



Aluminium cnc coolant manifold install guide



After you have remove seat, right fairing, left and right underseat fairings, fuel tank, here the tools you'll need to replace the original plastic part with cnc manifold:

- A. ball head offset hexagon key wrenche, extra-long model, 4 mm head;
- B. hexagon key wrench, 5 mm head;
- C. screwdriver for cross head Phillips screw, medium head;
- D. screwdriver for slotted head screw, small head;
- E. screwdriver for slotted head screw, medium head;
- F. combination wrenche, open and offset ring end, 17 mm head;
- G. combination wrenche, open and offset ring end, 21 mm head;
- H. T-handle wrenche with swivelling hexagon socket, 7 mm head;
- I. long nose bent needle plier;
- J. hose worm clamps, size $\varnothing 15$ - $\varnothing 32$ mm, q.ty 3 pieces.

1. With tool "C" remove the 8 screws on the upper side of airbox as indicated in the picture:



Disconnect also the fuel lines for the lower front/rear injectors, the stepper motor of the variable geometry intake system.

Lift the airbox cover and rotate it to rearside.

2. Using tool "C", unscrew the 3 screws with cross head and remove the air filter:



3. Using tool "A", unscrew the 4 screws with cylindrical head that fixes the variable geometry trumpets on the airbox (BE CAREFULL: remove exactly the 4 screws circled in red; don't touch the others!):



Remove the variable geometry connector from the airbox cover.

4. Remove the red circled cables fixing clips from the airbox, using tool "I":



5. On the left side of motorcycle, under the airbox, disconnect a clip that fixes wiring to a bracket:



6. On the left and right side of the airbox, you can find intake sensors for front and rear cylinders. Using tool "C" unscrew them from the airbox.

Disconnect also the two pipes red circled and the fuel line:



- Using tool "A" unscrew the 8 screws that fixes the lower trumpets to the airbox (follow the picture; please be careful: even if the butterfly are closed, I suggest to insert on the throttle body some hand towel paper):



- Lifted the rear side of airbox, is possible to remove it (be careful to don't pull connectors or wires!)

9. Using tool "D", open the upper "Click" clamps of the front throttle body:

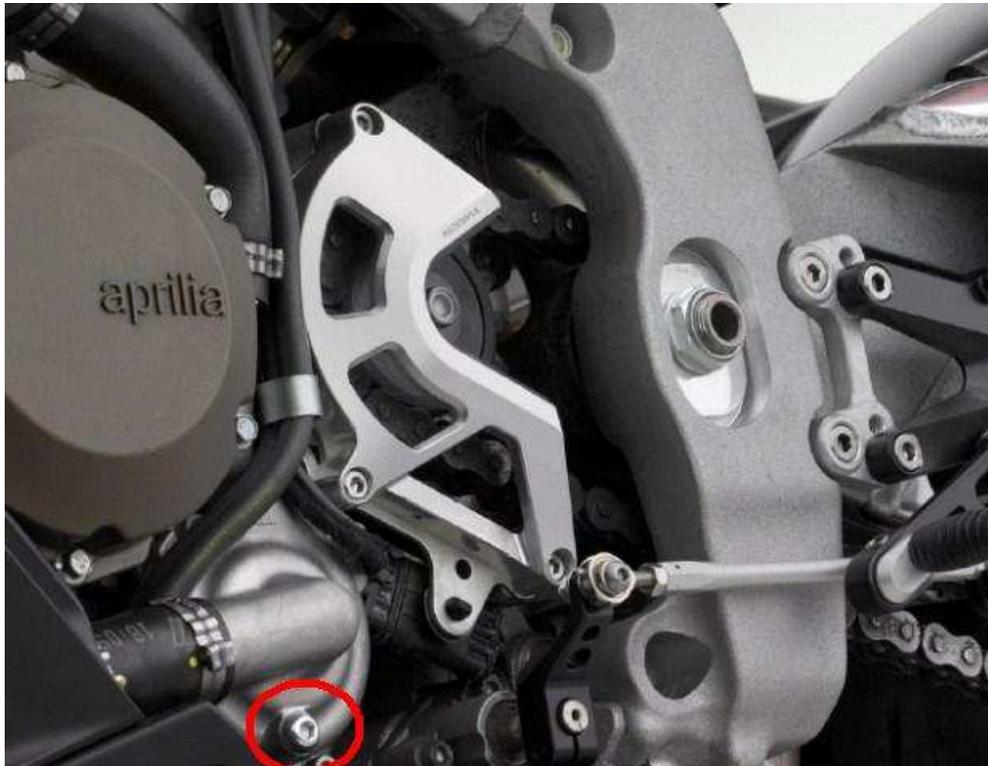


10. Disconnect the injectors connectors (enlarge the metal wire clip with tool "C" on the red circled zone):



11. Lift the front throttle body until it is out from the rubber manifold; disconnect the electrical wire of throttle body (same procedure of injectors).

13.Remove the coolant: open the radiator cap and the expansion vessel cap.
On the left side of motorcycle you can find the water pump, put under the motorcycle a can to contain the coolant (capacity: at least 2,2 litres).
Unscrew the M6 screw (tool "B"), as indicated in the picture (don't loose the aluminium gasket!):



14. At this point you can remove the original coolant manifold: open the three "Click" clamps using tool "D" and disconnect the temperature sensor:



15. Remove the original manifold from the bike; using tools "F" and "G" unscrew the temperature sensor:



16. Install the sensor on the cnc manifold:



17. Reassembly: proceed in reverse order, please take careful to the following point:

18. Mount the hose clamps as indicated in the pictures, otherwise you will not be able to reassembly throttle body; use the protrusion on the cnc manifold as a reference point to positioning the hose clamps (use tool "H" to tighten the screws):



19. To reassemble the "Click" clamps of throttle body, instead of expensive Aprilia pliers, you can modify a pair of cheaper pliers (45° bent), as indicated in the pictures (I have grinded the ends as wedge shape; on the left end I have practiced an incision, that correspond to the clamp rib):





20. Mount all the parts, except farings.

21. Fill the coolant (first radiator, after expansion vessel), turn on the engine and let it idle until the fans run (~103 °C).

Turn off the engine, let it warm, and after check the coolant level (the reference level is visible from the left side of the motorcycle).

Check the hose clamps for any leakage.