

Installation Instructions for 2004-2007 Cadillac CTS-V Lingenfelter Air Intake System (5.7L LS6 and 6.0L LS2 engines)



PN: L650050704

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Parts List

#	Part Number	Description
1	LN-CTSV-AB	Air filter heat shield/mounting plate
20-1/4"	12335 A143	Air filter heat shield/mounting plate seal (in)
19-5/8"	12335 A143	Air filter heat shield/mounting plate seal (in)
3"	12335 A143	Air filter heat shield/mounting plate seal (in)
1	L660050704	LPE CTS-V air intake kit air filter
1	TFC40GNB400X1.5	Silicone hose coupler (4" x 1 1/2")
1	LN4225-02	Stainless steel tube duct (4" x 1 5/8")
2	53990110	Hose clamp
1	XX09104-0001-A	Mounting bracket (long)
1	XX09104-0002-A	Mounting bracket (short)
4	KP82440	Stainless button head screw (M5 x 0.8 x 16 mm)
4	47213	Mounting bracket stainless nut (M5)
4	47392	Mounting bracket stainless flat washer (M5)
1	AV14545	Wire loom holder
1	L920010000	LPE decal
1		Installation instructions

Tools required for installation

- Flat blade screwdriver
- Pry tool
- 5/16 in socket
- 10 mm socket
- 6 mm socket
- Ratchet

Optional Items:

- LPE air filter service kit SB-88-0005
- Replacement air filter L660050704



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 push-lock 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.



CAUTION: Be very careful when handling the Mass Air Flow (MAF) sensor. Do not dent, puncture or otherwise damage the Honeycell located at the air inlet end of the MAF. Do not touch the sensing elements or allow anything (including cleaning solvents and lubricants) to come in contact with them. Do not drop or roughly handle the MAF.

Step 2. Air intake tube removal

- Remove the 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 10 mm socket.
- Unplug the mass airflow sensor.
- Remove the air box.



Step 4. Removal of the rubber air snorkel

- With the air box removed you will be able to remove the rubber snorkel located next to the radiator, under the radiator core support.
- Remove the three push pins in order to remove the rubber snorkel.



Step 5. Remove plastic rivet and panel

- 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.
- Remove the plastic panel located inside the fender wall.
- **NOTE:** Save the plastic rivet for reinstallation.



Step 6. Installation of air filter heat shield mounting 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 brackets 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 the mass air flow (MAF) sensor from stock airbox

- Loosen the clamp holding the MAF sensor in place to remove the sensor.
- **NOTE:** The rubber gasket under the clamp will not be reused in installation.
- **NOTE:** See caution on pg. 2 for MAF sensor handling.



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

- Remove the protective cover from the LPE supplied air filter. The filter is pre-oiled with the correct amount of oil.
- **NOTE:** Inspect inside of filter for any debris prior to installing in the vehicle. Be very careful during the remainder of the installation process to not let any dirt or objects fall into the filter.
- 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.

NOTE: The CTS-V comes with three different styles of radiator shrouds. Two are held in place by clips as shown in figure A, and the other does not have clips as shown in figure B. If your car's radiator shroud *has* the clips, the short rubber seal is not necessary and should look as seen in figure C. If your car's radiator shroud *does not* have clips, place the supplied short piece of rubber seal on the heat shield, as shown in figure D.



Figure A: radiator shroud *with* clips.



Figure B: radiator shroud *without* clips.



Figure C: heat shield *without* rubber seal.



Figure D: heat shield *with* rubber seal.

Step 17a. Installation of plastic radiator shroud ..continued

To install the plastic rivets, place them into the hole, then push the center down to lock them into place. Your finished assembly should look like 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.

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PERFORMANCE ENGINEERING

Filter service - A filter service kit is available from LPE for cleaning and re-oiling the air filter (part number SB-88-0005). The correct amount of oil for this filter element is 35 grams (1.23 ounces) of oil. Replacement filters are also available from LPE (filter part number L660050704). How frequently you should clean your filter will depend on your driving conditions. LPE recommends checking your filter at every oil change or 3,000 miles. If there is a build up of dirt as thick as the wire mesh, then LPE recommends you clean your filter. As dirt builds up on your filter, the restriction of the airflow also increases.

Many other items are available from LPE for your Cadillac CTS-V including low temperature thermostats, camshafts, ported throttle bodies, port matched intake manifolds, intake manifolds, CNC ported cylinder heads, supercharger kits, short throw shifters, complete engine packages and much more.

For additional product installation information and technical support, contact LPE or your LPE products distributor. You can also find technical support and usage discussions regarding this product and many other LPE products in our Internet forums:

http://www.lingenfelter.com/forum_lingenfelter/index.php

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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 the DashDAQ and software that will run on your laptop computer such as AutoTap and EFILive.

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