

TECHNICAL SERVICE BULLETIN

SB-70 2023-2024 Convoy & 2024 Tiffin (GH1) Xantrex Inverter Controller Settings

March 1, 2024

Dear Tiffin Motorhome Dealer,

It has come to our attention that on certain 2023-2024 Convoy and 2023 Tiffin (GH1) Motorhomes the Xantrex inverter controller will start charging the battery as intended but will stop charging before it is completely full. The inverter will continue to power 110V components until the battery is completely depleted, causing battery to die faster, and in some instances must be "woken up" from an external power source, such as another battery.

Tiffin Motorhomes will configure the Xantrex Inverter controller, so the settings are changed from flooded battery to lithium to allow for higher capacity. We have also changed the configuration of the inverter to increase battery voltage cutoff limit for 110V output. This will not allow the inverter to power 110V components when the battery voltage reaches this limit.

Owners will be notified by mail about this technical service bulletin and will be instructed to take their motorhome to a reputable service center **OR** dealer of **their** choice to have this inspection completed. Tiffin Motorhomes is allowing **.25 hours (15 min)** for this configuration. If additional time is needed authorization will be required.

This technical service bulletin will expire on April 1, 2025. Please make sure that this repair is completed prior to this date. Work completed after this date will be done at the customer's expense.

Work instructions are available for download from the dealer section of our website, <https://dealers.tiffinmotorhomes.com/FRM>. To view work instructions, please click on "Flat Rate Manual" and choose "Service Bulletins" for Model and "SERVICE BULLETINS" for Section, then scroll down to the service bulletin number and choose "Show Files" and then download the work instructions. **No authorization is required for work completed at the flat rate times stated on the work instructions.**

Thank you for your assistance with this matter,

Tiffin Motorhomes

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Please take your motorhome to a service center of your choice to have the configuration done. This configuration should take **.25 hours (15 min)** and will be completed at no charge to you.

A list of Tiffin Motorhomes authorized dealers is available online at <https://tiffinmotorhomes.com/service-center-locations>. If you are using a service center that is not a Tiffin Motorhomes authorized repair facility, please make sure that they contact Tiffin Motorhomes for the required instructions and time allowed for the repair. Tiffin Motorhomes will not pay over the allowed time unless the repair facility receives prior authorization. For authorization, contact Tiffin Motorhomes at 256-356-0261 or service@tiffinmotorhomes.com.

This technical service bulletin will expire on April 1, 2025. Please make sure that the configuration is completed prior to this date. Work completed after this date will be done at the customer's expense.

You may be liable for any progressive damage that results from your failure to complete this technical service bulletin within a reasonable time after receiving notification.

We regret any inconvenience this action may cause but feel certain you understand our interest in your continued use and enjoyment of your coach.

Tiffin Motorhomes

Technical Service Bulletin SB-70 Repair Instructions

Models Involved: 2023 – 2024 Convoy motorhomes and 2023 Tiffin GH1 motorhomes built between March 23, 2023, and December 13, 2023.

Purpose: Configuring Xantrex XC 2000-W and XC Pro 3000-W Inverter/ Charger for use with: Battleborn/ Dragonfly GC3H 270 AH Battery System, Nations 280 XP Aux Alternator

FLAT RATE CODE & TIME ALLOWED FOR REPAIR. *When filing the warranty claim for payment, please use 9970SB00 for 0.25 hrs. No authorization is required for work completed at the flat rate times stated on the work instructions.* Use “SB70” as the authorization on claim for payment.

Repair Procedure:

1. **Determine if your Freedom X remote panel has Bluetooth capability.**
 - a. You can find your remote panel on the main control panel located in the front of the coach behind the dinette/ bench seat.
 - b. If your panel has the Bluetooth feature, shown in figure 1a, navigate to step 2. If your panel is not bluetooth-enabled, shown in figure 1b, navigate to the section titled, “Configuring Xantrex Freedom XC Inverter Using Remote Panel” located on page 3.



Figure 1a



Figure 1b

Navigate to the App Store (iOS) or Google Play Store (Android) and install the app titled “FXC Control”.



2. Once installed, ensure the Bluetooth on your mobile device is turned on, and open the application. The app will automatically begin searching for available devices nearby. If multiple devices appear, select the device that corresponds with the serial # of your inverter.
3. Select “Settings” at the bottom right corner of the screen. Change each setting to the corresponding configuration listed on page 2.

*****The settings shown below are for 2000-Watt inverters. For 3000-Watt inverters, all settings will be the same, excluding the values highlighted. *****

Inverter

Inverter Ignition Control:	OFF
Low Battery Cut Off:	11.8V
Low Battery Cut Off Delay Timer:	300s
Low Battery Recovery Voltage:	13.5V
Power Save Time:	Off
Power Saving Mode:	Disable
Output Frequency:	60.0Hz
Output Voltage:	120V
Inverter Output Power Limit:	2000W / 3000W
Inverter Output Power Limit Timer:	300s
Transfer Mode:	UPS
Inverter Shutdown Recovery:	Automatic Restart

Charger

Battery Type:	Custom
Default Battery Temperature:	WARM
Charger Ignition Control:	OFF
Equalize Charging for Flooded Battery:	Disable
Charger Current:	80A / 150A

Custom

Custom Absorption Voltage:	14.6V
Custom Float Voltage:	13.6V

Grid

Utility AC Under Voltage Level:	90V
Breaker Rating:	30A

After changing each value, select "Apply" to ensure the change has taken effect. Inspect all line items for accuracy when complete. The inverter should take the changes without further action. However, power cycling the inverter is recommended.

Configuring Xantrex Freedom XC Inverter Using Remote Panel

- 1. Navigate to the settings menu on the screen.**
 - Ensure you are on the home screen showing the battery voltage and output wattage. If you do not see this information, press the (ARROW UP) key until this information is shown.
 - Once on the home screen, hold down the third button from top (OK) for several seconds until the settings screen is displayed (Fig. 2a).
- 2. Changing Inverter Settings.**
 - Cycle through each number code using the second button from top (ARROW UP), ensuring the value to the right of the code corresponds to the configuration on page 4.
Setting adjustments will be more time-efficient if followed in the order shown in the table below.
 - To change the value of the setting code shown on the screen, select (OK). Value will begin to flash. Cycle through the available values with (ARROW UP) until you find the corresponding value from the table on page 4. Then, press (OK) to set the value. To cycle to the previous value, or decrease value (for instance,

if you wanted to change the timer setting from 300s to 299s) hold down the (ARROW UP) key until the value changes.

- c. Once all settings are changed in accordance with the table and have been reviewed for accuracy, hold down the (ESC) key to return to the home screen.

In this process, the audible alarm has been turned off to silence the touch tone (beep) throughout the process. If you would prefer this setting to remain on and allow the inverter to audibly notify you (one beep/ 5 seconds) of an inverter fault, you may change setting # 14 to the value "bOn".

- d. The inverter should take the changes without further action. However, power cycling the inverter is recommended.



Tiffin GH Setting Codes and Values for Xantrex XC 2000-W and XC Pro 3000-W Inverter

Setting Description	Setting #	Tiffin 2000-W Setting Value	Setting #	Tiffin 3000-W Setting Value
Audible Alarm	14	bOF	14	bOF
Battery Type	20	LFP	20	LFP
Inverter Ignition Control	1	OFF	1	OFF
Low Battery Cut Off	2	11.8	2	11.8
Low Battery Cut Off Delay Timer	3	300	3	300
Low Battery Recovery Voltage	4	13.5	4	13.5
Power Save Time	5	OFF	5	OFF
Power Save Mode	6	dI5	6	dI5
Output Frequency	7	60	7	60
Output Voltage	8	120	8	120
Inverter Output Power Limit	9	2.0	9	3.0
Inverter Output Power Limit Timer	10	300	10	300
Transfer Mode	11	UPS	11	UPS
Utility AC Under Voltage Level	12	90	12	90
Inverter Shutdown Recovery	13	AtO	13	AtO
Custom Absorption Voltage	22	14.6	22	14.6
Custom Float Voltage	23	13.6	23	13.6
Charger Current	24	80	24	150
Charger Ignition Control	26	OFF	26	OFF
Breaker Rating	28	30	28	30