

I've owned a s2k for a "long" time and I am decently mechanically inclined. All the problems that I've ran into had simple solutions but one of the most common and frustrating problems that the s2k suffers from is misfires in my opinion. Most threads are long and many dont have answers that fit your exact scenario. Given the fact that our cars are +15 years old, parts start to fail, in this guide I'll show you how to trouble shoot parts and which parts to replace to solve common misfires.

### **NOTE: Check Engine Lights and You!**

A check engine light isn't the end of the world. It does not mean your car has a blown engine. Check engine lights are there to give you valuable data so you can address a problem/up coming problem. A solid check engine light basically says "hey buddy something isn't right and you should look into it". A FLASHING check engine light means "hey there is intimate damage to a component". Having said that, a flashing check engine generally means DONT drive it. If you are 100% sure that it is a flashing check engine light from a misfire you can limp it back home safely under 3k. The reason why the s2k has a flashing check engine light for a misfire is because it can and will damage the stock cat if the unburnt fuel ignites causing a back fire.


### **Reasons Why Your Car Misfires**

- 1). Spark plugs
- 2). Coil packs
- 3). Injectors
- 4). Bad gas
- 5). Bad connections
- 6). Cam Shaft Position Sensor (tds) {Very rare}
- 7). Tct (very rare)
- 8). Poor valve adjustment
- 9). Bend intake or exhaust valves
- 10). Blown head gasket
- 11). Blown motor

This list looks daunting but dont worry, Chances are good you'll narrow it down with your check engine light.

### **Tools Needed**

- 1). Torque wrench
- 2). Set of sockets and ratchets
- 3). Basic hand tools (screw drivers, pliers)
- 4). Electrical contact cleaner
- 5). wd-40 or some kind of penetrating oil
- 6). Obd2 Sensor <---MUST not optional
- 7). Multi-meter <-- important

All these tools in my opinion are needed. If you dont have them go buy them, if you and your car over to the dealership you'll end up spending a lot more. If you guys the tools, I'm confident you'll save money and you'll have some brand new tools. The obd2 sensor I bought has never failed me and as it says it is a "must". I bought one that connects to your phone through an app which only costs under 20 dollars. Here is the one I bought, but feel free to buy any obd2 sensor. You just need to be able to clear and pull codes.  [Amazon](#) Going to autozone to pull codes and clear codes with a car that doesnt work is just unrealistic.

### **First steps you should take**

If you want to save money and get down to it, do a compression test. Autozone rents them out with a deposit and it takes 10 mins if your know what you are doing. Maybe 30 mins your first time. You can change all the coil packs and replace all the spark plugs and injectors to have a motor that will still misfire. If your confident your car's motor is healthy skipping this step is ok. As in you checked the oil level and it was fine, car wasnt over reved, wasnt being pushed hard when the misfires began. But pulling the spark plugs is a good place to start. Inspect the cylinder with a light once the spark plug is out. There should be a layer of carbon on each of the tops of the cylinders. If the cylinder is squeaky clean then coolant has been getting into the cylinder. You'd probably notice some white smoke out your exhaust too, that would point to the head gasket. But back on track, if your running the ngk 7772's and way below 100k miles, then throw them back in. For a spark plug they are expensive and changing them for no reason is pricey at 15 dollars a plug.

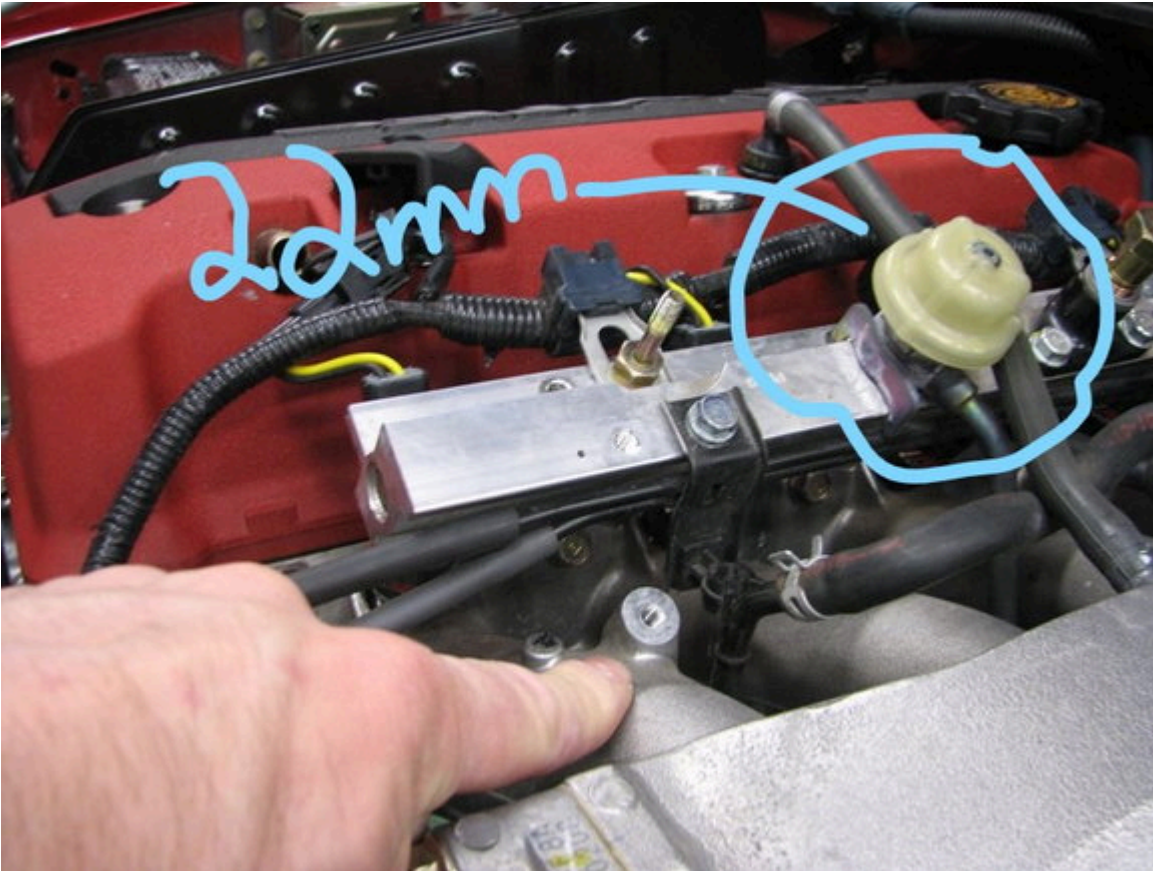
Here are some common and uncommon scenarios with quick fixes

### **Has oil spilled on any connections? Or have vacuum hoses got loose?**

Use a generous amount of contact cleaner on connections that have oil on them and check all vacuum lines from the intake manifold. This is probably the easiest things to do. Look through the owners manual and see what connection you got oil on and test the voltage or the resistance with a multi-meter. You'll know if you damaged a sensor by the ohms or fried something electronically as in your suppose to get a constant 12v and get 0v lol.

### **Bad Gas!**

With regular cars it is very simple to remove bad gas as 9/10 times they have a drain. Our car does not haha. There is only two possible ways to remove the gas out of the car. Through the fuel rail or drop the whole tank. I personally go through the fuel rail just because I cant drop a full tank by myself. Another reason is that if your car is misfiring due to bad gas it is likely because of water in the gas. Gas floats on top of water and because of this you CANNOT siphon it out. No matter how hard you try you cannot get the hose to the lowest part where the fuel pump is to remove the actual bad gas. If you siphon it, you'll be removing good gas actually. To remove the gas throughout the fuel rail you need to remove the hose connection to the fuel rail.



As I artfully drew, it is a 22mm wrench. Remove the plastic top cap and you'll have access to the nut. You can use a adjustable wrench but take caution when breaking it free. There is a gasket under there and it is a specialty order, most honda dealerships wont have on in stock. A trick is to tighten it a little bit then loosen it. This will help ensure nothing strips and keep the gasket from ripping. Once you have it free feel free to use your imagination on how to get the fuel from the hose connection into a spare gas can. I drilled a small hole into a bottle and then shoved a 1/4 inch tube into it for a snug fit. Cut a large slit into the bottom of the bottle and shoved the hose connection into there as it has a circle attached to the hose. I taped it up and it formed a good seal that did not leak. When you turn the key it primes the fuel system and gravity will bring it down the 1/4 hose into the gas can. I usually have a couple of empty bottles to test the drained gas into. Let it settle and look at the bottom. If there is water then you'll know. It'll look like oil at the bottom of your gas. Repeat this until you are positive your lines have good fresh gas in them.

### **Just got a valve adjustment and car starts misfiring Or could my misfires be from valves?**

This is not uncommon, maybe it was done on a warm engine which throws the values outta wack when cold or hot. If you were misfire free and then ran into misfires after the valve adjustment, go back to the

shop and have them redo it. A casual note is to get them done every 60k-80k, but if you have misfires its HIGHLY unlikely that a valve adjustment will fix your misfire. Not one case I've ever read solved misfires from a valve adjustment. But it is a good thing to get it done if its been a while.

### Car starts and warms up fine but after warming up misfires occur

I have encountered this on many s2k's, usually ones over 100k miles. Once the car is warmed up and idling, you will hear a quite but noticeable pop out of the exhaust every so often. I can tell you that your coils are going out. A friend of mine had this issue and we swapped all four coils and it solved the problem. But because the coil packs are still in working order, it is nearly impossible to find out which ones are going out and which ones are fine unless you buy new coils. All 4 could be going out, maybe 2 are going out or maybe its even one. This kind of situation doesnt have a check engine light, if you look you'll probably have a pending cel which is p1399. Read more on diagnosing a failed coil pack.

### Car drives perfectly fine but when under load it misfires

Injectors or coils could very well be the cause. Or even a combination of injectors and coils. For me personally it was a combination which is a lot harder to figure out. I'll explain in the diagnosing failed coil pack/injector below. Here is a video of my situation that turned out to be coil packs going bad and two injectors with poor flow.

### Car misfires, acts like it ran out of gas, wont go above 3k rpm and wont start once it is turned off.

This is a situation that has most mechanics scratching their heads. The problem is the cam shaft position sensor. On the s2k there is two, one behind the engine by the fire wall and one right in the front. Unclip it and if the car turns on but refuses to go above 3k then that is your problem. Testing the faulty sensor with a multi-meter is very simple. There are two leads coming out of the sensor. Go to ohms on your multi-meter and depending on your multi-meter go to a valve where you have two decimal places much as 00.00. Touch the leads with the two leads for the multi-meter and look at the ohm value. In the honda manual it states a cam shaft postion sensor with the ohm value 1.95ohms to 2.45 is acceptable.

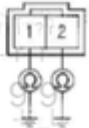
**Interruption**

**DTC P1367: CMP (TDC) Sensor B No Signal**

NOTE: Information marked with an asterisk (\*) applies to DTC P1366 or DTC P1367.

1. Reset the ECM (see page 11-4).
2. Start the engine.
  - Is DTC P1361, P1362, P1366 and/or P1367 indicated?
  - YES → Go to step 3.
  - NO → Intermittent failure system is OK at this time. Check for poor connection at the terminals of the CMP (TDC) sensor A, CMP (TDC) sensor B\* and at the ECM. ■
3. Turn the ignition switch OFF.
4. Disconnect the CMP (TDC) sensor A and CMP (TDC) sensor B\* 2P connectors.
5. Measure resistance between CMP (TDC) sensor 2P connector terminals No. 1 and No. 2.

**CMP (TDC) SENSOR A 2P CONNECTOR**  
**CMP (TDC) SENSOR B 2P CONNECTOR\***

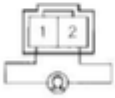


Terminal side of male terminals

Is there continuity?

YES → Replace the CMP (TDC) sensor A and/or CMP (TDC) sensor B\* (see page 6-3). ■

NO → Go to step 6.



Terminal side of male terminals

Is there 1.950 ~ 2.450 Ω ?

YES → Go to step 6.

NO → Replace the CMP (TDC) sensor A and/or CMP (TDC) sensor B\* (see page 6-3). ■

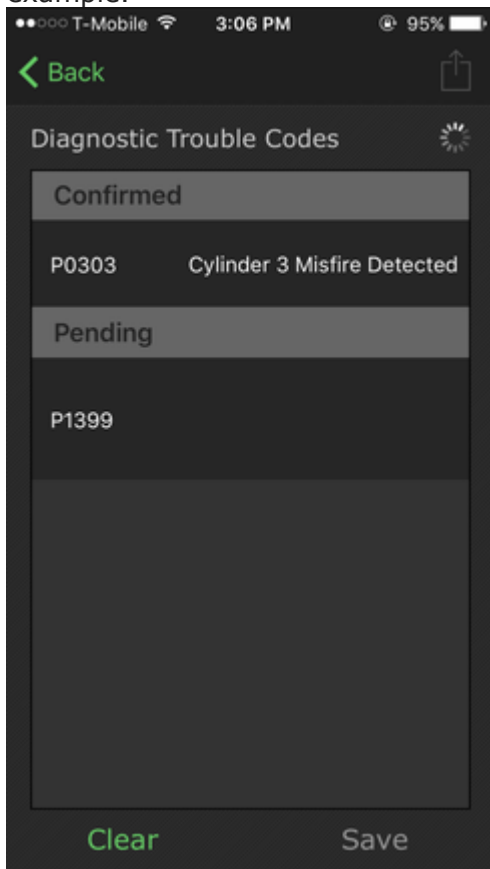
(cont'd)

### Can the tct cause a misfire?

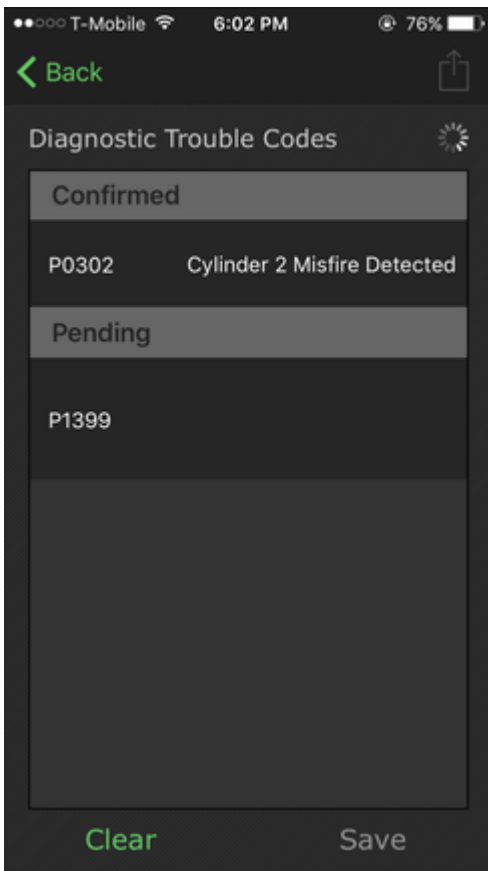
Yes and no, generally speaking for a tct to cause a misfire it would have to be so nonfunctional that it would allow a stretched chain to skip a tooth. If your compression is good and you've nearly checked everything it maybe time to open the valve cover and see if your chain has skipped a tooth or two. After 15 years the stock chain has probably stretched a fair amount allowing this to happen. A quick and dirty fix is a new gear that compensates for the stretch of the chain. Or move the chain back to the original position and then instal a brand new working tct. Even if you have the funds I wouldnt change the chain unless your keeping the car forever. Its pricey,

### Diagnosing a failed coil pack

Finding a bad coil pack is relatively easy and cheap to replace with non oem brands. I got the duralasts for 50 bucks just because they have a life time warranty. Lets work with my check engine light codes as an example.



Ignore the pending cel and lets focus on the P0303 which is cylinder 3 misfiring. Move the coil to another cylinder and then clear the code. I moved it to cylinder 2, cleared the codes, start the car, let it run and boom.

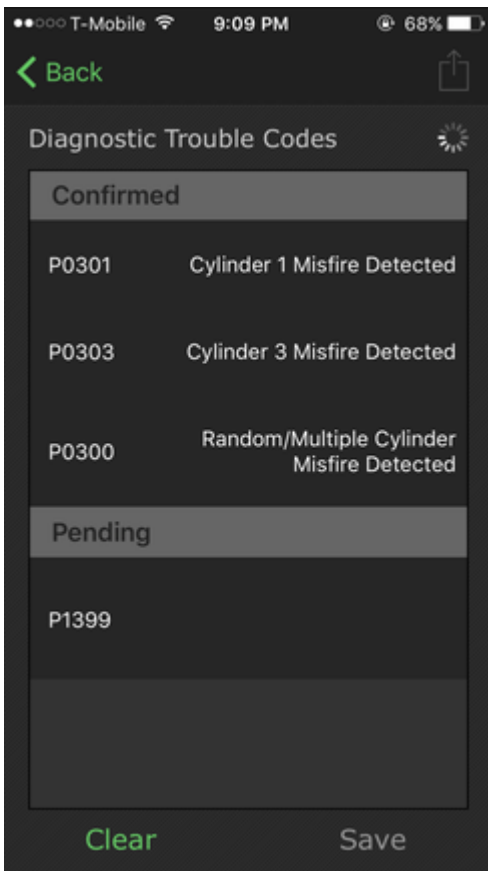


The check engine light also moved with it. We just found a bad coil pack boys. If more than one coil has gone bad then it might be a little more challenging but continue to swap the bad with the coil packs you assume are good and see if the codes move around. Another quick way to figure out if a coil pack is bad is to remove each coil one by one when the car is running. The engine pitch should change and if it doesn't you're left with two cases, the coil is bad or the injector is not firing. Having the obd2 scanner will help you pinpoint the bad part.

### **Diagnosing bad injectors**

Injectors are another story all together. You can test them multiple ways but there are some things you cannot test without specialty equipment such as flow/spray pattern which definitely cost more than a set of brand new injectors. There are three ways I know how to judge good injectors from broken ones. The first is to have the car running and to un-clip each injector, the engine should significantly bog down, if it does clip it back in to not stall the car. Go through each injector un-clipping it to find the one that doesn't change the engine pitch. This way is a bit tricky as the coil could just be out and not igniting the fuel resulting in not changing the engine pitch. You can swap the injectors over but honestly I'd pull them out and get them all professionally cleaned when they are out. Only costs 20 dollars a injector but some state it causes injectors to fail in the long term, which I haven't ran into personally. Second way to test injectors is to use the trusty multi-meter again. Switch it to ohms and put one prong on each of the contacts from the injectors, the value should be from 14.0ohms-15.0ohms. If one injector has a value that is not similar that is the problem injector. The third way is to use a screw driver and put it on the base of the fuel injector where it meets the intake manifold. You will hear a clicking when you put your ear on the other end of the screw driver. But again this does not test flow. If you remove your injectors make sure you put some oil on the o ring and to put it on the fuel rail first. If you put the injectors on the intake manifold and then bolt it down I can 100% bet that you'll rip o rings and have a massive fuel leak lol.

Here is an example of what the codes I got.



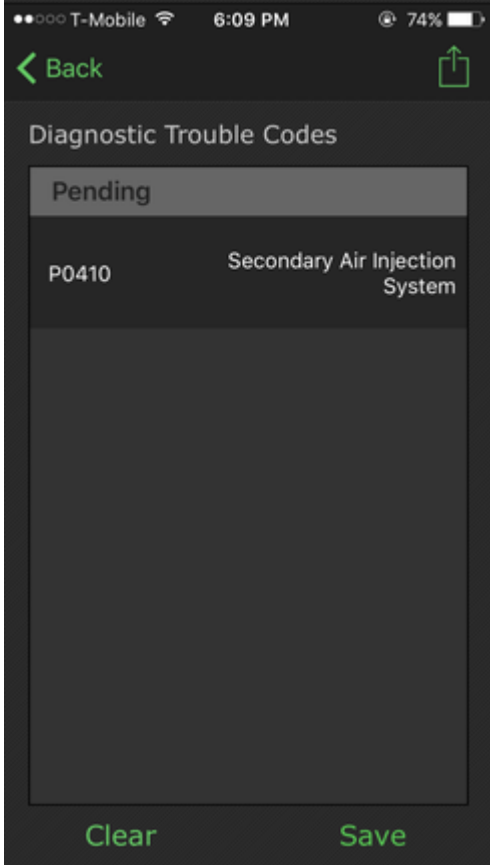
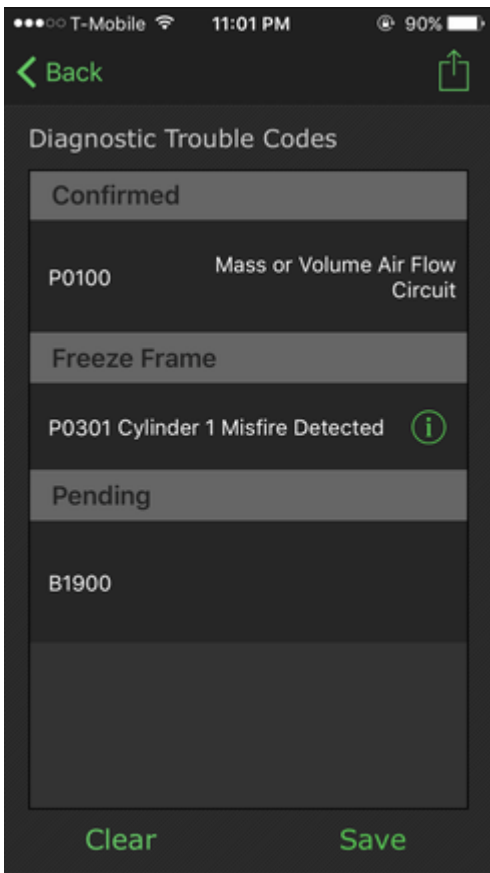
Getting a laundry list of codes does look scary but break it down and use logic. Use the methods I gave you above to test parts and you'll figure it out. My personal situation was possibly the worse case combination. It was bad two coil packs with one clogged injector and one having poor flow along with water in my gas. Because the injectors and coils in cylinder 1 and 3 were bad replacing both coil backs helped a bit but did not solve the misfire problem. Once you know your ignition to your spark plug is 100% good, move on to the injectors in that order. Coils blow more than injectors get clogged if you use quality gas so start there. At +100k miles the oem coil packs should be going out anyways.

### **Steps to go through for misfires**

- 1). Did a connection get dirty or loose? Did a vacuum line pop off?
- 2). Is the motor healthy?
- 3). Are you 100% sure you have ignition to all cylinders? (plugs and coils)
- 4). Fuel delivery Injectors clogged? Bad gas?

If you go through these three things in that order then you'll figure out whats wrong. If you went through all four things and still have issues your problem is probably a "rare" problem. It is not uncommon to have stupid codes popup when you are working on the car. such as,





If you never seen it before take a screen shot of it and save it then clear the codes. If the code comes back then you know its not a "stupid code" and to pay some attention to it. Probably just missed a connection or knocked off a vacuum line while under the hood so dont freak out, happens to everyone.

A quick tip to see if an injector is firing is to turn the car on when it is cold and then shut it off after 15-20

seconds. Immediately remove the spark plugs and see which ones are wet with gas. This way you can see which cylinder does not have a spark. DO NOT DO THIS ON A WARMED UP OR HOT ENGINE unless you want some other problems lol!