

Detroit EZ Locker installed in a 92 Toyota 4x4 Pickup .

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The following are pre-installation preparations:

- Support the vehicle **SECURELY**. You'll be jerking the vehicle around so don't skimp on good support stands. Block the front wheels.
- Have all necessary tools including torque wrench, breaker bar and axle puller which might be needed.
- Items such as a new rear gasket (and gasket sealer; i.e. blue goo, if you're worried about leakage), your favorite gear oil, solvent cleaner, penetrating oil (put it on the night before if it's rusty), razor blade for scraping the old gasket off are good to have before starting.
- Have a good, clean work area to disassemble the rear. We used a couple of saw horses, planks and a clean piece of cardboard to serve as our work bench in my driveway.

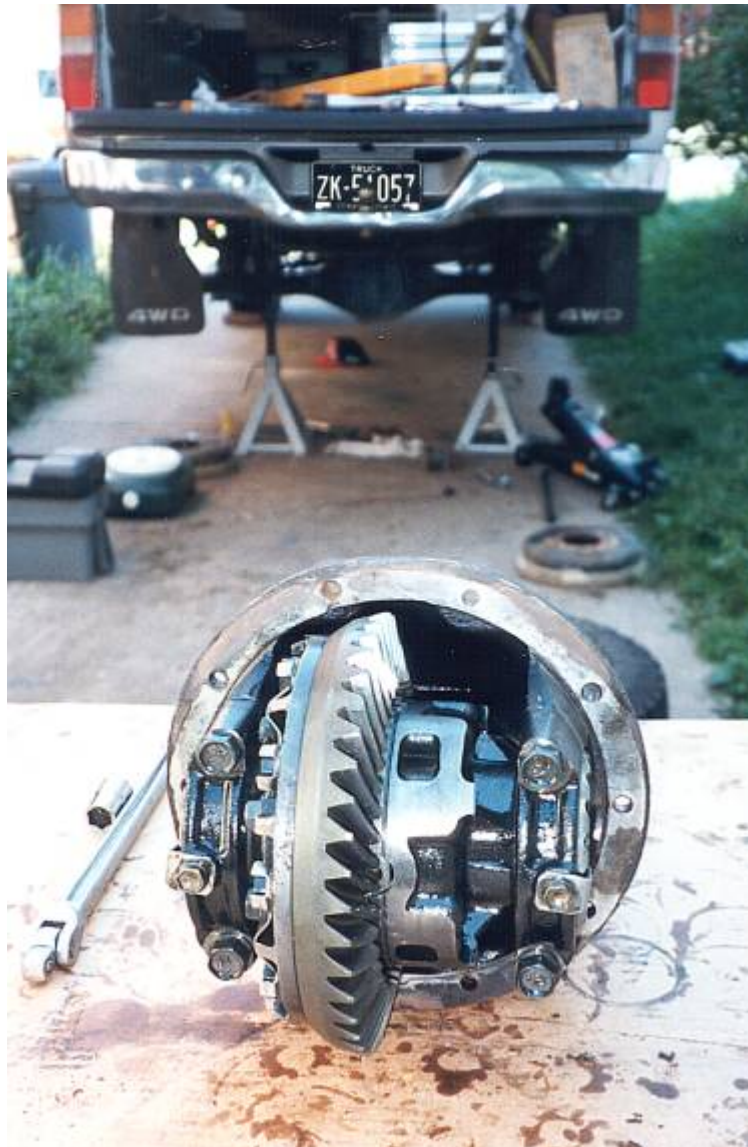
Removal was not that hard. The Toyota has a third member rear end. First the axles had to be pulled out a few inches to clear the carrier. We drained the gear oil. The tires came off and the brake drums were pulled off. Then 4 bolts on the inner side of the wheel were taken off as well as the cable for the emergency brake. Then I carefully detached the brake line and wrapped a piece of plastic wrap around the end of the brake line and wrapped a rubber band around it to keep the fluid in and the dirt and air out. The axles pulled out without any resistance. Older axles may need a puller as Mike experienced when doing a CJ-5. Drive shaft was unbolted from the rear and bungeed up to the frame. We then unbolted the 10 bolts. We had a little trouble with one of the studs that wouldn't allow the third member to slide out so two nuts were tightened together on the stud and the stud was backed out, freeing up the member. Once it was removed the axle housing and the third member were cleaned well with a solvent where the gasket is seated. I used a razor blade to get the bulk off and Brake cleaner on a rag to get the rest. Be careful not to get any pieces in the housing. If you do clean it out. Notice my pooches in the background. They hung around to check out the action.



Disassemble and

Installing the locker.

Disassembling the 3rd member. Rule number one: Mark everything. The thing that makes the EZ so, well, easy is the fact that you reuse the carrier and in the case of the Toyota 8" rear you reuse the stock side gears and the T that the spider gears ride on as well. For most do it yourselfers it's not as tough as a Locker that replaces the carrier. It differs from a locker that replaces the carrier, such as a Detroit Locker, in that you don't have to re-mesh the gears as you would if the ring gear is remounted on a new locker. But in order to do it right you'll need to put it all back together *exactly* the way it came apart. So mark everything, left - right, inner, outer. One thing in particular is the location of the end caps where the axle slides into the carrier. They thread into the third member and the U-clamps and hold the carrier in place. They are lined up just right from factory and you want them put back right where they are. We counted the visible threads and marked with arrows where they go back. A small hook-like catch called the adjuster lock is bolted down to hold the end cap from spinning around. We made sure that hook was place back into the exact same hole with the same number of threads visible.



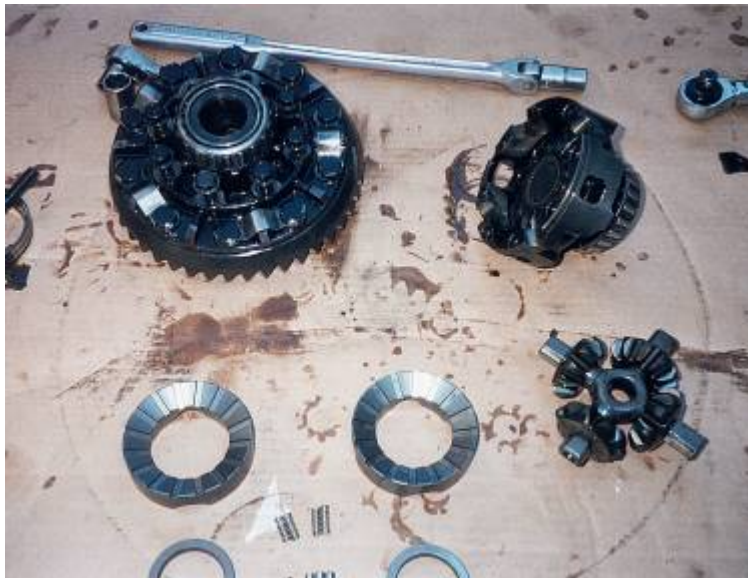
You'll want to have the torque specs for the rear when you re-assemble it. Unfortunately we did not. What we did to improvise was to approximately figured out the factory torque specs. We measure the torque by putting an axle back in the carrier on the bench to hold it still and starting at 25 pounds and moving up 5 pound increments until the bolt broke. We did this with several bolts to be better sure we were close. Again, a better option is to get the torque specs from an advanced manual. My manual didn't get into the rear end assembly.



After the carrier is removed, 8 bolts held the 2 halves together. Again we got the torque specs the backyard mechanic way so we could torque it back together as close to factory as possible. After opening the carrier we removed the spider gears. The cross "T" that the spider gears ride on is reused in the Toyota 8". The two crescent shaped gears of the EZ Locker pictured to the right are installed with the teeth facing the stock side gears within the carrier. They are installed back to back with the "T" minus the spider gears inserted in between them. The rings pictured below the EZ Locker's gears ride inside each of the EZ Lockers gears. Four small guide pins and four small springs are inserted into slots on the inner side of each EZ Locker gear. This particular part of the installation as described in the EZ Lockers installation instructions could have been elaborated on a little better. The holes that the pins and springs go into are different on each half of the lockers gears. The question arises, well which hole gets the spring and which gets the pin? Thinking logically we assumed that the pin can withstand any shearing forces so the spring should go into the deeper hole. The deeper hole starts wider (oval) and then becomes a round hole. This round hole is where the spring lives.



Re-assembling is just a matter of reversing the whole process. This is where it is critical to put everything back where it can from and torque all your bolts to the correct specs. If at this point you do not remember exactly where the rotation of the side gears was set, you will have to adjust backlash. Check backlash with a dial indicator. Should be set to .0051-.0071 in. play. If this is not done correctly you can eat up your rear in no time. After re-assembling the rear and cleaning the housing we reinstalled the third member into the cleaned axle housing using a new gasket and ample blue goo.



The whole job from start to finish took about 2 1/2 hours with the help of Mike of www.jeepfan.com who was a big help in the knowledge area.



My Review of the Detroit EZ Locker

Installation

Relatively straight forward and on the easy side. The instructions that came with the locker were simple, to the point and assumed you knew enough about what you were doing to fill in the blanks; which makes sense. If you do not understand the directions, you probably shouldn't be attempting to disassemble the rear.

Handling characteristics on paved roads

It handles different than an open rear and takes some getting used to. I've had to learn to be easy on the gas while turning. A little too much power and the locker engages. The result is the inner tire breaks free and I go through tires quicker. But a little chirp now and then is quite fun. On the straight, it's fine. In a slight curve during a shift or change in acceleration I feel the truck pull to the left or right depending on acceleration or de-acceleration and the direction of the curve. Another alteration in my driving habits has been drifting through a turn. Pre-EZ Locker I would sometimes coast through a turn and apply gas after the turn. Sometimes doing this after installing the EZ Locker I get some wicked backlash or bucking of the vehicle as the locker engages and disengages due to the torque of the backlash itself. I corrected this occurrence by disengaging the clutch before entering the turn then re-engaging after coming out of the turn. This usually doesn't happen if I'm accelerating moderately or de-accelerating moderately. It usually only happens when drifting through a turn at an engine idle speed in whatever gear. This probably will not happen in an automatic. I have manual trans. After a period of driving every day I am quite used to its behavior and my driving habits have adjusted to the point where it's second nature to understand what it will do.

Performance Offroad

The Detroit EZ Locker performs very well offroad. In the following month after installing the locker I took it offroad and even though I still got stuck in some thick mud (bad tires), I must say that I climbed some hills that I formerly could not climb even with the very worn tires. Almost every situation I encountered it did its job well. In situations where a tire was off the ground I was able to get power to the tire that was still firmly planted on the ground while creeping over obstacles without any sudden engagement. I feel that it was the least amount of money I could spend on the truck that would reap the largest return on performance. Not a bad investment.