



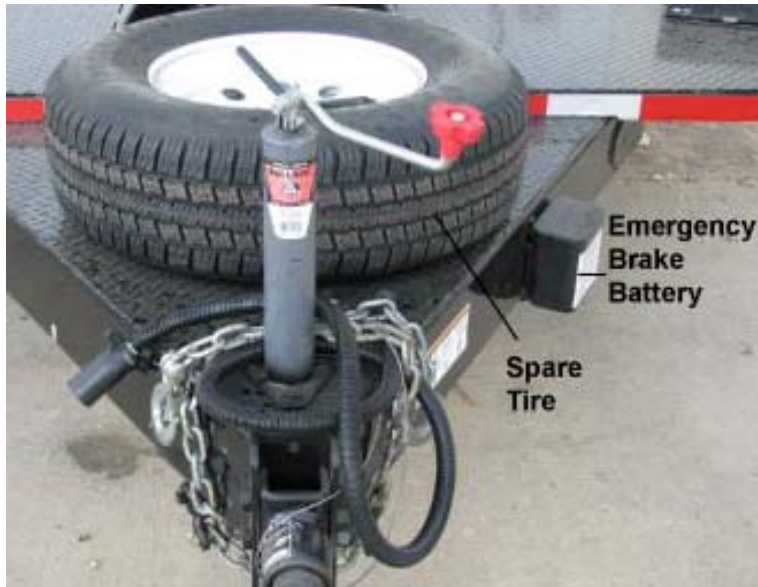
# POWER TRAILER MANUAL

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## TOWING

When towing the trailer, be aware of your surroundings and the trailer's size; 9.6 feet wide x 10 feet long x 8 feet tall. To safely tow the trailer, connect it to your vehicle and ensure that the jack is up as far as it can go. If the jack is not completely retracted then you risk damaging both the jack and the tongue of the trailer. (Note: trailer jack is not included and must be purchased separately). Check the pressure in the spare tire before deployment.



Before towing the trailer check the tire pressure and test the lights and brakes for operability. When testing brake functionality please note that the process will vary between different vehicles and brake controllers. We recommend only allowing experienced haulers to move the trailer. The trailer requires a half ton pickup or larger with a 7-way plug and a trailer brake controller. The brake battery operates the brakes in case of a runaway trailer situation. It is advisable to check this battery periodically and verify that it is charged.

## DEPLOYMENT

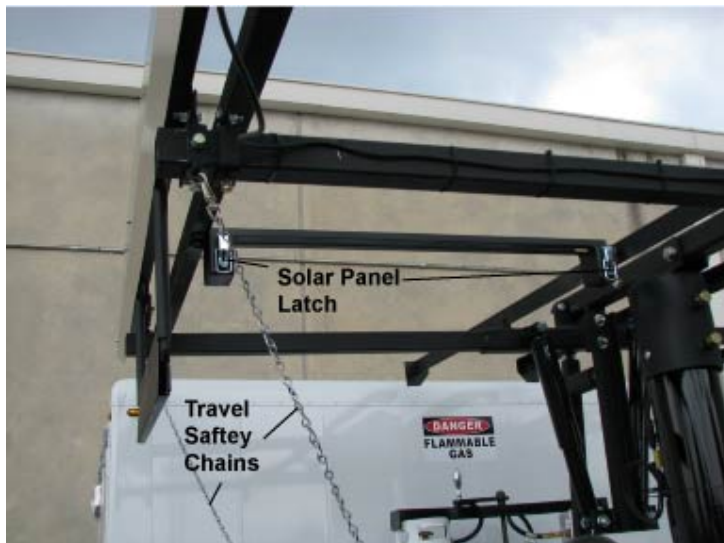
### Positioning and Securing



To deploy the trailer, place it in a location that has full sun for the entire day. If geographical or weather conditions prevent this from occurring, place the trailer in the area with the most sun exposure. Park the trailer with the front (tongue side) facing South and disconnect it from your towing vehicle. Locate the four corner-stabilizing jacks and secure the trailer by deploying the jacks in each corner. If you are on soft terrain such as dirt or grass, the trailer will require blocks (not included) under each jack to prevent them from sinking into the ground. If you are on asphalt blocks should not be necessary.

### Solar Deployment

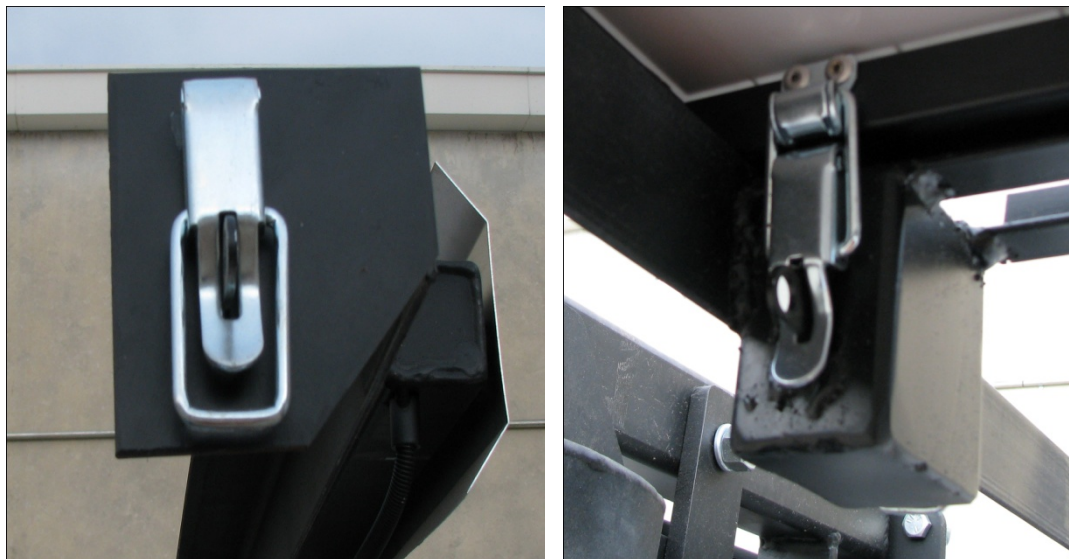
Remove the safety chains on the solar tracker.



Open the solar panel compartment and use the prop rod stowed on the inside of the door to support the door. This door does not have gas shocks to keep it open so the support rod is necessary.



Remove solar panels individually by slightly lifting up and rolling them forward. Built-in rollers make solar panel removal easier. The panels slide completely forward so ensure that you have a tight grip as you remove each one because they are fragile and will break if dropped. After removing the panels place each labeled panel into its corresponding location on the solar tracker. Place panels on the tracker and latch them down (pictured below).



Each Panel has 4 latches. You will need two people to safely remove the panels and place them on the tracker.



Once the panels are mounted, remove the Elevation Adjustment Bolt securing the tracker and adjust the tracker angle to correspond to your location's latitude. Austin, Texas, for example, is at 30.26 degrees so if you are in Austin, adjust the angle to as close to 30 degrees as possible. You can determine the latitude of your location by putting your location into Google maps and adding the word latitude after the query. There are several ways to verify the elevation the best way is to use a digital angle gauge that can be found both online and on the Internet. If you are unsure of your latitude it is more beneficial to be at a greater angle rather than a lower angle.



Once the angle is set on the solar tracker and the panels are installed you must connect the cables for panel functionality. Beginning with the first two panels, place a positive (+) terminal into a two-into-one "Y" adaptor and the two negative (-) terminals into another two-into-one "Y" adaptor. Repeat this process for the remaining two panels.

Next, connect the provided connection cables to the same "Y" adaptors.

Then, connect the remaining two "Y" adaptors to the extension cables leading to the solar charger.

Once the adaptors are connected, your cabling should look similar to the picture below.

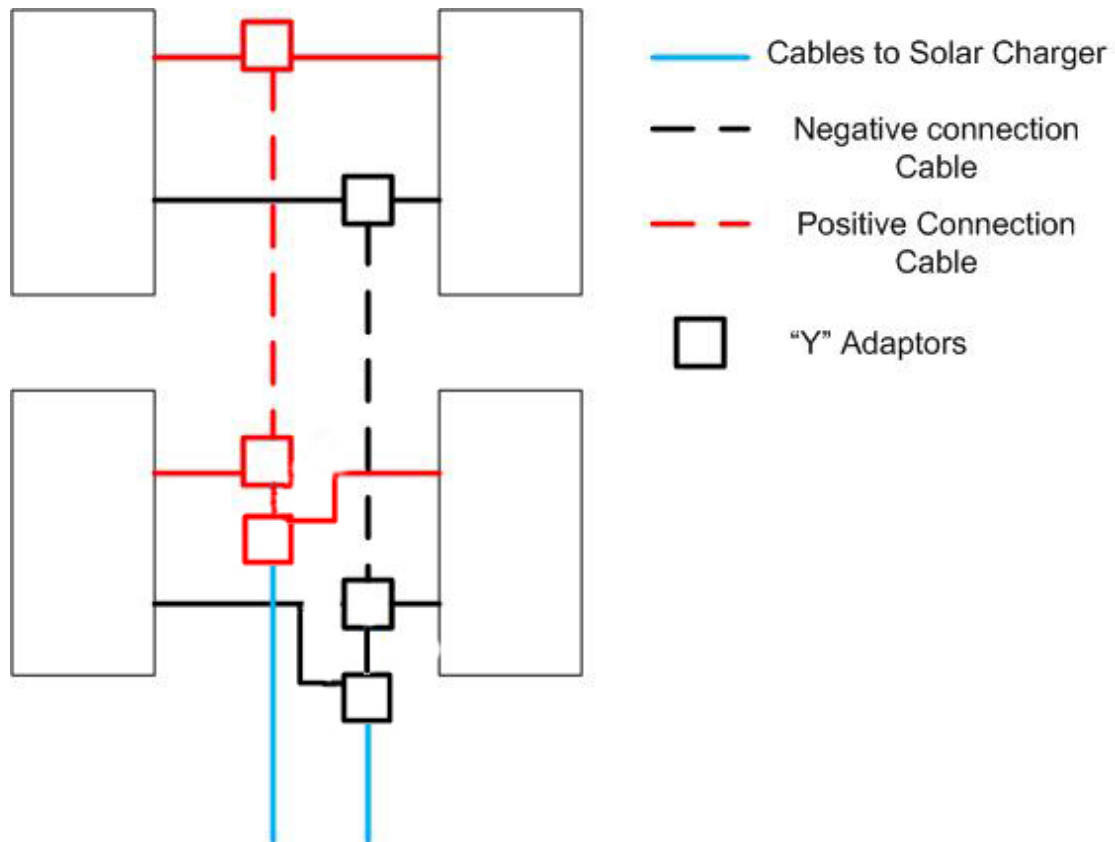




Pictured above are two Y adaptors fully assembled with two panels.

Once the solar chargers are connected they will charge the batteries as needed.

### Solar Connectivity Diagram



## Generator

**IMPORTANT: Do not run the generator without properly venting its compartment. Failure to vent the generator compartment may result in loss of generator functionality or permanent damage. When in use, keep the generator compartment door open in order to promote airflow.**

Please refer the manufacturer's manual for other safety messages regarding the generator.

Air must be purged from the lines after all propane tank changes. To purge air, press the red button on the purge valve mounted on the front wall of the trailer, to the right of the two propane tanks.



You may have to press the red purge valve button several times to fully purge the connected line. You will have to purge the line until the generator will start and stay running. Once purging is complete it will not be necessary to purge again until the next time propane tanks are refilled.

To use the generator, turn the propane cylinder valves to the “on” position. Turn the valves to the “off” position when the generator is not in use. Prior to starting the generator, flip the 120VAC and 240VAC breakers off on the generator’s panel. Turn the key to the “start” position and allow the engine to crank. When the engine starts, release the key back to the “run” position.



If the generator does not immediately start, locate the choke, close it halfway, and try to start the generator again. If it does still not run, close the choke all the way and try to start the generator again. After the generator is started and stays running, slowly open the choke back up to the “run” position.

After the engine is running flip the 120VAC and 240VAC breakers to the “on” position.



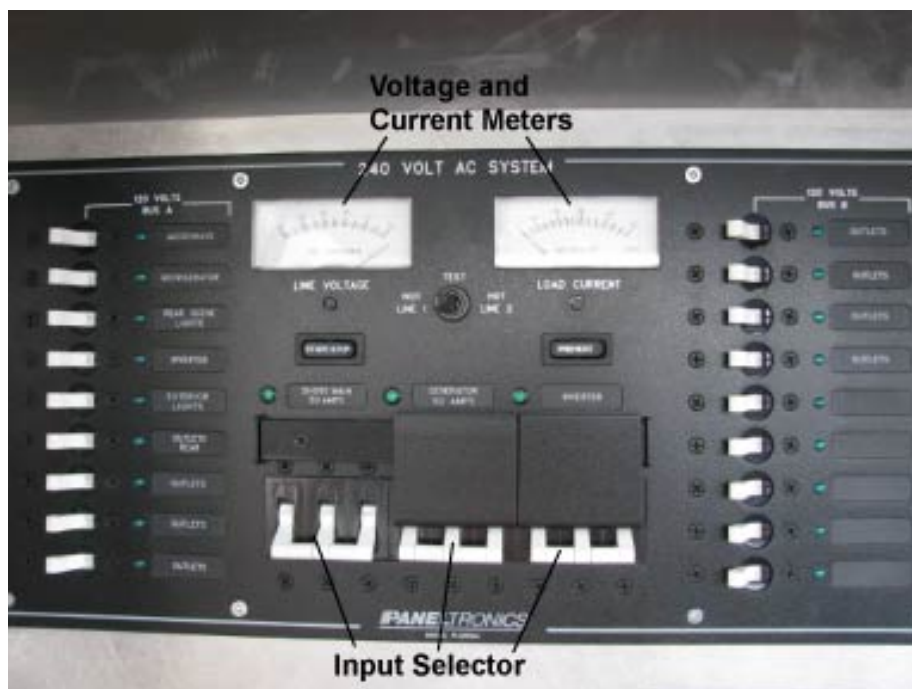
## Top Rear Compartment Details

There is a fire extinguisher located on the wall in the upper rear compartment, for emergency use. This compartment is stocked with a microwave, refrigerator, and multi-use power outlets, as well as a shelf.



## Breaker Panel

Locate the breaker panel in the power control compartment located on the curb side of the trailer. It is the compartment closest to the top. Select your desired power feed. You have three Input Selector choices; generator, shore or inverter. Choose only one Input Selector then turn on the breakers for the outlets that you wish to activate.



## 12-volt Panel

There are two 12-volt cigarette-lighter-type plugs along with three 12-volt post-type connectors to supply power to 12-volt devices. The 12-volt power connections are controlled by the 12-volt master panel. The master breaker must be in the “on” position for the 12-volt feeds to be activated. The master 12 volt breaker is on the panel shown below on the left.



## Inverter/Solar Charge Controller

To the right of the panels, locate the remote power “on” switch for the inverter. This is a round, silver button case with an LED in it. If the LED is lit up then the inverter is on and ready to use. There is also an “on/off” switch on the inverter itself. You can look at the inverter and tell if it is on or off by the state of the LED. For further explanation and detailed instructions on the inverter functionality, please refer to the manufacturer’s manual. To the right of the remote inverter switch is the solar charge controller used to charge the battery bank. You cannot run any device off of the solar panels; they are only for charging the battery bank.



## Power Draw

As stated above, the trailer has three possible power sources; shore, generator, and inverter (battery). Of the three sources, the generator can supply the most power (6000 watts). The next best source is the inverter (5000 watts), with shore power being the lowest rated choice. The rating for shore power is determined by the input source. It can be anywhere from around 2200 watts to 3300 watts, or 20 amps to 30 amps.



It is important to know how much power you are drawing at any time, including peak and surge, so you do not overload the system and cause overall power loss.

The microwave, located in the rear upper compartment of the trailer, draws up to 2500 watts. When operating high-draw power items like the microwave, ensure that circuits are not overloaded by limiting the amount of other power-drawing devices.

The 3-way refrigerator will run 3 ways; 110-volt AC, 12-volt DC and propane. The control panel for the refrigerator is located on the curb-side rear behind the grating.



When using propane to cool the refrigerator, chill the refrigerator contents first, as the propane is not efficient as 12-volt AC or 110-volt DC. Propane should primarily be used to maintain refrigerator temperature, not initially cool it down. Additional details can be found in the manufacturer's manual.



## Lighting

There are scene lights located on the rear of the power trailer. These are on both the curb-side and the street-side. The lights are 120-volts and can be activated using the breakers on the master control panel. They are labeled "scene lights".

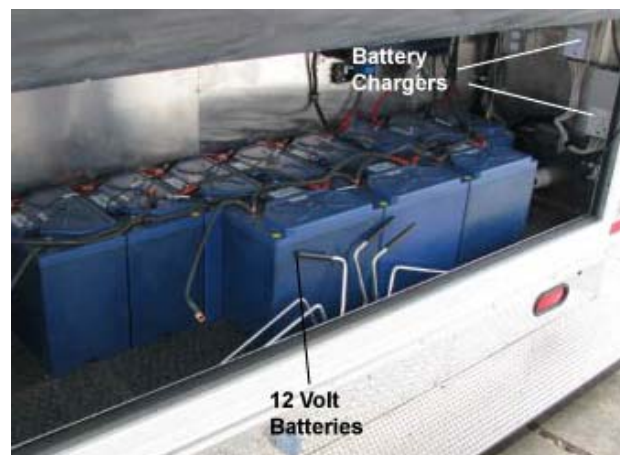


## Batteries

There are 15 Lithium Iron Phosphate batteries located in the lower rear compartment. These batteries need to be maintained on a monthly basis. To maintain the batteries you will want to check voltage on all the batteries and if any are lower than 13-volts you will need to charge them. The shelf-life of the batteries is three months if they have no load on them. There are, however, small leach loads on them that will gradually drain them. There are two battery chargers mounted in the lower rear compartment. They will only run off of the generator or shore power. No less than once per month, either plug into shore power (preferred) or run the generator and charge the batteries. You will be able to determine the state of the batteries by reading the fuel gauge located in this compartment.

The batteries are expensive to replace and if they are not kept properly charged and allowed to drain, then they will be damaged and will require replacement.

Along with the batteries and chargers, there is a 12-volt inverter. There are meters and indicator lights on the side of the inverter that will show voltage to the inverter along with the power draw. The inverter converts 12-volt DC power to 120-volt AC power. There is a master power switch on the inverter. This power switch must be on for the remote power switch to operate. More details can be found in the manufacturer's manual for the inverter.



## SUPPORT

Remote support is available by calling the TALHO Help-desk at (512) 814-2546 or sending an email ticket in to [admins@talho.org](mailto:admins@talho.org).