

Vicmarc Grinding System

User Manual



Vicmarc Sharpening Jig
Part No. V00437

Vicmarc Grinding Rest
Part No. V00438



Vicmarc Machinery Pty Ltd
Manufacturer of Quality
Woodturning Lathes and Accessories



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Manufacturer of Quality Woodturning Lathes, Chucks and Accessories

Vicmarc Machinery, a family owned and operated business, has been manufacturing woodturning lathes and accessories for the hobbyists and professionals since 1984. The company is dedicated to providing machinery of the highest quality and precision engineering that has secured sales worldwide.

Through constant improvement, Vicmarc retains its place as a leader in the field. Vicmarc lathes, chucks and accessories are known and respected internationally for their robust design and ease of use. Only the best materials and latest high precision, computer controlled machinery are used in the manufacture of Vicmarc products.

The company continues to respond to the demands of the market, updating and improving all stages of manufacture.

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Description

The Vicmarc Grinding system has been designed to make shaping and sharpening your tools quick and easy. With standard angle gauges and multiple adjustment positions, you get an excellent and consistent grind every time.

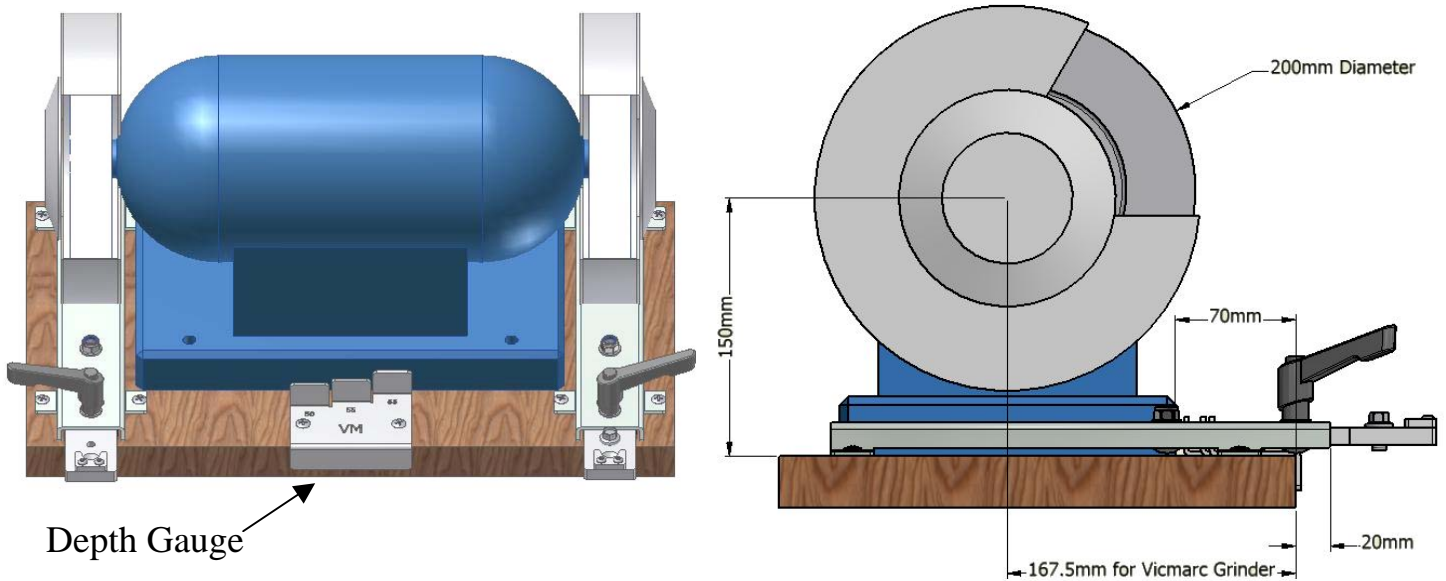
Important: when grinding V10 or any other High Speed Steel tools you must make sure that the tool doesn't get too hot and change colour (brown or blue) as this will weaken the steel and shorten the life of your tool. You should periodically dip the tip of the tool in water when it begins to get warm but before it gets hot.

Safety Information

1. Read and understand this instruction manual before operating the Grinding System.
2. Always wear eye protection.
3. Do not wear neckties, jewellery or loose clothing.
4. Do not operate without guards in place.
5. Tighten all handles before operating.
6. Make sure the grinder is off and has stopped rotating before making any adjustments.
7. Do not operate while under the influence of drugs, alcohol or medication.
8. Some of the guards in this manual have been removed for photographic purposes. Always use the guards as supplied and specified with your grinder.

Please note: the following setting up instructions are a guide only. Personal grinding setting can be achieved by adjusting the positions and angles to suit your own preferences.

Setting up your Grinder



1. Place your grinder on your bench 70mm back and parallel with the front edge of your bench.
2. Line up slide assemblies so that the centre of the slide plates are in line with the centre of the grinding wheels and protrude 20mm forward of your bench top. See diagram above. Ensure they are also square to the bench.
3. Mark the 4 screw holes on your bench for the base of the grinder and the 4 holes for each slide. Also, mark the outline of the base of the grinder on your bench.
4. Remove the grinder and the slides, and drill the holes to match the mounting screws you are going to use for the grinder and the slides.
5. Mount the slides by inserting the screws. Before tightening ensure the slides are square to the front edge of your bench and parallel to each other.
6. Place the grinder in place using the marked outline as a reference. Ensure the grinder is parallel to the bench and the slides are centred with the grinding wheels.
7. Tighten the screws ensuring the grinder is fastened to the bench.
8. Check again that the grinder is square to the bench, the slides are centred with the wheels, are square to the bench and parallel with each other.
9. Screw the Depth Gauge to the centre of the bench top.
10. Your setup is complete.

Setting up your Grinding Rest



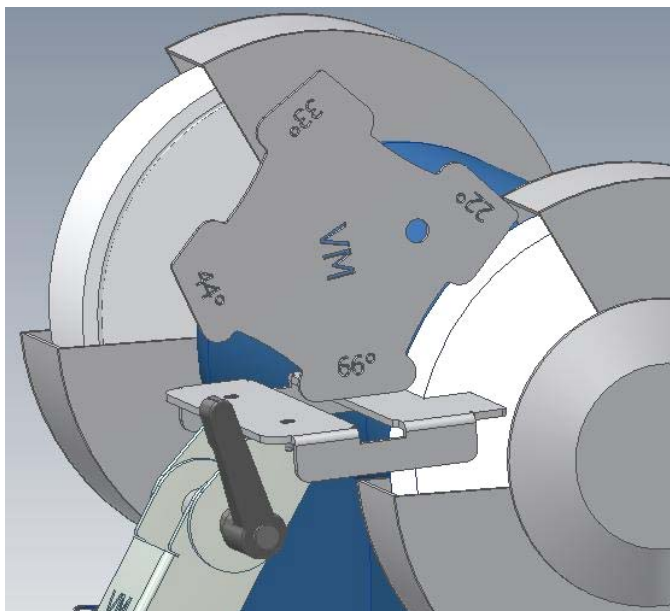
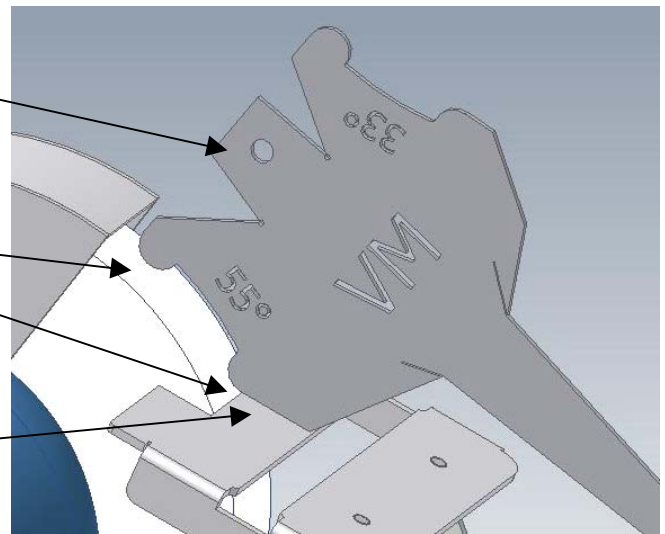
Use the Grinding Rest to grind this angle

1. To initially shape the top angle of the bowl gouge, place the Vicmarc Quick Tool Setter so that both radii contact the grinding wheel as shown below.
2. Then adjust the Grinding Rest to meet flush with the bottom of the Vicmarc Quick Tool Setter as shown below. Lock the table and the bottom slide in place. Make sure that the table does not touch the wheel. There should be approximately 2mm clearance between the wheel and the rest.

Sharpening Jig
Quick Tool
Setter

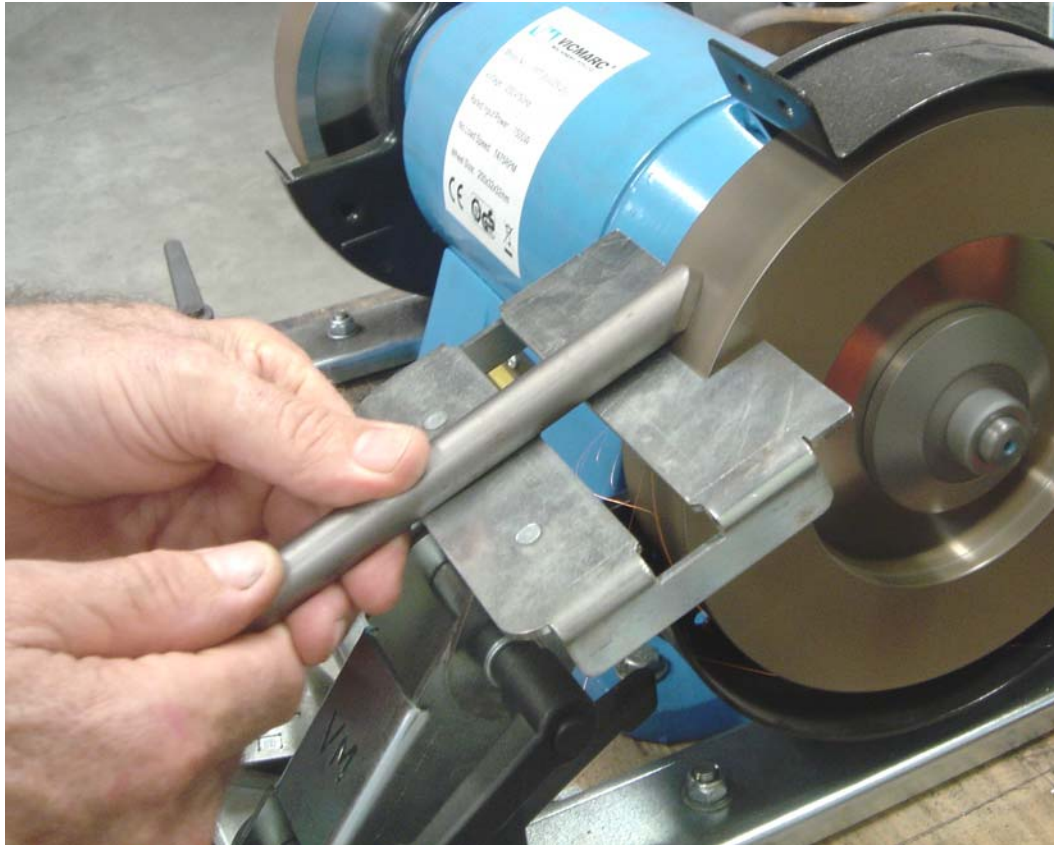
Both radii
touching at
the same
time

Quick Tool
Setter flush with
Grinding Rest

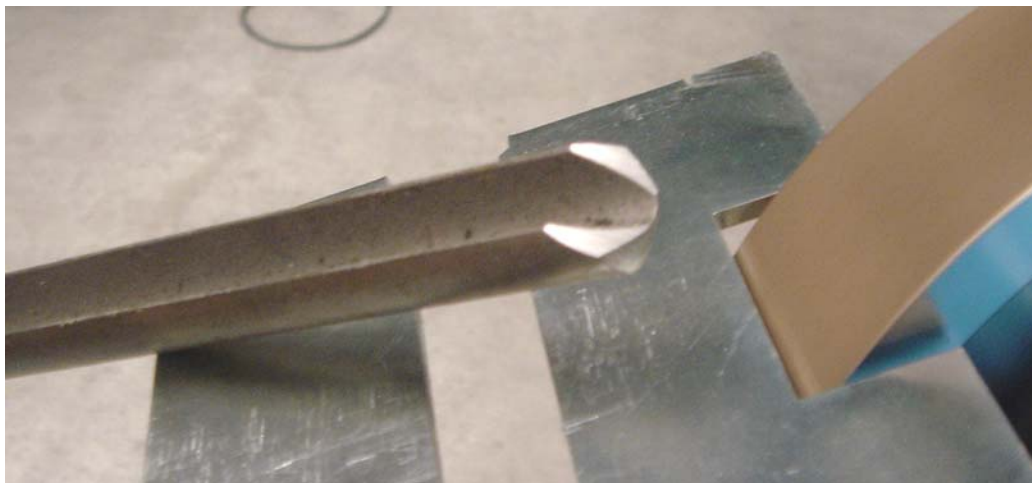


The Grinding Rest Quick Tool Setter can be used to set and grind other popular angles (22°, 33°, 44° & 66°).

To set the desired angle, place the Grinding Rest tool setter (numbers facing the right hand side) as shown with the text flat on the Grinding Rest and both radii touching the wheel.



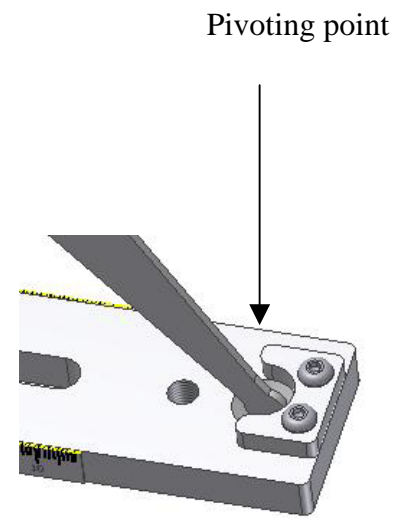
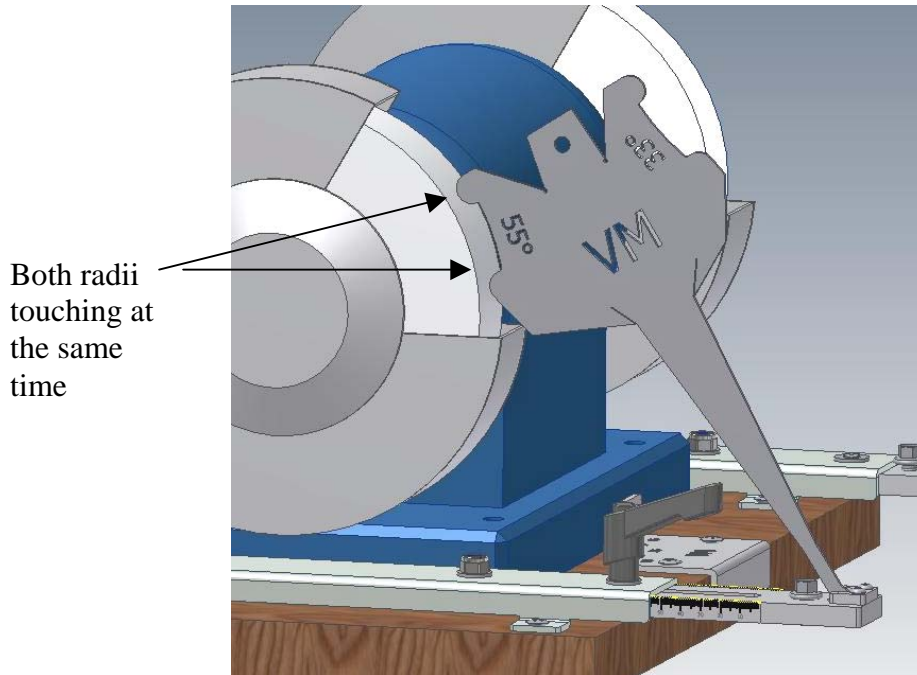
3. Place your gouge upside down on the rest and grind the top of the tool away until it meets the bottom of the flute. This pregrind makes your tool look like the profile below.



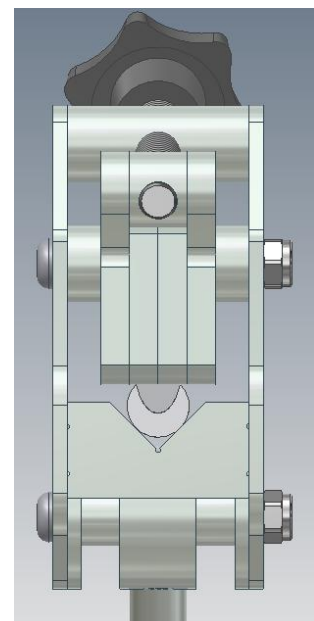
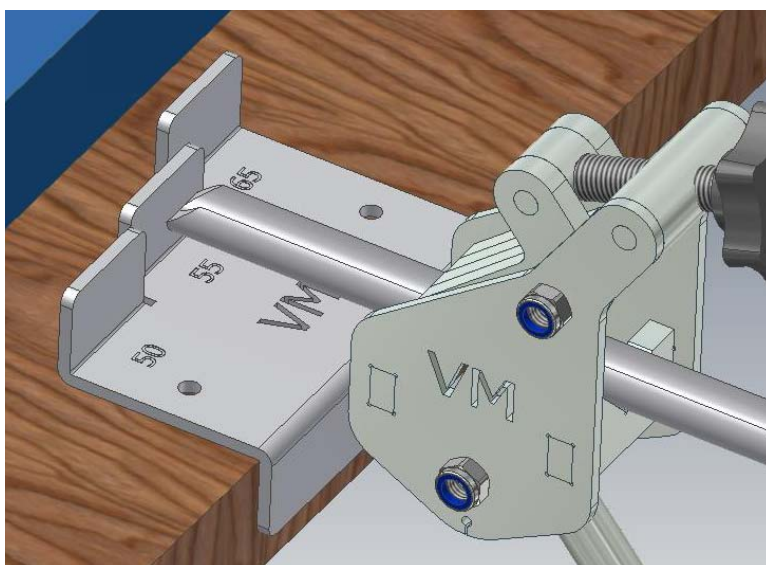
4. **Important: Make sure that the tool does not get too hot and change colour** (brown or blue) as this will reduce the hardness of the metal and shorten the life of the tool. To prevent this, make sure you periodically dip the tool in water. If you find the tool heating up too quickly then you may need to re-dress your wheel or apply less pressure on the grinding wheel.

Setting up your Sharpening Jig

1. To set-up for a 55° grind, place the Vicmarc Quick Tool Setter into the pivoting point. Then slide the slide plate out so that the two radii on the gauge (on the 55° angle side) both touch the grinding wheel. Then lock the slide plate into position.

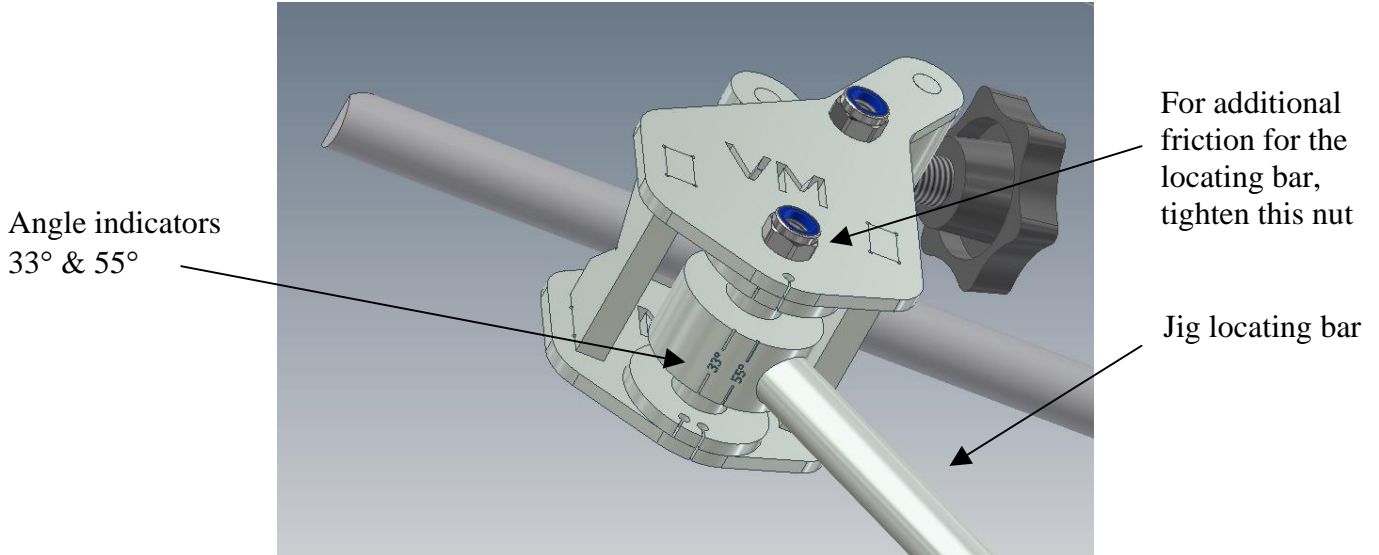


2. Place your bowl gouge into the Sharpening Jig and set it to protrude 55mm by using the Depth Gauge as shown below. Lock the gouge into position by tightening the black hand knob.

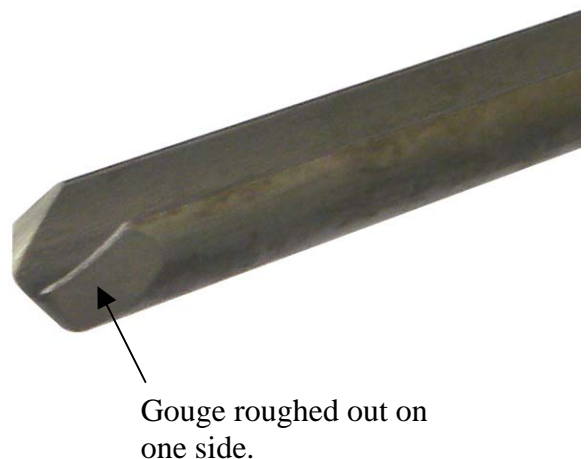


3. Line up the angle on the Sharpening Jig to the 55° mark as shown below. This is done by holding the jig locating bar and the gouge, and manually adjusting the angle.

Note: Do not loosen the nuts and bolts for this adjustment.



4. Place the Sharpening Jig in the pivoting point and swivel from side to side until you have roughed out the bevel profile and removed most of the material. Rotate the Jig constantly from right to left to avoid flat spots and overheating

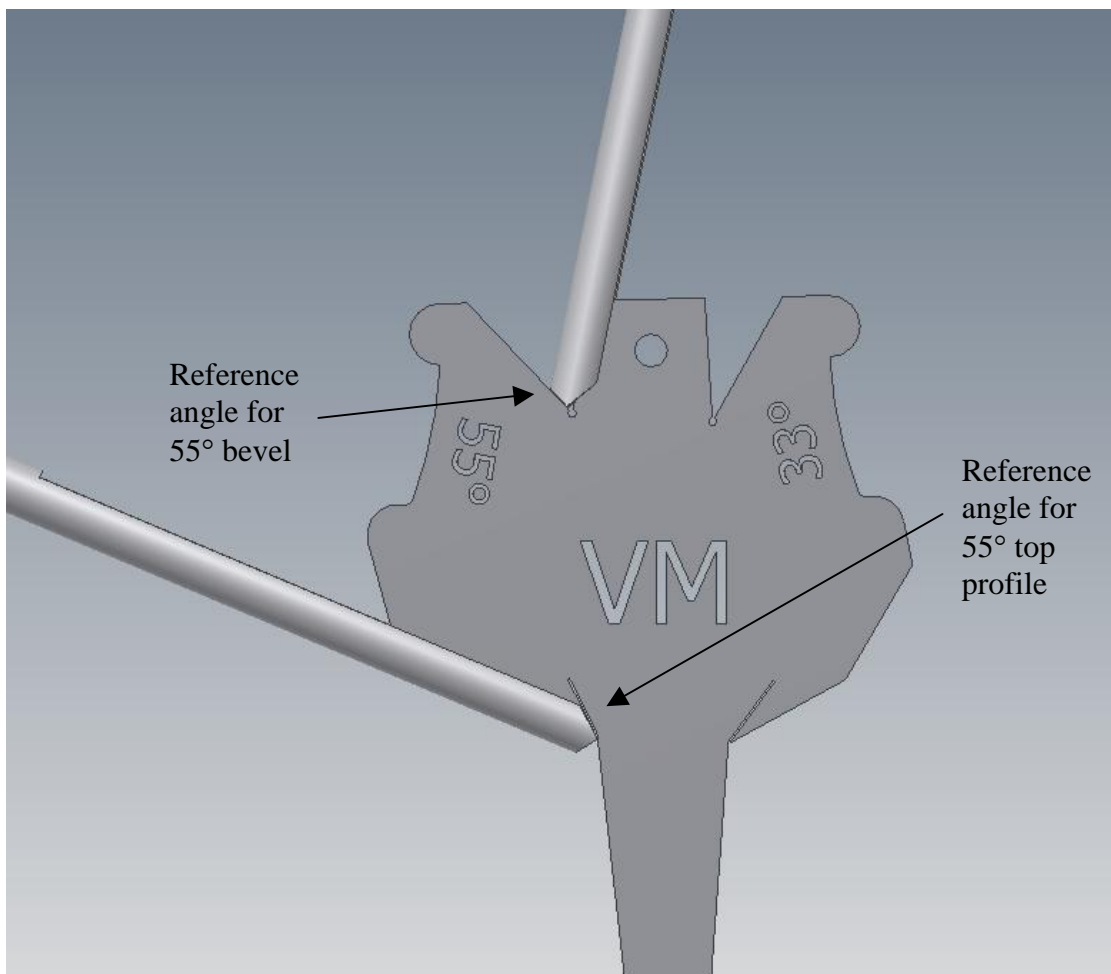


5. **Important: Make sure that the tool does not get too hot and change colour** (brown or blue) as this will reduce the hardness of the metal and shorten the life of the tool. To prevent this, make sure you periodically dip the tool in water. If you find the tool heating up too quickly then you may need to re-dress your wheel or apply less pressure on the grinding wheel.

6. Continue grinding your tool on the finer grit wheel (120-180 grit recommended) to achieve a sharp cutting edge. After you finish grinding, your bowl gouge should look like the profile below.



7. You can check your bowl gouge angles using the Vicmarc Quick Tool Setter as shown below. With this tool setter, you can achieve perfect angles for bowl gouges (55°) and spindle gouges (33°).

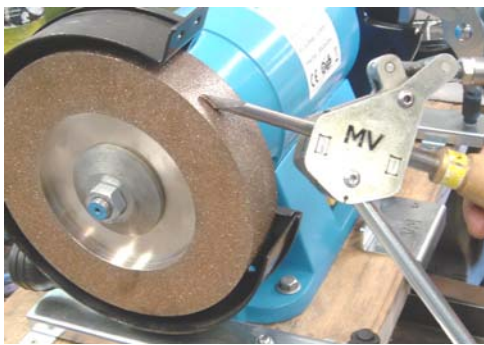


Additional Grinding Shapes

Sharpening Jig

Different tools require different methods of sharpening, below is a list of the most common tools used in woodworking and some suggested angles for sharpening them.

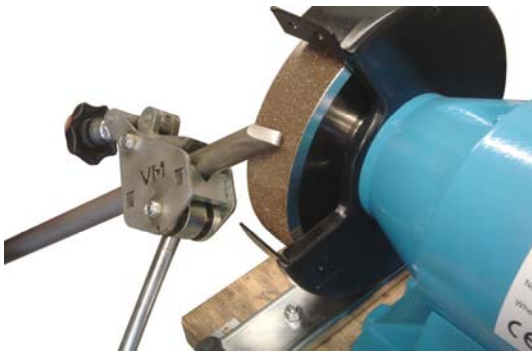
Please note: these angles given are based on the Vicmarc Manta Gauge angles and are recommended as the best angles from years of sharpening experience, but they should only be taken as a suggestion.



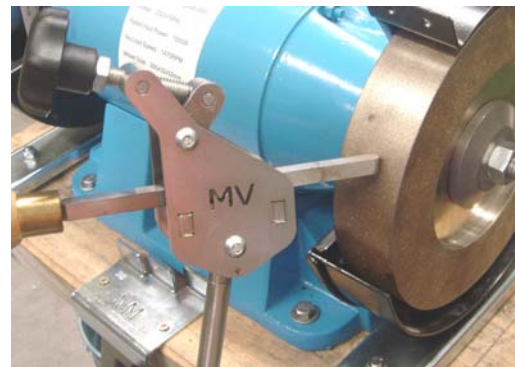
Flat profile spindle gouges - 33°



Roughing and Bowl Gouges - 44°



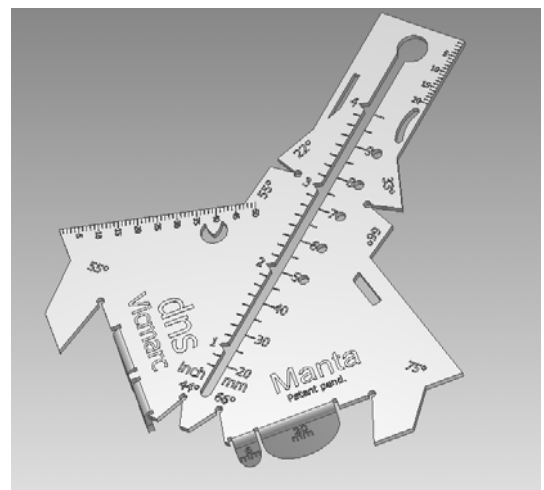
Spindle Gouge - 55°



Scrapers - 66°

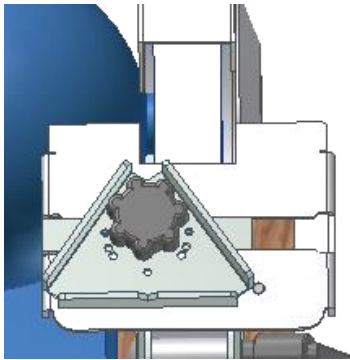
By using a tool gauge such as the Vicmarc Manta Gauge, or similar, you can measure and adjust your grinding system to achieve all of your desired angles.

Manta Gauge part number: V00818

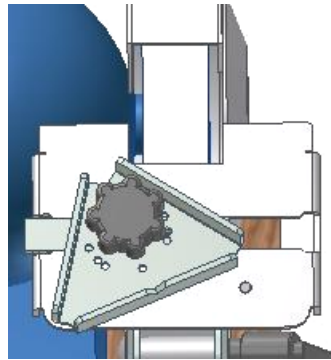


Grinding Rest

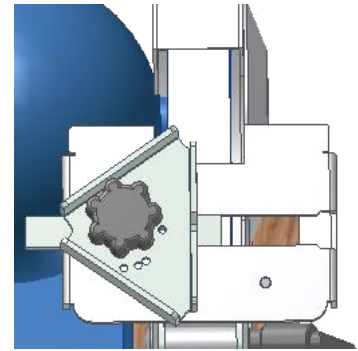
The triangle slide gauge has some pre-set angles to enable you to grind precise angles as shown below.



55°/55°

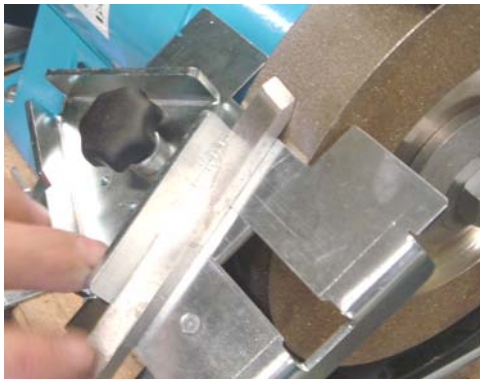


77°/33°



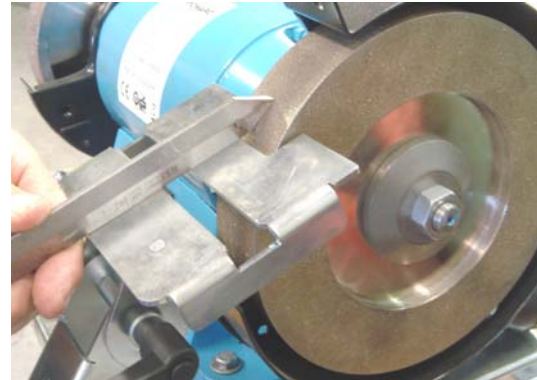
35°/90°

The below angles can be set using the Grinding Rest Quick Tool Setter as shown on Page 5



Skew Chisels - 22°

Set the rest to 33° and then set the triangle gauge to the angle of your skew chisel. To sharpen simply slide the triangle gauge along the slide.



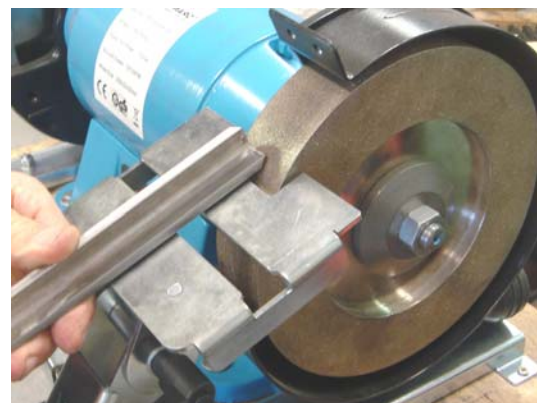
Parting Tools - 33° & 44°

Set the rest to 33° or 44° and then place the chisel against the rest. To sharpen simply slide the triangle gauge along the tool slide.



Straight Edge Scraper - 66°

Place the triangle on 90° and rest the scraper along the triangle. Move the scraper from left to right to grind the front angle of the scraper.



Roughing Gouge & Round End Scraper - 66°

Set the rest to 66° then rotate the roughing gouge or pivot the round end scraper on the rest to grind the bevel.

Maintenance

To ensure your grinding system works to the best of its ability you should dress the grinding wheels when they become dull or dirty (**do not dress CBN Grinding wheels**). By dressing the wheels, you get a smoother and quicker grind, and a sharper finish. As less heat is generated, your tool will stay sharper for longer.

It is also important to keep the grinding system clean of grit and debris as this can jam the adjusting mechanisms and make setting up for different tools difficult

The Vicmarc Guarantee

Vicmarc Machinery, manufacturer of Vicmarc machine tools, hereby guarantee the purchaser of the Grinding System that it was precision engineered from the finest materials available and was thoroughly inspected and tested before leaving the factory.

If, within 12 months following the date of delivery, the product is proven to have been defective because of faulty materials or workmanship, Vicmarc Machinery will repair or replace the product free of charge. This guarantee is subject to the following conditions:

1. The product shall be returned to Vicmarc Machinery within 12 months with a brief description of the complaint.
2. The name and address of the purchaser, together with the date of purchase and supplier details shall accompany the parts.
3. Vicmarc Machinery will accept no responsibility whatsoever under the guarantee or otherwise if the product is not used strictly in accordance with the instructions supplied, or if the fault can reasonably be explained by carelessness or negligence.
4. The purchaser is responsible for all costs incurred in transport and packaging to and from Vicmarc Machinery.
5. In the case of accident, liability is expressly excluded when the product is tampered with or altered without authorization.

Overseas purchasers are advised to obtain local guarantees from their Vicmarc agent. Conditions may vary to those detailed above.



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