



## ROTTWEILER INTAKE SYSTEM INSTALLATION

ALL 950 / 990



Note: Please read and understand all notes, precautions and warnings within this document before performing these procedures. It is solely you and/or the installer's responsibility to adhere to the guidelines of all factory torque specs and procedures mandated by the manufacturer of your motorcycle. Always wear the appropriate safety equipment. If you believe that these instructions are beyond your capabilities, you should seek out a professionally trained motorcycle mechanic to install any aftermarket product/s including these.

- **Installation time:** 2 to 4 hours depending on experience.
- **About these instructions:** Please note that while these directions are very detailed with many pictures and pages, the installation in its entirety is not as complex as you may think. We have chosen the 'downloadable' approach to our instructions for this kit to allow the installer to use a laptop or tablet device to get the most in-depth and detailed pictures and descriptions possible, and have the ability to link to other items or information available.
- **950 Models:** Please note that while these instructions are primarily showing 990 Fuel Injected parts, the installation for 950 models is nearly identical with only minor differences. Those differences will be noted at the beginning of each instruction with a note in parenthesis as to what model is being described.
- **Tools needed:** (Most can be found in your stock tool kit)
  - T20 Torx
  - Channel Lock Pliers
  - Needle Nose Pliers
  - 6mm socket
  - 8mm socket
  - Small screwdriver
  - 19mm open end wrench (x2 or another 3/4)
  - Biodegradable Foam Filter Oil ([See Oiling Instructions](#))



## **ONLINE INSTRUCTIONS QR CODE LINKS**

Scan these codes with your iPhone's camera or a QR code reader to get direct links to online versions of these instructions.

### **THESE ONLINE INSTRUCTIONS**



### **ALL INSTRUCTIONS PAGE**



### **YOUTUBE**

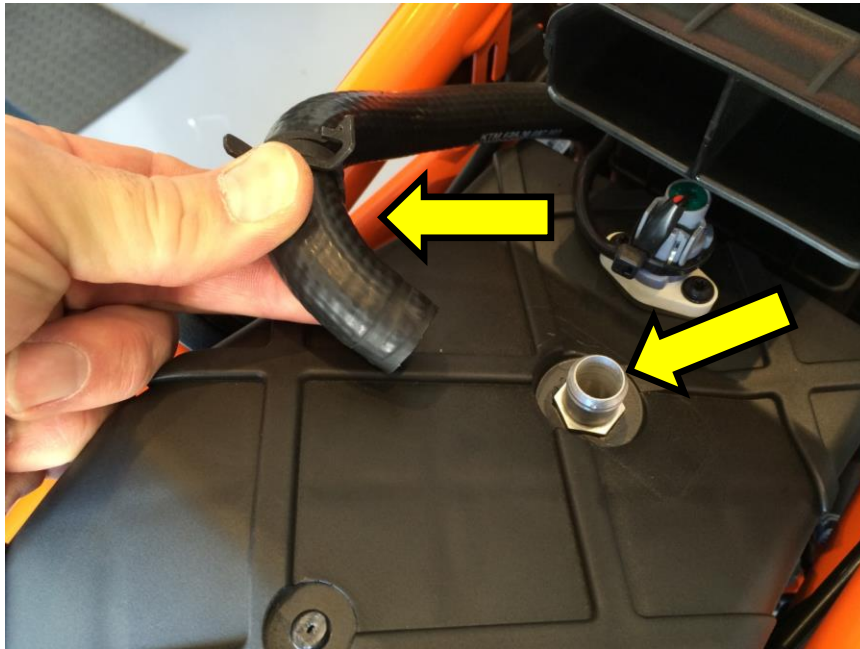


### **FACEBOOK**



## INSTRUCTIONS

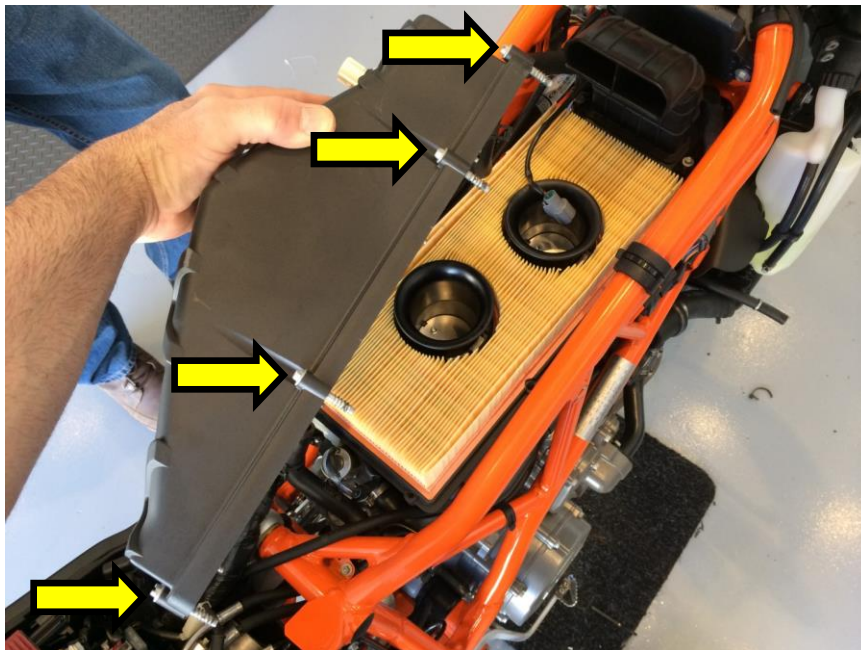
1. (990-950-SE) Remove the fuel tank.
  - a. Note: Due to the fact that these instructions cover all 950 and 990 KTM models, we have omitted the instructions for removing the fuel tank only. If necessary, follow your owner's manual for your specific model and follow all factory guidelines. Pay special attention to the lengths of the bolts and their respective positions upon removal.
  - b. Fuel tank removal typically involves the items below:
    1. Main CRC brand quick release / dry break fuel line.
    2. Fuel pump electrical connection
    3. Fuel level sender electrical connection
    4. Hose(s) to the evaporation canister
    5. Plastic shrouding, nuts, bolts
2. (990-950) Using channel lock pliers, squeeze the clamp spring and remove the hose at the top front of the air-box.



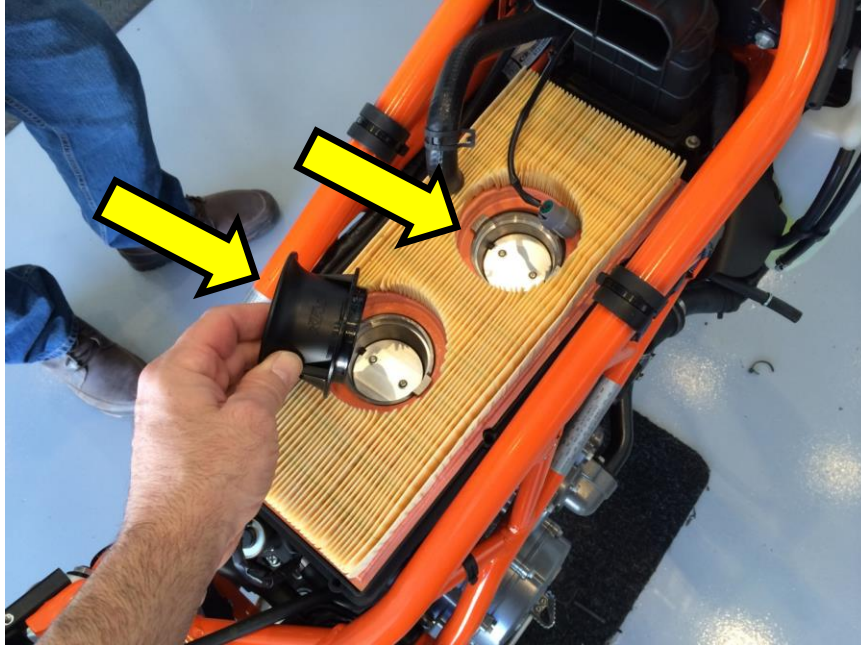
3. (990) Cut and remove the zip tie from the air temperature sensor. Many times this just slips off the top.



4. (990-950) Using the 6mm socket loosen all of the screws (8) on the main lid of the air-box and remove the top.



5. Remove the velocity stacks by twisting them counter clock wise (990), or clockwise (950). (990 shown)



6. (990-950) Remove the stock paper filter.

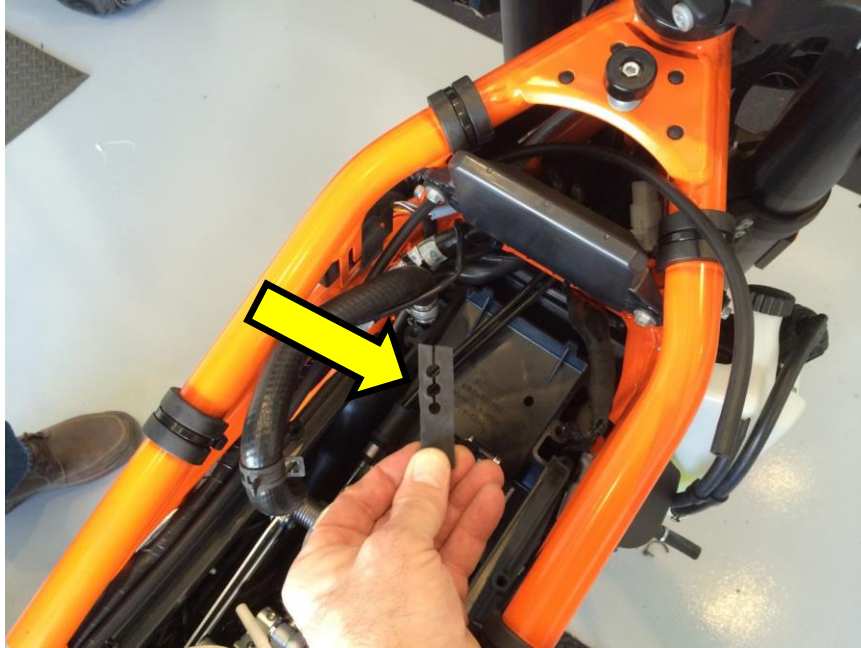


7. (990-950) Loosen the remaining 4 screws in the forward snorkel tube and remove.

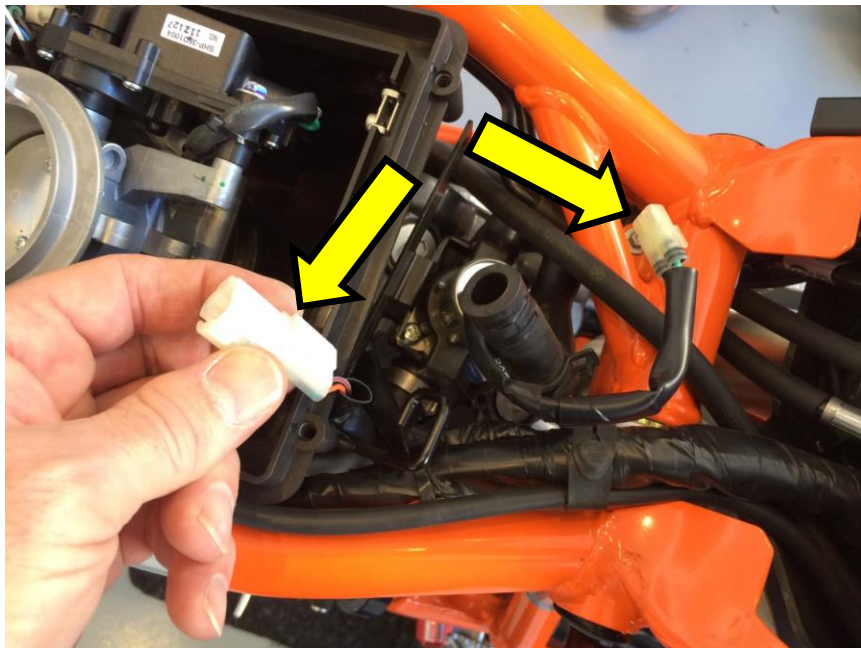


8. (990-950) Remove the rubber throttle cable grommet. (Not used again)





9. (990-950) Find the SAS valve at the rear of the air-box and unplug the wired connection. If you are also installing a Rottweiler SAS removal kit, now is the time to insert the SAS dongle included in [‘Stage 2 and 3’ SAS removal kits.](#)

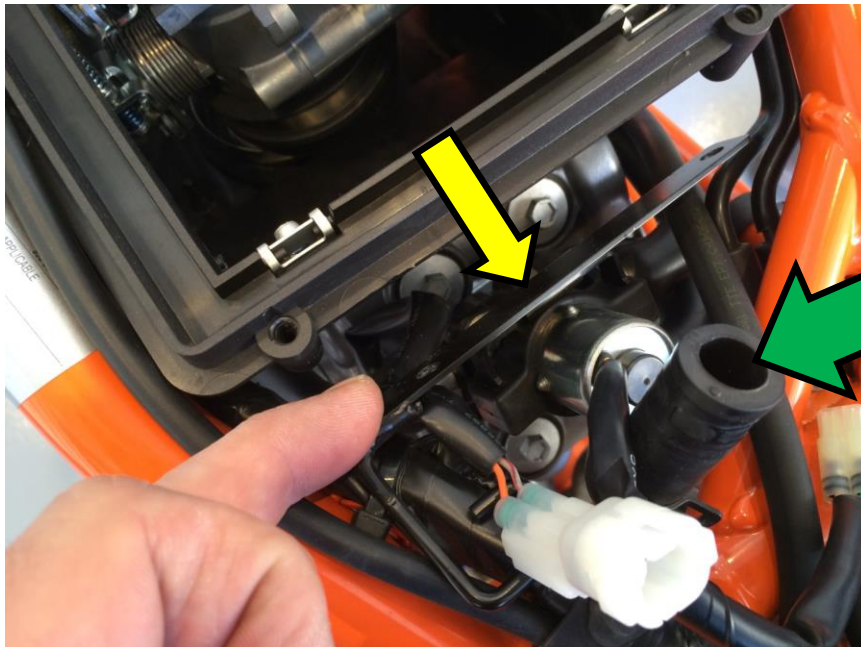


10. (990-950) Using an 8mm socket remove the 2 bolts securing the SAS valve to the back of the air-box.



11. (990-950) The mount should pull back like the figure below.

- a. Note!: If you have opted to keep the emissions system intact, a small filter such as a 1/2" K&N valve cover filter commonly found at auto parts stores must be installed where the SAS system was connected to the stock air-box. (green arrow)
- b. If complete removal of the SAS is desired, look into one of our [SAS removal kits](#).





12. (990-950) Using the 6mm socket, remove the left and right side triangular covers in the side of the air-box. (3 screws each)

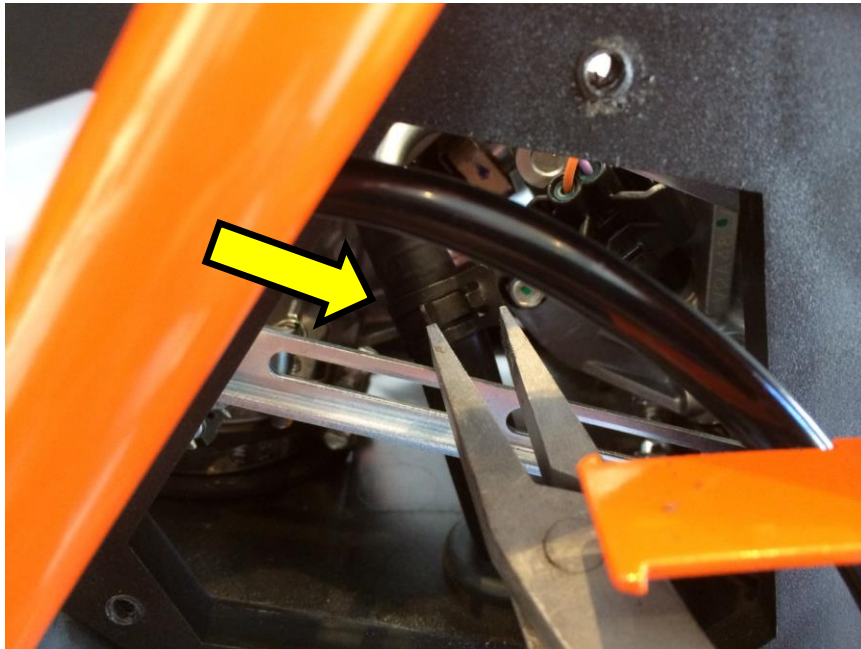


13. (990-950) Being very careful not to damage the integrity of the fuel hoses, remove the fuel lines:

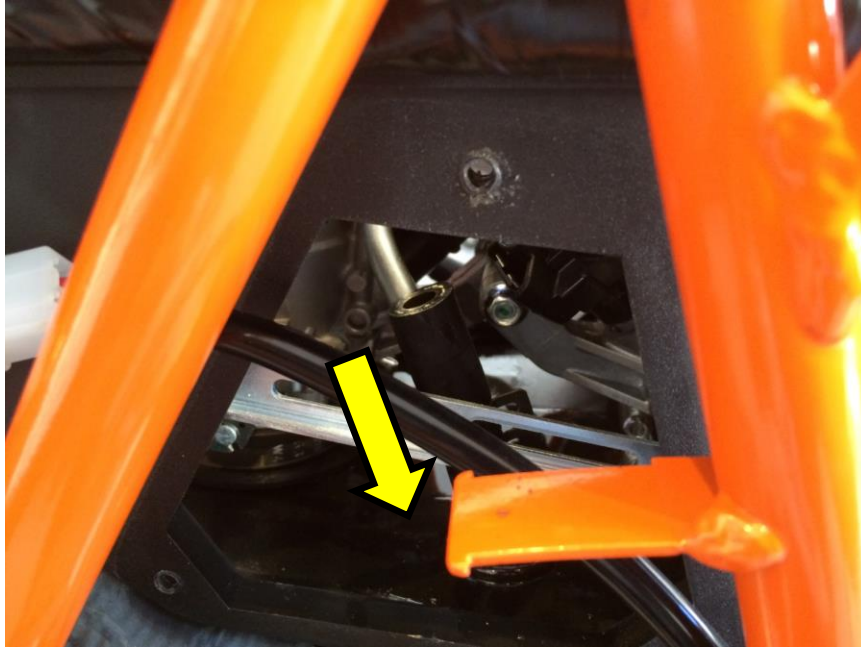


**CAUTION!** Residual pressure will be present in the fuel lines and may squirt fuel when the line/s are removed. Wear the proper safety gear including glasses. If you feel the fuel lines look old or cracked, replace them. We have seen some crack on the inside and will shoot fuel when the ignition is keyed on and the fuel pump spools up. Do not be rough with these or over-bend the spring clips on the fuel line!

- a. (990) From the left side of the air-box, use the needle nose pliers to remove the fuel line spring clip. Slide it down the hose and off of the barbed fitting attached to the throttle bodies.
- b. (950) Remove the fuel lines in the same fashion but from the carburetors attachments.



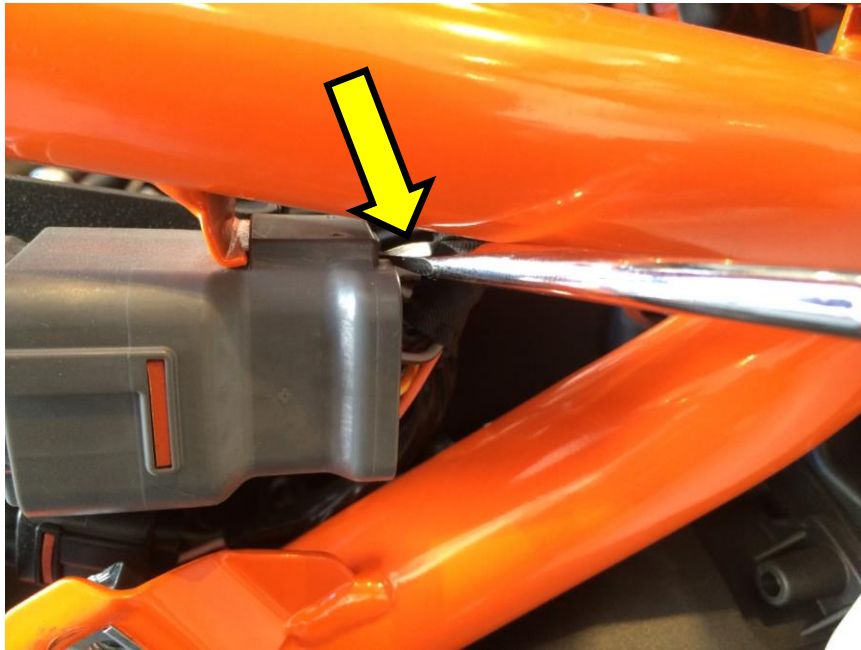
14. (990-950) Remove the spring clamp and pull the fuel line through the bottom of the airbox.



15. (990-950) Clean up any fuel that may have spilled.



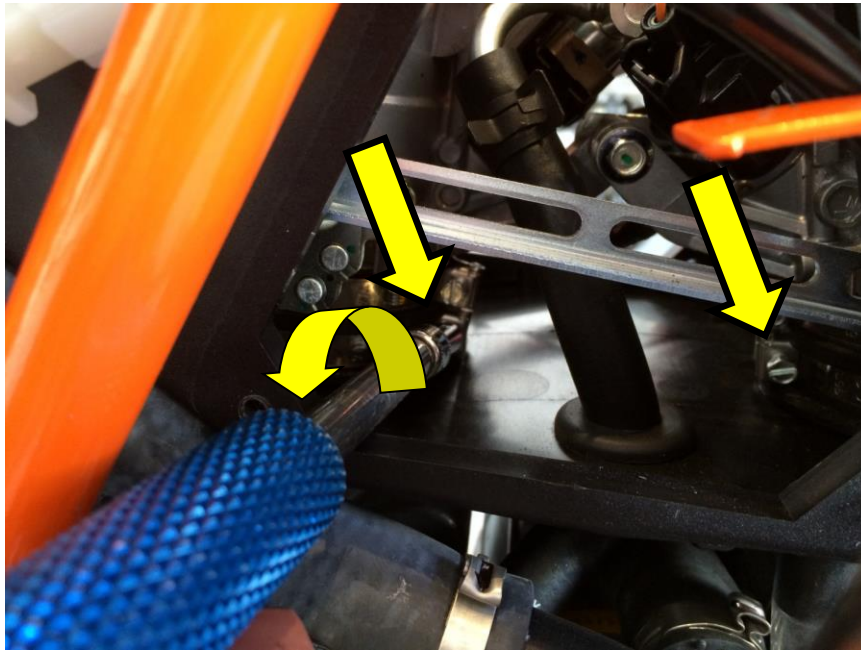
16. (990) find the main harness plug that routes into the right side of the air-box through the triangular door. This is the main plug for the fuel injection. Depress the clip on the frame and slide the connector off of the tab.



17. (990) Disconnect the plug. This can be tough to do but resist the urge to use a screwdriver and damage the plastic. Firmly push the button down and pull apart. The plug is sealed so vacuum can make it initially difficult but it will come apart with the proper technique.



18. (990-950) From the right side using a 6mm socket, loosen only the bottom throttle body / carburetor boot clamps.



19. (990-950) Rock the throttle bodies / carburetors to the side and pull them loose. The loosened clamps may drop into the air-box. Also make sure to not drop any debris into the intake.



20. (990) While pulling the throttle bodies out of the lower portion of the air-box, simultaneously pull up on the same lower portion of the air-box. This will allow you to fish the large grey harness plug you previously detached from the frame and harness through the right side triangular hole.



21. (990-950) Remove the lower portion of the air-box. Discard it as it will not be used again.



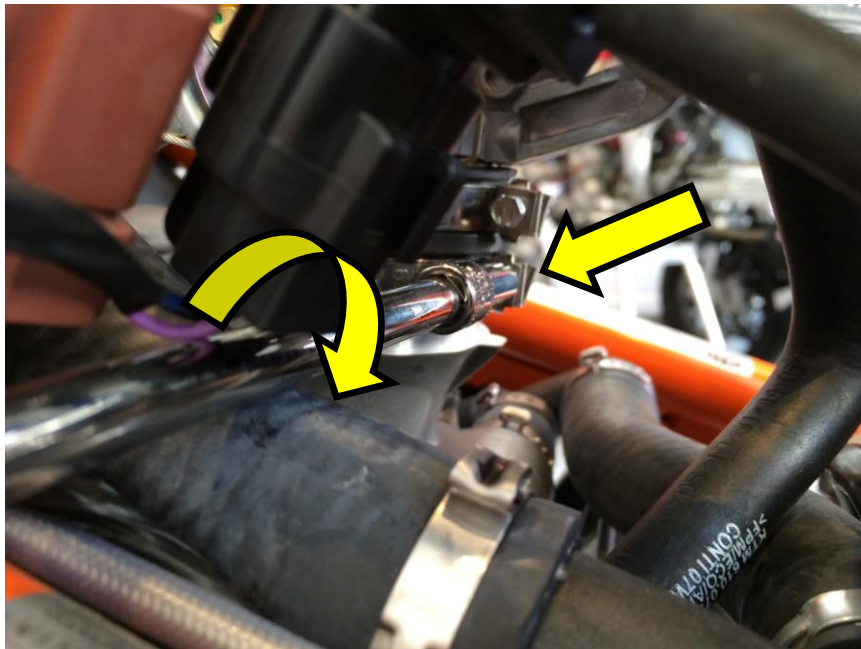
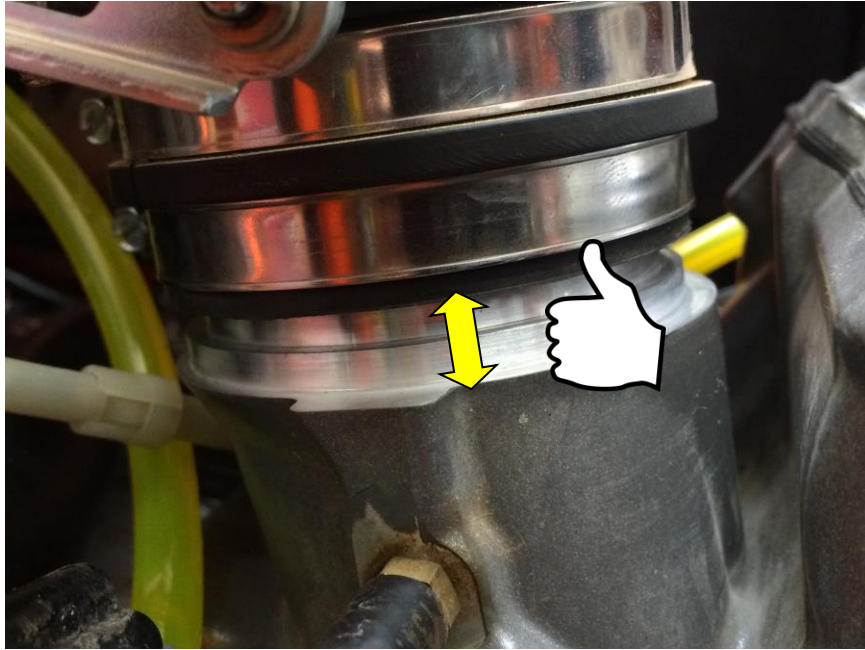




24. (990-950) Prop the throttle bodies / carbs up with a bungee cord to the handlebars to hold them out of the way for now.



25. (990-950) If the emissions are being removed with an SAS-Stage Kit from Rottweiler Performance, this should be done at this stage in the process. If you have opted to keep the emissions intact, a small 'valve cover' style K&N filter with a 1/2" barb should be used where the SAS hose was removed from the air-box. This is not common but certainly an option. See [Rottweiler SAS Removal Kits](#) for KTM options.
26. (990-950) Reinstall the throttle bodies / carburetors and tighten the lower clamps that were previously loosened. Make sure the clamp screws are backed all the way out without coming out of the captured nut. This will allow a smooth reinstallation. There should also be small spacers within the clamps that prevent over tightening. You will also notice a gap at the bottom of the throttle body boots exposing the machined surfaces of where the boots attach that will make it look like the boots are not fully seated. This was the gap that the rubber disks that are now discarded sat in and is totally normal. The throttle bodies should 'click' down and feel securely seated when they are properly seated and there will be a small gap underneath them.

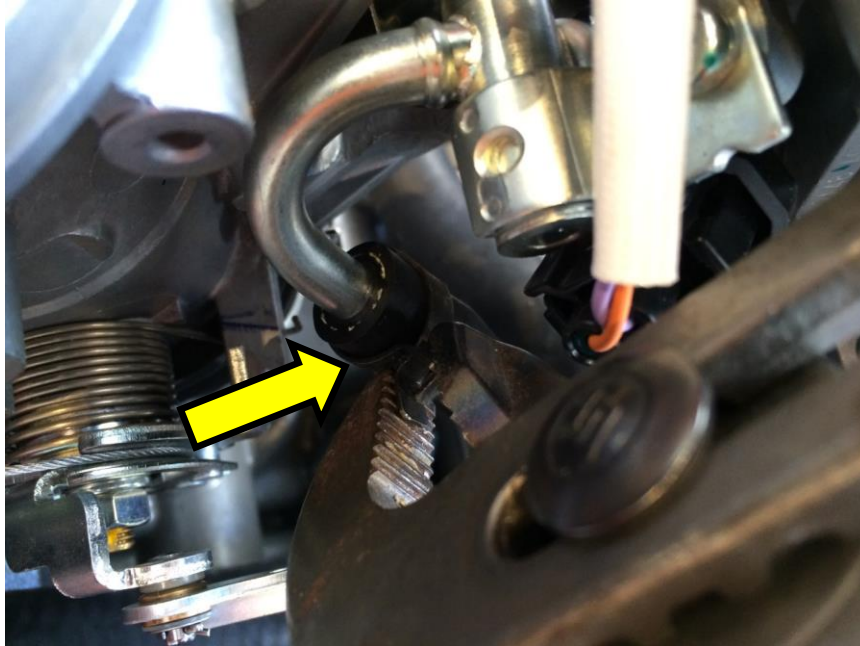




27. (990-950) Closely inspect the integrity of the fuel line and look for any cracks by squeezing it into an oval and rolling it in your fingers. If any cracks or wear is found, replace the line before reassembly. If not, reinstall the fuel line.

Be extremely careful NOT to over-stretch the spring. It will lose its ability to keep the proper tension on the rubber line and fuel may squirt out. Factory KTM part numbers are below.

- a. Rubber Sleeve Fuel Hose (60006001041)
- b. Clamp Spring (00049140121)

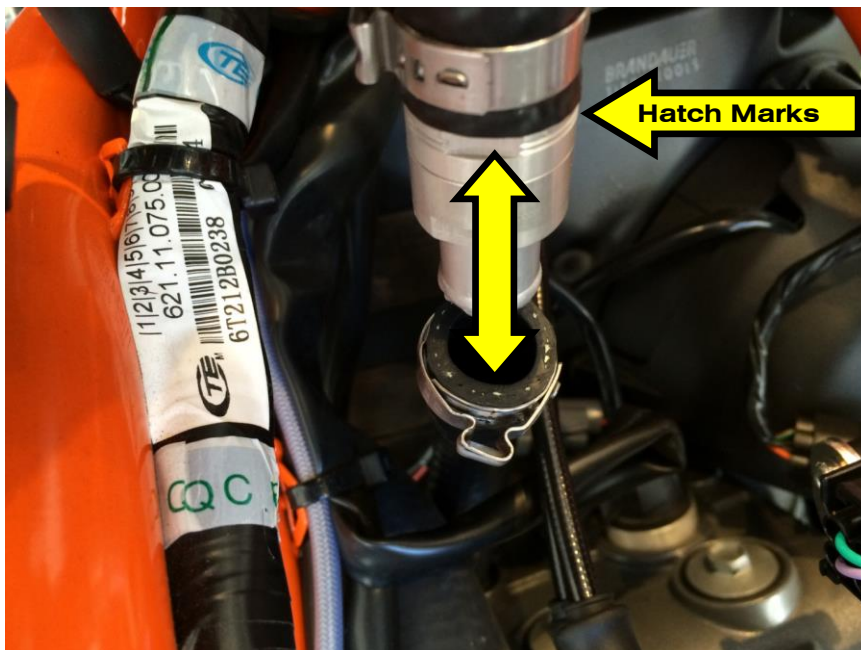
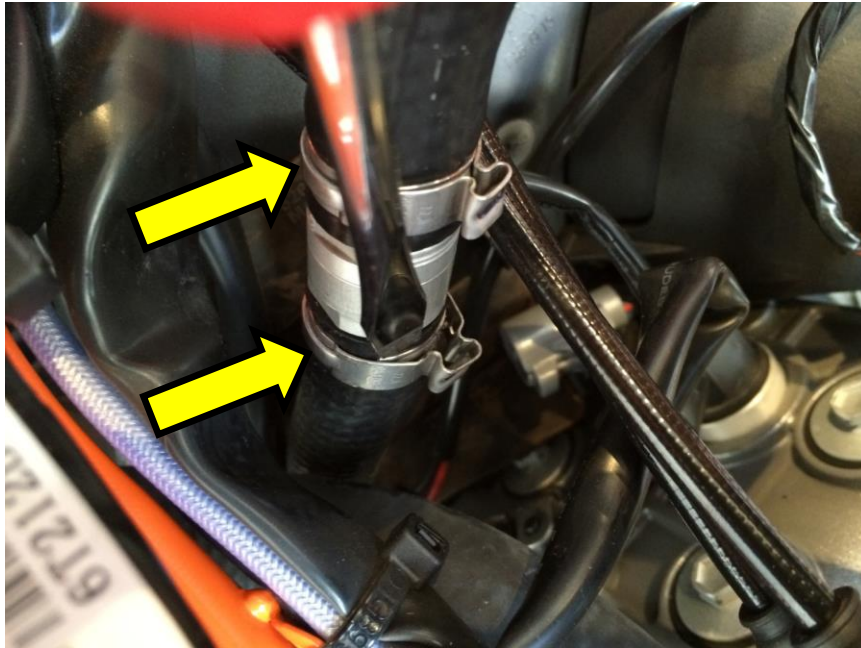


NOTE: Before performing step 28 below, you should decide whether you would like to vent your crankcase to the inside of the filter element or externally. For emissions reasons, manufacturers are required to vent the crankcase fumes to the intake in order to 'consume the 'dirty air'. These are the exhaust gasses that pass the piston rings and fill the crankcase with pressure that needs to be vented somehow. In closed course racing applications or off road only, some prefer to vent the crankcase to the outside of the air-box to keep the intake air pure and free of any gasses from the crankcase. Rottweiler Performance manufacturers 'Blanking Kits' for all intake models and are available [here](#). You must decide carefully where to place the crankcase filter vent as some engines, especially with worn balancer shaft seals may 'puke' oil which may saturate the crankcase filter and cause oil splatter or fire. Many route the breather as far up as possible, then down above the front sprocket. Roadracer's may be required to vent the crankcase to a 'catch can' to keep oil off of the track.

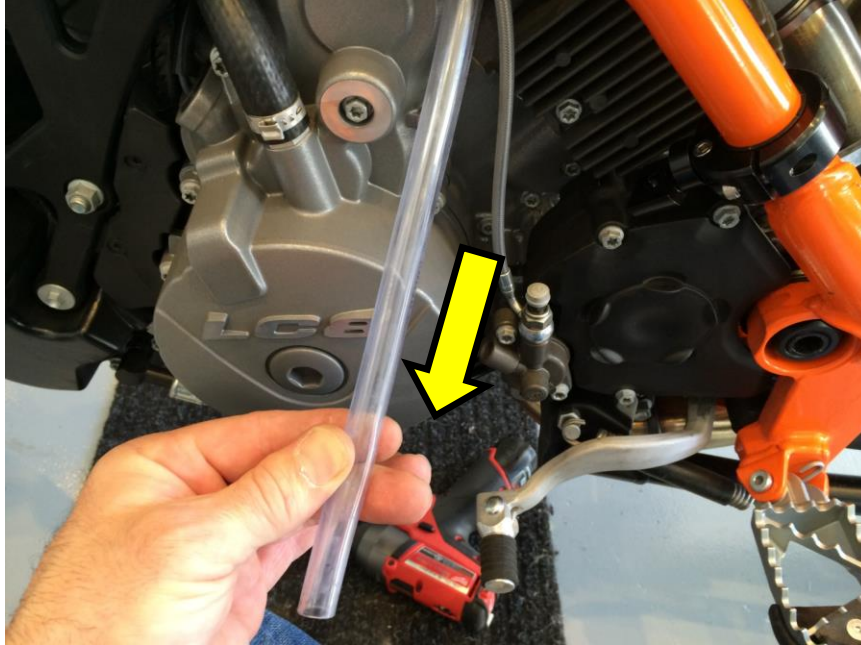


**Please be informed that this mod should only be performed by experienced mechanics or people that are familiar with the practice of venting the crankcase externally.**

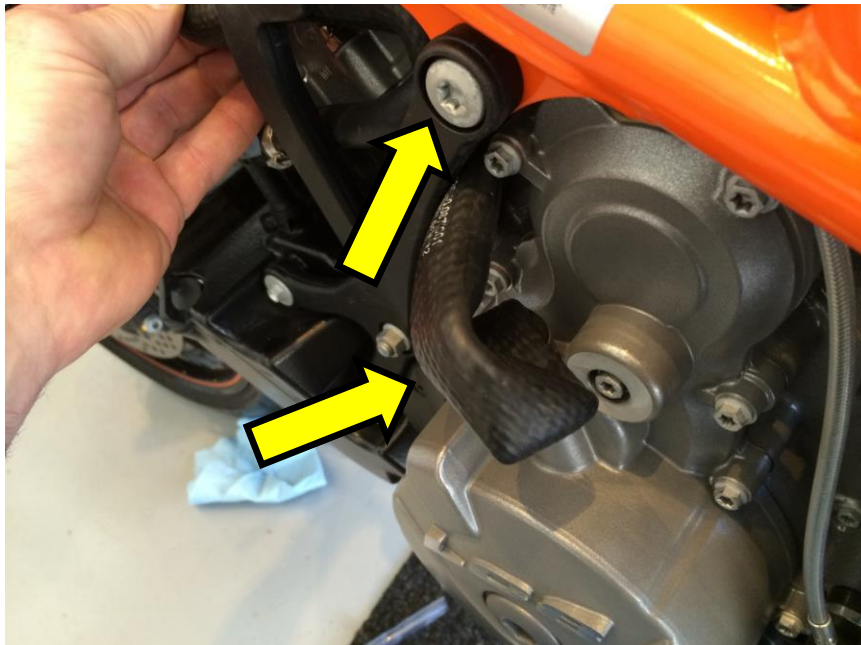
28. (990-950) Using a small screwdriver, pry loose the crimp clamps on the crankcase breather that was the hose going to the top of the old air-box. Discard the old clamps on both sides and remove the crankcase check valve. Pay attention to the direction of the check valve by noting the hatch marks on the upper half. This is critical and if installed backwards the rubber seals in the valve cover will leak oil.



29. (990-950) If your motorcycle has this clear drain hose, remove the clear drain hose from the left side and discard. This will no longer be needed.



30. (990) Pull out the crankcase breather hose and reroute it between the throttle bodies. (FI) Leave it where it is for carbureted bikes.

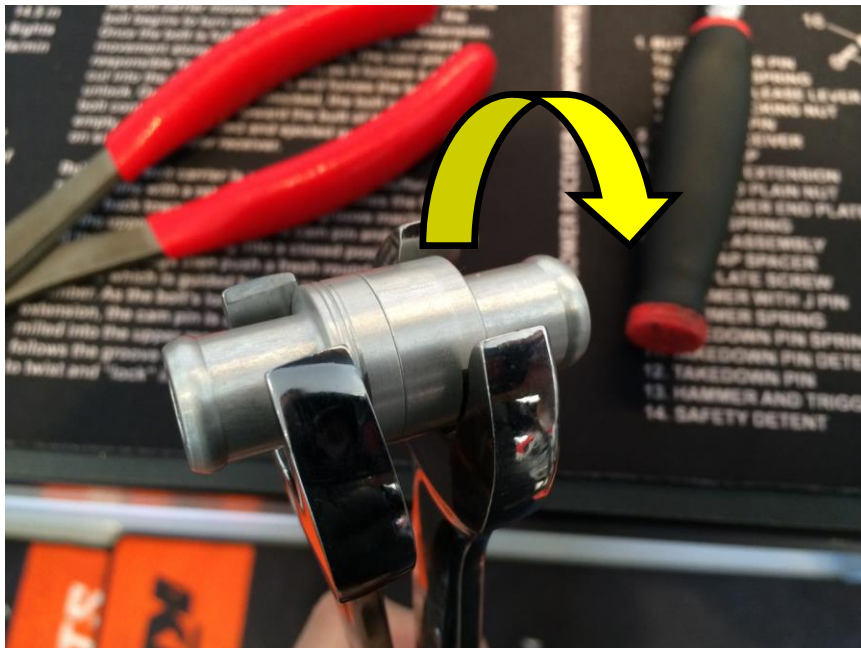




31. (990) The crankcase breather line should end up here on the right hand side of the throttle bodies. (FI)



32. (990-950) Crack the check valve loose with two 19mm open end wrenches or a 19mm and 3/4.



33. (990-950) Disassemble the crankcase check valve and lay it out like shown.



34. (990-950) Reassemble the crankcase check valve through the base plate 'sandwiched' in this fashion. The right piece with the hash marks in the picture above should go on the inside of the filter and the check valve ball and spring should be positioned in the fashion below. (950 models will be in a different location on the base plate than the 990 versions because of the physical differences between the throttle bodies and carburetors but the principal is the same)



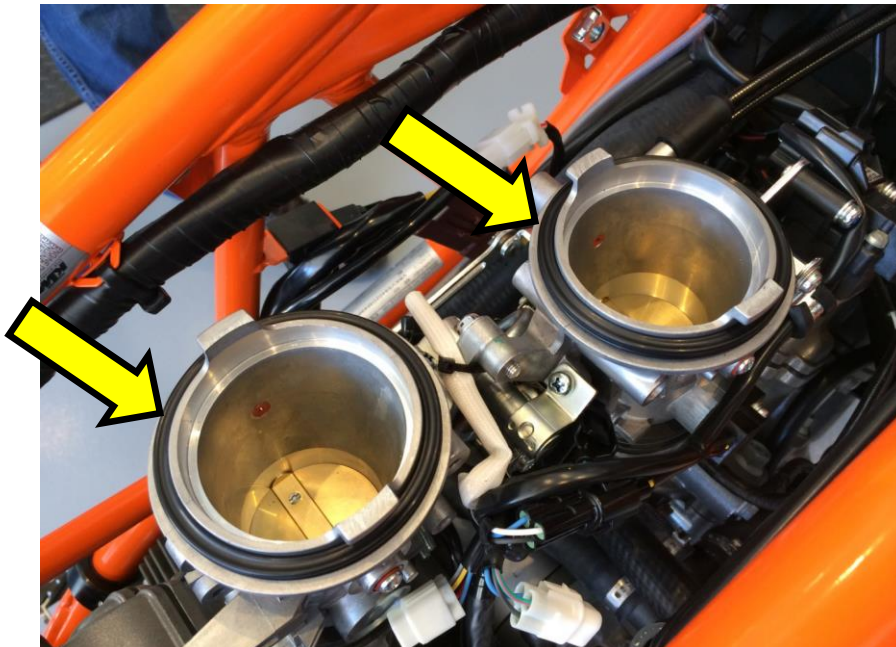




35. (990) Using the factory torx screws (Plastic 2.0 model base plate) or the supplied 5mm bolts (New billet 3.0 model base plate), install the white temperature sensor in this fashion with the locking tab pointed toward the front. (See pic below)



36. (990-950) Install the X-rings as shown below on top of the throttle bodies.



37. (990) Trim about 1.5 inches (35mm) or so off of the end of the crankcase breather hose. This will allow the breather line to better fit to the check valve installed into the base plate.



38. (990-950) Fit the spring clamp over the hose and attach to the crankcase check valve inserted on the bottom of the base plate. **NOTE: You may need to cut one or two factory zip ties holding the wiring harness together near the stepper motor on the right side of the throttle bodies and rearrange the wiring in this area slightly to allow the crankcase breather to come through. If you prefer to vent your crankcase outside of the filter, see our [Crankcase Blanking kits](#).**





39. (990) Plug in the white temperature sensor that was removed from the top of the air-box in the beginning of this install paying very special attention that the wires do not interfere with the throttle cables. A small zip tie may be helpful in this area.



40. (990) Reinstall the main fuel injection harness and click it back on to the frame tab where it was originally positioned.

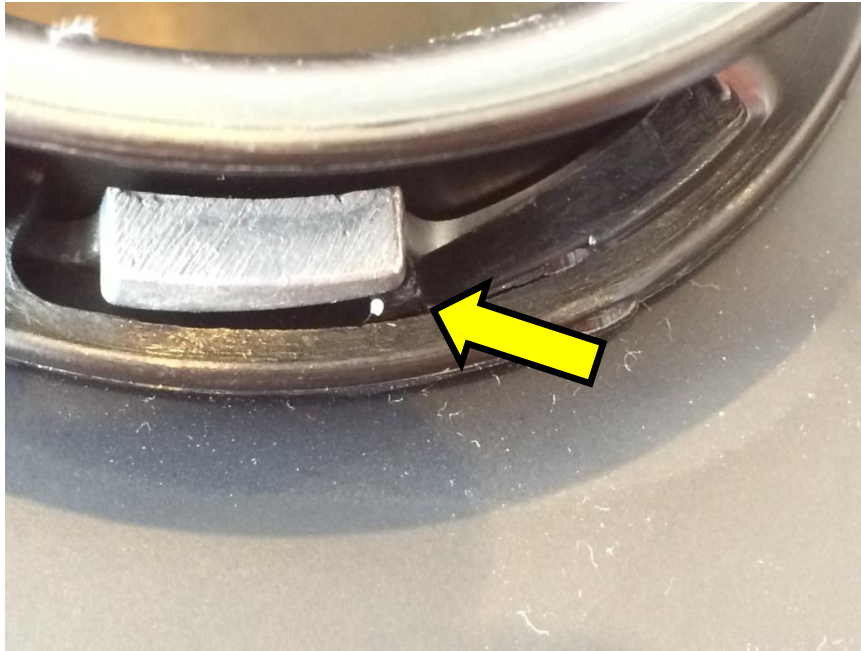


41. (990) Tuck the base plate under the right side throttle body tabs like shown below, then rock left hand throttle body tabs through the machined grooves and seat the plate on to the X rings.

42. (950) Simply install the plate as there are no tabs on this model.



43. (990-950) Reinstall the stock velocity stacks turning them clockwise (990) or counterclockwise (950) until they lock in. (990 only) Pay special attention to the plastic locking tabs so that they do not roll over onto themselves during installation. This can be prevented by helping the locking tab underneath the tabs on the throttle bodies when installed. This is particularly common when using [RC8 velocity stacks](#) on a 990 LC8 engine and is a slight flaw in the KTM RC8 part.



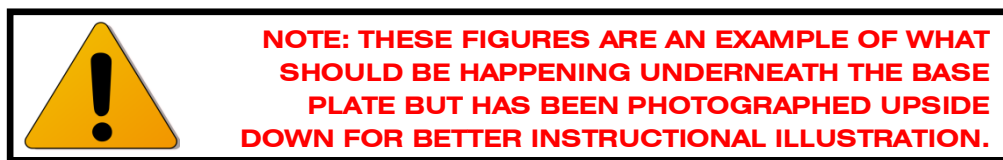


44. ([SE-SMR Models](#)) For SE and SMR models the Rottweiler Performance Intake Kits come with a 'domed filter'. This is for the purposes of seat pan and fuel tank clearance. Because of the tighter clearances inside the filter element you will need to either cut away the larger 'disk shaped' part of the velocity stacks, or purchase our [pre-cut velocity stacks](#) directly if you wish to keep your stock velocity stacks intact. These are factory parts that are simply modified by us for you.





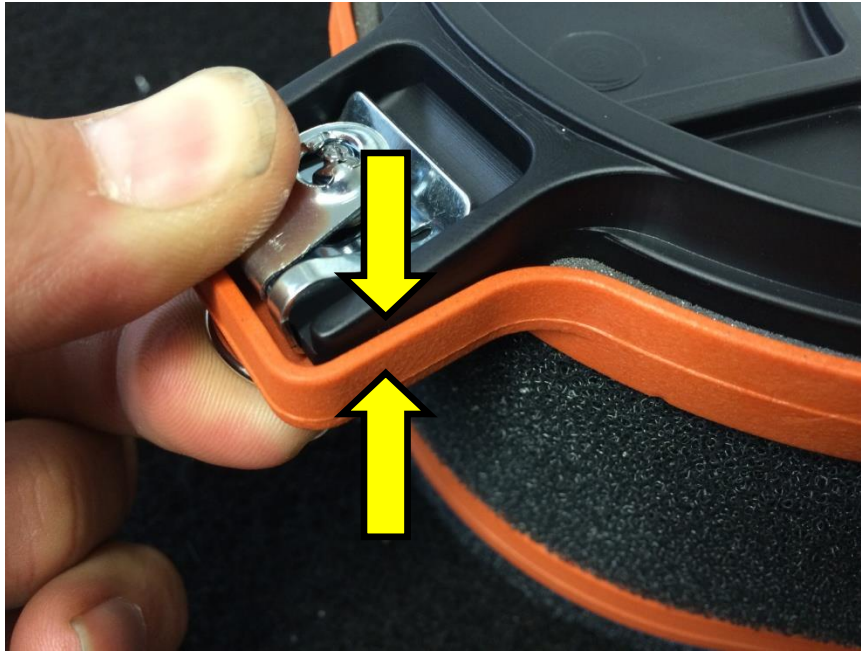
45. (990-950) At this time you will install the filter on to the base plate. It may be helpful to practice the instructions below when the filter is dry and the base plate has not been mounted yet.
46. (990-950) Properly oil your Rottweiler Intake Filter following the instructions very carefully at the [bottom of this document](#).
47. Starting at the left edge of the filter and base plate, hook the filter base tab underneath the base plate tab as shown below. (The picture is with the filter upside down, but is intended to illustrate how the tabs are designed to hook together) You can test that the filter is hooked properly by rocking the filter from left to right. If the base will not pull up, it is hooked correctly and you may now proceed to the 1/4 turn fasteners.







48. 'Pinch' both of the black ears of the base plate into the recesses of the orange frame of the filter. If the filter is not centered properly (Biased toward the front or back), you may find some resistance in trying to seat both ears simultaneously. Take special care to center the filter and then seat the ears. While keeping the ears seated into the recesses of the filter base and pinching them together, simultaneously turn the d-rings clockwise. A longer screwdriver can help with this.



49. Once fitted rock the Rottweiler intake filter from left to right. The filter should not lift up. If the filter is not hooked properly it will rock up from the left side parting contact with the base plate. Undo the fasteners and restart the attachment process above.





## CALIFORNIA EMISSIONS WARNING



The California Air Resources Board (CARB) does not permit the removal or alteration of OEM emission control devices unless certified by CARB, other than for racing vehicles on closed courses. These products are legal for use ONLY in competition racing vehicles and may not be legal in California for use on public roads, streets or highways. Check your local laws and regulations to determine that compliance needed in your city or state.

## GENERAL NOTES ON MAPPING

At Rottweiler Performance we have tested average air fuel ratios on a number of motorcycles with this system and the results have been that no extra mapping is necessary to maintain safe air fuel ratios. (no leaner than 14.7 and no richer than 12.5) In addition, we have also found that installing [Rottweiler Fueling Dongles](#) can help low end fueling tremendously and makes for a smoother running motorcycle. This should be considered a stepping stone to a proper mapping system such as a [Powercommander](#) piggyback ECU for full fueling control. If what you are looking for from this system is an air box that won't fail and cause dirt to enter the engine, then we would suggest simply installing the Rottweiler Fueling Dongles. If you are looking to maximize power output to its fullest, we would suggest that you look to Rottweiler Performance for Powercommander options and either have your bike tuned by a qualified tuner or download one of our free tunes providing we have something close to what you are looking for. Rottweiler Performance keeps a full stock of Powercommander units and has mapping support to go along with that and a number of tutorial videos on our site to help you understand how these units work and how to set them up.

## PRECAUTIONS AND WARNINGS



Please keep in mind that while our findings have been very conclusive during our testing processes, it is impossible to predict exactly how every motorcycle will react with various modifications and that you the consumer must assume full responsibility for both the final condition of your vehicle and personal safety when opting to modify or alter your motorcycle. We suggest that like any other engine modifying product such as an exhaust, that you perform the proper investigation/s as to what that particular modification/s has done to your fueling and the general intended use of your motorcycle and if it is deemed safe for your engine. CPR Fabrications / Rottweiler Performance will not be liable for any issues arising from the use or installation of any OEM or aftermarket product/s sold by either CPR Fabrications / Rottweiler Performance, or any authorized dealer / reseller of their products. The purchaser accepts any and all responsibility that they have chosen to 'undo' what the original vehicle manufacturer has 'done'.

## YOUR ROTTWEILER PERFORMANCE INTAKE FILTER

All foam air filters should be thoroughly oiled to provide the best filtration performance. The recommended oils are specifically formulated for foam air filters. When the oil is correctly applied, it provides a tacky coating over all the surfaces of the structure of the foam filter. As dust particles pass into the filter, they collide with the foam structure and are then retained in the sticky oil coating. The oil coating also flows around the dust particles to continue to present a tacky surface for further dust particles.

CPR Fabrications / Rottweiler Performance does not provide any warranty of any kind other than backing the general craftsmanship and quality of its products. The use of any aftermarket products is at the sole discretion of the user and may void the warranty.



## OILING YOUR FILTER AND PRE-FILTERS



For the best overall results and longevity of your filter it is recommended that you use biodegradable filter oil systems and follow the instructions below. Always use the products in accordance with instructions. Improper use of cleaning chemicals or use of non-approved chemicals can damage filter materials. Under no circumstances use cotton gauze filter oil, engine oil or any other oil not specifically manufactured for foam air filters.

Do not allow any other chemical other than the recommended filter oil to come into contact with the filter element whatsoever. If any warranty situation arises, and it is determined that any other such chemical has come into contact with the filter element, any and all warranties shall be immediately void.

- 1) These instructions apply to both the base main filter and pre-filters. They both should be thoroughly oiled before use.
- 2) Read the label on the can prior to spraying and use in an open, well ventilated area. Holding the aerosol about 25mm/1" from the filter, spray in a deliberate circular motion all over the foam surface until the coarse foam pores just start to fill up with oil and/or penetrating the inside of the filter. Then, wearing protective gloves use your finger tips to 'massage' the oil deep into the foam.
- 3) The aerosol contains a mix of oil concentrate and a thinning agent which helps the oil to penetrate deep into the foam. The thinning agent will evaporate off after around 5-10 minutes, so it is important to massage the oil into the foam as soon as it is applied to ensure the oil works its way through to the fine, inner layer of foam. If you think you have over oiled your filter, you can dab the surface of the foam with a strong absorbent paper tissue/paper kitchen towel, which will remove most of the excess oil.



It is important to resist the tendency to simply oil the outside and then the inside of the filter. This may leave the middle layer dry reducing the ability of your Rottweiler Intake Filter element to do its job. Make sure to thoroughly oil the entire filter from the outside until the inside starts to become visually moist with oil primarily from the outside first. Once this has been confirmed, you may then oil the inside well but not oversaturated.

- 4) Once you are confident that your Rottweiler Intake Filter is properly oiled through all three layers of the foam, spray the sealing foam on the base of your Rottweiler Intake filter with the same filter oil used on the main filter foam and your filter is now ready to install.



DO NOT USE ANYTHING OTHER THAN FILTER OIL ON THE FILTER BASE SEALING GASKET. GREASE PRODUCTS LIKE NO TOIL RIM GREASE ARE KNOWN TO HARDEN AND CAUSE DAMAGE TO THE SEALING GASKET BASE. ANY AND ALL WARRANTIES EXPRESSED OR IMPLIED WILL BE VOID IF UNAPPROVED CHEMICALS ARE USED.



## CLEANING

For the best overall results and longevity of your filter it is recommended that you use biodegradable filter oil systems and follow the instructions below. Always use the products in accordance with instructions. Improper use of cleaning chemicals or use of non-approved chemicals can damage filter materials.

Most biodegradable oiling kits are intended to be used in a two-part cleaning process where the cleaner breaks down the sticky dust retention oil on the filter, which is then washed off using warm water and washing up liquid/dish washing soap.

1. Follow the instructions for the particular brand of oil in which you have used to originally oil the filter. Mixing cleaning solutions between brands can lead to poor performance during the cleaning process.
2. The next step is to wash the filter out in warm soapy water for a final rinse. Fill a sink, washing bowl or bucket with a strong solution of water and liquid/dish washing soap, then submerge the filter in the solution. You should see any remaining oil and dirt residue rising out of the filter as it enters the water which may turn white as it mixes with the water/detergent mix. Repeat this process until you are satisfied that the filter is completely clean and then rinse with clean water only to ensure no dish washing detergent is left on the filter.



This stage of the process should take no more than 4 – 5 minutes, leaving the filter submerged in water for a prolonged period of time may cause the glues in the filter to soften and eventually break down.

Now the filter is clean you will need to leave it in a warm, dry place until is fully dried out. Do not use a high-pressure air line or heat gun to speed the process up.

Once the filter is dry, you may re-oil the filter element with your chosen brand of foam filter oil.

Under no circumstances use cotton gauze filter oil, engine oil or any other oil not specifically manufactured for foam air filters.