



Congratulations on your purchase of the finest Sprint Car Filter and stack sealing system available. This system has been designed for unparalleled ease of assembly, disassembly and cleaning while providing the highest efficiency and lowest restriction over the life of the filter.

The included sealing base must be cut to install it onto your injection stack system. You will need a permanent marker (preferably not black), an electric drill and .193" Dia. bit (#10), a riveter for installing pop rivets (hand or pneumatic) and a jig saw with a fine toothed blade to cut the carbon fiber and install the seals. Before you begin, make sure you have all these supplies along with the requisite basic hand tools..

When cutting carbon fiber it is important to have proper protective equipment as it produces a fine dust, which can **irritate skin and the respiratory system if inhaled**. At a minimum we recommend you wear a long sleeve shirt, gloves (latex or vinyl are fine), and a dust mask to prevent breathing in the dust. Clothing exposed to the dust should be washed before rewearing and ideally changed immediately after you are finished with the cutting and cleanup.

**What Is Included:**

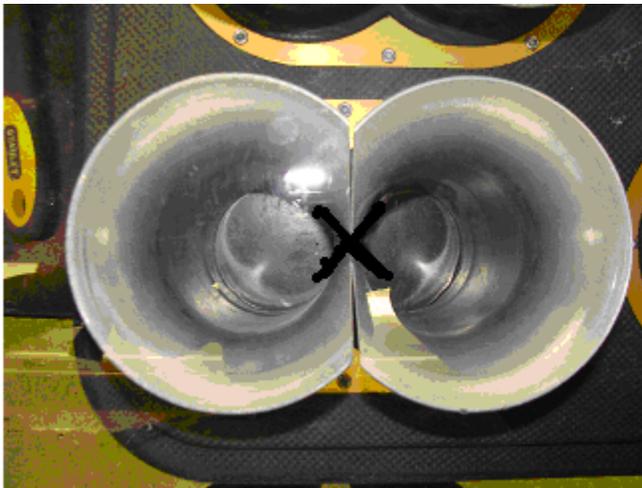
1. A Blank Filter Base
2. 42 Sealed Pop Rivets (10 extra)
3. A Silicone Foam Gasket
4. An Oval Plastic Marking Template
5. A Large Clear Plastic Template
6. A Tube of RTV Silicone
7. A Tube of P-80<sup>®</sup> Rubber Lube
8. A Set of Base Seals (Large, Small or Individual)
9. A Piece of Teflon Insulating Tape
10. 8 Hose Clamps

Before you begin, make sure that you have the stacks installed on the intake manifold and that they stay installed during the installation process. Being careful to make sure that all stacks are tightly installed and properly seated. **If you have an injector system with 5° angled stacks follow the included modified instructions for steps 1 & 9 listed with an asterix.**

- 1) \* (See modified step for angled stacks). Place the large clear plastic sheet on top of the stacks, approximately centered (Photo 1). Standing on the driver's side of the motor, carefully look from the top and place a mark at the center point between each stack pair (Photo 2). You should make 4 marks in total (Photo 3). Label them going clockwise from the top left 1, 2, 3 and 4. **The points will be referred to by these numbers from now on.**



**Photo 1**

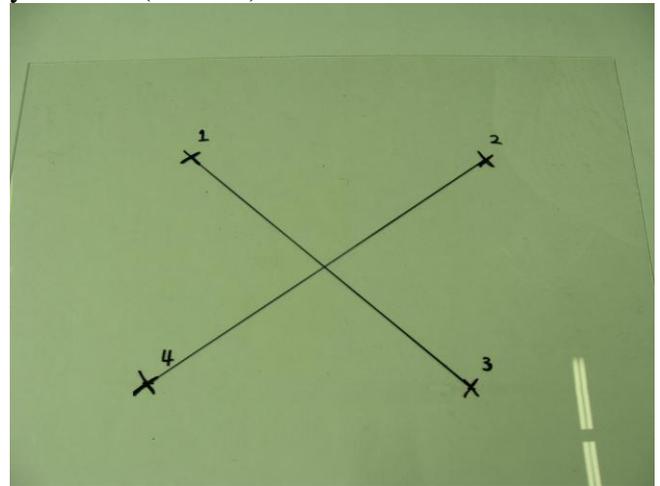


**Photo 2**



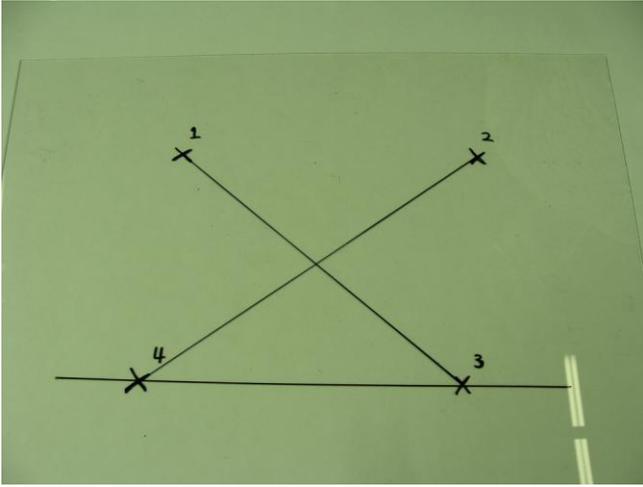
**Photo 3**

- 2) Lift the plastic sheet from the stacks and place it on a flat surface. **Make sure you don't flip or turn over the plastic template at any time.** Use a ruler or straight edge to draw diagonal lines from point 1 to point 3 and from point 2 to point 4. You should be drawing only two lines, which make an "X". The center of this "X" is your center mark that you match up to the mark on your base (Photo 4).



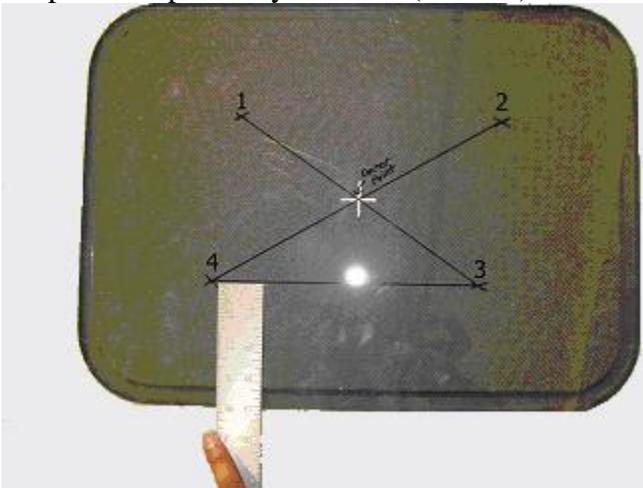
**Photo 4**

- 3) Draw a horizontal line from point 3 to point 4. This line will be used to square the plastic template to the base (Photo 5).



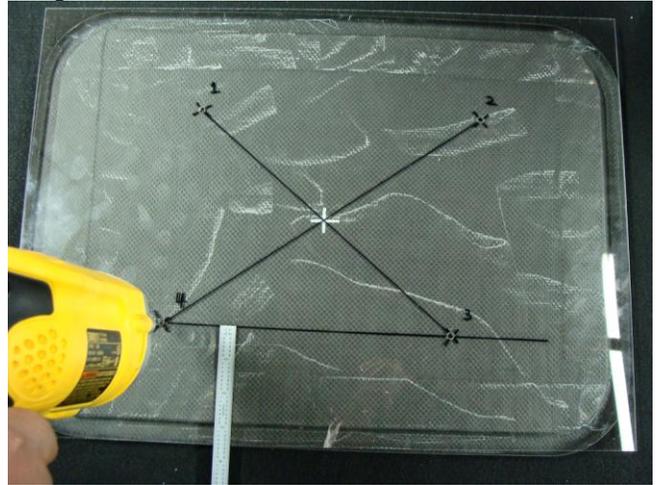
**Photo 5**

- 4) Place the plastic template on top of the base (the rough side) and line up the center mark on the base with the center of the “X” on the plastic template. Use a ruler to measure the distance between the squaring line and the edge of the base at various points to ensure they are parallel. Double-check your measurements. This properly locates the plastic template over the base. **Be careful not to shift the plastic template or base at this point.** You can use small clamps to hold the pieces in place if you desire (Photo 6).

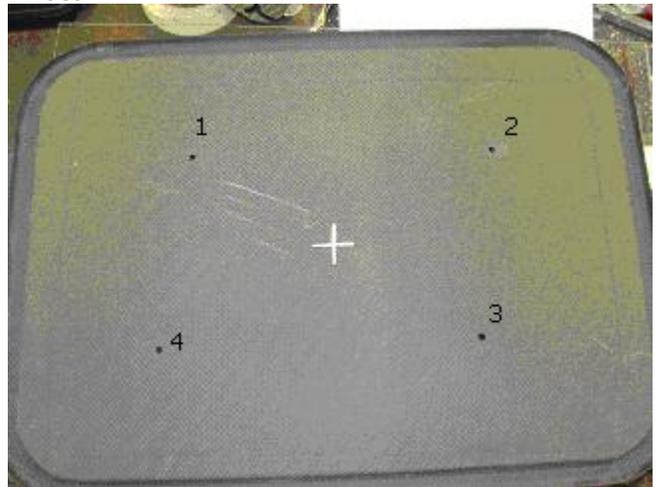


**Photo 6**

- 5) Using a high speed electric drill and a .193” Dia. drill bit, drill through both the plastic and carbon fiber over the points that you marked earlier on the template (Photo 7). As you drill the holes, place a rivet in each hole (**without expanding it**) to help keep the pieces from shifting as you drill. The holes in the base will be referenced the same way as the points on the plastic template. That is, 1 thru 4 going clockwise starting at the top left (Photo 8). You can now set the square plastic template aside.

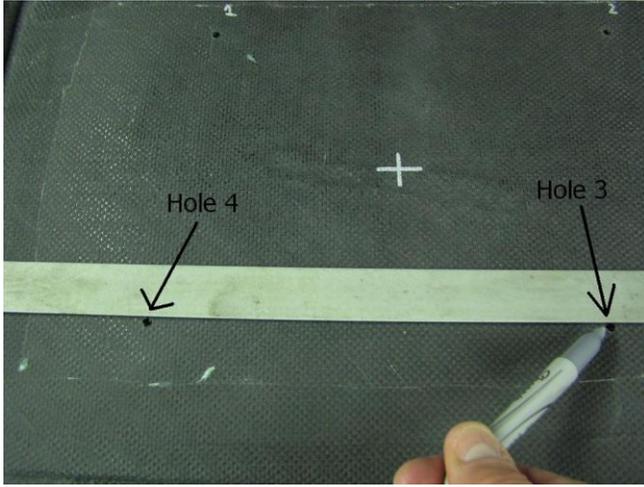


**Photo 7**



**Photo 8**

- 6) On the base draw a line from hole 1 to hole 2 and from hole 3 to hole 4. These lines will be used to help locate the oval template (Photo 9).



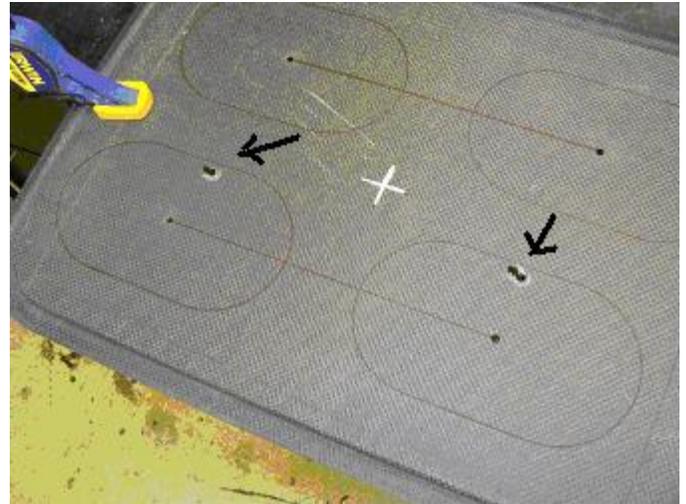
**Photo 9**

- 7) Place the supplied oval template over one of the drilled holes in the base, aligning the hole in the base with the **CENTER** hole in the template. Then line up one of the adjacent holes in the template with the line you drew on the base. Hold it in place (you can place a rivet in the center hole to keep it steady) and draw a line around the oval template. Do this for all 4 holes in the base (Photo 10). These ovals will be your cut out lines on the base.



**Photo 10**

- 8) We recommend the use of a jigsaw with a fine-toothed blade for cutting the base. Start by drilling approximately a 3/8" hole inside the oval markings where you wish to start jigsaw cutting (Photo 11). Then carefully cut out the oval shapes following the **INSIDE** of the lines that you drew. The cut does not have to be perfect but try and stay inside the line (Photo 12). Do this for all 4 oval holes.



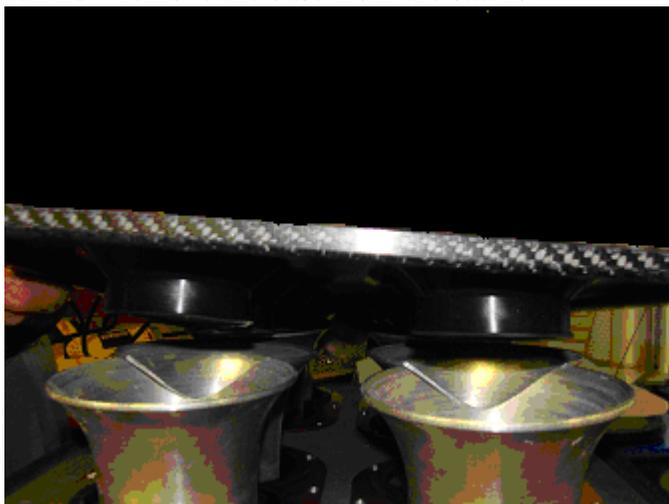
**Photo 11**



**Photo 12**

- 9) \*(See modified step for angled stacks). Place the included stack seals inside the 4 oval holes that you cut. You will notice that there is some play in the hole/seal interface; this is normal. Take all the components and place them atop your injection

stacks (which should still be installed in the intake manifold). Place the base/seals in a manner that allows the bottom of the seals to fall inside the air horns (Photo 13). Once all the seals are located in the air horns, adjust the base as necessary to center everything. Now place a mark on the base through each rivet hole on the seals. As a double check for proper positioning, you can lift out the seals leaving the base atop the stacks. The oval cut outs on the base should be roughly centered over their respective stack pairs (Photo 14). You can now remove the base from the stacks.

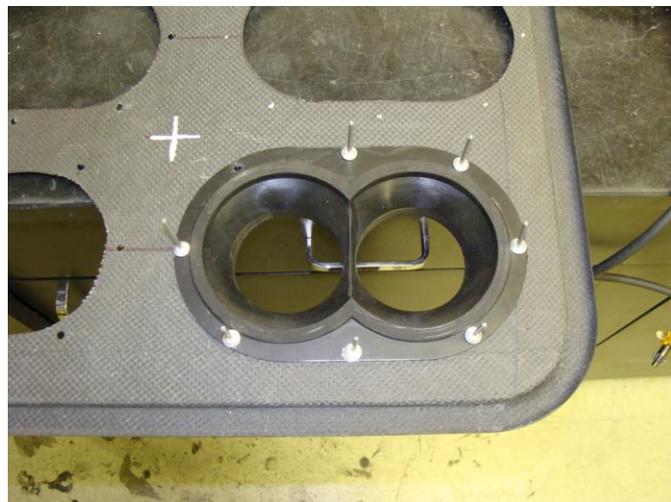


**Photo 13**



**Photo 14**

**10)** Place a seal in an oval hole on the base and line it up with the 8 marked rivet hole locations on the base. Using a .193" drill bit and a high-speed drill, drill out 8 holes in the base around each oval cutout using the holes in the stack seals as a guide. As you drill each hole, place a rivet through the hole to keep the stack seal from shifting as you drill the other holes (Photo 15). Do this for all 4 ovals. **DO NOT EXPAND THE RIVETS YET.**



**Photo 15**

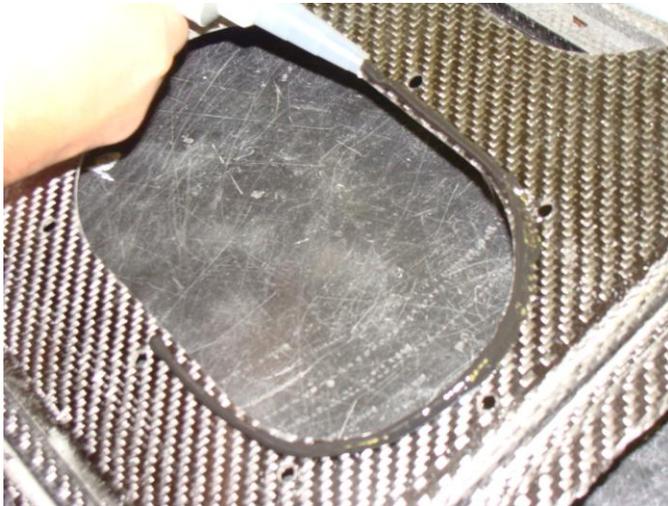
**11)** All the holes are now cut and you can begin assembly of the base using the provided silicone RTV. Start by cutting the plastic tip so there is approximately a 3/16" hole for the silicone to flow through (Photo 16). Now apply the silicone to the base by laying a continuous bead all the way around an oval cut in the base (Photo 17). Place a seal on top of the silicone you just laid out. **Place some silicone on the body of the rivet and insert the rivets from the UNDERSIDE of the base** (Photo 18 & 19), then expand them using a pop riveter (Photo 20). It may help to have assistance with this step if using a manual riveter. Do this for all 4 seals. For a cleaner look you may wish to wipe away excess silicone before it cures, however this is not necessary. If done correctly, the installation should look like Photos 21 & 22.



**Photo 16**



**Photo 19**



**Photo 17**



**Photo 20**



**Photo 18**



**Photo 21**

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**Photo 22**

- 12) A piece of insulating tape has been included to reduce the chance of getting shocked when handling the base and filter on a running motor. It should be installed at the closest point between the magneto and filter base (Photo 23).



**Photo 23**

- 13) The supplied silicone gasket can now be installed in the base. Cut the gasket ends at a 30°-40° angle. This can be done easily by overlapping the gasket ends (side by side) about 1" and cutting down through the material at an angle (Photos 24 & 25). This will ensure that the two mated ends fit perfectly against each other (Photos 26 & 27). Install the gasket by removing the paper backing and installing it into the sealing channel (Photo 28) then apply silicone gasket maker on the cut

ends. Join the ends and allow the joint to dry for 1 hour before disturbing (Photo 29 & 30). If you wish, immediately after applying silicone to the gasket joint you can apply a piece of scotch tape over the top to hold it together while the silicone dries. Be sure to remove this tape before installing the filter onto the base.



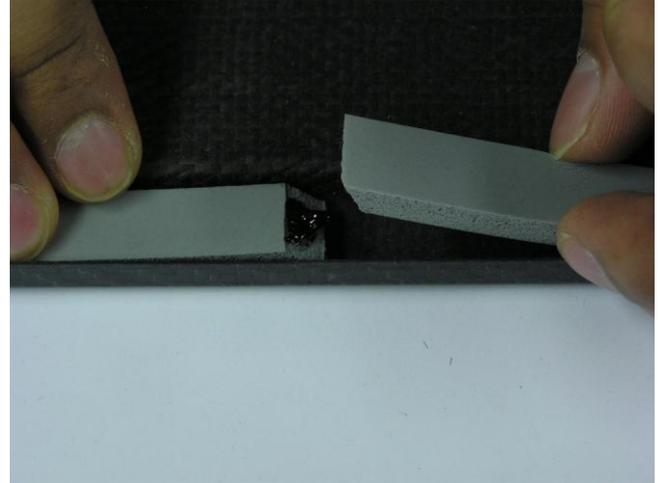
**Photo 24**



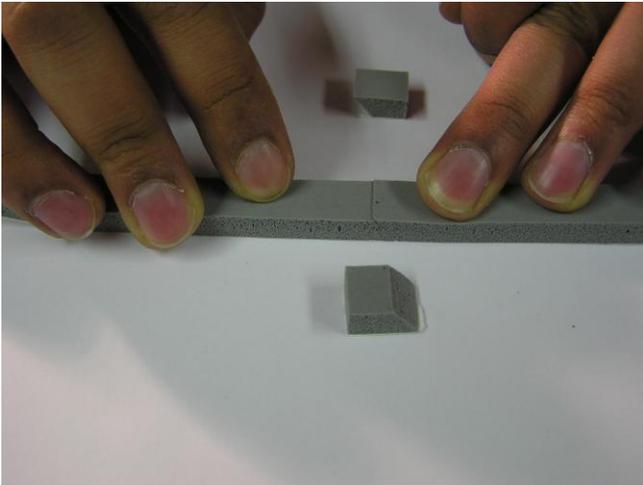
**Photo 25**



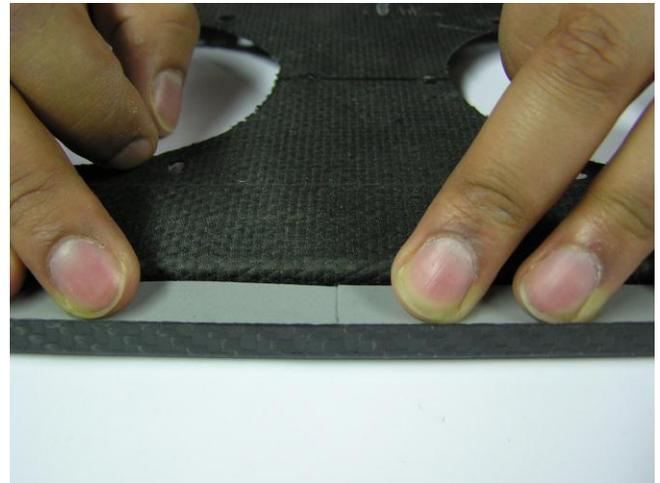
**Photo 26**



**Photo 29**



**Photo 27**



**Photo 30**



**Photo 28**

14) Now you can install your stacks into the seals. To do this you must remove them from your engine and slide them through the seals. This is a good time to inspect all your stacks and make sure they are not dented or distorted. A damaged stack can cause a poor seal and should be replaced. If you have trouble sliding the stacks through the seals, a tube of P-80<sup>®</sup> lubricant has been provided for this purpose. Apply liberally to your stacks. Install your stacks through the seals and put on the provided hose clamps loosely around the stacks, so that they do not fall off but still allow adjustment (Photo 31). If you have 3" diameter stacks or larger, you may find you need to turn the base over and spread the stacks apart to get the

clamps on around the boot (Photo 32). **YOU MUST USE THE HOSE CLAMPS TO MAKE A PROPER SEAL!**



Photo 31

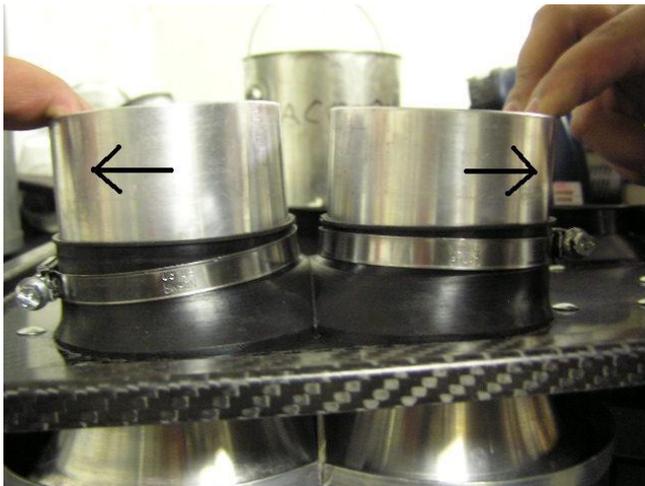


Photo 32

- 15) If you have an O-ring type setup (such as the Kinsler stack adapters), which seals the stack against the adapter, this is a good time to check the condition of the o-rings and replace them as necessary. **It is essential that you apply a film of heavy grease to the inside of the stack adapters to minimize dirt leakage in this area, even if you have o-rings installed.** Using a ruler, measure the distance from the top of one of your stack adapters to the stop inside the adapter where the stack should sit (Photo 33). Depending on

your adapter manufacturer this distance will vary. Take this measurement and place a mark on each of your stacks from the bottom-up (Photo 34). Make sure there is sufficient stack length past the seal boot to make this mark on the stack. **Our seals have a longer boot than most other manufacturers seals so it is critical to make sure there is enough stack length below the boot to seat the stack properly into the adapters.** If there is not, then push the stack through the seal until there is and make the mark on the stack. Now, install the stacks and filter base onto your engine, making sure to seat the stacks all the way down to the stops in the adapters. **THIS IS A KNOWN LEAK PATH FOR DIRT TO GET INTO YOUR ENGINE!** For reference, the stacks must slide into Kinsler Injector Bodies about 1.125" (Photos 33 & 34) to be properly seated. Engler and Hilborn systems will vary. **When the stack is correctly seated, the mark you made on the stack should line up with the top of the stack adapter (Photo 35).** Photo 36 shows an incorrectly seated stack. Once all the stacks are seated correctly (which can take some effort), you can tighten all the pinch bolts to hold them in place.

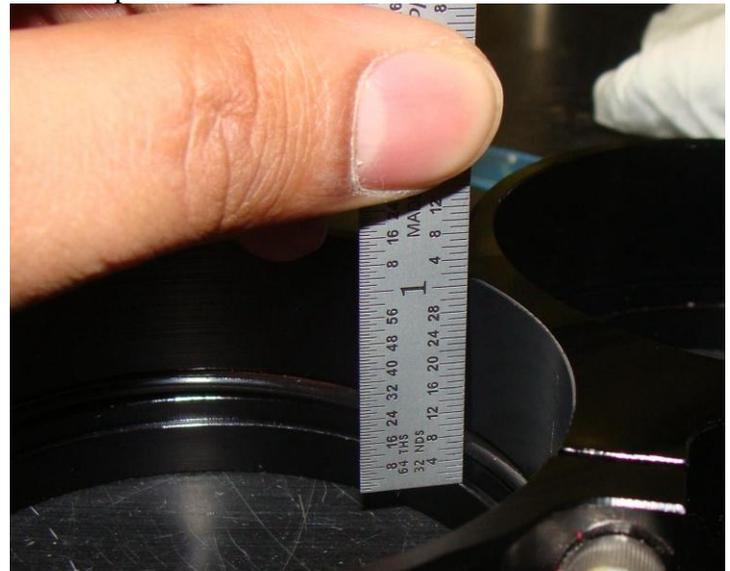


Photo 33



Photo 34



Stack Not Fully Seated

Photo 36



Photo 35

16) Once the stacks are attached to the engine, you can adjust the base to the height that you want it. You may need to loosen the hose clamps if you tightened them earlier. If you still have difficulty, use the supplied P-80 lubricant on all the stacks/seals to ease the movement of the base. Once you are happy with the location of the base, **tighten all the hose clamps** and wipe away any excess P-80 lubricant. Don't worry if you miss some, it will dry up quickly and won't attract dirt. Re-check all the pinch bolts and hose clamps to ensure they are all tight.

17) To install the filter to the base, place the wire bale on each filter latch around the sealing channel on the base and pull the latch tight (Photos 37 & 38). Reverse these directions for removal.



**Photo 37**

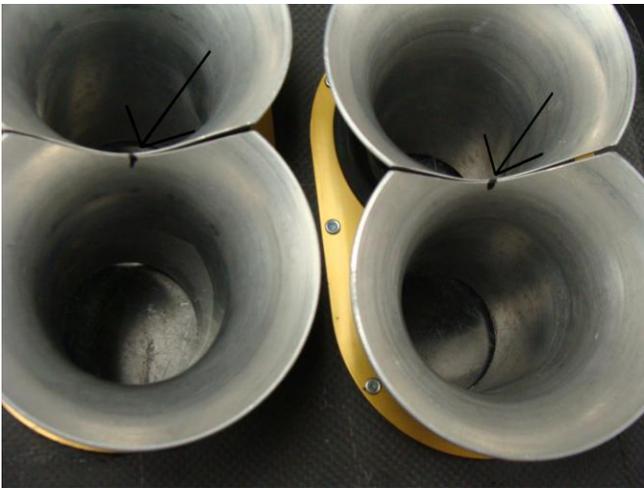


**Photo 38**

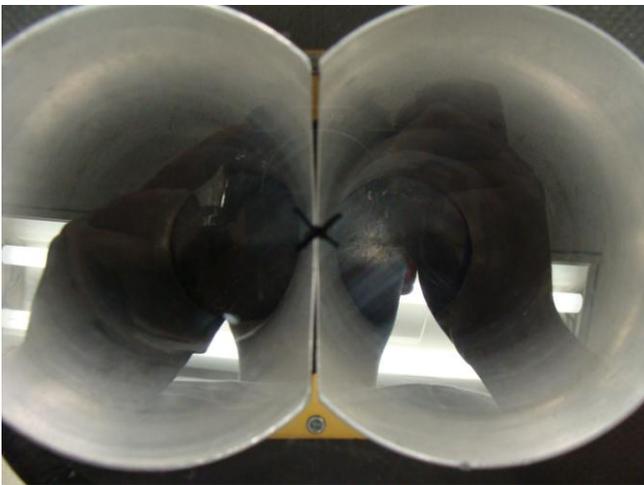
**Use these supplemental instructions for steps 1 & 9 (in lieu of the standard instructions) if you have a fuel injection system with 5° angled stacks. All other steps should be taken directly from the standard instructions.**

1) Mark the center point of each stack pair with a marker (Photo 39) then place the large clear plastic sheet on top of the stacks, approximately centered. Standing on the left side of the motor (closest to cylinders 1,3,5,and 7), carefully look from the top and place a mark at the center point between each stack pair (Photo 40). **Place these marks directly above the center marks you placed on the stack pairs.** You should make 4 marks in total (Photo 41). **Once these marks are made DO NOT flip or turn over the plastic template.** Now, depending on what height you wish to place the base on the stacks, you must move the marks you just made outward (that is, increase the bank to bank spacing of the 4 marks). This must be done to properly locate the holes in the base due to the angled stacks. Using the table provided mark new points on the template based on your decided base height (i.e. If you wish to mount the base 2” below the top of the stacks, you would move your original marked points outward by approximately .174” or just under 3/16”) (Photo 42 & 43). If you wish, you may erase your original marks to avoid any confusion later. Label the new marks going clockwise from the top left 1, 2, 3 and 4. **The marks will be referred to by these numbers from now on.**

<b>Distance Below Top of Stack</b>	<b>Distance Marked points need to be Moved</b>
.25”	.022”
.50”	.044”
.75”	.065”
1.00”	.087”
1.25”	.109
1.50”	.131”
1.75”	.153”
2.00”	.174”
2.25”	.196”
2.50”	.218”
2.75”	.240”
3.00”	.262”
3.25”	.283”
3.50”	.305”
3.75”	.327”
4.00”	.349”



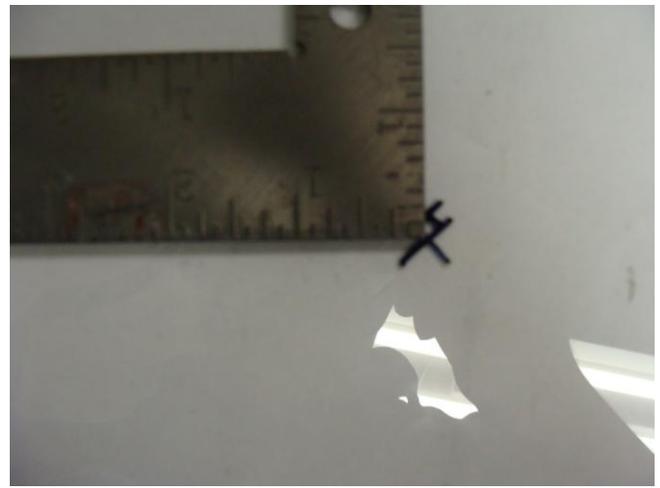
**Photo 39**



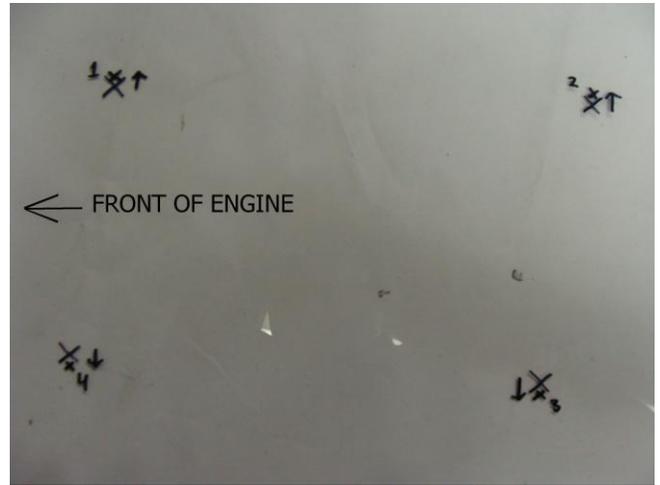
**Photo 40**



**Photo 41**

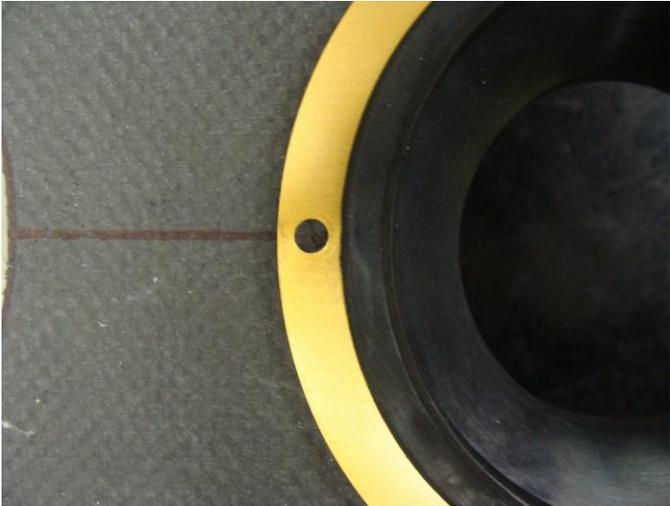


**Photo 42**



**Photo 43**

- 9) Place the included stack seals inside the 4 oval holes that you cut. You will notice that there is some play in the hole/seal interface; this is normal. Do your best to center each seal within the oval holes. You can use the horizontal lines you drew on the base as a guide to assist you (Photo 44). Once a seal is centered, place a mark on the base through all of the rivet holes as reference marks (Photo 45). Do this for all 4 oval cut outs.



**Photo 44**



**Photo 45**