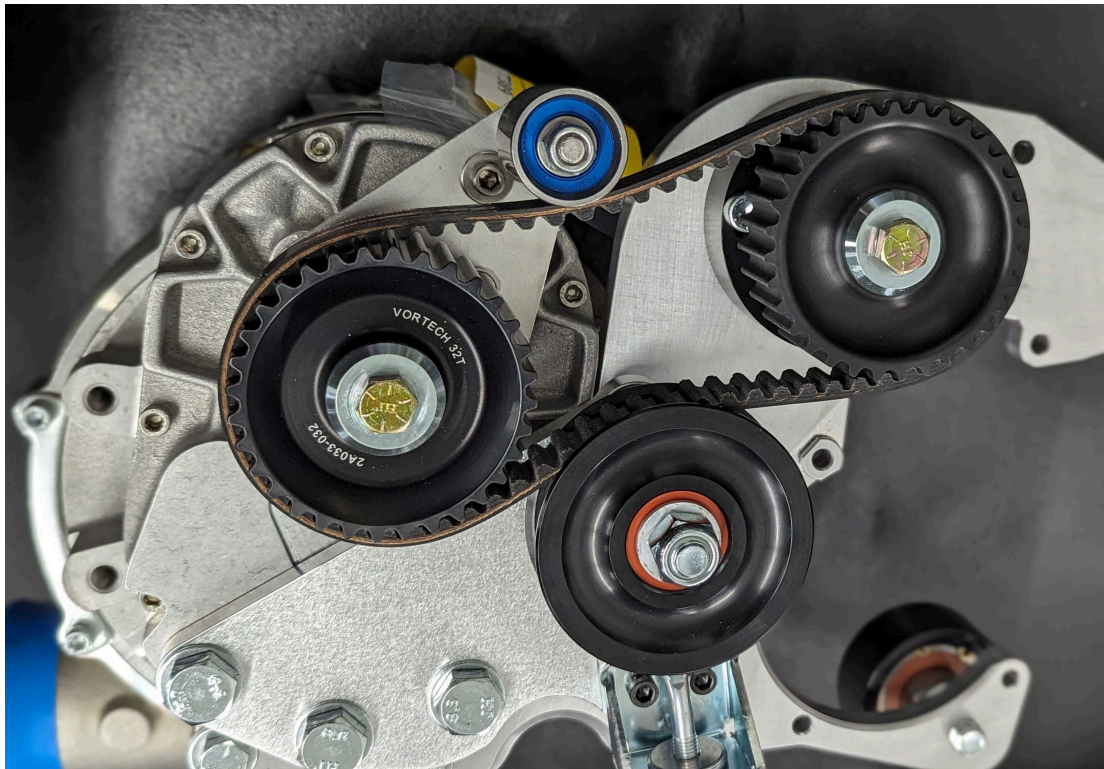


SOHO MOTORSPORTS x STILLEN COG CONVERSION UPGRADE INSTALLATION GUIDE



For technical questions and support, send an email to:

support@sohomotorsports.com

Please include the page number, photos, and any other relevant information so we can get you the help you need as efficiently as possible.

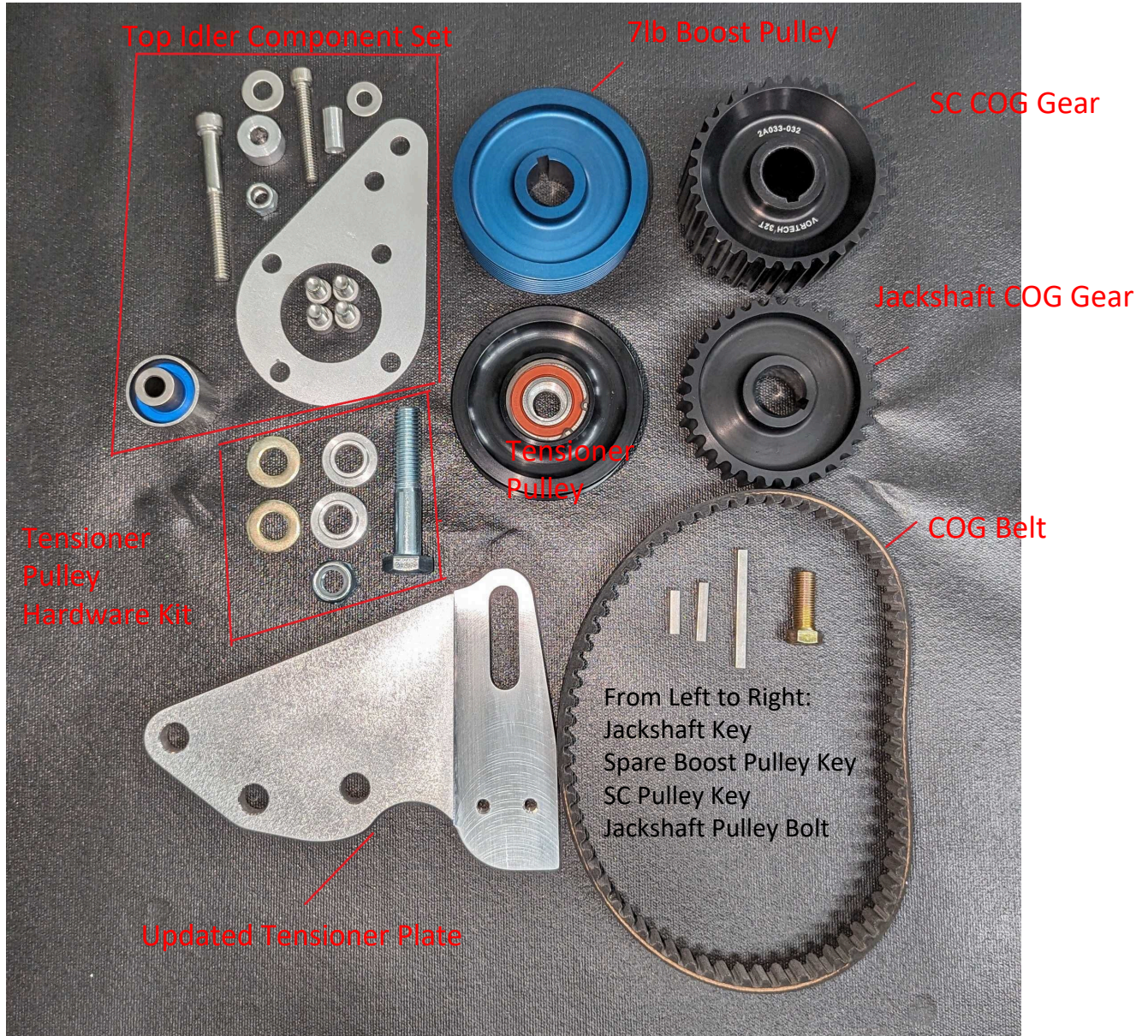
This manual is designed to assist weekend warriors and professional technicians alike with installation. However, this kit is complex and requires in depth disassembly. Severe engine damage can occur from improper installation, which is why we highly recommend having the kit installed by a professional. SOHO WILL NOT BE HELD LIABLE FOR IMPROPERLY INSTALLED KITS AND/OR RESULTING DAMAGE.

*****IMPORTANT*****

DO NOT INSTALL THIS KIT AND DRIVE YOUR VEHICLE AT WIDE OPEN THROTTLE BEFORE CONSULTING YOUR TUNER. THE BELT DRIVE IS MECHANICAL AND WILL PRODUCE MORE BOOST THAN THE SERPENTINE SYSTEM AND CAN CAUSE CATASTROPHIC FAILURE IF THE CALIBRATION IS NOT ADJUSTED.

INTRODUCTION

Congratulations on the purchase of your SOHO Motorsports x Stillen COG Upgrade kit! This Kit is designed to replace all rear belt drive components to convert your serpentine style belt drive to a tried and true cog system! The components of this kit include:



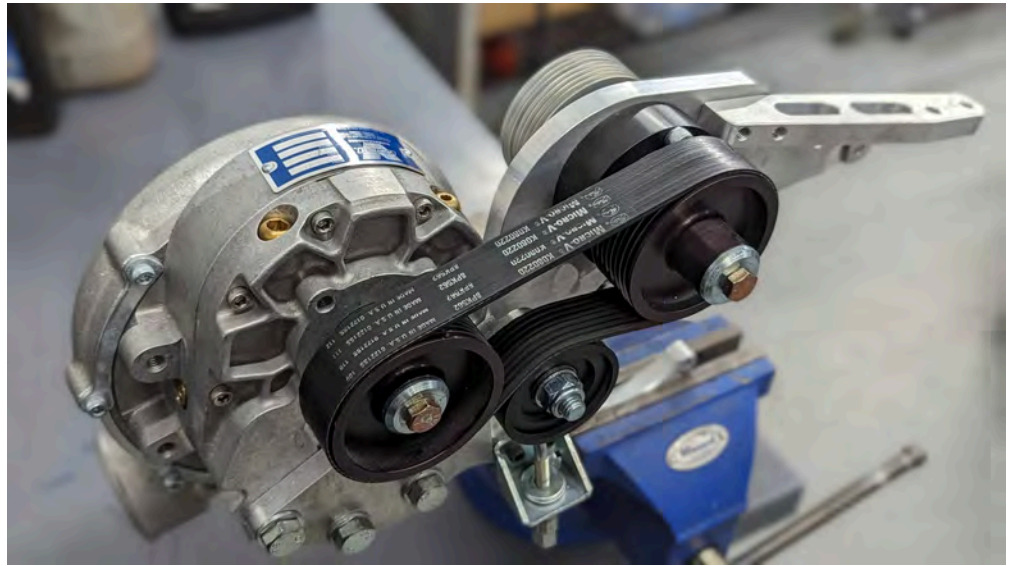
*****IMPORTANT*****

Installing this kit will require specialized tools and a gentle touch including a pulley to remove the jackshaft and supercharger shaft drive pulleys. There is a good possibility the pulleys have corroded to the jackshaft and the supercharger snout. A proper puller and technique will be paramount in removing the serpentine drive system without damaging the threads. The tool recommended for this process is a Posi-Lock 104 or equivalent. While it is a bit costly (roughly \$200 shipped) it will make removal an absolute breeze.

1. Remove the following:

- Front accessory drive belt
- Supercharger to intercooler pipe
- LH charge pipe (if applicable)
- Inlet filter pipe (if applicable)
- Catch can lines (if applicable)

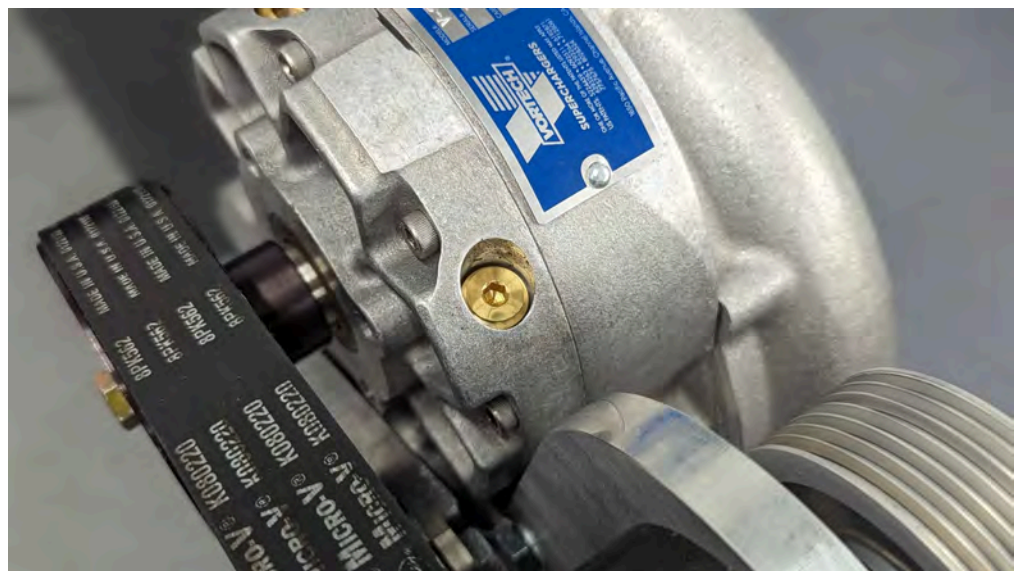
Remove the supercharger, bracket, and rear tensioner as an assembly. Gently clamp it into a vice or set on a workbench for service.



2. If you still have the plug and cap the supercharger shipped with, install them now to prevent fluid from draining. The plug on the right is the vent that will need to be swapped out.



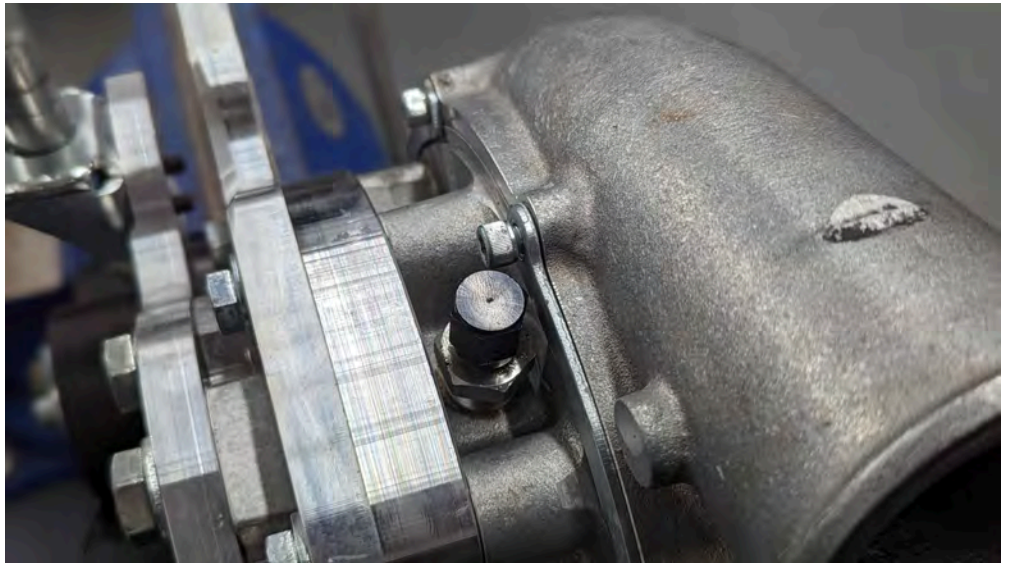
Below is the plug/washer and a photo of it installed.



3. With the shipping plug installed, flip the bracket assembly over in the vice to access the drain line. This does not need to be removed to do the service, but it will make moving the supercharger around easier. The allen bolt near the drain may need to be removed for clearance.



Photo with the cap installed and allen bolt loosely reinstated so it does not get misplaced.



*****IMPORTANT*****

DO NOT USE AN IMPACT TO LOOSEN OR TIGHTEN THIS BOLT OR IRREPERABLE DAMAGE MAY OCCUR TO THE TENSIONER ASSEMBLY.

4. Flip the assembly back over and reclamp in your vice. Loosen the rear belt tensioner. Using an open box end wrench like the one pictured, hold the tensioner through bolt still and loosen the nylock nut.



5. Once the tensioner pulley bolt/nut are loosened, fully back the tension off of the assembly. Loosen and remove the three(3) 3/4" bolts and set the hardware and tensioner assembly aside.



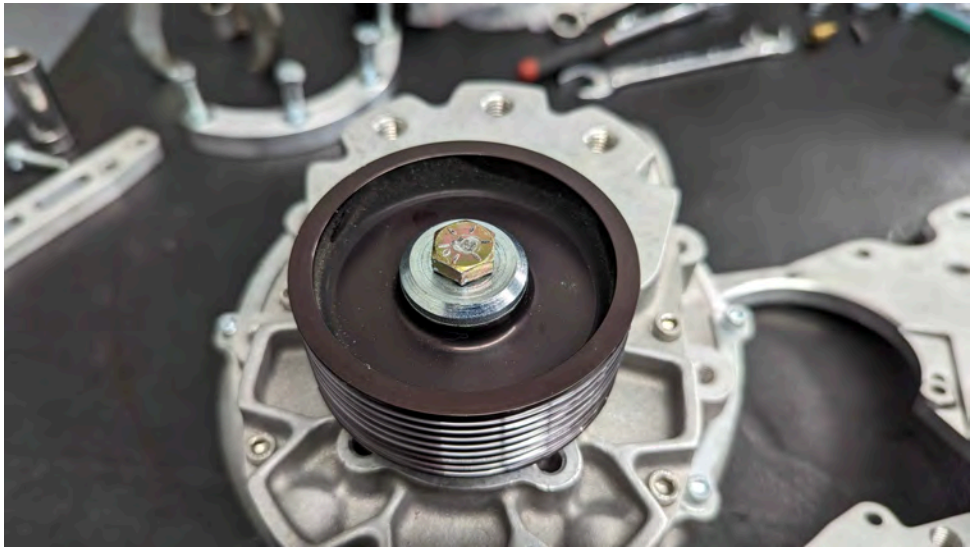
6. Set the bracket/supercharger assembly down onto your workbench. Loosen and remove the four(4) 9/16" bolts that hold the blower to the bracket. Set the bolts, washers, and the banana spacer aside. The belt can be discarded as it will no longer be used.



*****IMPORTANT*****

The following steps require the use of a puller to remove the serpentine pulleys from the supercharger crankshaft and the jack shaft. SOHO Motorsports HIGHLY recommends the use of a Posi-Lock 104 (and is the tool shown in the instructions) or equivalent to prevent irreparable damage to shafts or threads. Pry bars and heat ARE NOT recommended for this process as either can damage seals, bearings, or other critical and expensive components. Any signs of external force such as gouges from pry bars or hot spots on the shafts/seals will void any and all warranties (if still applicable).

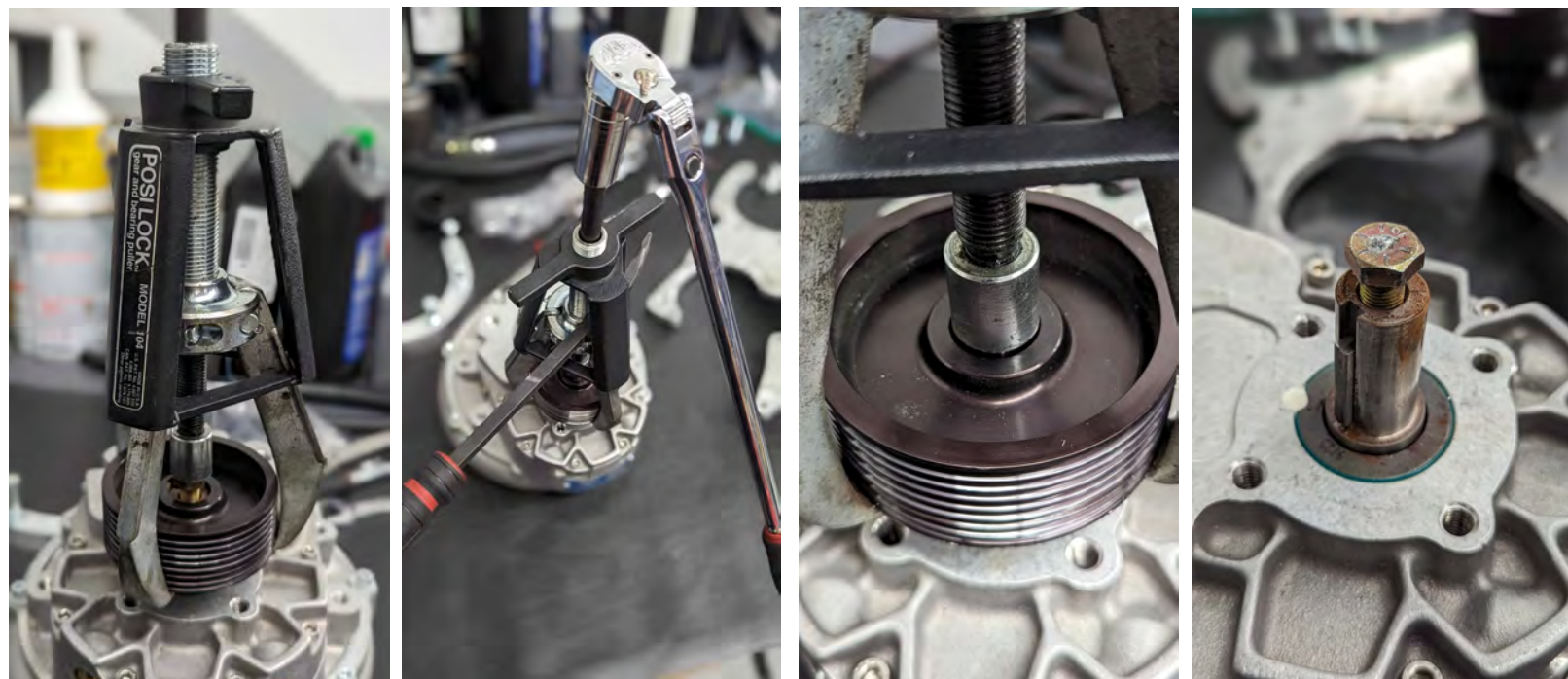
7. Set the supercharger flat on the table with the pulley up. Hold the pulley still with a rag or shop towel and use a 3/8" or larger impact to loosen the 9/16" bolt that secures the pulley as these are generally installed with loctite.



8. Set the thick silver washer aside (this will be reused) and thread the bolt back into the supercharger snout BY HAND. Do not use an impact to do this or damage to the threads can occur. Spin it in until the bolt bottoms out and back it off half of a turn.



9. Follow the instructions supplied with your puller to properly secure the puller to the pulley. CAREFULLY walk the pulley off ensuring that the puller head is centered in the pulley bore to avoid damage to the pulley or threads. Use a long screwdriver or pry bar to keep the puller from spinning.



10. Set the following aside:

-Supercharger serpentine pulley

-1 1/4" Bolt

-3/4" Keyway

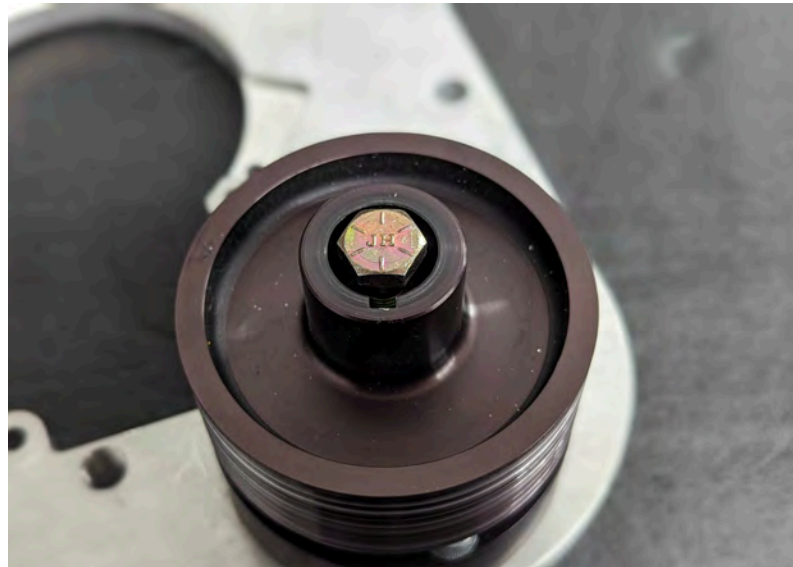
These items will no longer be used for this application.



11. Repeat the process with the jack shaft pulley. Use the belt or a shop rag to hold the pulley still and use a 3/8" or larger impact to loosen the 9/16" bolt as these are generally installed with loctite.



12. Set the thick silver washer aside (this will be reused) and thread the bolt back into the jack shaft BY HAND. Do not use an impact to do this or damage to the threads can occur. Spin it in until the bolt bottoms out and back it off half of a turn.



13. Follow the instructions supplied with your puller to properly secure the puller to the pulley. CAREFULLY walk the pulley off ensuring that the puller head is centered in the pulley bore to avoid damage to the pulley or threads. Use a long screwdriver or pry bar to keep the puller from spinning.



14. Fully remove the tensioner pulley, washer, and spacer from the tensioner assembly. Remove the bracket, spoon assembly, and the two small bolts as they will be re-utilized on the new plate.



15. You will have the following items left over from disassembly:

- Smooth Pulleys
- One 1/4" bolt
- One 1/2" bolt
- Two 3/4" keyways
- Smooth tensioner
- Tensioner bolt
- Used Ny-Lock Nut
- Tensioner Plate



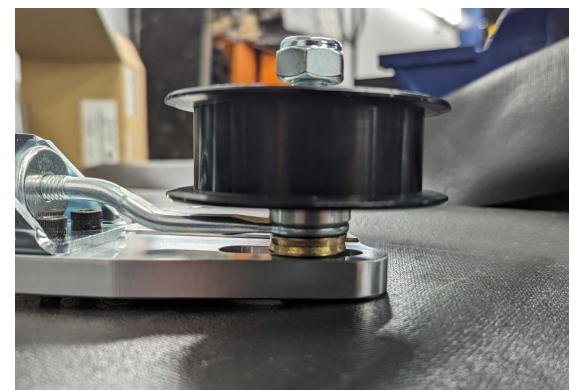
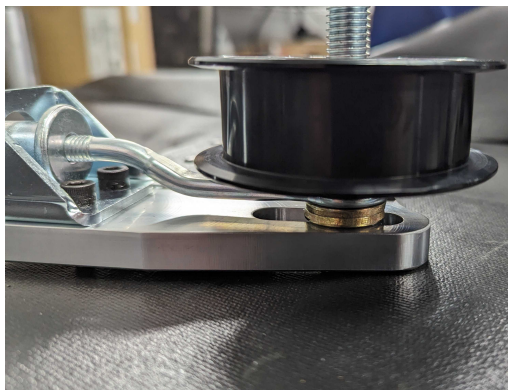
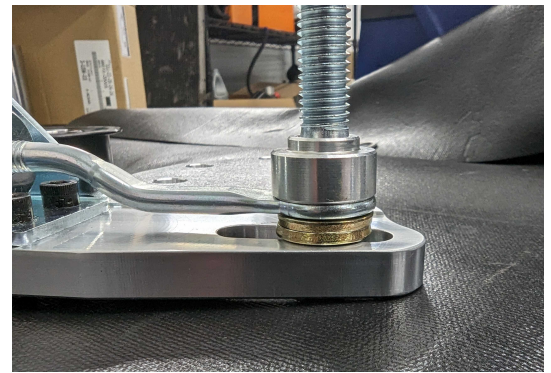
16. Congratulations, the most difficult part of the process is over with. Along with your COG conversion kit, you will need to retain the following items for reassembly:

- Supercharger
- Bracket
- Thick Silver Pulley Washers
- Long SC Pulley bolt
- Tensioner spoon, bracket, and hardware

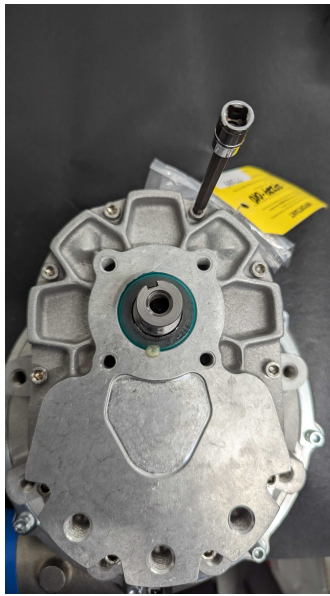
17. Begin by putting the tensioner assembly together. Using a minute amount of red loctite, install the tensioner spoon bracket onto the new tensioner plate.

The tensioner assembly will go together in the following order:

- Bolt
- Tensioner Body
- Supplied Washers (x2)
- Tensioner Arm
- Large Spacer
- Pulley
- Short Spacer
- Ny-lock nut

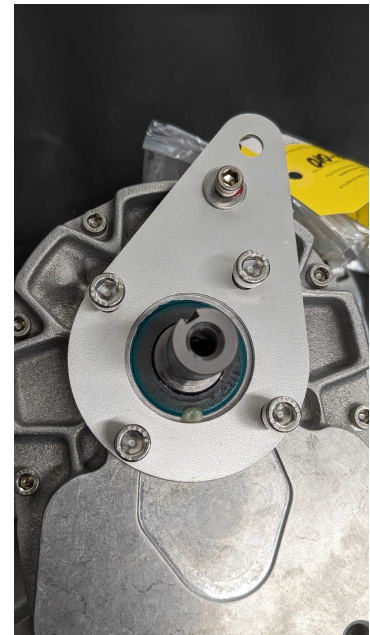


18. With the tensioner unit assembled, set your supercharger, compressor wheel down on your work bench and remove the allen bolt shown. This bolt will be discarded. Locate the items for the Top Idler Component Set.



19. Using the provided allen bolts and a drop of red loctite, install the bracket in the orientation shown in the photos. Make sure all 5 bolts are started before tightening any hardware. The allen bolts need to be snug and the loctite is there to ensure the bolts do not back out and cause damage to the COG pulley. Tighten the smaller 5th bolt once the 4 are fully installed

Tightening torque:
Large 5/16" bolts 120in/lbs
Small 1/4" bolt 60 in/lbs



20. Install Jackshaft Cog Drive Pulley on the bracket assembly. Use the smallest provided key, the short bolt, and a dab of blue loctite. This pulley is install orientation specific and must be installed the proper direction.

Tightening torque: 30 ft/lbs



21. Locate and install your supercharger to the bracket assembly with the spacer.

Tightening torque: 25 ft/lbs

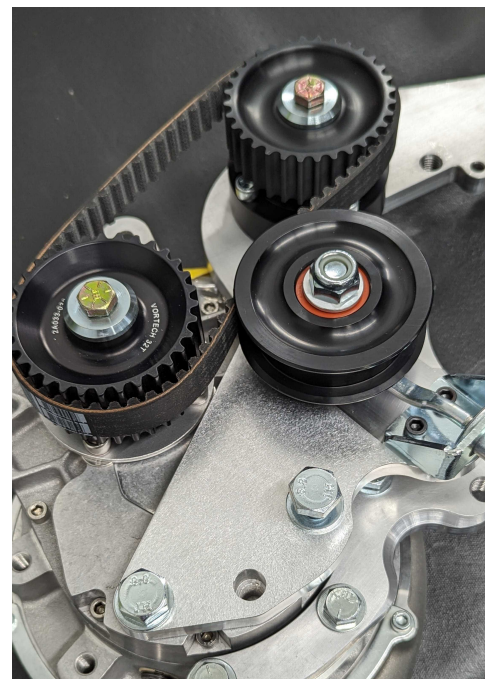
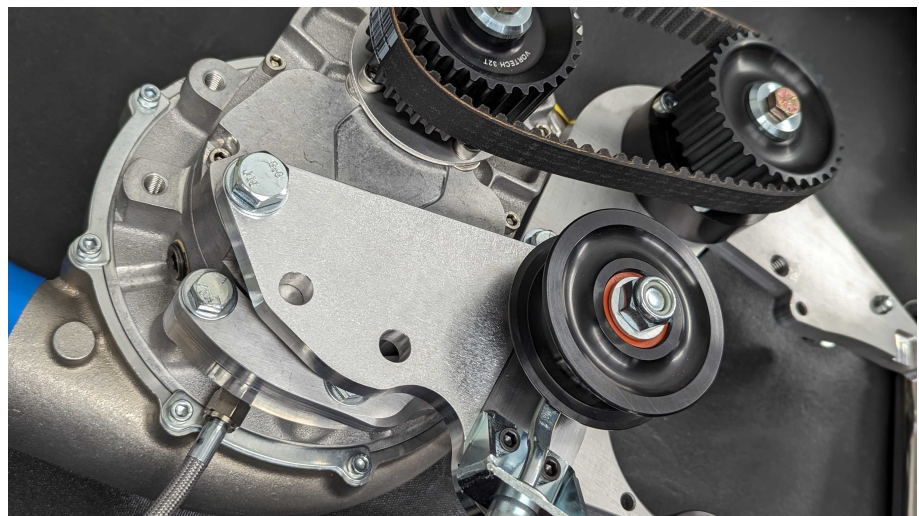
22. Using the supplied long key, pulley, and reusing the thick silver spacer and bolt, carefully install the SC drive pulley. Use a rubber or plastic hammer to fully seat the pulley, and use a dab of blue loctite on the bolt. As before, this pulley is directional and must be installed in the correct orientation.

Tightening torque: 30 ft/lbs

23. Slide the belt over the pulleys. Install the tensioner assembly with one bolt so the unit can be swung into place and capture the belt between the shoulders.

24. With the tensioner backed off completely, center the belt in the shoulders and install the second and third bolts.

Tightening torque: 40 ft/lbs



28. **ENSURE** the tensioner pulley does not contact the timing cover with belt tension set and the ny-lock nut tightened. The belt should be as loose as possible without the pulley touching. Space is tight and 1mm is all that is expected here for clearance. **MAJOR DAMAGE CAN OCCUR IF THE PULLEY CONTACTS THE TIMING COVER.** Tighten the tensioner pulley once clearance is checked and re-checked to ensure there is no contact.

Tightening Torque: 25 ft/lbs

29. Remove the shipping plug and reinstall the supercharger vent plug from step 2 if applicable.

30. With the accessory drive belt still removed, spin the jack shaft pulley by hand to ensure there is no binding, rubbing, or interference with the new belt drive system and/or associated pulleys.

31. Reinstall all items from step one including piping, couplers, clamps, and the front accessory drive belt. *****If swapping to the provided 7lb boost pulley, remove/install the pulley using the same method as shown in step 13 of the instruction manual*****

32. Ensure the fluid level in your supercharger is correct if any fluid spilled out during service. We recommend servicing the blower at this time if it has not been done recently.

*****IMPORTANT*****

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SOHO Motorsports **HIGHLY** recommends use of the supplied 7lb blue boost pulley if your vehicle meets the following conditions:

- Only runs pump gas with a BlowerGuard
- Has stock or high flow catalytic converters

29. Start the vehicle and let it idle. The supercharger noise will change, but there should be no grinding/squealing/squeaking from the belt drive or surrounding accessories. If there is an issue, shut the vehicle off immediately and contact SOHO via email.

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Please include the page number, photos, and any other relevant information so we can get you the help you need as efficiently as possible.