



Optispark installation guide

By John Benton

First make sure you know what kind you have, the 93-94 were alike and the 95-97 were the same. The difference is how they are connected to the cam. The 95-97 style optisparks are vented, meaning they have a vacuum tube attached to them) so they are less likely to get moisture in the internals and therefore less likely to fail prematurely.

Required PartsⓈ

- new water pump gaskets
- new optispark distributor

Required Supplies✂

- razor blades or a gasket scraper
- teflon thread sealant or teflon tape
- rags
- shop light
- good pliers or vice-grips
- buckets to catch coolant
- 10 mm short and deep socket
- 6" extension
- 16mm wrench or socket
- masking tape and marker or ball point pen
- 9/16" socket
- ratchet and cheater bar
- 13mm wrench
- 5/16" socket w/ extension
- 11/32" socket

Directions📖

Use the 5/16" socket or wrench and remove the negative terminal from the battery. If you do the positive one, you will usually get a fireworks show at the expense of your computer in some cases.

Make sure your car is nice and cool, the coolant in your engine stays very hot for a very long time after you have run it. I would recommend a minimum of 6 hours of letting your car cool down after you have run it.

Take off the air intake ducting with the 5/16" socket. You only have to remove the air

elbow to the air filter housing. Be sure to disconnect the wires to the IAT sensor and the MAF housing before you start tugging too hard. Don't worry about your filter or filter housing, it's not in the way.

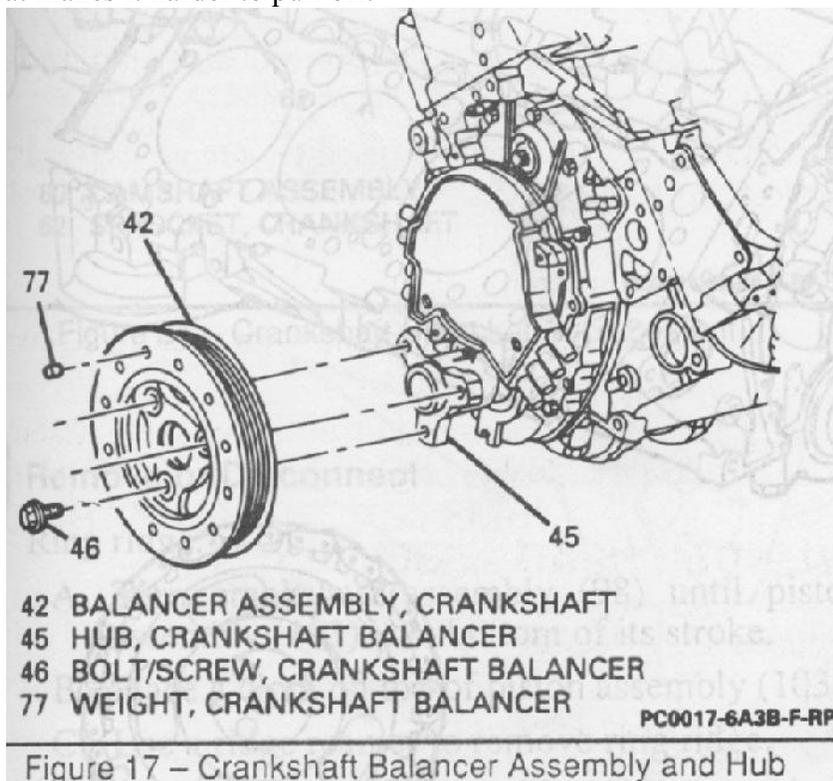
Use your 5/16" socket again and take off the 2 screws that hold the thermostat housing to the water pump. Fold the upper radiator hose so that it is out of the way. Usually no coolant will come out of this hose.

Get under your car with your bucket for catching coolant and open up the small valve on the bottom of the radiator on the passenger side. It looks kind of like a wing nut only it is plastic. You will have to probably use your vice grips or pliers to loosen it up but be very careful, it IS plastic and it WILL break if you use too much force. All the coolant in your radiator will come out so be sure to have your bucket and face positioned right when the coolant starts coming out. After it quits draining, close the valve back up.

Take your 16mm wrench or socket and loosen up the 3 bolts that hold on your crank pulley. This is what keeps the pulley (harmonic dampner) attached to the hub. Make sure your transmission is in park or a high gear so the motor doesn't spin freely.

After they are loose, take your 13mm wrench, wrap a rag around it and use it on the idler pulley so you can take off your belt. It should slide right off the idler pulley once you have moved it over enough. CAUTION: The idler pulley spring is VERY strong. Make sure your wrench has enough room so that when the belt is not on there anymore, the wrench will come off instead of binding on the AC bracket and possibly crunching your fingers.

Take out the 3 bolts out of the crank pulley now and pull off the pulley. Do not try to pull off the hub, only take off the pulley, they are 2 separate pieces on the LT1. They can be frozen on there pretty hard sometimes, but try spinning it and try not to get it crooked because that makes it harder to pull off.



Disconnect the power wire from the passenger side cooling fan and get your short 10mm socket and remove the 4 screws that are holding on the passenger side fan. Remove the fan screw on the top that is easiest to get to last and you will be glad you did. Set the fan off to the side.

Disconnect the power wire from the air pump and use your 10mm long socket to remove the 3 screws out of the air pump that hold it to the bracket. There is 1 tiny screw (11/32") that holds the aluminum bracket to the metal air tubing. You don't have to take it off, but it will make your life a little easier.

Disconnect the wire going to the coolant temp sensor located on the water pump housing. Pull the 2 plastic fasteners out of the water pump housing that hold the wire down, or use a screw driver or pick of some sort to open up the fasteners. The object is to get the coolant sensor wire off of the water pump housing.

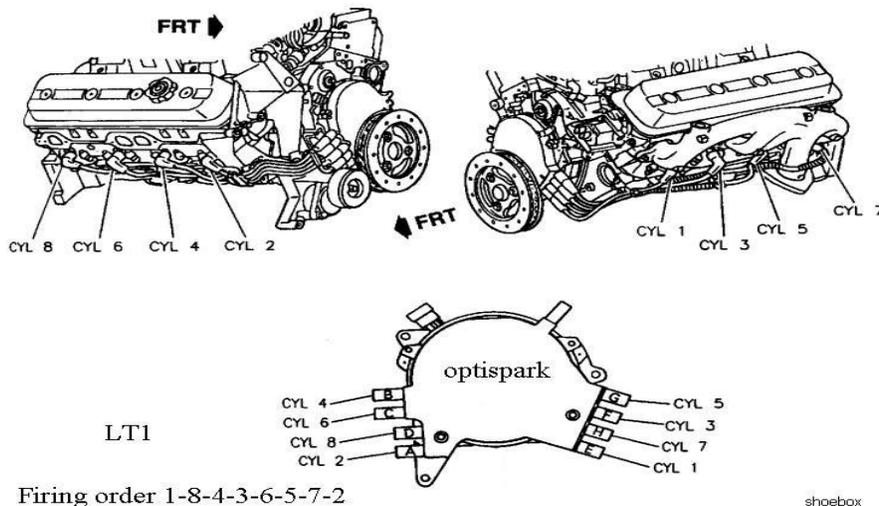
Use your 9/16" deep socket and take off all the 2 bolts holding the air pump housing to the block and water pump screw.

Use your vice grips or good pliers like channel lock pliers and loosen up all the hose clamps attached to the water pump and pull the hoses off. After all the hose clamps are lots of coolant will come out of the 2 small hoses on the bottom of the water pump so have your pan in position to catch it all, about 1 gallon will come out of the block when you do this step.

Use the 9/16" deep socket and take off the 5 screws you can get to on the water pump. You will notice that the sixth bolt holding the water pump on is slightly covered up by the power steering pump pulley. This is where you get the 6" extension and the short 9/16" socket out. You can get that last bolt off with this setup. If you have trouble with this, you can use your 10mm deep socket and remove the 2 screws holding the power steering pump on. It will move out of the way enough to remove the last water pump bolt. More coolant will spill out of the bottom bolts so have your pan ready. Now just pull on the water pump off, it will most likely be stuck on there pretty good, but you can do it. Just pull hard, but dont smash your water pump into your radiator. Set the water pump off to the side.

Take your tape and marker and label all of your spark plug wires. This will save you a lot of frustration. I usually just number them 1-4 on both sides; I don't worry about which cylinder it really is. Your stock plug wires are labeled with that information anyway and the optispark has tiny numbers stamped on it too. You can see them on the new opti.

Remove the plug going into the opti at the top and remove the 8 plug wires at this time. You can refer to the diagram on the next page for the firing order and proper location of each



There are (3) 10mm screws holding it to the timing cover. Take them out and you should be able to pull the opti right off.

If you have the 93-94 style optispark, pay careful attention to the little dowel that is either in the timing cover still or has stayed in the opti. There is a little notch in the teeth that makes that little guy hard to line up so when re-installing the new opti. Make sure the new opti goes on perfectly flush with the timing cover also; it is easy to get it misaligned. Once you have it flush against the timing cover, put back in the 3 bolts and begin reinstalling everything.



Always start the car before putting the water pump back on just to make sure everything is right, but if you do this don't run it for too long without the pump. Remember to always approach any job with patience, never rush a job and double check everything to make sure the job is done right.