

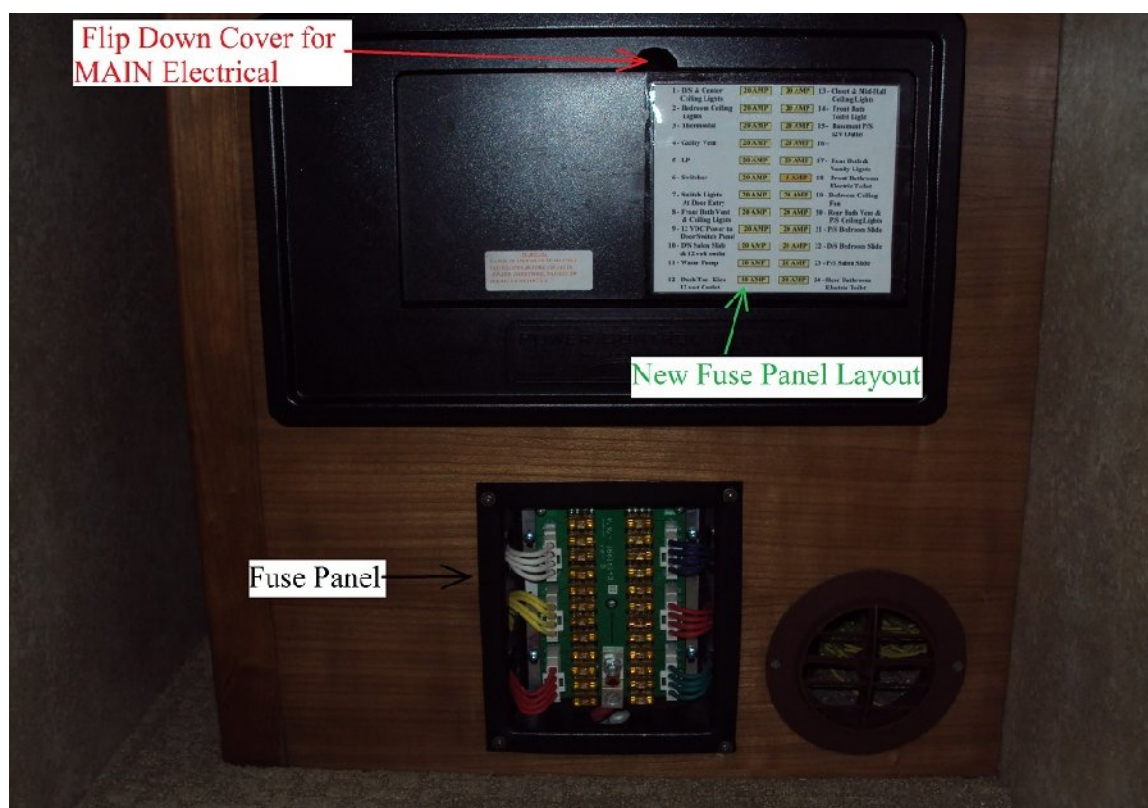


## 2010 43QGP Allegro Bus

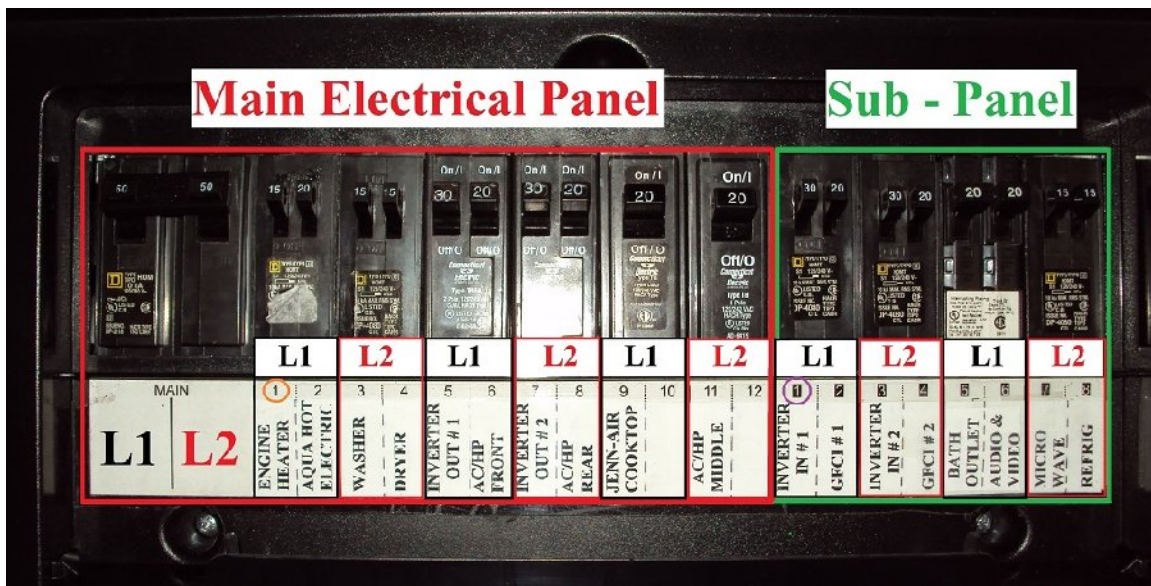
3/31/2011

**FIRST – FYI - rev 2** - The subject of the coach's Electrical Panel and how it operates often becomes a topic on the forum. I decided to devote some time and effort into shining light on this subject, deciding to use our 2010 Allegro Bus 43QGP Electrical (Circuit Breaker) Panel as the basis for the information, this file was revised to reflect the latest modifications.

A few new coach owners have been unable to locate their AC Electrical panel. The below photo shows the electrical and fuse panel's located in the passenger side corner of our coach's rear closet.



Many of Tiffin's newer model diesel coaches have the AC electrical panel and the DC fuse panels located either under the adsorption refrigerator (Norcold or Dometic) or near the rear closet. To make labeling the electrical and fuse panels easier to understand the included photos were modified to better explain the function of the individual circuit breakers or fuses.



L1, L2 labels were added to the two 50 Amp MAIN circuit breakers and also to the individual circuit breakers for easier explanation of how the panel was built. Colored boxes were used to denote which circuit breakers are part of the **MAIN** Panel and which circuit breakers are part of the **Sub-Panel**.

The **MAIN PANEL** contains the following circuit breakers, denoted by positions labeled 1 thru 12. An orange circle was placed around the number ① position in the above photo to aid in locating the position numbers.

L1 -	50 Amp	MAIN	(120 VAC - IN)
L2 -	50 Amp	MAIN	(120 VAC - IN)
1 L1-	15 Amp	Engine Heater	(120 VAC - OUT)
2 L1-	20 Amp	Aqua-hot	(120 VAC - OUT)
3 L2 -	15 Amp	Washer	(120 VAC - OUT)
4 L2 -	15 Amp	Dryer	(120 VAC - OUT)
5 L1 -	30 Amp	Inverter # 1	(120 VAC - OUT)
6 L1 -	20 Amp	AC – Front	(120 VAC – OUT)
7 L2 -	30 Amp	Inverter # 2	(120 VAC – OUT)
8 L2 -	20 Amp	AC – Rear	(120 VAC – OUT)
9 L1 -	20 Amp	Jen–Air Cook-top	(120 VAC – OUT)
10 L1 -		Blank Unused Position	
11 L2 -	20 Amp	AC – Mid	(120 VAC – OUT)
12 L2 -		Blank Unused Position	

The above 12 circuit breakers are the **ONLY** circuit breakers which are **ELECTRICALLY** part of the **MAIN PANEL**.

Quick addition of total possible load Amps on circuit **L1** equals **105 Amps** which is more than double the rated load of the **L1 50 Amp MAIN** Circuit Breaker.

Again quick addition of total possible load Amps on circuit **L2** equals **100 Amps** which is again double the rated load on the **L2 50 Amp MAIN** Circuit Breaker,

As you can see it is impossible to be **USING** all of your electrical devices connected to the **MAIN** panel at the same time, doing so will cause circuit breakers to trip in the **MAIN** Circuit Breaker Panel.

The **GREEN** outlined box contains circuit breakers connected to the **SUB ELECTRICAL PANEL**.

Before moving on to the Sub-Panel we need to understand the two 30 Amp circuit breakers located in the MAIN panel in position 5 and position 7 are connected to the Magnum 2812 Inverter. The Magnum Inverter uses part of the **L1** circuit breakers 30 Amps (position 1) to charge the HOUSE batteries sending the balance of the 30 Amps back to the electrical panels Sub-Panel at position 1. At the same time the Magnum inverter routes the **L2** circuit breakers 30 Amps back to the Sub-Panel position 3.

Sub-Panel position 1 feeds power to the other **L1** circuit breakers located in Sub-Panel positions 2, 5 and 6. Sub-Panel position 3 feeds power to the other **L2** circuit breakers located in Sub-Panel positions 4, 7 and 8.

The 8 right side circuit breakers (outlined in **GREEN** in the photograph) are **ELECTRICALLY** part of the **SUB - PANEL**.

The **SUB – PANEL** gets its incoming power for circuit **L1** from,

The **L1** 30 Amp **INVERTER # 1** position 5 circuit breaker in the **MAIN PANEL**

The **SUB – PANEL** gets its incoming power for circuit **L2** from,

The **L2** 30 Amp **INVERTER # 2** position 7 circuit breaker in the **MAIN PANEL**

The SUB panel circuit breaker positions are labeled 1 thru 8. A purple circle was placed around the number 1 position to make locating the Sub-Panel position numbers easier.

1	L1 -	30 Amp	Inverter # 1	(120 VAC – IN)
2	L1 -	20 Amp	GFCI # 1	(120 VAC – OUT)
3	L2 -	30 Amp	Inverter# 2	(120 VAC – IN)
4	L2 -	20 Amp	GFCI # 2	(120 VAC – OUT)
5	L1 -	20 Amp	Bath Outlet	(120 VAC – OUT)
6	L1 -	20 Amp	Entertainment	(120 VAC – OUT)
7	L2 -	15 Amp	Microwave	(120 VAC – OUT)
8	L2 -	15 AMP	Refrigerator	(120 VAC – OUT)

Adding the total possible L1 load amps equals 60 Amps which is over the rated load of the L1 - 30 Amp Inverter #1 Circuit Breaker.

Again quick addition of the total L2 load amps equals 50 Amps which again is over the rated load of the L2 - 30 Amp Inverter # 2 Circuit Breaker.

As you can see it is again impossible to be USING all of your electrical devices at the same time in the SUB – PANEL for the same reason it was not possible in the MAIN PANEL.

**Too much current draw will trip circuit breakers in your coach's electrical panel, on the generator or maybe at the campground's power pedestal.**

IMO, every coach owner needs to experiment with their electrical appliances current loads in order to determine which and how many devices may be used at the same time. That experiment should be based on electrical load testing with a 30 Amp, 50 Amp shore power connection and also tested while running the coach generator.

A 30 Amp Shore Power connection will provide a TOTAL of 30 Amps for the entire coach, that 30 Amps will be divided between the two power legs.

The Generator's power will be based on the size of the generator, providing somewhere between 62 Amps and 83 Amps for MOST Tiffin coach's, the power is divided between the two power legs.

A 50 Amp Shore Power connection will provide a TOTAL of 100 Amps for the entire coach, divided between the two power legs.