

63-82 Trailing Arm Rebuild

Ok here is one job I get a lot of questions on. First thing I find that a lot of guys are intimidated by this job. Once you understand corvette rear bearings the mystery will be gone and you'll be able to decide if you want to buy the tools and try the job or farm it out. Now the tool cost for a set of arms is more then farming them out so think about what your plans are. If you want to join the dozens of Arm rebuilders out there buy the tools - but do the job right. This post will have pictures of various jobs I did so don't be surprised if the arms look different.

To do this job follow the GM manual procedures. I do some machining to my jobs that others don't or weren't until I started posting pictures on the other place. Some rebuilders I spoke to are about as good at machining as my 8 year old sheltie dog. Take it for what it is and make your own choices. One thing I already know is guys have been asking questions now as opposed to just having the jobs done. Also ask your rebuilder if they supply any job reports on their work. I have been asked why I do, very simply, I want my guys to know what was done from the time I open the box until it ships out.

Here are what your arms may look like once you get them out. I always rebuild them off the car but they can be done on the car. I would never do it that way unless I was stuck out of state on the road.



Look them over for rot, being bent, and look at the front bushing for dry rot. Here is a 64 arm. Remember the 63-64 and some 65's had drum brakes.



Look them over for rot, being bent, and look at the front bushing for dry rot.



I use one of those spindle protectors and either press or hammer the spindle out. If you hammer them out place something to catch the spindle. Don't worry about the bearings as they will be replaced anyway. If you have one that is really rusted the press and some heat may be the only way to go. Also the spindle nut should come off and the tool thread on without a problem. Many times these have been worked on before and the threads are already shot and a new spindle is needed.



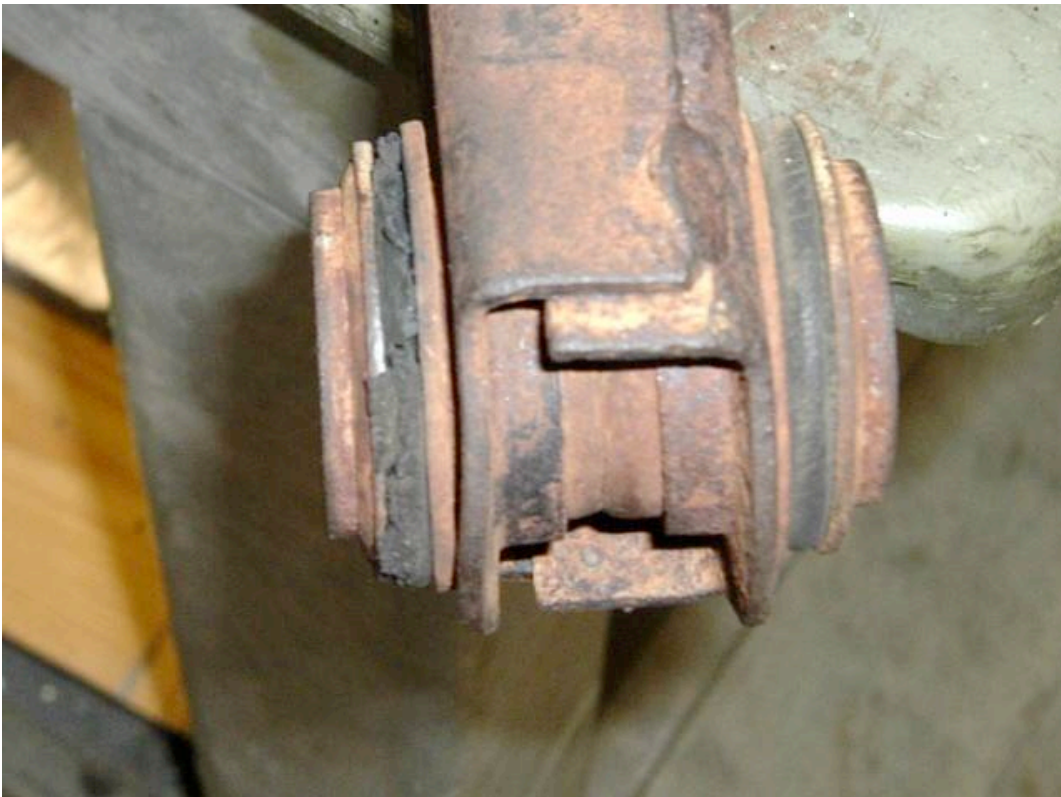
Here we have parts to one arm apart and cleaned up for inspection.



Here I found someone was in here before and installed the outer seal backwards.



Once stripped down, I remove the front bushing



Drill the flare out and use an chisel to remove. I used to put these in a Bridgeport mill but a large step drill works as well.





With the arm apart, I blast them to the metal and POR15 prep and paint them. I top coat with a satin black.





I use only rubber bushings, no poly for me. The rubber has to be compressed and then flared to correctly install them. I have found all kinds of crap work in this area, some have even left them unflared!



Here is the tool I made. Works good. There are a few on the market, some good -some junk.



Here are what mine look like

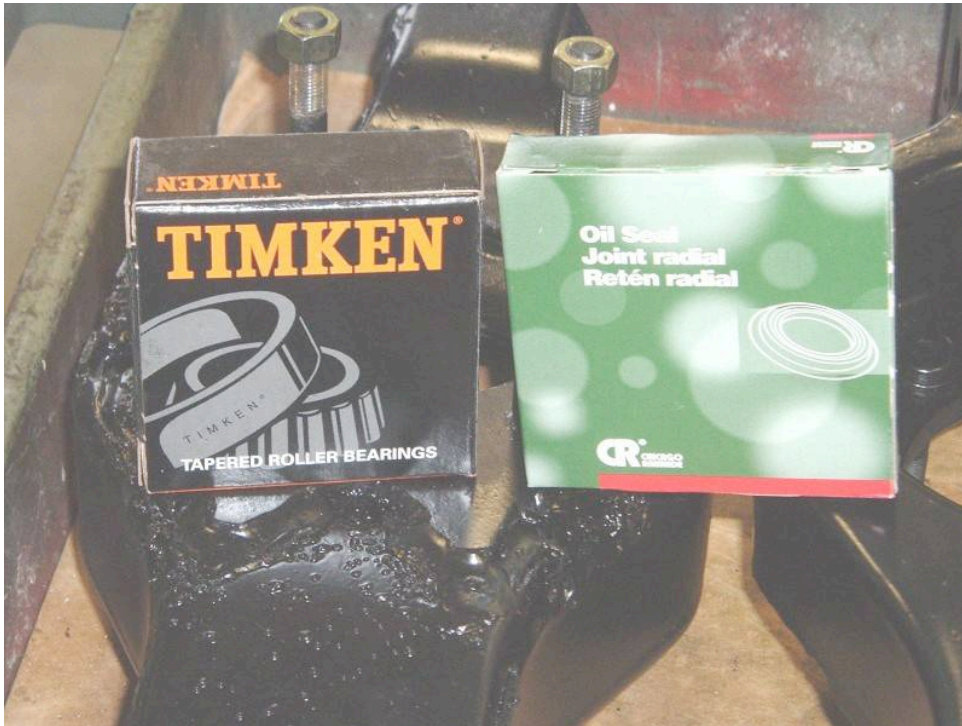




Next look at your spindles. If you have threads like this replace the spindle.



Ok on to Bearings. I use only Timkens and CR/SKF seals. I could debate the fact other bearings are just as good or Timken are not made here anymore. You decide what you want. You can save \$20 using imported bearings if you want. The Timkens I have are still stamped USA and I'll pay more for them.



The book calls for .001-.008 endplay in the bearings. I set them to .0015 -.002 +/- .0003" That is correct 3 tenths. Others may tell you otherwise which is ok for them, remember this is how I do them.



Here is the fixture I made to setup the endplay



Now here is the deal on this job. IF you want the BEST job done use a surface grinder to dial in the endplay. If a guy tells you he can dial in .002 endplay with just the common shim kits - walk away. I have never had one shim I could use without grinding it to size. Also you see those kits with the new spacers in them, total waste of your money. Unless the original spacer was burnt by an idiot with a torch they are still good and they do not fail in service. The thing with them is they are not parallel finished. I always parallel grind them before even setting them up in the fixture. It is not uncommon to find them out .005 or more. This can change the endplay you setup on the setup tool to the final press on install.





OK with the spacers ground and in the fixture. I use a large shim to start. I have one that I use as a setup shim. I torque the tool to 100 ft/lbs and see how much endplay I have. Then grind a new shim to size and double check it. I only use light spindle oil on the bearings- no grease until you are done and ready to install the bearing in the press.

Use a micrometer over a dial caliper for this job. If your guy thinks a mic is a C clamp - walk away. Or even better as reported in a leading corvette magazine- "so and so has been rebuilding rear bearings for so long, he can feel the correct endplay"



When the endplay is set I install the prepped and painted parts on the arm. It is much easier to install the parking shoes with the spindle out of the way.



Now before you install the spindle you have to remove the outer bearing. This should be done before you get to this point. Remove the bearing, clean the spindle, check the journals, replace the studs and I face the flange in a lathe as well.



Now if the threads are rolled a little you may be able to save them. I have a thread forming tool, thread file, lathe, but you can use the "old school way" of using an old nut and some very fine lapping compound to clean them up. BE sure the threads are good and you use a new nut before you get to the bearings.



The spindles are cleaned up, the arms painted, bushings installed, and bearing endplay set. One of the spindle preps I do is to remove the rivets and tap the hole 3/8-24. We'll explore this more when I get to the rotors.

Ok, so grease the outer bearing, I use Mobil 1. Install it in the housing, install the outer seal- I use Ultra Black on the OD and grease the rubber seal ID.

Place the spindle in there - it will be loose. Place the spindle on a support and install in the press and press on the outer bearing. Pack the inner housing with grease but leave room for expansion. Install the spacer and shim- you did have them parallel ground didn't you!



Grease the inner bearing and put it on the spindle. Transfer to the press again and press the inner bearing on the spindle. Bring it back to the bench and install the inner seal- again RTV on the OD. I then usually re-use the shield and loctite it in place. With the yokes, I again grind them, clean them up and chase the threaded holes.



Torque the new nut to 100 ft/lbs and check the hole for the cotter pin. If needed you can tighten some more and install the new pin. If the hole is out a lot I grind the nut face to index it on the spindle. The spindle should spin snug but not tight. If you need two hands to rotate it there is something wrong. At .002 endplay you can feel

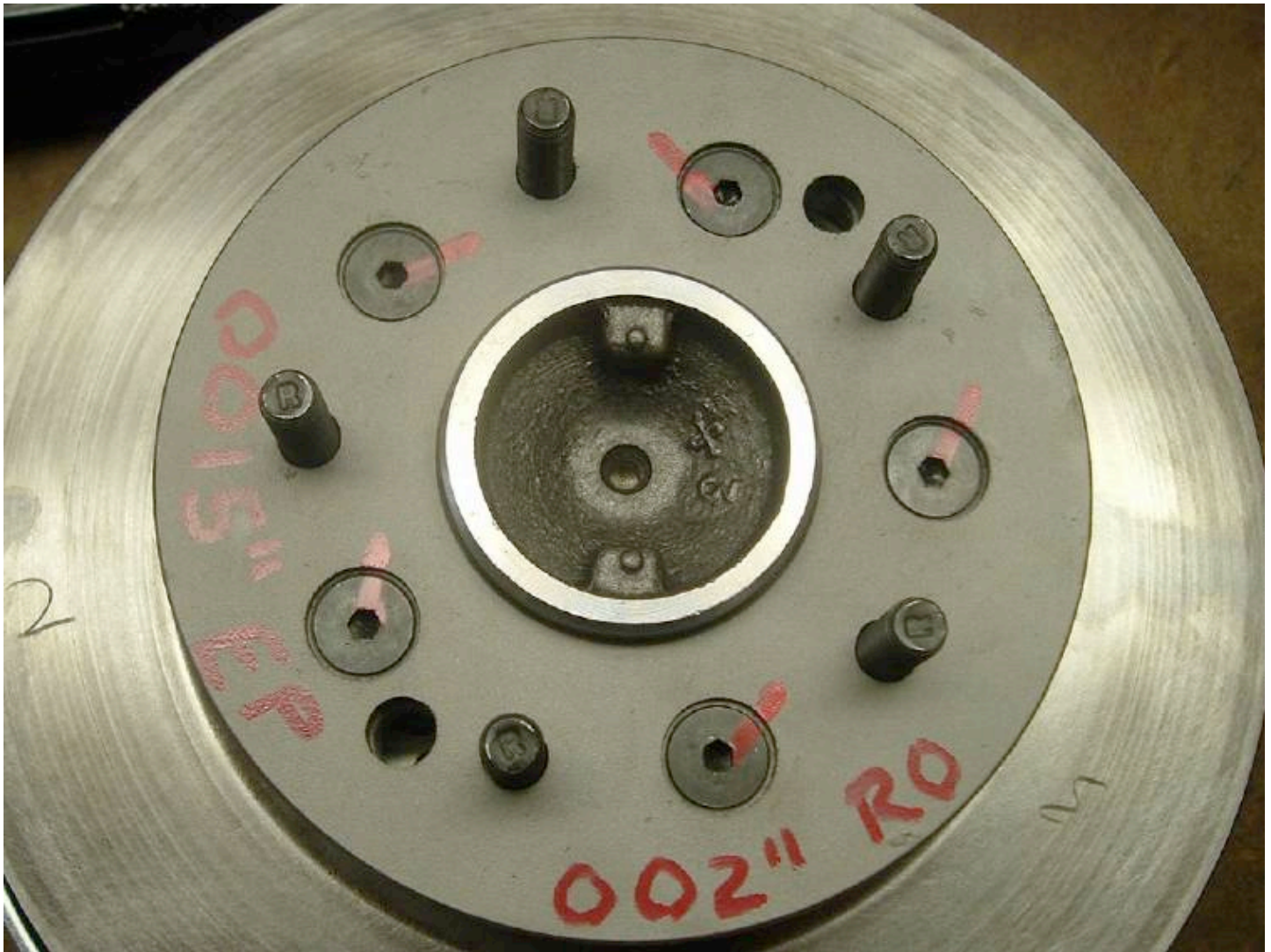
movement, not much but you can feel it.

If something is wrong at this point you have to start over. Now here again is where the job differs as I have seen spindles so tight they could not be moved and so loose the endplay was over .004" Where did I see these works of art? - on tables at Carlisle for sale.

Now I countersink the rotors and bolt them on to the spindle flanges with 3/8-24 flat heads. Then setup an indicator and check the rotor runout. It doesn't matter if you have original rotors, new USA or new imported they will have runout. If over .002 I shim them to .000-.002" You can go to .003 ok. I wouldn't use anything over .003 and you should not accept anything other then that.

I do not like the procedure of using just the lug nuts to hold the rotors on. The runout can change everytime the wheel is removed that way. Many do it this way, I don't. I want the runout to stay where I dial it into.





OK so what do you think and did I answer your questions? Does the job still seem tough once you have the tools and procedures? Doing it my way will take longer but do you want this job rushed? Be honest with yourself and think it through before starting.

By: Gary Ramadei

If you are interested in my rebuilding services

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