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Lingenfelter Cadillac CTS-V Performance Air Intake Installation Manual

Part Name	Part Number	Quantity	Item Number
Air filter heat shield/mounting plate		1	
Air filter heat shield/mounting plate seals		3	
Air filter		1	
Silicone hose coupler (4" X 1 1/2")		1	
Steel tube duct (4" X 1 5/8")		1	
Hose clamp		2	
Mounting bracket (long)		1	
Mounting bracket (short)		1	
Mounting bracket bolts (M5)		4	
Mounting bracket nuts (M5)		4	
Mounting bracket flat washer (M5)		4	
Wire loom holder		1	

Required tools for installation

Flat blade screwdriver

Pry tool

5/16 in socket

10 mm socket

6 mm socket

Before you begin

- Read instructions completely before starting each step.
- Pay attention to how parts are removed from the vehicle and make sure to keep track of all parts, in many cases they may be used in the installation.

Step 1. Radiator shroud removal

- Remove the plastic radiator shroud by removing the two plastic rivets with a flat blade screw driver or pry tool. To do this you must first unlock the rivet by prying up on the head of the rivet, located at the center (the head will raise about a half an inch).
- Once the rivet has been unlocked it can then be removed.
- There are two christmas tree style fasteners at each edge of the plastic shroud. These are removed by inserting your flat blade screw driver/pry tool near the fastener and gently prying upward.



Step 2. Air intake tube removal

- Remove stock air intake tube by loosening the two hose clamps, located on each end of the intake tube. Set air intake tube aside, it will be used in the installation process.



Step 3. Stock airbox removal

NOTE: Make note of the orientation of the MAF sensor. It will need to be installed in this orientation.

- Remove the three mounting bolts using a 10mm socket.
- Unplug the mass airflow sensor.
- Remove the air box.



Step 4. Removal of the rubber air snorkle

-With the air box removed you will be able to remove the rubber snorkel located next to the radiator, under the radiator core support.



Step 5. Remove plastic rivet

-With the air box removed, you will see another plastic rivet on the inside fender wall. Using your flat-blade screwdriver/pry tool, remove this and save it for installation.



Step 6. Intallation of air filter heat shield mouting brackets.

-Install the two mounting brackets on the inside surface to the air filter heat shield/shroud, as shown.

-Long bracket installed.



-Short bracket installed



-Both brakets installed on the air filter heat shield



Step 7. Installation of rubber seal

-Three strips of rubber seal are included with the kit. The longest of the three seals goes on the top of the air filter heat shield and simply presses on, as shown in step 6. Push firmly to make sure the seal is completely seated on the plastic.

Step 8. Install air filter heat shield

-Install the rear of the heat shield first, then the front. NOTE: make sure you place the coolant hose in the notched out area of the heat shield to avoid pinching the hose.
(See picture below)



Step 9. Mounting the rear of the air filter heat shield

-Install the push rivet removed in step 5 to secure the rear of the air filter heat shield.



Step 10. Mounting the front of the air filter heat shield

-Secure the front of the air filter heat shield with the stock air box mounting bolt, as shown.



Step 11. Remove mass air flow (MAF) sensor from stock airbox

NOTE: Take care not to damage the sensor, touch any wires inside or damage the screen.

Step 12. Mass air flow duct assembly

-Install the silicone hose and steel tube on the screen end of the mass airflow sensor.

NOTE: Make sure that the steel tube is inserted into the silicone hose until it touches the MAF.

NOTE: The hose clamps must be positioned with the screws between the flow arrow on the MAF and the electrical connector as shown.



Step 13. Install wire loom holder

- Push the wire loom holder into the hole provided on the side of the air filter heat shield.
DO NOT insert the MAF sensors wire loom yet.

Step 14. Installation of air filter and MAF sensor

- Place air filter inside the air filter heat shield.
- Insert MAF sensor assembly through the air filter heat shield and into the air filter. DO NOT tighten hose clamps on air filter yet.
- Plug in MAF sensor.

Step 15. Installation of air intake tube

- Install the air intake tube on to the MAF sensor first, and then onto the throttle body. DO NOT tighten the air intake tube hose clamps yet.
- Rotate the MAF sensor so that all electrical connectors, clamps etc. are clear of any moving engine parts. Make sure that the orientation of the MAF is as close as possible to its original position.
- Insert the MAF sensor wire loom into the wire loom holder. Make sure that any slack is secured away from any moving parts.
- Tighten both air intake tube clamps and the air filter hose clamp.



Step 16. Inspection of assembly

- Make sure all tools, rags and debris are cleared from the engine compartment.
- Start up the car and inspect the air intake assembly for any leaks and further tighten hose clamps if needed.
- Shut off car.

Step 17. Installation of plastic radiator shroud

NOTE: components in your car's engine compartment may be hot depending upon how long you let it run in the previous step. If needed, let the engine cool before proceeding to the last step.

- Installation of the radiator shroud is the reverse of the step 1 disassembly. To install the plastic rivets, place them into the hole, then push the center down to lock them into place. You're finished assembly should look as in the picture below.



Congratulations, you have just completed the installation of the Lingenfelter Performance Air Intake system for your Cadillac CTS-V. Please see Lingenfelter Performance Engineering for all your Cadillac CTS-V performance needs.

Performance note: The Cadillac CTS-V is sensitive to intake air temperature (IAT) and engine coolant temperature (ECT). Small changes in IAT and ECT can cause the vehicle to have less ignition timing that can result in reduced power output. In addition, the CTS-V has a fairly sensitive knock sensor calibration and may be reducing the ignition timing due to knock sensor activity. When running at the track, be sure to keep the water temperature at or below the thermostat temperature for optimal performance. When testing your vehicle on a chassis dynamometer, make sure all testing is done at the exact same IAT and ECT in order to insure accurate testing. You will also want to monitor the powertrain control module (PCM) to make sure that the tests are all performed at the same ignition timing and that knock retard is not active during the test. If you don't have a GM Tech 2 diagnostic tool to check and record engine operating parameters, other diagnostic tools exist including software that will run on your laptop computer such as AutoTap and EFiLive.