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## Installation Instructions Volvo S60 T6 Polestar/ S60T6 /V60 T6/ XC70 T6 3" performance turbo inlet pipe

<p>Equipment/tools needed:</p> <p>3/8" and 1/4" drive ratchet sets Bone tool set Torx set Regular and Needle nose pliers Metric socket and wrench set</p> <p><b>WD-40 or soapy lubricant will aid in the positioning of pipes and silicone. Without lubricant it will be difficult to position the parts for correct assembly. Allow the engine to cool before starting this installation. Having wobble joints and varying lengths for ratchet extensions will make the removal process easier.</b></p>	<p>Included in Kit:</p> <ul style="list-style-type: none"><li>(1) 3" aluminum intake pipe</li><li>(2) Heavy duty 5mm silicone intake hoses</li><li>(1) 15" long 1/2" hose for breather line</li><li>(1) 17" 5mm silicone hose for TCV vent line</li><li>(1) TCV aluminum hanger bracket</li><li>(1) TCV wiring harness extension</li><li>(1) M12x1.75 jam nut to tighten TCV bracket</li><li>(2) M6x 20 Flange head bolt</li><li>(1) M6 Lock washer</li><li>(1) M6 plastic washer</li><li>(1) 1 1/2" x 1/2" bracket</li><li>(2) 7/8" worm clamps</li><li>(1) #44 marine grade clamp</li><li>(3) #48 clamps</li></ul> <p>Optional Snabb engine cover</p>
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TCV: turbo control valve

CVC: crankcase ventilation cover

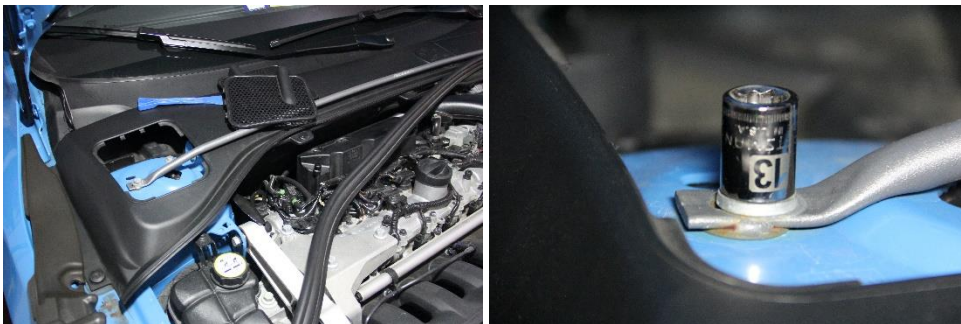
\*The OEM intake pipe is in two pieces; the upper piece is visible from the top of the engine, the lower section is behind the motor and is only accessible after removing the protective metal panel between the engine block and engine CPU.

## REMOVAL OF PROTECTIVE PLASTIC COWLING

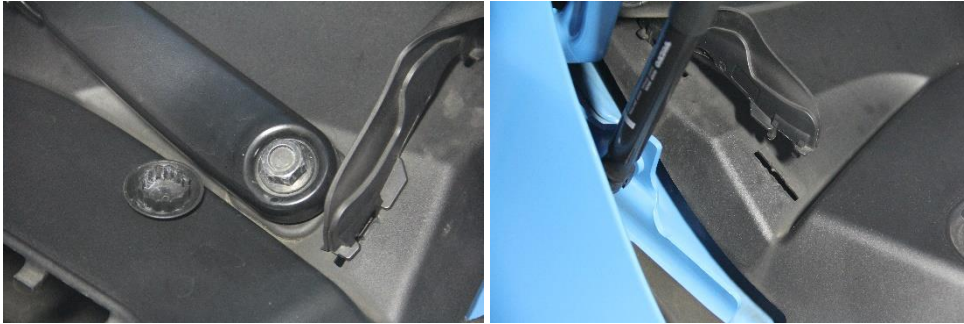
1. Remove the rubber gasket on plastic cowling and hard foam trim pieces at the end of the gasket.



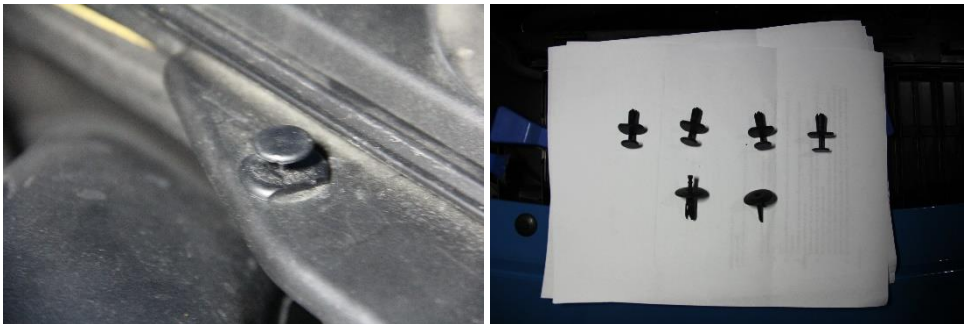
2. If your car has a factory strut brace remove the honey comb trim panels and the bar itself using a 13mm socket



- Using a small flat head screwdriver, pry the plastic protective caps covering the windshield wiper arm nuts. Remove the two 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.



- Using a pair of needle nose pliers and a small flat head screwdriver remove the six plastic clips that hold the plastic drainage cover.



- Remove the plastic cover.



## REMOVAL OF UPPER INTAKE PIPE

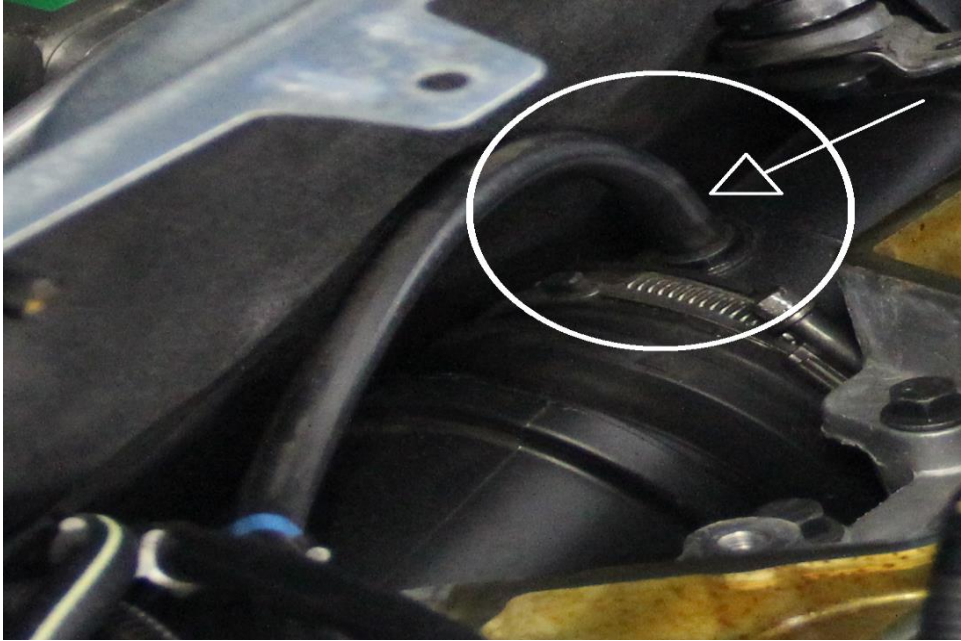
1. Remove the plastic engine cover by pulling straight up near its mounting points.



2. Unplug the Turbo Control Valve (TCV) wiring harness and slide TCV off plastic mounting tab.



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



4. Remove the breather-hose clamp from the crankcase ventilation cover (CVC) and upper intake pipe then remove and discard the short 14mm hose that connects the breather box to the intake pipe.



5. Unplug the wire harness connector from the cam sensor located underneath the upper intake pipe



6. On the cam chain side of the motor, remove the M6 bolt that holds the upper intake pipe to the side of the engine block, and remove the electrical connector that is attached to the intake pipe



7. Located behind the CVC, remove the M6 Bolt holding the upper intake mounting bracket.



8. Using a 7mm socket loosen the clamp located at the junction for the upper and lower sections of the intake pipe.
9. 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.)

1. Remove insulating mat from the protective metal panel: There are (4) 10mm plastic nuts on the upper section to remove. Remove these nuts then, from beneath the car, remove the two retaining clips holding the lower section of the insulating mat.
2. Carefully pull out the insulating cover, being sure not to snag the cover on the metal studs sticking out from the metal panel.



3. Remove (5) 8mm bolts on the metal panel: 2 on passenger side and 3 on drivers' side. Before fully removing the panel the metal tabs (if your car has them) will be located on the bottom of the plate need to be released. Slightly pull forward and up on the passenger's, then 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)

1. Remove one M6 Torx head bolt with a T30 bit from cam position sensor. Then rotate the cam sensor counter clockwise so that it clears the breather box cover.



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



3. Gently tap the front of the CVC with the palm of your hand or a rubber mallet to break the gaskets seal. Wiggling the CVC from front to back, lift it up and clear of the engine bay.
4. Using a 13mm socket remove the M10 bolt and passenger side engine hoist bracket (do not discard).



5. The ground wire terminal located near the engine hoist bracket has the potential to puncture the silicone for the new intake depending on how it's positioned from the factory. You may find that the ground wire terminal is pointing out toward the intake pipe and if so you need to loosen and reposition it. Using a 10mm socket loosen the M6 bolt and rotate the ground wire terminal so it points towards the front of the vehicle then re-tighten. The ground wire should drape over the cam cover and curve towards the wheel well on the passenger side.

#### REMOVAL OF LOWER INTAKE PIPE

1. Loosen the 7mm clamp on the turbo inlet side of the lower intake pipe/ resonator.
2. Remove the turbo control lines from the clips on the pipe
3. Remove the lower intake pipe/resonator from the engine bay .

#### FINAL REMOVAL STEPS

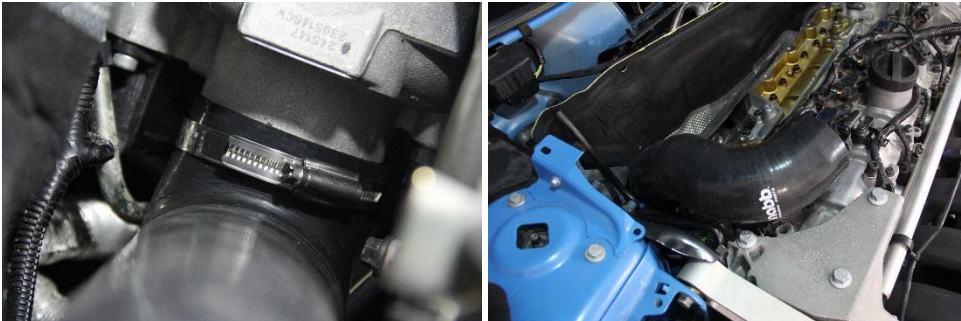
1. There is a metal tab attached to a bracket on the the rear coolant pipe that is bolted to the back of the engine block. The tab is used for holding onto and positioning the heater pipe. This tab is not necessary and is in the way of the new Snabb silicone intake. **The tab has a sharp corner that NEED to be bent or removed.** The corner on the passenger side of the tab will either have to be bent up/rounded with channel locks or simply cut off with a dremel. Either option is fine and will not affect the functionality of the bracket. If you cut the bracket off with a dremel remove approximately ¼ inch at a 45 degree angle to the corner of the tab. (cut the corner off ¼

inch back) Tab is shown here



## INSTALLATION

1. Take the long silicone hose and a (#44) clamp. Position the Snabb silicone pipe onto the turbo inlet with the 90 degree bend attached to the turbo. Partially tighten down the hose clamp with the head of the clamp facing up. You will finish tightening this clamp after everything is installed in place.



2. Place the TCV bracket over the large M12 bolt that holds the upper torque mount to the unibody mounting point. Install the included M12 jam nut to tighten down the bracket to the bolt. Plug the TCV wiring harness extension onto the OEM harness and the TCV. Install TCV onto the bracket with the electrical connector facing the firewall. Replace the TCV vent hose (to the intake pipe) with the longer 17" long section, run the hose and the wiring harness extension

under the silicone turbo inlet pipe. Finally connect the 5mm vac hose to the intake pipe barb.



3. Install the 1 ½" x ½" straight bracket to secure the electrical connector that used to be attached to the OEM intake pipe. Use the 2<sup>nd</sup> M6x20 bolt and M6 lock washer to attach the bracket as shown to the threaded hole on the timing cover and then push the barbed tab on the connector into the upper hole until it locks in place.



4. Position the 3" intake pipe: Lubricate the inside end of the large silicone hose with a little WD40, place a #48 clamp over the silicone and then place the 3" intake pipe into the large silicone hose.



5. Take the 3" S shaped silicone hose for the MAF, lubricate the inside of it with WD40. Place a #48 clamp on either end of the hose and then install the hose onto the MAF and the other intake pipe.



6. Positioning the pipe: while the WD40 is still wet position the aluminum intake so that the bracket is lined up with the bolt hole that is directly below it on the engine cam cover. Once the slot on the intake pipe is lined up correctly with the bolt hole (so that the bolt will be centered in the slot and positioned toward the back of the slot) use the M6x 20 Bolt and black nylon washer to tighten the pipe to the cam cover. Now you can position the hoses so that they are fully

seated on the pipe and lined up so that they are not rubbing on anything.



7. Reinstall the CVC, cam sensor, cam sensor connector
8. Attach one side of the 15" long  $\frac{1}{2}$ " ID Rubber hose to the 14mm intake pipe boss and the other end to the breather box barb. Secure with the (2)  $\frac{3}{4}$  clamps



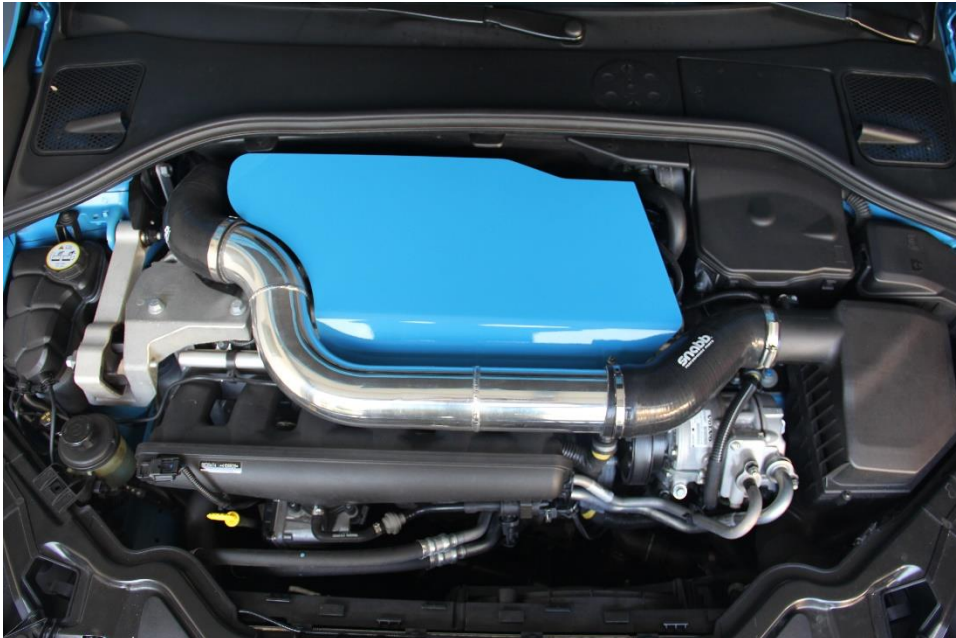
9. Once this is accomplished tighten and then tighten and then **double check** the turbo inlet clamp, the MAF clamp and the 2 clamps on the intake pipe.
10. Reinstall Heat shield: This will take two people: one on either side. The tabs on the bottom have to be clipped onto the metal shelf while the heater hose grommet is installed into the heat shield. One person should line up the tabs while the other positions the grommet in the slot and

aligns the holes in the heat shield with the 5 threaded studs. Tighten down the 5 (8mm) nuts onto the threaded studs.

11. Reinstall cloth heat shield cover: Carefully slide the cover over heat shield and install the 2 large washers at the bottom and 4 plastic (10mm) nuts at the top.
12. Reinstall the cowling, rubber gasket, strut bar if so equipped, battery cover, windshield wipers, and other trim.

#### Engine Cover Installation (optional)

13. If purchased, the aftermarket engine cover makes use of the original cover's rubber bushings.
14. Remove the bushings from the original cover and place them in the holders on the new cover.
15. We also have included a laser etched black anodized Snabb emblem for the cover. ***Please note: the emblems have 3M VHB tape on the back side. It is critical that the emblem be exactly where you want it when you apply it to the cover. You'll only have one chance to apply it to the cover as the VHB (very high bond) tape is extremely sticky.***
16. Slide front edge of engine cover under the intake pipe, align the mounting bushings and slowly press down on engine cover until it "pops" into place.



17. Be sure the mounting posts seat correctly into the bushings to avoid any damage and make sure all three are fully engaged on the posts.