

MSD's Tech Bulletins are designed to give you a more in-depth understanding of the ignition system and its components. If you have any other questions about the subject or MSD products you can contact our Customer Support Department at (915) 855-7123 or email your questions to msdtech@msdignition.com.

Radio Frequency Interference

Radio Frequency Interference (RFI) can range from an annoying buzz through your stereo speakers to affecting the rev limiting action of your ignition. The worst part of all of this is the fact that you can't see the problem! This makes it even more frustrating but there are steps you can take to isolate the problem.

First you need to isolate the RFI. If the noise appeared after installing an MSD Ignition, bypass the ignition. If the interference disappears when the MSD is bypassed, then it has added a factor that directly, or indirectly causes the interference.

Due to the increased output of the MSD, the breakdown of adequate components like the spark plug wires, cap and rotor, spark plugs or related components may be brought into the light. These ignition components should be inspected and replaced if wear is present. Also check the following:

- The chassis and engine must have a common ground. A ground strap from the frame to the engine is important. All radio, CD players, CB systems and other accessories must have a common ground connection to the chassis as well.
- The Heavy Black wire of the MSD must be grounded to the battery negative terminal, the chassis or the engine.
- Try to mount the MSD Ignition away from the vehicle's antenna.
- The spark plug wires must be spiral or helically wound wires and in good condition. Solid core wires cannot be used due to their inability to suppress electrical noise. Helically wound wires are designed to suppress electrical noise and should always be used.

Identifying and Preventing Radio Noise

Radio noise can be broken down into two distinct categories; Radio Frequency and Supply Line.

Radio Frequency noise is generated by the secondary side of the ignition (coil wires, cap, rotor, spark plug wires). This noise is radiated into the air and picked up by the antenna. This noise will be noticeable on the AM band and will be louder between stations. The FM band may also be affected slightly. If you play a tape or CD, the noise will go away. Maintaining the secondary side of the ignition system is important in eliminating radio frequency noise.

MSD offers a dielectric grease called Spark Guard. It is available as PN 8804. This grease reduces the chances of voltage leaks which can cause radio noise. Plus, it helps with plug boot installation and removal while preventing any chance of moisture build up inside the boot.



Figure 1 - MSD Spark Guard.

Supply Line noise is caused by varying loads of the vehicle's supply voltage. These variances are amplified through the radio's 12 volt supply wire and are heard through the speakers. Supply line noise will be audible on AM and FM as well as during tapes or CDs. For Supply Line noise, the MSD Noise Capacitor, PN 8830, will help.

The Noise Capacitor will act like a filter on the heavy power supply wires of the MSD. The MSD will draw its power through the filter keeping all of the other accessories separate which prevents supply line noise. A side benefit is that the Capacitor will protect the MSD Ignition from voltage spikes or current surges.



Figure 2 - MSD Noise Filter PN 8830.

Installing the Noise Filter Capacitor

1. For best results, it is recommended to mount the Capacitor as close as possible to the MSD Ignition Control. Find a secure mounting point and mark the location of the mounting holes. Use a 3/16" bit to drill the holes and use the supplied screws to mount the Capacitor.
2. It is recommended to cut the MSD wires and install high quality Ring Lug terminals. The MSD power wires are 12-gauge.
3. Attach the Red wires to the positive terminal and the Black wires to the negative terminal as shown in Figure 3.

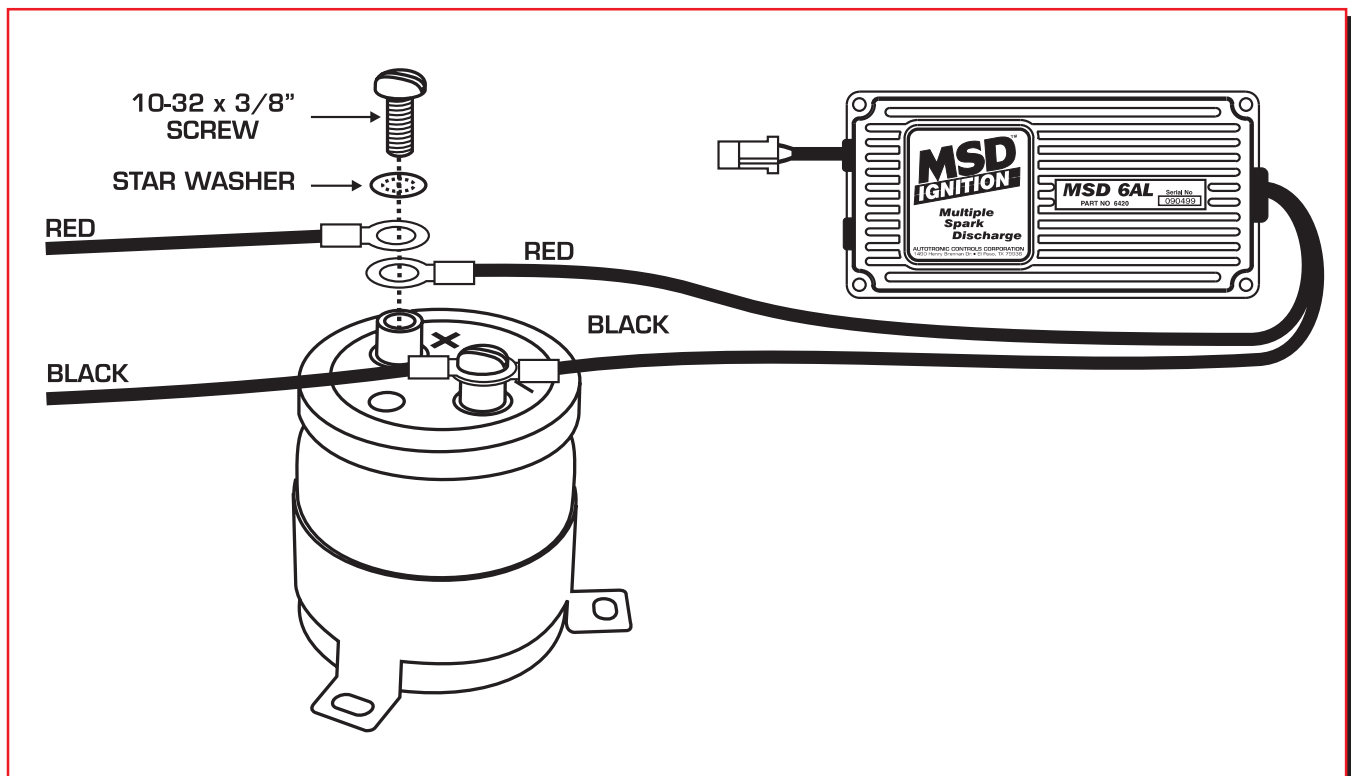


Figure 3 - Installing the MSD Noise Filter Capacitor PN 8830