

Problem Troubleshooting

➤ *The fine grit wheel is cutting better than a coarse grit wheel?*

- Is the wheel loaded up?
 - If so, it needs to be dressed according to our standards
- If the wheel was directly out of the box
 - Dress the wheel prior to putting it back on the machine
- Are the RPM's within the correct range for the wheel?
- Are the wheels the same bond?

➤ *The wheel is not lasting as long as it used to?*

- Is the wheel being used for the same application?
- Does the wheel sound the same?
- Belts on the machine could be slipping
- Clamping could be coming loose causing vibration in the workpiece.
 - Is the clamp close to the periphery of the blade?
- Is the wheel slipping on the arbor?
- Are the RPMs dropping while grinding?
- Is it a different carbide grade?
- It could be spindle wear or bad spindle bearing
- Is the bond the same or has it changed?

➤ *The wheel is louder than it used to be?*

- Is the wheel loaded or glazed over?
- Is clamping loose causing vibration and chattering in the wheel?
- Are the spindle bearings bad?
- Did the spindle speed change?
- Is it a different carbide grade?

➤ *How to fix runout on the wheels?*

- Remove flanges from the wheel and clean wheel and flanges thoroughly. Put the flanges back on and check again for runout
- Check the bore hole for scoring, scratches, or defects
- Check the spindle for runout
- Check the spindle bearings
- Dress the wheel to the arbor

➤ *The wheel is getting too hot (bluing on the part)*

- Can the spindle speed be adjusted?
 - Spindle speed maybe too high
- Incorrect coolant placement
- Using the wrong coolant
- If the wheel is loading up take heavier passes
- Take lighter passes
- Lower the concentration
- Try a coarser grit
- Are you grinding a micrograin carbide?

➤ *Your wheel is acting softer than the previous supplier's wheel*

- Is the finish the same as you were getting from previous supplier
 - Grit could be finer or coarser based on supplier
 - Are the parameters the same as the previous supplier
- Is the bond color the same as old supplier
- Check the belts for slippage
- What are the RPMs?

➤ *The wheel is acting softer than it used to*

- Check the spindle bearings
- Check for belt slippage
- Are the RPMs decreasing during grinding?
- Did the bond change?

➤ Dressing sticks are not dressing the wheel

- The dressing stick should always be one to two grits finer than the wheel
- If it is a very fine wheel (D600 or finer) we don't have a dressing stick that is able to dress it because it will rip out the diamond

➤ Why can't I use the same wheel if a switch from water to oil based coolant?

- Water absorbs heat and oil does not
- Oil needs a softer sharper bond
- Oil is lubricating and water is not
- Changing will cause tips to blue and the wheel not to cut

➤ EC wheel causing more burrs

- Volts are too low
- Make sure it is a CBN wheel
- Adjust spindle speed up and down to get best finish
- Slow down the cutting process

➤ Can I dress a metal bond wheel?

- Wheel should be self-dressing if used properly on correct material
- Would need to be reconditioned with spark erosion
- Ask us about companies that will dress your wheel for you.
- We do not have a way to dress a metal bond wheel

➤ Hitting a gullet when facing is causing the diamond to blow out

- Set the stops better in order to avoid the gullet
- Use a smaller abrasive section such as 1/16" section instead of a 1/8"
- You may notice a burr around the edge of the diamond wheel
 - This can cause diamond to separate from the core

➤ Causes of a poor finish and how to resolve

- Vibration in the wheel or spindle
 - Clamp the wheel a bit better
 - Make sure it isn't glazed up
 - Change the spindle bearings
- Check the belts and spindle
- Wheel should be mounted on adapter and trued
- Coolant placement could be off
- Coolant filtration
- Wheel is too soft and aggressive
- Wheel is too hard causing bouncing or vibration
- RPMs can vary the finish
- Excessive Dressing
 - Use less pressure on the dressing stick
- Reduce down feed or cross feed

➤ Very general RPM range for wheels

	Cup Wheels	Peripheral
Wet Grinding		
Diamond Wheels	11V9, 12V9, 15V9, etc	1A1, 1V1, 1A1R, etc
Resin Bond	4,921 to 7,874 SFPM 25 to 40 m/s	4,921 to 7,874 SFPM 25 to 40 m/s
Metal Bond	N/A	3,937 to 5,906 SFPM 20 to 30 m/s
Vitrified Bond	2,953 to 5,906 SFPM 40 to 80 m/s	2,953 to 5,906 SFPM 60 to 120 m/s
cBN Wheels		
Resin Bond	5,906 to 9,843 SFPM 30 to 50 m/s	5,906 to 9,843 SFPM 30 to 50 m/s

	Cup Wheels	Peripheral
Dry Grinding		
Diamond Wheels	11V9, 12V9, 15V9, etc	1A1, 1V1, 1A1R, etc
Resin Bond	2,756 to 3,543 SFPM 14 to 18 m/s	2,756 to 3,543 SFPM 14 to 18 m/s
cBN Wheels		
Resin Bond	2,953 to 5,906 SFPM 15 to 30 m/s	2,953 to 5,906 SFPM 15 to 30 m/s