

spot on the battery. If you find corroded terminals, they should be taken apart, cleaned, then reassembled. A bad connection between the battery and the cables will prevent the battery from getting a full charge. This will cause hard starting, and possible damage to the alternator. After correcting any problems, check the voltage again. If it is still low, (11-12 volt range for a 12-volt battery) it will need additional charging. If your engine has a charging system, start the engine and watch the meter (*be sure the leads are not near any moving parts and the meter is secured!*). When the engine speed is increased, the voltage should increase to 14-16 volts, depending on your charging system. If there is no increase in voltage, the charging system isn't working. In some cases, there will be a slight increase, but it won't be enough to fully charge the battery. This could mean that you have a bad regulator or open diodes in an alternator, or a dirty commutator or bad brushes in a generator. Alternators also have brushes or slip rings that can wear out.

This is just one example of what a meter can show you. Perhaps some of you readers can provide THE SETOFF with some other examples of how you use your meter for the track car hobby.

TIPS FOR OWNERS OF 6-VOLT ELECTRICAL SYSTEMS

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Western Maryland M-9, No. 67

As a railcar restoration and preservation enthusiast, I am always a little distressed to read how someone has installed a modern 70-amp alternator on a Fairmont M-9 or an M-19. These earlier cars never had these modern devices as original equipment, but instead usually had 6-volt generators and associated 6-volt hardware.

The Autolite 6-volt generator installation bulletin first appeared in 1944, although some larger cars such as the Fairmont A-3 had generators earlier. The alternator installation bulletin is dated 1969 and it is known that even into the 1960's these Fairmont cars still had 6-volt systems. If you desire to restore your car to the *original* type electrical system, then these dates can be used as a guideline.

The most common reason that many people switch to a 12-volt system is that 6-volt lights and accessories are sometimes hard to find. For

headlamps, 5 1/2" diameter headlight bulbs that fit Fairmont headlamp shells are often found also on older off-the-road motorcycles with 6-volt systems. These bulbs can likely be found at a motorcycle parts shop. They can withstand vibration and have a wide enough beam spread to "see" out to the side as well as ahead. They are available in 35- or 40-watt versions. They usually have a low beam and high beam capability; the low beam is especially helpful going through switches and grade crossings and when following another track car. The 6-volt lamps from Fairmont are also available and are available with either a flood or spot beam pattern. The motorcycle lamps are a good compromise between the two.

For larger cars, the big 7-inch diameter dual-beam headlight bulb, like the ones that Volkswagen used to use, will fit into old street motorcycle shells. I used a shell from a Honda 450 on one end of our ex Lehigh & Hudson River R.R. Fairmont A-3 and a shell of unknown origin on the other end. Joel Williams fabricated an authentic looking bracket for each and a forward-reverse switch provides power to one or the other.

Small 4 1/2" diameter lights for backing up can be found at tractor dealers or NAPA auto parts stores. They usually have the correct looking round metal shells available also. In this small size though, only the flood types seem to be available, but this is generally ok for low-speed backup moves. For tail lights, the small red "beehive" lights are authentic looking. These come with #1073 or #1157 12-volt bulbs, but you can replace them with a #1129 six-volt bulb from an auto parts store. If you wish to use a dual-filament stop and tail light assembly, then use the #1154 6-volt bulb.

Small, flat clearance lights, sometimes used as tail lights typically come with one or two wedge-base bulbs. These bulbs can be replaced with a #159, #259 or #555 bulb. These are three different brightness levels, and are usually available through electronics supply stores.

Other accessories are available in 6 volt also. Horns are available from Fairmont, and J.C. Whitney (an auto parts supplier that has 6-volt items for many pre-1955 cars). Some of you like the rotating beacons for your cars. They really weren't in vogue during the era of the earlier built cars, although they are sometimes helpful at crossings. A 6-volt version is available from McMaster-Carr, a nationwide industrial supply company. Radios are almost always 12 volt, but these should probably be operated from a separate battery anyway. I'll cover 6-volt generator and battery maintenance in a later article.