

ROTARY BLADE SHARPENER MANUAL



Professionally Sharpen Rotary Blades
US Patent # 7,008,307 B2

WARNING

You must thoroughly read and understand this manual before operating or servicing the equipment, paying particular attention to Safety Instructions

Part # RS-MAN

Revision 051011

INFORMATION ON WOLFF INDUSTRIES

Wolff Industries, Inc. was started by Lee and Mary Wolff. Lee invented the Twice As Sharp® scissors sharpening system. With this sharpener you are able to sharpen scissors 2-6 times sharper than new. This sharpener has revolutionized the scissors sharpening business. Contact us if you would like further information on the Twice As Sharp® scissors sharpening system. Lee passed away in 1996 and his son David took over running the business.

Wolff Industries, Inc. added a technical department in 1990 to develop new products and to help our customers find solutions to their unique cutting problems. After listening to customer complaints about not being able to sharpen rotary cutter blades, Jim O'Donnell and David started several years ago to look into a new method of sharpening these blades that would be easy to repeat, maintain the correct angle and give a superior cutting edge. This process was helped along by Richard Hunter, a mechanical engineer who took our concepts and designed several prototypes. We found that a new, sharp edge could be created in less than 2 minutes on most blades.

Technical support is available Monday through Friday, 8:00 AM to 5:00 PM eastern standard time. Call us with any of your sharpening questions! If it is in regards to a specific blade, please have the blade in hand. If your question is regarding a problem with the sharpener, please have the sharpener nearby.

WOLFF®, TWICE AS SHARP®, OOKAMI®, and OOKAMI GOLD® are registered trademarks of Wolff Industries, Inc. and may only be used to describe items sharpened by using the equipment and methods described in this manual. Any other uses are forbidden without written permission from Wolff Industries, Inc.

GUARANTEE

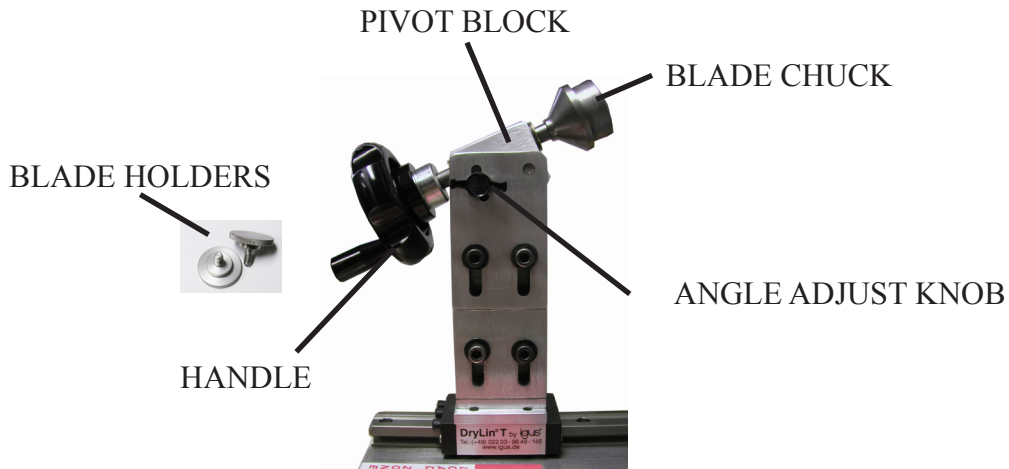
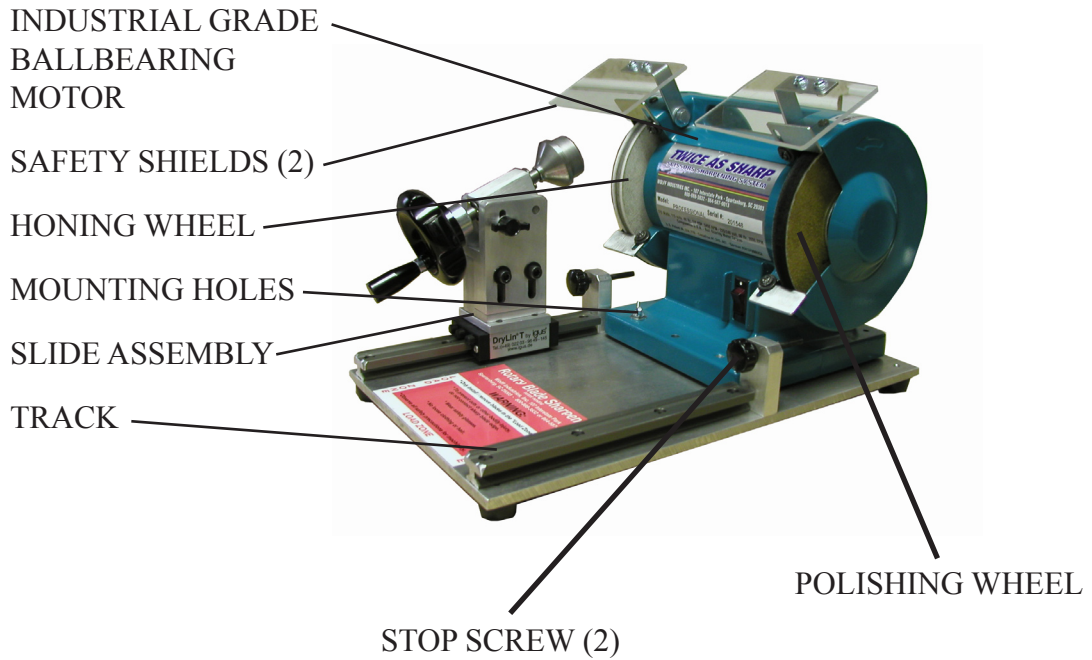
If you are not satisfied during the first thirty (30) days, return the merchandise for a complete refund.

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PART NAMES FOR ROTARY BLADE SHARPENER

RSL-COM



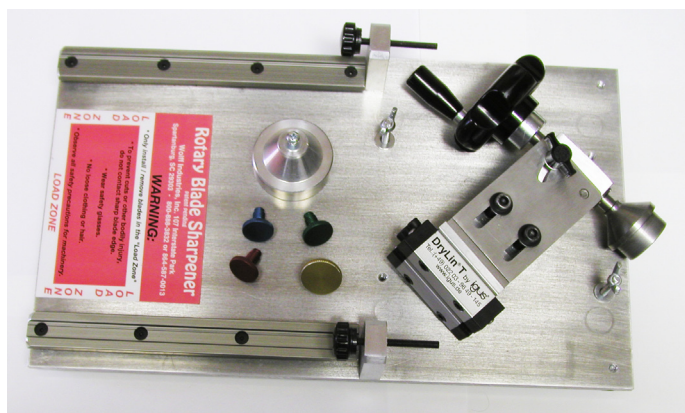
PARTS INCLUDED WITH PART # RSQ-FIX

<u>PART #</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>
.....	Base plate, tracks, slide assembly and stop blocks . . .	1
RS-0212	Gold Blade holder Maiman Minishear . . .	1
RS-0213	Red Blade holder, 7.9 mm I.D.	1
RS-0211	Blue Blade holder, 9.9 mm I.D.	1
RS-0214	Green Blade holder, 8.35 mm I.D.	1
RS-MAN	Operator's Manual	1
RS-VIDD	Instructional DVD.	1

PARTS INCLUDED WITH PART # RSQ-COM

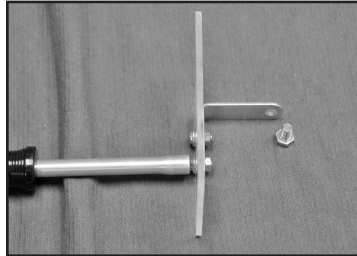
RSQ-FIX	All parts included with RS-FIX	1
RS-MOTOR	1/4 hsp, 3450 rpm motor	1
25200	Professional Honing Wheel	1
25100	Polishing Wheel	1
23201	Polishing Compound	1
.....	Screws for Safety Shield.	4
.....	Washers for Safety Shield.	4
.....	Mounting Bolts for Safety Shield.	2
20200	Dust mask	1
20300	Safety glasses	1

Note: RSQ-PRO contains Twice As Sharp® scissors sharpener, RSQ-FIX, polishing wheel and polishing compound.



RSQ-FIX

SET UP AND SAFETY - MOTOR

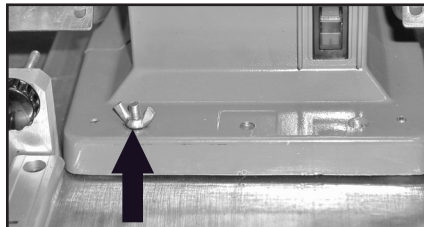
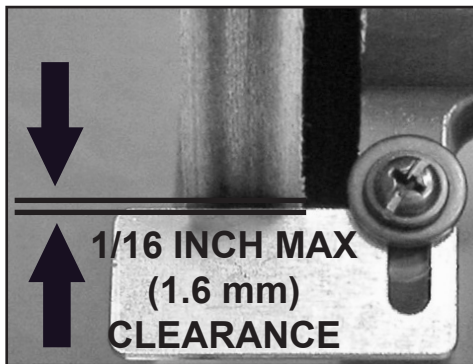


Inspect motor for shipping damage. Look for broken or bent parts. Notify freight carrier if damaged.

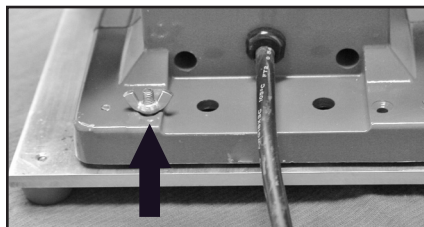
Assemble plastic eye shields as pictured. Attach to the machine with screws provided. *NEVER OPERATE MACHINE WITHOUT EYE SHIELDS IN PLACE.*



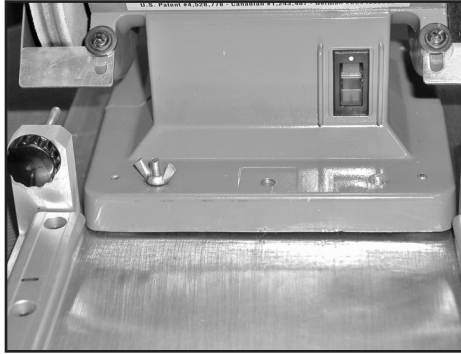
Be sure both wheels are tight. Damaged wheels can fly apart *and* cause serious injury. Adjust the two finger and two tongue guards to a maximum of 1/16 inch clearance between the wheel and the guards.



If you did not get the RS-COM or RS-PRO then you will need to drill out the mounting holes shown using a # 7 drill.

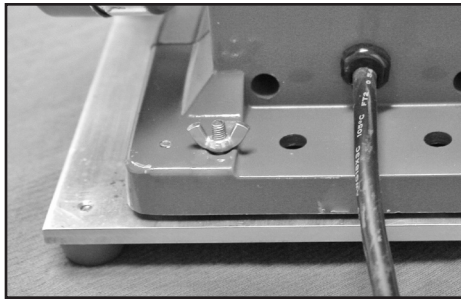


SET UP - ROTARY SHARPENER FIXTURE

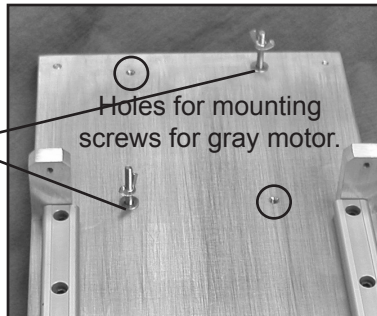


Inspect fixture for shipping damage. Look for broken or bent parts. Notify freight carrier if damaged.

Install motor to fixture base using the mounting holes shown. Install a washer and wing-nut on each screw post. Tighten wing-nut with fingers until the motor does not move.



Mounting screws shown in the correct position for the blue Twice As Sharp® motor.

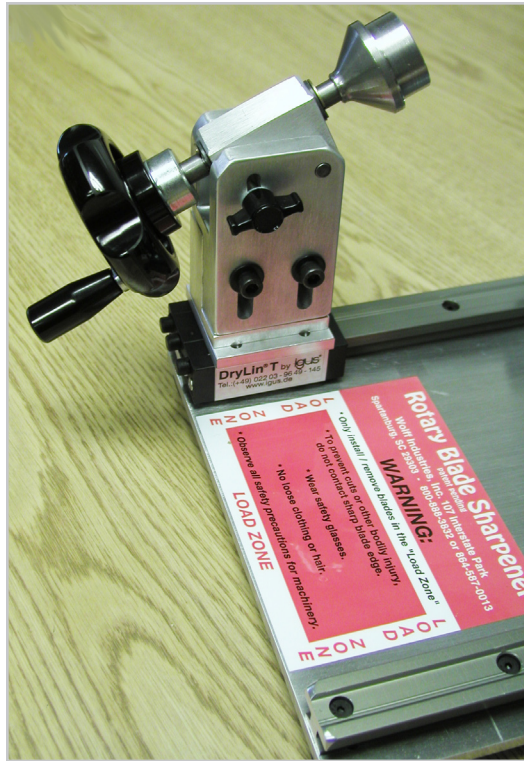


Move the mounting screws to the holes circled for the original gray A-1 Twice As Sharp® motor.

SAFETY NOTE:

Plug machine into a 3 wire grounded receptacle only. Stand aside and let the motor run for one minute before using it the first time.

SAFETY - ROTARY SHARPENER FIXTURE



Installing or removing a blade in the load zone:

*** WARNING ***

Only install or remove the blade when the slide assembly is on the track in the load/ unload zone. The blade is sharp and the wheels are moving if the motor is turned on.

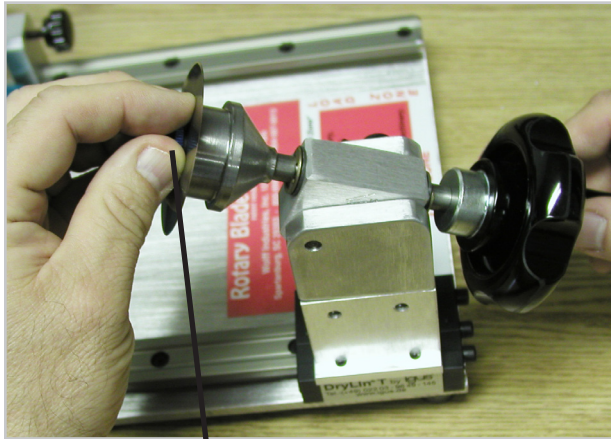
SAFETY CONTINUED

Use safety glasses and face mask to catch dust and grit. (Glasses provided are only for protection from flying grit and not intended for production work with danger from flying parts.)

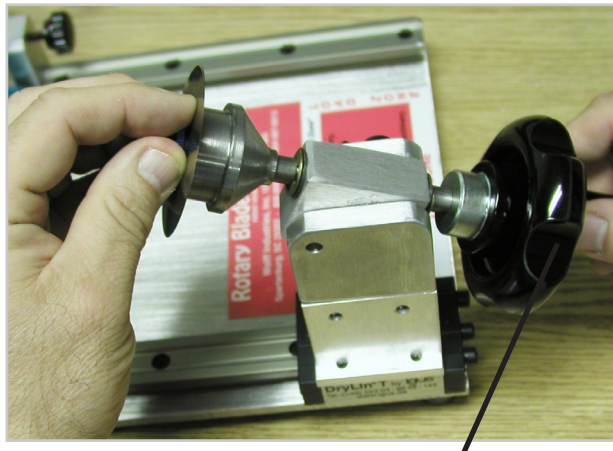


SAFETY - CONTINUED

Installing or removing a blade on the blade chuck:



Hold the blade holder still while rotating the handle to install or remove the blade.



Rotate the handle clockwise to tighten the blade onto the blade chuck. Rotate the handle counter clockwise to loosen the blade from the blade chuck.

Place the blade onto the correct blade holder (see page 13 for a chart). Hold the knurled knob on the blade holder. **DO NOT TURN THE BLADE HOLDER TO TIGHTEN BLADE!** Rotate the knob clockwise while holding the blade holder to lock the blade onto the blade chuck. Rotate the knob counter clockwise while holding the blade holder to remove the blade and blade holder.

WARNING!
The blade can be very sharp.

IMPROPER USE OF ABRASIVE WHEELS MAY CAUSE BREAKAGE AND SERIOUS INJURY.

Sharpening is a safe operation if the few basic rules listed below are followed. These rules are based on material contained in the ANSI B7.1 Safety Code for "Use, Care and Protection of Abrasive Wheels." For your safety, we suggest you benefit from the experience of others and carefully follow these rules.

1. **DO** always **HANDLE AND STORE** wheels in a **CAREFUL** manner.
2. **DO VISUALLY INSPECT** all wheels before mounting for possible damage.
3. **DO CHECK MACHINE SPEED** against the established maximum safe operating speed marked on wheel.
4. **DO CHECK MOUNTING FLANGES** for equal and correct diameter.
5. **DO USE MOUNTING BLOTTERS** when supplied with wheels.
6. **DO** be sure **TOOL HOLDER** is properly adjusted.
7. **DO** always **USE A SAFETY GUARD COVERING** at least one-half of the grinding wheel.
8. **DO** allow **NEWLY MOUNTED WHEELS** to run at operating speed, with guard in place, for at least one minute before sharpening.
9. **DO** always **WEAR SAFETY GLASSES** or some type of eye protection when sharpening.
1. **DON'T** use a cracked wheel or one that **HAS BEEN DROPPED** or has become damaged.
2. **DON'T FORCE** a wheel onto the machine **OR ALTER** the size of the mounting hole - if wheel won't fit the machine, get one that will.
3. **DON'T** ever **EXCEED MAXIMUM OPERATING SPEED** established for the wheel.
4. **DON'T** use mounting flanges on which the bearing surfaces **ARE NOT CLEAN, FLAT AND FREE OF BURNS.**
5. **DON'T TIGHTEN** the mounting nut excessively.
6. **DON'T** grind the **SIDE OF THE WHEEL** (see Safety Code B7.2 for exception).
7. **DON'T** start the machine until the **WHEEL GUARD IS IN PLACE.**
8. **DON'T JAM** work into the wheel.
9. **DON'T STAND DIRECTLY IN FRONT** of a sharpening wheel whenever a sharpener is started.
10. **DON'T FORCE SHARPENING** so that motor slows noticeably or work gets hot.
11. **DO NOT** power wash machine.

AVOID INHALATION OF DUST generated by sharpening and cutting operations. Exposure to dust may cause respiratory ailments. Use approved NIOSH or MSHA respirators, safety glasses or face shields, and protective clothing. Provide adequate ventilation to eliminate dust, or to maintain dust level below the Threshold Limit Value for nuisance dust as classified by OSHA.

HOW TO CHANGE THE WHEELS



Left Hand Nut
Flange
Honing Wheel
Flange

Remove the three screws holding the end cover with a #2 Phillips screwdriver. Take cover off. Loosen the nut holding the wheel with a 3/4" wrench. Hold the wheel between your fingers when loosening or tightening, never put side pressure against the wheel.

(The left wheel has a left hand nut and loosens clockwise.) Remove wheel and replace with factory wheel. Tighten nut firmly and turn by hand, if wheel has too much side movement, loosen, rotate and retighten until you get the amount of side movement. Replace cover and screws. **Never**

run the sharpener without covers installed. A new wheel must be allowed to run for at least one minute before using. **Do not** stand in front of sharpener during the first minute. **Never use cracked or chipped wheels.**



Flange
Polishing Wheel
Flange
Right Hand Nut

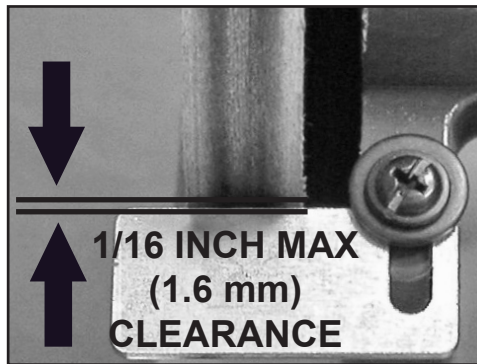
DRESSING AN OUT OF ROUND WHEEL



This may be necessary during the life of the wheel if rotary blade bounces or chatters. Small grooves in the wheel will have no effect or sharpening. Use the same steps when replacing the honing wheel. If machine vibrates, loosen and rotate wheel(s) until it runs smoothly.

MACHINE MAINTENANCE

NEVER OIL any part of your rotary blade sharpener. Motor bearings are sealed ball bearings. Never lubricate rail and bearing assembly. Brush off grit as necessary. If the wheels are worn see; (How to change the wheels on page 11). If blade chuck movement becomes stiff or difficult, loosen angle knob to clean the grit out.



As the wheels wear, adjust the two finger and two tongue guards to maintain the maximum 1/16 inch between the wheels and the guards.

After changing or dressing wheels, make sure eye shields are in place and securely fastened.

Blade Holders included in RSQ-FIX

RS-0212

RS-0211

RS-0214

RS-0213

RS-0216



28MM Blade Holder

Blade Holder to Blade Size

<i>Brand</i>	<i>Red Blade Holder</i>	<i>Green Blade Holder</i>	<i>Blue Blade Holder</i>
KAI®	45mm		60mm
Dritz®	45mm		60mm
Clover®	45mm		60mm
Fiskars®	45mm		
Fiskars®	65mm		
Olfa®		45mm	60mm

Other Blade Holders

RS-0216		28mm Blade Adaptor
RS-0212	Maiman Minishear	Gold Blade Holder
RS-DUSEN.....	Dusenbury Blades	Silver Blade Holders
.....	Two Blade Holders0.866 ID and 0.750 ID

** If your blade does not fit one of these two holders see information below.*

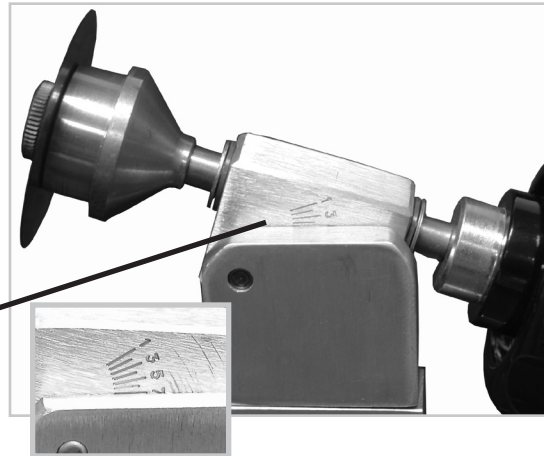
Custom Blade Holders

If your blade does not fit one of the blade holders supplied with your rotary blade sharpener send the blade to Wolff Industries. We will give you a quote on making custom blade holders to fit your needs.

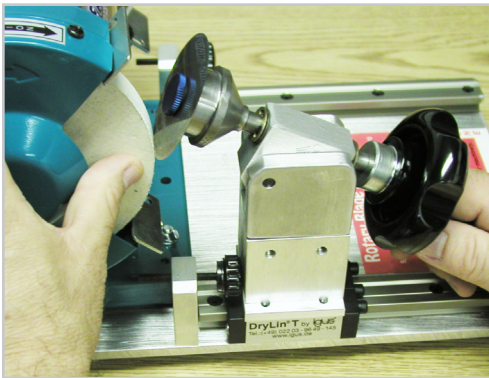
SETTING THE ANGLE ON THE SLIDE ASSEMBLY:



To set the angle on the slide assembly, loosen black plastic knob.



Lock the knob when you reach the desired setting. These settings are reference points, not degrees.



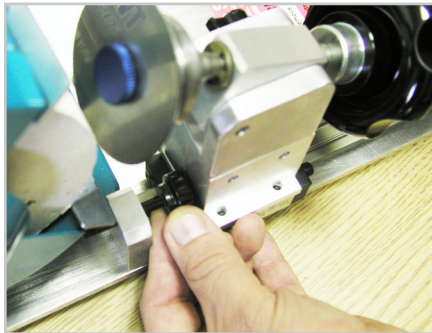
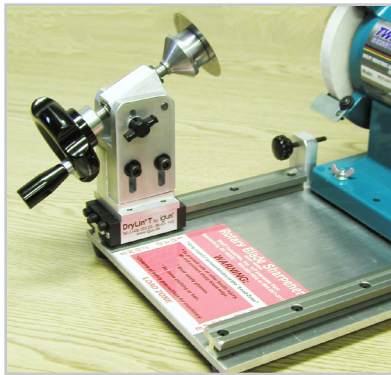
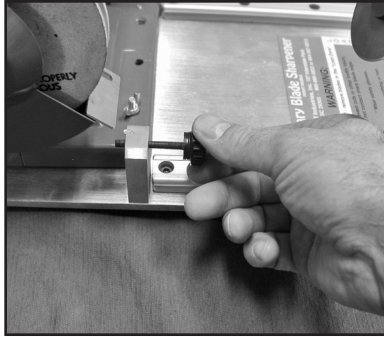
To match the angle you can do a “scratch test.” With the MOTOR OFF hold the blade against the wheel. Move the wheels with your thumb to create a scratch on the blade. Adjust your angle until the scratch is on the cutting edge. To save time in the future make a note of this setting for this blade size.

Note:

For 45 mm blade start at reference mark 3.

For 60 mm blade start at reference mark 4.

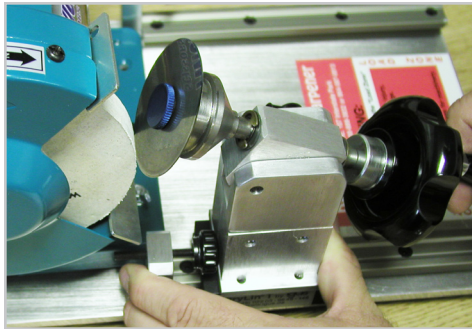
SHARPENING A ROTARY BLADE



- A. Screw both stop screws all the way out.
- B. Put the slide assembly on the left hand track in the load/unload zone.
- C. Install the blade and blade holder onto the blade chuck (See “*Safety installing or removing a blade on the blade chuck*” on page 9).
- D. Set the angle on the slide assembly to match the blade you are going to sharpen (See “*setting angle*” on page 14).
- E. Turn the motor on, move the slide assembly towards the sharpening wheel until the slide assembly makes contact with the stop screw. Rotate the handle with your right hand and turn the stop screw with your left hand until the blade makes contact with the wheel completely for the full 360 degrees of the blade.

WARNING!

Make sure you keep rotating the blade while it is contact with the wheel. If not you will create a flat spot on the blade.

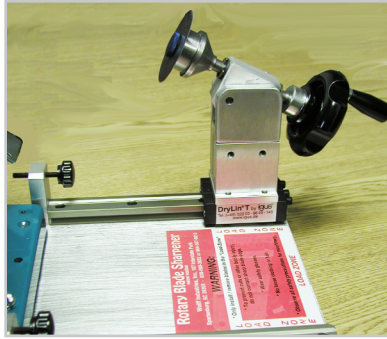


F. Move your left hand to the base of the slide assembly and rotate the blade against the sharpening wheel for 30 full rotations. Make sure you continue to rotate the blade until the slide assembly is back in the load/unload zone.

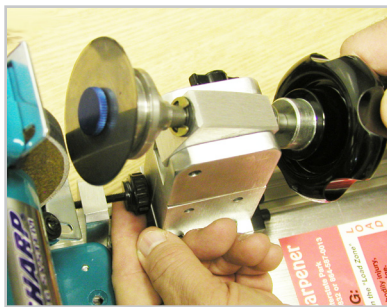
- G. Check for a burr, if not burr, turn the stop screw back 1/16 of a turn and sharpen the blade again 30 more rotations, repeat this step until a burr is formed on the blade. Feel or look for the burr, whichever works for you.
- H. After the burr is formed (if this is a one-sided blade go to step L), move the slide assembly to the load/unload zone and flip the blade over (See “*Safely installing or removing a blade on the blade chuck*” on page 9 if you need help installing the blade).
- I. Move the stop screw 1/16 of a turn, rotate the handle and move the blade against the sharpening wheel for 30 rotations. Move the slide assembly back to the load/unload zone and check for a burr.
- J. If no burr is formed move the stop screw 1/16 of a turn, rotate the handle and move the blade against the sharpening wheel for 30 rotations. Move the slide assembly back to the load/unload zone and check for a burr. Repeat this step until a burr is formed.



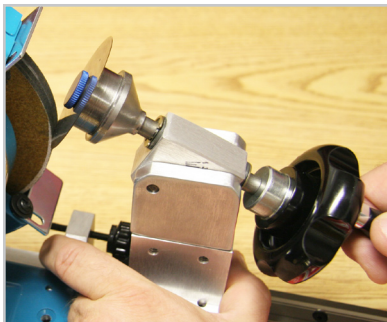
L. Carefully take the slide assembly off the track and set it to the side. Apply polishing compound to the wheel.



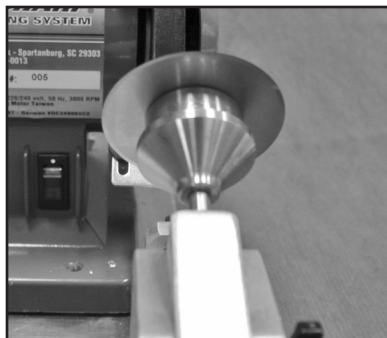
M. Put the slide assembly on the right hand track and flip the blade over (if this is a one-sided blade do not flip it over) (See “*Safely installing or removing a blade on the blade chuck*” on page 9 for help).



N. Move the slide assembly towards the polishing wheel until the slide assembly makes contact with the stop screw. Rotate the handle with your right hand, and turn the stop screw with your left hand until the blade makes contact with the wheel completely for the full 360 degrees of the blade.



O. Move your left hand to the base of the slide assembly and rotate the blade against the polishing wheel for 30 full rotations. Make sure you continue to rotate the blade until the slide assembly is back in the load/unload zone.



P. Check the blade to see if compound has built up on the edge of the blade. If you see compound on the edge of the blade go to step R. If not, take the slide assembly off the track and apply more polishing compound to the wheel. Put the slide assembly back on the right hand track.

- Q. Move the stop screw 1/16 of a turn. Rotate the blade while moving it in, towards or away from the wheel, and do 30 full rotations. Move the slide assembly to the load/unload zone. Check the blade to see if compound has built up on the edge of the blade; if not, repeat steps P & Q.
- R. If you are polishing a one-sided blade go to step W. Remove the slide assembly from the right hand track, apply polishing compound to the wheel.
- S. Put the slide assembly back on the right hand track, flip the blade over on the blade chuck, (see “*Safely installing or removing a blade on the blade chuck*” on page 9 for help).
- T. Rotate the blade against the polishing wheel for 30 full rotations. Make sure you continue to rotate the blade until the slide assembly is back in the load/unload zone.
- U. Check the blade to see if compound has built up on the edge of the blade. If you see compound on the edge of the blade go to step W. If not, take the slide assembly off the track and apply more polishing compound to the wheel. Put the slide assembly back on the right hand track.
- V. Move the stop screw 1/16 of a turn. Rotate the blade while moving it in, towards or away from the wheel, and do 30 full rotations. Move the slide assembly to the load/unload zone. Check the blade to see if compound has built up on the edge of the blade; if not, repeat steps U & V.
- W. Remove the blade, (see “*Safely installing or removing a blade on the blade chuck*” on page 9 for help), and turn the motor off.
- X. Carefully clean the polishing compound off the blade.

WARNING!
The blade is VERY SHARP.

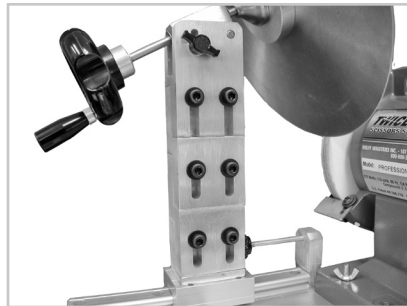
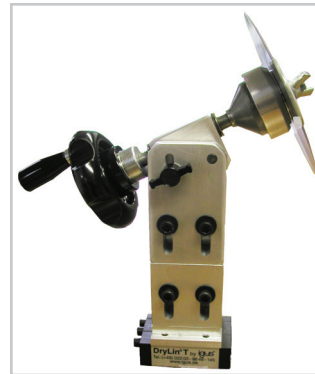
- Y. Install the blade on a rotary cutter handle and test on two layers of cotton cloth.

HOW TO ADJUST THE RISER BLOCKS FOR VARIOUS BLADES



For Blades from 1 in. to 4.5 in.
You will not need to add any extra riser blocks
**Shown with Maiman mini blade*

For Blades from 4.5 in. to 10 in.
You will need to add one extra riser blocks



For Blades from 10 in. to 17 in.
You will need to add two extra riser blocks

***Extra riser blocks can always be added to meet your sharpening specifications.**



NOTE

Adjust the riser blocks so that the blade is contacting the wheels near the centerline. Adjust up or down in conjunction with the angle setting.

ADDITIONAL PARTS AVAILABLE FOR THE ROTARY SHARPENER

<u>PART #</u>	<u>DESCRIPTION</u>
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RS-DUSEN	(2) Bladeholders for Dusenbury blades
.....	(1) 0.866 I.D.
.....	(1) 0.750 I.D.



RS-0212 Blade holder for Maiman Mini Shear Gold 0.382 I.D.



GLOVE-S Small Cut Resistant Glove (one glove)
GLOVE-M Medium Cut Resistant Glove (one glove)
GLOVE-L Large Cut Resistant Glove (one glove)
GLOVE-XL Extra Large Cut Resistant Glove (one glove)



RS-0201 Vertical Riser for Rotary Sharpener



RS-0211 Blue quilt blade holder
RS-0213 Red quilt blade holder
RS-0214 Green quilt blade holder
RS-0216 28mm quilt blade holder

ADDITIONAL PARTS AVAILABLE FOR THE ROTARY SHARPENER

<u>PART #</u>	<u>DESCRIPTION</u>
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RS-0211

RS-0214

RS-0213

RS-0216
28mm

25200. Professional Honing Wheel

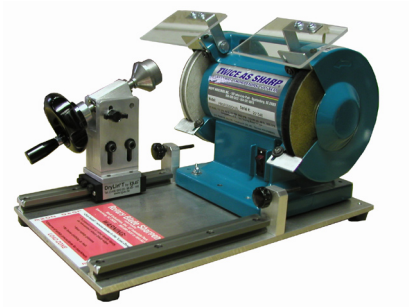


27000. Standard Sharpening Wheel



25100. Polishing Wheel

23201. Polishing Compound



**Call Wolff Industries, Inc. at
1-800-888-3832
for more information.**

**We can help you with
blade specific applications.**

Large Blades

The RSL Rotary Sharpener is a taller sharpener that can sharpen round knives up to 17" in diameter. Everything you need to sharpen round knives and scissors blades is included.

Sharpening with the RSL-FIX is done using the white sharpening stone, Wolff part # 27000. Honing is done using the professional honing wheel, Wolff part # 25200.

Adjust the riser blocks so the blade is centered on the sharpening wheel (see page 19, how to adjust the riser blocks for various blades). Adjust the angle guide to match the current angle on the blade (see page 14, setting the angle of the slide assembly).

Follow the "Sharpening a Rotary Blade" steps from page 19 to sharpen your round knives.



PARTS INCLUDED WITH PART # RSL-FIX

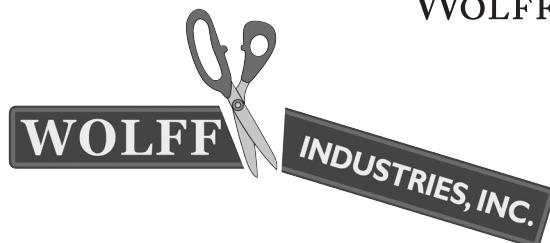
<u>PART #</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>
RSQ-FIX	All parts included with RSQ-FIX	1
RS-0201	Riser blocks	2
RS-DUSEN	2 holders for Dusenbury blades	1
Large Blade Holders	2
	2 3/4" OD, 2" ID, 1.698" ID & 1.575" ID	
	1 7/8" OD, 1" ID & 35mm ID	
<i>RSL-COM</i>	<i>Complete includes the following items.</i>	
RSL-FIX	Rotary blade Fixture - large blades	1
RS-MOTOR	Motor and accessories	1
27000	Sharpening wheel	1
25200	Professional honing wheel	1
25100	OOKAMI polishing wheel	1
23201	Polishing compound	1
	** RS-POU - poultry sharpener same as RSL-COM	
<i>RSL-PRO</i>	<i>Complete includes the following items.</i>	
RSL-FIX	Rotary Blade Sharpener - large blades	1
PRO-TAS	Professional Twice As Sharp®	1
	Complete scissors sharpener with Professional Honing Wheel and Sharpening wheel.	
25100	OOKAMI polishing wheel	1
23201	Polishing compound	1

LIMITED WARRANTY

Two year warranty from date of purchase against defective parts or workmanship with the exception of the wheels. Warranty limited to replacement of parts. Buyer must return warranty card to manufacturer for coverage of warranty. This warranty covers only the original purchaser. Use of non-factory parts voids any warranty. This warranty gives you specific rights. You may also have other rights which may vary from state to state. Some states do not allow limitation or implied warranties or consequential damages, so these may not apply to you.

DISCLAIMER

There is no expressed warranty other than the limited warranty stated above. There is no implied warranty for the merchantability of or fitness for a particular purpose. Wolff Industries, Inc., will not be responsible for any consequential damages. Damages are limited to the replacement of defective parts.



WOLFF INDUSTRIES, INC.

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