



Rover Tech - Repairs - Front Hubs

A write-up on replacing front hubs on a client's 2001 DII

1. Loosen lug nuts.
2. Jack and support the side of the Discovery you are working on. Ensure the opposite wheel is resting on the ground to prevent the wheel you are working on from turning.
3. Remove wheel and set aside.



4. Now before I start any type of "wrenching" I make sure I use [Liquid Wrench Penetrating Oil](#) or similar to prevent stripping, rounding, and breaking nuts and bolts. Plus it just makes the entire job easier. I have had great success with that particular brand. The wise thing to do for this job and mostly all other is to spray the liquid wrench on

all bolts and nuts that need to be removed the day prior to let everything soak nicely. For this job we need to spray the following:

A. The Hub Nut



B. The four 15mm bolts that hold the hub to the steering knuckle (pictured below are the top two)

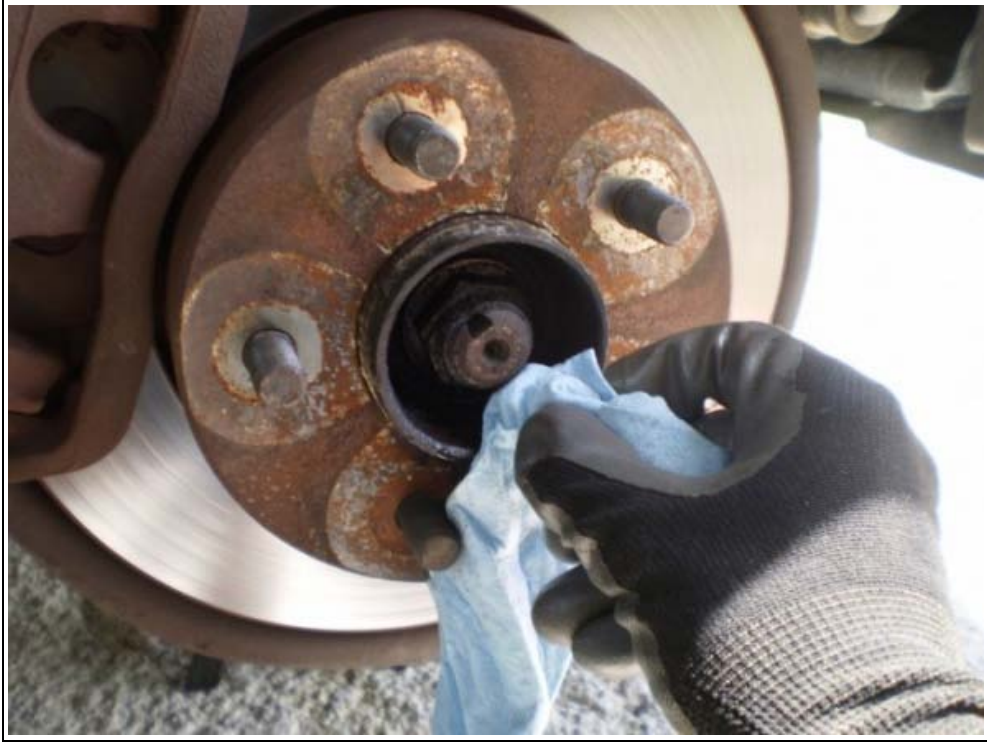


and

C. The two 12 point bolts and the two 12mm bolts that secure the caliper onto the steering knuckle



I have learned that a great way to prevent rounding of hardware is to clean them thoroughly of grease, oil, road grim...etc



ALL CLEAN!!



5. Now here is where the fun begins. RAVE Manual says "*With assistance, remove drive shaft nut.*" There is a reason for that and it is because this "Stake Nut" is torqued to 360 lb.ft or 490 NM. There is also the stake or *punch* which is a tab made by using the outer lip of the nut to lock it in place on the axle shaft.

A. To remove the stake: I used an old flat head screw driver and a hammer.



Having done some research through a reputable source (Urban Panzer), I found the size of the stake nut to be 32mm, however he informs to use a 1 1/4 6 point socket instead as it fits "better" and tighter, which not surprisingly it did!!

B. After a few attempts with a 19 inch breaker bar with a piece of pipe at the end I realized why the RAVE Manual read, "*With assistance...*" so I called my good buddy to ASSIST me and he used his air powered impact wrench and broke that little sucker loose and removed.

I guess I cheated huh??



6. Next is getting the brakes off. If you haven't experienced tinkering with the brakes on a DII, you will find that they are VERY easy for the DIY'er. (Like Me!)

A. Grab your 12mm wrench and get the two bolts off.



Top 12mm bolt



Bottom 12mm bolt

B. Remove caliper and rest on track rod.



C. Remove brake pads and set aside. Be sure to safely store the two 12mm bolts.



E. Using a 17mm 12pt socket, remove brake caliper/pad bracket and collect two bolts.



Top 17mm bolt (Removal of ABS sensor off this bracket is required)



Bottom 17mm bolt

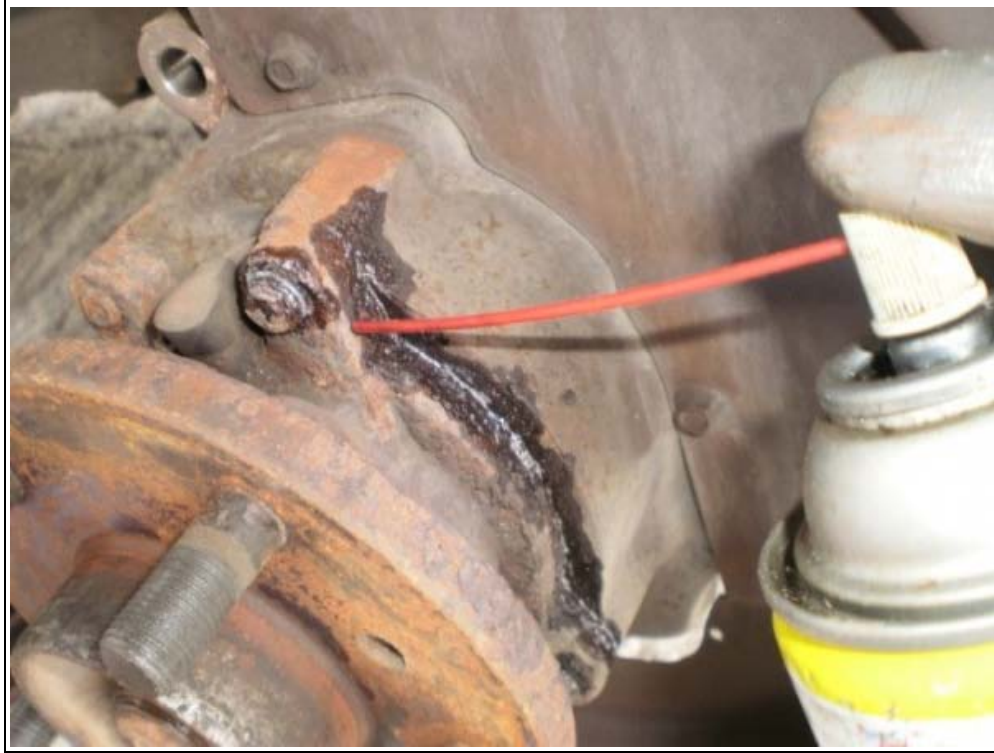
F. Now simply remove the rotor. You may need to tap it a couple times with a rubber mallet to get it to come loose.



Take a look at that! Rusty maybe?



To help aid in separating the hub from the steering knuckle I spray liquid wrench.

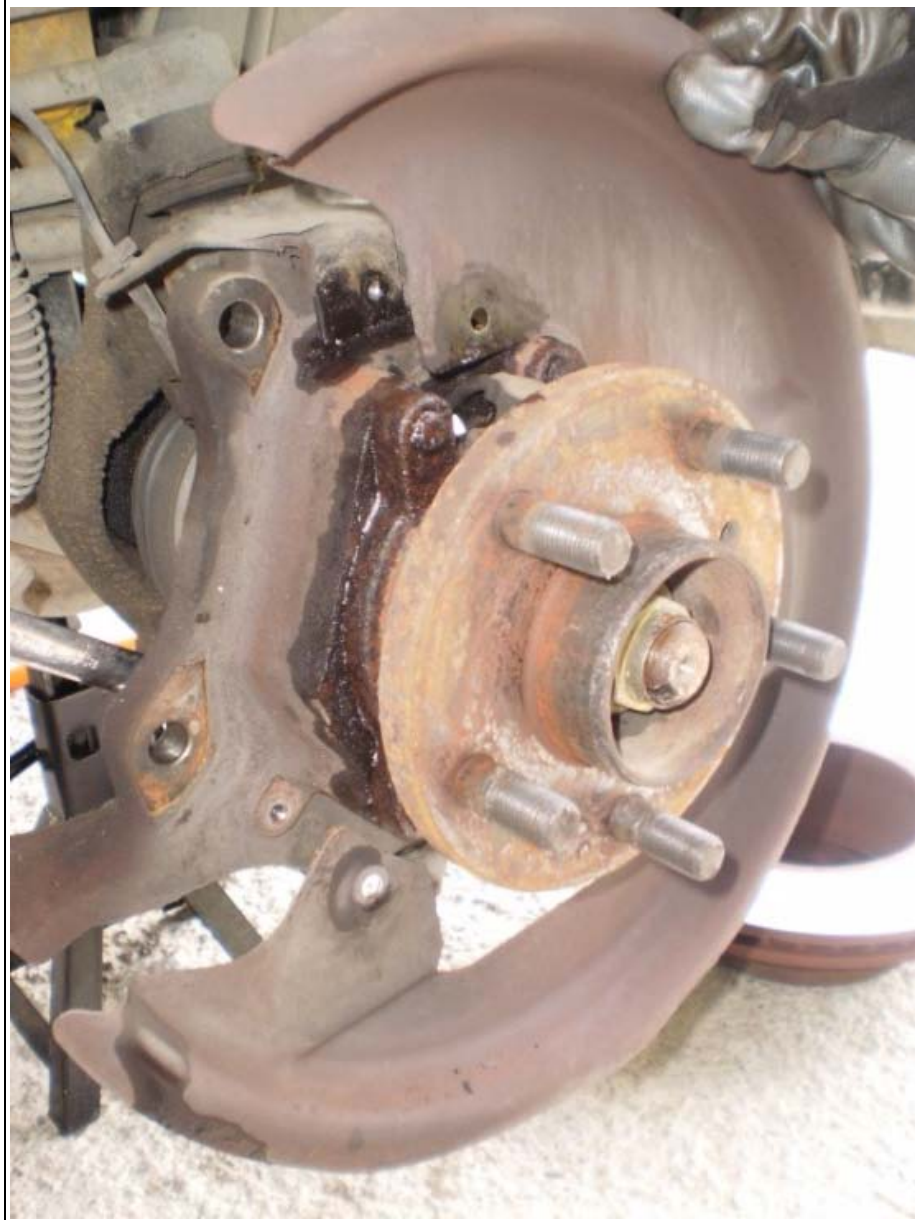


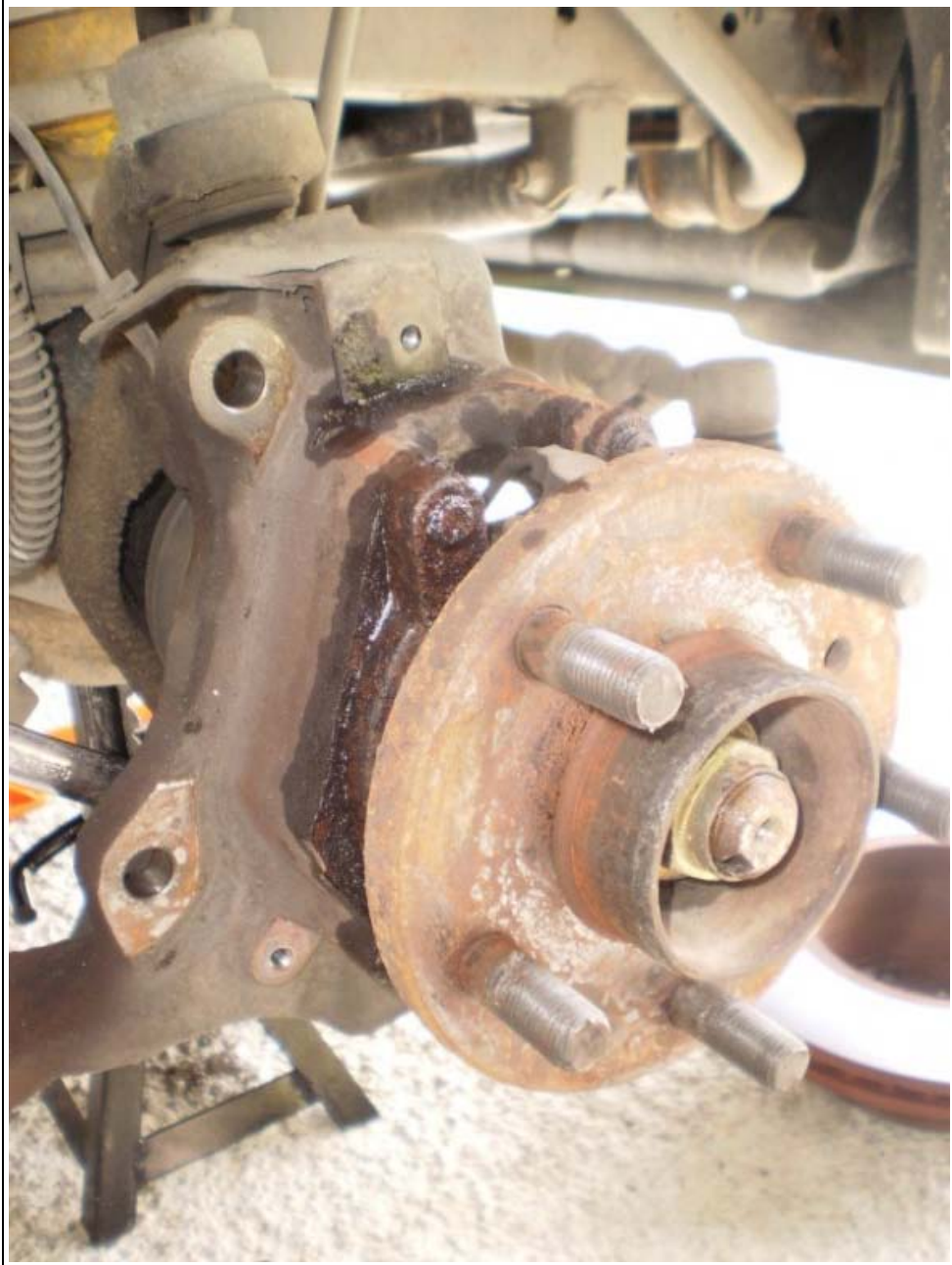
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7. Before removing the 4 bolts that secure the hub to the steering knuckle, remove the brake dust shield to have better clearance for your wrench. Use an 8mm socket and remove three bolts. Be careful to not strip them.







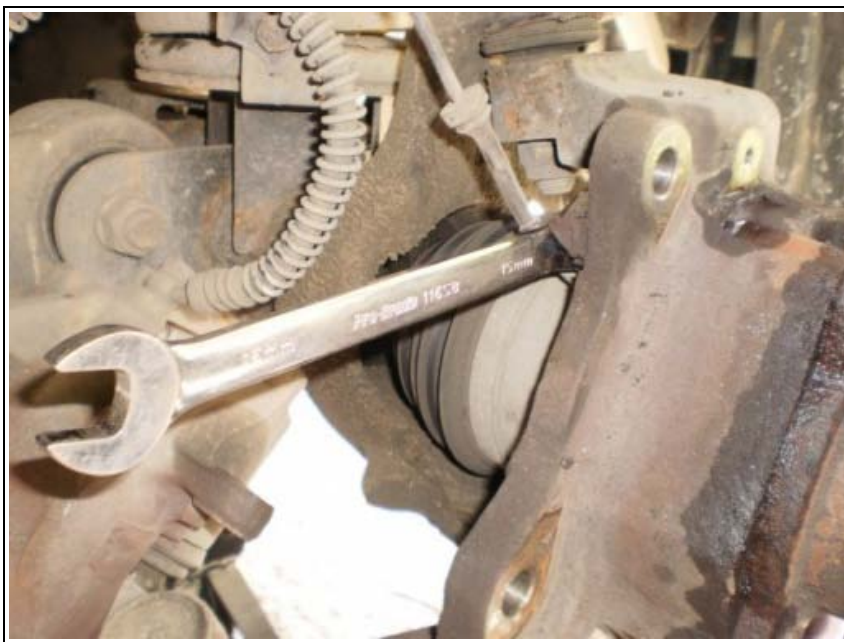






The top bolt for the brake shield secures the ABS sensor bracket.

8. Using a 15mm wrench, remove the 4 bolts securing the hub to the steering knuckle. Note that they do not need to be fully removed from the steering knuckle, just out far enough to not be screwed into the hub.



top left bolt



top left bolt removed



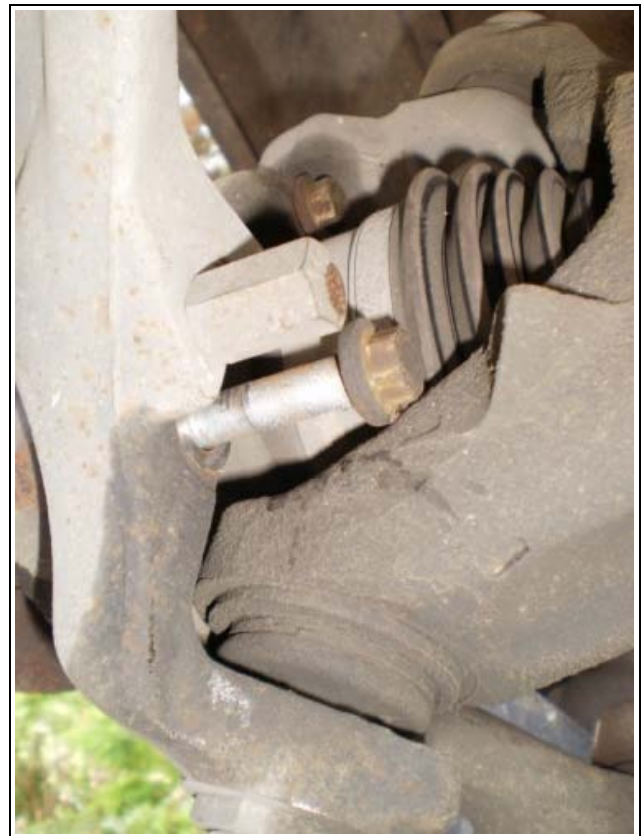
top right bolt



top right bolt removed



bottom right bolt



bottom right bolt removed

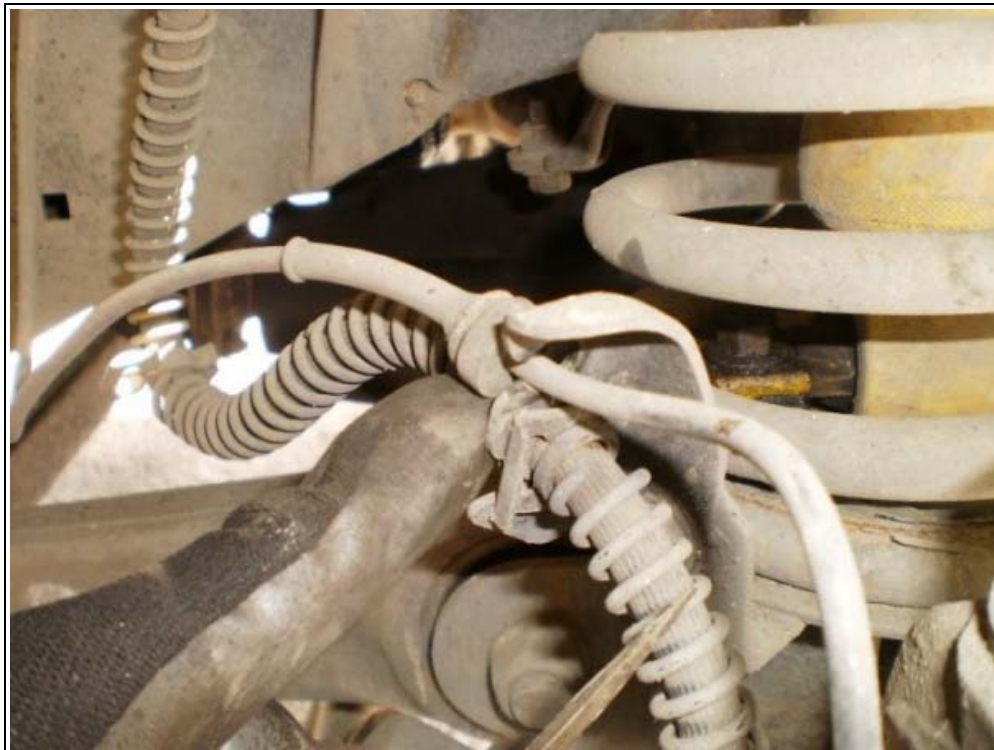


bottom left bolt

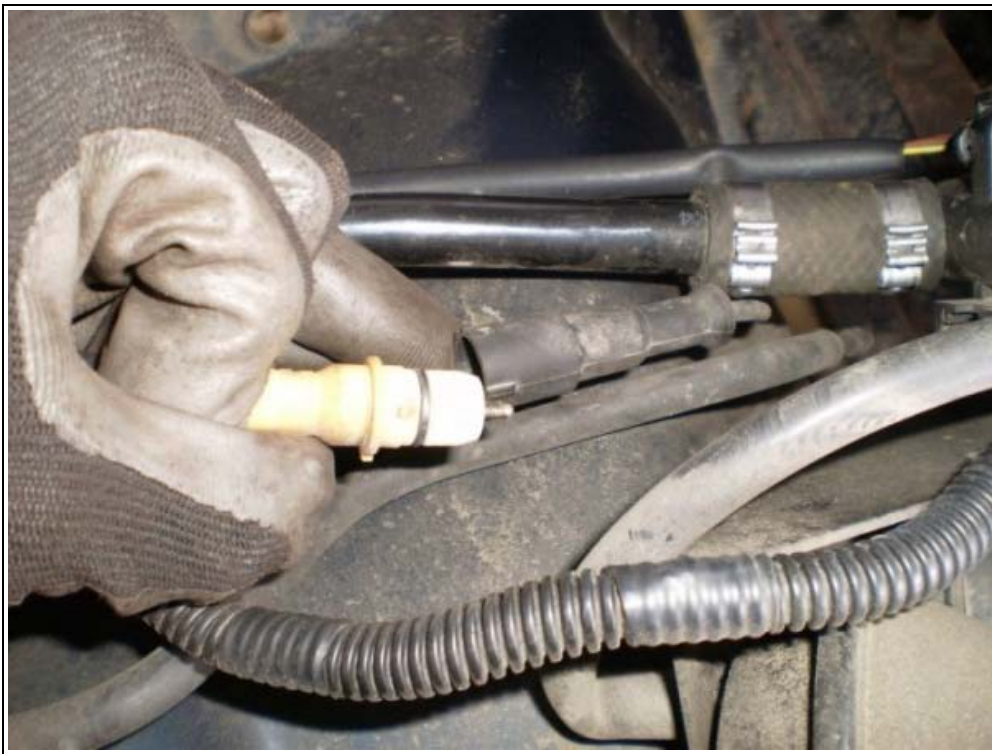


bottom left bolt removed

9. Remove the ABS sensor wire.







10. Having the hub nut removed I went ahead and sprayed some liquid wrench on the axle splines in hopes of aiding in removal. I doubt it really helped but who knows.



A. There are two methods for removing the hub. RAVE manual instructs removing the hub and axle as a unit and then pressing the axle out of the hub and replacing the oil seal. Since the oil seal on my client's car was in good shape and I didn't have the seal on hand, I did the second method which uses the jaw puller to remove the hub off of the axle without disturbing the axle oil seal.





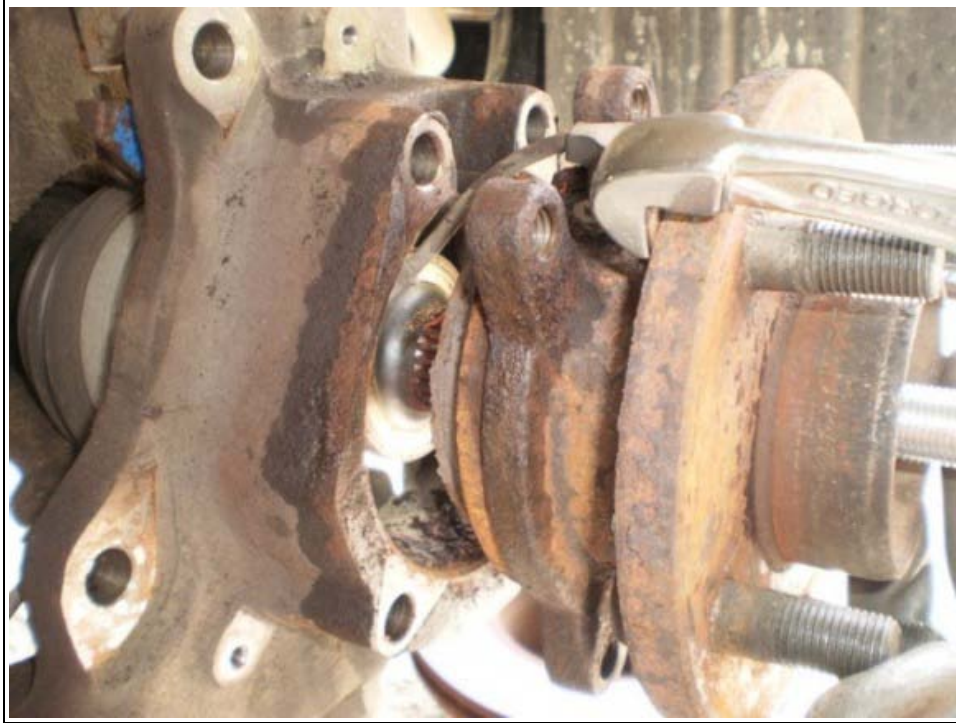
B. Start the pull.



Almost there.....



Just a little bit more.....



Finally out!





Old hub



new hub part # TAY100060

C. Use some anti seize compound on the mating surfaces all the way around. RAVE doesn't call for this but why not? Makes sense to me....



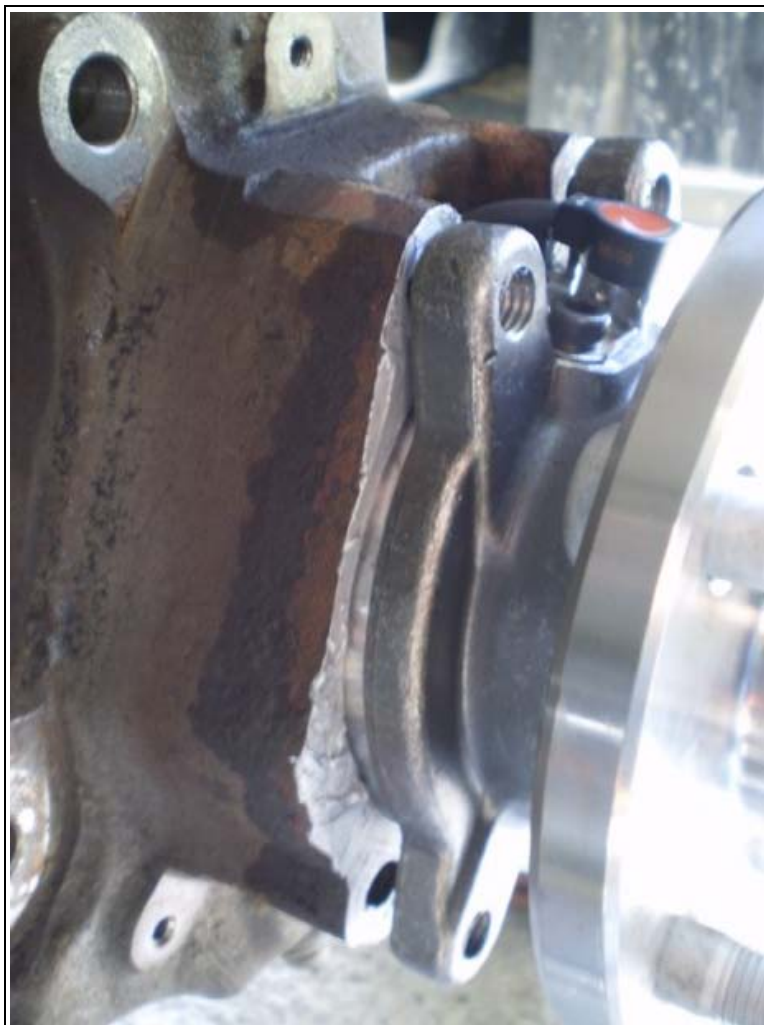
D. RAVE does however call for using locktite on the axle splines:

Apply a 3 mm (0.125 in) wide bead of Loctite 640 around drive shaft circumference.



E. Install hub on splines and align with the bolt holes. Be sure to do this step quick so the loctite doesn't cure before you set the hub in place.

From RAVE: ***With assistance, final tighten drive shaft nut to 490 Nm (360 lbf.ft). Stake drive shaft nut. The drive shaft nut must be tightened before Loctite has cured.***



F. Tighten hub nut.

Apparently the new hub nut from Atlantic British is wider and longer so you will need a 33mm socket to tighten it. Part # CDU1534L



11. Installation is reverse of removal. You're done!!



A few observations.....

The front hubs that came off of this 2001 DII had blue bearing grease inside the sealed hub....



....while my rear hub on my 2003 D11 had gear oil.

Not wanting to disturb the ABS sensors on the new hubs, I did not remove them to verify what lubrication compound were in them.