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© Gary English [gary@cybersmith.co.za](mailto:gary@cybersmith.co.za)

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### *Bonsai Tool Maintenance*

Ok, so despite my advice, you decided not to buy your bonsai tools one at a time, and you went out and bought a whole bunch of really nice cutting tools. Then you got side-tracked by watching the rugby, you left them outside and a rain storm came along and soaked them. You only noticed this the next morning and now they have a covering of surface rust. Perhaps you got carried away by the lovely cutting action and after slicing and dicing every small branch in your collection of trees you used the same small branch cutter to hack through a large ficus stump. The edges are now considerably less sharp than they were. So now what?

Rusted, dirty or blunt tools actually have a very adverse affect on your bonsai work. Dirty blades can transfer all sorts of nasties like bugs, bacteria and diseases from one tree to another. Blunt or misaligned cutting edges require much more pressure to cut the same thickness branch and tend to crush plant cells instead of slicing through them. A crush will take a lot longer to heal, and the resulting scar is much more pronounced than a clean slice.

Here are some basic pointers to assist you in getting the most out of your tools. Before you use them make sure they are clean. Wipe your tools with an oily cloth frequently during use and give them a thorough cleaning after use with a final coating of light sewing machine oil like Three-in-One, WD40 or Q20. Some trees like figs have very tacky white sap that can be removed using strong household detergent on a cloth or even thinners. Make sure you wipe the tool down with oil afterwards. Don't neglect the pivot point. Drop some oil into the pivot and open and close the blades a few times to force the oil into the hard-to-get-to areas.

Light surface rust can normally be removed simply by wiping with an oilcloth, but if it is a bit stubborn one can rub it gently with fine emery paper. When working with flat cutting blades like scissors lie the emery paper on a flat surface and push the flat blade against the paper. Always be very careful to avoid stabbing oneself as the points and edges of tools are very sharp.

Tools use two basic methods to remove wood, cutting (scissors) or pinching (branch cutters). Sharpening these cutting edges must be carried out with caution. The flat inner surfaces of scissors must remain flat. Only the beveled outer surface of the blade must be sharpened. This is done by gently running a fine oilstone over the edge in a direction that is away from the metal. Match the angle of the stone with the angle of the bevel. Never work the blades backwards and forwards, only work in one direction. The oilstone should be lubricated using thin oil or spit. It may sound a bit gross, but human saliva has just the right consistency for this job. Normally just 3 or 4 strokes with the stone should be sufficient to sharpen each blade. Test each edge by placing the blade across your fingernail and gently draw the edge away from you almost in a shaving motion towards your fingertip. The sharp edge should bite and shave off a small amount of your fingernail. Do this with caution and NEVER push and pull in a carving knife motion. Never test on a fleshy part of your anatomy. Repeat the process with the second blade. Then as a final test fold over a piece of paper and cut the double thickness with the scissors. A sharp tool should cut the paper cleanly.

When sharpening pinching tools only work the outer edges of the blades by removing a very fine slither of metal with the oilstone. Don't mess with the inner, angled edges. The correct angle has been cut by the manufacturer and once this has been changed the tool will never work correctly. After excessive use, the blades of pinching tools tend to lose their alignment which will produce a crushing action. Test the alignment by holding the tool in front of a light and closing the blades. If you can see a thin line of light showing through then the blades are not lining up. Badly aligned tools are very difficult to correct, but if the misalignment is very slight the edges can be corrected simply by working the blade edge over emery paper placed on a flat hard surface. Remove as little metal as possible. Once the alignment has been corrected sharpen the new blade edges on the outer side of the blade.

Pinching tools have a small stud of metal on one handle called a stop that prevents the blades from closing too far. Once the alignment of the blades has been corrected you may find they do not close tightly enough. This can be adjusted by removing a SMALL amount of metal from the stop. Once again caution is the key word. If you remove too much metal from the stop the blades will close too far and as a result too much pressure between the blades will once again damage the cutting edges. Remember, biting tools should have blades that overlap slightly so don't mistake this as being an error and try and remove the overlap.

Here are some basic rules for correct tool use.

- Make sure your tools are sharp and clean BEFORE you use them.
- Avoid using your expensive tools for cutting roots. Use a cheaper tool for root work and use this tool ONLY for roots. Clean roots before you cut them making sure you remove any stones or pebbles that will make your tools blunt.
- Don't drop your tools on the floor. This can break the points off and damage your tools in any number of ways.
- Use the right tool for the job. Don't use small tools to cut large branches. To cut a large branch with a small tool will require you to use too much force which will not only damage the edges and affect the alignment, but will also put undue pressure on the pivot joint.
- Sometimes when cutting hard wood one blade of the tool can become jammed in the wood. Don't force the blade out, but rather gently rock the blade to loosen it.
- Break in new tools by using them for small jobs first. The Japanese suggest cutting 50 blades of grass before using the tool.