Diamond Wheel Troubleshooting Quick Check Guide

**Situation: Damaged or Distorted Arbor Hole**

**Reason:** Wheel not properly mounted on arbor shaft.
- If such occurs, the operator will experience a pounding effect or side to side cutting stress.

**Solution:** Mount wheel properly onto arbor shaft.
- Mount wheel securely on shaft and tighten mounting bolt to the proper torque.

**Reason:** Worn or loose mounting flanges.
- Worn or loose flanges can cause the wheel to “flutter” resulting in arbor hole distortion.

**Solution:** Inspect flanges and replace if needed.
- Both the inner and outer flanges should be replaced if required.

**Reason:** Arbor shaft worn or grooved.
- The wheel will pound in the cut if excessive arbor wear has occurred.

**Solution:** Replace arbor shaft if signs of wear or damage.

**Reason:** Arbor hole is size is larger than the arbor shaft.

**Solution:** Replace wheel with correctly sized wheel.

**WARNING!** A diamond wheel with a damaged or distorted arbor hole can cause excessive vibration and damage the machine or work piece. Such vibration or damage could result in personal injury. A diamond wheel must be replaced immediately if it has a damage or distorted arbor hole. Never start or operate any machine with a damaged or distorted arbor hole.

**Situation: Overheating (Dark areas under segments)**

**Reason:** Insufficient cooling at the cutting surface.
- The life of a diamond wheel is significantly reduced when exposed to extreme heat.

**Solution:** Frequently remove wheel from cut to cool.
- After every 30 seconds of dry cutting, allow running wheel to cool in air for 10 seconds.

**WARNING!** Overheating a diamond wheel may cause structural damage, causing it to break apart or release segments during use that could result in serious or fatal injury. A diamond wheel must be replaced immediately if it shows signs of exposure to excessive heat. Never start or operate any machine with a damaged diamond wheel.

**Situation: Out of Round (Eccentric Wear)**

**Reason:** Arbor shaft bearings worn.
- Worn bearings allow arbor shaft to run eccentrically causing the wheel to wear out of round.

**Solution:** Install new shaft bearings.
- Arbor bearings and shaft should be inspected frequently and checked for signs of wear.

**Reason:** Wrong wheel selection for application.
- Improper selection of wheel bond causes the wheel to “pound” and not cut.

**Solution:** Use proper wheel type for material being cut.
- Consult the recommended application guide to determine correct wheel.

**Reason:** Worn arbor shaft.
- Improperly tightened wheel flanges will allow wheel to spin and groove arbor shaft.

**Solution:** Replace arbor shaft.
- Always correctly tighten wheel flanges to prevent damage to wheel and arbor.

**Reason:** Wheel arbor hole is out of round or damaged.
- Insure that the arbor shaft size exactly matches the size of the wheel arbor hole.

**Solution:** Replace wheel.
- Never operate any machine with a damaged wheel.

**WARNING!** A severely out of round diamond wheel can cause excessive vibration and damage to the machine or work piece. Such vibration or damage could result in personal injury. A diamond wheel must be replaced immediately if it is severely out of round. Never start or operate any machine with a severely out of round diamond wheel.

**Situation: Will not cut (Glazing)**

**Reason:** Diamond bond is too hard for material being cut.
- A hard diamond bond will not allow required bond wear to expose new diamond surfaces.

**Solution:** Change to a wheel with a softer diamond bond.
- It is important to use the correct wheel for the material as indicated in the application guide.

**Reason:** Insufficient machine power or RPM applied.
- STIHL diamond wheels have been designed to run on STIHL Cutquik® cutoff machines.

**Solution:** Insure adequate machine power and operation.
- Check and tighten drive belt to provide appropriate torque transfer.

**Note:** A “glazed” wheel can be refreshed by slowly cutting into a soft concrete block.

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### Situation: Loss of Tension (Wheel is not flat)

**Reason:** Wheel has overheated due to a lack of cooling.
- Excessive heat will cause the steel core to warp and discolor.

**Solution:** Frequently remove wheel from the cut to cool.
- After every 30 seconds of dry cutting, allow running wheel to cool in air for 10 seconds.

**Reason:** Improper wheel selection.
- An improper wheel will flex excessively creating permanent stress in the steel core.

**Solution:** Consult wheel application guide for correct wheel.

**Reason:** Cutting material has worn against side of wheel.
- Do not turn or twist the machine while wheel is cutting.

**Solution:** Use wheel to cut only in straight lines.
- Insure material is not able to collapse or pinch the wheel when engaged in cut.

**WARNING!** A distorted diamond wheel may break apart or release segments during use that could result in serious or fatal injury. Do not attempt to straighten or repair a distorted wheel. A diamond wheel must be replaced immediately if it shows signs of core tension loss. Never start or operate any machine with a damaged diamond wheel.

### Situation: cracks in metal core

**Reason:** Extreme pressure was applied during cutting.

**Solution:** Apply light pressure while cutting.

**Reason:** Wheel has overheated due to a lack of cooling.
- Excessive heat will cause the steel core to fracture.

**Solution:** Frequently remove wheel from the cut to cool.
- After every 30 seconds of dry cutting, allow running wheel to cool in air for 10 seconds.

**Reason:** Improper wheel selection.
- An improper wheel will cause excessive stress in the steel core causing it to crack.

**Solution:** Consult wheel application guide for correct wheel.

**WARNING!** A cracked diamond wheel may break apart or release segments during use that could result in serious or fatal injury. A diamond wheel must be replaced immediately if the core or segment show signs of cracking. Never start or operate any machine with a damaged diamond wheel.

### Situation: Undercutting

**Reason:** Cutting very abrasive material.
- This is a normal condition when cutting asphalt or green concrete.

**Solution:** If available, use water spray to flush the kerf.
- Several STIHL wheels are available with undercut protection segments.

**Reason:** Cutting into the sub-base.
- Cutting into sand or dirt will cause severe undercutting.

**Solution:** Do not cut completely through the material.
- By only cutting the intended material, the wheel life will be extended.

**WARNING!** A severely undercut diamond wheel may break apart or release segments during use that could result in serious or fatal injury. A diamond wheel must be replaced immediately if the core has been severely undercut. Never start or operate any machine with a damaged diamond wheel.

### Situation: Diamond Segment Loss

**Reason:** Wheel has been twisted or jammed.
- Only use a diamond wheel to make straight cuts in recommended materials.

**Solution:** Hold machine straight while cutting.
- Secure material being cut to prevent accidental pinching or binding.

**Reason:** Wheel has overheated due to a lack of cooling.
- Excessive heat will cause the steel core to fracture.

**Solution:** Frequently remove wheel from the cut to cool.
- After every 30 seconds of dry cutting, allow running wheel to cool in air for 10 seconds.

**Reason:** Improper wheel use causing excessive dullness.
- A dull wheel can have segments separate from impact, fatigue, or frictional heat.

**Solution:** Use proper wheel type for material being cut.

**WARNING!** A diamond wheel with segment loss may increase reactive forces or continue to break apart or release segments during use that could result in serious or fatal injury. A diamond wheel must be replaced immediately if there is a segment loose, cracked or missing. Never start or operate any machine with a damaged diamond wheel.