Leeper Hanger Warning - Removal Urged

The past is with us in the form of 95,000 bolt hangers made between 1962 and 1984. They were sound when they left my shop and for years after that. No simple test could have detected that hundreds, at least, contained the seeds of eventual failure by their susceptibility to a slow "stress-corrosion cracking" when placed on the rock and exposed to weather, *with or without falls being held.* [ASCA note: see article on the Devil and the Deep Blue Sea about how seaside environments can cause stress corrosion cracking in even the finest stainless steel]

Alloy steel can be badly weakened before such a crack is visible. Hangers that looked good have fallen apart in a climber's hand when clipped into. It is no comfort that at least one other maker of high-temper hangers and another of compression-type bolts have had similar cracking problems. Climbers often trust any bolt in place to hold at least body weight, without using a backup. This is a dangerous situation. [ASCA note: many other hangers of the 1960s through 1980s, manufactured by SMC, DMM, Dolt, Longware, and others, are similar to Leeper hangers and prone to catastrophic failure].

Alloy steel hangers, plated or not, that are held tight against the rock are less safe if the bolt has been tightened until the hanger is visibly "dished." Any such hanger should be replaced immediately. The bolt can be removed by driving a crowbar or heavy claw hammer under the hanger. So far, the oldest Leeper hangers, with thinner metal and the smaller carabiner hole (9/16"), seem to be the least safe. But all Leeper hangers were made in a similar way. At this time, *all should be removed.* The rate of failure (low-force breakage) of hangers returned for testing has approached one in a hundred. An unacceptable risk for most of us. I have also received some look-alikes for my hangers (with *slightly* less-rounded edges) that had even worse odds (far worse).

The reasons this is happening are not clear. But use of a high-temper alloy steel to achieve a high test strength with a lightweight hanger creates the possibility. Rock climbing's quest for very high test figures may sometimes be why we don't even get 500 lbs. Our love affair with lock-off belay methods requires high strengths, but unfortunately high test strength in lightweight gear does not always equate with high reliability.

Instead, using a softer, *lower*-temper alloy can help, with strength given by using beefier metal where needed. Plating won't necessarily help, and can cause it's own cracking problems if not done carefully (certain plated hangers have, with less time on the rock, matched the low-force failure rates of my unplated hangers). But stainless steel usually will help.

Some of this could have been avoided if any gear failure had been immediately reported to the manufacturer.

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[ASCA note: Ed Leeper recalled all his hangers several years ago, and while the hangers have been recalled, Leeper still makes alloy steel hardware, including the absolutely essential Leeper Cam Hooks, as well as Logan Hooks, Z-nailers, and nut tools. If your local dealer does not carry these essential aid pieces, ask them to call Ed and become a dealer. Ed does not sell his gear directly or over the internet, only through local dealers.]