

## Driving with Lockers: Is Parallel Power Really Easier?

by Bill Burke

Although both my D-90 and my Range Rover have lockers, I want those that I am training to understand how to drive without using, or actually getting used to, lockers. Granted ARB lockers are great; switch them on whenever you need them and the rest of the time they are off!

*I have always taught that it's best to learn how to negotiate the terrain without lockers so you get the finesse of 4-wheeling down.*



Understand the dynamics of the vehicle and its handling characteristics on- and off-highway, then start to add the goodies. Yes, I own Air Lockers now but I cut my teeth on posi-traction and Detroit Lockers. Try driving Detroit's front and rear with 35's and no power steering!

While you negotiate rough terrain, the suspension and your "line" will not always allow you to have smooth contact with the ground. At some point, the tire will catch air or lose full proximity with the ground, causing the tire to spin. Remember Murphy's Law, the tire with the least amount of traction gets the most amount of power. You will hit moguls, come off rock ledges with two tires and attempt hills with very loose soil. This is where lockers really come in handy.

Once you've purchased a set of lockers and had them installed, here is a short course on how and when to use them. Whether you have air, electric or mechanical lockers, limited slip, posi-traction or whatever, the techniques are generally the same.

**First:** be careful on side angled (off-camber) hill sides; i.e., the vehicle is traveling on a side slope. If it is mucky, icy, snowy or any other type of slippery-slidey side slopy slope, use open diff, if possible. Lockers will tend to "walk" you sideways down slope. This is because both wheels are rotating at the same speed. If one wheel is "static" and the other is rotating, the static one will act as an anchor or stabilizer that will keep the rig from slipping sideways. When on these side slopes, let the vehicle idle across, giving the tires a chance to dig in and get the best traction.

**Second:** when going up hills or any incline, aim straight up. The weight shift to the rear will give you added traction so the locker in the rear is advantageous. WATCH OUT for the front end, though! The tires will have a tendency to catch ledges and occasionally loose soil and "walk" the front end around either left or right, causing the rig to get sideways on a hill. Then if you PANIC, give it gas, and don't come out of lock, you could roll over.

I usually get lined up for the ascent, approach cautiously, engage the rear locker and start the climb. Depending on the terrain, rock ledges, sand, loose granite, mud, etc., I will then engage the front locker once I feel control of the steering and front end traction have been attained (gut feeling!). About halfway up the incline, I'll engage the front locker. If you don't have air lockers, be careful of the front end walking! No matter how hard you try to steer, with the front end being light due to gravity pushing on the rear, you MUST modulate the throttle carefully. Remember, minimal tire spin. Soft tires (low pressure) helps here.

**Third:** when going downhill, be careful that the rear end does not swing around and meet you in front! I like using both front and rear when going down hill. It allows all tires to have traction, resisting the "breakaway" feeling. Engine braking is very important here and having all four tires helping makes a big difference. Sometimes when in open-diff rigs going downhill, the two tires (1 front, 1 rear) that are holding the rig back, hit loose soil or get air, allowing the rig to "lurch" forward--I call this the "lurch effect"--and it'll scare the heck out of you. Sometimes light pressure on the brake pedal will work, but I don't like using the brakes on the trail unless absolutely needed. Using engine compression with lockers is most advantageous 'cause all 4 tires are adding traction and resistance.

**Fourth:** steering is hard to do especially on hard surfaces like slick-rock, granite faces and boulder outcrops. When you are on a "bind" (no not binge!), the lockers will hinder your turn. You need to disengage the front end (ARB) and "bump" the throttle to allow slack in the gears to disengage the lockers. With mechanical, you need to play the throttle softly to allow the turn. Sometimes when I come out of an obstacle, the rear end will "steer" me straight even if the front is unlocked. So, if I can I will disengage (ARB) the rear as well. The Detroit's will clank and bang, the Lock-Right will click and clack, but it's the best you can do. When I did have mechanical lockers, I would run the front end unlocked, the hubs free, in 4WD low using only the rear end and the mechanical locker in the rear. Then when I needed to "get to it," I would lock the hubs in! In mud and soft dirt/sand, the rear locker will steer you straight, even though you are turning the front tires! Again, throttle steer using some of the finesse at the foot. Let the tires slow down, then blip the throttle to "pull" the front end around.

Note: Air lockers can be engaged anytime they're needed. Just don't be spinning the tires. Engage them moving or not; disengage them anytime, but you need a moment of slack to make sure they unlock. Having lockers means you need to pay more attention to the vehicle and its handling characteristics. Add big tires aired down to 12 psi and it takes some finesse to make turns and keep the vehicle aligned. Driven responsibly, lockers are a great help. They actually reduce environmental abuse due to all four tires helping, not just two spinning.

©Bill Burke's 4-Wheeling America LLC