

Installation Instructions

pCRV Upgrade

Volvo 3.0L 6-cylinder T6/2.0L 4-cylinder Drive-E Engines

REQUIRED EQUIPMENT/TOOLS:	INCLUDED IN KIT:
<ul style="list-style-type: none"> • 3/8" and 1/4" drive ratchet sets • Small flat head screwdriver • Bone tool set • Torx set • Regular and needle nose pliers • Metric socket and wrench set (6mm, 7mm) <p>Tip: Wobble joints and varying lengths of ratchet extensions will allow for easier installation.</p>	<ul style="list-style-type: none"> (3) Button Screw (3) Black Top Hat Button Screws (1) Top Hat and Spacer Plate (1) Vacuum Nipple (1) Electrical Resistor (5) Feet of Black Silicone Vacuum Hose (1) Vacuum Tee (1) O-Ring (1) Compression Spring (1) Rubber Diaphragm

ACRONYMS:

Turbo control valve (TCV)

Crankcase ventilation cover (CVC)

Electronic Compressor Recirculation Valve (eCRV)

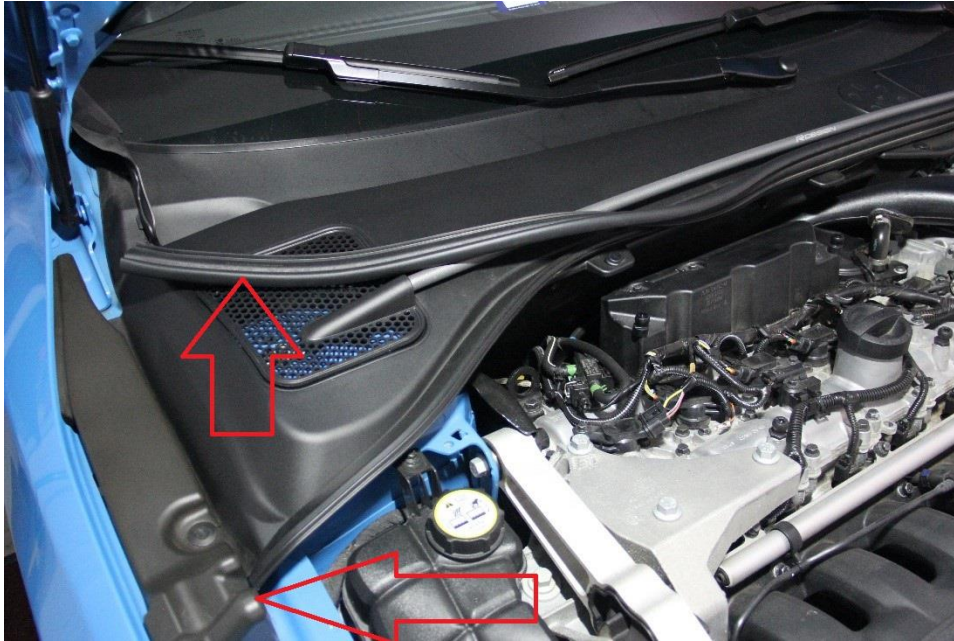
Pneumatic Compressor Recirculation Valve (pCRV)

Original Equipment (OE)

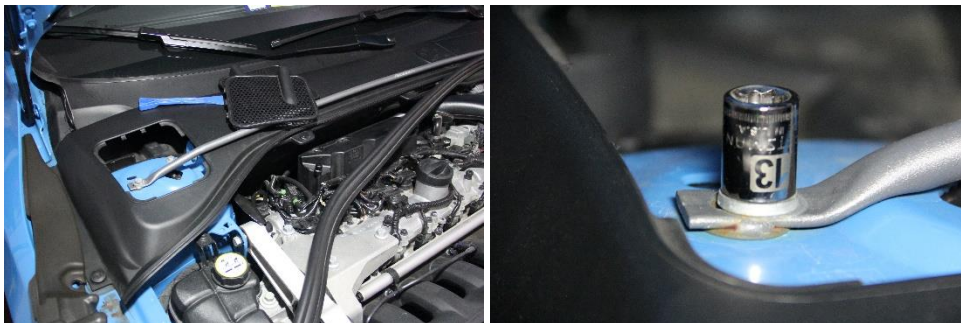
The OE intake pipe is assembled in two pieces; the upper piece is visible from the top of the engine, the lower section is behind the engine and is only accessible after removing the protective metal panel between the engine block and engine CPU.

REMOVAL OF PROTECTIVE PLASTIC COWLING

1. Remove the rubber gasket on the plastic cowling and hard foam trim pieces at the end of the gasket.



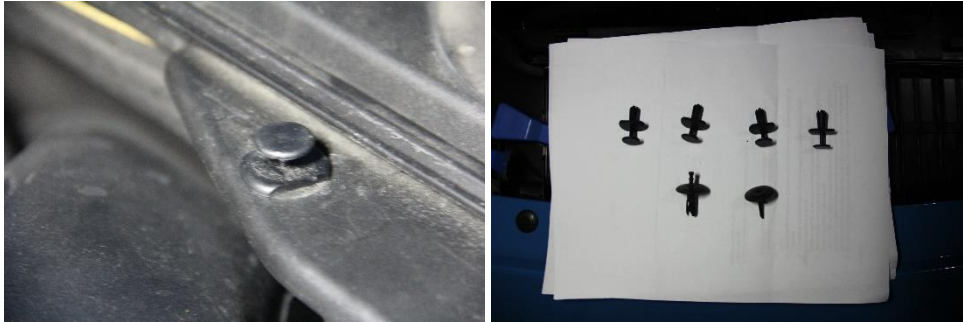
2. If your car has a factory strut brace, remove the honey comb trim panels and the bar itself using a 13mm socket.



3. Using a small flat head screwdriver or bone tool, pry the plastic protective caps covering the windshield wiper arm nuts. Remove the two (2) nuts using a 15mm socket, then remove the windshield wiper arms. Use a bone tool to pry up and release the windshield trim from the plastic cowl (shown on the picture below on the right).



4. Using a small needle nose plier and a small flat head screwdriver, remove the six (6) plastic clips that hold the plastic drainage cover.



5. Remove the entire plastic cowl from below the windshield.



REMOVAL OF UPPER INTAKE PIPE

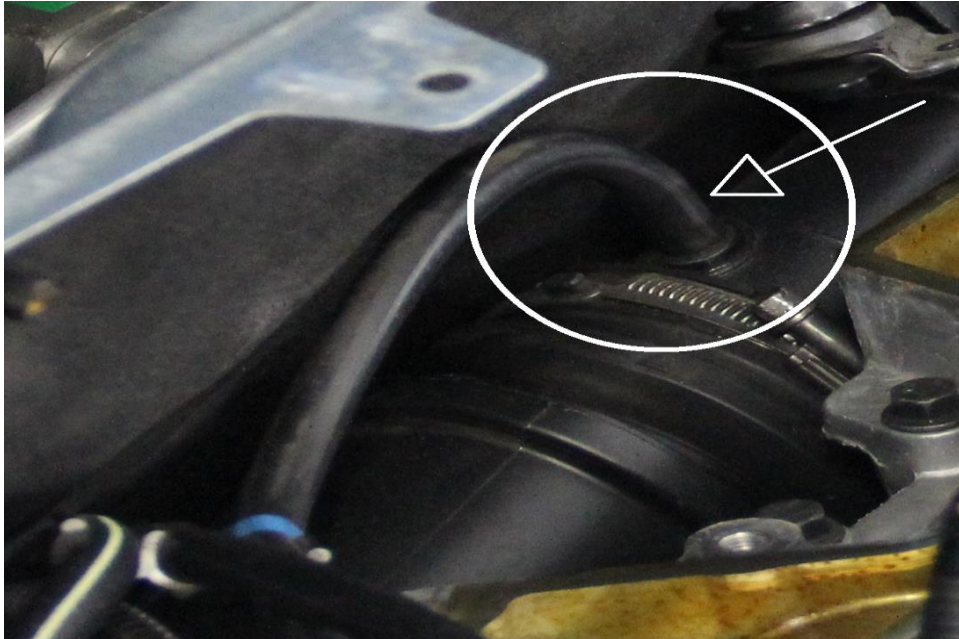
6. Remove the plastic engine cover by pulling straight up, near its mounting points.



7. Unplug the Turbo Control Valve (TCV) wiring harness and slide TCV off the plastic mounting tab. The TCV is located on top of the engine on the left side. See the below photo showing the TCV mounted to the engine block.



8. Disconnect and remove the one (1) 5mm outer diameter hose that runs from the TCV to the upper section of the intake pipe (near the joint for upper and lower intake pipes).



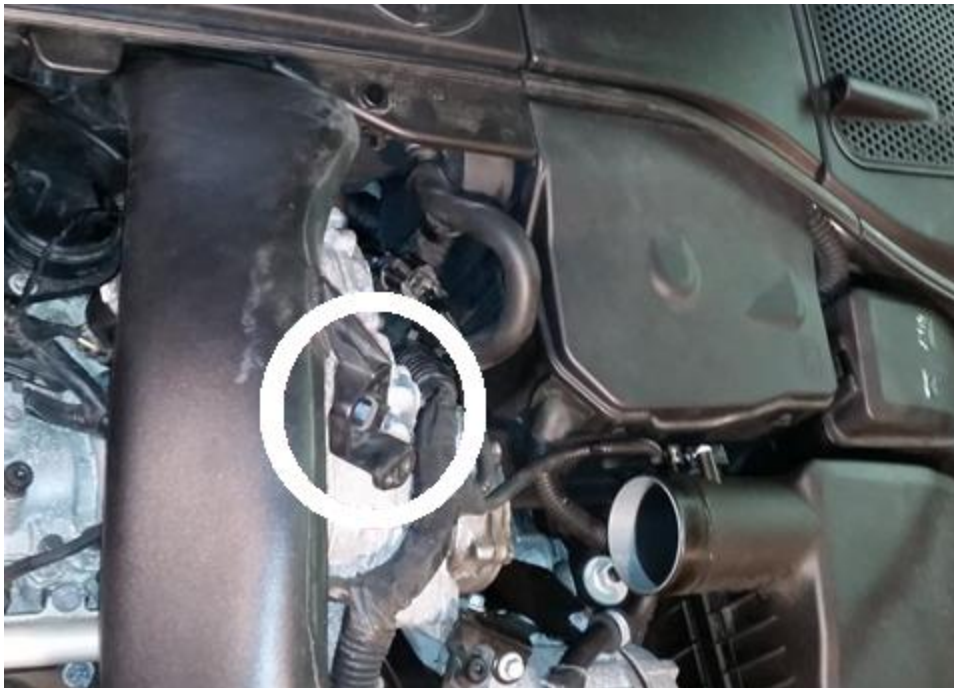
9. Remove the two (2) breather hose clamps from the Crankcase Ventilation Cover (CVC) and upper intake pipe, then remove and discard the short 14mm outer diameter rubber hose that connects the breather box to the intake pipe.



10. Unplug the wire harness connector for the cam sensor, located underneath the upper intake pipe.



11. On the cam chain side of the engine (right side), remove the one (1) M6 bolt that holds the upper intake pipe to the side of the engine block, and disconnect the electrical connector that is attached to the intake pipe.



12. Located behind the CVC, remove the one (1) M6 Bolt holding the upper intake mounting bracket.

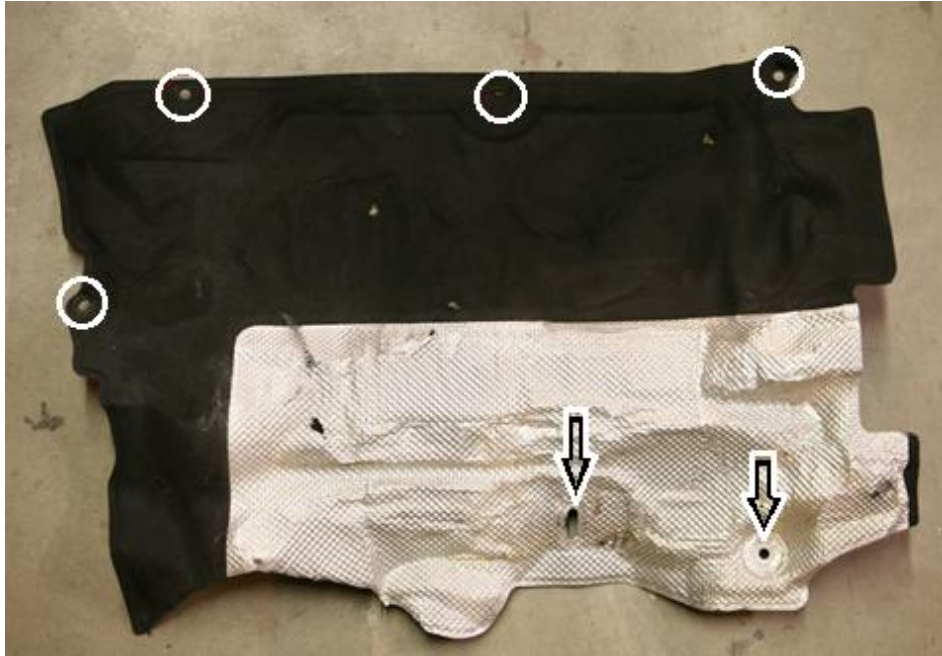


13. Using a 7mm socket, loosen the clamp located at the junction for the upper and lower sections of the intake pipe.
14. Gently remove the upper section of the intake pipe from the engine bay, being careful not to snag any loose wires.

REMOVAL OF THE METAL FIREWALL PANEL

TIP: If possible, have someone assist with the removal of the metal panel to avoid accidental damage to the heater core hoses.

15. Remove insulating mat from the protective metal panel: There are four (4) 10mm plastic nuts on the upper section to remove (circled). Remove the nuts, then from beneath the car, remove the two retaining clips holding the lower section of the insulating mat.



Note: Carefully pull out the insulating cover, being sure not to snag the cover on the metal studs sticking out from the metal panel.

16. Remove five (5) 8mm bolts on the metal panel: 2 on passenger side and 3 on driver side. Before fully removing the panel, the metal tabs (if your car has them) need to be released (they are located on the bottom of the plate). Slightly pull forward and up on the passenger's side first, then on the driver's side of the metal panel. The protective metal panel can now be removed from the engine bay.



REMOVAL OF CRANKCASE VENTILATION COVER (CVC)

17. Remove one (1) M6 Torx head bolt with a T30 bit from the cam position sensor. Then, rotate the cam sensor counterclockwise to clear the breather box cover.



18. Using the T30 bit and a 10mm socket, remove the twelve (12) M6 bolts holding the CVC to the engine.



19. Gently tap the front of the CVC with the palm of your hand or a rubber mallet to loosen the gasket seal. Wiggle the CVC front to back, lift up and clear it of the engine bay.

21. Using a 13mm socket, remove the M10 bolt and passenger side engine hoist bracket (do not discard).



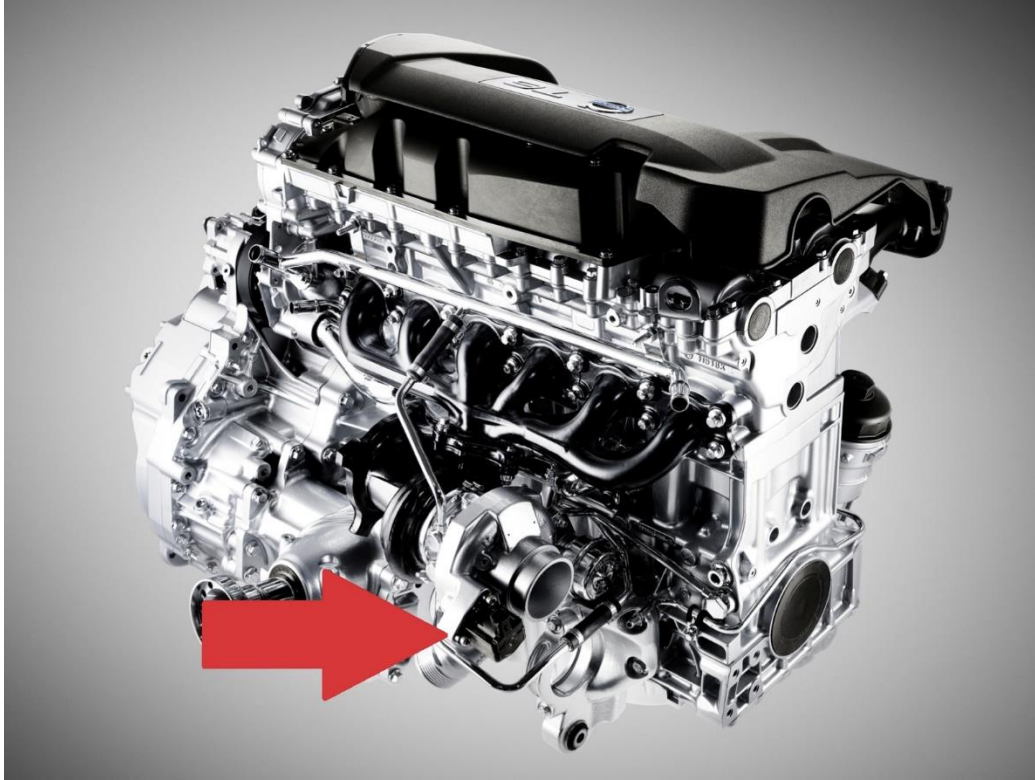
22. The ground wire terminal located near the engine hoist bracket has the potential to puncture the silicone on the new intake, depending on how it is positioned from the factory. You may find that the ground wire terminal is pointing out toward the intake pipe. If so, you need to loosen the bolt and reposition the wire terminal. Use a 10mm socket to loosen the one (1) M6 bolt, rotating the wire terminal so that it points towards the front of the vehicle. Then, re-tighten the M6 bolt. The ground wire should drape over the cam cover and curve towards the passenger side wheel well.

REMOVAL OF LOWER INTAKE PIPE

23. Loosen the one (1) 7mm clamp on the turbo inlet side of the lower intake pipe/ resonator.
24. Remove the turbo control lines from the clips on the lower intake pipe.
25. Remove the lower intake pipe/resonator assembly from the engine bay.

INSTALLATION

26. Once the stock intake piping has been removed, you will clearly see the factory eCRV which has been outlined below by the red arrow.



27. You will need to remove the eCRV to install the pCRV. The bolts are hex and a hex key or socket should be used. You will also need to unplug the electrical connector and move it to the side for step 29 below.

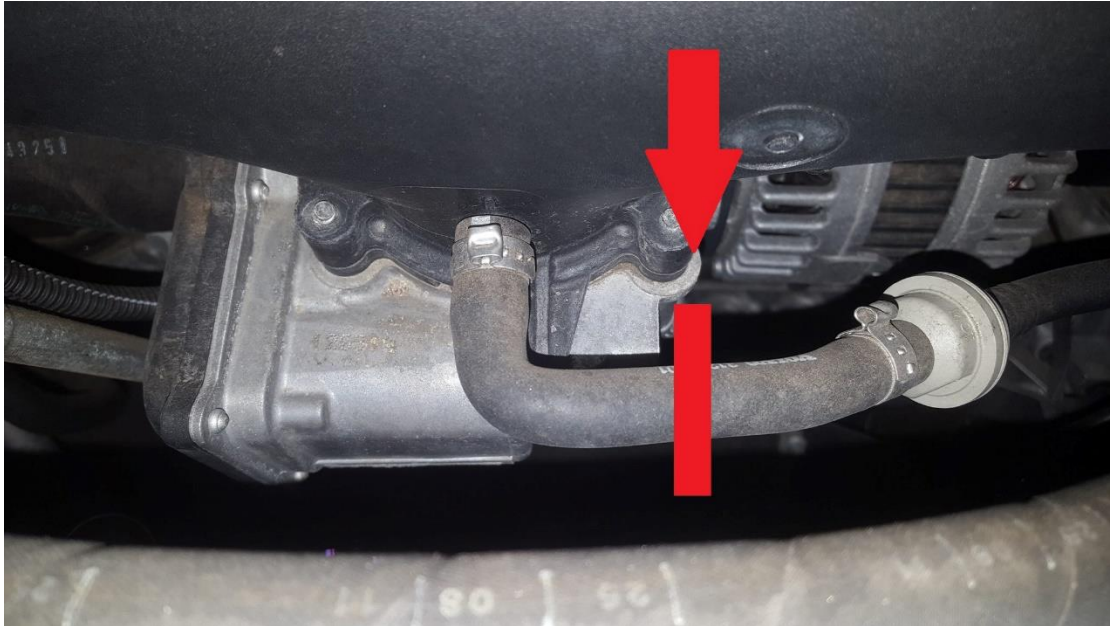
28. Once the eCRV has been removed, you will need to install the supplied resistor to prevent any Check Engine Lights (CEL). The electrical plug has two pins, one for each end of the resistor. Push each end of the resistor into the electrical plug and make sure it does not fall out. Once the resistor has been installed, wrap the plug in electrical tape to ensure no dirt and moisture can enter. Please see the below photos for reference.



29. Install the pCRV onto the turbocharger. Please take great care to ensure the O-ring is installed into the groove on the back side marked in red below.



30. Using the supplied vacuum line and plastic tee, run the line from the nipple on the pCRV to the throttle body vacuum hose. Below is a photo showing the location of which line to “tee” in to (marked in a red line).



31. Now that the pCRV and resistor has been installed, you can reassemble the intake parts following the reverse of the disassembly instructions.

Should you have any questions, comments, or concerns, please do not hesitate to reach out to ViVA Performance. Our Contact Information is below:

Email: parts@vivaperformance.com

Phone: 1-877-878-8646 Monday-Friday 10:30am-5:30pm EST

Online Chat: Monday-Friday 10:30am-5:30pm EST