

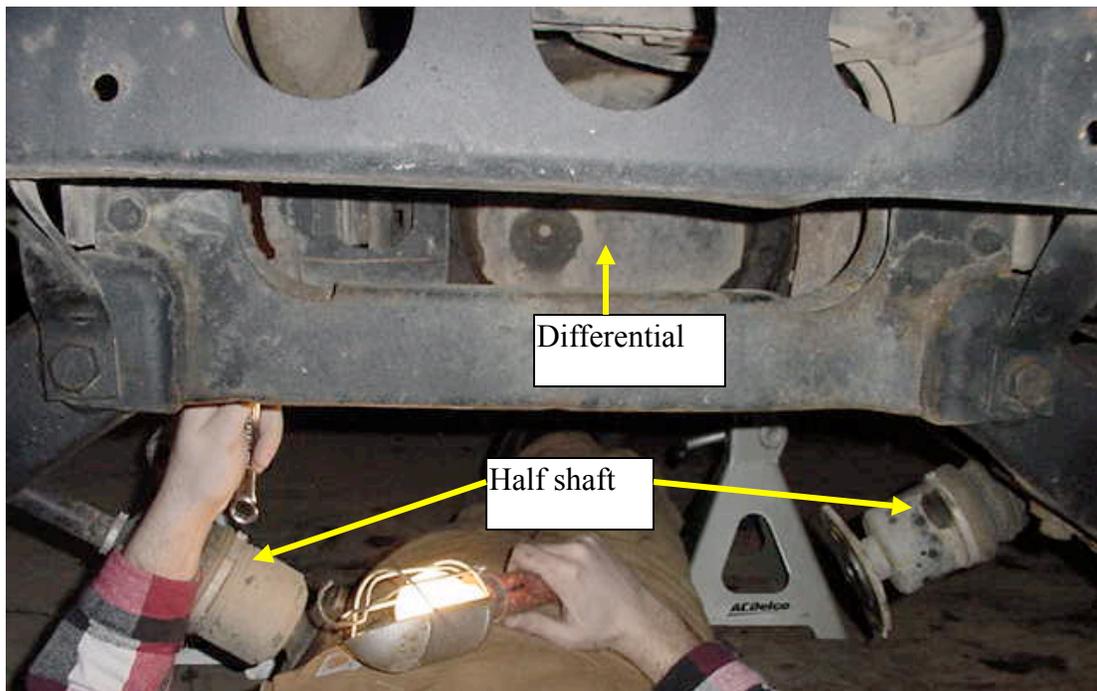
# Removing / Resealing a Hummer Differential

The following tools will be needed:

- 9/16" (preferable T-handle – Snap-on RTB-18)
- 15mm open end (ratcheting preferable)
- 1 1/8" socket
- 15/16" socket
- 5/16" socket
- 1/2" socket
- Electric / Air impact
- 1/2" Ratcheting drive
- 1/4" Ratcheting Drive
- 1/2" Torque Wrench capable of reaching 150 ft-lbs
- 3/8" Allen
- 1/2" Breaker Bar
- Thread Locker Red
- Thread Locker Blue
- Gear Lube
- Teflon Tape
- Drain Bucket
- Permatex Gasket sealant
- Floor Jack
- Jack stands
- Hammer
- Screwdriver
- HMMWV Torque List --- [www.amghummer.com](http://www.amghummer.com) or [www.ihog.info](http://www.ihog.info) (documents)
- Part numbers are located at the end of this article
- 1 extra set of helping hands

## Removal:

First thing to do when attempting to drop a differential is to drain the gear fluid. I have found that it is helpful to jack the truck up off the ground to do this, however, it is not mandatory. The Half shafts must be removed from the brake caliper and do not need to be removed from the truck. Use the 15mm ratcheting box end wrench to pull the (6) half shaft retaining bolts out of the yolk. Drop the half shaft so that it is resting on the lower control arm. Repeat for the other side.

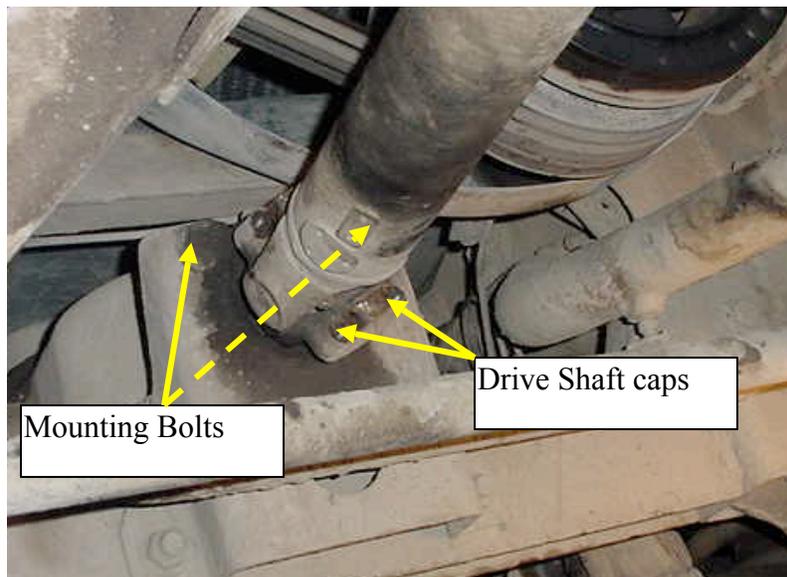


Shows the half shafts hanging on the control arms

The brake calipers on both sides need to come off also. Take the 9/16" T-handle and remove the upper and lower bolts holding the caliper on. After they are removed, pull the caliper aside and use a zip-tie to hold the caliper to a suspension component while you are working on something else (do not bend the lines). Remove the rotor and brake pads and inspect them for wear, replace if needed.

Next, grab your impact and your 1 1/8" socket and remove the yolk where the half shaft / rotor was mounted. Slide the yolk off of the vehicle.

Move to the input side of the differential and remove the drive shaft caps with your 5/16" ratchet. Try and swing the drive shaft out of the way, if it will not move out of the way then wait until the differential is loosened up (if the u-joint caps fall off make sure that the bar bearings are in-place when re-installing).



#### Input side of the differential

There are now 6 bolts left to drop the differential out of the truck. Take the impact or a breaker bar and your 15/16" socket and start to loosen the 4 bolts on the side of the differential (there are 4 bolts on either side, 2 for the caliper bracket and 2 for the diff mounting bracket). Loosen the bolts on the input side also (2 bolts). Grab your floor jack and a flat piece of wood and raise it up until it is touching the differential. Remove the remaining (6) bolts. Move the drive shaft out of the way, and use your impact and your 1 1/8" socket to remove the drive shaft yolk. Reach the top of the differential and remove the vent line. Lower the differential with aid of the floor jack, you might need to tilt the differential where the input side is raised for removal.

Once out of the truck, remove the caliper mounting brackets with a 15/16" socket. After the caliper mounting brackets are removed, remove the ring cover bolts with a 1/2" socket.



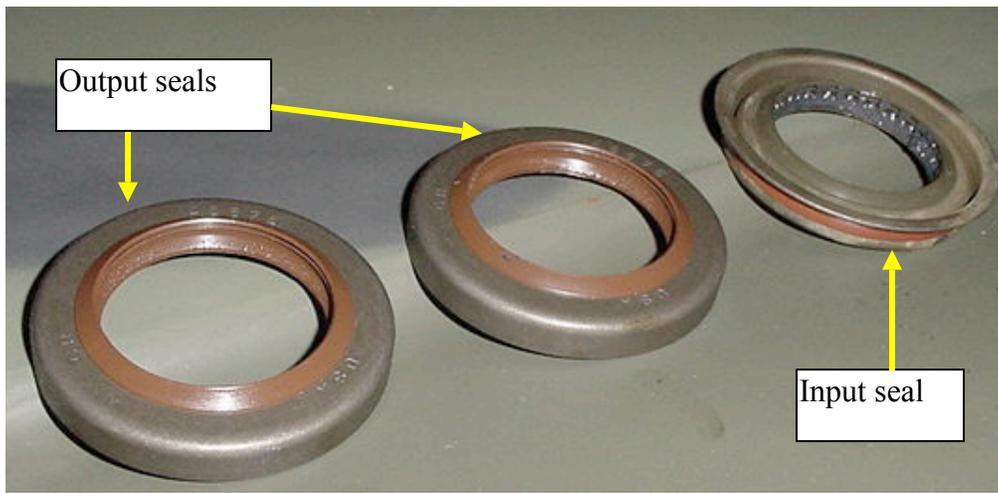
Caliper mounting brackets with the ring cover off

Clean the ring cover surface on the differential and on the ring gear cover. Clean the area around the input and output seals and remove the seals with a seal remover or a screwdriver. Be sure to NOT score the housing where the seal is to be seated. Clean the differential housing as needed.

Install the input and output seals with the seal tool from AMG, or with a block of wood. Be sure to not seat the seals crooked.



AMG Seal Installation tool with seal installed on it (PN J-38869)



Check the output shafts for excessive play between the output shafts and the input shaft. If the play is excessive take it to a qualified shop to get the backlash set, unless you feel comfortable to do it yourself.



Torsen Differential with Ring Cover removed

## Installation:

Once the seals are installed and the surface where the ring-gear cover seats is clean (starting fluid is a very good cleaner but be cautious). Use your Permatex sealant (ultra black or ultra gray). Install the ring gear cover bolts snug, but not tight. Allow the sealant to harden somewhat before you fully torque the cover (45 min or longer). This will give you a “gasket” between the mating surfaces. Torque the bolts tight to 16 ft-lbs, or until hand tight.

Install the caliper mounting brackets with **thread locker red** to 125-150 ft-lbs (these bolts have a tendency to back out and give your brakes a lot of slop – I would advise the higher end of the spec). Now the differential is ready to be reinstalled into the truck.

With the aid of the floor jack raise the differential into position making sure that it is located between the mounting brackets, which is on either side of the differential. Once the diff is close to the location, the input yolk should be installed. When installing the nut put a coat of the Permatex on the perimeter of the bolt (to stop fluid from coming out the spline) and then use your impact to torque it down. Raise the diff into the final location, then finger start as many bolts as possible. Once 3 are started (in each mounting orientation) torque the remaining bolts down. Using **thread locker red**, torque all of the bolts down to 125-150 ft-lbs. (*Be sure to line up the drive shaft to the yolk when installing the differential*)

Install the output yolks and the blue oil-retaining gasket. When installing the retaining nut apply a bead of Permatex around the lip of it and then use the impact to torque it down. Plug the vent line in on the top of the differential.

Re-install the brake rotors, pads and calipers. Using **thread locker blue** torque the 9/16" bolts to 40 ft-lbs. Be sure to seat the calipers in the proper orientation on the bracket or the boltholes will not line up.

Install the half shaft bolts with new nordloc washers. Using **thread locker red**, torque the bolts down to 57 ft-lbs.

Install the drive shaft caps to the input yolk.

Fill the differential up with gear fluid until the fluid is at the bottom of the fill hole (use Teflon tape on the drain hole to make it easier to remove the next time you drain the fluid).

## Part Numbers

*Input Seal*                      *AMG Number - 5579448*  
*National Seal Number – 43065*

*Output seal*                      *AMG Number - 6009472*  
*CR Seal number - 48675*

*Oil retaining seal*              *AMG Number – 5939517*

*Seal installer tool*              *AMG Number – J-38869*

*Work performed on a 1987 Humvee with a Torsen T-1 differential*