



Save big bucks on truck repairs

if you have a pickup or an SUV, here are a few maintenance tasks you can do yourself to prevent expensive repairs. First we'll show you how to change the oil in two often-neglected members of your power train: the differential and the transfer case. If you skip this maintenance, you may end up with an expensive (\$2,000) metal-to-metal experience (see photo at right). Do it yourself on a Saturday morning and save \$150 in shop charges.

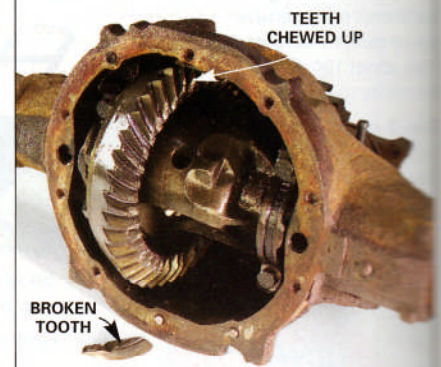
Second, we'll show you what to do when you flick the switch to engage your four-wheel drive and nothing happens. You likely need a new shift motor, and believe it or not, replacing it is easy. And finally, for that *stupid* tailgate that either won't open or won't latch shut, check out the fix on p. 84.

Change differential oil

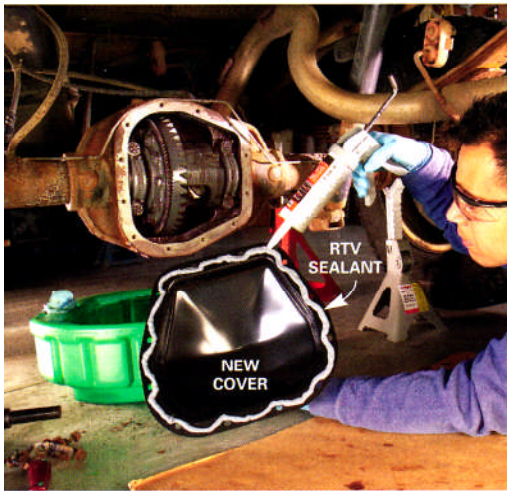
Start by locating the stamped metal ID tags on your front (four-wheel drive) and rear differentials. Write down the codes and take them to the dealer or auto parts store. The parts people need the codes to select the right gasket, sealer and oil for your differential. The ID tag also helps them determine whether your differential is the "limited-slip" type, which needs a friction-modifying additive. Limited-slip differentials transfer power to the opposite wheel if one spins. The friction modifier makes the mechanism work smoothly. While you're shopping, also pick up a "suction" gun (\$12) to inject the new oil and a tube of RTV (room temperature vulcanizing) sealant to reseal the gasket or form a new one.

1 Set a drain pan under the differential and remove the cover bolts, starting at the bottom. Hold the cover in place while you gently pry the bottom edge out enough to start draining the old oil.

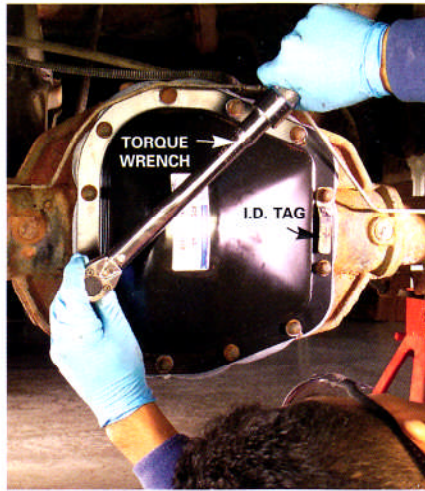
Wrecked differential



This differential wasn't serviced and look what happened! A new differential costs about \$1,500 plus \$500 labor, and it's not a DIY repair.



2 Squeeze a generous bead of RTV sealant around the edge of the cover and on the inside of bolt holes (gasketless installation only).



3 Tighten the bolts to specs with a torque wrench. Note: We replaced the old, rusted-out cover with a new one.



4 Remove the fill plug, then add the friction modifier and new gear oil. Tighten the fill plug to the manufacturer's specs.

Raise your truck and support it with jack stands (see "Safely Jack and Support Your Car or Truck," Oct. '07, p. 80). If your differential is equipped with a drain plug in the cover, you can simply remove the plug and suck out the old lubricant with a suction gun. However, most newer-style differentials don't have a drain plug and you must remove the cover to drain them. Place a drain pan under the differential and remove the cover bolts, starting at the bottom and working toward the top. With the bolts out, hold the cover while you gently tap it with a rubber mallet or pry it off with a gasket scraper. Once the oil has drained, use paper towels to soak up any oil pooling at the bottom of the differential case. Don't spray the inside of the differential with any type of cleaner—it

can damage seals and clutches and wash away critical start-up lube from gear and bearing surfaces.

Use a gasket scraper or putty knife to remove the old gasket or RTV sealant from the housing and cover mating surfaces. Do a final cleanup by spraying a paper towel with aerosol brake cleaner and wiping off any traces of oil from the mating surfaces.

Then apply a thin coat of RTV sealant to the differential and press the gasket into place. Install the cover and torque the bolts. If your vehicle calls for RTV sealant instead of a gasket, apply a generous bead on the cover, making sure the bead surrounds the bolt holes. Quick-curing RTV "skins" over in as little as 15 minutes, so apply the cover and torque the bolts right away. Overtightening the bolts can

squeeze out all the RTV and result in leaks, so use a torque wrench. (Get the specs from a shop manual.)

Read the directions on the RTV package to determine the minimum "curing" time before refilling with fresh oil. Once the RTV has cured, refill the differential to the right level (refer to a shop manual). Always add the friction modifier first and then top off with the gear oil.

Online repair manuals

Proper belt torque is critical to maintaining a good cover seal. To find the bolt torque specifications for your vehicle, consult a shop manual or use one of the following online repair manuals: alldatadiy.com, chiltondiy.com or eautorepair.com.

Change transfer case oil (four-wheel drive only)

The transfer case is located at the rear of the transmission, and its job is to "transfer" power to the front and rear drive axles when you shift into four-wheel drive. But the gears inside the transfer case spin even when you're in two-wheel drive. So it's important to change the oil on schedule, even if you

1 Hold the plug near the drain so you can quickly recap it if you need to spread out the drop cloth.



