Holden VE/VF Commodore

Over The Radiator Intake

Installation Instruction Guide

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IMPORTANT

Prior to fitting the OTR;

Ensure the K&N Air Filter Sealing Grease is liberally applied to the air filter rubber border prior to installing the filter into position.

When positioned correctly and the filter is sitting snugly in the filter groove, it will be immediately obvious due to there being no gaps. In this captive position, once the clips are placed in the front three locating holes, the filter will sit firmly within the housing.

Also ensure that before fitting the housing you blow both sides of the intake out with an air gun to ensure no foreign particles are present which may damage the unit/engine.

This has been done prior to shipping, however we recommend doing it again to ensure cleanliness of the intake prior to installation.

When Installing The OTR;

Ensure you do not over tighten the hose clamps as this will cause the OTR opening to buckle and disfigure. This will render the housing unusable, and void any replacement warranty on the item.

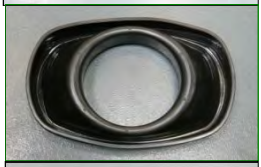
Please read the instructions carefully, and ensure they are followed in the correct order. This will in turn allow for proper fitment.

Thankyou again for purchasing a VCM Performance Product.

Parts Included In Kit (MAF)

HOUSING, FILTER, OTRCAI, NA

COUPLING, FLEXIBLE, HOUSING-MAF



COUPLING, FLEXIBLE, MAF-THROTTLE BODY

FILTER, PANEL, K&N

RADIATOR BRACKETS

MY2012+ PRE 2012

VALVE, DRAIN

TUBE, VENT,

ROCKER-COVER TO AIR-BOX

CONNECTOR, ENGINE-VENT

(PUSH-CLIPS X 3)

Parts Included In Kit (MAF)

WASHER, BRACKET, RADIATOR

CLAMP, HOSE, WORM DRIVE,
91-114MM X 3

CLAMP, HOSE, WORM DRIVE,
168-190MM X 1

RADIATOR-TO-OTR SUPPORT BRACKETS
(VF ONLY)

Parts Included In Kit (MAFLESS)

MAFLESS RUBBER COUPLING

INTAKE AIR TEMP (IAT) SENSOR

VE IAT LOOM EXTENSION

CLAMP, HOSE, WORM DRIVE,
91-114MM X 1

CLAMP, HOSE, WORM DRIVE,
168-190MM X 1

OTR installed on E2 GTS with VCM Infill Panel and Fascia Panel Kit.

VCM OTR with coupling

for fitment on VE Commodore with Magnusson Superchargers

Supercharged VCM OTR installed on E2 GTS with Harrop Supercharger.

Additional parts available through your VCM Performance Parts dealer

Installing The Over The Radiator Intake (OTR)

Pictured to the right is a standard Holden VE Commodore Engine Bay.

Step 1. Remove the standard engine cover

Step 2. Unplug the loom connection to the MAF located inline between the standard Airbox and throttle body.

Step 3. Remove the breather pipe from the rear side of the resonator .

Installing The Over The Radiator Intake (OTR)

Step 4. Loosen and remove screw clamp on throttle body—This is holding on the intake resonator, which we will have to remove in order to fit the OTR.

Step 5. Loosen and remove the screw clamp on the MAF-meter - Airbox side, and disconnect from the airbox.

Step 6. Loosen and remove the screw clamp on MAF-meter, Resonator side, and disconnect from resonator.

Step 7. Loosen the factory airbox grounding bolts, and remove the factory airbox.

Installing The Over The Radiator Intake (OTR)

Step 8. Insert flat head screwdriver into slot to raise radiator support bracket.

Step 9. Lightly raise locking wedge out of position to free radiator support.

Step 10. Lift up top part of radiator support, and remove.

Step 11. Loosen and remove 10mm bolt holding lower part of radiator support in place. Do not discard, these will be required during Step 15.

Installing The Over The Radiator Intake (OTR)

Step 12. Raise lower part of radiator support—do not remove yet.

Step 13. Using pliers, disconnect the wires connected to the lower support before removal.

Step 14. Remove 10mm bolt supporting A/C condenser. Do not Discard, this will be required in Step 18.

Step 15. Using the washers provided—place them in the factory holes.

Installing The Over The Radiator Intake (OTR)

Step 14. Locate the washers in position.

Step 15. Use the 10mm screw from the lower radiator bracket for OTR brackets, on both sides. These brackets will lean the radiator for OTR fitment.

Step 16. Push brackets to their outer most position (away from midline of car) using your hands, before hand tightening.

Step 17. Tighten top bolts holding radiator 'lean' brackets in place.

Installing The Over The Radiator Intake (OTR)

Step 18. Using original 10mm bolts, holding A/C condenser onto radiator, screw the OTR radiator lean brackets into factory position. Now the bolt will go through the OTR bracket, the A/C condenser support, and into factory radiator bolt hole.

Pictured right is the post-2012 driver's side bracket

Pictured right is the post-2012 passenger's side bracket

Step 19. Fit MAF adaptor to MAF and tighten hose clamps, ensuring clamp is on the appropriate side.

Installing The Over The Radiator Intake (OTR)

Step 20. Fit the MAF coupling, attaching the MAF to the OTR housing with the larger screw clamp. This process can be time consuming, and must be done correctly. Ensure the Arrow on the MAF is pointing towards the throttle body.

Step 21. Shape and tighten the screw clamp to the OTR housing.

Take note of the position of the hose clamp tightening screw that connects the adaptor to the OTR housing.

DO NOT OVER TIGHTEN, And ensure the tightening screw is located to the side, not centered. Only tighten to 5 Nm.

Fitment should be as pictured (right).

Step 22.Fit Throttle Body to MAF adapter on the opposite end of the MAF to the housing.

Installing The Over The Radiator Intake (OTR)

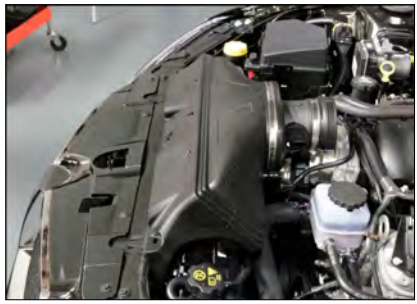
Step 23. Secure the MAF to throttle body coupling with screw clamp.

Note: for neatness ensure clamp head is in correct position.

Step 24. Remove rubber strip from the top of the A/C condenser

Step 25. Place OTR in position, line up holes to factory locators.

Step 26. Gently slide the OTR into position, using the space provided by the new radiator supports.



Installing The Over The Radiator Intake (OTR)

Step 27. Once the OTR has been lined up correctly , slide MAF coupling over throttle body.

Step 28. Use screw clamp to secure MAF coupling to throttle body. Again, for neatness, review the position of the screw clamp end.

Step 29. Using push clips provided, install into position along the front of the OTR, and press to secure. If not fully located, gently push side until clip pushes home.

Step 30. Attach breather pipe at one end to the rocker cover, and the other end to the vent tube at the rear of the OTR.

NOTE: On 2006—2007 you will need to cut the clip off the tube (circled in photo) and simply slide the breather pipe onto the rubber hose that is fitted to the factory rocker cover pipe.

Installing The Over The Radiator Intake (OTR)

Step 31. Using pliers, remove connector holding MAF wiring in place. This will assist the loom in reaching the MAF in its new position.

Step 32. Locate MAF wiring loom between power steering reservoir and bracket to allow the plug to reach MAF

Step 33. Route MAF wiring as shown in photo (right)

MAFLESS OTR Installation Instructions

This photo shows the parts included MAFLESS OTR fitment. This includes an IAT sensor, IAT loom extension and a MAFLESS coupling.

Install the IAT-Sensor into the opening on the MAFless Coupling—by pushing the sensor in and ensuring a secure fit.

Connect the IAT-loom extension to the IAT-sensor —ensure a secure fit and good connection.

MAFLESS OTR Installation Instructions

Fit the MAFLESS coupling (as pictured below) to the OTR housing with the larger screw clamp. This process can be time consuming, and must be done correctly.

Take note of the position of the hose clamp tightening screw that connects the adaptor to the OTR housing. ***DO NOT OVER TIGHTEN, the hose clamp, and ensure the tightening screw is located to the side, not centered. Only tighten to 5 Nm.***

Continue to follow fitment procedure as described on page 14.

The only adjustment to this procedure is the IAT loom extension will now plug into the loom which used to attach to the MAF meter, and the MAF itself will be 'deleted' or removed from the system completely.

The MAFLESS OTR will require tuning of the PCM to ensure correct operation of the vehicle.

Installing The Over The Radiator Intake (OTR)

Finished product is an OEM, high quality OTR, capable of supporting high HP engines.

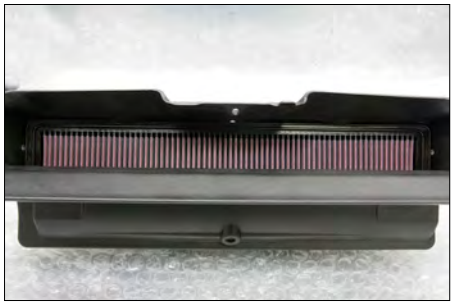
Thank you for purchasing a VCM-Performance product.

VCM Performance OTR Fitting Instructions – Filter Retention Frame

The following outlines the insertion of a metal filter retention frame to firmly secure a K&N filter into the VCM Performance VE Over The Radiator Cold Air Intake (OTR CAI).

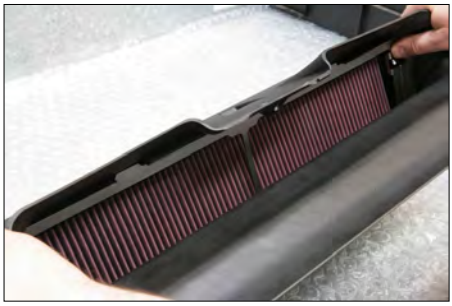
1. Filter slid partially into position. Image shows metal filter frame with EPDM foam seal and its three push clips

2. Insert filter in correct position (as depicted in original instructions).



3. Slide filter retention frame into OTR base with enough force to ensure its base is firmly positioned.

4. Once base is in position, apply further force noting that as the frame slides further back the top locating pins will inhibit rearward movement.



5.Apply force to full length of frame top, with most emphasis placed on the corners.

6. Lift OTR top to allow the frame tabs to push into position behind the filter retainer. Ensure retainer is seated in base.

7. Ensure tags are pushed into position behind the filter locators.

8. Apply force to full length of frame top, with most emphasis placed on the corners.

9. Position top clip through OTR housing and frame hole.

10. Side holes provide additional support to the filter with clearance to the retainer.

When Installing The Over The Radiator Intake (OTR) on VF

Step 1. Remove the 4 x 10mm bolts and 6 x T25 Torx screws from the top of the bar on the radiator support panel.

Step 2. Next you must install the Radiator to OTR brackets to allow fitment of the OTR to the front of the vehicle.

Step 3. Secure the brackets at the bolt show here

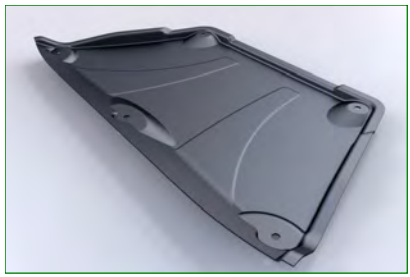
Step 4. Continue installation of the OTR as per the VE instructions.

For All Enquiries Please Email—info@vcm-suite.com.au

Additional Components Available From Your VCM Performance Workshop

VE Infill Panel

Complete the OEM look by covering the hole left after removal of the factory Airbox.



VE Hood Insert Panel

This panel will ensure that the hood lining will not foul / rub on the OTR when the bonnet is

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Twin Fascia Panels

Hide the front of the engine bay and give it a clean, slick look with the VCM Performance Fascia Panels

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a point of difference