## **RV Park or Home 20 Amp Service**

This is an informational document on plugging your RV's 30/50 amp service plug into a 15/20 amp receptacle. Many campgrounds, especially a lot of state parks up north, offer only (so called) 20 Amp Service. And, many of us RV owners often connect our RV into a so called 20 receptacle at a friend or family member's house, or even at our own home.

The problem is, almost all of these so-called 20 Amp Service receptacles are not rated for 20 amps, only 15 amps. And even if there were some 20 Amp Service receptacles installed at these places, the RV industry does not make a **true** 30 Amp to 20 Amp adapter. They only make 30 Amp to 15 Amp adapters. The result is overheating of the 15 amp receptacles and a severe drop in voltage across the receptacle connection. To explain this problem, see the images below.



The image on the left is a 15 amp receptacle and the image on the right is a 20 amp receptacle. The difference is the T-shaped neutral prong on the 20 amp that is made to handle more amperage because of the additional contact surface of that prong. The problem with the 15 amp receptacle is that almost all of them are on a circuit with a 20 amp breaker. The results are that you can draw 20 amps while plugged into them, but the contacts will overheat quickly. If you will look at some of those in use at various campgrounds, you will see the surface around the contacts is usually blackened or burnt looking. In some cases the



actual receptacle may even be cracked from over heating. Already blackened contacts add to the problem, because the contact connectivity characteristics are additionally diminished.



The adapter on the left is the so-called 30 to 20 amp adapter sold at most RV parts places. But, if you look, there is no T prong on that adapter. It is really a 30 to 15 amp adapter and as such should be subjected to no more that 15 amps. If you look at the adapter on the right, it has two sets of 15 amp prongs and plugs into both of the 15 amp receptacles in the power box. It is truly a 30 amp to 30 amp adapter that is made to plug into the 15 amp receptacles. The results are, you can draw a full 20 amps



(as much as the 20 amp breaker will allow) without overheating the prongs or losing precious volts. If you connect to a 20 amp receptacle at home or while camping, highly recommend you get one of the adapters shown on the right. They are listed as a Power Maximiser No 30-15 Adapter. You can find them at http://www.rvplus.com/innovativemaketing-inc-power-maximiser-30-15-adapter-pm1.html or

http://www.rvcapitalservicecenter.com/Store/Products/301-power-maximiser-3015adapter.aspx.

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