

# BONES® BEARINGS

## CARE AND MAINTENANCE INSTRUCTIONS

**Bones Bearings®:** Congratulations! You have just purchased a set of Bones bearings, known world wide as the best brand of skate bearings available. All Bones bearings are designed with **Skate Rated™** components to our precision "skate tolerances" to give you the absolute maximum speed and life possible in real skate conditions, not "ABEC" rated like bearings designed to operate in motors or normal machinery. The superb quality of Bones chromium bearing steel races with their mirror like "super finish," removable, non-contact rubber shields, high speed, precision molded ball retainers, and Bones Speed Cream RF lubricant provide unequalled roll and ease of maintenance. So, carefully install them in your wheels, and you're ready to roll.

**Keep them clean:** Your new Bones bearings are the most accurately manufactured part of your skate, with clearances and tolerances smaller than 1/1000<sup>th</sup> of an inch. That means that a single hair is thicker than the clearance between the balls and the races inside the bearing, and a hair will clog it up and slow you down. Because you skate outside through dust, sand, water, mud, etc, your bearings will eventually get dirty and/or wet. When they are dirty, you will notice they don't spin freely when you flick the wheel and you may also notice they are getting noisy. At this point you have two options: clean your bearings or replace them.

**WARNING!** Don't continue to use bearings that don't spin freely on your skate. If you continue to ride very dirty or un-lubricated bearings, you run the risk of permanently damaging them and/or yourself. Dirt in your bearings will cause pitting of your balls and races, increase friction, cause extra heat, and can eventually cause the bearing to "freeze up" or stop rolling. If this happens to your bearings, the skate will stop abruptly, causing you to fall and be injured. So keep them clean, dry and lubricated with Speed Cream.

**Maintenance Instructions:** Keep your bearings dirt-free, moisture free, and lubricated. Water will rust your bearings and dirt will destroy the smoothness of the super finish on your bearing races, increasing friction.

Clean your bearings when they become dirty or noisy with the most environmentally friendly cleaner you can find that is suitable for dissolving oil, grease, and removing dirt from the steel, plastic and rubber surfaces. We have tried many cleaners and solvents and many of them can be used safely. Citrus based cleaners can work, but they tend to leave behind a slight residue. Solvents are dangerous to use, but often provide a superior solution to cleaning very dirty bearings. If you use a water based cleaner like a citrus cleaner or a detergent, be sure to dry your bearings IMMEDIATELY and then recoat them with lubricant to prevent rust. Some solvents/commercial products that we have used are: pure, or almost pure, isopropyl alcohol (The kind normally found in markets is only 10% pure and does not cut grease well.); Gumout® carburetor cleaner (found in auto parts stores); acetone (found in hardware stores). If you can't find acetone or pure alcohol, you can use paint thinner or lacquer thinner, but these cleaners may leave an oily residue on the inner surfaces of your bearings. If you use a solvent cleaner, please wear appropriate rubber gloves and work in a safe well ventilated area. When you are finished, please remember to dispose of your solvent in a safe, ecologically sound manner.

**Do not add oil to dirty bearings.** It will not clean the bearing, but merely flush the existing dirt further into the bearing. It may seem like they roll faster initially, but in reality you are only spreading the dirt around, and it will still be there to ruin the high precision rolling surfaces of your bearings. **Clean your bearings before re-lubricating them.**

**Cleaning Instructions:** Gently remove the non-contact rubber shield with a push pin or the edge of a small knife by prying the shield upwards from under the shield at the inner race. It should pop up and out quite easily, so handle them gently and don't bend them or cut the seal. If you have the labyrinth shield bearings, make sure to remove both shields. **Be careful not to bend or tear the shield as you remove them.** Bent shields don't fit right and may allow contaminants into the bearing. Don't use solvents to clean the rubber shields! Doing so may cause the rubber to blister or swell. Just wipe the rubber shields down with warm soapy water and a lint free cloth. Make sure the shields are completely clean and dry before re-installing.

**(Optional Cage Removal).** You can clean your bearings more thoroughly by removing the ball retainer or "cage." We only recommend this if you are using the Bones Bearing Cleaning Unit or are an experienced bearing cleaner. When you remove the cage, the balls can all shift over to one side and in some cases, may fall completely out of the rings. The Bones Bearing Cleaner isolates each bearing with spacers, so there is less of a chance the balls may all come together on one side of the bearing and then fall out of the races. This is, however, somewhat common during bearing cleaning, and doesn't mean the bearing is broken, merely 100% disassembled! If your balls fall out of the races, go to [www.bonesbearings.com](http://www.bonesbearings.com) and then to the maintenance section. Towards the end, it explains how to reassemble a bearing from scratch. It is easy, and is how the bearings were assembled in the first place, so don't panic. To remove the ball retainer, take a straightened paper clip or similar object and place it in the spaces **between** the ball seats, then push the ball retainer out. Pushing

alternatively in several different spots is often helpful. We recommend **ONLY pushing** the retainers out. If you pry them out, you will damage the ball cavities, ruining the surface of that cavity. This will, at a minimum, create more vibration and a slower bearing, and at worst, cause the entire bearing to fail.

**Clean your bearings** and your ball retainers (if you have chosen to remove them) by soaking them in your cleaning solution in a polyethylene, polypropylene, or metal jar. (We don't recommend glass, because it is easy to break, but be aware that some plastics may melt in some solvents, so be sure to use one you know is safe.) **Wear suitable rubber gloves and eye protection.** Gently agitate the jar making the solution flush through the bearing. Keep replacing the dirty solution with clean solution until the solution no longer changes color and you are satisfied with the smoothness of the bearing's roll. If you have the Bones Bearing Cleaning Unit, please revert to the instruction methods provided in the bottle.

**Dry your bearings:** Remove the bearings and the ball retainers from the cleaning solution and dry immediately. We recommend a can of compressed air to make sure all the dirt, grease, solvents, cleaners, etc. have left the inner workings of the bearing and no water is left. Do so carefully, so as to not get the cleaning agents in your eyes or anywhere but onto a cloth on your work area.

**Reinstall your cages.** If you have removed the ball retainers, use the paper clip to spread the balls out evenly and then insert the ball retainer so that each ball is over a ball seat. Then, gently snap the ball retainers back into place. Once you have all the retainers installed back into your bearings, check each bearing to be sure it spins freely. If not, repeat your cleaning cycle or replace the bearing.

**Lubricate your bearings.** We recommend 2 drops of Bones Speed Cream per bearing for bearings with steel balls. For Bones Swiss Ceramic bearings, only one drop per bearing is needed. Do not be tempted to use your bearings without any lubricant because they "spin faster without lubricant." Although this is partly true in a superficial way, riding your bearings without lubricant will cause them to fail quickly and may cause them to "freeze up," which is NOT something you want to happen to you when you are skating!

**Reinstall your clean rubber shields.** Place each one flat on the "open side" of a clean bearing where the balls are visible. Be sure the Bones name on the shield is facing outwards, then press the rubber shields gently into place using your thumb and a rolling action. Inspect the ring around the inner race making sure there are no dimples in the rubber shield. If there are, run your thumb around it to flatten it out. If you have Bones labyrinth shield bearings, the shields are identical so follow this procedure for both sides of the bearing. Spin each bearing for a couple of revolutions in your fingers to distribute the lubrication throughout the inner workings of the bearing. Leave a slight coat from your fingers on the outer sides of the bearing to prevent rusting.

**Reinstall your bearings.** When installing bearings into your wheels, be careful not to use a tool that will put direct pressure on the shield or the inner race only. Denting the shield will only cause friction and slow your bearing down. A proper bearing press or tool will only press on the outer ring of your bearing during insertion. Use a bearing press or your truck/axle to press the bearings back into your wheels. Be sure to check that your bearings are aligned properly so that your wheels spin freely, quietly, and smoothly. If they don't, you will have to back track to seat the bearings parallel and fully into the wheel. If they still don't spin smoothly and quietly, you will have to troubleshoot the cleaning process to find out which bearing component is incorrectly installed or worn out, and then replace that component or bearings as need be, **before** using the bearing in your wheel.

**Re: Competition Use:** High precision bearings like Bones® roll their best after about an hour of use in a clean environment (this initial use is called a "break in period"). If you want your bearings at their peak prior to a competition or a race, we highly recommend you break in your bearings, then clean and re-lubricate them and store in a moisture free container until you are ready to use them. When storing your bearings, be sure there is a light coat on the outer races with our Bones Speed Cream RF, or a light oil to prevent them from rusting.

**A note:** We have attempted to foresee any possible problem you may have during your cleaning process, and so these instructions may seem complex at first reading. The bearing cleaning process is logical and simple though, and you should have no problem doing this if you can understand our sequential steps. If you have a problem these instructions don't deal with, and need to contact us, please do so through our web site, listed below.

If you have any other questions regarding your bearings, please don't hesitate to call or e-mail us at [support@bonesbearings.com](mailto:support@bonesbearings.com).

Skate hard and enjoy your new Bones Bearings.