

Installation Instructions for 2006-2008 Z06 Corvette High Volume Oil Tank



PN: L300046006

Parts List

LPE 2006-2008 Z06 Corvette High Volume Oil Tank, PN L300046006

#	Part number	Description
1	L300046006	Modified lower tank
2	15217990	Oil tank hose seal
1	L920010000	LPE decal
1	N/A	Instructions

Tools & Materials Required

- 7mm through 16mm sockets
- 19mm socket (for lug nuts & oil sensor)
- 3/8" ratchet and extension
- Adjustable torque wrench
- Colored tape
- 12 quarts of oil
- Jack
- Jackstands (2x)
- Fork type pry tool or equivalent
- 13mm and 19mm open end wrenches
- Oil drain pan
- Lint free shop rags
- Brake cleaner or equivalent
- Magnetic pick-up tool (in case you drop a bolt)

Additional Recommended Products

#	Part number	Description
1	12626224	UPF48R AC Delco oil filter (high pressure filter)

Optional Parts

#	Part number	Description
1	24576940	Engine oil/air separator seal (O-ring)
1	12596185	Oil pump screen
1	15326388	Engine oil temperature sensor
1	12599352	Engine oil tank gasket

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

This high capacity oil tank installation is specifically designed for the 2006-2008 Z06 Corvette. The 2009-2010 Z06 and ZR1 Corvette are already equipped with a high capacity tank of similar volume.

Under prolonged high cornering loads such as those found on a banked race track with a vehicle with racing slicks, some customers have reported low oil pressure on the 2006-2008 Z06 Corvettes. The Lingenfelter Performance Engineering modified oil tank design was developed to eliminate this problem. Designed to fit in the stock dry sump oil tank location with no modifications to the vehicle, the Lingenfelter modified tank increases system capacity by roughly 3 quarts, taking total capacity from 8 quarts to 11 quarts and increasing the capacity of the tank alone from 6 quarts to 9 quarts (a 50% increase).

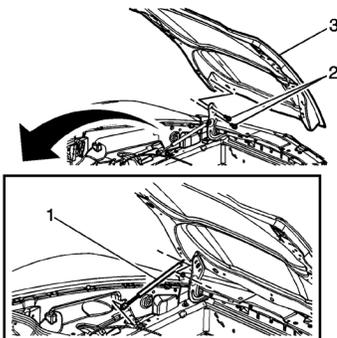
The added oil volume will also help reduce high oil temperature spikes under certain road racing conditions by increasing the amount of fluid in circulation and the amount of time it takes to heat up that fluid.

The factory oil dipstick will still function correctly and the same indicator mark is used to indicate the new "full" oil level.

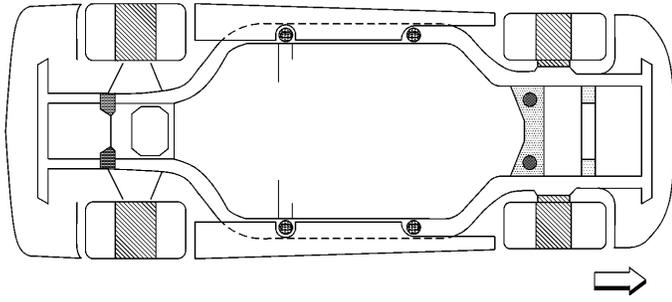
Included with the modified oil tank are new seals for the oil lines as these should be replaced every time the lines are disconnected.

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.

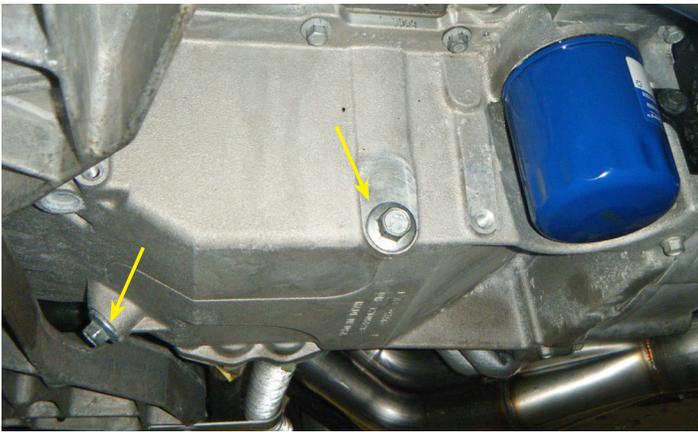
GM sells the Original Equipment Manufacturer (OEM) lower oil tank as a part of the entire oil tank assembly. Due to the lack of availability of just the OEM lower oil tanks from GM, Lingenfelter Performance Engineering (LPE) requires the core out of your vehicle in exchange for the modified lower oil tank. After receiving the LPE modified lower oil tank, thoroughly clean the stock lower oil tank and send it back to LPE for a core charge refund.



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 starting this installation.



2. Raise the vehicle with a vehicle hoist or a jack and jackstands. Be careful to follow the GM lifting procedures on the Z06 Corvette due to the aerodynamic components being easily damaged and the low ride height of the vehicle.

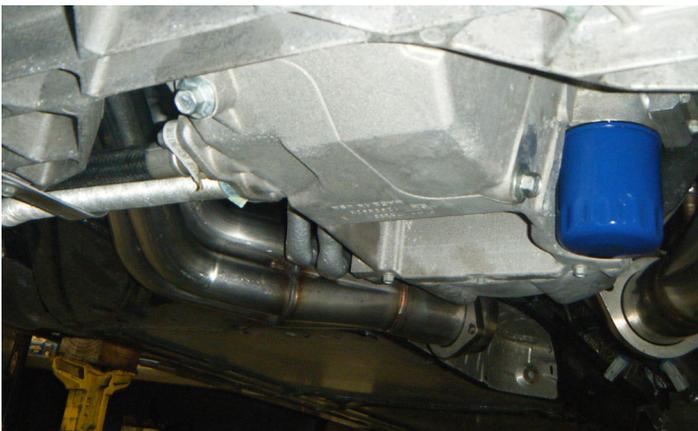


3. Using a 15 mm socket, remove **both** drain plugs from the oil pan to drain the oil.

IMPORTANT: Be sure to have an oil drain pan to catch the oil.



4. Allow all oil to drain out of the oil pan. Remove the oil filter by turning it counter clockwise by hand or using an oil filter wrench.



5. After all of the oil has drained out, replace the oil filter with filter part number UPF48R (PN 12626224) and torque the filter to 18lb-ft (25 Nm). Replace both drain plugs and torque both of them to 18lb-ft (25 Nm).

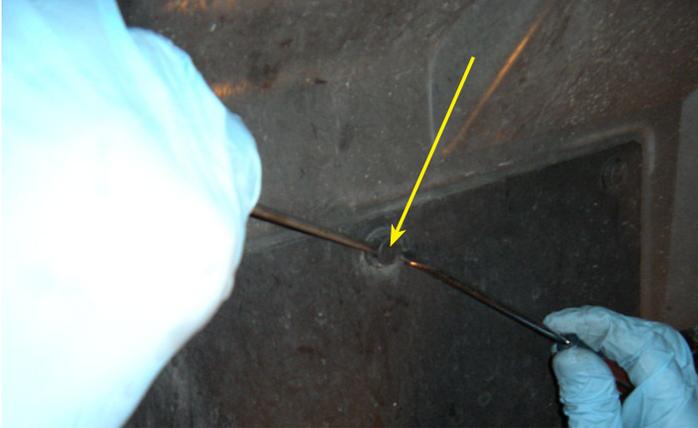
GM has released a filter with a higher burst strength for use on the 2009 and new Z06 and ZR1. LPE recommends the use of this filter in all Z06 applications.

6. Remove the passenger front wheel using a 19mm socket.

NOTE: some aftermarket rims require you to use a coated socket to avoid scratching your rims.



7. Using a 7mm socket for the outer bolts and a 10 mm socket for the inner bolts, remove the passenger front fender liner.



8. Remove the two (2) plastic push pins from the side of the fender liner by using a fork pry tool. Pull out on the center (smaller) pin until it pops out, then remove the whole push pin.

IMPORTANT: Be careful not to damage the push pins, they will be re-used.



9. The liner is attached to the fender with metal push-clips. Start with the lower portion of the liner and pull the liner straight out of the fender.



10. With the liner removed, locate the bolt on the bottom of the fender directly under the front of the passenger side door. Remove this bolt using a 7 mm socket (this is needed to push the fender out of the way slightly to make way for the removal and installation of the tanks).



11. Mark one of the vapor lines as well as its respective port with a piece of tape (or equivalent) and remove the vapor lines from the top of the tank. This is done by pushing the small tabs on the ends of the lines clockwise and pulling outward.



12. Using a 10 mm socket and extension, remove the two bolts from the bracket holding the middle of the tank. Be careful not to drop the two bolts once you remove them.

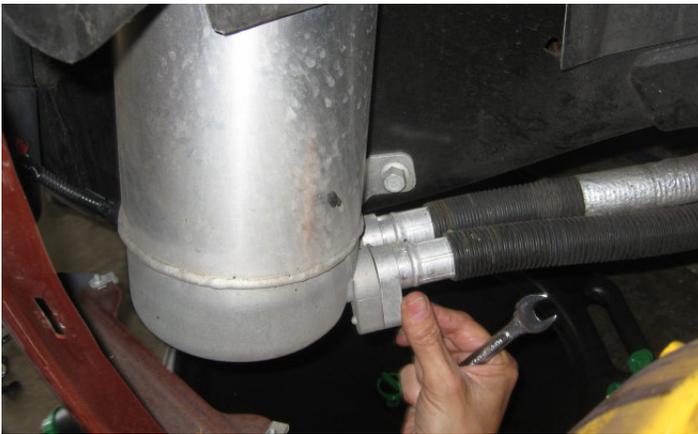


13. Using a 10 mm socket and extension, remove the bolt on the top of the tank located directly between the oil cap and the fender.



14. On the bottom of the tank remove the oil temperature sensor by first disconnecting the harness and then unscrewing the sensor using a 19 mm wrench. Inspect the sensor for damage as you will be using this sensor again.

NOTE: The sensor may be removed after the tank is removed from the vehicle instead of while it is still in the vehicle.



15. Remove the oil lines from the bottom of the tank by using a 13 mm wrench to remove the two bolts directly under the oil lines. Be sure to have an oil pan below to catch any residual oil that may drain out of the tank.



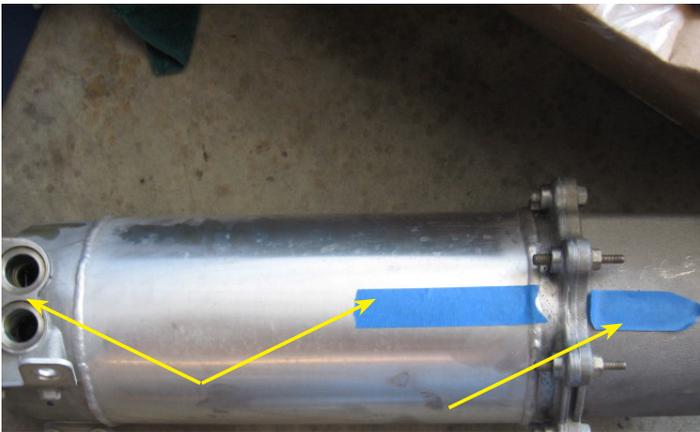
16. At this point in the installation it is recommended to have another person to help remove and place the oil tank. While one person is holding the top of the tank, remove the two (2) 15mm bolts on the mounting bracket on the bottom of the oil tank that secure the tank and bracket assembly to the vehicle.



17. Move the bottom of the tank out of the way and remove the oil lines. Be sure to point the lines into the oil pan as residual oil will most likely drain out.



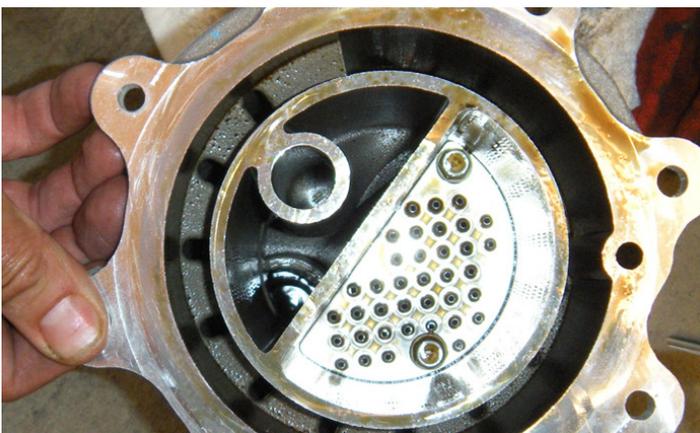
18. Remove the tank from the car by having one person pull the tank down through the bottom of the fender while the other person carefully moves the tank out of the way of the wiring harness as well as any other obstructions.



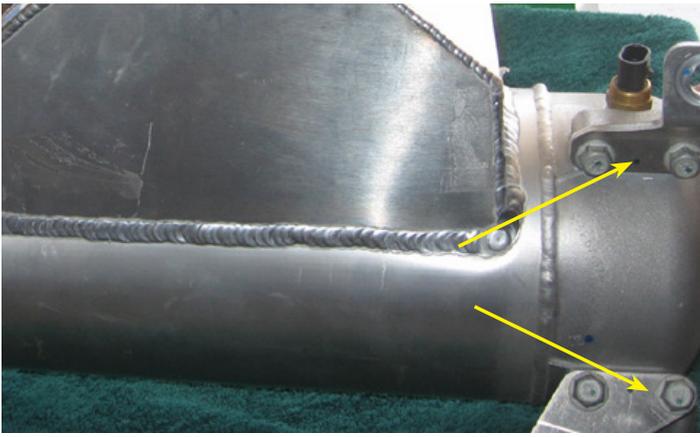
19. Mark the top and bottom portion of the tank as shown. You will use this to reference putting the assembly back together correctly, notice the location of the oil line fittings on the stock lower tank.



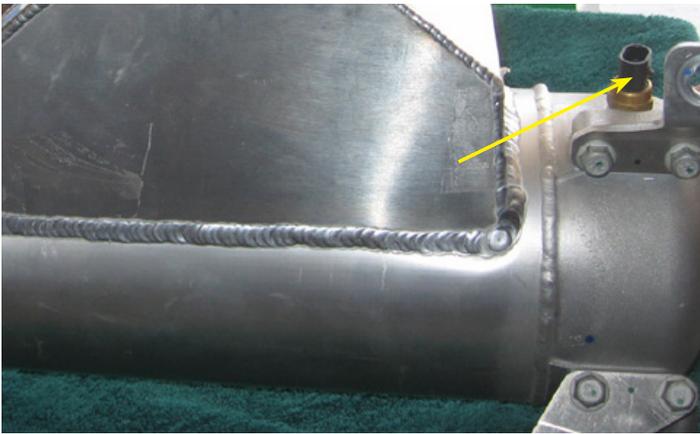
20. Using a 13 mm socket and extension, remove the eight (8) nuts and bolts on the tank to separate the top and bottom of the tank. You will need a deep well socket or an open end wrench to remove the two bolts (in which the tape is in between) indicated to the left.



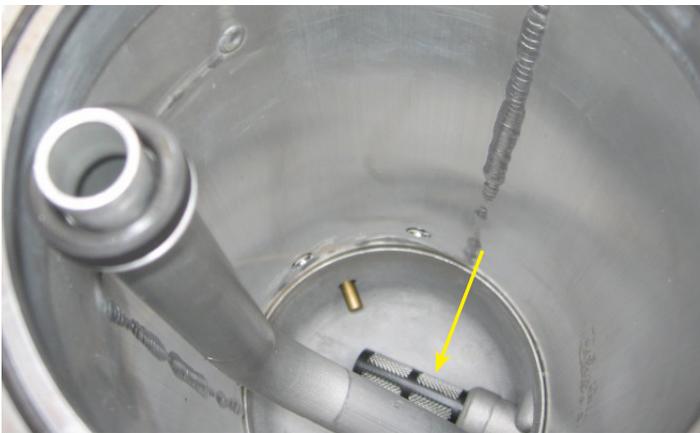
21. Inspect the top of the tank for damage or corrosion. Be sure to wipe the mounting surface clean before installation on the new tank.



22. Using a 13 mm socket, remove the two (2) mounting brackets from the old tank by removing the four (4) bolts on the brackets. Install the old brackets to the new tank and torque to 18 lb-ft (25 Nm).

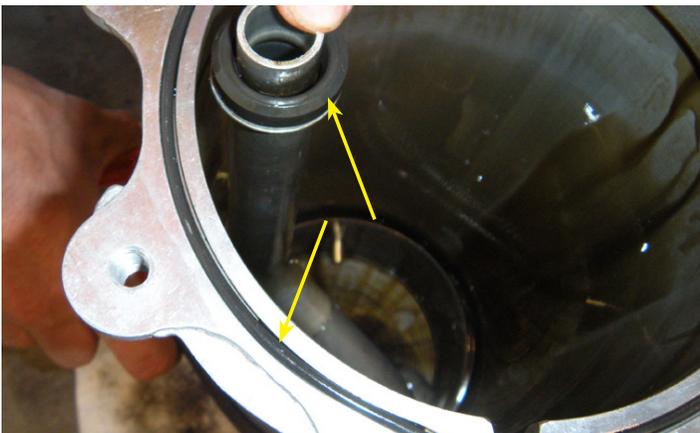


23. Using a 19 mm socket, replace the oil temperature sensor and tighten to 15 lb-ft (20 Nm) of torque.

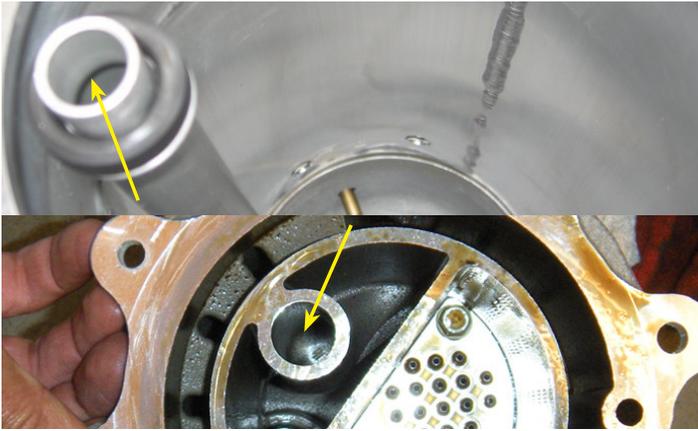


24. Remove the oil screen from the old tank by gently twisting, wiggling, and pushing the screen towards the outside. Install the oil line screen onto the new tank by pushing the screen into the inlet bore from the outside of the tank until the locking tabs locate in the grooves.

IMPORTANT: The oil screen is fragile and expensive to replace so handle with care.



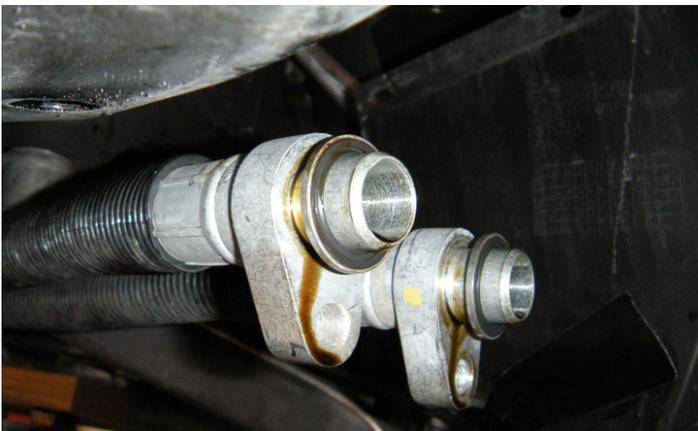
25. Inspect the O-ring and engine oil tank gasket from your old tank to your new tank



26. Line up the holes on the top and bottom tank and also make sure that the bolt holes line up correctly. Line up the tape on the top tank with the oil line fittings on the new lower tank. Remember your marking that you made on your old lower tank and compare it with the new tank.



27. After aligning the tanks, using a 13 mm socket and extension, torque the eight (8) bolts to 18 lb-ft in an 8-bolt star pattern (25 Nm). Remember that you will need a deep well socket to torque the longer bolts. The tape used to mark the tank should be in between the two (2) longer bolts.



28. Replace the two oil seals on the bottom oil tank lines with the supplied oil seals (GM part # 15217990). Make sure that the rubber side of the seals are facing toward the tank.

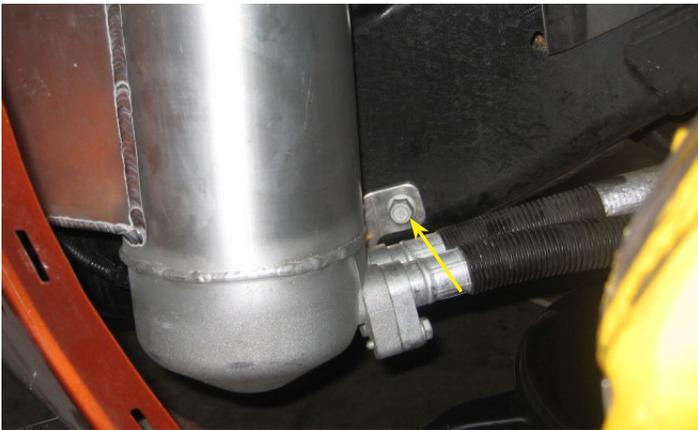


29. Place the tank inside of the passenger front fender with the tank's expanded oil volume section pointing towards the rear of the vehicle.

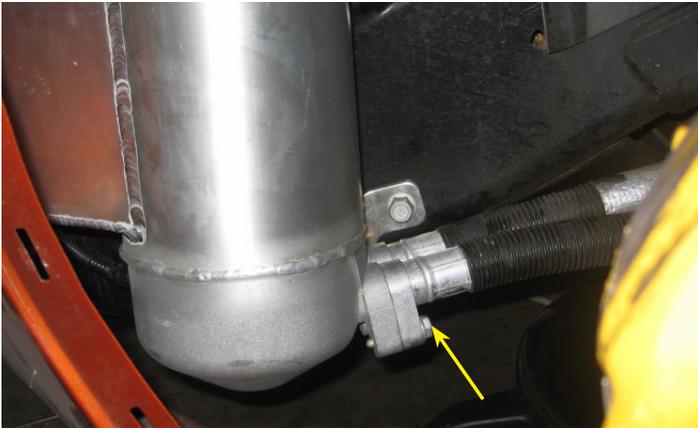


30. With one person guiding the top of the tank up, slide the tank in through the bottom and line up the bolt holes to the brackets on the bottom.

NOTE: Be careful not to pinch any of the wiring harnesses in the way.



31. Using a 15 mm socket, bolt the two (2) bottom brackets of the tank to the frame rail and torque to 27 lb-ft (36 Nm).



32. Install both oil lines and, using a 13 mm socket, torque the two (2) bolts to 16 lb-ft (22 Nm).



33. Using a 10 mm socket, install the three (3) bolts on top and torque each to 89 lb-in (10 Nm).



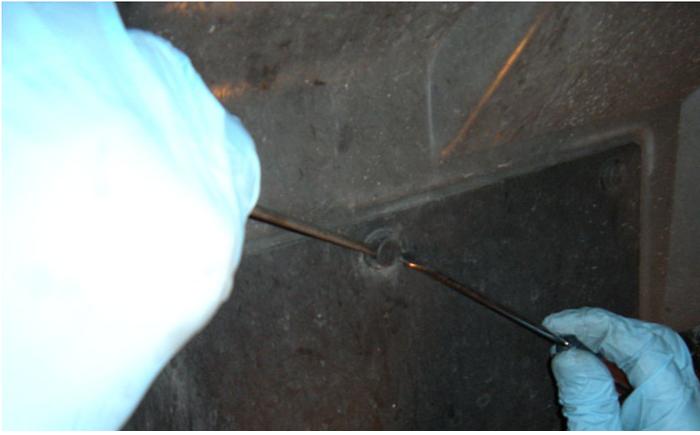
34. Remove the oil fill cap and fill the tank with 11 quarts of oil and check the dipstick. If the oil level reads slightly high this is okay.

35. Start your car and check for oil pressure. Once the pressure rises get out of the car and visually inspect the oil tank for leaks. Turn off your car.

36. Check your oil level on the dipstick to ensure proper oil level has been reached. Please read the steps on page thirteen (13) on checking your oil on this dry sump system.



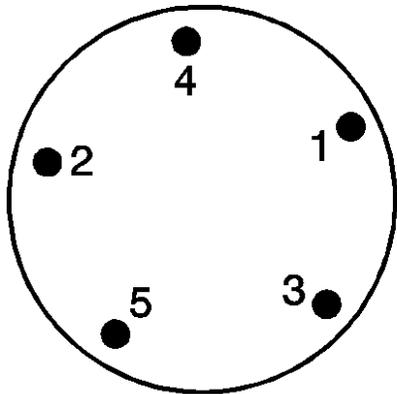
37. Position the fender back into place and, using a 7 mm socket, install the bolt that was taken off in step 9.



38. Push the liner back into place and replace the two (2) push pins that were taken out by inserting them with the pin in the out position, and once inserted into the hole push the pin into the hole and it will lock into place.



39. Using 7 mm and 10 mm sockets, replace the four (4) bolts that were removed from the fender liner.



40. Torque the wheel lug nuts to 100 lb-ft (140 Nm). Be sure to use the proper torque sequence for a 5 bolt wheel. Remove jack and jack stands and enjoy your new oil tank.

41. Be sure to tell anyone servicing your vehicle about the expanded oil capacity.

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>

This is the GM factory Z06 and ZR1 recommended procedure. The LPE oil tank does not change the proper level marking position.

How to Check Your Oil In This Dry Sump System:

- Start the engine and warm it up to around 175° F (80° C) coolant temperature.
- When the engine reaches the recommended temperature, turn off the engine.
- Wait at least five (5) minutes (but no more than twenty (20) minutes) for the oil to settle back into the engine.
- Remove the dipstick from the external oil tank and clean off the oil with a lint free rag.
- Re-insert the dipstick and check the oil level on the cross-hatched area on the dipstick. Any level that is within the cross hatches is considered normal and your oil level is okay.
- Please refer to your owners manual for more information on the dry sump system.

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