There are 4 receptacle configurations that you will run into in the campgrounds. From the ANSI/NEMA specification WD 6-1997:

*This article was copied from a PUBLIC posting on the **Open Road Forum** by Mel Madsen (MEML) on June 2, 2002. Excellent explanation of a typical Campground Electric Service. **Link***

15 Amp - the common duplex receptacle that you have at home and the plugs on the standard extension cords, etc. These are ANSI/NEMA 5-15R and 5-15P and are rated for 125Volts/15Amps. The National Electrical code allows the duplex receptacle to be connected to a 20 Amp breaker even though each receptacle and the plug that goes into it are only rated for 15 Amps; and in your home, several duplex receptacles may be connected to the same breaker (often all the outlets in a room will go to one breaker).

20 Amp - becoming more common in the GFCI protected circuits. The receptacles look much like the 15 Amp ones, except one socket on the receptacle looks like a T laid on its side. These are ANSI/NEMA 5-20R. The 20 Amp plug is an ANSI/NEMA 5-20P and looks much like the common 15 Amp plug, but has one blade rotated 90 degrees. These are rated for 125Volts/20Amps. The 15 Amp and the 20 Amp plugs will plug into the receptacle. Again, these can be connected to a 20 Amp breaker.

30 Amp - obviously designed for RV's. This is the common 30 amp RV connector with one half round pin and two large blades that are angled. The receptacle is an ANSI/NEMA TT-30R, and the plug is an ANSI/NEMA TT-30P. These are rated for 120Volts/30Amps (note that the NEMA rating is not 125 Volts on this configuration - interesting). The TT is for Travel Trailer as it is listed that way in the "Description" column in the NEMA table - I guess that's because there were a lot more travel trailers than motorhomes when this plug was put into use. I have seen these labeled "RV" instead of "TT" in catalogs and on the store shelves. These can be connected to a 30 Amp breaker.

50 Amp - the common four pin configuration used for larger RV's. The receptacles are ANSI/NEMA 14-50R and the plugs are ANSI/NEMA 14-50P. The half round pin is ground, the blade directly across from it is Neutral, and the other two blades each have 120 Volts. If wired per the National Electrical Code, the two 120 Volt feeds are of opposite phases so that you get 240 Volts when you read across them and 120 Volts between each of them and neutral or ground. Each of the two power sockets can be wired to a 50 Amp breaker - for 240Volts, the two breakers are "ganged" (the handles are connected together) or are of a special design with only a single handle. However, some campgrounds may only have 30 or 40 Amp breakers on the power feeds to these receptacles.

A disclaimer: the National Electrical Code is from the National Fire Protection Association and is not a law. However, almost all community building codes incorporate it into their code. Many amend it in some way. So not every campground - or RV - in the country is wired to the NEC. What follows is based on the NEC, and what I have found in almost every campground I've been in.

New electrical installations will have the 15 or 20 and 30 Amp receptacles with GFCI - either built into the outlet or in the breaker. The 50 Amp receptacle will not have GFCI (but I don't doubt that it's in the future). The requirement for GFCI on outdoor outlets became part of the National Electric Code in the early 70's. So any campgrounds that were built after that time, or had the electrical system upgraded, should have GFCI on the 15 Amp receptacles. The requirement for the 30 Amp outlets to be on GFCI is more recent, but I don't know when it started.

Some comments about items in this thread and some knowledge I've gained from this forum:

If the "cheater" will work, you can bet that the campground wiring is pretty old or not done to the National Electric Code.

From my own experience, and from statements in other threads, you can expect to find outlets incorrectly wired or with a wire not connected sometime in your camping experience. You may also find incorrect receptacles. I've seen receptacles that look a lot like the 30 Amp RV receptacle installed, but one or more of the sockets are not correct and the RV plug won't go in.

From another thread a couple of months ago, it became apparent that many RV's with the 50 Amp plug and cord have a power panel that does not allow for a 240 Volt circuit to be connected - it has two 120 Volt circuits available to the breakers in the panel, but no way to connect a "ganged" breaker or a 240 Volt application. (A forum member had to have an additional panel wired in so he could put in a 240 Volt dryer.) I suspect there are a number of variations on the power panels and main breakers that come in the wide array of RV's that have been manufactured over the years.

If you have a 50 Amp cable on your RV, you should be checking the receptacle before you plug in with a circuit tester or voltmeter. (Or install a power monitor system in your RV that will do it for you.) If the neutral wire is not connected to the receptacle and you plug in, something in your RV will probably "smoke" as, without going into the electrical details, it'll have about 240 Volts applied. Other forum members have been victims; I've seen 3 or 4 50 Amp outlets where the neutral wire had come loose and was not making contact and I am sure that a previous RV'er left with a problem. It is also wise to throw the breaker in the campground panel before you plug in. That way you can't get the hot pins connected before the neutral is connected, and it don't take long for electricity to do it's damage.

Outlet testing. You can buy an outlet tester that has lights to indicate that the outlet wiring is normal or has problems for less that $5 at a hardware or building supply store. (Or you can buy a voltmeter and learn use it if you don't already know.) You can also buy much more expensive circuit testing devices that do the testing and measure the voltage and/or frequency. But all of them I've seen plug into the standard 15 Amp receptacle. So add a 30 Amp male to 15 Amp female adapter available at RV stores for less than $5 and you can plug the circuit tester into the adapter, and the adapter into the 30 Amp receptacle and check the 30 Amp receptacle. Add the 50 Amp male to 30 Amp female adapter, available at RV stores for $15 to $20, plug the 30 Amp adapter into it, the tester into the 30 Amp adapter and you can test 3 of the 4 wires in the 50 Amp receptacle - ground, neutral and one of the two power leads. Neutral is the critical one

for an RV connecting to a 50 Amp receptacle. If the second power lead has no power, some thing(s) in the RV - like one air conditioner - won't work; but if neutral is missing, some thing(s) in the RV will probably need to be repaired or replaced.

GFCI - My simple explanation. The GFCI circuit has electronics in it that measures and compares the currents in the hot and neutral leads. If they are not equal, the circuit trips and removes power. That usually occurs when some power flowing through either the hot or neutral lead finds a path to ground. The tripping action is almost instantaneous and occurs with an extremely small amount of power difference - a few thousandths of an amp.

If I've got anything in this that is not correct, I'm sure some of the other members will point it out and I'll make a correction.

by Mel Madsen

This is a typical Campground Service. Note the width of the breakers. Number 1 is double wide for a 120/240 volt 50amp service. The (#2) 30amp and (#3) 20amp are 120 volt with Single Pole Breakers.

Click on photo to enlarge.