

NEW C5-C6 SECONDARY DRIVE- V3 INSTRUCTIONS



The new Secondary Drive V3 is easier to install, has 2 spring tensioners, and offers unparalleled belt grip. We have also contracted with **Griptec** to process and anodize our transfer pulley to further enhance belt grip.

The A&A Secondary Drive is unique in that it does NOT drive the accessories via the air conditioning belt. The Secondary Drive shaft pulley is driven by its own dedicated belt. This allows full belt wrap around the crankshaft pulley as well as the accessory shaft pulley and the ability to tension this belt separately. This eliminates accessory belt slip that plagues other systems. Our system utilizes a spring tensioner on the alternator / power steering belt and on the transfer shaft belt, which allows proper belt wrap and tension.

This system MUST be used with our INCLUDED proprietary balancer. A stock balancer or a standard 8 rib balancer from ATI or Innovators West will not work.

The kit comes complete with our proprietary SFI spec balancer (10% overdrive), all belts, hoses, pulleys, tensioners, and brackets needed.

Using our Secondary Drive allows the use of a much shorter belt to drive the supercharger which eliminates stretch and belt whip. This is the ultimate belt drive system for street driven C5 and C6 Corvettes with air conditioning as well as dedicated race cars without air conditioning.

REPLACE THE STOCK BALANCER

Replacing the balancer will require removal of the steering rack to gain access. Pull the original balancer with the appropriate puller. If you have a forged crank, with a key, align the key with the slot in the balancer and press the balancer on with an appropriate installer. Put a little anti-seize on the inside of the balancer hub to stop any galling.

The balancer will not be flush with the end of the crankshaft. It will be about $\frac{3}{4}$ " out. This is normal. If you don't have a key in your crankshaft, you will have to pin the balancer to the crank. This is done in the same manner as the stock balancer. The difference is that the guide for the pin kit is deeper.

Install the AC belt before moving on. Reinstall the steering rack.

REPLACE OR MODIFY THE EXISTING ALTERNATOR BRACKET

Remove the alternator and power steering pump. The power steering pulley will need to be pulled off with the appropriate puller to access the bolts (C5) and allow installation of our custom fitting and hose. You can remove the pump and reservoir together and pour the fluid into a clean container. Remove the reservoir mounting bracket.

If you have the plastic C5 pulley, we recommend replacing it with a slotted steel C6 pulley which has access slots for the pump bolts. Many times, you will not be able to remove the plastic pulley without breaking it anyway, so be prepared.

If you already have the C6 pulley, you can leave it on the pump to install the fitting and hose. You will, however, need a "crows foot" tool to do it. $\frac{3}{4}$ " and $\frac{11}{16}$ " work fine. Regular wrenches work fine if you take the pulley off.

Modify the stock alternator bracket by cutting off the section indicated by the black line. A bandsaw works best but any sort of saw or cutting tool will do. **We can also supply a NEW bracket that has been properly modified with the kit, as well as the slotted steel C6 pulley. We keep these in stock.**

Bolt the modified alternator bracket back in its original position. Leave the upper left bolt out for now. Install the alternator using the lower bolt only. Use the upper bolt just as a guide to make sure the alternator is lined up with the upper hole. Tighten the lower bolt so the alternator doesn't move around.



ALTERNATOR BRACKET MODIFICATION

Install our custom fittings in the power steering pump and steering rack. There are two fittings. The 16MM threaded fitting goes in the pump and the 18MM threaded one goes in the steering rack closest to the frame. Angle the hose slightly towards the engine. Install the power steering pulley and check for clearance between the pulley and hose fitting. Install the pump assembly back in the bracket. Install the hose on the steering rack by routing in under from the back and up to the pump fitting.



ANGLE THE HOSE SLIGHTLY TOWARDS THE ENGINE



HOSE GOES UNDER THE GEAR BOX

INSTALL THE LOWER TENSIONER AND TRANSFER ASSEMBLY

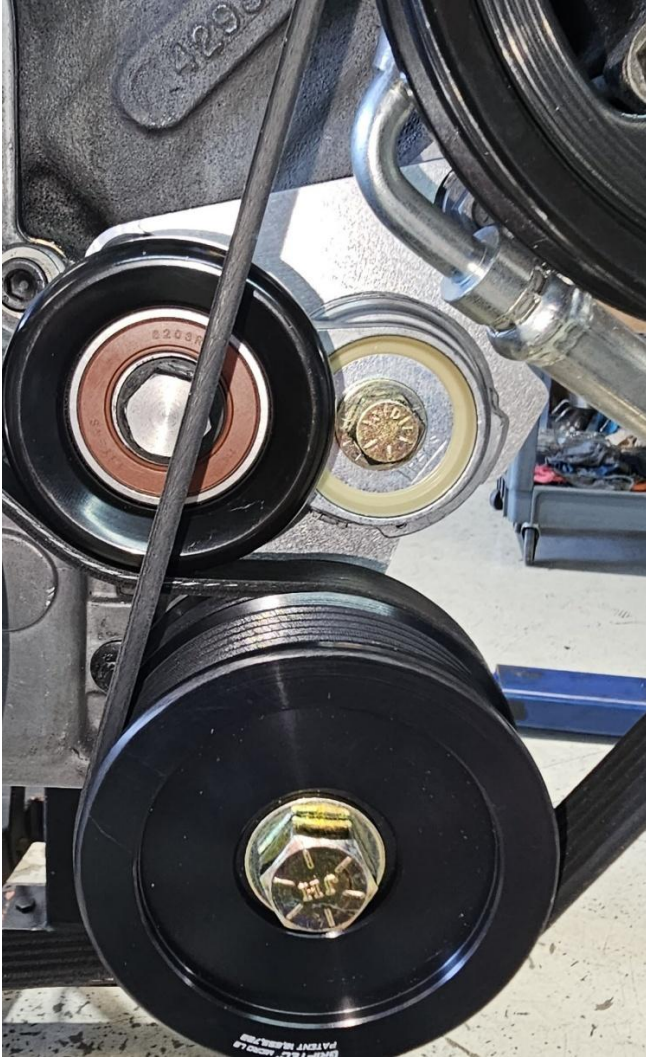
We send the lower tensioner and transfer pulley as an assembly, so the installer gets an idea of how it goes together. Temporarily remove the transfer pulley and tensioner from the lower tensioner plate. Bolt the plate to the block using the 3 existing bolt holes. (Some iron blocks are missing one of the holes. We've had no reported issues using only two bolts in the mounting plate) On dry sump cars, move the oil lines out of the way. The LSX block has a large block plug that interferes with the bracket. We can machine a relief in the bracket for clearance if we know you have one.

Slip the 4-rib belt over the balancer, making sure it is properly seated in the 4 middle grooves. Slip the transfer pulley through the loop in the belt and seat it in the 4-groove section of the transfer pulley. Move the transfer pulley over to the threaded hole and put the bolt in by hand. Tighten the ½” bolt to about 45#.



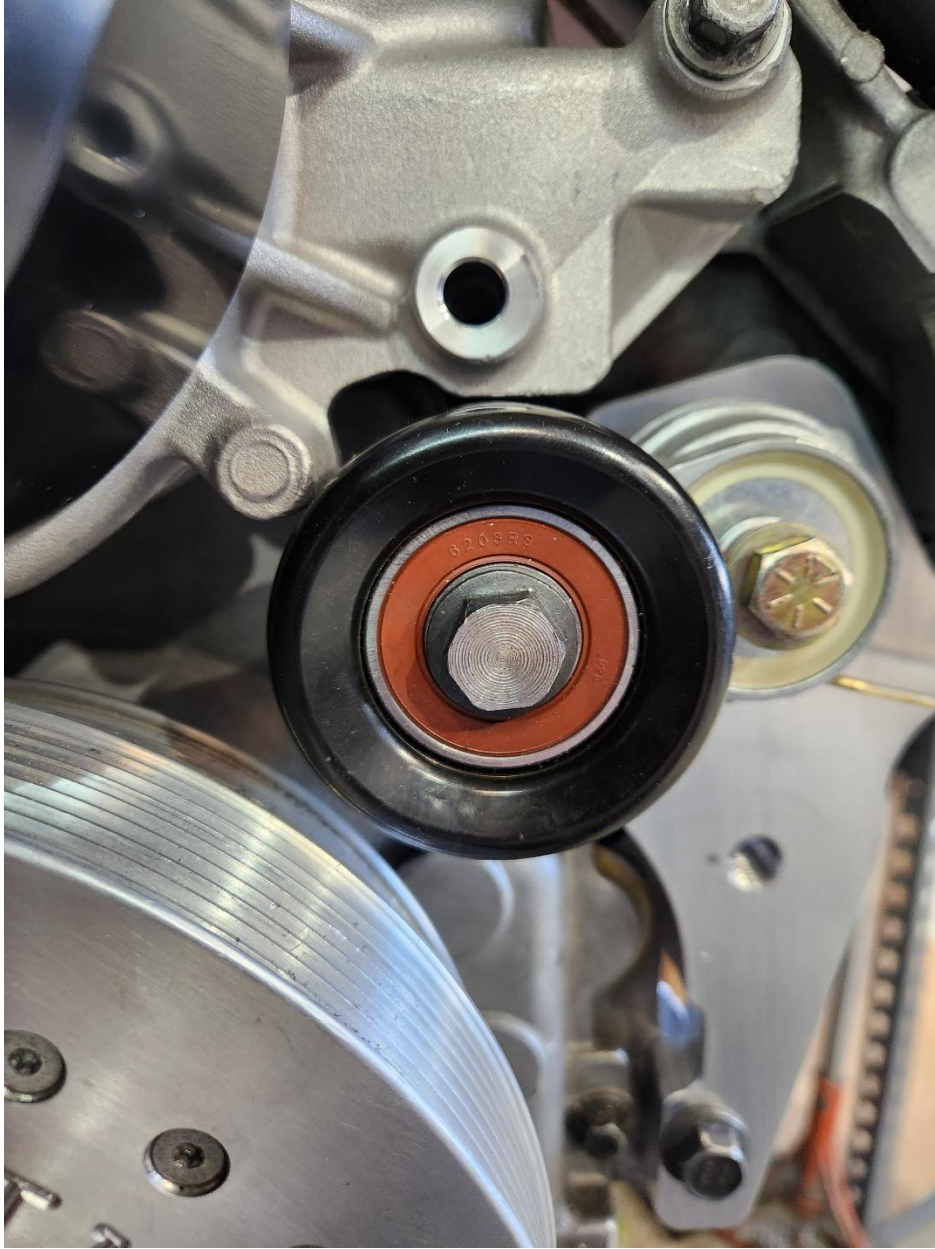
TRANSFER PULLEY THROUGH THE LOOP IN THE BELT

Move the tensioner over the 3/8” hole and start the bolt by hand. It’s best to start the bolt while the tensioner is away from the bracket, meaning it is on the bolt but pulled out toward the head of the bolt. Once the bolt is threaded part way, move the tensioner to align the guide pin hole and tighten.



BOTTOM SECTION COMPLETED

It's been reported that SOME C5 water pumps have a clearance issue with the tensioner pulley in the full slack position. The pump will need to be relieved as shown.



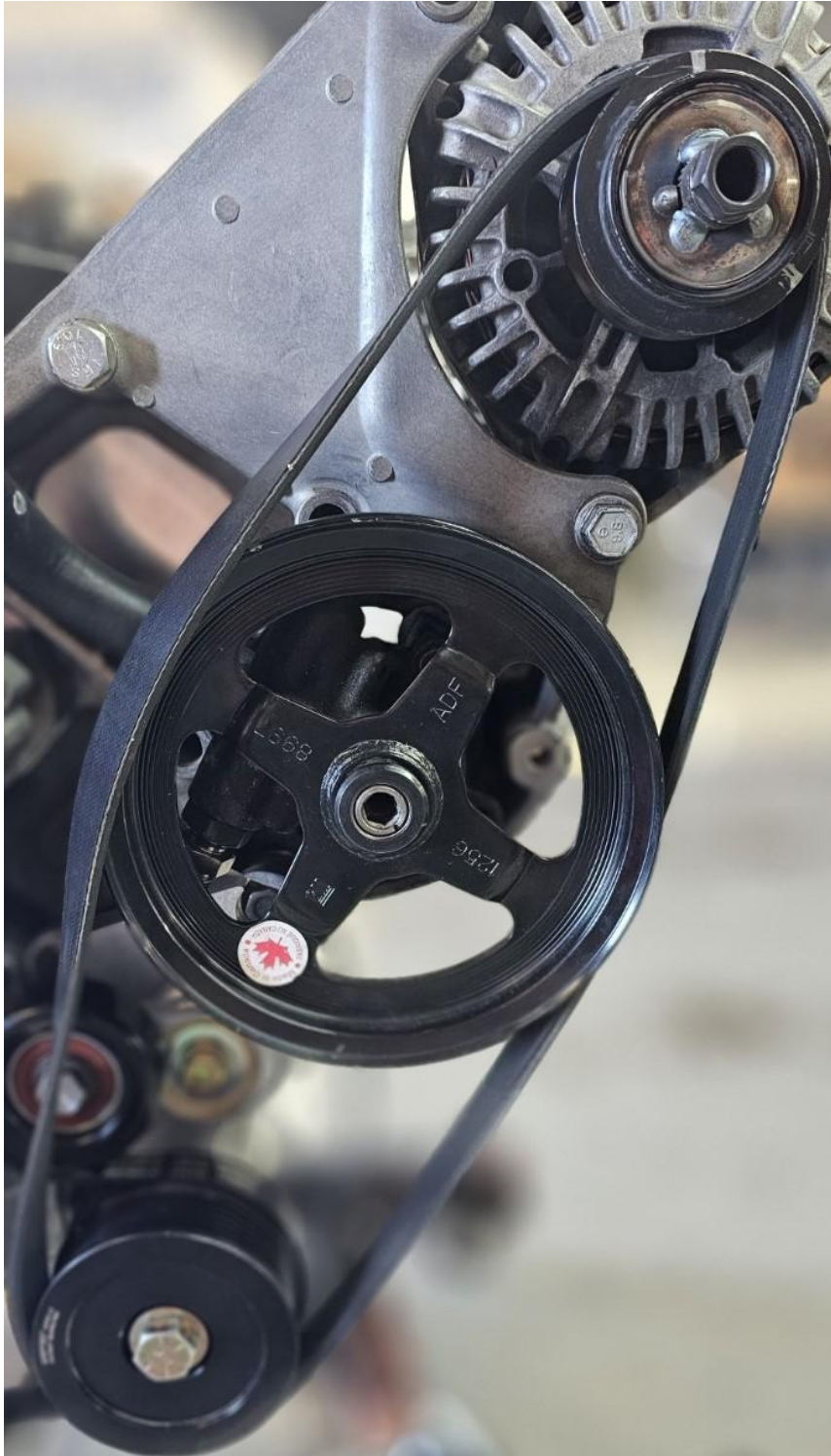
INTERFERENCE ON SOME C5 WATER PUMPS



C5 WATER PUMP MODIFICATION (some models only)

INSTALLING THE ALTERNATOR BELT

The alternator belt will NOT go over all 3 pulleys at once. You MUST put it around the transfer pulley, the alternator pulley and ONE side of the power steering pulley. The last step is to pop the belt over the edge of the power steering pulley. See the picture below for clarification. If one side of the pulley doesn't work, try the other side. It's very tight. Some pulleys have a larger lip than others. It's "possible" you may have to loosen the alternator and then realign it after the belt is on.



POP THE BELT OVER THE POWER STEERING PULLEY LAST

INSTALLING THE UPPER TENSIONER BRACKET

Insert one of the 10MM X 150MM (6") bolts through the upper tensioner bracket along with the 1" X 2.16" spacer. This bolt will go through the alternator bracket into the cylinder head. Leave this bolt slightly loose (with approximately 1/8" slack in it). Swing the tensioner up and away from the belt. You'll see another spacer that measures 1" X 1.14" with a recess machined in one end. The recess goes towards the motor and will fit over the bushing in the alternator bracket. The slack left in the first bolt will allow room for the spacer with the recess to clear the bushing in the alternator bracket as you swing it down. Put the remaining 10MM bolt through the slot in the bracket and the spacer. The tensioner bracket can now be rotated until you are able to insert the other long bolt through the upper alternator hole. Just insert a 3/8" extension in the square hole in the bracket. Use a ratchet to swing the bracket down and the tensioner will collapse into place. Tighten both bolts now. There is an adjustment slot in the bracket, but in the middle generally works just fine.

The upper spacer is oriented with the recess towards the alternator. The recess fits over the bushing that is pressed into the alternator bracket.



UPPER SPACER ORIENTATION

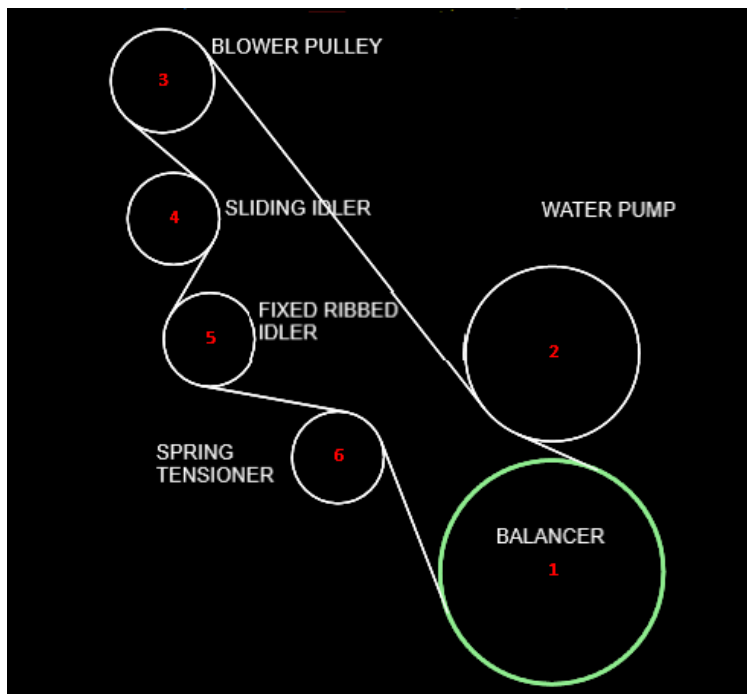
Also supplied is a reservoir relocation kit. Bolt the reservoir bracket to the tensioner bracket and install the reservoir in the bracket. Install the barb fitting and hose extension in the reservoir hose and connect it to the reservoir. Fill with fluid and check for leaks.



RESERVOIR MOUNTED TO TENSIONER BRACKET

INSTALL THE SUPERCHARGER BELT

The supercharger belt is installed in the same manner as a full belt system, except the belt loops back under the water pump rather than going up to the power steering pump and alternator. See the following diagram for clarification. (It is not to scale.)



BELT SIZES

4-RIB BELT TO TRANSFER SHAFT- K040300

6-RIB ALTERNATOR BELT- K060370

A/C BELT C5- K040430

A/C BELT C6- K040413

SUPERCHARGER BELT VARIES BY PULLEY SIZE
