

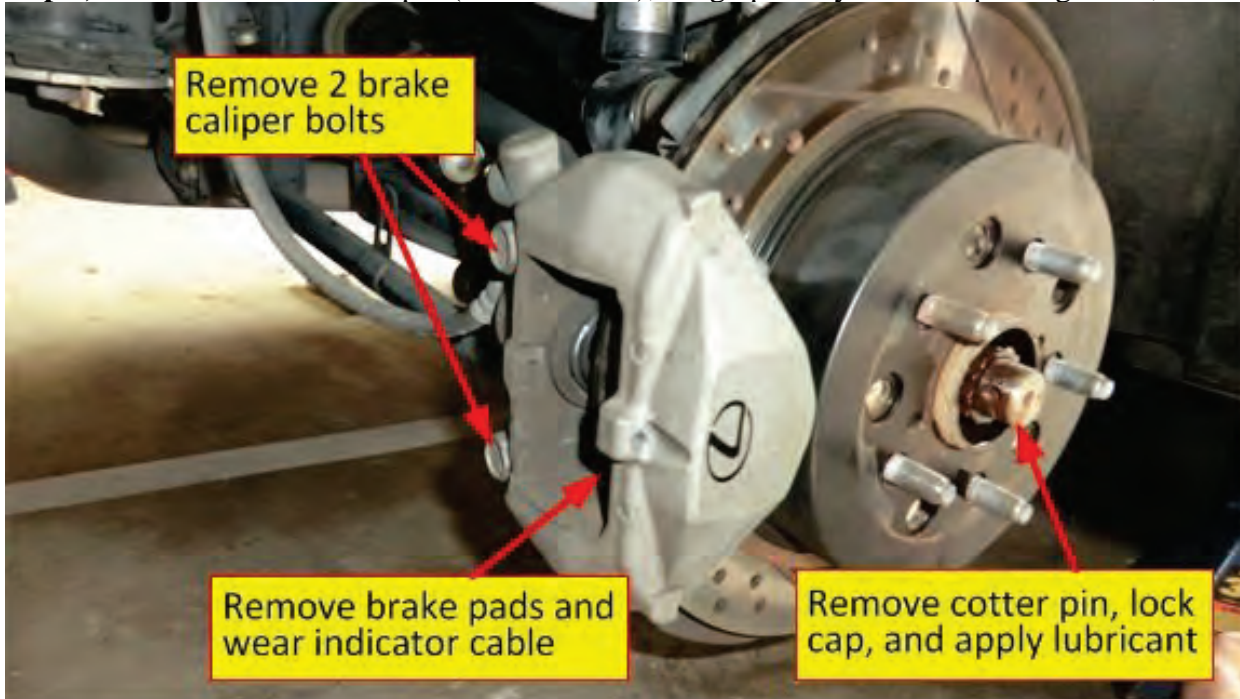
Replacing rear wheel hub assembly on 2001-2006 LS430 is 2 hours of work and does NOT (!) require disassembly of ball joints, control arms, or axles. The factory service manual, however, recommends it. If you proceed with service manual procedure, the job will take an extra 5-10 hours. You can easily replace both front and rear wheel bearing hubs, brakes and rotors in 4 hours. It's not a tough job but a fiddly job - there's not a lot of room to work with. Get a gear puller and be prepared to break 215 ft-lbs of torque.

Step 1) Put car on jack stands/lift and remove rear wheels. Place chocks for the front wheels before you disengage the parking brake and lift the rear.

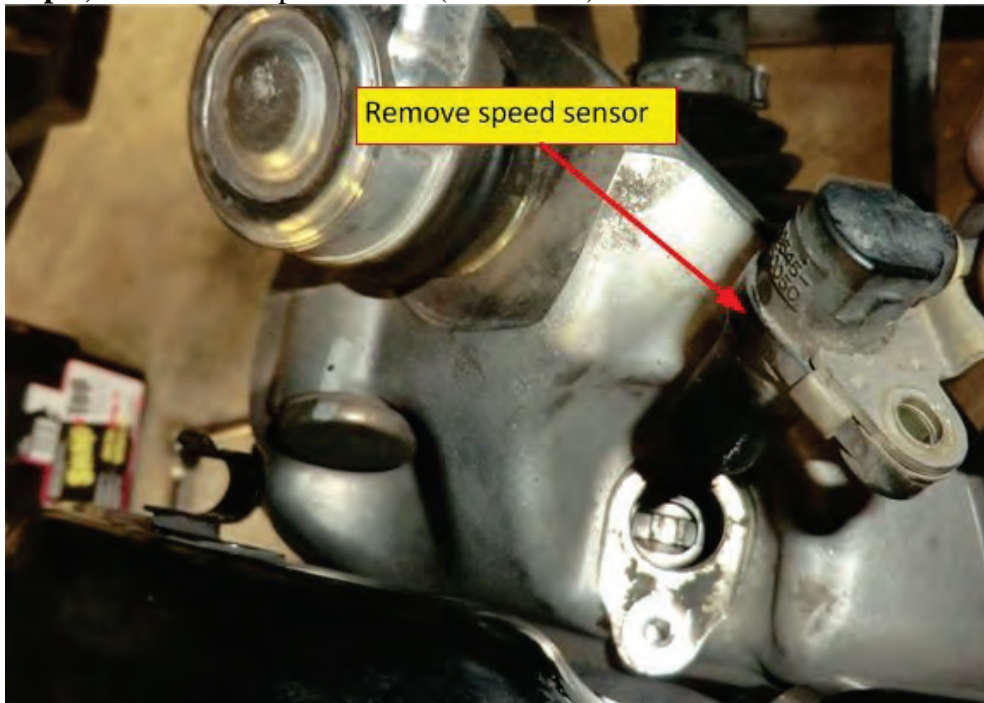
Step 2) Remove axle nut cotter pin, lock cap, apply penetrating lubricant (PB Blaster) to the axle nut threads.

Step 3) Remove brake pads and pad wear indicator cable.

Step 4) Remove rear brake caliper (2 19mm bolts), hang up safely. Release parking brake, remove brake disc.



Step 5) Remove the speed sensor (10mm bolt).

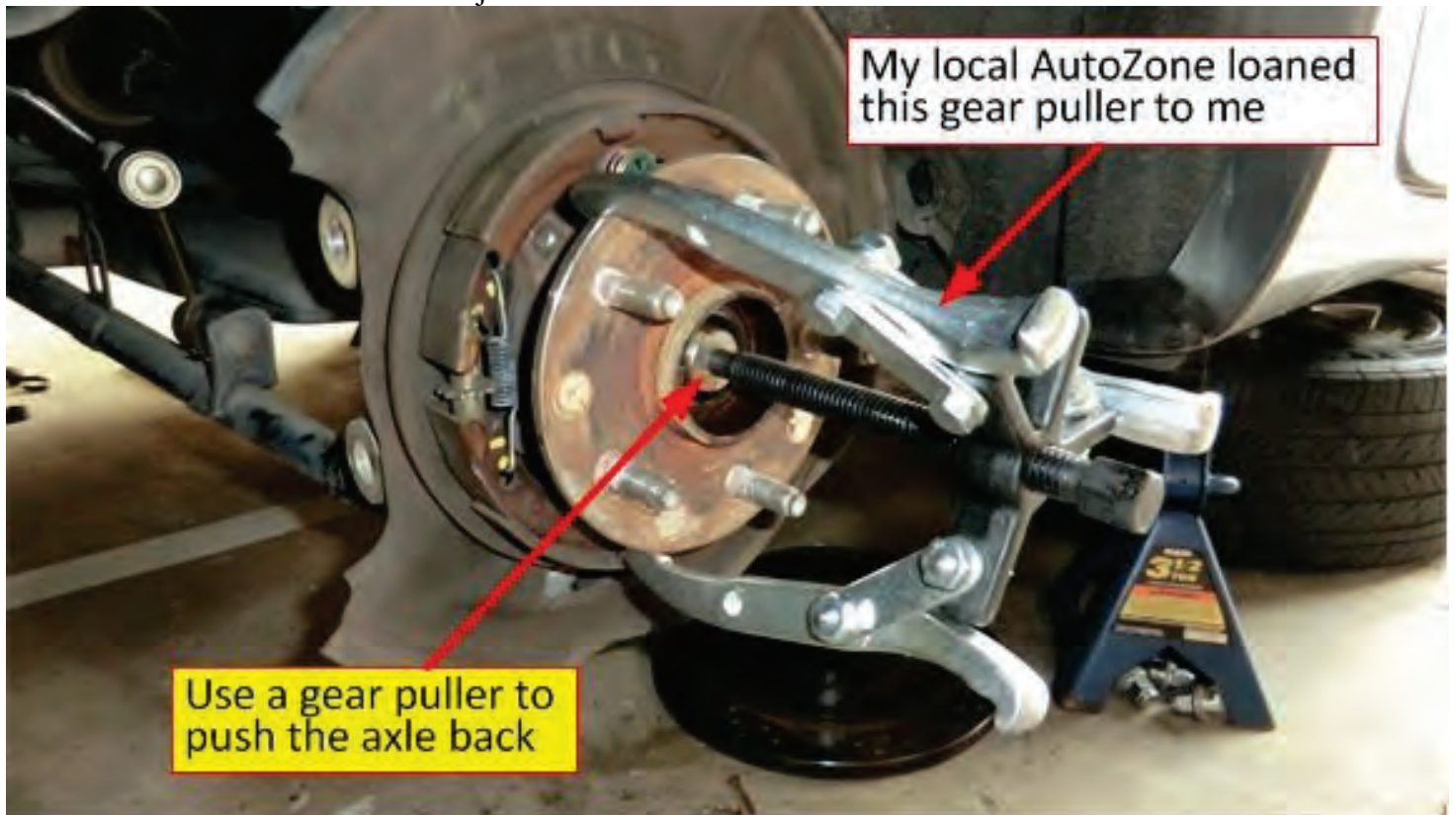


Step 6) Remove the 32mm axle nut. Before removing axle nut (which is torqued to 214 ft-lbs), use penetrating lubricant (PB Blaster) to lubricate the threads. Give it some time to work, as there is a risk of thread damage due to rust. You will need a 1/2 drive 12-point 32mm deep socket or a 1-3/8 drive 6-point Snap-On socket with a 6 foot cheater pipe. The axle nut is standard left-handed threads on both sides - lefty loosey. Make sure you install the correct socket fully as it may damage the nut if force is applied at a wrong angle. Use a long cheater bar and proceed slowly. If you use a 1-foot bar, you will need to apply 214 lbs at the tip. If you use a 2-foot bar, 107 lbs. 3-foot bar, 71 lbs. You can run a heavy duty 4-foot crowbar through the lugs on the hub to the floor to hold the hub while torquing both off and on.



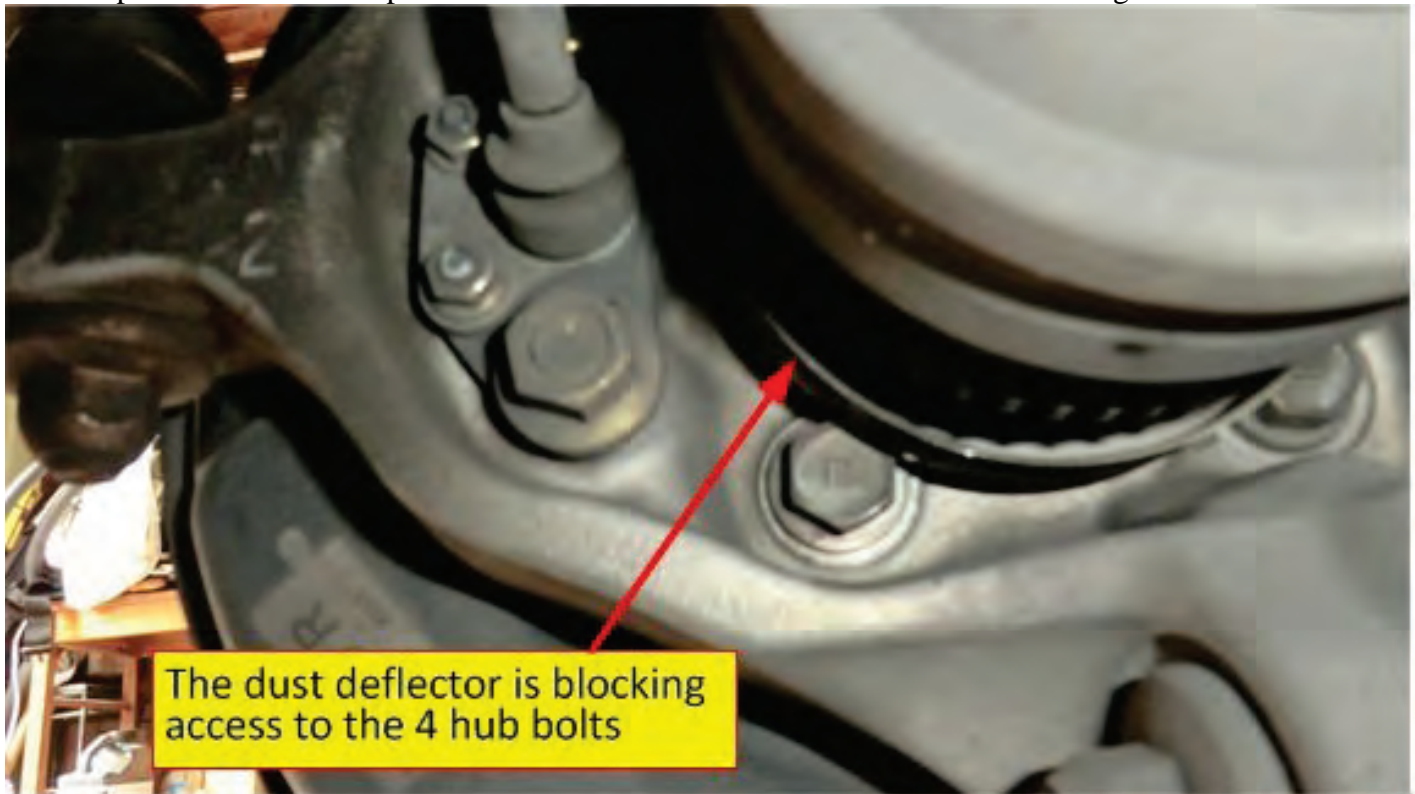
Step 7) Use a gear puller to push the axle back towards the differential into the wheel hub, it will move 1-1.5 inches. The secret to this project is the puller (which is actually a pusher), rent it free from your auto parts store.

You do NOT need to remove the CV joint rubber boot.

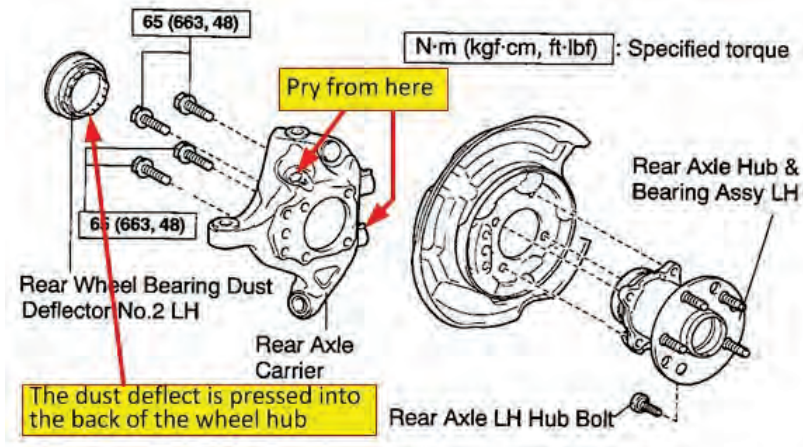


Step 8a) Remove the dust deflector **without going through the caliper**. It is stamped steel pressed not very far into the back of the wheel hub housing. It requires force and leverage to get it free, working from side to side helps. The dust deflector surrounds the ABS rotor and provides the hole for speed sensor, and replacing the deflector is recommended. However, if you haven't done the wheel hub job before, the deflector should have a second life. There is a very simple way to unpress the dust deflector without using screwdrivers. Go to Home Depot and buy a simple pry tool, e.g. a Vaughan crow pry bar. Insert the 90 degree end at the bottom of the deflector (you will have enough space if you pushed the axle in using the puller). Once you attach the bar from the bottom, use leverage and pull the pry tool down from the other end using hammer, another pry bar, or another such tool. One or two pulls using this method will instantly unpress the deflector.

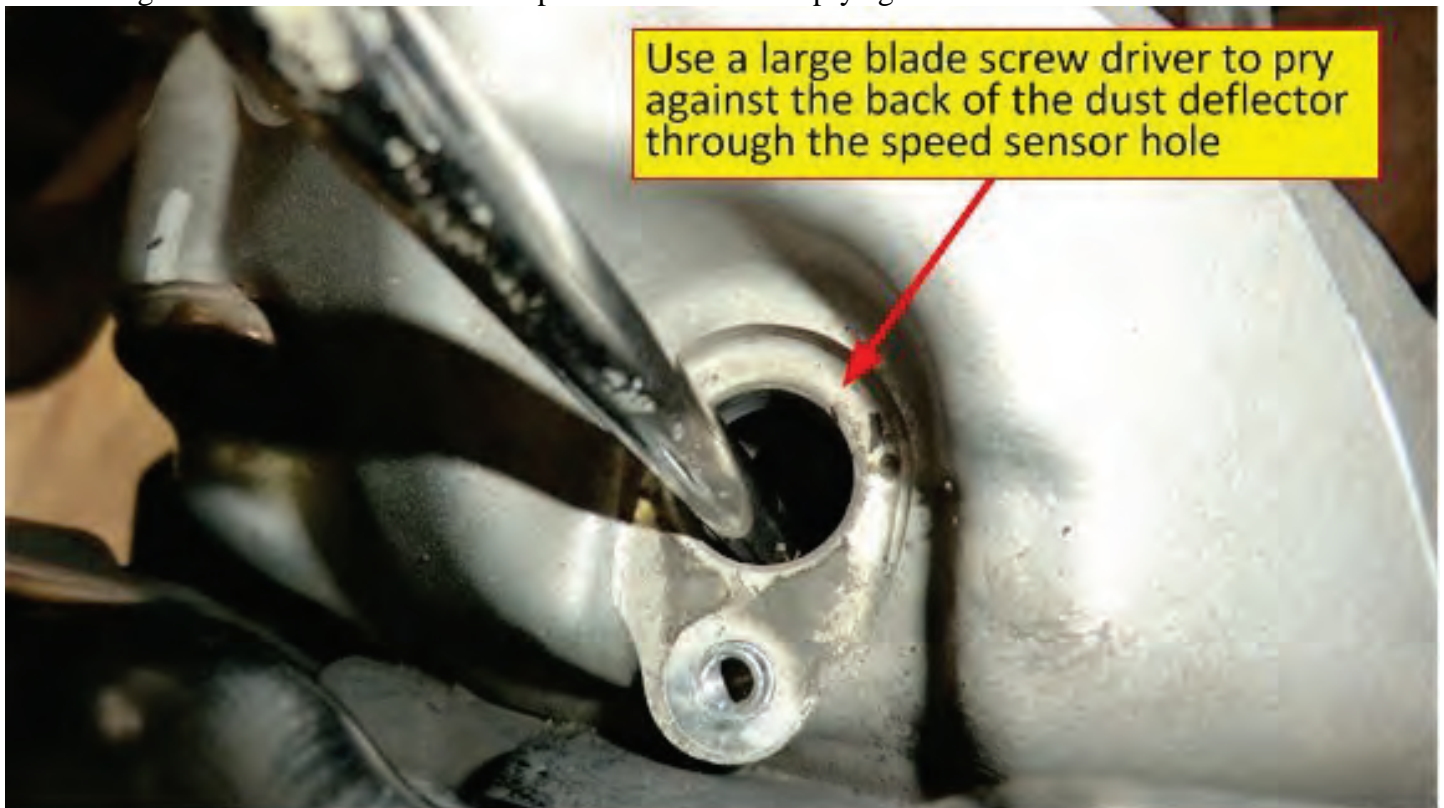
Here's a picture with the axle pushed back. You can see the dust deflector is obstructing access to the 4 bolts.



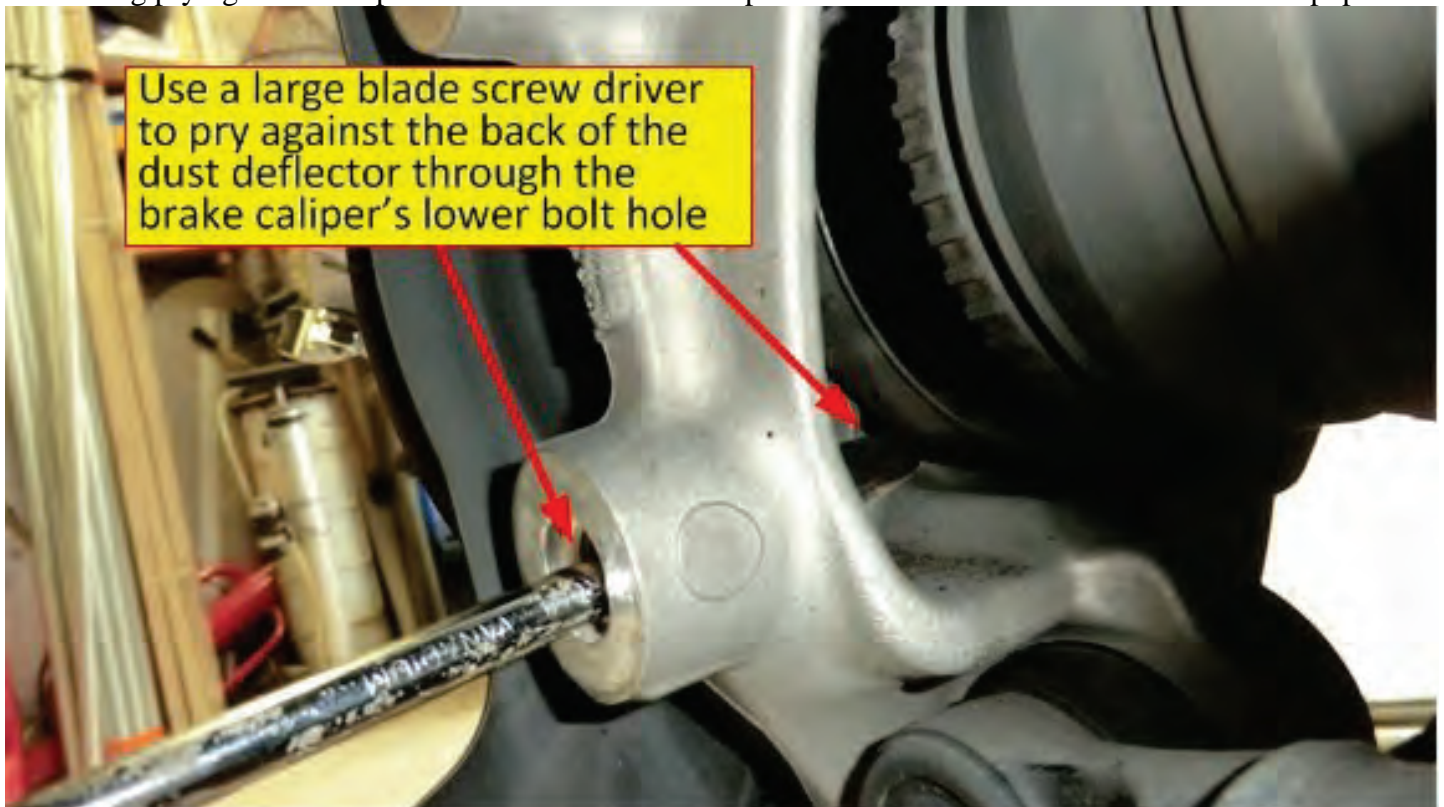
Step 8b) Remove the dust deflector **through the caliper mounting holes**. Avoid using this method if possible! This is a dangerous alternative because the brake caliper holes have aluminum threads that are easily damaged - any damage will require a new caliper. Using a large blade screwdriver, pry the dust deflector away from the back of the wheel hub through the speed sensor hole and the caliper's lower bolt hole.



Insert a large blade screw driver into the speed sensor hole and pry against the back of the dust deflector.



Insert a large blade screwdriver into the caliper lower bolt hole and pry against the back of the dust deflector. Alternating prying from the speed sensor hole and the caliper's lower bolt hole until the dust deflector pops out.



Step 9) Remove the 4 17mm wheel hub bolts and tighten the gear puller to detach the old wheel hub.

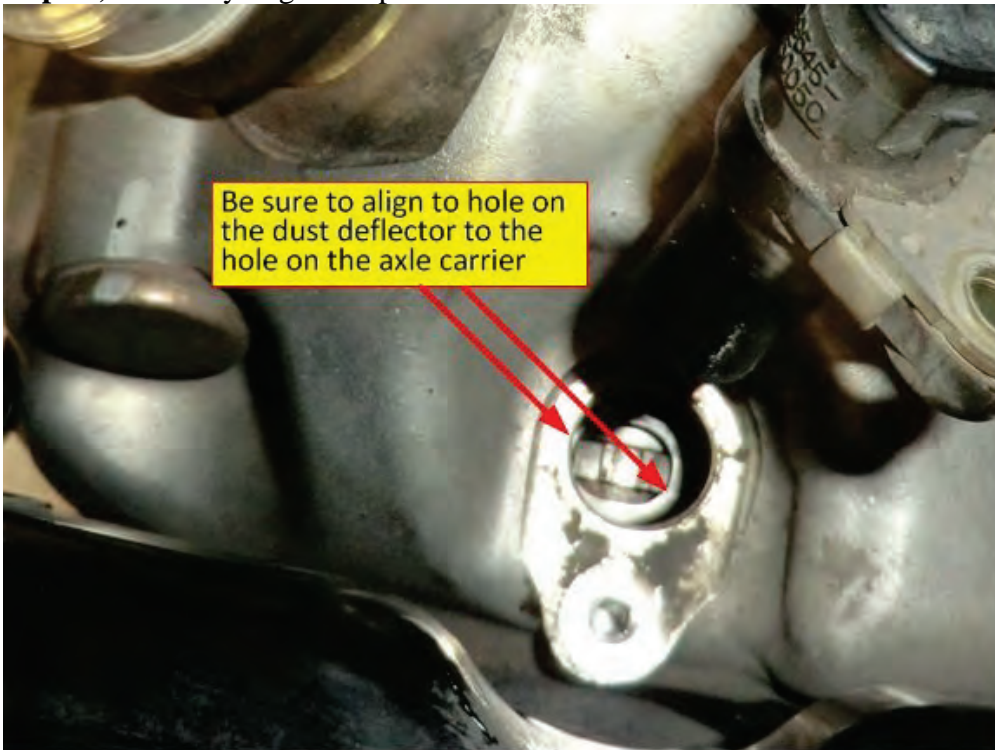


Here's a picture of the old wheel hub and the replacement wheel hub.

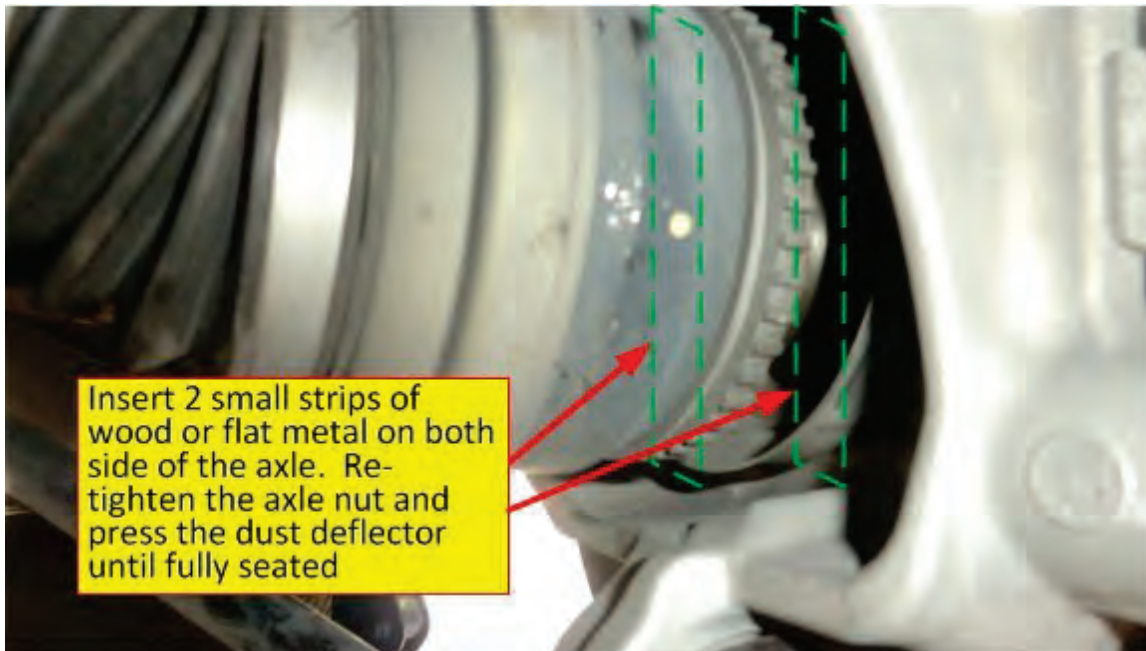


Step 10) Clean the recess and mating surfaces, and re-install the new wheel hub. Torque bolts to 48 ft-lbf.

Step 11) Carefully align the speed sensor hole on the dust deflector with the hole on the axle carrier.



Step 12) Install the dust deflector - after the 4 hub mounting bolts were torqued in the previous step, take the puller off. The axle is still somewhat moveable, while laying underneath the car, move the axle and the dust shield around - the force of the axle wanting to go through the wheel hub self-centers the dust shield. Then install the axle nut and slowly tighten to seat the dust deflector into the back of the new wheel hub. The axle can only seat the dust deflector partially. Insert 2 small strips of wood or metal shims between the axle and the rim of the dust deflector and tighten the axle nut to press the dust deflector completely in. You can put three shims to the left, right and most importantly, the upper part of deflector. By doing so, you will ensure your deflector doesn't bend and evenly attaches to the hub. To fully seat the dust deflector, use the gear puller to push the axle back once again. In case if you see uneven distance in between deflector and abs rotor at two or more points, unpress the deflector and try again.



Step 13) Loosen the axle nut to remove the shims. Re-tighten the axle nut to check clearance between axle and dust deflector. Spin the axle after everything is tight, look at the dust shield when spinning and ensure its centered on the axle with no rubbing.

Step 14) Torque axle nut to 214 ft-lbf, re-install lock cap and cotter pin.



Step 15) Re-install rear disc brake caliper and torque bolts to 58 ft-lbf.

Step 16) Re-install disc brake pads and wear indicator cable.

Step 17) Re-install speed sensor.

Step 18) Re-install rear wheel and torque lug nuts to 76 ft-lbf.