

Up-rating the Mini Cooper S Airfilterbox

A lot of aftermarket upgrades for the Mini Cooper S air intake are available. Basically they improve the throughput of air by using larger and non-paper airfilter elements on the one hand. On the other hand additional paths are enabling cold air to get through to the engine intake.

The instructions given here will simply up-rate the original Mini Cooper S air filter box by changing the filter element and increasing the width of the back side opening to get more cold air from below the windscreen. All this will cost about 40 GBP and less than one hour of work. This results in better breathing of the engine and the hoarsely voice of the supercharger will be bit more noticeable.



Having done this, open the air filter box, remove the paper filter element and the rubber sealing from the back.



These holes with 3 mm in diameter are placed beside the existing 40 mm hole.

First of all the air filter box and the partition cowl need to be uninstalled from the engine compartment. The engine control unit needs to be removed as well, so attention is required not to damage it.



Two small holes are drilled on the back of the lower part of the air filter box.



Using them, the lower part of the air filter box is temporarily fitted to a wooden board with two head wood screws. The wooden board will give a proper guideway for the core bit. Fixing the wooden board to your workbench makes it easier.



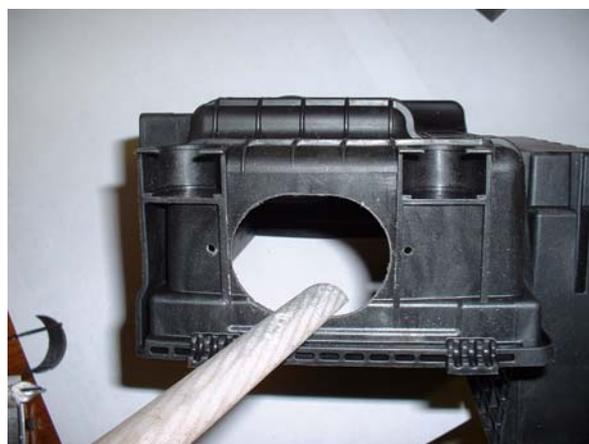
Mark the middle of the hole and put a mark at the same height 14 mm to the left of it. Drill small holes for guidance first, then use a core bit with a diameter of 50 mm and drill very gently with slow speed through the air filter box-wall. Drill once in the middle to enlarge the existing hole and



then beside to get an oval hole. Unfit the wooden board.

Use a smooth file for flash removal and to make it look like a perfect oval hole.

Using a screw clamp, fix the partition cowl to the wooden board, centring one of the previous drilled holes while the



second one is located on right hand side. This is correct as we are looking at the front of the partition cowl, whereas we were looking at the of the lower part of the air filter box previously. Ensure that the wholes for guidance are in parallel to the lower end of the cowl.

Double check it fits, by holding the box in front of the cowl and look through the front opening.



Again use a smooth file to get perfect oval hole and remove flash.

For the next step a foam block of the size 20x75x50 mm is required to form a sealing between the air filter box and the partition cowl.



Mark where to cut and hold the whole foam block down with a wooden board. Cut the piece of with a very sharp knife or cutter. Release the foam block and you have a perfect cut.



Drill gently two times through the cowl as done before through the air filter box by using the holes in the wooden board as guidance.



Hold the foam block at the back of the air filter box to see where it needs to cut fit and seal perfectly between box and partition cowl. Cut off corners to give free access to the fitting bolts where the box will snap on when fitted to the car.





Double check if it fits to the back of the air filter box.

For the next step you may stick the foam block to the box with double sided tape. Hold down the foam block by pressing the air filter box on it. Using the cutter, cut around the inner backend opening of the box carefully and at once (it is quite a tricky job).

Release the box from the foam block and make some adjusting cuttings make it fits perfectly. Ensure that the diameter in the foam block is not smaller than in the air filter box and partition cowl.



Close the supporting holes you drilled before with some glue. Clean the area for sealing on the partition cowl with pure alcohol to remove any dust, fat or any fingerprints.

Apply contact glue like pattex to the front side of the partition cowl and the relating side of the foam block. Wait for 5 – 10 minutes as instructed for the glue. Stick the foam on the partition cowl. It must fit at first try! Press it together hardly once, that's it.



Here is how it should like like.

Again, it should look like this:



These things came off the partition cowl and the air filter box.

Below are the Tools used:

