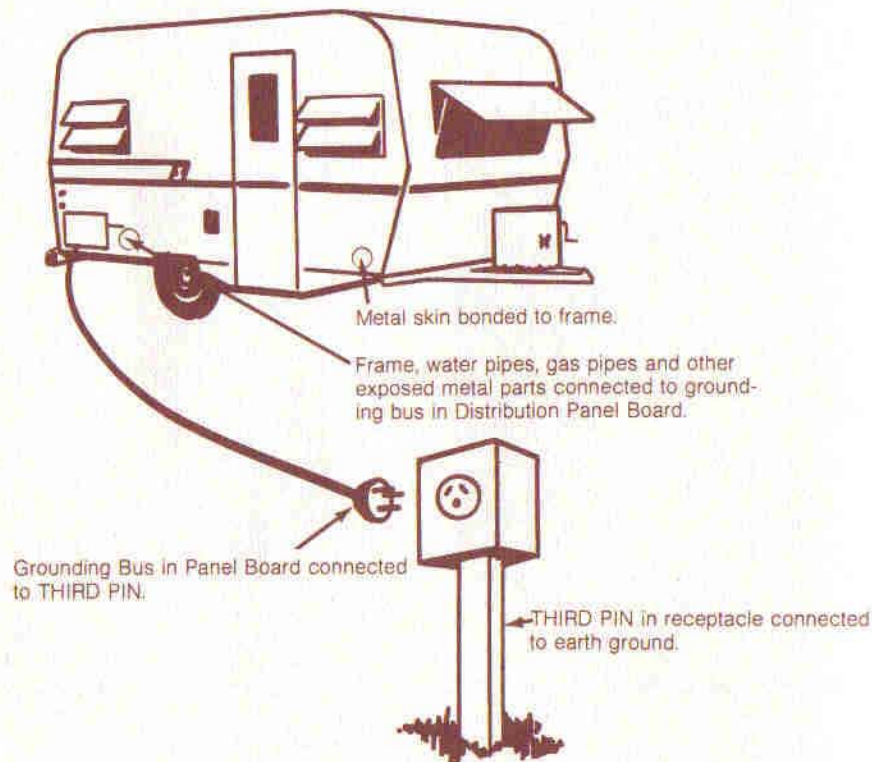


recreational vehicle to earth ground so there can be no voltage difference between them to cause a shock.

The Standard for Recreational Vehicles, ANSI A119.2, is very explicit in its requirements to assure the connection of "all exposed noncurrent-carrying metal parts that may become energized" to the grounding conductor—which is thence connected to the "third pin." The receptacle for the third pin then must be connected to earth ground in accordance with the Standard for Recreational Vehicle Parks, ANSI A119.4.



According to these standards:

1. The metal skin of an RV must be bonded to the metal frame.
2. The frame, water pipes, gas pipes and all other exposed metal parts must be connected to the grounding bus in the distribution panelboard.
3. The grounding bus is then connected through the green wire in the power supply cord to the THIRD PIN.
4. The THIRD PIN in the park receptacle is then connected to earth ground.

With everything connected properly in this grounding circuit the vehicle is shock safe—but it could become very unsafe if the continuity described above is not maintained. Let us examine several possibilities. First of all it should be explained that there is a difference between "RV wiring" and "house wiring" in that the "neutral" current carrying conductor in the house is grounded at the distribution panelboard. But not so in the RV and there is a good reason—and that reason is the high probability that the RV will be plugged into a park receptacle backwards, reversing the polarity of the "hot" and "neutral" current carrying conductors, thus making the RV skin hot and a real shock hazard.

There are several ways this could happen, all of which would have a 50% chance of making a real killer out of your RV. Perhaps the most common way is through the use of a two-conductor extension cord to connect the RV to the park receptacle. A second way would be by using a "cheater plug" from which the third pin had been removed and last, but probably not the only other way, would be from a 15 amp plug put on the RV power supply cord as a replacement for the 30 amp plug which was cut off (because it wouldn't fit any park receptacle).

Even though the neutral conductor is not grounded in a recreational vehicle when it is wired at the factory, it could inadvertently be grounded later on through some faulty appliance or through a puncture in the insulation. Or it may be the hot conductor that shorts to some metal part of the RV. In either case, without the grounding circuit intact you may never know the difference until you have touched the outside of the vehicle while standing on the damp ground.

With the grounding circuit complete, with the third pin properly connected at the park receptacle, any accidental shorting of a hot circuit conductor in the RV will blow the fuse in the park circuit giving a warning that something is wrong. If the neutral circuit in the RV should short to the metal skin or frame accidentally nothing would happen and it would not be dangerous—unless the polarity was reversed in some manner as described earlier.

In either case, having the grounding circuit complete through the "third pin" to earth ground in the park wiring system would keep the RV safe from shock. When plugging into a receptacle with no provision for the third pin, use an adapter with a pigtail that can be connected to the receptacle box.

So if you find you must use a cheater adapter or an extension cord, or if you must make any changes in the power supply wiring, give special care to see that the third pin has a chance to make your recreational vehicle safe from shock.