

Five Safety Tips When Taking Your Vehicle Off-Highway

by Bill Burke

It's 7 a.m., you hop in your sport utility vehicle, crank the starter, shift into gear and head out. The only thing is that your destination is right into the middle of traffic to the high-rise office, and not to the high-rise mountains! Like so many of us, the 4-wheel drive we bought usually only takes us to work and shopping, and our driving experience reflects that! When it is time to hit the trails and do some actual 4-wheeling, our skill level is hindered by lack of practice and the all too present level of fear--fear of damage, getting lost and getting stuck. These are real fears and have limiting consequences to the adventure called 4-wheeling. You **could** blunder along until something happens that turns you off to 4-wheeling, but it doesn't **have** to be like that. The learning curve and experience level do not need to include the damage, lost or stuck scenario!

4-wheeling is not always about big torque and horsepower, lockers and big 35's. IT IS ABOUT FINESSE. The other stuff helps some, but finesse is the first and most important thing to acquire! Here are some hints to help you out in this area. Of course, there is no substitute for taking a class or experiential trip with me!

1 - Drive as slow as possible, but as fast as necessary. There are times when in soft sand like beaches and washes, speed needs to be moderate and flotation through mud and snow needs to be kept up, hence "as fast as necessary." But usually taking your time on the trail will allow you to pick a smooth path and allow you time to react/act to the varieties of terrain like moving rocks and logs under the tires. If you have a ground clearance deficiency, going slow helps here, in that, if you do hit a rock with the diff or other rock grabber, it will usually stop the vehicle on impact or you will lightly scrape over it. If you were going too fast and hit a rock or other obstacle, it could knock a hole in the oil pan, diff or even knock off the oil filter.

Don't get caught up in the Baja or Camel Trophy syndrome. They don't use those rigs as daily drivers. At the end of those events, the keys are handed over to a mechanic and a corporation that has deep pockets to refurbish them. Plus, you could get hurt!

2 - Survey the trail ahead to avoid any "surprises." When in doubt, get out and recon! Make sure the trail goes beyond the obstacle, doesn't become a bottomless quagmire, has no back side to the hill (cliff?) or just plain ends. You can get a good idea where to place your tires and the differentials and have a plan of approach. And follow through to beyond the obstacle.

Don't stop in the middle of the challenge to check it out.

Get through it, then walk back and check it out again. See where you actually went. Observe your tire tracks.

3 - Drive directly up and down hills. Traveling diagonally may result in a sideways slide -- worst case, a rollover.

Know your approach and departure angles, the bumper to tire distance. Some trails will require off-camber driving. Just go slow, keeping the tires in the tracks. Don't lose attention and climb up a rock or stump on the up hillside. Vehicles will tend to slide sideways before rolling over. The tires will slip sideways a little. Stop if the slide puts you off the edge of the track. If it is clear downhill and a rollover is imminent, immediately turn the vehicle into the slide and drive it down. If that is not an option, and you are going over, turn the vehicle off and hold on to your seat-bottom and hope the seat belt works properly. You did have it on? There are other scenarios, but this is the least drastic. Use enough momentum to get up and over the hill. Avoid high centering on the crest. Use the engine brake method for the descent. Remember #2!

DO NOT TURN AROUND WHEN ON A HILL. Rollover CAN happen. Practice backing down.

4 - Reduce the tire pressure. This improves traction in all conditions, especially sand. Remember that ground clearance has been compromised. Reinflate before driving on the pavement for any distance.

The easiest way to improve off-highway traction and performance is to "air-down." Depending on the tire you have and type of vehicle, you could go to as much as 15psi, even lower, if needed; for soft sand, 10psi.

Be careful to not turn fast and push the tire off the bead.

Usually, though, for most average 4-wheeling, 18 to 20psi will be enough. I know some folks who run 6psi. Highway pressure is another thing. The tire is marked on the side, i.e., 50psi at 3300 pounds. In essence, that one tire could hold my Defender up. Depending on the weight of the loaded vehicle and the size of tire, I have found that between 28 and 35 psi works in most on-highway applications. Read the manufacturer's label. The air pressure difference between the front and rear is due to the tire and auto manufacturers' experimentation for over/under steer and load variances. Carry a mini-compressor to reinflate, or know that an air pump is not far from the trail end. For snow, on- and off-highway, I like to run my tires a little hard. It allows the edges to grip better, especially if I am going to run chains.

5 - Cross ditches or logs at an angle so that one wheel at a time goes over the obstacle; the other three help the one wheel to climb over.

Dropping the tire into a ditch or crack in a rock is scary! Sometimes the vehicle pitches and one or more tires will catch air. Be very deliberate and careful when approaching this challenge section of any trail. Logs can bounce up and catch the undercarriage, so come off these things slowly and carefully. Turn the vehicle at an angle to facilitate the one tire at a time approach. Be careful not to allow one of the front tires and one of the rear tires to get in the ditch at the same time.

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