Cautions and Tips

Basic operation is simple.

Watch out behind you!

* Always be prepared for the plant you are pulling to break loose suddenly when the roots pull free, a branch breaks off, or a bad jaw placement slips off. Brace yourself to avoid falling backwards, or be sure that if you do fall, it isn't over a bank or onto a sharp object.

Watch out around you!

* When working with or carrying a Weed Wrench, be careful of people nearby. It's safest to carry the larger sizes on your shoulder with the head behind you and the long lever arm in front where you can see its swing.

Watch out for your eyes!

* Always be cautious when pulling plants that have thorns or stiff branches at eye-level; wear eye protection if necessary.

Watch out for your fingers!

* The jaws have tremendous gripping force. Keep your fingers away of them, and away from areas where pinching or scissoring actions are occurring.

Now that we've scared you with all the ways you could hurt yourself operating a Weed Wrench, in practice everybody seems to know instinctively to avoid these things and nobody's getting hurt. In fact, Weed Wrench is safer than alternative methods like blades or chemicals.

Operating Tips:

Placing the jaws:

- * Open the jaw until the jaw-catch engages. You can do this by bumping the nose of the tool on the ground while pushing the handle forward. The jaws will stay open while you place them around the stem. Disengage the jaw-catch by putting your toe on top of the lifter arm behind the jaw and giving the handle a tug. If the jaw shows any tendency to slip upward instead of gripping the stem, keep pressure with your foot on the lifter arm until the jaw is solidly clamped on.
- * If the plant is one that spreads at ground level and has branches interfering with strong placement of the jaw, you can grab the interfering branches with the Weed Wrench and rip them off to gain access to the stronger stem. Or, you can use a pair of loppers or a pruning saw to get the offending parts out of the way. When working with a plant that has needles or thorns you may want to saw it off a few inches above ground before pulling the root; then you won't have the top stabbing you while you work the Weed Wrench $^{\text{TM}}$.

Extracting the Plant:

* Once the jaw is clamped on, give a short hard pull to determine whether it's going to be an easy or hard root to extract. If it starts to give way, just keep pulling. If it doesn't, don't try to pull it in one stroke. Instead, begin "pumping" the handle, rhythmically pulling hard, then relaxing the pull. This will fracture the soil a little more with each pump, the ground will begin to heave, and finally you will hear a muffled "pop" deep underground when the taproot releases. This technique is a great trick for defeating stubborn plants. In a tough case, dig around the plant with a series of pick or mattock strokes to break the surface soil and some of the lateral roots, then try pumping the Weed Wrench handle again. In practice, you rarely need to resort to this. The pumping technique is also useful for gently coaxing a root out of the soil when a weak stem might otherwise break before the root pulls free.

Tough roots and soft soil:

- * In rare situations a plant may be growing where the surface soil is soft but the roots are down into hard soil; this can cause the heel (fulcrum) of the Weed Wrench to dig into the soil instead of the plant lifting out. Landscapers using Weed Wrench to pull tree stakes have reported this problem, too. A scrap of plywood placed under the fulcrum solves it. Weed Wrench works well for pulling a tree stake: Just nibble it out in a series of small bites so you don't break the stake by bending it too much. You can pull steel fence posts this way, too, but be warned that this can damage the jaw facings on the Weed Wrench. Defeating sawed-off stubs:
- * Plants that have been cut off at ground level present a trickier, but not impossible, situation. The roots are now bigger and stronger than the top, and new stems rip off easily. Yet it takes a surprisingly small nub of the original stem to provide a good grip for pulling the root. Sometimes cutting the bushy re-sprouted branches out of the way helps, or digging a little soil away from the main stem to expose enough of it to grab. Scraping the jaw back and forth sideways on the ground past the stem stump is frequently all it takes to dig the jaw faces down far enough to grip the root.

Keep the Fulcrum Flat on the Ground:

* Always have the fulcrum flat on the ground before attempting a pull. On level ground this isn't an issue, but on hillsides you might be tempted to take a pull with only one end of the fulcrum touching while you place the jaw straight on a vertical stem. Better to have the fulcrum in full contact with the ground, even if it means gripping the stem at an angle-it will still pull just fine. Failure to heed this can bend the fulcrum at the lifter arm, or in some cases bend the lifter arm at the fulcrum. This damage can be repaired, but it's much easier to just avoid it. Weed Wrench has been used on all angles of terrain, even cliff faces. You can always find a way to pull effectively without harming the tool.

Know the tool's limits:

* Various factors can affect your success using the Weed Wrench: soil too hard, taproot lodged in bedrock, roots tangled with an adjacent plant's, or in the case of some tree species, what appears to be a sapling may be a root sucker growing from a large root of an adjacent mature tree. Savvy operators will know when to stop before they bend the tool. Don't put a cheater pipe on the grip handle for more leverage, it

will only bend the handle. Don't put two people on it. It is designed to work with the strength of one person, not a team.

Maintenance:

- * The jaw facings will collect dirt and bark until eventually their gripping ability is reduced. A Weed Wrench still works with the teeth clogged, it just works better with them clean. Pick the teeth clean with an ice pick, screwdriver, or similar sharp tool. This is more safely and easily done in a shop with a vise to hold the tool than in the field. Soaking the jaw faces in water for ten minutes before you start cleaning is a big help.
- * A little oil on the moving parts, especially during the break-in period or in wet climates, will help your Weed Wrench operate smoothly.
- * If the jaw-catch mechanism freezes up after use in rain or mud, remove the Allen screw, spring and steel ball to clean and lubricate them. When you re-assemble, adjust the Allen screw pressure so that the jaw stays open against gravity when you lift the tool off the ground, and the jaw closes easily when you want it to.