

Five More Safety Tips When Taking Your Vehicle Off-Highway

by Bill Burke

Remember to breathe frequently and sit back and enjoy the ride. All too often, I find my student and client stressing out and clutching the wheel hunched over with the back and shoulder muscles tensed. Relax. That is what you are in the woods for, right? The Zen of the destination is the journey!

6 - Get to know your vehicle and its performance potential. SQUEEZE the accelerator gently to avoid wheelspin, backing off the pedal when spin does occur, then gaining traction again. A spinning wheel/tire combo, no matter how large, does not give traction. That dirt pile doesn't know the difference from a Mud T/A or a Pirelli Red Line if it is spinning at 80 mph. You still won't get traction. You can't steer, brake or go with a spinning tire! Feel the point where the vehicle is about to stall, squeeze the throttle lightly, then back off the throttle, especially during rock crawling, up hill and snowed-in trails. With automatics you may have to use the left foot on the brake sometimes. Usually when you take your foot off the accelerator, the vehicle seems to "stall," so you put your foot back on the gas pedal and then the vehicle goes too fast. This "herky-jerky" method can be avoided by using finesse with left foot braking and proper throttle modulation. Know your vehicle and the actions and noises of the engine and suspension as you go over the trail.

7 - Avoid lengthy wheelspin; digging into the track only gets you more stuck and ruins the environment. If stuck into the track, use a jack to lift the vehicle. Build up the ground under the tires. Placing brushwood and blankets, etc. under the tires will sometimes help with clearance. On the other hand, once in a while, you will have to let the tires "dig" a little to help forward momentum. If you feel the vehicle starting to lose traction or forward motion, try backing off the throttle then giving a short "blip" on the throttle. Try this a few times in quick succession. If this fails, back up and get another look at the obstacle and try a different approach.

When you think you are getting stuck and the driving tricks don't seem to be helping, immediately back out of the obstacle. Use the winch to get through or go somewhere else. Don't drive off the trail and around the challenge unless there is a legitimate by-pass.

Rocking the vehicle back and forth only serves to dig you in deeper. Sometimes it helps to rock back and forth, then to back out of the obstacle, but usually I don't like to dig deeper. Check under the vehicle to see what is holding it; a rock? a stump? or other grabber thing? Make sure those things are clear before winching or using the recovery strap. In soft sand, I carry 4 long (about 4 feet),

thin (tire width) rolls of carpet. They help to get the vehicle rolling out of the sand traps. And, of course, always carry a well-stocked recovery kit!

8 - Keep the use of the brakes to an absolute minimum to keep the wheels from locking up on wet, muddy, loose rock Descend steep slopes in low range and first gear. Rely on engine compression to slow the vehicle. If sliding occurs, drive the vehicle forward to gain traction once again, then back off the throttle. Sometimes when in extreme rocky descents with ledges and shelf steps, the clutch must be pushed in and the brakes used to allow the vehicle to creep forward ever so slowly. This should only be done in those cases. Usually engine control through throttle modulation is best served by engine compression on descents. A locked sliding tire gets no traction.

BEWARE of the LURCH and SURGE! Unless you have lockers engaged on both axles, the lurch and surge will scare the heck out of you until you have experienced it many times. When in gear, no brakes, and open diffs, the vehicle has traction from only one tire on an axle--you know what happens when going uphill and getting traction to only one tire per axle. Well, when going downhill, if the tire that has contact to the transmission gets air or slides, the vehicle will lurch forward because the non-tractive tire has no resistance from the gear box. Usually it is a short surge, and control is gained when the tire contacts good terrain. When that is likely, a light foot pressure on the brake pedal will help to prevent the next lurch. The vehicle will actually "shoot" forward fast for a short distance. If not controlled or anticipated, you could gain momentum and quickly get out of control, especially on long descents.

The same happens when backing down off an ascent as well. When backing down, always be in reverse gear. The same procedure pertains as in the descent. This is especially important when backing down, as the front end becomes light and the steering tires won't give the afforded traction for steering, traction and braking.

9 - Do not oversteer - especially while in ruts or deep tracks. The steering wheel may look centered, but the tires may be at full turn. Murphy's law says-when traction is gained, there will be a big tree or rock at that point. Driving on a trail, many obstacles will be encountered that will move the steering wheel all around. The tire gets lifted up or drops down in a hole and causes the steering wheel to move as if it were turning on a curve. This "wallowing" of the front end and "bump steering" creates the false impression that you must correct the original steering course. Get used to the feeling of the front end articulating over the trail, and hold the steering wheel on-center. Just hold the wheel firmly and "aim" the rig over the trail in those rough sections.

What happens is the steering wheel gets tugged to one side, you correct to the other side, then the next minute the wheel comes right back and you have to correct it again, or actually re-correct it. Now, all you are doing is over-correcting and turning the steering wheel back and forth, wearing out your arms! You do have to steer on the trail and keep the rig centered, but don't oversteer! When in mud or deep ruts, sometimes quickly turning the steering wheel so that with your hands at the "3 and 9" position, you move it halfway round and back almost touching your wrists in a cross over position. This will make the front tires turn back and forth, causing the sidewall edges to help claw their way through.

10 - Make slow, steady progress through deep water to create a "bow wave" and an air pocket in and around the engine compartment and front wheels. This minimizes risk of water drowning the engine. Water does not compress as well as air. Don't let hydrostatic lock ruin your day. Check the brakes after coming out.

Having a plastic sheet or poncho to cover the front of the vehicle, especially around the radiator grill, will help keep most of the water out of the engine bay. Ensure that the distributor and ignition system are tightly sealed and water proofed to some extent. Smooth progress through deep water or mud will keep the air pocket stable. A big rock or drop-off will affect the steady progress and "burst your bubble," so be careful! Generally speaking, a deep crossing should be no more than just over the tires. Mud that deep will stick you before the front axle gets half-way. Carry an extra air filter element in case you do drown the engine. Get the vehicle out of the creek, then work on it.

If the engine does swallow some water pull the spark plugs, air filter, coil wire, and dry the distributor cap out using a clean cloth and WD-40.. Crank the engine over and blow the water out of the cylinders. Check the engine oil before cranking! I have seen the engine completely fill with water. You might have to drain the engine, so do it for the environment and use water jugs or coolers to collect the watered oil.

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