

Installation Instructions for the Lingenfelter 2009-2013 ZR1 C6 Corvette Air Intake Kit (6.2L LS9 V8 engine w/ Lingenfelter LS9 supercharger front cover)



PN: L650150309

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Parts List

LPE ZR1 air intake kit, PN L650150309

#	Part number	Description
1	XX03529-0003	LPE C6 ZR1 Corvette air intake duct
1	XX03529-0005	LPE C6 ZR1 Corvette airbox cover
1	PPE-T22	Hose separator T-clip
1	TS-MSSSFH0640	M6x1.0x40 counter sunk bolt, stainless
3	AV12567	Push type plastic filler
2	AV15414	Push type plastic filter
1	AV19440	3/8" OD loom clip
1	12335 A143	Air box seal, 24"
1	TF01-476-BK	4" hump hose
1	L660070105	Air filter
1	25862741	45 degree nipple connector
2	53990110	90-110mm hose clamp
1	539100120	100-120mm hose clamp
2	47503	4x0.7x12mm screw
1	L920010000	LPE decal
1	N/A	Instructions

Tools & Materials Required

- Ratchet and extension
- 6 mm socket or nut driver
- 7 mm socket or nut driver
- 10 mm socket
- Silver sharpie marker or equivalent
- 5/16" nut driver
- T-20 Torx head driver or socket
- 3 mm Allen wrench or socket
- 5 mm Allen wrench or socket
- Drill
- 1/4" drill bit

Additional Required Components

- Lingenfelter LS9 Supercharger Front Cover L250110309
- 2.38 or 2.65 11 rib 10 bolt pulley
- 76 mm, 90 or 100 idler kit (size depends on pulley combination being used - see Table 1 on page 13)
- 11 rib belt (length depends on pulley combination being used - see Table 1 on page 13)

Optional Items

- LPE air filter service kit SB-88-0005
- Replacement air filter L660070105

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

This air intake kit is specifically designed for the 2009-2013 ZR1 Corvette when equipped with the Lingenfelter LS9 Supercharger Front Cover. This kit is NOT designed for use with the stock LS9 front supercharger cover.

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.



1. Open the hood of the vehicle. If you have been driving the vehicle, allow the vehicle to cool down for a few hours before beginning this work.

Some of the pictures in these instructions show the hood removed. This was done to make it easier to take the pictures. Although you can remove the hood in order to provide easier access, it is not required that you do so.



2. Disconnect the mass airflow (MAF) sensor electrical connector located at the air inlet duct.



3. Remove the plastic loom holder from the intake duct and remove the MAF sensor harness loom from the holder.



4. Disconnect the throttle actuator electrical connector from the throttle body.



5. Disconnect the positive crankcase ventilation (PCV) fresh air tube from the passenger side of the air inlet duct.



6. Using a 5/16" nut driver, loosen the clamp on the throttle body



7. Remove the air inlet duct and air filter assembly by pulling up on the assembly.



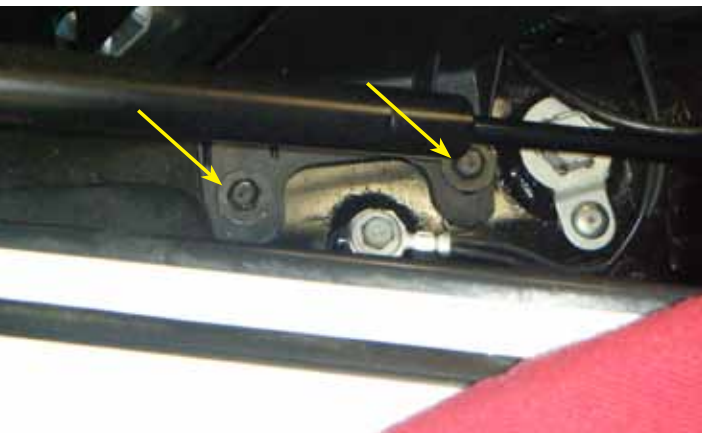
8. Remove the two factory airbox cover mounting posts located in the radiator shroud. Pull up on the center post of these fasteners to loosen the fitting and then remove the fitting.



9. Temporarily place the LPE airbox cover on the radiator shroud and insert a drill bit to locate the hole as shown. Using a silver marker, mark the location shown on the radiator shroud on the driver side. This location on the radiator shroud will be drilled out. Remove the airbox cover.



10. Using a 10 mm socket and extension, remove the two (2) bolts on the passenger side of the radiator shroud.



11. Using a 10 mm socket and extension, remove the two (2) bolts on the driver side of the radiator shroud.



12. Carefully remove the radiator shroud.



13. Using a 1/4" drill bit, drill out the plastic shroud in the location that you marked in step 9. Re-install the modified shroud on the vehicle and tighten down the four (4) bolts.



14. Install the barbed end of the supplied 45 degree plastic fitting [part # 25862741] into the fitting on the hump hose.



15. Install one of the two smaller clamps (90-110 mm, part # 53990110) onto the throttle body side of the hump hose. Position the clamp such that the tightening nut is on the passenger side with the adjustment screw facing up. Position the other hose clamps the same way. Install the silicone hump hose onto the throttle body. The hose is the same ID on both sides so it does not matter which side of the hose is connected to the throttle body.



16. Make sure the fitting on the hose is cocked as shown in the image and then using a 7 mm nut driver or socket, tighten the hose clamp in place.



17. Inspect the air filter to make sure no rubber debris or other material is inside the filter.



18. Install the supplied air duct tube into the supplied air filter. The sensor boss for the mass air flow (MAF) sensor should be facing the driver side of the vehicle. The filter gets installed on the end of the tube that is closer to the MAF sensor boss as shown.



19. Place the larger clamp (100-120 mm, part # 539100120) onto the air filter neck. Note the position of the clamp.



20. Install the remaining small band clamp onto the hump hose.



21. With the filter aimed upwards, slide the tube into the hump hose and then rotate the filter and tube assembly down 180 degrees into position.



22. Position the assembly so that the inlet tube is straight.



23. Push the filter against the factory radiator shroud and then, using a 6 mm nut driver or socket, tighten the clamp onto the filter. Leave the clamp on the other end of the tube loose. Make sure you have roughly equal hose engagement on both sides of the air intake duct. You should have just enough for each hose clamp on each side.



24. Connect the PCV fresh air line to the other side of the 45 degree plastic fitting. Make sure the PCV line is under the intercooler and water cross over lines (as it was stock). Also make sure the PCV line does not touch the belt or pulley.



25. Install the supplied seal on the front lip of the airbox cover as shown.



26. Slide the cover over the air filter and the factory radiator shroud.



27. Line up the holes in the airbox cover with the holes on the passenger side of the radiator shroud.



28. Install one (1) push fastener (LPE part #: AV15414) onto each side of the airbox.



29. Install two (2) of the supplied push fasteners (LPE part #: AV12567) into the two holes in the airbox located to the passenger side of the inlet tube.



30. Line up the hole on the driver side of the airbox cover near the air inlet duct with the factory hole in the radiator shroud. Install the supplied MAF harness fastener push tab on the driver side into the airbox cover and the radiator shroud.



31. Install the remaining supplied push fastener (LPE part #: AV12567) into the hole made in step 13.



32. Make sure the air inlet tube is aligned properly and then, using a 7 mm nut driver or socket, tighten the remaining hose clamp that secures the air inlet tube to the hump hose.



33. Remove the MAF sensor from the stock air intake assembly using a T-20 Torx socket or tool.



34. Install the MAF sensor into the air intake tube already installed on the vehicle. The MAF sensor mounting holes will only line up with the holes in the flange if it is installed facing the correct direction. The arrow on the sensor flange indicates the direction of the air flow.



35. Using a 3 mm Allen wrench or socket, secure the MAF sensor using the supplied 4x0.7x12 mm (LPE part #47503) socket head cap screws.



36. Connect the MAF sensor wiring harness connector to the MAF sensor.



37. Place the plastic coolant hose retaining clip over the intercooler hoses on the passenger side of the airbox.



38. Using a 5 mm Allen wrench or socket, secure the hose retaining clip with the supplied M6x1.0x40 counter sunk stainless bolt to the threaded insert in the airbox assembly. Make sure that the hoses run over the channel on the corner of the airbox. The channel (shown by the yellow arrows) is designed to eliminate the possibility of cutting or kinking the hoses on the edge of the airbox.



39. Congratulations - you have completed the installation of the Lingenfelter ZR1 Air Intake System.

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 39 grams (1.4 ounces) of oil. Replacement filters are also available from LPE (filter part number L660070105). 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 ZR1 Corvette including low temperature thermostats, camshafts, ported throttle bodies and much more. Contact LPE, visit our web site, or contact your LPE distributor for information about our other products.

Table 1 - Belt and pulleys for different supercharger pulley and damper fitments:							
Description	Belt	Belt PN	Idler	Idler kit PN	Pulley ratio	OD%	SC speed @ 6500 RPM
stock damper/stock SC pulley	stock 2137 mm 11 rib belt	12627521	stock 90 mm	NA	2.4	NA	15376
stock damper w 2.6 SC pulley	stock 2137 mm 11 rib belt	12627521	100 mm	L250130309	2.8	19%	18333
stock damper w 2.35 SC pulley	82.5 inch 11 rib belt	K110825	76 mm	L250120309	3.1	32%	20321
14% OD damper w stock SC pulley	2185 mm 11 rib belt	11PK2185	stock 90 mm	NA	2.7	14%	17495
14% OD damper w 2.6 SC pulley	2160 mm 11 rib belt	11PK2160	stock 90 mm	NA	3.2	36%	20859
14% OD damper w 2.35 SC pulley	stock 2137 mm 11 rib belt	12627521	76 mm	L250120309	3.6	50%	23078

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