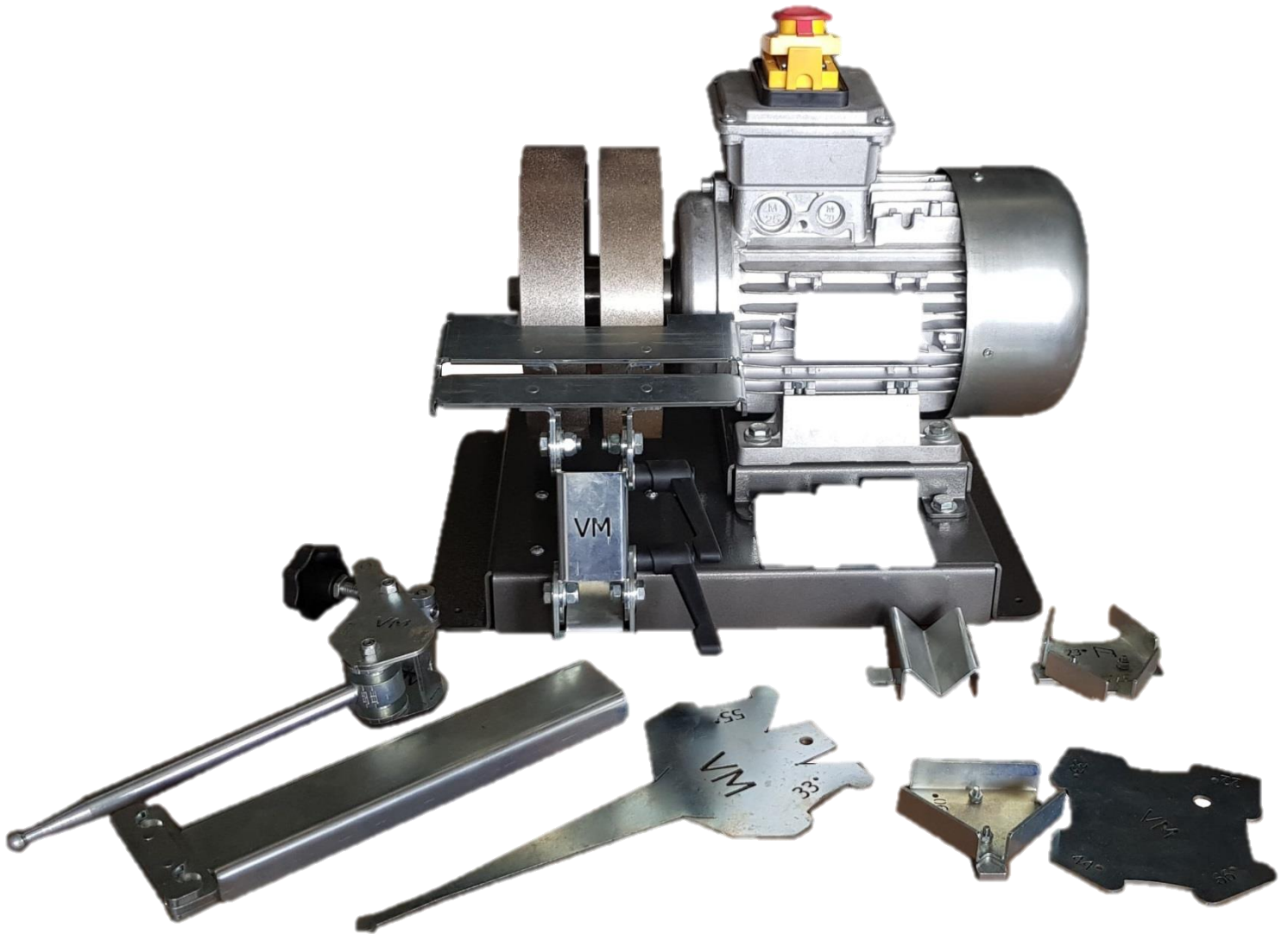


CBN Sharpening Station

User Manual



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 CBN Sharpening Station is another ground-breaking innovation from Vicmarc Machinery. The 1HP (0.75kW), fan-cooled slow speed grinder runs at 1450RPM and comes with 2 X 200mm CBN wheels of your choice (80, 180, or 240 grit). With both wheels mounted on the same side of the shaft, the space-saving footprint of this system is unlike any other on the market.

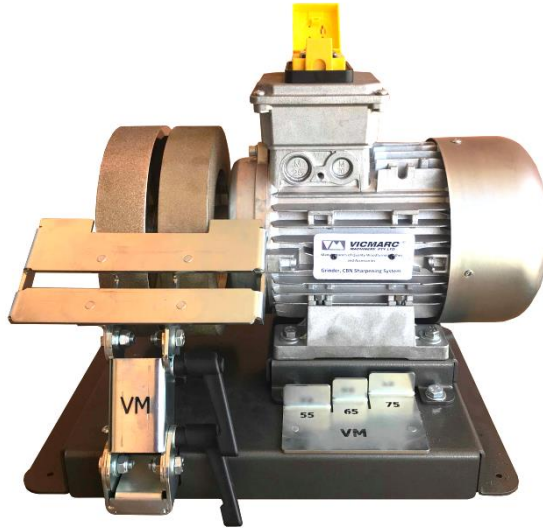
Important: when grinding V10 or any other High Speed Steel tools you must make sure that the tool doesn't get too hot and change colour (brown or blue) as this will weaken the steel and shorten the life of your tool. You should periodically dip the tip of the tool in water when it begins to get warm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

Safety Information

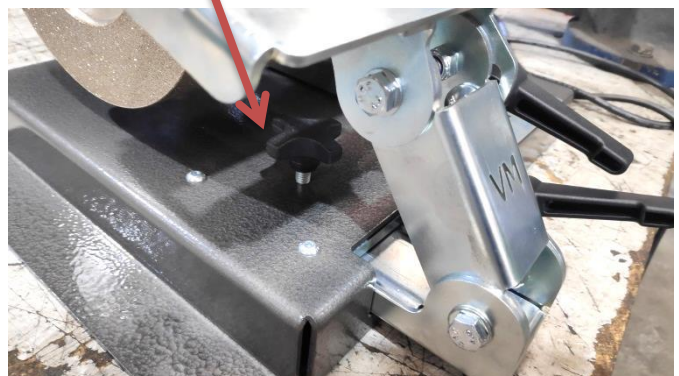
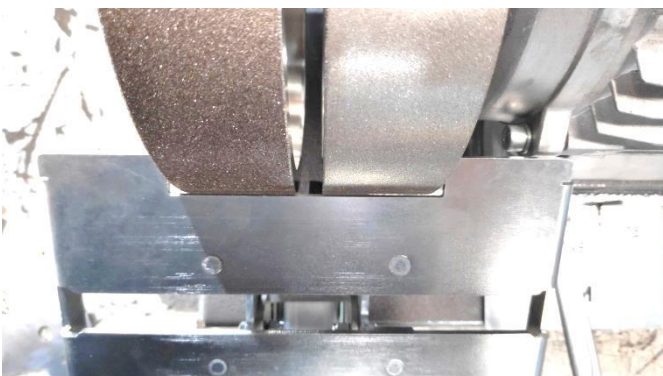
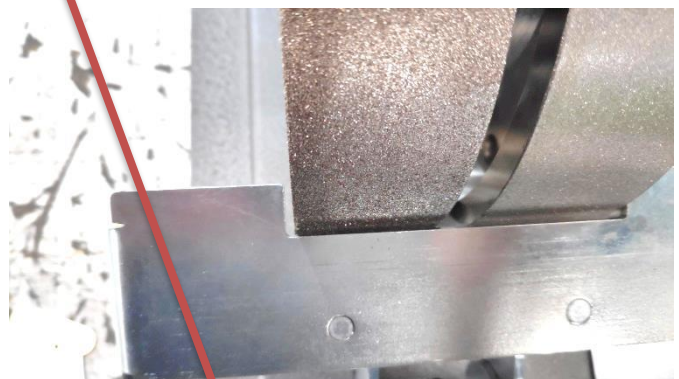
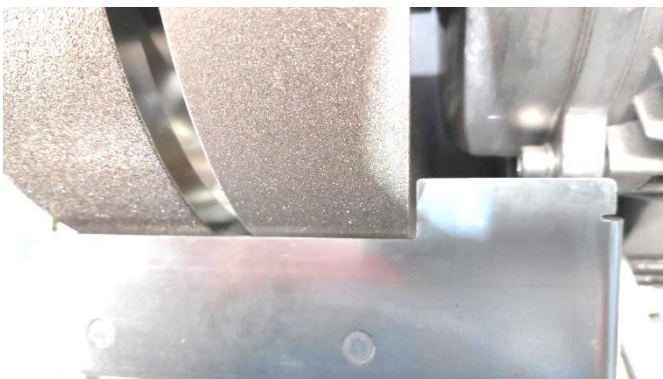
1. Read and understand this instruction manual before operating the Grinding System.
2. Always wear eye protection.
3. Do not wear neckties, jewellery or loose clothing.
4. Do not operate without guards in place.
5. Tighten all handles before operating.
6. Make sure the grinder is off and has stopped 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.

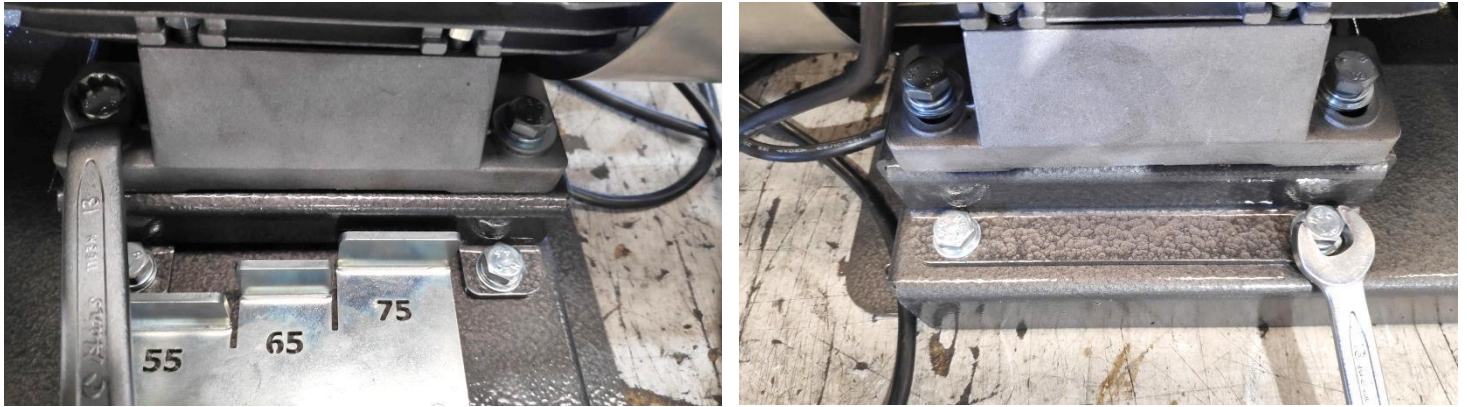
Setting up the Station and CBN wheels



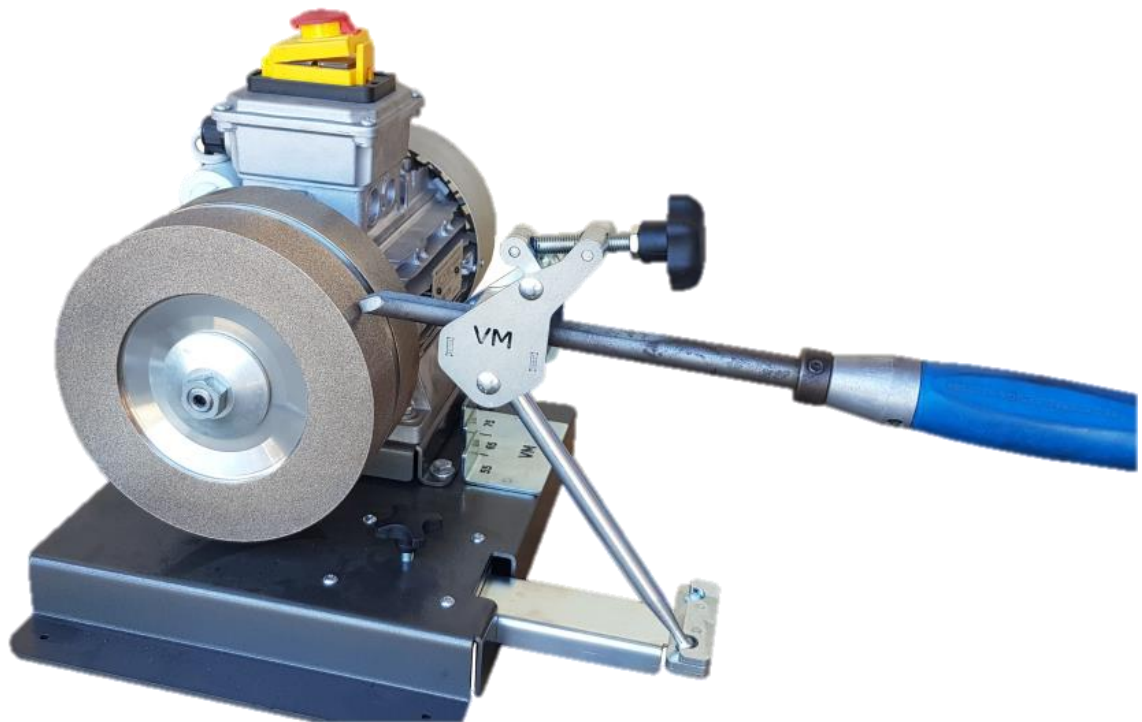
1. Slide your CBN wheels onto the grinder shaft making sure that the bushes are in their correct position.
2. Tighten CBN wheels by holding the wheels as you tighten the bolt using a 10mm Allen Key at CBN Wheel end. Note: The thread on the bolt is Left hand Thread and may require 2 people, one to hold the wheels and one to tighten the bolt.
3. Line up the rest platform so that the centre of the rest plates is in line with the centre of the CBN wheels ensuring that the gap on either side of the wheel and front face is equal and then tighten the M8 knob. See Picture below.



4. Tighten down the motor to the base and the motor base to the station base.
See below.



5. Check again that the CBN wheels are square and centred to the grinding rest.
6. Your setup is complete and you can begin sharpening

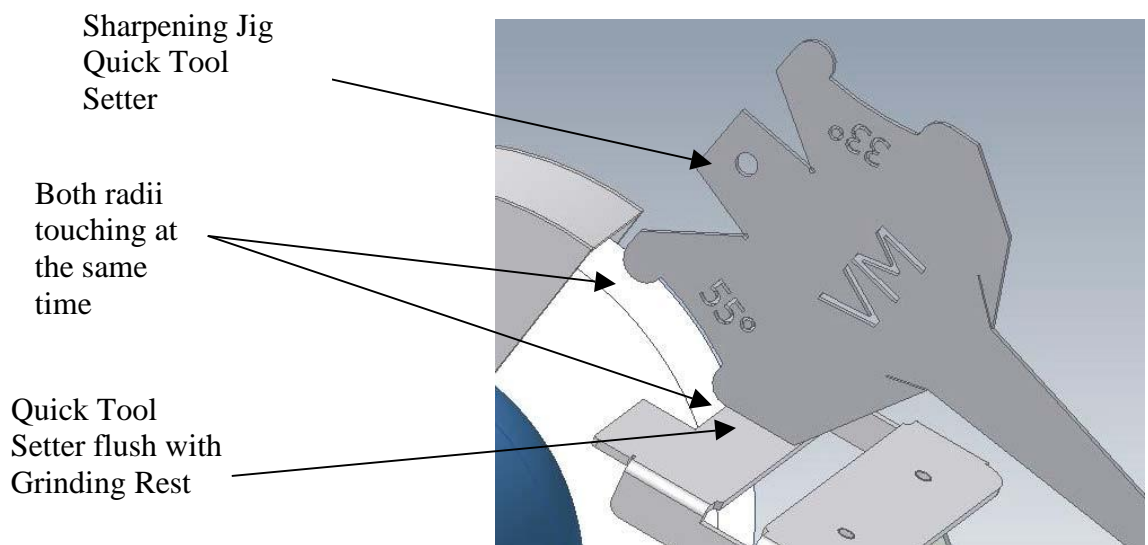


Setting up your Grinding Rest



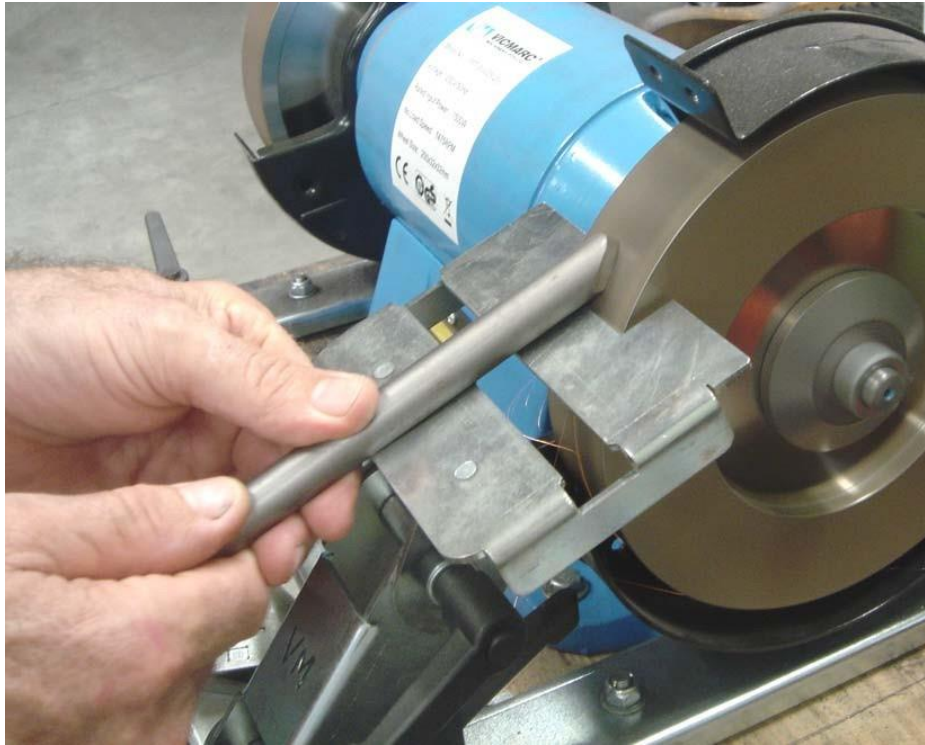
Use the Grinding Rest to grind this angle

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 for 55°. 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. Note: If Grinding 33° the same process needs to be performed using the 33° side.

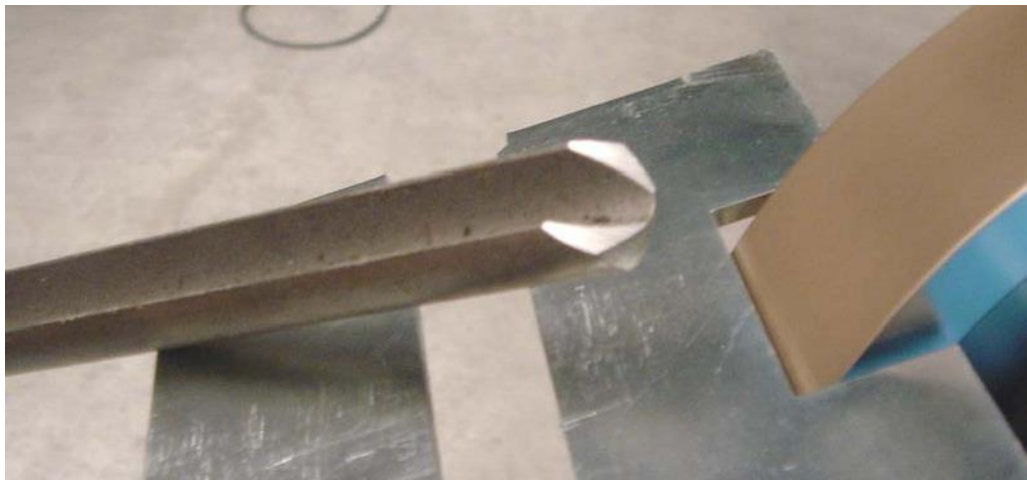


The Grinding Rest Quick Tool Setter can be used to set and grind other popular angles of 22°, 33°, 44°, 66° & 80°.

To set the desired angle, place the Grinding Rest tool setter (as shown) flat on the Grinding Rest and adjust until both radii are touching the wheel.

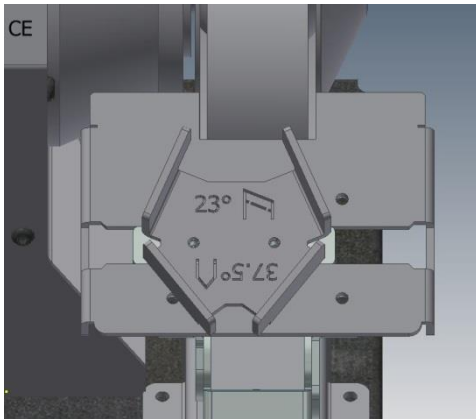


3. Place your gouge upside down on the rest and grind the top of the tool away until it meets the bottom of the flute. This pre-grind makes your tool look like the profile below.

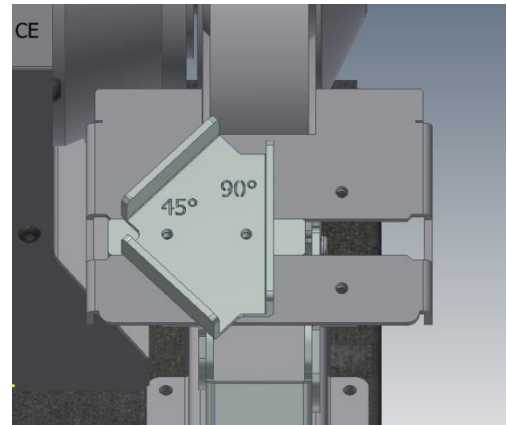


4. **Important: Make sure that the tool does not get too hot and change colour** (brown or blue) as this will reduce the hardness of the metal and shorten the life of the tool. To prevent this, make sure you periodically dip the tool in water. If you find the tool heating up too quickly then you may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

The below slide gauges have some pre-set angles to enable you to grind precise angles as shown below.



23°/37.5°

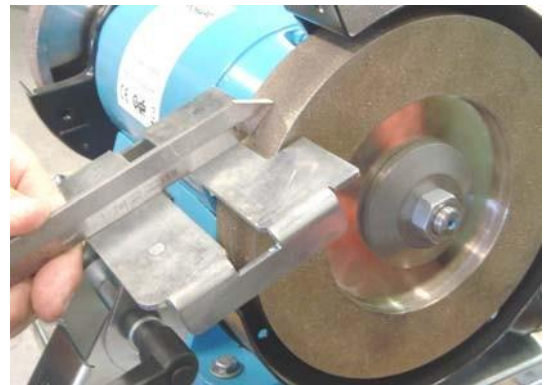


45°/90°



Skew Chisels - 23°

Set the rest to 33° and then use the provided gauge as a guide. To sharpen simply hold the tool against the gauge and slide it back and forth over the wheel.



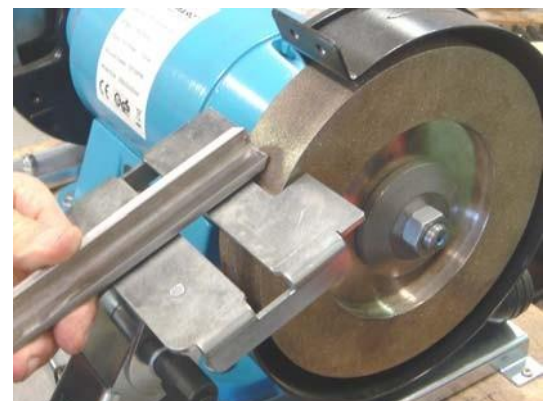
Parting Tools - 33° & 44°

Set the rest to 33° or 44° and then place the chisel against the rest. To sharpen simply slide the 90° gauge along the tool slide.



Straight Edge Scraper - 66°

Use the 90° gauge and rest the scraper along the edge. Move the scraper from left to right to grind the front angle of the scraper.

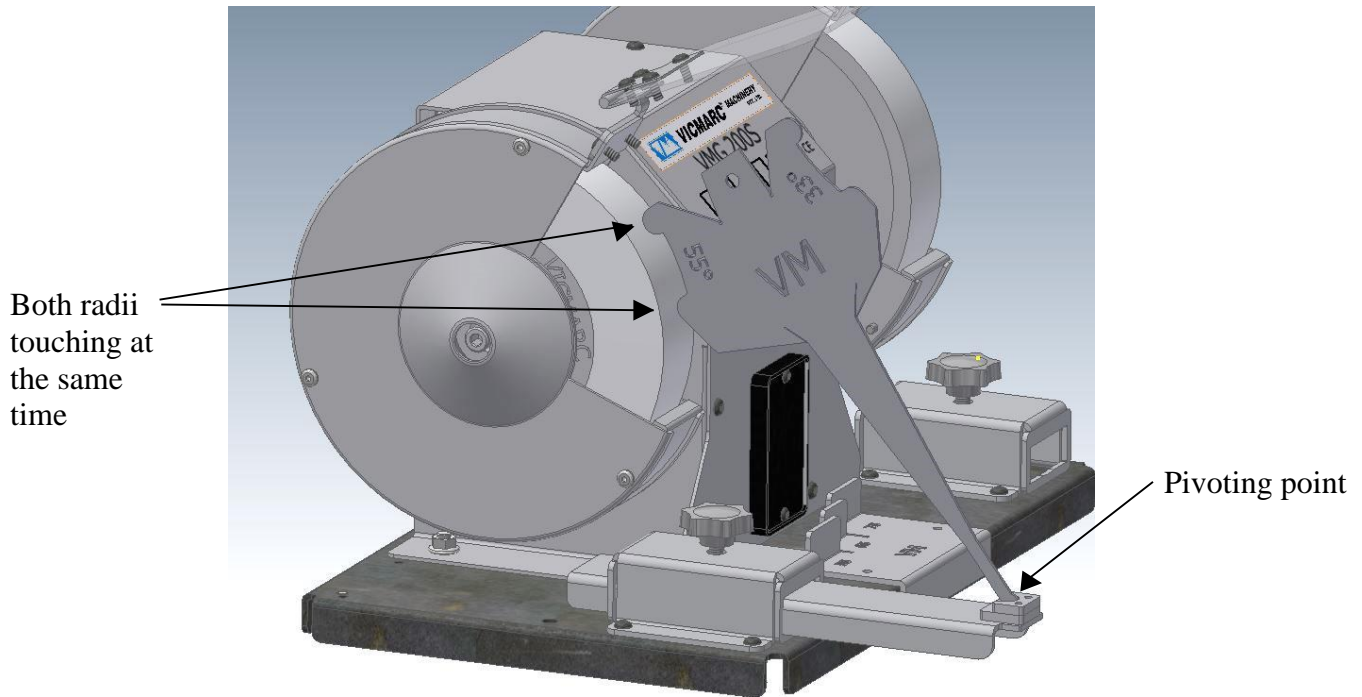


Roughing Gouge & Round End Scraper - 66°

Set the rest to 66° then rotate the roughing gouge or pivot the round end scraper on the rest to grind the bevel. You can also use the V-gauge provided

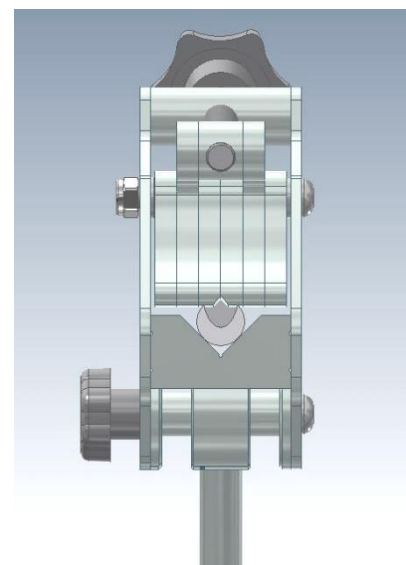
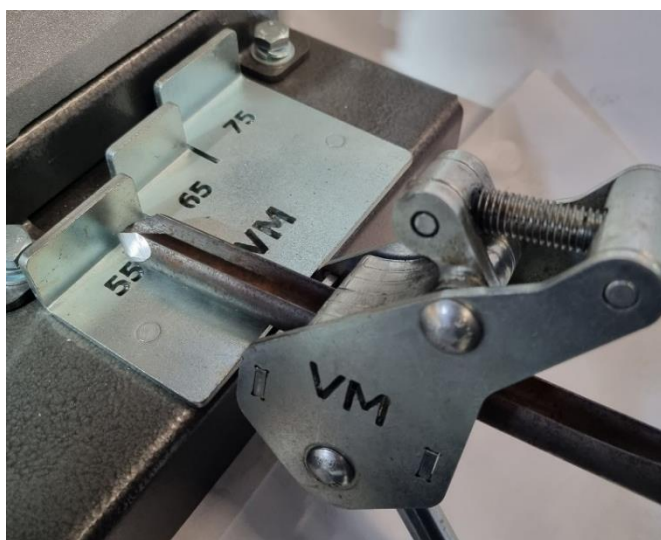
Setting up your Sharpening Jig

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. Note: If grinding 33° the same process needs to be performed using the 33° side.



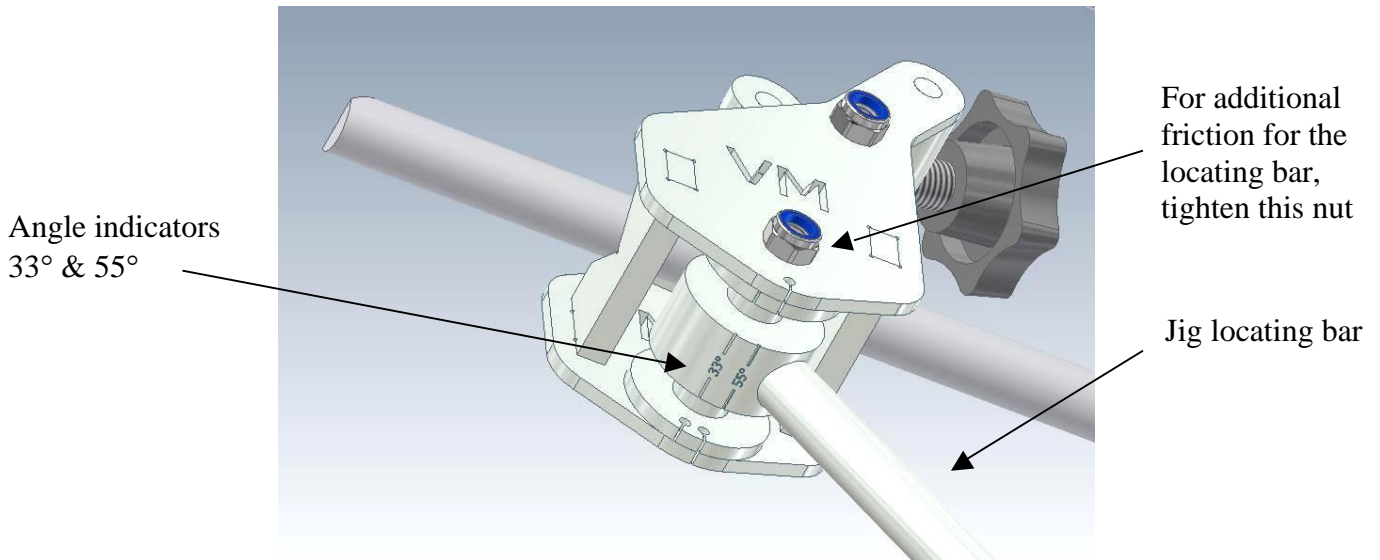
2. Place your bowl gouge into the Sharpening Jig and set it to protrude 55mm by using the Depth Gauge as shown below. Use this measurement for 55° and 33° grinds. Lock the gouge into position by tightening the black knob.

Note: When sharpening a bowl gouge with a 55° angle, by increasing the length of the tool protrusion from 55mm to 65mm the angle will change from 55° to 48°. If increased to 75mm the angle will then change to 45°. See the table on page 12 showing all achievable angles.

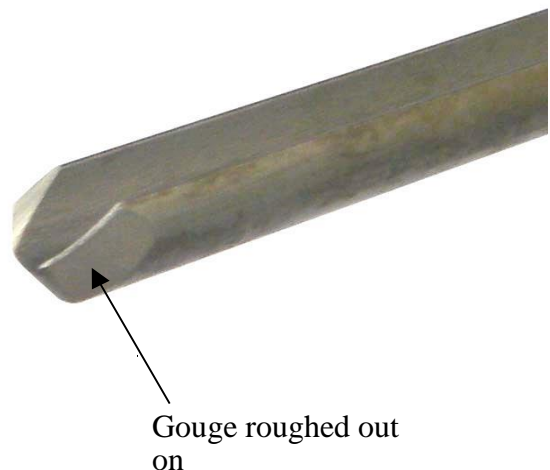


3. Line up the angle on the Sharpening Jig to the 55° mark as shown below. This is done by holding the jig locating bar and the gouge, and manually adjusting the angle. Note: If grinding 33° the same process needs to be performed using the 33° mark.

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

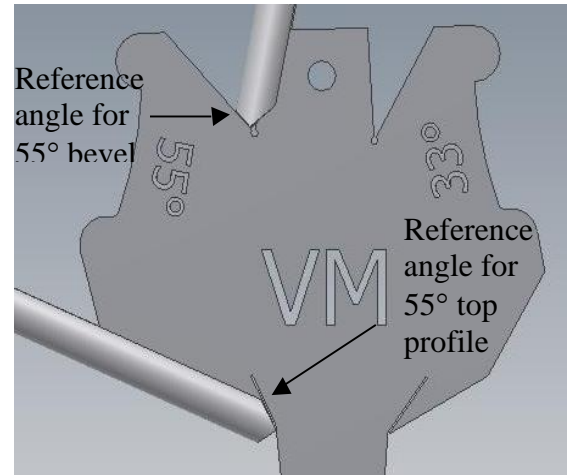


5. **Important: Make sure that the tool does not get too hot and change colour** (brown or blue) as this will reduce the hardness of the metal and shorten the life of the tool. To prevent this, make sure you periodically dip the tool in water. If you find the tool heating up too quickly then you may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

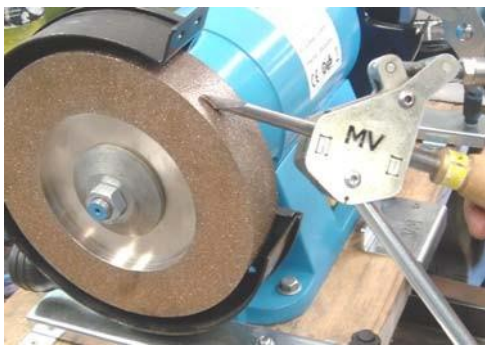
6. Continue grinding your tool on the finer grit wheel (180 or 240 grit recommended) to achieve a sharp cutting edge. After you finish grinding, your bowl gouge should look like the profile below.



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°).



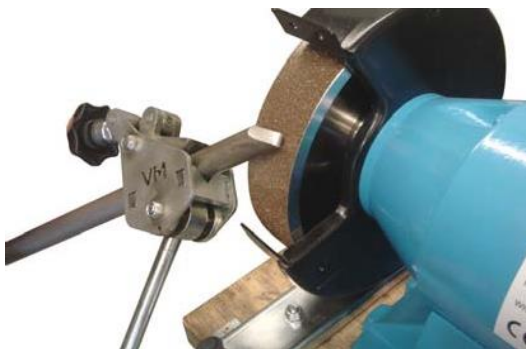
Different tools require different methods of sharpening, below is a list of the most common tools used in woodworking and some suggested angles for sharpening them.



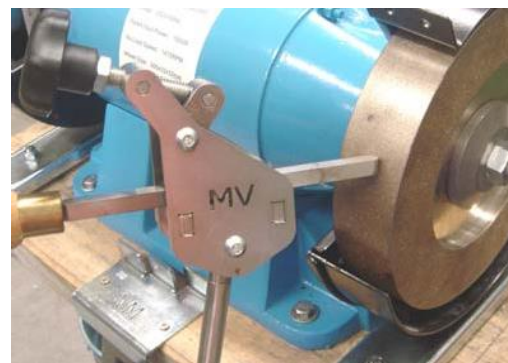
Flat profile spindle gouges - 33°



Roughing and Bowl Gouges - 44°



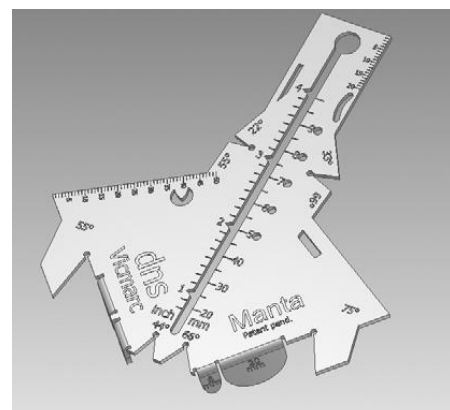
Bowl Gouge - 55°



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



Achievable Angle Examples

Tool Protrusion	55mm				65mm				75mm			
Tool Setter Angle	55°	33°	55°	33°	55°	33°	55°	33°	55°	33°	55°	33°
Jig Angle	55°	33°	33°	55°	55°	33°	33°	55°	55°	33°	33°	55°
Angle Achieved	55°	33°	37°	50°	48°	28°	30°	47°	45°	22°	28°	40°

Note: Other angles can be achieved by customising your own settings on the Jig or protrusion length

Maintenance

To ensure your CBN Sharpening Station works to the best of its ability you should regularly clean all moving parts such as the slides etc. Make sure that all the grit and debris is removed as this can jam the adjusting mechanisms and make setting up for different tools difficult. **Important - Do not dress CBN Grinding wheels.**

The Vicmarc Guarantee

Vicmarc Machinery, manufacturer of Vicmarc machine tools, hereby guarantee the purchaser of the CBN Sharpening Station 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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