

Sixteen Years Of Hibernation by Jim Stukenborg

The last time I put gas in my 65 Corvette coupe was November 1992. The car has been sitting in my garage since that time. Most of the time, the rear axle has been out of the car.



This whole saga started when I was advised by Miami Valley NCRS member Klaus Huber that the aftermarket

universal joints installed on my Vette was a disaster waiting to happen. The grease zerks installed in these joints are a point of weakness that could lead to the initiation of a crack and subsequently total failure



of the joint. A failing half shaft can cause a lot of damage before the car can be brought to a stop. This actually happened to Klaus' 67 Corvette coupe.

The joints were changed, but during the process, the side yolks pulled out of the differential. They are generally held in by snap rings on the inner end. This led to the decision to remove the differential. In a Corvette this is not an easy thing to do. Of course this led to other issues.

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Worry about old grease in the rear wheel bearings, rust in the trail-

ing arms, and a lot of little things that developed over the 27 years the car was on the road. Working on the bottom side of a car is not my idea of fun and other cars needing work resulted in 16 years of inactivity.

Buying a newer Vette also lessened the urgency for the 65 to be back on the road.



NCRS Miami Valley Chapter president and close friend, Larry Linder, decided that I needed to refocus on the 65 Vette and maybe a little



nudge would help. This led to planning several chapter tech sessions at my house. Tech sessions are a part of NCRS activities so this fit a need for the local chapter as well. So, with the impending sessions, the car had to be unburied, the garage cleaned up and the

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parts ordered....now we had a deadline for action. Tech session #1 covered the rear wheel bearing setup.



have been to use a rear spindle removal tool.

The first of the sessions covered the installation of the new bearings on the new trailing arms. The big problem with this job was that the bearings are pressed onto the axle shafts, but they also need to be properly shimmed for end play. The service manual says 0.001" to 0.007" on end play. Larry likes to shoot for 0.001" to 0.003".

torqued to 60 foot pounds. The end play is then measured with a dial indicator. After the end play is determined, the nut is removed along with the inner bearing and the proper shim(s) are installed to get an end play of 0.001" to 0.003". The bearing and nut are then reinstalled and re-torqued to 60 pounds and the end play rechecked. If we end up where we want to be, then we're ready to go on to installing the bearings. If not, then we change shims as necessary and repeat the process.

Rear Wheel Bearings

The 65's rear axle and old bearings had already been disassembled. This was done by a shop that used a torch. Unfortunately, this ended up with a torch groove on one of the axle shafts necessitating a new axle. A better way would

To make the shimming easier, since we do not want to remove a pressed on bearing, a dummy axle was used. This axle, available from some Corvette parts suppliers, is under sized so that the bearings will easily slip on and off. With just a little bit of lube on the bearings so they won't get scratched, the dummy axle with the outer bearing and bearing spacer, the inner bearing, the spindle flanges deflector and the spindle flange are installed on the axle and the axle nut

The bearings should then be packed with grease. Next, the outer bearing and grease seal are installed in the housing. It is better to

use a seal driver to install the seal, but this can be done with a large socket. Be sure to lube the seal surface and

axle with grease so the seal doesn't run dry against the axle. Next, the bearing housing, caliper bracket, and parking brake plate (splash shield) are bolted



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to the trailing arm. The bearing housing goes next to the trailing arm. Note that the bearing housings are side specific. The correct side will have the flat on the strut rod ear, facing toward the rear of the car. Only one of the two ears has this flat in the hole through the ear.



The lower shock absorber mount forging goes in from the front through the ears and the strut rod, and the flat on the end of the forging mates up with the flat on the rear ear. The splash



shield should have the parking brake mounted to it and

adjusted to the rotor with a very slight to no drag before mounting it to the trailing arm.

The caliper bracket and parking brake plate are also left or right side only. The proper side will have the caliper tilted a little toward the rear of the car. The service manual shows how to adjust the parking brake after assembly should you forget to do it before installing the axle and covering up all of the parking brake components.

Additional grease is packed inside the housing to fill at least a third of the inside volume. When warm from running, the grease will tend to flow into the bearings. The axle is then installed in the housing.

Next, the bearing spacer, shims and inner bearing are placed on the spindle, and using a spindle installation tool the bearings are pulled onto the axle. The inner seal surface is greased and driven onto the housing.

The flange deflector, u joint flange, washer and nut are installed and the nut tightened to 60 ft lbs. (Note that the service manual recommends 50 ft lbs while a Corvette Fever article in the October 1993 issue recommended 100 ft lbs). We

compromised and used 60 ft lbs. The end play should be the same as the set up. If it is, the cotter



key can Then be installed and the assembly of one side is complete.



Trim the cotter key so the

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half will fit without interference. Repeat the process on the other side. One source for the spindle removal tool is Volunteer Vette Products. The tools listed are in their catalog.

Editors Note: A big thank you to Jim for sharing this tech article.

