NISSAN 300ZX ALTERNATOR & POWER STEERING PUMP TO GEN III/IV CHEVROLET SMALL BLOCK

INSTALLATION INSTRUCTIONS

Rev D Aug 2017

!!NOTICE!!

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!!WARNING!!

THE USER OF THIS PRODUCT ASSUMES ALL LIABILITY FOR ANY DAMAGES TO PERSONAL OR PUBLIC PROPERTY RESULTING FROM THE USE OR MISUSE OF THIS PRODUCT. ANY INJURIES SUSTAINED BY THE USER AND/OR ANY OTHER INDIVIDUALS ARE ALSO THE SOLE RESPONSIBILITY OF THE USER. MOTORSPORTS ACTIVITIES ARE INHERINTLY DANGEROUS AND LOJ CONVERSIONS CORP CAN NOT BE HELD RESPONSIBLE FOR ANY INCIDENTS RESULTING FROM THE USE OR MISUSE OF THIS PRODUCT.

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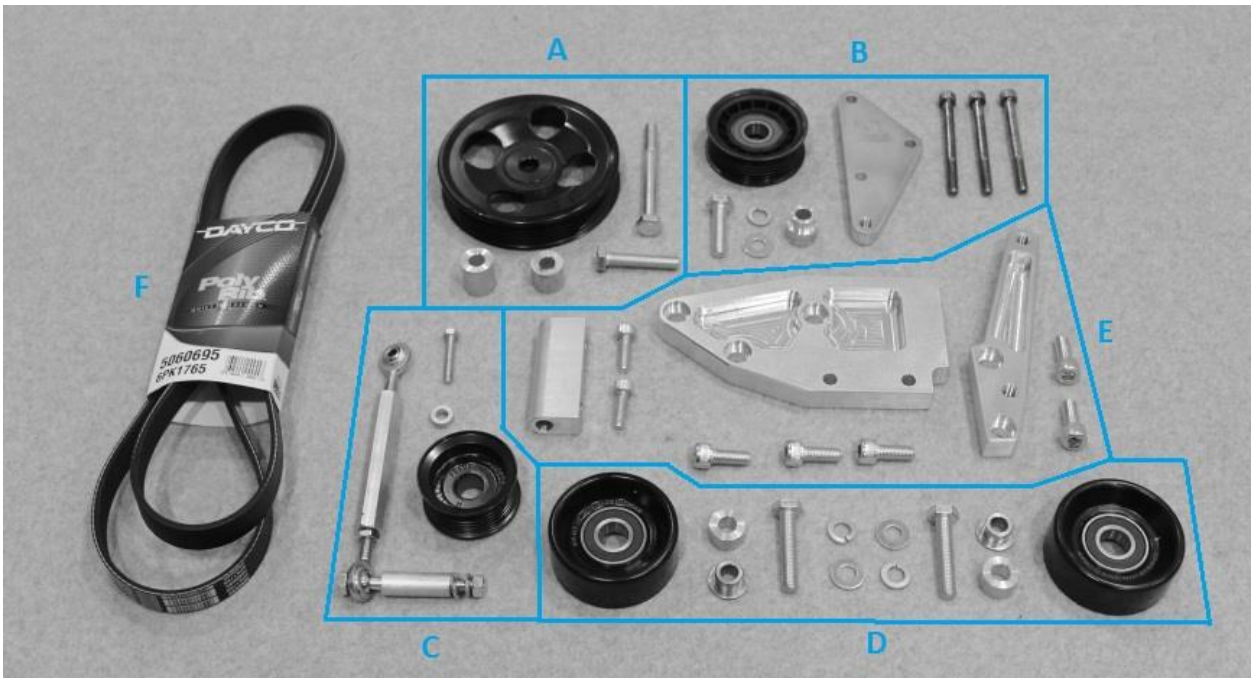
BEFORE YOU BEGIN:

Please ensure that all of the components required for your installation have been included in your package. The Basic Gen III/IV Adapter Kit should include the following components:



BOX "A" – Power Steering Hardware & Pulley	(Qty 1) – PS Pulley; (Qty 1) – Long Bolt (100mm), Short Spacer; (Qty 1) – Short Bolt (50mm), Long spacer
BOX "B" – Right Hand Idler Bracket	(Qty 1) – RH Bracket; (Qty 1) – 6-Rib Idler Pulley; (Qty 3) – Idler Bracket Bolts; (Qty 1) – Idler Bolt (40mm), Flat Washer, Lock Washer, Shoulder Spacer
BOX "C" – Alternator Pulley and Tensioner	(Qty 1) – Tensioner Rod; (Qty 1) – Long Bolt, Long Spacer, Lock Washer, Flat Washer, Nut; (Qty 1) – Short Bolt, Short Spacer, (Qty 1) Pulley
Box "D" – Alternator/LH Idlers	(Qty 2) – Smooth Idler Pullies; (Qty 2) – Straight Spacers; (Qty 2) – Shoulder Spacers; (Qty 2) –Bolts (45mm), Flat Washers, Lock Washers
Box "E" – Alternator Bracket	(Qty 1) – Main Bracket Body; (Qty 1) – Alternator Sub-Bracket; (Qty 1) – Idler Bracket; (Qty 3) – M10x1.5 25mm Bolts; (Qty 2) – M10x1.5 30mm Bolts; (Qty 2) – M8x1.25 25mm Bolts
"F" and Not Shown	Belt and Loctite Compound

Other parts that you will need:

C5 or C6 Corvette Water Pump – LOJ Guarantees Compatibility with Gates P/N – 45011

For Gen 3 engines with Rear of Block Mounted CAS
Use Harmonic Balancer – Dorman P/N – 594115 or GM P/N – 12560115

For some Gen 3 and all Gen 4 engines with Timing Cover Mounted CAS
Use Harmonic Balancer – Dorman P/N – 594361 or GM P/N – 12635652

***If you run an underdrive pulley, the supplied belt will not work! You are responsible for determining correct belt length!*

IMPORTANT – These Instructions refer to Right Hand (RH) and Left Hand (LH) while FACING the front of the engine.

INSTALLATION PROCEDURE:

1) If your engine is from any vehicle other than a Corvette, remove your existing accessories, water pump, and balancer.
2) Install the Water Pump using OEM bolts on the LH side and LOJ Conversions supplied bolts on the RH side, the pump is installed WITH the RH Idler Bracket! See figure 1 Below…

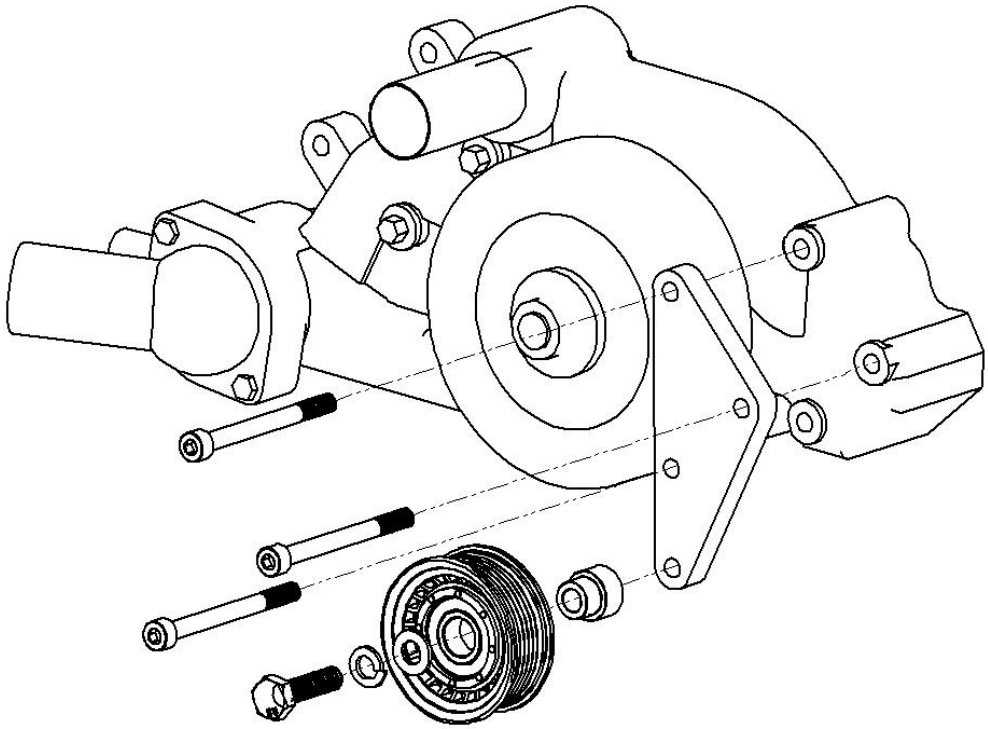


FIGURE 1

3) After the water pump and idler bracket are installed, install the ribbed idler pulley to the idler bracket using the supplied hardware, in the order shown in figure 1. This idler uses the shortest of the M10 bolts supplied in the kit, it has a 40mm underhead length (UHL).
4) Next, you will assemble your alternator bracket. **This requires use of the supplied Loctite!** Assemble the bracket as shown in figure 2. Apply Loctite to all of the Allen-Head indicated with a Blue Dot in Figure 2. The two M10x1.5 30mm long bolts hold the idler bracket to the alternator base bracket. It is *not* necessary to use loctite on the fasteners holding the bracket to the engine, or the idlers to the bracket.

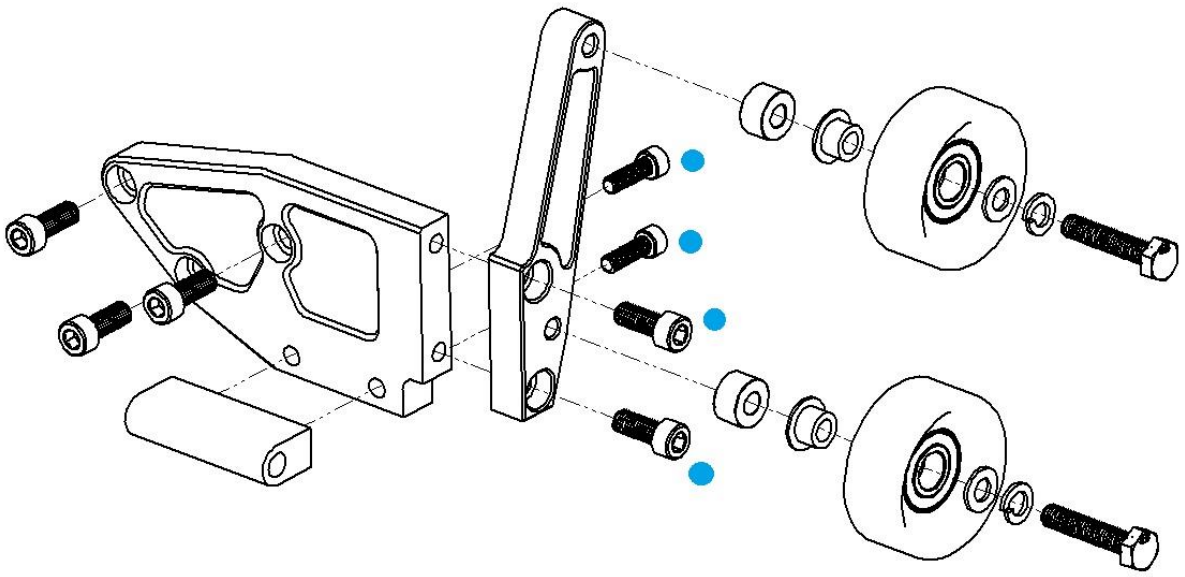
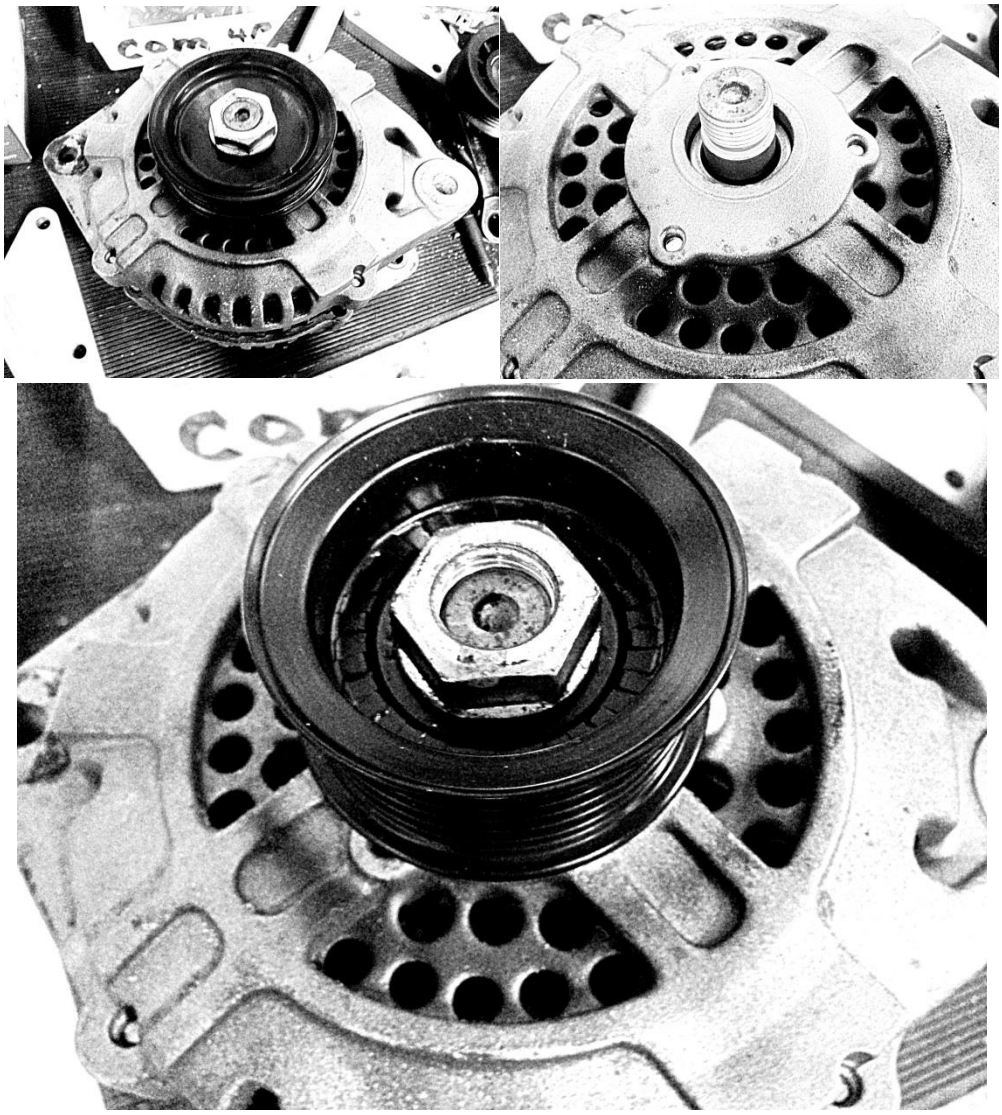


FIGURE 2

5) Attach the two smooth idlers to the Alternator Idler Bracket as shown in Figure 2. These idlers are held on with two 45mm UHL bolts. Do **NOT** use the 50mm UHL bolt supplied with the PS Pump Hardware as this can and will damage the bracket!
6) Attach the bracket to the engine using the remaining three allen head bolts. Leave these bolts slightly loose, as this bracket is adjustable.

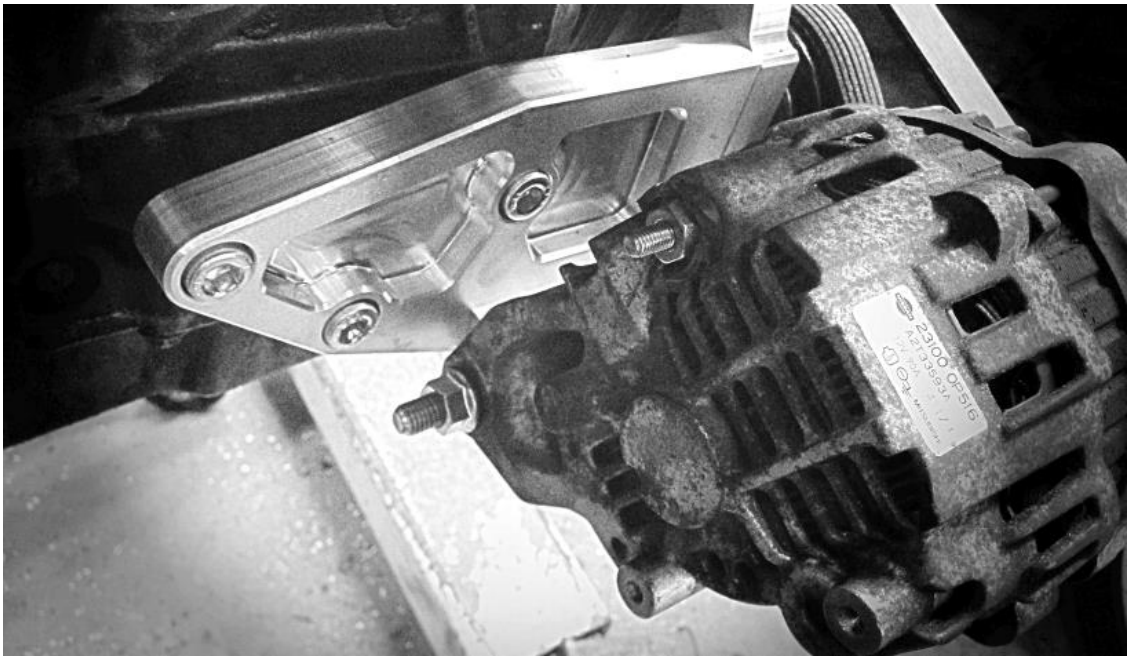
NOTE – Early Gen 3 Aluminum engines will only use TWO of the three bolts holding this bracket to the block. This is OK, just leave the third fastener out.

7) Remove your stock Alternator Pulley and install the LOJ Alternator Pulley as seen in the images below…



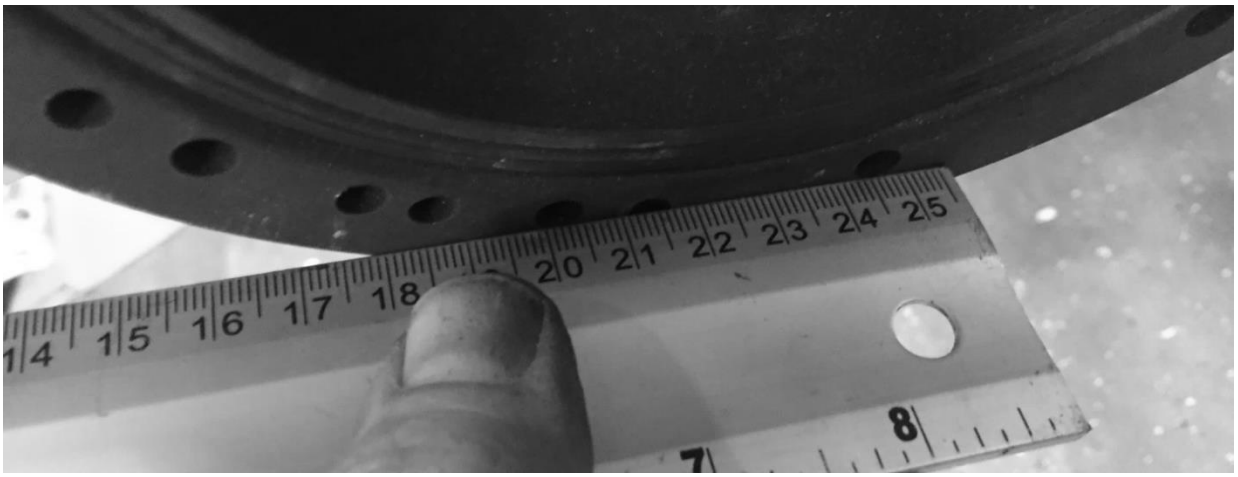
NOTICE– Your new alternator pulley will NOT allow the nut to thread as far onto the shaft as the OEM pulley. This is NORMAL. DO NOT OVERTIGHTEN!!! Overtightening the nut WILL result in the nut stripping. Use supplied Loctite on the nut to prevent loosening.

8) Attach the 300ZX Alternator to the bracket using the Original Alternator Mounting Bolt and Nut.

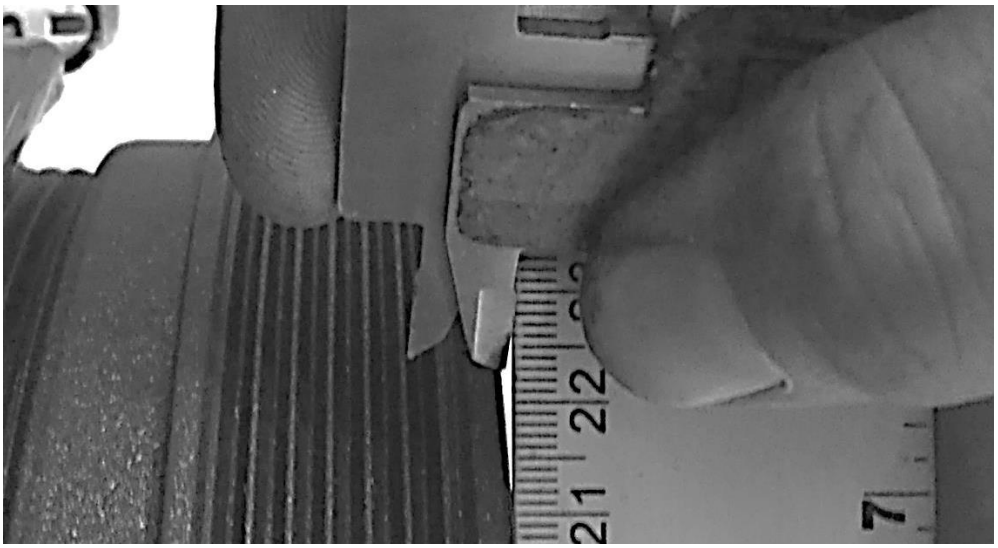


IMPORTANT!! – The following steps outline proper alignment of the alternator pulley to the crank pulley. Failure to align the pulleys properly can result in premature belt wear, belt squeal, and ejection of the belt from the engine. Take your time to get these steps right!!

9) Place a straightedge along the face of your crank pulley. If you are using an OEM style pulley, the rubber isolator ring between the shell of the pulley and the center hub may protrude past the face of the shell. Only place the straightedge along the shell face, do not allow the rubber to misalign the straightedge to the shell. See image below for clarification.



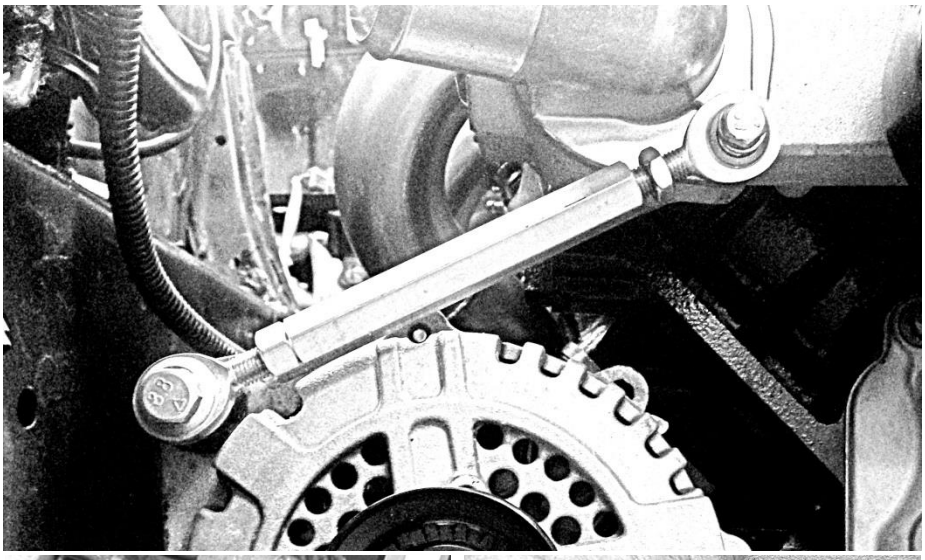
10) With the straightedge placed firmly against the face of the crank pulley shell, use a ruler or caliper to measure the distance from the straightedge to the first rib of the crank pulley. Note this distance or if using a caliper, lock the caliper in this setting. See image below.

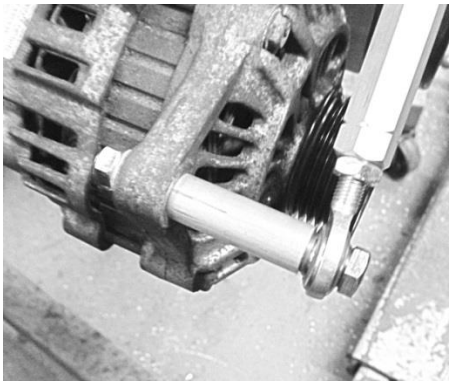


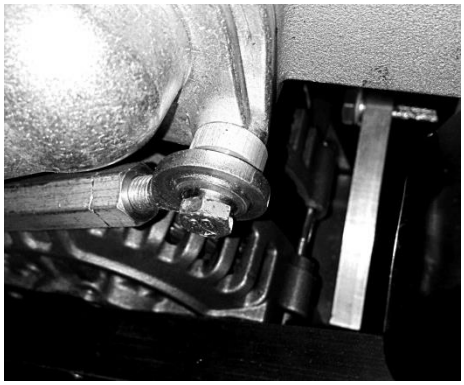
11) This step can be easier to accomplish with a helper, but is certainly doable alone with some patience. Holding your straightedge along the crank pulley shell, now measure how far back the first rib on the alternator pulley is from the straightedge. This measurement needs to be **THE SAME** as the distance on the crank pulley. Take your time and be certain you get this correct. A few extra minutes spent here can save a lot of headaches later. See images below.
12) In addition to making sure the front to back alignment of the alternator is correct, the bracket must also be level on the engine block relative to the bolt holes that mount it. You will notice that the bracket can “rock” slightly due to the tolerance between the bolts and the slots they pass through. The front of the bracket can end up sloped downward slightly. If you apply pressure to the top of the bracket evenly while installing, it will ensure the bracket is level. Refer back to Figure 6, the imaginary blue line connecting the center point of the two upper bolts must be parallel with the top of the bracket, depicted by a green line. This is easiest to accomplish by applying pressure where the orange arrows point.

13) Once you have the alignment correct, tighten down the bracket to engine block bolts which are not blocked by the alternator, remove the alternator from the bracket to tighten the remaining bolt. These bolts should be tightened to 40ft-lbs.

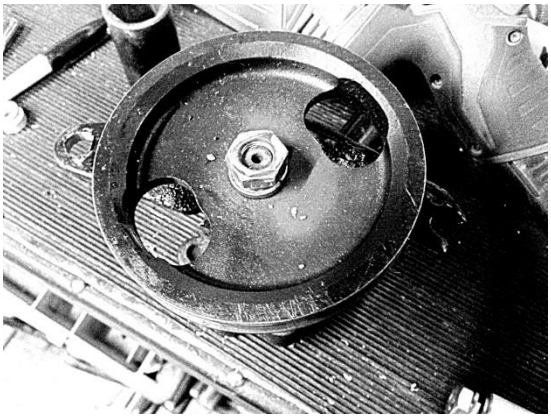
14) Install the tensioner rod onto the alternator and connect it to the lower thermostat bolt as shown in the images below…

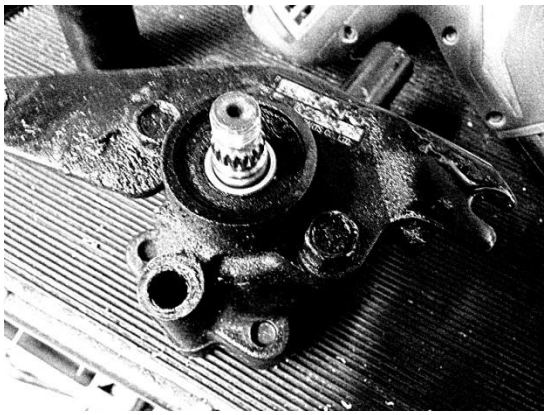




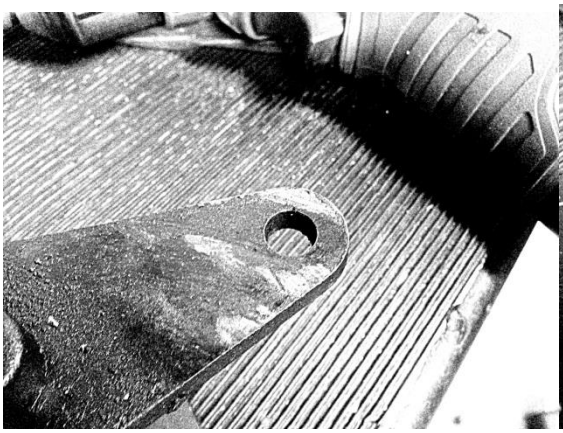
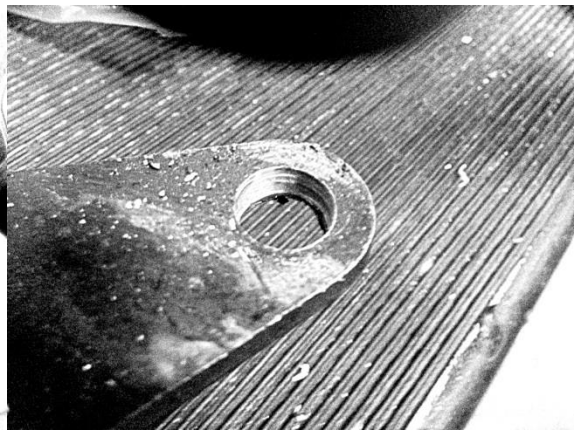


15) Power Steering Pump Preparation: Remove your OEM power steering pump pulley…

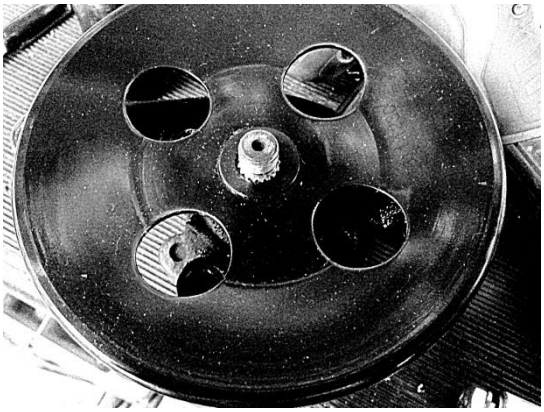
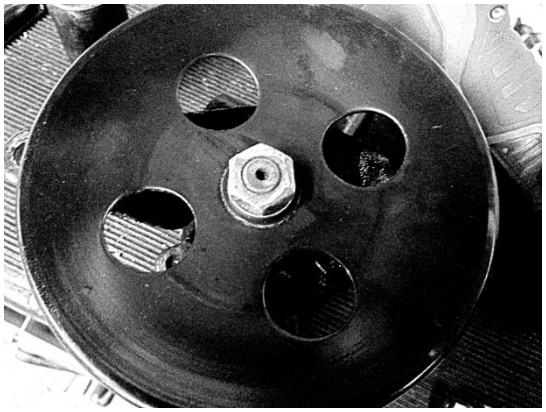




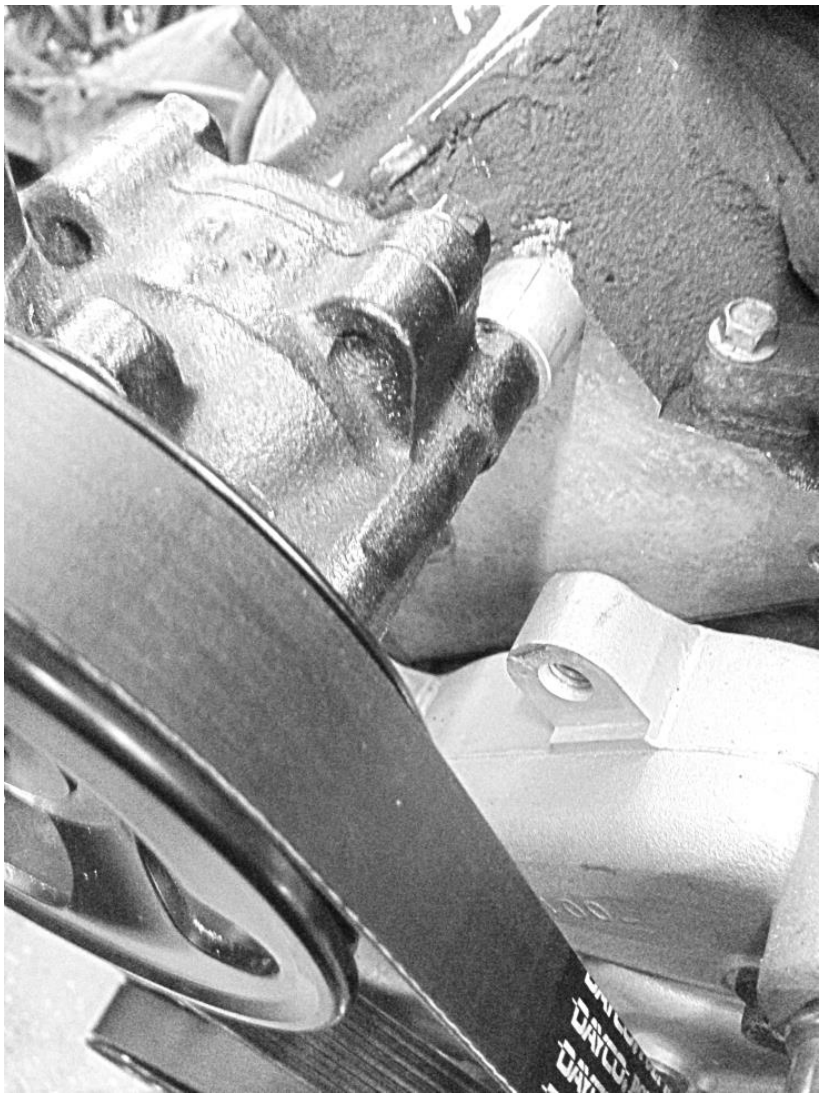
16) Drill the Power Steering Pump Bracket out with a 7/16” Drill Bit as shown below…

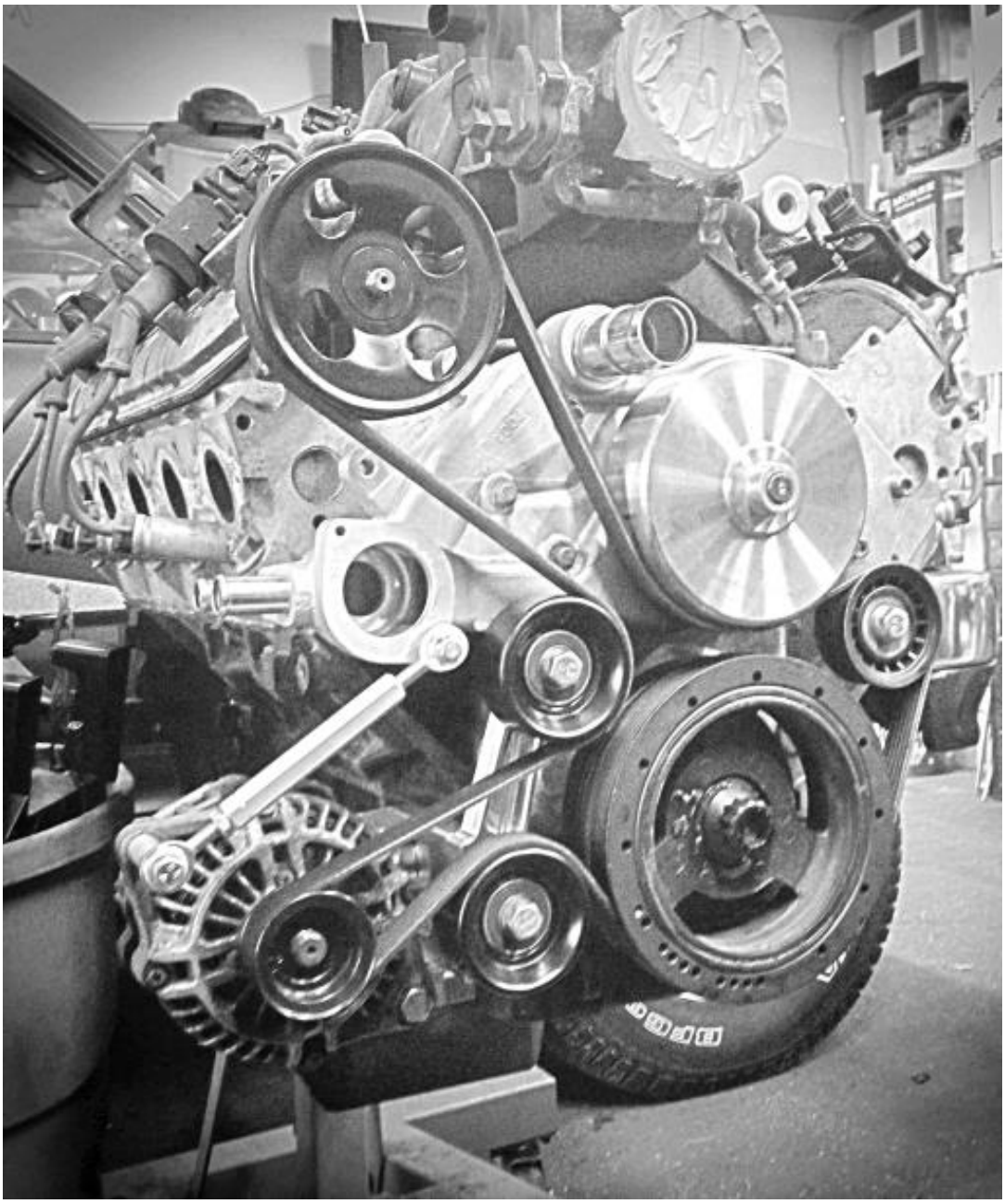
17) Install the new power steering pump pulley…

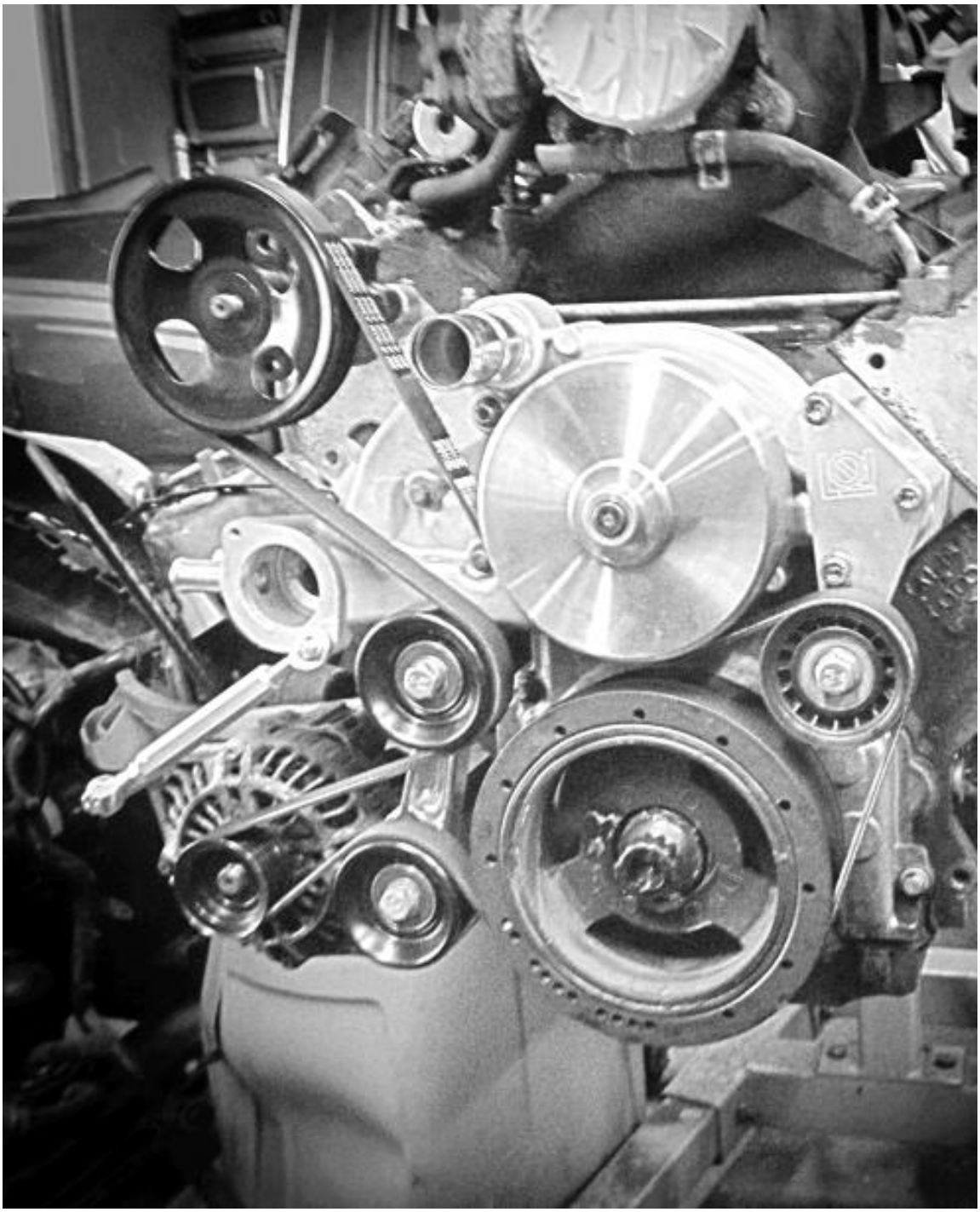



18) Install the Power Steering Pump to the engine fastening to both the water pump and cylinder head as shown below. The Short Bolt (50mm UHL) goes through the Bracket Hole you drilled out in step 8, uses the longer spacer, and bolts to the lower water pump mount. The long bolt (100mm UHL) goes through the pump body, the short spacer, and mounts to the cylinder head as shown below…



19) Install your belt as shown in the images below. Tension belt using the threaded rod on the alternator. Adjust tension as necessary. Lock tensioner rod using the lock nut to prevent belt from coming loose.





Your installation is complete! Enjoy!