

## 81-2 – FYI – AC-HP COMMUNICATIONS AND ELECTRICAL

**SYSTEM.** After two years of coach ownership it is finally time to document how this system is wired to and communicates with each individual component in the system.

In an effort to keep this file to a manageable size for uploading to the TRVN forum it will be broken into several parts.

**Part 81- 2** will consist of the **Precision Circuits Incorporated (PCI) Power Control System**, its wiring, operation and which system components it is directly connected with.

The PCI power control system is part of and is housed in the coach's main electrical panel it receives its 12 VDC power from the coach fuse panel from the 20 Amp # 3fuse just as the thermostat does. The PCI system is electrically connected BETWEEN the Magnum 2812 inverters remote panel and the Magnum 2812 inverter. This connection allows the PCI panel to control which of up to seven electrical circuits it SHEDS (means to turn OFF) during various electrical operations such as electrical power changes between shore power, generator power and inverter power.

Our coach utilizes six of those seven shed controls. Three of those six are 120 VAC circuits (Aqua-Hot, Engine Block Heater, and the Dryer). The other three are 12VDC normally closed (NC) circuits 1, 2 and 3 which send 12 VDC to the three AC/HP 8530C751 control panels. When there is a demand for heating or cooling from the zone thermostat the control panel will begin heating or cooling based on the thermostat settings explained in FYI - 81-1 while operating on shore power or generator power. However when there is a demand for heating or cooling and the coach is not powered from shore power or the coach's generator, the thermostat communicates a DEMAND to one or more AC/HP zone control boxes depending on the thermostat settings to send 12VDC from the GEN terminal on the control box to the ME-PT-1 connected to the Magnum AGS-N's remote port. When the voltage is received in the AGS-N a start signal is sent to the Onan generator, this start is based on a temperature setting in the thermostat. The AGS-N contains two circuits for starting the Onan generator one is based on the DC voltage in the HOUSE battery bank the second is based on the demand for heating or cooling from the thermostat.

## 2010 43QGP Allegro Bus Fuse Panel



## **PCS AC/HP Shed Wiring**



## AC/HP Connection to Start Generator for AC/HP Operation

GEN output terminal on the AC/HP Zone Control Box > ME-PT1 > ME-AGS-N



When 12 VDC is sent from the GEN zone control terminal to the ME-PT-1 wire connected to the remote port on the AGS-N **AND** all other necessary parameters in the Magnum Remote have been met the system will begin the generator start sequence.

2010 43QGP Allegro Bus Communications and Electrical System for Air Conditioning and Heating



The above diagram is my effort to show the electrical and communication signal interconnections between the various coach systems. A single headed arrow denotes one way electrical or data communications in the direction of the arrow. A double headed arrow denotes bi-lateral electrical or data communications between two devices.

IF MISTAKES HAVE BEEN MADE WHILE WRITING THESE FILES, THE BLAME IS MINE. HOWEVER TO THE BEST OF MY KNOWLEDGE THESE FILES REFLECT THE WAY TIFFIN BUILT OUR COACH, EXCEPT WHERE IT IS MODIFIED BY MYSELF.