

LINGENFELTER

PERFORMANCE ENGINEERING

2012-2013 Chevrolet ZL1 Camaro Lingenfelter Air Intake Kit Installation Instructions (LSA engine)



PN: L650182012

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READ THIS FIRST!!!

Before moving forward with installation, you must verify which MAF sensor housing you have. Below is a visual comparison of the two different MAF sensor housings. The first iteration of the Lingenfelter ZL1 Camaro air intake kit (PN: L650162012), which is shown on the right, had the MAF sensor mounting location pointing towards the front of the vehicle when installed. The new version of the Lingenfelter ZL1 Camaro air intake kit (PN: L650182012), shown on the left, has the MAF sensor mounting location pointing towards the rear of the vehicle when installed.

Comparison of MAF Sensor Housings



The new design MAF sensor housing found in air intake kit part number L650182012 has been specifically designed to replicate the MAF sensor characteristics of the stock airbox configuration. Because of this the new Lingenfelter ZL1 Air Intake Kit, part number L650182012, does not require recalibration of the Engine Control Module (ECM). The original Lingenfelter ZL1 Air Intake Kit, part number L650162012, required recalibration of the ECM to change the mass airflow sensor frequency to airflow output curve.

Parts List

2012-2013 ZL1 Camaro Lingenfelter Air Intake Kit (PN: L650182012)

#	Description	Part number
1	air inlet duct, ZL1 Camaro, black	XX05312-0003
1	airbox wall	10151022-1
1	air filter	10151022-2
1	MAF sensor housing	10151022-3
1	4" to 4.35" adapter hose, black	10151022-4
4	4"-4 1/2" hose clamp	10151022-5
5	10 - 32 Phillips head screws	10151022-6
1	edge seal, 11 7/8" long	10151022-7
1	edge seal, 24 1/2" long	10151022-8
1	M6 flange nut	10151022-9
1	ground bolt	11588712
1	4" hump hose with vent hose, black	XX05312-0002
1	45 degree plastic nipple fitting	25862741
1	Lingenfelter vinyl decal for airbox	L920200000
1	Lingenfelter decal	L920010000
1	instructions	N/A

Tools & Materials Required

- ratchet
- 7mm socket
- 8mm socket
- 10mm socket
- 10mm deep socket
- Phillips head screwdriver

Optional Items

Description	Part number
Polished duct	TBD - CALL
Lingenfelter ZL1 Camaro shock tower brace	L500182012
Air filter cleaning and oil service kit	SB-88-0005
ZL1 Camaro intercooler fluid reservoir kit	L300152012

Read the entire instruction manual before beginning installation. Many of the stock parts will be used in reassembly.

When referencing the side of the vehicle, the driver side of the vehicle is considered the left side and the passenger side of the vehicle is considered the right side of the vehicle.

Torque value warning - the torque values for the fasteners are provided in metric (Nm) and then imperial units. For the imperial units some are referenced in lb-ft and others in lb-in. Make sure you notice the difference and set your torque wrench correctly.

WARNING: Installation of this kit requires the power steering ground stud to be removed and replaced with a ground bolt in order to create enough clearance for the installation of the air filter. Make sure that the power steering ground wire is securely fastened to the vehicle by the ground bolt. The power steering system, which is grounded through this wire, is capable of pulling enough current to disable the entire vehicle if the ground path gets interrupted.



1. Open the hood. If you have been driving your vehicle, allow a couple hours for the engine to cool down before beginning installation.



2. Remove the engine cover by pulling the front of the cover up and away from the engine.



3. Unplug the Mass Air Flow (MAF) sensor connector, which is located on the side of the airbox inlet, by first sliding the grey tab to unlock the connector. Then, press on the center tab and pull the connector away from the airbox inlet.

Do NOT pull the sensor connector by the wires - pull from the plastic connector itself.



4. Loosen the hose clamps securing the rubber air inlet tube to the throttle body using an 8mm socket.



5. Remove the two (2) nuts that hold the airbox in place using a 10mm deep socket.



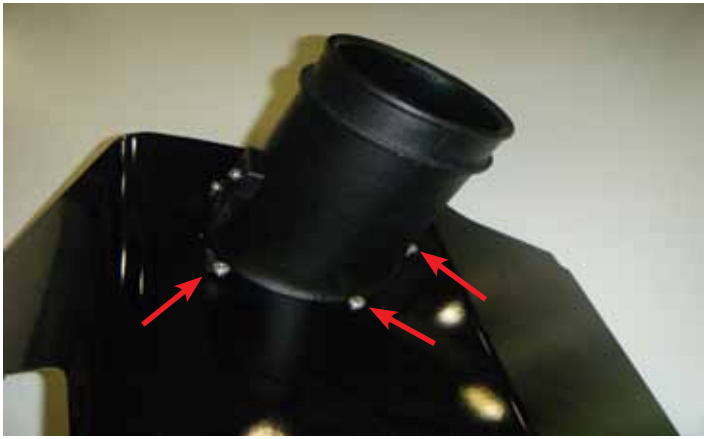
6. The positive crankcase ventilation (PCV) tube goes from the driver-side valve cover to the rubber air inlet tube. Disconnect the PCV tube from the air inlet tube by pressing the retaining tab on the fitting and pulling up on the tube.



7. Remove the air inlet tube from the throttle body and pull up on the airbox to remove the air inlet tube and airbox assembly.



8. Using a 7mm socket, remove the two (2) screws that secure the MAF sensor to the airbox. Make sure to keep the stock MAF sensor as it will be re-used for the new air intake installation. Take care not to drop or otherwise damage the MAF sensor.



9. Insert the supplied MAF housing into the hole in the supplied airbox. The MAF housing should be clocked as shown in the image to the left. Using a Phillips head screwdriver and the five (5) supplied 10-32 screws, secure the MAF housing to the airbox. The screws should be tightened in a star pattern.



10. Using the two (2) supplied #14 screws and a Phillips head screwdriver, secure the stock MAF sensor to the MAF housing. The screws should be tightened until the washers touch the metal surface on the MAF sensor.

The MAF sensor is directional and can only be installed and secured into the MAF housing in one direction. The arrow on the MAF sensor should point in the direction of the airflow (towards the engine).



11. Firmly push the supplied longer edge seal onto the top of the airbox.



12. Firmly push the supplied shorter edge seal with the angle cut on one end onto the bottom of the airbox. The angle cut in the edge seal should be pointed down when the airbox gets installed into the vehicle, as shown by the arrow.

13. The arrows in the adjacent image show the two (2) mounting locations for the airbox.



14. Lower the airbox assembly onto the bottom grommet and the upper stud as shown in the image to the left. Firmly push down on the airbox to verify that the airbox is fully seated onto the grommet.



15. Install the airbox flange nut onto the stud, but do not tighten until after the air filter is installed.



16. The air inlet duct work includes a hump hose with vent tube, metal duct and an adapter hose. The metal duct is directional with the longer straight section pointing towards air box assembly. The adapter hose should be installed on the end between the air box assembly and duct with the larger diameter end going over the MAF housing. The hump hose should be connected between the metal duct and the throttle body. See image to the left for clarification.





17. Install the hump hose and the adapter hose onto the metal inlet duct. To make installation easier, connect the inlet elbow to the MAF sensor housing and point the other end of the elbow upward, as shown in the picture. If necessary, silicone lubricant can be applied to the inside of the silicone hoses to make the assembly easier to adjust.

Note - be careful not to get any silicone lubricant or any other fluids on the MAF sensor.



18. Insert the supplied 45 degree breather hose adapter into the supplied throttle body hump hose. Clock the adapter so that it points straight up, as shown in the picture.



19. Rotate the inlet elbow clockwise until it can be connected to the throttle body. Connect the hump hose to the throttle body. Disengage all four (4) of the worm gear clamps and place the clamps over the narrow parts of the hump hoses. Using a 7mm socket, secure the hump hoses. Do not overtighten. To improve the appearance you may want to align all of the clamps in the same direction and position.



20. Connect the stock PCV tube to the 45 degree breather adapter.



21. Connect the MAF sensor harness connector to the MAF sensor. You should hear a click when the connector is fully engaged. Slide the grey tab to lock the MAF sensor connector in place.



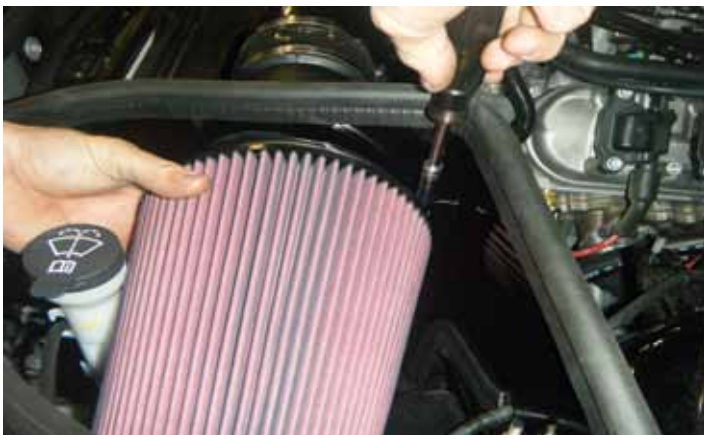
22. Using a 10mm socket, remove the ground stud located on the front driver-side corner of the engine compartment.

In order to provide additional clearance for the air filter, this ground stud will be replaced with a ground bolt in the following step.



23. Using a 10mm socket, install the supplied ground bolt (PN 11588712). Torque the bolt to 89 in-lbs.

WARNING: Make sure that the power steering ground wire is securely fastened to the vehicle by the ground bolt. The power steering system, which is grounded through this wire, is capable of pulling enough current to disable the entire vehicle if the ground path gets interrupted.



24. Carefully install the supplied air filter onto the MAF housing inside the airbox. If the airbox flange nut was left loosened, you can move the airbox slightly towards the passenger side of the vehicle to make installation of the air filter easier. Secure the air filter to the MAF housing using the large supplied worm gear clamp and an 8mm socket. Do not overtighten.

25. Tighten the airbox flange nut and then attach the retaining clip back onto the upper stud as well.



26. If desired, install the Lingenfelter decal onto the interior of the airbox by peeling the paper off of the back of the decal, pressing the decal onto the airbox, and finally peeling the front piece of paper off of the decal.



27. Re-install the engine cover.



Installation of the Lingenfelter ZL1 Camaro air intake kit is now complete.



Filter service - A filter service kit is available from LPE for cleaning and re-oiling the air filter (part number SB-88-0005). Replacement filters are also available from LPE. 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.

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/LPEforumfiles>



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