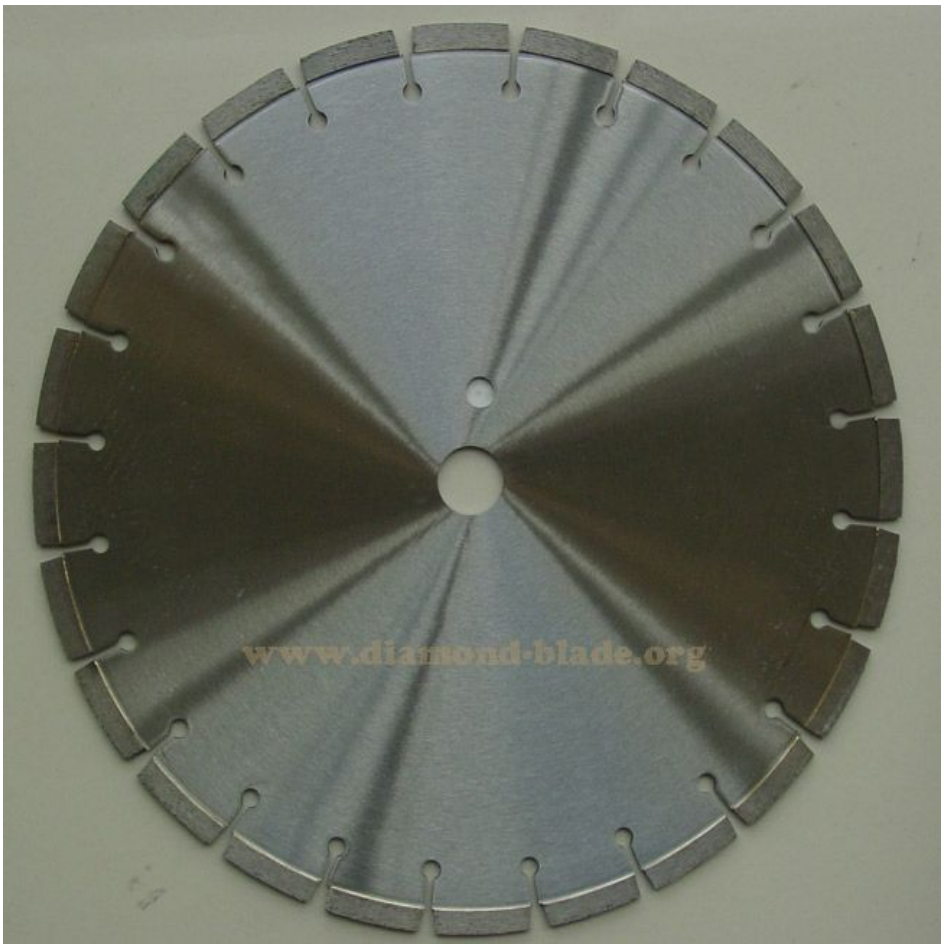
Diamond Blade Trouble Shooting, Diamond Saw Blade Problem



Diamond Blade Trouble Shooting

Few ChinShine diamond saw blade problems are caused by warranty failures – less than 1%. Most problems result from

Using the cutting blade improperly

Equipment problems

Using the wrong diamond blade for the job

This trouble shooting guide will help you identify, diagnose and correct diamond blade problems. The following are samples of

some of the problems you may encounter in the field, with a cause and remedy guide to diagnose and correct these of some of the problems you may encounter in the field, with a cause and remedy guide to diagnose and correct these problems.

Loss of Tension

Cause: Blade being used on misaligned saw.

Remedy: Check for proper saw alignment.

Cause: Blade is excessively hard for the material being cut, creating stress on the steel center.

Remedy: Make certain blade is correct for material being cut (consult manufacturer's recommendation chart or see your dealer).

Cause: Material slippage causing blade to twist and become kinked or bent.

Remedy: Maintain tight grip on material while sawing.

Cause: Using blade flanges that are undersize or not the same diameter, creating uneven pressure on the center.

Remedy: Make certain blade flanges are proper size and identical diameter, minimum 3-7/8"; 4-1/2" on concrete saws: 6" minimum on diamond blades that are 30" diameter and larger.

Cause: Blade being used at improper RPM.

Remedy: Make certain blade shaft is turning at the proper RPM by

using a tachometer. This is especially important with concrete saws.

Cause: Blade improperly mounted on arbor shoulder becomes bent when flanges are tightened.

Remedy: Hold blade securely on arbor shoulder until outside flange and nut are firmly tightened.

Segments Loss

Cause: The material slips during cutting, which twists or jams the segments loose.

Remedy: Hold the material securely while cutting.

Cause: Blade is too hard for the material it is cutting, causing excessive dullness, which causes the segment to pound off or fatigue.

Remedy: Use a softer blade specification.

Cause: Worn blade flanges fail to provide proper support causing the blade to deflect.

Remedy: Replace both blade flanges.

Cause: Out-of-round blade rotation resulting in pounding caused by worn arbor or bad bearings in the shaft.

Remedy: Replace worn arbor and/or bearings.

Cause: Overheating. Usually easily detected by bluish color on steel center, generally confined to the area where the segment was

lost.

Remedy: Check the water system for blocked water passages. Test pump to see if it is functioning. For dry cutting it may be necessary to make shallower cuts and allow the blade to run free every few minutes to let the air cool it.

Repair Note:

It is possible to replace two or three missing diamond segments, providing the steel center is not cracked or undercut badly. If many segments are missing, or if there is less than 50% of blade life remaining, repairing the diamond blade may not be economical. Be certain to eliminate mechanical or operational problems before installing replacement blades.

Undercutting

Cause: Undercutting is a condition in which the steel center wears faster than the diamond segment, especially in the areas where the segment and core are joined. The condition is caused by highly abrasive material grinding against the blade during the sawing operation. Usually materials containing sand are responsible for this condition.

Remedy: The flow of swarf (abrasive cuttings) must be distributed over a wider area, away from the critical segment area. Many times

this can be accomplished by using polyarc segments or other types of undercut protectors specially positioned around the steel center to change the pattern of constant abrasion. Although successful in most cases, undercut protectors do not provide 100% protection.

Uneven Segment Wear

Cause: Segments worn on one side reducing side clearance; usually caused by misalignment of the saw or a lack of sufficient water on both sides of the blade.

Remedy: Check saw alignment. Clean water system; making certain that water is properly applied to the leading edge of the blade flanges. Check to see if pump is supplying sufficient even water. (See Rapid Wear Section).

Cause: Blade is worn out-of-round due to bad bearings, worn arbor or excessive dulling condition.

Remedy: Replace bearings or worn arbor as required.

Excessive Wear

Cause: Using the wrong blade on highly abrasive material (Example: glazed tile blade on concrete block).

Remedy: Consult the dealer or manufacturer for the proper blade

specification for abrasive material.

Cause: Lack of sufficient coolant to the blade; often detected by excessive wear in the center of the segment. (Note: In both above cases, diamonds will usually be highly exposed).
Remedy: Clean up water system. Make certain water pump is functioning properly.
Cause: Wearing out-of-round accelerates wear. Usually can be caused by bad bearings, worn shaft or using a blade too hard for the materials being cut.
Remedy: Check bearings and arbor. If worn, replace with new parts before installing another blade.

Cause: Insufficient power caused by loose V-belts, inadequate voltage, or improper RPMs.
Remedy: Tighten belts (taut). Replace worn belts. Check voltage. Use proper extension cord.

Cracked Core

Cause: Blade is too hard for material being cut.
Remedy: Use correct blade with softer bond.

Cause: Excessive cutting pressure, jamming or twisting the blade in the cut can cause the blade core to bend or flex. When subjected to extreme stress and metal fatigue, the blade's steel core will eventually crack.

Remedy: The saw operator should use steady, even infeed pressure, and be careful not to twist or jam the blade in the cut.

Cause: Overheating through inadequate water supply or improper use of dry-cutting blades.

Remedy: Use adequate water to cool wet-cutting diamond blades (for example, 2 - 5 gallons per minute for concrete saws). Allow adequate airflow around dry-cutting diamond blades to prevent overheating.

NEVER USE A BLADE WITH A CRACKED CORE!

Eccentricity

Cause: The bond is too hard for the material being cut. The hard bond retains the diamonds, and they begin to round off, causing the blade to become dull. Instead of cutting, the blade begins to "pound", causing the blade to wear out-of-round.

Remedy: Change to a softer bond, which will wear away more readily allowing the dull diamonds to be released and sharp, new

cutting edges to become exposed.

Cause: The saw blade shaft may have a groove scored in it, caused by a blade spinning between the flanges. A new blade, installed on the arbor shaft, will seat into the groove, and immediately run eccentrically when the saw starts.

Remedy: Replace the worn shaft.

Cause: If the blade shaft bearings are worn, the shaft and mandrel will run eccentrically, causing the blade to wear out-of-round. This happens most often with concrete saws when proper lubrication of the bearings is neglected.

Remedy: Install new blade shaft bearings. In some cases it might also be necessary to replace the blade shaft if it is worn out of alignment.

Overheated Blade

Cause: Adequate coolant was not provided.

Remedy: Check water supply for adequate volume and for obstructions through water system. Use dry blades ONLY for shallow cutting (1 - 2" deep) or step cutting. Allow blade to run free every 10 to 15 seconds to increase cooling airflow.

Arbor Hole Out of Round

Cause: Saw arbor worn due to blade being improperly seated.

Remedy: Be certain the blade is properly seated on the arbor before tightening flange.

Cause: Blade flanges not properly tightened permitting blade to rotate on shaft.

Remedy: Always use hex nuts. Never use wing nuts.

Cause: Blade flanges or arbor shaft worn and not providing proper blade support.

Remedy: Check blade flanges or arbor shaft for wear. Both flanges should be no less than that recommended by the manufacturer. Replace worn parts.

Blade Doesn't cut

Cause: Blade is too hard for materials being cut (examples: block or general purpose blade being used for extended period on hard brick; asphalt blade being used to cut hard concrete).

Remedy: Consult dealer or manufacturer for proper blade to cut materials on the job.

Cause: Insufficient power to permit blade to cut properly (loose V-belts, low voltage, motor lacks horsepower).

Remedy: Check belts, voltage, and horsepower.

Cause: Blade has become dull because of continuous use on fairly hard or vitrified material.

Remedy: Dress with abrasive material until diamonds become exposed again (this may be necessary occasionally but if dullness occurs too often, the blade is probably too hard for the material).

Cause: Blade segments appear to still have plenty of life but blade won't cut.

Remedy: Some harder-bonded blades designed for abrasive materials require a non-diamond bearing section at the base of the diamond segment for better adherence to the steel core. A blade used to this stage has worn out in the normal manner and should be replaced.

Different grades of diamond tool & diamond blade are designed and manufactured according to different market demands, ChinShine sales&marketing department Ⅱ is in charge of the marketing & sales business towards Europe, America and other areas where high grade tools are needed .

Due to the specific focus on high-grade diamond tools, our department wouldn't accept low-grade products order and low-price OEM order. With the support of senior professors in local university, we have established a super hard material lab specializing in researches in diamond and all sorts of metal powder, keeping refining the diamond mixture to manufacture diamond segments. In addition, we are a member of the diamond saw blade association and the stone association where we have the opportunity to gain acquaintance with the newest and the best diamond tools technique and stone from all over the world. Based on this advantage, ChinShine is striving to become the best cost-effect manufacturer of stone cutting tools and diamond tools.

By forceful technical support and scientific research, we have been experimenting new cutting materials and new diamond formula to lower the cost on the premise of high quality. As a member of the China(Xiamen) stone association, we have many opportunities to use diamond blades, diamond segments and other diamond

grinding abrasive tools to test hundreds of stones from all over the world.

Various stones technical information provided by customers is also highly appreciated to help our researches.

Another advantage is that we are adept in producting special & complex tools including diamond saw blades and diamond segments which are applicable to concrete and stone industry. If you have special demands, Chinshine II is the best Choice.

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