

Off-Road Safety Academy Newsletter – 21 Dec 12:51 PM

Off-Road Safety Academy [bob.wohlers@discoveroffroading.com]

Sent: 12/21/2017 2:45 PM

To: bob.wohlers@discoveroffroading.com





Merry Christmas to all! Happy Hanukkah, Yule, and Winter Solstice! Here's wishing all my past students and newsletter readers a happy and prosperous 2018. I hope our paths cross in the new year. Cheers!

Off-Road Safety Academy Newsletter

Safe and Effective Kinetic Energy Recovery



Oh My...

Look carefully at this photo. Can you identify the multiple problems with this kinetic energy recovery set-up? The individual organizing the recovery effort is a "qualified" Trail Guide from a Jeep Jamboree. Read on.



The REAL Problem With Kinetic Energy Recovery

Listen in on a discussion about on how to get an off-road vehicle unbogged and you might eventually hear a spirited debate about kinetic energy recovery with stretchable nylon Kinetic Energy Recovery Ropes (KERRs) or Kinetic

Energy Recovery Straps (KERSs). Some will preach on the advantages of vehicle-assisted kinetic energy recovery, while others will argue strongly against this form of extraction, ultimately asserting, “Yank straps are just too dangerous.”

The “too dangerous” folks believe that any yank, snatch, or tuggum strap that acts like a rubber band is simply asking for trouble when recovering a heavily bogged off-road vehicle. They will argue, “Should any component fail during a high-resistance kinetic energy pull, the result can be devastating. Many tons of force can suddenly be released.” They believe, and rightly so, that a broken shackle, frame-mounted connection fragment, or the strap itself can become a deadly projectile. For these individuals, the danger of injury outweighs the usefulness of any recovery effort with a KERR or KERS. Some in this group believe that polyester or polyethylene low-stretch straps and steel chain are better for recovery purposes.

I think the anti-kinetic energy recovery opinions have some merit. Allow me clarify. In the field, I often watch kinetic energy recovery used flippantly, nonchalantly, and incorrectly. I see untrained folks get stuck, leap from their vehicle, swiftly get their yank rope or strap and hastily hook up a recovery; nary a thought of what they are really doing.

It’s a rare occurrence indeed when I see an off-roader take a moment to estimate the resistance of a pull and plan out a recovery in total. Still fewer take the time to decide whether a kinetic energy extraction is the best recovery method in a particular situation. I rarely see someone carefully examine the condition of their rope or strap before a pull. Rather, I often notice that the rope or strap is old, moldy, wet, or tattered. Some are of the really cheap kind (sorry Harbor Freight). I also notice that some straps or ropes are brand new and never been used. Uh-oh, someone forgot to practice kinetic energy extraction at home prior to trying it during an actual recovery.

The real problem with nylon KERRs and KERSs isn’t that they don’t work, or are exceedingly dangerous. Incorrect use makes them unsafe. The user is the problem – not the kinetic energy rope or strap. If this is true, then some knowledge and skill practice with kinetic energy recovery is in order.

For the record, I believe that kinetic energy recovery is a very valuable tool in the extraction of a vehicle bogged on fairly level ground, in compression-type terrain (sand, mud, and snow). If you are well trained and practiced in proper kinetic energy use, you may even be able to successfully and safely use kinetic energy to

extract a vehicle stuck on rocky terrain or a hill (although I believe a winch is often a better extraction tool in these situations). It is even possible to get a heavy vehicle unbogged with a lighter vehicle using kinetic energy recovery. This is simply not possible with no-stretch straps or chain.

No-stretch rigging straps and chain cannot extract a bogged vehicle as softly as a well designed and properly used KERR or KERS. Conducting a vehicle-assisted extraction of a bogged vehicle with no-stretch rigging almost always results in hard jerks and jolts that can actually damage vehicles. I have even seen vehicle damage occur when extraction with chains or no-stretch straps is performed correctly and carefully. Here's the most important point: Once no-stretch rigging is slowly tightened between two vehicles (in an attempt to reduce the jerks and jolts), the recovery vehicle often has a hard time securing traction since it has to instantly pull a resistance load.

With a KERR or KERS the recovery vehicle can secure traction and measured momentum ("mass in motion") before and while stretching the nylon and building elastic energy in its fibers. When the elastic energy in the rope or strap becomes greater than the load resistance of the bogged vehicle, kinetic energy is released, helping free the vehicle from its stuck location.

In my opinion, you absolutely need to have either a KERR or KERS as part of your total recovery kit. Even if you travel solo, you should have an appropriately sized rope or strap in your vehicle. Should you get stuck and another vehicle arrives on scene, it's always courteous to provide your own KERR or KERS.

Please, never go cheap when purchasing your KERR or KERS. This is typically a beginning off-roader's first mistake with kinetic energy recovery. Purchase a quality rope or strap from a dedicated and proven recovery equipment manufacturer such as ARB, Bubba Rope, Extreme Outback Products, or Master Pull (alpha order here). Avoid ropes or straps that do not detail their specifications on a label. Appropriate specifications listed should include: 1) material rope or strap is made from, 2) working load limit, and 3) minimum breaking strength and/or web tensile.

Now For the Problems in Our

Example Photo...

The red jeep is high centered on a rock. In fact, the owner began to leak oil because the rock has probably damaged the oil pan while he tried to force himself off the rock (not good). Yanking him off the offending rock without also elevating the vehicle will make this worst. But that is another story.



This old Willys Jeep has a very fragile front bumper, made of thin sharp sheet metal. Are you getting the story here? This is NOT a proper frame-mounted recovery point. The strap has already bent the license plate. Guess what it is going to do to the bumper once a resistance load is placed on it. Also, the "professional" trail guide looped the strap over the bumper and connected it back on itself. Very bad form. Those of you that have taken my 4WD course are cringing right now.

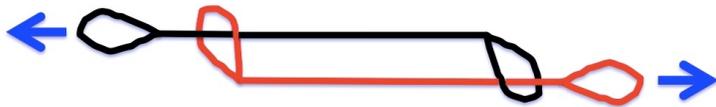


Next Problem...

This problem is hard to imagine – connecting two straps with metal anchor shackle. (UGH!) Folks, it doesn't get much more dangerous than this. In off-roading, there aren't that many *NEVER* *doe this*, or *NEVER* *do that* guidelines. However, this is one. Should something break

during a pull (like the strap on the sharp front bumper), this metal anchor shackle (heavy mass) will go flying through the air. Someone's head could be in the path. I'm sorry to say, but off-roaders have been killed by unsafe kinetic energy recovery rigging.

There is only one way to properly join two straps together. See the photos below.



This illustration shows how to join to Kinetic Energy Ropes or Straps together.



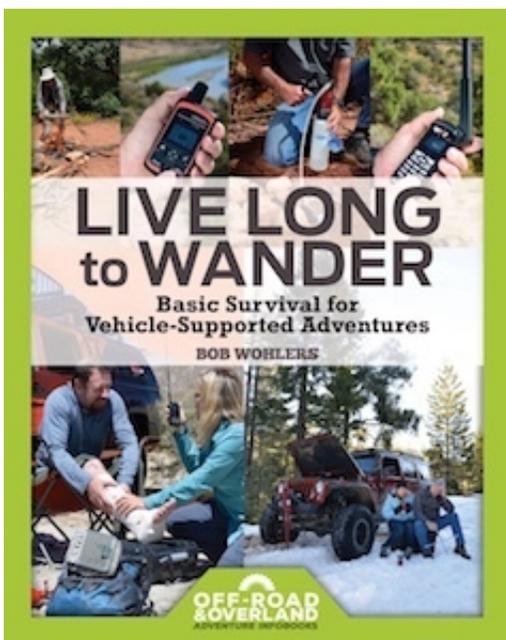
Once joined together as shown, place something light weight and flexible between the two ropes to keep them from forever being LOCKED together once pulled.

If you get stuck and are thinking of using Kinetic Energy Recovery, use the STOPA acronym: Stop, Think, Observe, Plan, and then ACT. If you want my Stuck Assessment and



Recovery Plan STOPA Checklist, email me and I'll send you a copy.

A note: All of this content and MORE will be in my new upcoming book "The Total Approach to Getting Unstuck Off-Road."



Live Long to Wander – Basic Survival for Vehicle Supported Adventures

Could you survive a backcountry vehicle problem?

If you are a vehicle-supported adventurer, this

Infobook was written for you. You need this book if

you drive a 4WD, ATV, UTV, Dual Sport Motorcycle, or Snowmobile into the remote

backcountry. You can order in on my

website by clicking [HERE](#).

Kind regards,
Bob Wohlers



©2017 Off-Road Safety Academy | 704 E Evans Reimer Road, Gridley, CA 95948, US

[Web Version](#) [Forward](#) [Unsubscribe](#)

Powered by
GoDaddy Email Marketing®

Copyright © 2003-2017. All rights reserved.
