**Your Check Engine Light and Why It’s Flashing**

Modern Vehicles are now built with the latest control and monitoring system to check if all the functions of your vehicle is working well. On your dashboard is your on-board diagnostics (OBD) system that checks on the performance of your vehicle from the speed to its fuel consumption and even its ignition timing. And the part of the vehicle that needs constant monitoring is the heart of your car, your engine. And the most vital signal that is directly linked to the sensors checking on your engine is the Check Engine Light.

And when you find your Check Engine Light on, it’s doesn’t come with good news. A lit Check Engine light would often result to a possible costly problem. A Problem you wouldn’t want to have in the future. What is the Check Engine Light all about? What do you have to do to keep the lights off? This is what we are going to be discussing in this article.

**What is the Check Engine Light?**

The check engine light is formally known as the Malfunction Indicator Lamp or MIL. This is a signal light found right by the steering that tells you that you something is wrong with your engine. Sensors found in your engine are directly linked to the Check Engine Light thus causing you alarm whenever the light is flashes on.

**The Check Engine Light History**

Vehicles weren’t originally built with a Check Engine Light. The MIL only came about in 1996 when car makers decided to come together and have a consensus to build vehicle following ‘standards’ for safety. The Environmental Protection Agency brought out laws regarding eco-friendly machineries and it included vehicles. Carmakers decided to standardize a monitoring system that will comply with the agency’s rules; it resulted to the protocol called OBD-II. It is a diagnostic system that monitors the vehicle’s overall performance. The OBD-II comes with a standardized list of diagnostic trouble codes or DTC.

The Check Engine Light is simply the signal with the word ‘CHECK’ below an image of an engine; thus, getting the name ‘Check Engine Light’ dropping the more formal nomenclature, Malfunction Indicator Lamp (MIL). The MIL serves as a light of caution for plenty of reasons. The engine is composed of multiple parts and a small fault will cause the check engine light to flash on.

**What Does a Lit or Flashing Check Engine Light Mean?**

Don’t always give in to the horrible feeling you get whenever the Check Engine Light goes on. The Check Engine light may mean a minor problem. But, you also have to be ready for an incredibly catastrophic and expensive issue you might get with your vehicle.

There are two ways our check engine light lights on: the steady light and the flickering light. A steady light would often mean that your problem is not as huge as you may think it is. It may just be loose gas cap that’s causing the problem. These simple things can be done at home to save on the expense of going to your mechanic. However, it needs better understanding and study so that you won’t end up hurting your engine more than it already stands.

A flickering light means that you are in for an expensive engine fix. It may mean hundreds or even thousands of equivalent repairs because a flickering light means it’s an emergency. It usually indicates major damage or impending damage like a catalytic converter’s temperature rising to a dangerously high temperature. It may also be a result of a sever engine misfire causing unburned oxygen running to the exhaust pipe. A flickering light is a symptom that tells you to go straight to a mechanic.

Technically, your engine comes with a self-reparation mechanic. What it does is to compensate for any minor damage and tries to fix itself ‘somehow’. But once your Check engine light goes on, it’s something to really be cautious about.

**Why is My Check Engine Light On or Flashing?**

There are various parts of your engine that is monitored by numerous sensors. From minor to major problems, you need to know what is causing your Check Engine Light so that you wouldn’t have to pay for extra charges just for a simple fix that you may do on your own.

Here are the main reasons why your Check Engine Light is on:

**Oxygen Sensor.** This sensor monitors the amount of oxygen in your vehicle’s exhaust system. It measures how much of the unburned oxygen is left.

**What can it result to?** A damaged sensor will result to a significant increase in fuel consumption. It may also cause other parts of your engine to be damaged like your spark plugs and your catalytic converter.

**What Should You Do About It?** You should replace your oxygen sensor. Here’s how you do it:

1. You will find your oxygen sensor on your exhaust pipe. It looks like a spark plug sticking out of it.
2. Remove the electrical connection on the oxygen sensor. Push in the tabs with a screwdriver and pull the connection off.
3. Use a wrench to unscrew the oxygen sensor.
4. Cut off the connector and strip the wires off.
5. Solder the wires to the new oxygen sensor. For a better seal, use a shrink tape to seal the connections.
6. Screw the oxygen sensor to its tab. Screw it on clockwise and tighten it with an open-end wrench.
7. Plug the electrical connections back in.

**Gas Cap.** The gas cap is simply a cover for your fuel system. This helps maintain the pressure within the fuel tank as well. It serves as a seal to also prevent gas fuel from leaking into the atmosphere.

**What can it result to?** If your gas cap comes off, is loose or is damaged then you will lose fuel quickly through evaporation. It may also possible cause a flammable leak when exposed to fire. The fumes leaking from your gas tank may also prove to be very hazardous to the health.

**What Should You Do About It?** You should replace your gas cap. Here’s how you do it:

1. Remove the cap retention ring. You can do this by simply using a pair of pliers.
2. Slip the gas cap over the new one.
3. Attach the gas cap over your vehicle.
4. Check if this solves the problem.

**Engine Coolant Temperature Sensor (ECT).** This is also known as the master sensor. This is the sensor that checks on the temperature and the resistance that occurs in your engine. It checks if your engine is overheating, properly working or not heating at all.

**What can it result to?** A faulty ECT sensor causes black smoke emissions, an overheating engine, and even an engine that slowly warms up. It may also give the computer false readings causing other parts of your engine to over-perform or underperform causing hazardous emissions, engine misfires and pumping fuel consumption.

**What Should You Do About It?** You should replace your engine coolant temperature sensor. Here’s how you do it:

1. Remove the harness connected to the ECT sensor.
2. Carefully screw the sensor out with a wrench.
3. Clean the surrounding area where you will put a new sensor in.
4. Grab a clean ECT sensor and carefully screw it in with a wrench.
5. Secure the harness.

**Catalytic Converter.** This part of your engine converts carbon monoxide to carbon dioxide. This is the eco-friendly part of your vehicle; however, the reason why this gets damaged is due to poor maintenance.

**What can it result to?** A faulty catalytic converter would most definitely cause a dangerous emission. Having an emissions test with a damaged catalytic converter will cause you to fail the test. Poor conversion means poor engine performance and fuel economy. This will also cause your engine to overheat since carbon monoxide is a far hotter gas than carbon dioxide.

**What Should You Do About It?** You should replace your catalytic converter. Here’s how you do it:

1. Park your vehicle in a safe place. Jack up your vehicle with a hydraulic jack until your car is completely off the ground.
2. Let your exhaust cool down to avoid burning your skin.
3. Go underneath your vehicle. The catalytic converter looks like a long box surrounded by tubes leading all the way to your exhaust pipes. In other vehicles it is cylindrical in shape.
4. Remove the Oxygen sensor from the catalytic converter. Move the oxygen sensor out of the way so that it will not interfere with any of your repairs.
5. Apply penetrating oils on your bolts. This will make it easier for you to remove the nuts especially if the nuts are damaged, rusted or corroded. If you apply the oil, you must leave it on for a couple of minutes before taking out the nuts.
6. Loosen the nuts from the back end first moving towards the front. Then remove the catalytic converter. You have to put a support for your exhaust once you remove your catalytic converter.
7. Install the catalytic converter. Catalytic converters are designed differently among car brands, you may need to refer to a manual in order to install the catalytic converter properly.

**Mass Airflow Sensor.** This is a sensor that reads the amount of air that enters the engine to determine how much air is needed to make your engine function properly and efficiently.

**What can it result to?** This faulty sensorcauses your spark plugs, your Oxygen sensor and your catalytic converter to get damaged**.**

**What should you do about it?** You should replace your mass airflow sensor. Here’s how you do it:

1. The Mass Airflow Sensor is found at the back of the engine.
2. Remove the wire harness connected to the Mass airflow sensor. To do this, press the tabs, one on top and one below.
3. You can disconnect the hose attached to it. Just pull it out straight off. Then pull out the plastic tabs.
4. Remove the tabs that secure the mass airflow sensor housing.
5. The entire mass airflow sensor assembly comes out.
6. Replace the mass airflow sensor by installing the assembly in reverse order the way you took out the mass airflow sensor.

**Spark Plugs or Plug Wires.** They are as their name says they are; they spark. They are the ones that ignite your engine. It serves as the fire power that fire up the fuel mixture in your engine combustion chamber. The spark from the ignition coil through the spark plug wires to the spark plug.

**What can this result to?** A damaged spark plugs or spark plug wires may cause poor performance, reduced power and fuel economy. Usually, the main cause for their demise is when they are already worn out; if this happens, the catalytic converter gets clogged, and the ignition coils and Oxygen sensors will get damaged.

**What should you do about it?** You should replace your Spark Plug and Spark Plug Wires. Here’s how you do it:

1. The spark plugs are located at the ends of the spark plug wires. The wires are attached to different parts of your engine. They are found at the plug covers attached to them.
2. Let the engine cool down before you continue working on the replacement.
3. Remove the first spark plug. Start off by pulling the wire plug from the engine. Gently pull it out to reveal the spark plug. Make sure not to force it or else you might end up pulling the wire off the plug. Be gentle so as not to damage your plug leads. You will find yourself with a bigger and longer job if you end up yanking the wire off the plug.
4. Install the spark plugs. Start by cleaning the plugs off first. Then insert the new plugs and tighten it with a ratchet. Just snug it tight but not over-tighten the plug because you might damage the wiring and the plug itself.
5. Lubricate the plugs with an anti-seize lubricant.
6. Attach the spark plug back onto the engine in reverse order of removing them.

**Thermostat**. This is a part of the engine that comes with the Engine Coolant temperature Converter. This serves as the regulator for the temperature in the engine. It regulates the temperature by opening and closing of the flow of the coolant that maintains a desirable temperature for the engine to function well.

**What can this result to?** This results to erratic temperature changes providing a highly acidic environment for your engine. This will result to quicker chemical reactions thus resulting to faster corrosion. Once most of your engine corrodes it will fail prematurely.

 What should you do about it? You should replace your thermostat. Here’s how you do it:

1. Your thermostat is found near the top or bottom of the radiator hose joining the engine. Put a bucket underneath the area of your work.
2. Remove the clamp attached to your thermostat and pull off the hose.
3. Unbolt the nuts that hold the thermostat housing and lift the damaged thermostat of the housing.
4. Clean the surrounding area first since you would be expecting fluid leakage.
5. Lay the new gasket and drop in the new thermostat.
6. Reattach the hose and clamp it snug.
7. Whatever fluid drained off the hoses, must be replaced back into the radiator. If some of the fluid were spilled on the ground, make sure it is wiped off clean.

**Evaporative Emissions (EVAP) purge control valve and purge control solenoid.** The valve acts as the regulator to prevent hazardous vapors from you gas tank to leak into the atmosphere. The valves redirect these vapors to a charcoal canister that will be burned by the engine. The EVAP purge control solenoid also prevents vapor leakage.

**What can this result to?** Hazardous gas leakage is the main problem these EVAP valves cause when it sticks or gets damaged.

 **What should you do about it?** You should replace your EVAP valves.

**How to Reset My Check Engine Light?**

The Check Engine Light takes on a process for it to clear up. There are two main ways for the lights to go off. Firstly, always have your computer generate codes. This will tell you where the problem is exactly. After fixing the problem, it is time to reset your check engine light. There are three ways to reset your Check engine light: the modern way with a code scanner, the old manner or the lazy method.

**Resetting Your Check Engine Light With a Code Scanner**

1. Connect your scanner. Under the steering column you will find a socket to connect your scanner with the OBD-II. Turn on your ignition and turn off all of your accessories.
2. Let your scanner read the engine to view the engine’s error codes. Take note if there are any added codes.
3. Reset your Check Engine Light. Click on the Erase or Clear button to clear the trouble code. This will automatically turn off the Check Engine Light.
4. Other Scanners have other options in resetting your Check Engine Light. Instead of ‘clear’, other scanners have a ‘freeze frame’ capability that records sensor readings and erases the file in order to erase the trouble code.

**Resetting Your Check Engine Light the Traditional Way**

1. Disconnect your car batteries. Remove the negative cable first then the positive cable in order to prevent sparks from flying around you.
2. Hold your horn down to drain any electricity left on your capacitor. You may do this for at least 30 seconds. Once your engine is completely drained off, this will cause your engine to restart when the battery is charged.
3. Wait for about 15 minutes and reconnect your battery. Start with the positive cable and then the negative cable. By the time you turn on your vehicle, your Check Engine Light would have already turned off.

**Resetting Your Check Engine Light the Lazy Way**

1. Drive. All you need to do is just to continuously drive your vehicle once you have addressed the problem. Your computer and OBD system will recheck your vehicle as time passes by. Once it detects that the trouble code has been answered, then the light will turn off automatically. This will take longer though compared to the scanner method and the traditional method.
2. On and Off. Another lazy way to get rid of that Check Engine Light is to turn your car on and off three times at least. Some vehicles reset their check engine light automatically this way.

**Why is the Check Engine Light Still On even After Repair?**

There are times when you still have a flashed on Check Engine Light. At this point in time, after doing all the different procedures mentioned above, there is a tendency that your vehicle still has a problem that needs to be addressed. This then leads you to go back and check on your engine again for other problems that were missed out on your initial repair.

Grab your scanner have your engine scanned once again, once you have finished this you must address the problem again. Don’t just initially think that your Check engine Light refused to turn off. Don’t force it to turn off but double check on your engine to reduce future further risks.

Another problem may lie on computer issues on your vehicle. Have your vehicle checked by a licensed operator to make sure you are on the right track.