A&A SUPERCHARGER BRACKET WITH ADJUSTABLE BILLET TENSIONER FOR C5 CORVETTE

INSTALLATION AND ALIGNMENT TIPS

1 **ASSEMBLE AND INSTALL HEAD BRACKET:** First, remove the sliding idler bracket from the rear (head) bracket and set it aside. You will need to insert the 3/8 X 5 ¾ bolt and washer through the back of the rear bracket in hole #2 and a 3/8 X 3 ¾ bolt and washer through hole #3. (See picture 1) You need to do this first as you won't be able to install them after the bracket is mounted.

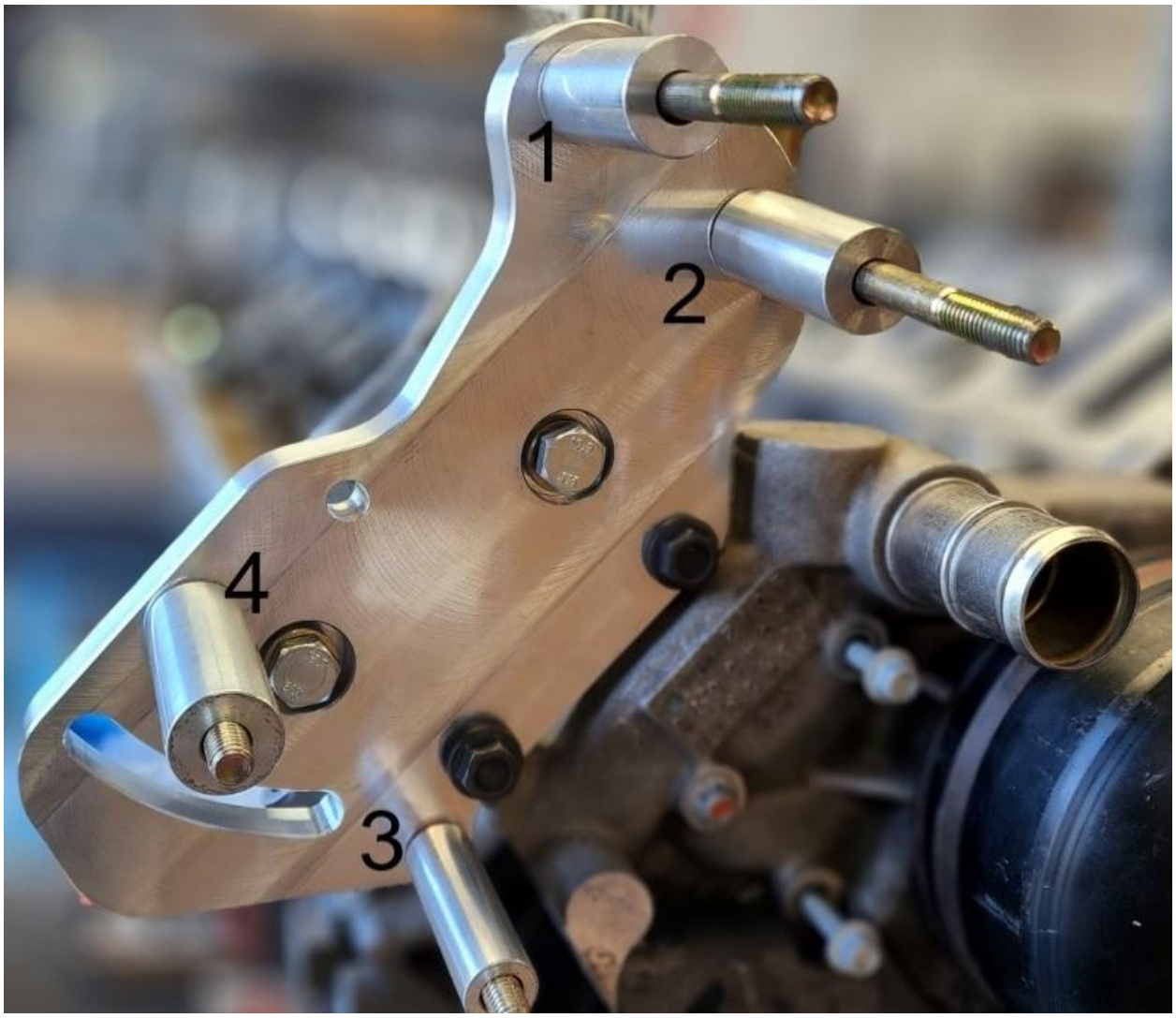
2 Loosely mount the rear bracket to the water pump, using the stock tensioner bolts.

3 Install the triangular brace in its slot and loosely install a 10MM X 90 MM bolt and washer through the rear bracket and brace into the cylinder head hole. Do the same with the 2.285" spacer. Now you can tighten ONLY the 2 water pump bolts. There is "fudge room" built into the bracket holes so that the bolts will line up with milled heads etc. That's why we want all four bolts installed before tightening them.

4 IMPORTANT ALIGNMENT CHECK: Remove the head spacer and brace bolts. Check how the spacer and rear brace fit between the head and bracket. Try to slide the brace and turn the spacer. Ideally, they should be tight, but you should be able to move them with some effort. If there is a big gap, (like the spacer will fall out) tightening the head bolts will pull the top of the bracket towards the engine and push the bottom forward. Conversely, if it is too tight, it will push the top of the bracket out and pull the bottom in. If the spacers don't appear to be pulling or pushing the rear bracket out of parallel, tighten the head bolts. Being out of parallel is the cause of nearly all belt issues. I'll add some tips at the end of this article to fix this issue. **If you have an alignment issue here, it's more than likely you have an aftermarket water pump. They are notorious for this. We use and recommend only OEM Delco pumps.**

5 Insert the 3/8 X 6 ½ bolt and washer through hole #1 in the rear bracket. Do the same with hole #4, using the remaining 3/8 X 3 ¾ bolt and washer. Slip the 2.400" spacers over the 4 bolts, making sure the thinner spacer goes in hole #3.

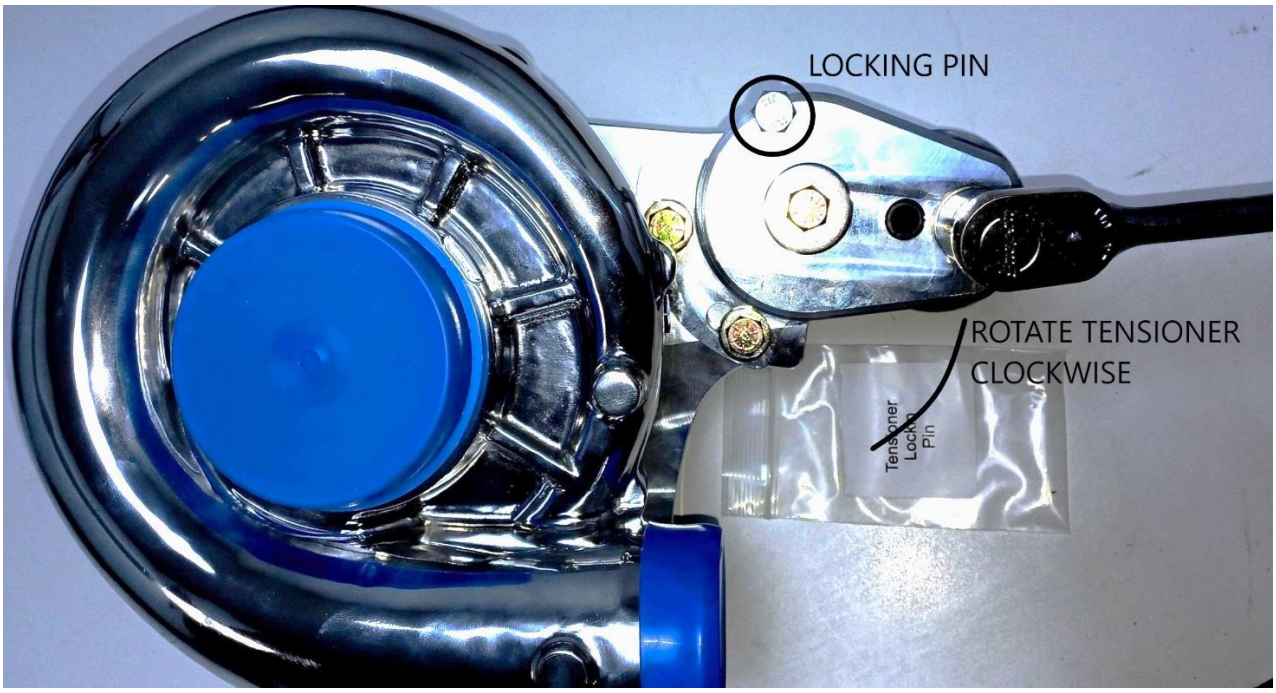
PICTURE 1



6 **INSTALL THE MAIN BRACKET ON THE SUPERCHARGER** Locate the 5 “D” spacers. Install them between the bracket and supercharger using the 2 ¼” bolts and washers in holes 1, 2 and 3. (PICTURE 2) The flat side should go towards the gearcase. The remaining 2 holes (4 and 5) will use longer bolts that come all the way through the rear bracket. Put 2 “D” spacers under these holes and thread the long 3/8 bolts through them just to align the spacers. Tighten the 2 ¼” bolts and remove the two long bolts. The two “D” spacers may or may not stay in place. If they fall out, don’t worry about it. They can be slipped in later.

7 Route the belt over the top of the blower pulley. Thread the right side of the belt (when looking at it from the pulley side) between the ribbed idler and the smooth tensioner pulley. (See Picture 3) If you have someone to help you, you can set the tensioner before installing the assembly in the car. Insert the lock pin (or any 5/16” bolt) in the open hole on the face of the tensioner. With someone holding the

assembly, rotate the tensioner clockwise, using the ¾” ¾” bolt. At some point the pin will be able to be pushed in an additional 3/8” or so. Now the tensioner is locked in the slack position. If you are alone, it's easier to do this after it’s bolted in the car. **DO NOT TOUCH THE BLACK ALLEN BOLT**. **It is a travel limiter. If you take it out, the tensioner will unwind violently.**



LOCKING THE TENSIONER ON THE BENCH

PICTURE 2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1
2
3
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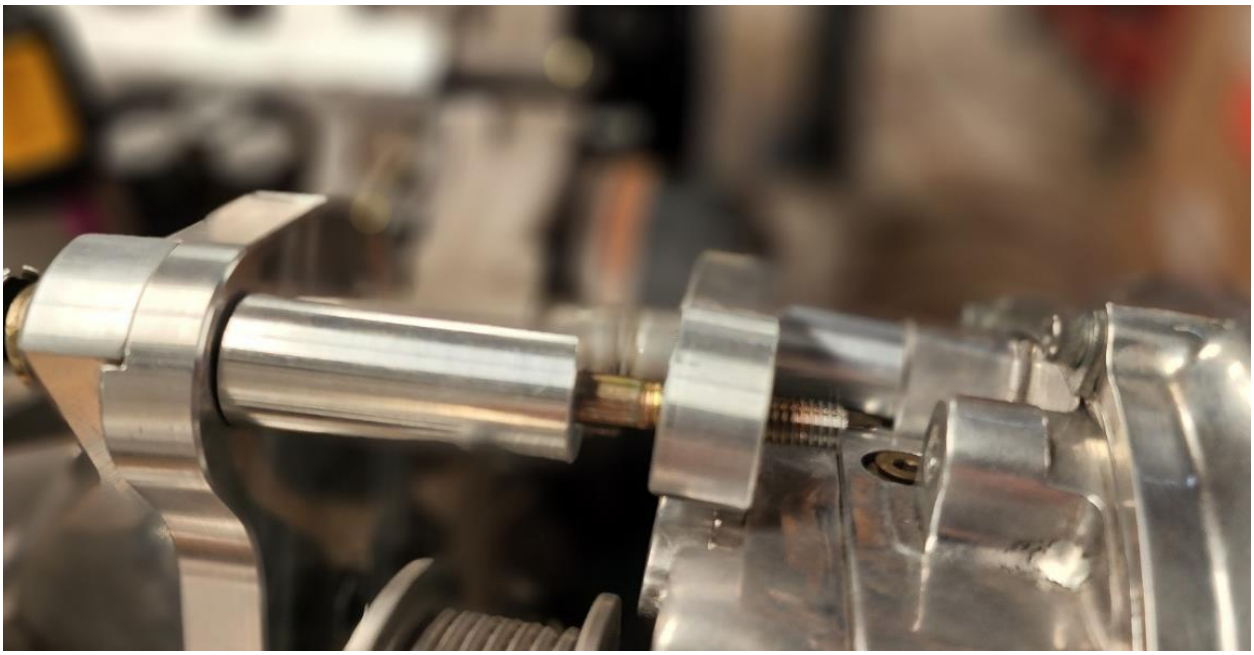
PICTURE 3 (BELT ROUTING BEFORE INSTALLING BLOWER ASSEMBLY)

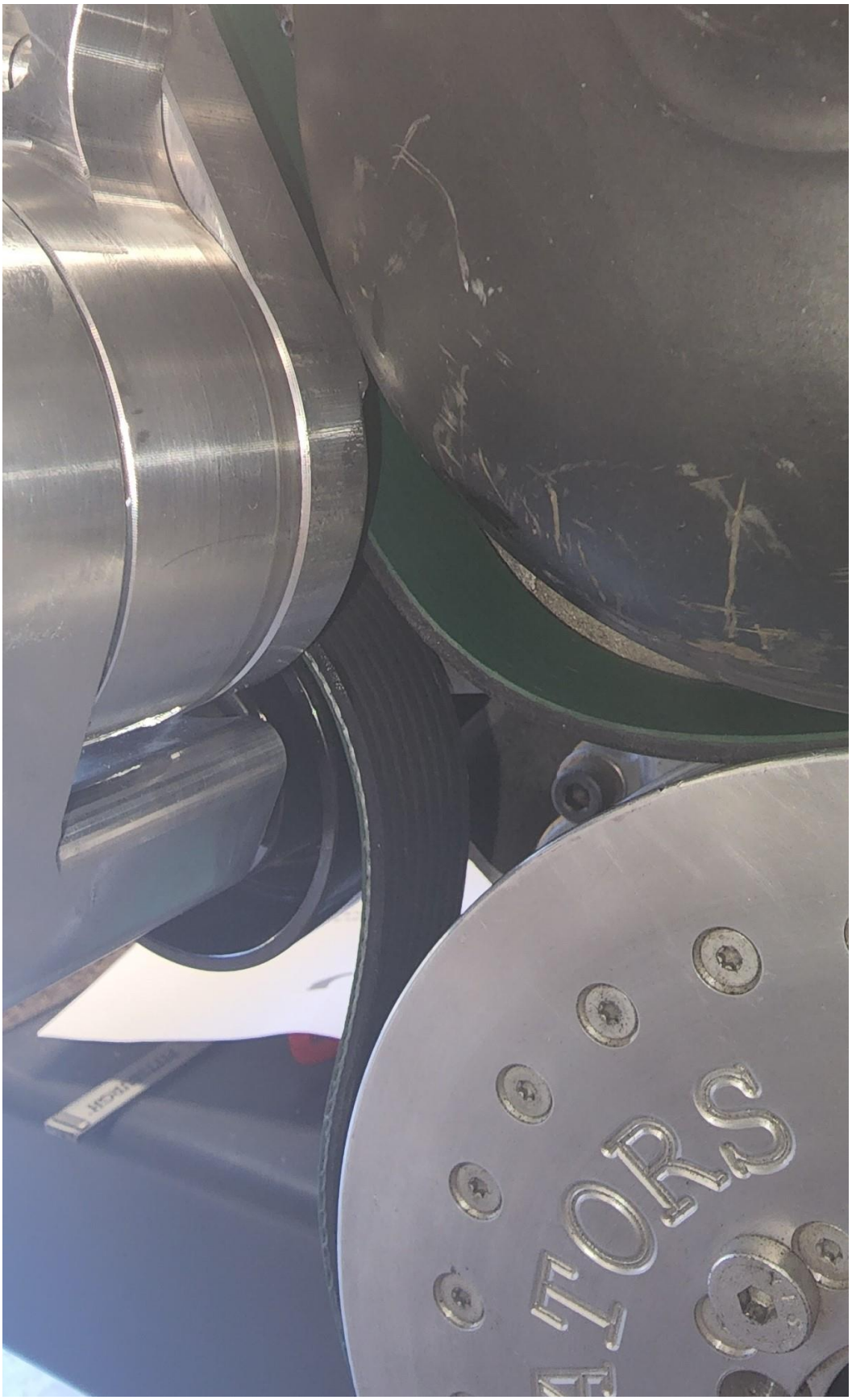
8 **INSTALL THE BLOWER AND BRACKET ASSEMBLY:** Some find it easier to clamp the silicone coupler and 6" aluminum tube to the blower outlet before installing the assembly in the car. It can be done afterwards if you prefer. Angle the clamps towards the passenger side so you will be able to access them in the car if you need to.

Take the assembly to the car with the pulley side facing the engine. You'll need to feed the bottom loop of the belt between the steering rack and balancer to get it under the balancer. The upper side of the loop goes under the water pump. We find the easiest way to mount the bracket is to push bolts #2, 3 and 4 (PICTURE 1) back about an inch and hang the assembly from bolt #1. It's much easier to align just the one bolt to take the weight and then worry about lining up the others. (See PICTURE 4) Once the blower assembly is hanging you can straighten out the belt. Belt routing around the balancer is shown in PICTURE 5. The belt is routed around the power steering and alternator pulleys just like stock. Leave the belt off the alternator pulley for now.

You can now line up the remaining bolts and thread them in. Bolts 1 and 2 will require that you put a "D" spacer between the bracket and the blower before tightening if they are not there already. You can remove and reinstall bolt #1 to install the spacer after the other bolts are installed.



PICTURE 4 (JUST HANG THE BLOWER ASSEMBLY FROM THE TOP BOLT TO TAKE THE WEIGHT)

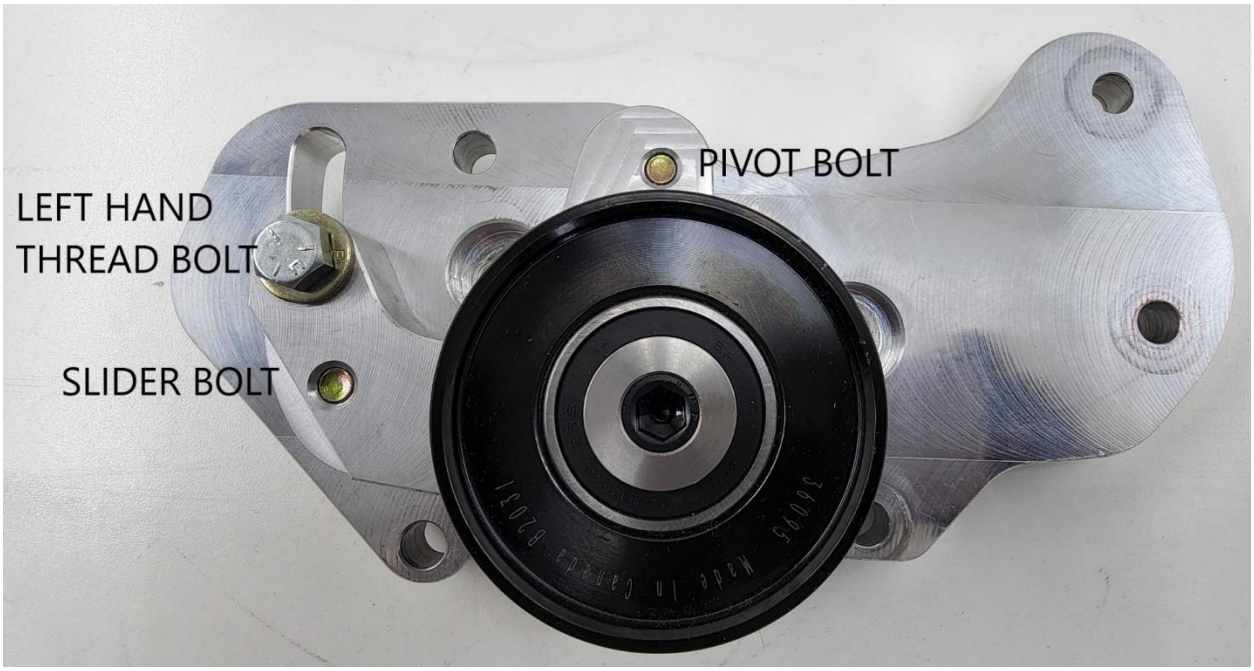


PICTURE 5 BELT ROUTING AROUND THE BALANCER

Reinstall the sliding idler on the head bracket, as it was before. (You may find it easier to slightly loosen a couple of bolts on the main bracket so you can temporarily remove spacer # 4 for access) Once the idler is in, reinstall spacer #4 and tighten all the bracket bolts. You can pop the belt over the alternator now.

The upper pivot bolt and the slider bolt should be just loose enough so you can slide the bracket through its arc.

The left-hand thread bolt (or square hole) is used to push the bracket over to tighten the belt. DO NOT try to take it out. Tighten the belt just to the point where you can turn the locking pin by hand. Lock down the adjustable idler. Go back to the spring tensioner, rotate it slightly and remove the pin. The belt tension is now set properly. Extremely high horsepower builds may require our optional spring and extra tension. Remember to set the tensioner again after driving to take up any initial stretch.



PICTURE 6

BELT ALIGNMENT TIPS

First of all, nearly all installations will line up without going through the following procedures.

9 **If you do have an alignment issue here, it's more than likely you have an aftermarket water pump. They are notorious for this. We use and recommend only OEM Delco pumps.**

As mentioned earlier, nearly all alignment issues start at the water pump. It's imperative that the rear bracket is parallel to the face of the cylinder head. GM made two gaskets for

the C5. 97-98 were paper gaskets and were about .030” thick. The later ones were aluminum and ran about .060” thick. If you needed to move the rear bracket in or out by .030”, adding or swapping these gaskets would do it. You could add a paper gasket to your aluminum one to go out .030”. You could take the aluminum one out and replace it with paper to go .030” closer to the head.

Let’s say you needed to go in or out by .015”. You could get a piece of common .045” gasket material and add it to a paper gasket, thus making your total spacing of .075”. That’s the same as the aluminum gasket + .015”. By just using the .045” gasket, rather than the aluminum one, you’ve moved your pump closer to the engine by .015” You can try various combinations.