



Airstream Tech Help Group

Howard Lefkowitz, #6077
Chairman
Chuck Helwig, #2868
Safety Officer
Phil Broomall, #2654
Jim Cooper, #1967
Charlie Burke, #5631

This group, part of the WBCCI Technical Standing Committee, has been established to help the membership with any of their technical RV problems. Examples of questions that might be of interest to many members will be published in the *Blue Beret*. We will respond directly to you, in response to your email or letter describing a problem you are having. We hope you will find this new service of value in the care and feeding of your RV. You may contact us as follows: techhelp@wbcci.org or by mail: Howard Lefkowitz, 11508 Colt Terrace, Silver Spring, MD 20902

THE CARE AND FEEDING OF YOUR RV

by

Howard Lefkowitz, WBCCI Tech Committee

techhelp@wbcci.org, wa3vez@comcast.net

Copyright © 2014 by Howard Lefkowitz. All rights reserved. Reproduction of this work, in whole or in part, electronic or otherwise, without the written permission of the author is prohibited.

Fuses

Obtain a set of various size fuses for your RV and your tow or towed vehicle. Check your manuals and find the physical location of the boxes. There are a number of different fuse types as well as sizes so be sure you get the correct ones. Do not forget any extra electronics or appliances you have added to the vehicles. Do you know where all of your fuses are? What about the in-line fuse holders behind the dashboard? This is particularly important for motorhomes where you will have panels installed by both Airstream and the chassis builder. I have fixed many failures by discovering a hidden panel with the blown fuse. Find all of the panels before you have a failure. Trying to troubleshoot a problem without knowing the fuse locations and circuit being protected, can more than double or triple the troubleshooting time and repair costs. Provide this information to the mechanic even if you are not the service tech yourself. My current motorhome has more than ten major panels and at least another 10 inline or circuit board fuse holders.

You always need at least two of each fuse; the second one is needed after you

install the first one and it blows out again, which proves that something is shorted or defective and the fuse is doing its job.

Never replace a fuse with a higher current rated unit unless you know what the circuit does and the operating current being drawn through it.

A fuse is not there to protect the light bulb, circuit board, appliance or computer. Its purpose is to protect the wiring. You can always get a new bulb or board but replacing a burnt out wire or causing a fire in a wall or subfloor can really be expensive. On very rare occasions, a design engineer may not have considered the wide environmental range our RV's have to live in. In this case, a change in fuse size might be needed. I have run into this only 3 or 4 times in over 50 years.

So do not increase any fuse size; bigger is not always better and sometimes it can lead to disaster.

A handy item to carry is a set of ATC automotive type fuses that are actually circuit breakers. These will open up if there is excessive current flow and then heal once the current goes below the fuse rating. These are handy for troubleshooting and determining that you

have solved the problem. I carry a 15, 20 and 30 amp set. Once the problem is resolved and the breaker no longer opens, you can replace it with the properly rated fuse. Check Reference (16) for a source of these self-healing circuit breakers. Many trailers use self-healing 12 volt circuit breakers and when there is an overcurrent condition they seem to be buzzing which usually means you have exceeded the current rating and they are just turning on and off.

Led replacements are now available, at reasonable costs, for your interior and exterior lighting needs. These are particularly efficient for replacing incandescent lights. Super Bright Led's (Reference 14) also provides a complete series of automotive replacement led's which have the standard auto bulb bases for easily converting running lights, tail lights, turn signals etc. They are also available for florescent fixtures and can be wired into your existing fixtures in place of the bulbs. Led replacements will considerably reduce current draw wherever they are used thus extending battery life when dry camping.

continued on page 22

The Care and Feeding of Your RV

continued from page 21

Hinges, Bearings, Steps

Every year I recommend cleaning all the external compartment hinges on the RV and then lubricating them. Use a small amount of WD-40 for the cleaner and then, dry the hinge with paper towels. Then use a small amount of Silicon spray on all of the metal surfaces that move. You should include the moving surfaces and joints on all of your awnings. Check the manufacturers' recommendations on slide outs and follow them. Failure to do this can result in troubles on the road and major expenditures. Clean not only looks better but it also works better, for a much longer time. These surfaces should be checked and cleaned every year as part of de-winterizing. Do not forget to clean the awning material (awning manual has all of the instructions). Use a tube of graphite for all of your locks.

For the RV steps, you should have a spray can of grease. Kwikol makes a good product for the steps. This is sprayed on every bearing and moving joint. This is particularly true for electric steps but do not neglect the mechanical steps. If there is a buildup of dirt and grease, then clean the joint first with WD-40, wipe off any excess, let it dry and then apply the lubricant. Corrosion Pro Lubrimatic is a water resistant spray grease that can be obtained at auto and marine supply stores that also works well.

You should also have a spray can of PB Blaster, which is used to free up rusted bolts or fittings. **This should be used before you try to loosen a rusted bolt.** Do not ruin the bolt or screw head first then try to dissolve the rust. Be patient; use the blaster on a rusted fitting before you get a bigger wrench. If it still will not budge, you may need several applications before the fitting will loosen. See your Auto and Marine supply stores for this product.

Electronic Boards

Another connection area that can cause all kinds of problems is the tiny Molex plugs on your circuit boards. All of your gas appliances that have self-lighting capability have circuit boards to control

this function. Some of these are exposed to the elements and pick up dirt as well as corrosion. You cannot use WD-40 to clean these connections since it will leave a film that attracts dirt and grease. You should have a spray can of Electronic Circuit Cleaner that leaves no residue after use. It can also be used on the entire board to remove dirt and prevent short circuits. Most of the appliance vendors have gone to potted circuit boards when they are exposed to the elements so this is particularly important on earlier RV's. On occasion, an appliance will be intermittent, just start, and then stop working. Check the connections to the circuit boards. Carefully remove them, spray with contact cleaner plug in and out a few times and then remake the connection. I have fixed dozens of problems with this simple procedure.

Special Lubricant Needs

Silicon Spray Lubricant
WD-40 Degreaser
Corrosion Pro Lubrimatic spray
grease or Kwikol step lube
PB Blaster rust remover
Electronic Circuit Cleaner

Batteries & Chargers

Completely check out both your engine start and coach batteries before you are ready for the new camping year. A battery failure on the road will not only be costly but you may have to buy an off brand with no effective warranty. For this reason, I usually recommend Walmart batteries since they have stores all over the US and Canada. If your batteries are using water every week, they are going bad. Do not buy sealed lead acid batteries that never require water for your coach batteries. These have one-way valves to release the pressure when the battery overheats so that it does not blow up. The water vapor escapes through this valve and since the battery is sealed it cannot be replaced. Your coach batteries go through many deep cycles requiring many recharges during their useful life.

Your engine batteries, however, do not and thus can be the sealed type. Lead acid batteries must be mounted externally because the gases they give off are toxic. The only truly sealed batteries are either absorbed glass mat (AGM) or Gel Cell. These do not give off gases and can be mounted anywhere in the rig. They are excellent, long life units; however, they are quite expensive. I would recommend Lifeline AGM, which for about 90 amp hours (size 27) cost about \$180. A high quality lead acid battery will run about \$75 which means you can completely replace the batteries with a second set for less than one AGM set. Unless you are going to mount the batteries inside the rig, it is more cost efficient to stay with lead acid batteries.

One key consideration is the charger (converter). Most of the trailers have poor chargers that do not maximize the useful life of the batteries. The best chargers are computer controlled and can handle a dead battery as well as allowing AC power to be on all the time without hurting the batteries. These usually have three charge modes including bulk, absorption and float that are automatically selected by the computer control circuits. These chargers will insure that you get maximum life from your batteries. For the motorhome owners most of the modern diesel rigs have excellent computer controlled charge systems included with the inverter. However, you should remember that for some gas motorhome models the engine start battery is not charged when you are on AC shore power. If this is the case, you should obtain a separate inexpensive charger, which can be used when in a campground. Most of the classic motorhomes have very poor charging systems and do not provide an engine charge capability. The highest quality chargers will also incorporate a sensor that modifies the charge cycle based upon the batteries' actual temperature.

Continued next month....