



2010 43QGP Allegro Bus

2/5/2014

NINETY-SEVENTH - coach modification – **USB CHARGER.** Recently while looking at the Tiffin 2014 Phaeton's and Allegro Bus coaches I saw where Tiffin had begun to install two USB chargers in the cockpit. I was able to locate the manufacturer of the USB charger (Sigma Switches) with the help of a couple of TRVN members. After looking through the Sigma catalog I was able to locate the USB Charger Tiffin is installing in their new coaches. I called Sigma Switches www.sigmaswitches.com after speaking to one of their sales personal it seems Sigma ONLY sales to distributors. Sigma gave me the name of one of their distributors, Burnstines Distributors. I called Burnstines and spoke with Lynn (574) 848-1118. Quickly found they had the USB chargers however the charger was not in their catalog. The ONLY method of purchasing the USB Charger is by calling them. I ordered two of the USB chargers each is rated for 2.1 Amps @ 12VDC, each charger sales for \$ 15.00. I ordered two chargers including shipping the bill came to \$ 38.00. Upon receiving the USB chargers I found they were not exactly like the Tiffin USB chargers with ONE USB port, the chargers I received had TWO charging ports per device as can be seen below.



I ordered the chargers with what is called a Q (Quick) Nut, the threads inside the nut allow the nut to be slid over the threaded portion of the charger until the nut is tight against the dash then the Q nut is turned 90 ° to lock the nut

in place on the charger. Two female ¼” lugs were used to connect the ground wire and hot wire to an adequate voltage supply for a minimum of 2.1 Amps @ 12 VDC.

I decided to install one of the chargers beside the passenger seat on the side of the switch console. The USB chargers ground terminal was connected to an extra ground wire ¼” lug located in the console. The 12 VDC terminal was connected to an extra 12 VDC lighting connection also in the console. After replacing ALL of the switch incandescent lamps with LEDs a couple of years ago the amperage load on the lighting circuit was decrease to a point I do not believe robbing 2.1 Amps from the lighting circuit will be a problem.



I delayed installing the second USB charger, I want to make sure to consider various options on locating the USB charger so I took several days to think before making a decision on its location, finally decided the charger needed to be near the driver and also accessible to the central part of the dash. Final decision was to install the USB charger in the dash on the right side of the two 12 VDC power outlets. The first problem I faced was how do I access the back side of the dash below the radio? Finally decided the radio had to be removed. The bezel on the radio just lifts off the face of the radio after its removal four screws keeping the radio mounted in the dash were

exposed . After removing the four screws the radio was carefully removed from the dash, the two wiring harnesses were unplugged the AM/FM antenna cable was unplugged. With the radio removed I was faced with a metal surround for the radio which also had to be removed. Eight (8) metal wings had been turned/bent back thus catching the metal surround behind the dash panel. Those eight wings had to be straightened before the radio surround could be removed from the dash. Tiffin also added two small screws into the top of the surround helping secure the surround from flexing too much in the dash. Once the last two screws had been removed the surround was removed allowing access to the backside of the dash. The charger requires a 1 1/8" hole for installation. I used what I had available which is a 1" wood bit then a rat tail file was used to finish opening the hole to the necessary size. After inserting the charger, the Q nut was installed. Two leads were added to the 1/4" male terminals on the back of the charger. The two power leads for the 12 Volt power outlet mounted beside the USB charger were tapped into using quick taps. Tiffin installs separate fuses for the two 12 volt outlets on the Powerglide Allegro Bus, so the USB charger is protected by the fuse for the adjacent 12 volt outlet.



As seen above after removing the radio and its metal surround plenty of working room is found behind the dash. Blue painters tape was used to

protect the dash from scratches or chipping while drilling the 1" hole. After the hole was enlarged to a 1 1/8" size opening the charger was inserted the Q nut was installed thus keeping the charger in place. As previously stated the USB charger ground and 12 VDC wiring was connected using quick taps. At this point the two USB charging ports were tested making sure both ports had power before reinstalling the radio, reassembling the dash reinstalling the shelf for the laptop computer then installing the laptop. Where the USB ports are located they are almost hidden behind the laptop computer however both ports are both easily accessible to both the center and left side of the dash.



The two USB chargers add four new charging ports in the cockpit , I can also plug into the two above dash 12 VDC outlets, then plug in a 12 VDC to USB A male to Micro USB male cable OR plug in a USB A male to Mini USB male cable to recharge my cameras.