Basic Tree Pruning

Part 4: Tree Cutting Permits, Tools, Safety, and Pruning Cuts


A four part introduction to care for your trees

This booklet is brought to you by:

Scotty Tree & Arborist Limited
Serving Victoria & Saanich Peninsula, BC

Scott Mitchell
Phone: 250-665-PINE or cell: 250-220-9298
Email: scott@victoriatrees.com

Basic Tree Pruning

Part 4 Tree Cutting Permits, Tools, Safety, and Pruning Cuts

Tree pruning is the removal of part of a tree in order to:

- Maintain the plant's natural shape
- Increase and maintain the general plant health
- Improve the quality of flowers and fruit
- Maintain the quality of the trunk and branches
- Obtain a bushier plant
- Limit the growth of fast-growing plants
- Achieve practical reasons (too much shade, too close to a house, etc.)

Pruning is easy to do but done the wrong way can destroy a healthy tree and, spread disease. Pruning is more than cutting away parts of a tree. Some trees may have special pruning requirements so it is essential to identify the tree precisely.

Parts 1 to 4 should be read in that order as later topics assume you have read or have knowledge introduced in an earlier topic.

Enjoy learning about how to keep your trees healthy and looking good!

Do I Need A Tree Cutting Permit?

In general, there is no clear answer; some municipalities require a tree cutting permit to prune trees in your property while others do not.

A tree cutting permit may be required when the species of tree is protected, for example Garry Oak, Arbutus, Pacific Dogwood, and Pacific Yew may be protected in the City of Victoria if it exceeds a certain height or trunk diameter.

Generally a tree cutting permit will require that you:

- Can identify the species of tree you intend to prune.
- Know the number of trees to be pruned.
- Know the location of the tree within the property lines and how close it is to public roadway, sidewalks, power lines, buildings, etc.
- Know the size of branches or diameter of trunk intended to be cut.
- Once you have a list of the above items then read the tree cutting regulations for your area. See the Tree Bylaw link http://www.victoriatrees.com/tree-bylaws.html for municipal tree cutting bylaws served by Scotty Tree.

Tools for pruning

For tools you plan to use frequently, buy the best you can afford as these will keep a sharp cutting edge for a longer time. Don't buy tools you will seldom use as often you can find substitute tools that can do the job almost as easily, or consider renting an infrequently used tool.

Basic pruning tools include:

- **Gloves:** are more than just to keep your hands clean. Choose gloves that will give protection from sharp tools, rough bark and nasty insects living in the tree. Be sure the gloves are comfortable to wear because as soon as you remove gloves you lose the protection they provide. Gloves must also allow you to have the dexterity to do your work as you do not want to injure yourself by being clumsy with a sharp saw or pruner.
- **Eye Protection:** Safety glasses, can be purchased for a few dollars, better is a full face shield. Pruning exposes your eyes to branches, sawdust and more. This writer tripped over a vine falling face first into a thorn bush. A face shield would have save cutting his face but at least the safety glasses he wore protected his eyesight.

- **Hand pruner:** or secateur to prune small branches about the thickness of your thumb (about 2cm). Look for quality as it may not hold up well for long term use. Try to size it to your hand so there are not parts that will pinch your fingers while using it.

- **Long-handled pruner:** or lopper to cut branches up to 4 cm thick or hard to reach branches.
- **Long-arm pruner:** or pole pruner is a pruner on a pole. It is useful for pruning without having to climb a ladder. But a sharp object at the end of a long pole can be dangerous. Use one only if you have the strength and dexterity to move a sharp object at the end of a pole over your head safely.

- **Pruning saws:** come with fine teeth for a smooth cut or with course teeth for a faster but rougher cut. In a pinch a hand saw or keyhole saw may be used. Finer teeth make take longer to make a cut but require less cleaning of rough edges. This writer often uses a Japanese pull saw which is extremely

sharp and has replaceable blades. Generally a smaller blade is better so the rubbing of the top of the saw blade does not injure the tree while cutting.

- **Hand shears:** for trimming grass, twigs and other soft wood around the base of the tree so you can get access to the tree.

Optional tools

- **Rope saws** have teeth in a flexible sawing area with rope attached to both ends. One rope is thrown over a branch, the cutting area pulled into position and the ropes pulled back and forth to make the cut. It can be difficult to: throw the rope high and accurately enough; positioning the cutting edge exactly where you want it; and to pull the ropes to make the cut. But it does save you from having to climb a ladder or tree, unless the cutting blade gets stuck or tangled in the tree which does happen.
- **Buck saw** or **Bow saw,** both use the same fast cutting steel blade. The Buck saw traditionally has a wood frame and a bow saw has a curved metal frame to hold the blade tightly in place. Use these to cut a branch that is bigger than what a pruning saw or lopper can handle.
- **Chain saw**, but only if you are comfortable using one. If you have never used a chain saw before consider giving Scott Mitchell a call first as you just might be risking your life. The power of a chain saw cuts wood fast and can easily cut skin and bone. Along with normal safety protection gear, wear additional safety protection from a helmet with hearing protection on down to steel toed boots when using a chain saw.
- **Ladder**, but combine a ladder with sharp tools, branches, and uneven ground should make you question the value of your life. A pole pruner may be better choice. If you can't easily reach a branch to be pruned, give Scott Mitchell a call to do the work instead of risking injury or worse.

Pruning safety

Before pruning look at the tree and its surroundings:

- Check completely around the tree. One side may be healthy but the other side may be rotting. The pruning may be a bigger job than you planned.
- Is there a bird nest or animal in the tree? Do not disturb the bird nest, you may have to delay pruning for a while until the babies can fly. The tree may be home to ticks, spiders, and other insects that are hunting for food.
- Is the tree or branch near a hydro line? If there is any possibility that any part of the tree, not just the part you planned to prune could touch a hydro line then stop and get professional help! Do not risk your life.

Injuries can happen before, during and after pruning:

- Sharp tools and a trip on a rock can have bad consequences.
- Branches can break and fall; be heavier than expected; or spring back toward you after hitting the ground or another branch. Your footing may be uneven and throw you off balance. Always have an escape plan to protect you from injury? When pruning, expect the unexpected!
- Are you wearing your safety glasses, helmet, protective footwear and clothing? Do you want end up with a scar, missing an eye, or worse?
- You are making a cut and the branch twists and binds the blade. Your instinct may be to grab or pull causing your hand to be in the way of a shape blade. Accidents happen quickly.
- Where is your partner? Have a person nearby that you can depend on to save your life. Is your partner prepared and capable of calling 911 and to keep a cool head at the sight of blood or broken bones? If not then you better select a more qualified partner or consider doing something safer than pruning.
- Do not ask your partner to come close to your working area. If both of you get injured, who will come to help?

Yes, these examples emphasize extreme hazards that might be encountered. Accidents can happen when you are well prepared as well as when you are not prepared for an emergency. Given the choice, plan for the worst and be thankful that your safety planning was not required this time. But don't get careless or overconfident, the next time your safety plans may be required.

Basic pruning cuts

The correct way to prune will result in a cut where the tree forms a healthy scar. The wrong way leaves the tree injured allowing bacteria or fungus to enter the wound and cause rot to set in.

Before getting into the basic cutting technique have you:

- Identified the deciduous or confer species and know what pruning it needs?
- Know about meristems and buds so the tree will continue to grow?
- Obtained a tree cutting permit, if required by your municipality?
- Made a plan or schedule as to what pruning you will be doing this time or this season?
- Collected the tools you will need?
- Have a partner standing by and have done a safety spot check?

If you answered “NO” to any of these, then you are not prepared to make a cut into a tree. Prepare yourself properly before proceeding.

When cutting a branch off at the trunk:

- Cut the branch and not the trunk. Cutting into the bark or cambium exposes a tree to disease and insects; and hurts its ability to feed and heal itself.
- Don't leave a stub that can allow parasites to infest the tree.
- Look carefully to find where the branch meets the trunk. Usually there is a wrinkled area, called the **branch bark ridge**. The tree bark ridge has living cells that will heal the cut just like your body will form a scab over a cut. Your cut should not touch the branch bark ridge.

For branches about the thickness of your thumb or less, make this basic cut:

Before:  After: 

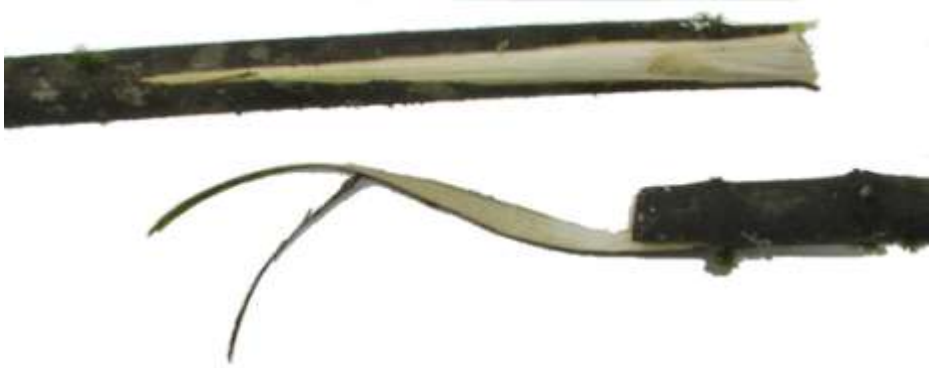
- Support the branch with one hand.
- With your other hand use your hand pruner.
- Position the pruner so the top part of the branch will be cut about 1 cm from a bud. Slightly angle the pruner so the bottom of the cut is about 1.5 to 2 cm below the side with the bud. This will leave meristems to heal the cut and provide a drip edge to channel away moisture.

- With the pruner make a clean cut by applying firm quick pressure so the cut is completed in one motion. This one pass should leave no jagged edges. If you misjudged your strength and/or the hardness of the wood, stop before completing the cut. Continue to support the branch, remove the pruner, and retrieve your pruning saw use it to finish making the cut.

For thicker branches requiring a pruning saw use the two/three cut method:
If the branch is quite large, start at the end of the branch and work your way toward the trunk. Repeat cuts 1 and 2 to remove small sections that can be safely handled. On the last cut, usually next to the trunk or a fork in a branch, complete by doing cuts 1, 2 and finishing with cut 3.

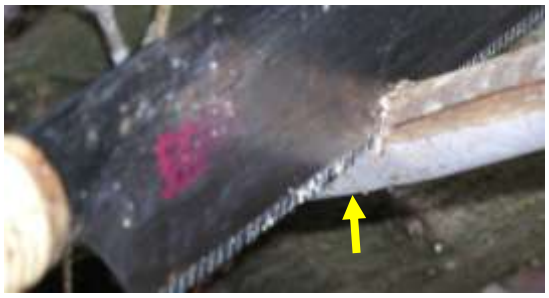
- **Cut 1 the "undercut":** This cut prevents the bark from tearing as the branch starts to fall away. Make a small cut on the underside of the branch. Make this cut approximately 1 to 4 cm closer to the trunk than where you will make cut 2. Make the last cut about 4 to 8 cm away from the branch bark ridge to leave a small stub to remove in cut 3.

For a smaller branch, saw about 0.5 cm deep around the bottom 1/8 of its bottom circumference. For a larger branch make this cut deeper for about 1/4 or 1/3 of the bottom circumference. The depth and circumference of the cut depends on the species of tree as some are more likely to rip away the bark than others. With experience you will be able to best determine where and how to make this first cut. If unsure, don't end up like this by



sawing deeper and farther around the bottom than necessary. Cutting the tree injures it; don't make it worse by a cut that rips away tree bark.

- **Cut 2 the "topside cut":** Cut the branch off about 1 to 4 cm toward the end of the branch, away from cut 1. As you cut support the end of the branch with your hand so it does not snap off while you cut. This also lets you have some control to push the branch away from yourself. Do not put your hand or arm supporting the branch near the saw blade.



The yellow arrow points to cut 1.

  - If there are more sections to be removed, repeat cuts 1 and 2 as many times as needed until you are at the last cut to be made.

Sometimes cut 2 does not rip, but other times cut 1 can save a tree from injury.

  - If the last cut was not the closest to the trunk, then check to be sure you have not cut away a bud. If you cut away the last bud on the branch then the branch may not grow.
  - If this is the last cut closest to the trunk you should be left with a short section or stub of branch left to remove. You have one more cut to do, cut 3, for a good reason; the branch bark ridge contains the greatest number of meristems that will form the protective scar tissue and you do not want to damage it.

- **Cut 3 the "clean cut":** Cut the short stub off that remains closest to the branch bark ridge after completing cut 2.
    - Make this last cut starting near the top of the **branch bark ridge** (but far enough away so you can saw without the blade rubbing the tree or cutting off the top of the branch bark ridge.
    - Cut the stub off at an angle that is equal but opposite to the angle formed by the branch bark ridge and the trunk, in other words the branch bark ridge and cut 3 form an upside down V shape (yellow lines).

        - Never cut into the trunk. Doing so removes the cells the tree would use to heal itself and for future growth. It also creates an indentation that can hold water, mould, insects, etc. that can encourage rot and disease.
        - If possible do not make your last cut too close. This way if the cut is very rough you can try again. Leaving a little extra protects the meristem. Check the tree in the upcoming months to see how it is healing and if it is not healing well then trim off a little more. Sometimes meristems are fussy and do not grow unless the conditions are just right and trimming a little more can trick the meristems into growing new scar tissue or possible getting a dormant bud to grow.

After cutting a branch:

- If the edge is clean all around it will heal evenly and healthy.
- If edges are rough, use a knife or saw to clean up any rough surfaces.

For a healthy cut area there is no need to paint over the wound, let the tree heal by itself. If you insist on using some solution on the wound, then only use a covering recommended by a tree nursery or arborist. Never use household paint, driveway tar or the like as they contain chemicals that are toxic to trees. Using such substance is like putting drain cleaner on a cut on your finger. Toxic

chemicals can be quick to make the tree sick, or be the reason why a tree declines years later as you caused it to have a long slow death.

For torn, wounded, slight rot or insect infected sections of tree trunks:
If small enough, use a chisel to even out the surface as much as possible. After chiselling, if the surface is rough try to smooth in out by sandpapering, or consult with a nursery for other remedies to reduce further damage or parasite infestations. If the damage is too great it may be necessary to have the tree removed.

Clean up after pruning:

- Clean up around the pruned trees. Leaving piles of sawdust, branches and leaves is an open invitation for insects, moulds, and other diseases to infect the tree.
- Pruning, especially conifers, means getting sticky sap on your hands. Wear disposable gloves to protect your hands from sap when using tools and while putting tools away. Use rubbing alcohol on tool blades to disinfect and to avoid transferring diseases from one plant to another. It will also remove any sap from the tool and your hands.
- Oil pruning tools to prevent rust; this makes them easier to handle and last longer.
- Sharpen cutting edges. This makes your work easier and less dangerous. A dull tool can make you work harder and increases your level of frustration. When frustrated you are not concentrating on your safety. A sharp cutting edge means less work for you and also means cuts to trees will have no jagged edges allowing the tree to heal itself quickly.

Happy Pruning!