      | 8" Grinding Stone                |
| <b>u-DWS/TF3/F</b>   | F     | 400      | 3" Taper File                    |
| <b>u-DWS/TF6/F</b>   | F     | 600      | 6" Taper File                    |
| <b>u-DWS/TF3M/F</b>  | F     | 600      | 3" Mini Taper File               |
| <b>u-DWS/MF/FC</b>   | F/C   | 300/600  | 3" Machinist File                |
| <b>u-DWS/PFR/F</b>   | F     | 600      | 4" Pen File                      |
| <b>u-DWS/NFPK/F</b>  | F     | 400      | 6.25" Needle files x 4           |
| <b>u-DWS/DS10/F</b>  | F     | 600      | 10" Diamond Steel                |
| <b>u-DWS/DS12/F</b>  | F     | 600      | 12" Diamond Steel                |
| <b>u-DWS/LF/100</b>  |       |          | Lapping fluid 3.4 fl.oz. (100ml) |
| <b>u-DWS/LF/250</b>  |       |          | Lapping fluid 8.5 fl.oz. (250ml) |
| <b>u-DWS/LF/500</b>  |       |          | Lapping fluid 17 fl.oz. (500ml)  |
| <b>u-DWS/HG/SET</b>  |       |          | Honing guide set                 |

\*Features clearance channels on the coarse surface.



0 5000 10000





## Machinist Double Sided File



**“Every woodturner should own this tool. Sharpen skewers, gouges, scrapers and even carbide inserts in seconds.”**

*- Jimmy Clewes, Professional Woodturner -*



## Precision Double Sided Bench Stone



**“I used the 300 grit side of the bench stone, again the results were exceptional & I have tried using the 1000 grit side on a spindle gouge doing some finishing work and I am well pleased! I like this stone very much.”**

*- Morris Schlesinger,  
Professional Woodturner & Master Woodworker -*



## Tapered Half Round / Flat File



**“This product does a real nice job for you. Handy and versatile, a cool new product.”**

*- George Vondriska, WoodWorkers Guild of America -*



[www.youtube.com/TrendMachinery](http://www.youtube.com/TrendMachinery)

[www.facebook.com/TrendRoutingTechnology](http://www.facebook.com/TrendRoutingTechnology)

**U\*BOOK/DWS**



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