

PLAY STRUCTURE & TREEHOUSE SAFETY/MAINTENANCE INSTRUCTIONS

SAFETY FIRST!



Dear Clients:

I have been building my play structures for over 20 years. As many of you know, I often come back and visit to add new features and to perform maintenance. I have been keeping an eye on what works & what doesn't. With simple maintenance, redwood is the perfect material for play structures. Redwood is strong, resists decay, always repairable and easy to maintain. As well as gorgeous!

EACH YEAR, simple maintenance of your play structure is recommended. Regular maintenance will extend the life of your play structure and reveal any potential safety problems (such as loose bolts or sharp edges) which makes playing on it a lot more fun for the kids.

Keep on playing!
Barbara

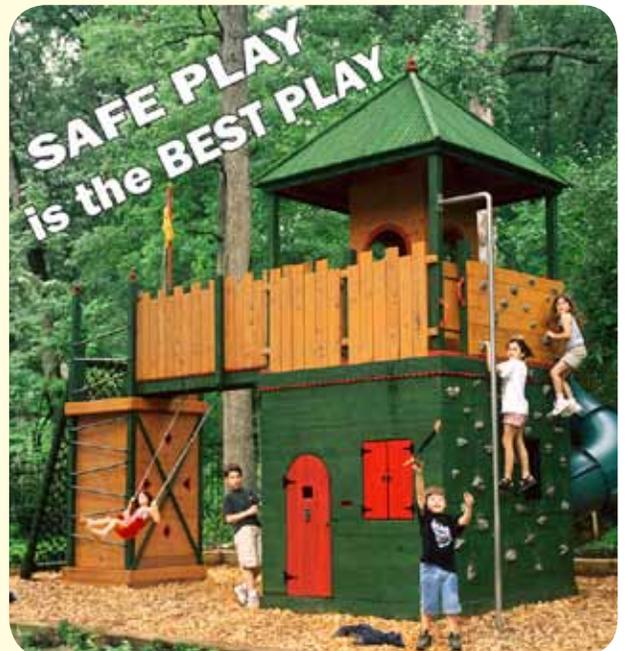
HERE'S WHAT'S INVOLVED:

- Step 1:** Safety check: find & fix any potential safety problems (most important!)
- Step 2:** Cleaning: scrub structure with water & a mild, non-toxic, biodegradable soap
- Step 3:** Re-stain: apply a new coat of color stain where needed (Optional)
- Step 4:** Tung oil: apply a final coat of BBAB clear Tung oil solution. (Protects the redwood & the color!)

OPTIONS FOR GETTING THE WORK DONE:

1. Do-it-your-selfer? With these instructions and a few supplies, you can do the work!
2. Hire a local handyman or contractor. We are happy to talk to them & provide advice.
3. Hire our skilled team. We are fast, efficient and very experienced.

Email information@barbarabutler.com and include your name & address, digital images of at least all 4 sides of the structure and whether you want an "at a minimum" or "with re-stain" quote.



PLAY STRUCTURE SAFETY CHECK

At least once a year you should inspect the structure for wear and tear and tighten all nuts & bolts. If you see any trouble spots, please call us right away and we'll arrange to have the problem repaired.

SAFETY CHECKLIST

- Inspect all connections for wear, decay or rust.
- Tighten all bolts. Most bolts require a 9/16" wrench and a 9/16" socket to tighten.
- Tighten any screws that are protruding above the surface of the board. This will require the use of a #2 Phillips head screwdriver.
- Check for damaged wood that may cause splinters. Sand smooth or replace the board.
- Inspect all swing parts for damage: the swing hanger, swing chain, swing seat.
- Tighten rock holds with a 5/16" Allen wrench.
- Inspect any rope on the structure to make sure it has not come untied, worn or cut.
- Make sure that no unsafe or unauthorized equipment (loose ropes, climbing poles, sticks) has been added to the play structure, reducing its safety.

RESILIENT SURFACING MATERIAL (BARK CHIP, ETC...)

The single most important safety feature for a play area is the Resilient Surfacing Material. This can be bark chip, sand, pea gravel, rubber matting or rubber chips. The purpose of these materials is to absorb the shock from accidental falls. The proper amount of shock absorbing material will help prevent serious injuries if kids accidentally fall! Grass is not recommended as it is not resilient enough. Concrete or any other hard surface is especially dangerous beneath a play structure. See the chart below from the Consumer Product Safety Commission to determine how much shock absorbing material you need. **Each year, you should assess the depth and quality of your resilient surfacing material to make sure your kids are protected!**

The Consumer Product Safety Commission "Handbook for Public Playground Safety" lists the following materials and required depths that are sufficient. **Critical Height** = the fall height below which a life-threatening head injury would not be expected to occur.

TABLE 1 – CRITICAL HEIGHTS (in feet) OF TESTED MATERIALS

MATERIAL	UNCOMPRESSED DEPTH			COMPRESSED DEPTH
	6 inch	9 inch	12 inch	9 inch
Wood Chips (or Wood Mulch)	7	10	11	10
Double Shredded Bark Mulch	6	10	11	7
Engineered (or Uniform) Wood Fibers	6	7	>12	6
Fine Sand	5	5	9	5
Coarse Sand	5	5	6	4
Fine Gravel	6	7	10	6
Medium Gravel	5	5	6	5
Shredded Tires*	10-12	N/A	N/A	N/A

* It is recommended that persons seeking to install shredded tires as a protective surface request test data from the supplier showing the critical height of the material when it was tested in accordance with the ASTM F1292.

These depths were derived from the CPSC handbook. Barbara Builder Artist-Builder Inc. has not done independent tests to determine these required depths.

USE ZONE: It is recommended that the protective surfacing extend a **minimum** of 6 ft. in all directions from the perimeter of the equipment or from the outermost edges of any component. For example, an open slide extending beyond the platform should have protective surfacing at least 6 ft. out from both sides as well as the end. For swings, it is recommended that the protective surface extend at least 14 ft. out from both the front and back of the swing when the swing is in its rest position.

TREEHOUSE SAFETY CHECK

If you have a Treehouse, there are additional special requirements for maintenance. It is critical that the tree stays in excellent health! Besides following the play structure maintenance instructions for the preservation of your structure, below are the maintenance guidelines for treehouses.

SAFETY CHECKLIST

- Schedule an arborist to inspect the tree each year to check the overall health of the tree.
- Have the tree trimmed and have dead branches removed to reduce the likelihood of a branch falling on the kids while playing or the structure.
- Make sure the tree's root crown (at the base of the tree) does not accidentally get covered in bark chip as this could threaten the health of the tree.
- Remind the children to not pick at or peel away the tree bark, as this could compromise the health of the tree. Clear the fallen leaves & tree debris from the deck with a leaf blower. This keeps the play surface safe and will discourage any decay from starting.
- Inspect where limbs pass through the structure to see if any rubbing, abrasion or girdling is occurring. For fast growing trees, the decking and/or siding may need to get cut back to allow the tree to continue to grow freely without getting girdled by the structure. If you are unsure but have some questions or concerns, please don't hesitate to call and talk to Barbara.



ZIP LINE SAFETY CHECK

If you have a Zip Line, please inspect it once a month during heavy use periods for signs of wear, defects, or tampering. The Zip Line is designed to safely carry a single rider up to 300 pounds, is made of high-quality, heavy-duty parts and should need little maintenance for several years. However, because safety is always of paramount importance, it is highly recommended that the zip line be inspected frequently. If you are unsure but have some questions or concerns, please don't hesitate to call and talk to Barbara.



ROPE AND BUOY/OR DISC SEAT

The rope tied to the buoy or disc seat is the part that is most likely to need replacement. If the rope looks worn at any point, it should be replaced with high quality 3/4" rope. We prefer 3/4" three-strand twisted nylon because it is both strong and soft on the hands. The buoy or disc seat should also be inspected. If the buoy needs more air, it is easily done with an air compressor and a blower attachment. No needle is necessary; just unscrew the plug and blow air into the hole to inflate. The disc seat should be inspected for any cracks in the plastic.



TROLLEY AND CARABINER

Inspect the wheels of the trolley. If either show signs of wear, it may slow down the zip line and may need to be replaced. The carabiner should also be inspected for any problems.

CABLE

The cable should be inspected for any worn spots, especially at any place where the cable may have been kinked or bent. Examine the loop at each end for any signs of fraying.



TREE ATTACHMENT

The chain is attached to the tree with 2 long, heavy-duty lag bolts. Examine these connections for any defects or signs of wear.

ANCHOR SHACKLES AND TURNBUCKLES

Check that each anchor shackle is closed with both a nut and a cotter pin. Examine for any defects or signs of wear. Check that the turnbuckle bolts are closed with a cotter pin (no nut is used here). Inspect for wear or defects.

If there appear to be any possible problems with any of the zip line parts, please do not let anyone ride it until the question is resolved. Where personal safety is involved, it is far better to be safe than sorry! Contact us for advice and information about replacing parts.



TREES

Obviously, the trees to which the zip line is attached must remain healthy and strong. A qualified person must monitor their general health. Also, inspect all the trees in the area for dead or loose branches which may fall on people or the zip line, especially after storms.

CLEANING & TUNG-OILING INSTRUCTIONS

RECOMMENDED TOOLS:

- A soft scrub brush
- Mild soap for cleaning the structure (we use biodegradable Simple Green); or for tougher dirt or mildew, OxiClean.
- Large yellow sponges (such as a grout or car wash sponge) for applying the clear tung oil.
- BBAB clear Tung oil solution

1) SAFETY CHECK (AT LEAST ONCE A YEAR)

If you have not already done so (see page 2), inspect the structure for wear & tear and tighten all nuts & bolts. Be sure to remove any ropes or jump ropes that the kids may have tied to the structure. Loose-hanging ropes can be very dangerous, causing more deaths by accidental strangulation than any other play hazard. If you see any trouble spots, please call us right away and we'll arrange to have the problem repaired. See **Safety Checklist** on page 2 of this brochure. If you have a Tree House and/or Zip Line Ride, see pages 3 & 4.

2) RESILIENT SURFACING MATERIAL (BARK CHIP, ETC...)

The single most important safety feature for a play area is the Resilient Surfacing Material. This can be bark chip, sand, pea gravel, rubber matting or rubber chips. The purpose of these materials is to absorb the shock from accidental falls. The proper amount of shock absorbing material will help prevent serious injuries if kids accidentally fall! Grass is not recommended and concrete or any other hard surface is very dangerous beneath a play structure. See Page 2 for the **Table 1 – Critical Heights** chart from the Consumer Product Safety Commission to determine how much shock absorbing material you need. **Every spring** you should assess the depth and quality of your resilient surfacing material to make sure your kids are protected. If chip, gravel or sand, then replenish and rake evenly to meet or exceed the recommended depth.

3) REMOVE DEBRIS

First remove all dirt, debris and spider webs from the play structure using a broom, blower or vacuum. We also use a paint scraper to get the debris out of the cracks between the decking boards. Remove trims as needed to clean out any accumulation of debris between boards - this can cause rot over time.

4) SANDING (OPTIONAL)

RECOMMENDED TOOLS:

- 80-grit sandpaper to use by hand.
- Random Orbit sander with 80-grit discs to sand any areas where the wood grain has raised.
- Optional: 4" disc grinder with 80-grit discs for surfacing any new lumber that is introduced.

Inspect the wood for any trouble spots: has the wood been damaged anywhere? Is there any rot? Are there any boards where the sun has caused the grain to raise and splinter? Now is the time to sand, either by hand or for larger areas with a random orbit sander. We recommend using 80-grit sandpaper. Sand sparingly & be sure to sand with the grain.

If you have to replace a board, to get the same "look" of our lumber, you will need to use Construction Heart Redwood and must grind the surface of the board with a 4" disc grinder with an 80-grit sanding disc. We use the grinder to round all sharp corners; plus it helps the wood absorb more stain. If you don't do this for a repair or fresh cut, the stain will not look as saturated and your fix will be noticeable.

5) CLEANING

Next, clean the structure with mild soap and water and a soft scrub brush, like they use for cleaning cars. You would be amazed at how much better the structure will look once the dirt and pollution are washed off! For tough dirt or mildew, try using diluted OxiClean but be sure to test on a small piece first. You can use a powerwasher but it has to be on a LOW setting or you could permanently damage the redwood; we also recommend doing a test on a small portion of your structure first.

6) RE-STAINING THE STRUCTURE (OPTIONAL -SKIP THIS STEP IF RE-STAINING NOT NEEDED)

RECOMMENDED TOOLS:

- 1" and 2" Foam brushes (preferably "Jen-Poly" Brand) and Artist Brushes for detailing.
- Good Quality Paper Towels (Bounty or blue shop towels).
- Latex gloves & paper cups.
- Orange pumice soap (for cleaning stain off of your hands if you don't like gloves).
- Large yellow sponges (such as a grout or car wash sponge) for applying the clear tung oil.

We often remove trims for re-staining if there's a color shift and if it would make your job easier. It can be opening a can of worms as well: just be sure to mark both the back of the trim "A", "B", as well as the place you unscrewed it from "A", "B". Plan to line up the existing screw holes to make sure you get the trim back on in the right spot.

Shake the bottle of stain thoroughly until all the pigment is mixed. You will need to shake or stir the stain frequently. Pour a small amount into a paper cup. Dip just the tip of the foam brush into the cup. Never let your brush sit in the stain or things will get too messy! Stains can be very hard to control, so keep an eye out for accidental splatters.

Apply the stain generously to the surface, brushing with the grain of the wood. Let it absorb into the wood for a few minutes, then rub off any excess stain with a paper towel. The "when" to rub is an art: rub too soon and you wipe off all the color; rub too late and the excess will dry on the surface and you'll see brush marks. When there is no longer a "liquid glare" on the surface of the wood, it's time to rub off the excess stain.

Sometimes it will take two coats if you are fixing a ding or a bare spot in the middle of a large area. Sand with the grain to blur the edges a bit, apply the first coat, then let the color dry for a day before applying a second coat on just the former bare spot. After a day, come back and hit that spot with the clear tung oil.

7) TUNG OIL

After all the staining is done, we give the entire structure a final coat of clear tung oil. This protects the colors from fading due to the UV rays. The tung oil also acts as a moisturizer for the wood to protect it from weathering.

Use a large soft sponge (available at any hardware store) to apply the tung oil. Pour some tung oil onto the sponge but don't do so much that it's running & dripping. It's best not to work in direct sunlight: you want the tung oil to be absorbed by the wood, not dry like a film on top of the surface of the wood. After you do a large area (one wall, for example), go back and mop up any excess liquid or drips with a dry sponge (if it's really hot out, start checking sooner).

Do not leave any tung oil on the metal parts: if you get it on the metal, remove it immediately with solvent or it will dry to a crusty film that is impossible to get off. Do not to apply the tung oil when it's below 50 degrees. Let dry 24 hours after applying the tung oil before resuming play.

8) CLEAN-UP

Clean hands with soap and water, a waterless cleaner or baby oil. Orange pumice soap works especially well. Put the used towels in a plastic bag and soak them with water before throwing into your regular trash can.

9) STORAGE

If you keep the lids closed on excess stains & clear tung oil (to keep the oxygen out) and keep the bottles out of direct sunlight, these products should keep for up to a year. As long as you can shake up the stains, they are still good (however, be sure to also stir thoroughly with a stick before using). When they go bad, the tung oil in the stains turns to a gelatin and won't re-mix. If that happens, call us to order new stain.

We keep each structure's color recipe on file.

