Can a vehicle be EMP proofed?

Joseph Parish

Many new preppers have often asked me what the best ways is to EMP proof their bug out vehicle. This is actually a difficult question to answer since most answers would hinge upon theory only. We have hardly any data available to support an answer one way or the other. However, the question has been posed, and I will do my best to provide a suitable response.

As we all are aware, nuclear bombs tend to generate EMP so that if we experience a blast which is close enough to the ground we will surely be killed. In addition, that blast will also fry every electronic circuit within its range. EMP is a line of sight type of phenomena. Now let us further divide this EMP issue down a little bit further. Let's talk about high altitude electromagnetic pulses. These are generated after the detonation of a nuclear weapon has taken place. Usually the blast takes place at an altitude outside of the Earth's atmosphere. As the pulse wave travels back towards the Earth it will interact with the atmosphere causing the pulse to be intensified. The intensified wave is referred to as the "Compton Effect". Since it is line of sight, we find that the higher above the earth the blast occurs the further will be its pulse wave reach. Also, the higher the blast that takes the greater is the likelihood that the resultant pulse wave will be intensified.

Now let's talk vehicles here. When selecting your vehicle, you should highly consider something that does not include a computer system. What this amount to is an older vehicle from my youthful days. Going back to the 60s there were hardly any cars or trucks that had computers installed. Perhaps some of the high price cars were beginning to install them in the late 60s, but it wasn't a widespread trend. Before 1965 the cars were mostly manual, and mechanical in nature with no electronics that could be potentially harmed. Most military type vehicles usually come with some form of standard EMP proofing. So, to start out with I would highly suggest that one save up for an older car with non-electronic features.

In the past while in the military I read a considerable amount of literature on the problems associated with EMP, and when a vehicle is driven through an EMP device it is usually the engine which goes while the lights and battery seem to be unaffected. Now before everyone sends me email asking why this is, I will flatly say here, and now that I do not know. From my experience in electronics, I would say it likely has to do with the integrated circuits used in the modern car. The computer is composed of hundreds of ICs waiting to be killed by the rogue EMP forces.

Someone once remarked that they believed that a computer-based vehicle would fry under the exposure of EMP signals and they are essentially correct if we are talking about the newer cars. A computer-based car's ignition system would completely be cooked, and the way they make cars these days it would be just about impossible to repair the vehicle on the road.

It would be best to stick with an older model vehicle in the mid-60s range. You would ideally want anything that has a carburetor and does not have an electronic ignition system on it. In 1974 General Motors switched to the electronic ignition along with the 1985 or so electronic fuel injection changeover. It stands to reason that if you were to purchase a vehicle say a 1978 Chevy truck you may be able to convert it to the older style breaker point distributor for a small fee. Some preppers have even eliminated the alternator fearing a possible internal regulator failure in favor of the older style generator from the early to mid-60's. It is also possible to carry spare parts for all of the electrical components used on your vehicle, and simply replace them as they are needed. One problem in this philosophy would be time. How long would you wait to replace your parts in the hopes that they too would not burn up from a delayed wave traveling to the earth?

On the other hand, I have encountered some people who believe that an EMP blast would not destroy the electronics in a car. They contend that the EMP blast is of such a short duration that it would not last long enough to do any damage except to un-protected sensitive electronic devices such as the home computer systems. He went on to say that the computers included in the average car are very well protected from such elements since they are enclosed in a metal protective box. His thoughts are that unless the EMP is close-by or the engine is running at the time of the blast nothing will happen to the cars electronic systems. He backs up his defense with the comment that a car can withstand a minor lightning strike. My reply is that EMP is not lightning. High atmosphere blasts can take out all electronics across the United States with a single explosion. Keep in mind that it is not the blast itself that is of concern here but rather the EMP which is lengthened and amplified at those heights.

Leading me on, this same gentleman replied that cars are not especially sensitive to any sort of spurious electrical charges or discharges. Now computer chips on the other hand with their millions of tiny transistors carefully stuffed in a small space hardly larger than your thumbnail are likely to be fry with the least amount of generated static electricity.

Now here is an interesting theory to consider. When one thinks about shielding their car from EMP there has been studies that state that there is in all likelihood the newer model vehicles with their additional shielding used for all the added electronics may just have enough metal to protect it.

In concluding this article, the best advice that I can give my reader is to make yourself a large pot of coffee and sit in front of your computer and participate in some serious research on EMP. There are several books available on the internet that would help to fill the knowledge gap on EMP. EMP blasts will affect everyone in the country so I advise each and every person to become familiar with them. Either get your car modified or obtain an older model.