



## **8.8 Grande Hub Install Instructions**

**Joel Payne**  
**Revision 0**

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## Kit Includes:

- 2x Grande Halfshafts (4340 heat treated axle shafts, Ford splined on both ends and lengths specific to each chassis, FC, FD, etc)
- 4x CV boots... EMPI 86-2273 are the outers, EMPI 86-2215 are the inners. Notably this version of shaft does away with the trilobal adapter ring since we found a boot that has the inner CVs bump features built in.
- 2x CV spacers, this is just a slight correction to be sure the dust shield on the Ford CV has the proper spacing the knuckle.
- 3x Conversion Hubs. Again heat treated 4340. These use full length splines to maximize engagement. If you selected the option these may include 2.5" ARP wheel studs (longer than stock). If you want to install your own that's cool too and any stud with the common 0.509" knurl should work.
- 2x Wheel Bearings: Timken 510051 or 511019 for FC and FD (respectively)

## Special Tools Required:

- Tin Snips (optional for one step)
- Screwdriver or pick
- Heavy Retaining Ring Pliers
- Press
  - Various large sockets and/or knuckle support structures
  - See pictures following for several examples

## Torque Specs

- OEM Hardware
  - Ford Explorer Axle Nut 184 ft-lbf
- Note see individual 8.8 instructions for all others

Pictures of the FC install follow. FD will be similar.

You will do need to pull the knuckle in order to press the old wheel bearing out. We suggest removing the rear calipers with brake line attached and just tying that to your rear coilover up out of the way. Extra jack stands may be useful in supporting the control arm.

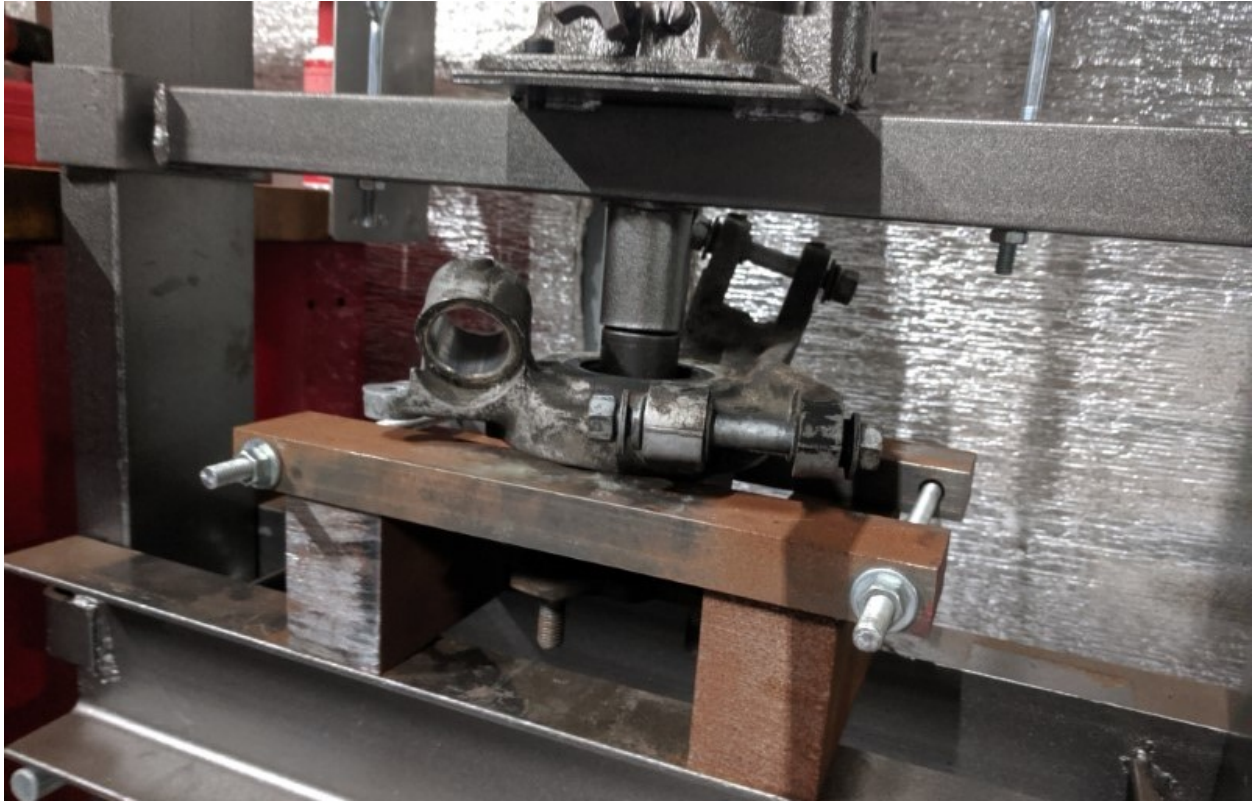


The dust shield gets in the way of pressing out the hub. You can work around it with some creativity. I found it easiest to just cut the thin side of the connection with tin snips.





Press out the old hub using appropriately sized sockets or scrap to push on the hub only. Two sets of blocks in a crossing pattern may be useful to support the assembly. All thread not required but keeping things stable. A large bearing splitter could be useful here as well.



This process often leaves behind half of the wheel bearing inner race. It's irrelevant for us since we're replacing with a new hub.

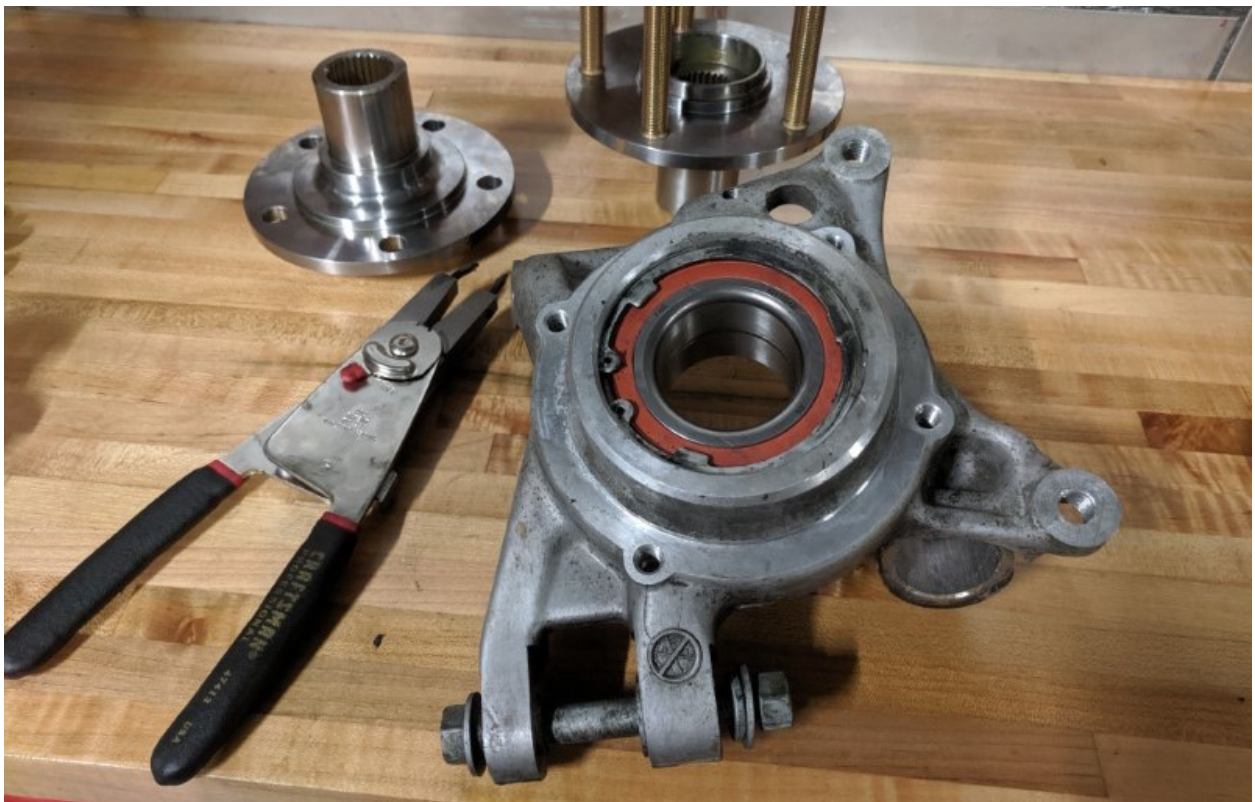




FCs used an inner CV seal not found on FDs. This seal will be removed and discarded using a flat screwdriver or pick. It will not be replaced on our final assembly.

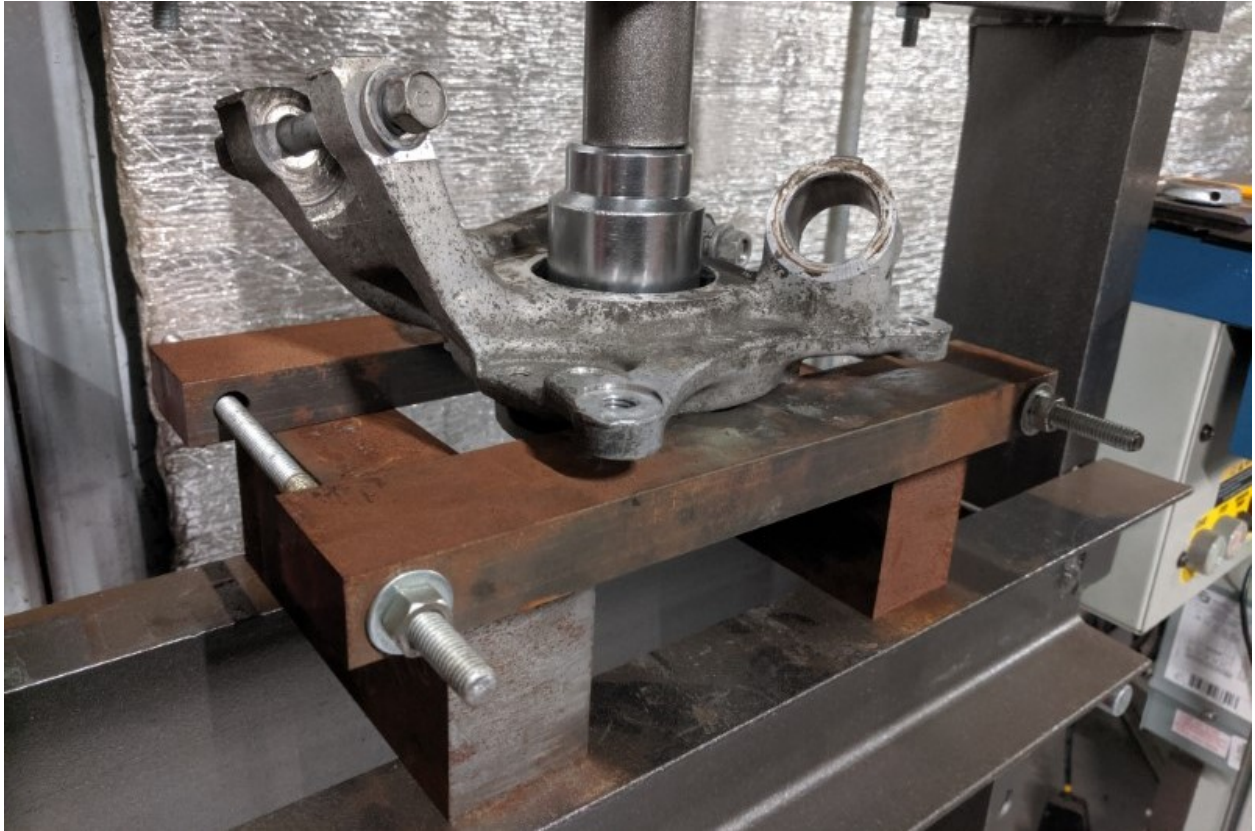


There is a large snap ring that retains the wheel bearing. [Can someone grab a pic for us?](#) It's shown here in the reinstalled configuration.





With the snap ring removed the wheel bearing can be pressed out. Ideally you'd like a very large socket such that you're pushing on the outside race of the bearing.



Leftovers. We need the snap ring. The remainder are not needed.



Now is a great chance to give everything a thorough cleaning.



If you did not select Ronin 2.5" ARP stud option now is the time to press in your studs of choice. Note ARP does have several other offerings available for those who choose their own. Ronin just selected one of which we believe will be the most common. Possible m12 variations include:

- 100-7708 2.5" full thread (the option we gave folks)
- 100-7713 3.25" full thread
- 100-7725 2.5" with a 0.2" nose
- 100-7726 2.0" with a 0.305" nose





Note, some creativity may be required for pressing wheel studs (one reason we give folks the option of having us do this for them. We used a stack of wheel spacers.



Drive the new studs all the way flush



The wheel bearing is symmetric so either way is fine. A light coating of grease on the knuckle bore helps it run down smoothly.



Again, some creativity with press supports may be required.





The old wheel bearing makes an idea driver to push in the new bearing. This ensures the press action occurs on the outer race of the bearing only.

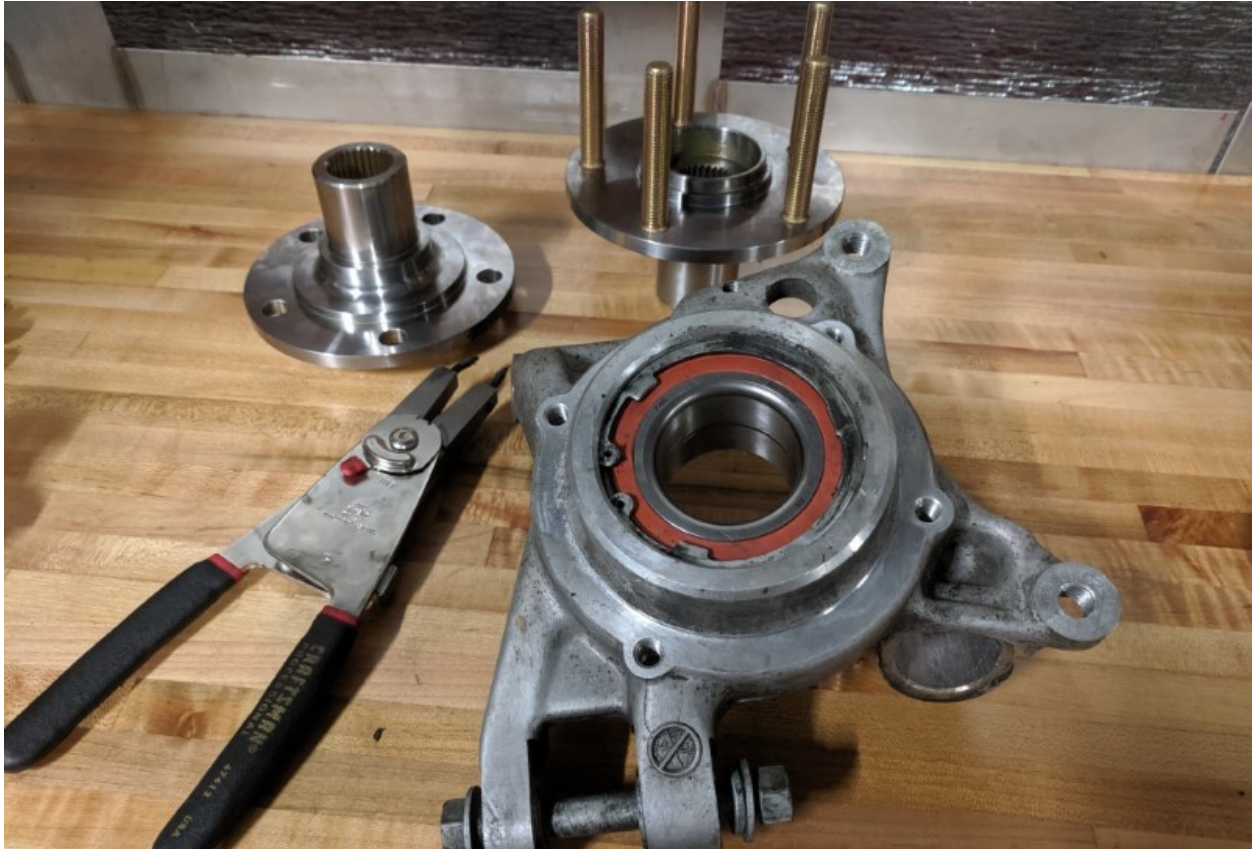


Pressed. The top (old) bearing should come free with a little wiggling.





Don't forget to reinstall the snap ring.



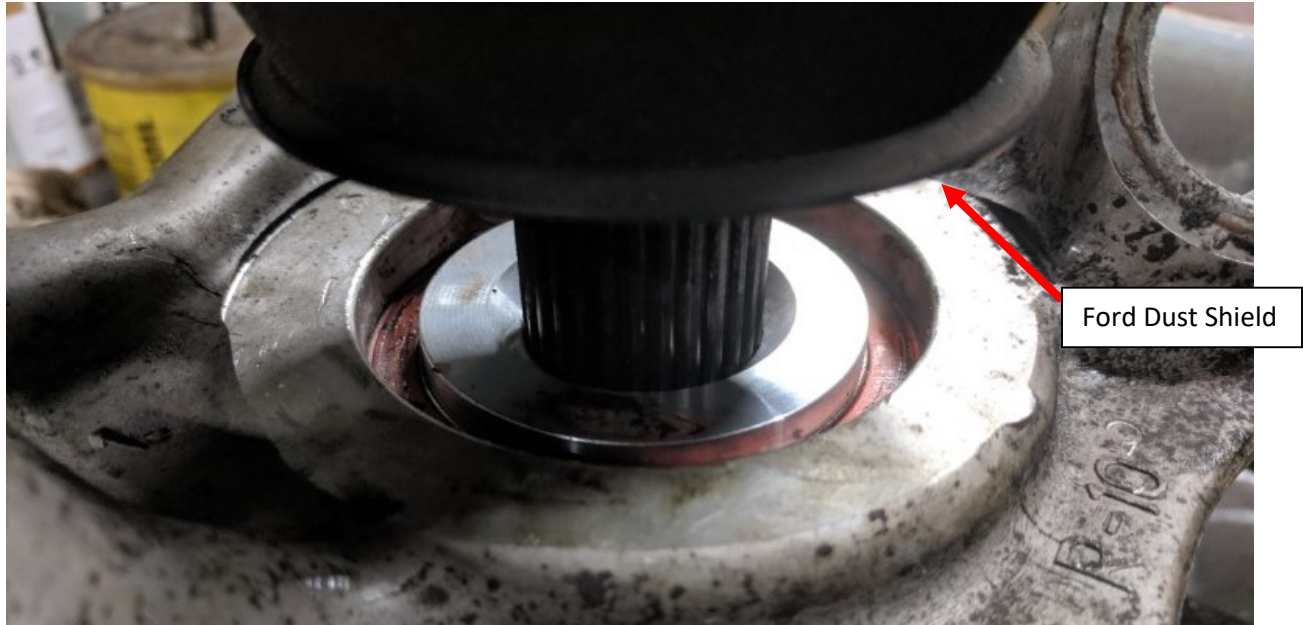
Dust shield is next and finally the hub w/ studs presses in place as an assembly. Lubing the bearing ID with a little grease is a good idea.



Note, you need to support the inner bearing race as the hub is driven through otherwise the bearing could separate (as likely occurred when the old bearing removed)



Reinstallation on the car is the reverse of removal. The spacer--the large machined washer--should install with the ID chamfer (angle cut surface) facing toward the CV. This angle provides clearance for the radius where the CV splines meet the body of the CV. The spacer should allow use of the Ford CV dust shield. This will run close to the Mazda knuckle but is not intended to touch when the CV is fully seated. Bearings are sealed so this a convenience rather than a requirement.



Axle nut is factory Ford and torqued to 184 ft-lbs.

Good luck and happy wrenching,  
-Joel Payne (for the Ronin)

Ronin Speedworks, LLC