



# METOLIUS



## Inspecting your cams

Metolius cams undergo an exhaustive series of inspections before they make it on to your rack. We begin by testing the raw materials. Next, during the manufacturing process, we perform numerous inspections to verify the integrity of each component and every connection between components. Finally, our dedicated inspection department conducts a thorough inspection of each and every finished unit.

No matter how thorough our process is, it is always a good idea for you to personally inspect the gear on your rack. Here are some things you can look for to insure the safety and quality of your cams:

1. The cam lobes should be symmetrical. Each outer cam lobe and each inner cam lobe should look like a mirror image of the other.
2. The welds should appear smooth and continuous.
3. The silver brazing should form a complete and even bead around the cable.
4. The cable body should be free of kinks or broken strands.
5. The trigger wires should be even and free of kinks or broken strands.
6. The plastic tubing should be the correct color for the size and free of cuts, tears or defects.
7. The sling should be the correct color for the size and have 7 bar-tacks: 6 structural tacks and 1 tack to hold the tail of the double wrap in place.
8. Upon pulling the trigger, all the cam lobes should retract and expand smoothly and evenly.

## Care and Maintenance of Your Cams

The first and most important step in cam maintenance is inspection. **Inspect your cams frequently.** If you have any reason to doubt the integrity of a camming unit, (or any of your gear) heed your instincts and retire it. If it is a Metolius product, you can send it to us for inspection. You should destroy retired gear to prevent any chance of future use.

**Look at the teeth** on your cams. If they are worn unevenly or have been flattened in a hard fall, it probably means that the cam has lost its shape and is unsafe to use.

**Check for slop** between the cams and the axle. There should be some free-play, but too much play indicates that the axle holes in the cams have become oval. Compare the free-play to a new cam of the same size to get an idea of how much is acceptable.

**Inspect the cable body** carefully. It is okay to tweak the cable to straighten it after a fall, but if any of the wire strands that make up the cable have been broken or severely kinked, the unit needs to be retired.

**Look at the springs and cam stops**, which can break if the unit is improperly placed and then loaded. Also take a look at the axle. It's possible to bend the axle of a small unit in a hard fall, in which case it needs to be retired.

**The most likely places to find damage to your units are the trigger wires or the sling.** Straighten the trigger wires if they become bent. Try to get the wires completely straight so all the cam lobes retract at the same rate. The cam lobes should line up evenly when fully retracted or fully open. Keep an eye on the swaged joint on the trigger wire. It is the most likely place for the wire to fray. If the sling or the stitching show major signs of abrasion, or if any of the stitching is broken, the sling must be replaced. Metolius will replace slings or trigger wires on our cams for a nominal fee. We don't offer repair kits for the triggers because we like to get damaged or worn cams back in-house for a thorough inspection.

**Care of your cams** is a simple process. Keep them clean and dry. If they get wet, don't just throw them in the closet until the next trip. Dry them off and re-lube them as soon as possible. If they get corroded, you can use steel wool or a Scotch Brite pad to remove the corrosion. Keep your cams away from any corrosive substances or solvents. Acids are exceptionally bad for cam slings and other nylon climbing equipment. Even fumes from a car battery can reduce the strength of your slings by as much as 90%. If your cams come into contact with any corrosive substances or solvents, have the slings replaced immediately. If you have any doubt, contact us to see if the corrosive substance could have compromised the metal parts of the unit. Replace the slings if you see any signs of damage or discoloration, after a severe fall, or after five years. Even though your cam slings may show no significant signs of wear, the nylon will deteriorate with the passage of time. If in doubt, send them to us for inspection. Store your cams in a cool, dry place away from U.V. light sources.

**To clean your cams**, make a solution of one part Metolius EcoTech Cam Cleaner to 10 parts water. Swish the heads in this solution while working the trigger bar, making sure to keep the slings out of the cleaner. Use a stiff bristled brush to clean thoroughly all around the head, especially in the springs and inside the cam lobes. The Metolius M-16 brush is perfect for this task. (It was originally designed to clean the intricate parts of an M-16 rifle!) Depending upon how dirty your cams are and what lubricants you have used in the past, you might need to use a stronger solution, even full strength. Often, well-used cams will require several cleanings to work all the dirt and old lube out from the axle. Using compressed air to blow the cams out while the EcoTech is still wet can help. Rinse the unit thoroughly with hot water and then dry thoroughly. No amount of lube will restore good action to a dirty cam, so make sure your cams are cleaned thoroughly.

**Metolius EcoTech Cam Cleaner** represents a new generation of bio-cleaning technology. It is an environmentally responsible product that doesn't compromise on performance. EcoTech concentrate contains only 100% active ingredients. A small amount will create a very strong solution. EcoTech is fully biodegradable.

Now you're ready to **lube your cams and restore like-new action.** Shake Metolius Cam Lube vigorously, at room temperature, to mix all solids. (Use body heat to warm MCL if used in colder outdoor climates.) Apply MCL to the cam pivots and springs and work it in until the smooth action is fully restored. Wipe off excess lube with a rag then let MCL fully dry (several minutes to an hour). For optimum penetration, apply MCL to cams at or above 40°F (5°C). MCL can be applied to wet parts, but it will take longer to dry before becoming a waterproof, dirt-repelling shield.

**Metolius Cam Lube** is a patented, self-cleaning lubricant. When dirt attaches itself to the fully dried film, small particles of the lube will break away, carrying dirt with it. MCL keeps parts working smoothly and helps them last longer. MCL is waterproof after it has dried completely.