OPERATION MANUAL

Portable Solar Light Tower

SPLT-V2-1.06K-LM30-4X90LTL-ISDG-AT.DNS-BCC-TLR14-120V

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INSTALLING MAST



When the mast is removed from the trailer for shipping, it is located on a separate pallet. Follow the steps below to install mast to trailer.

Place the trailer on a flat level surface and deploy outriggers to limit movement and tilt during installation. (**FIGURE 1)**


FIGURE 1

The mast is located on a pallet. Place mast near the trailer with enough room around to maneuver a lift.

Cut the bands securing the mast to the pallet.



Place a lifting sling around the top mid-section of the mast. **Sling MUST be placed below the top stages and under the winch cable! Do NOT lift from any top stage section or cause pressure to winch cable. Doing so can damage the mast and cause the mast to extend while lifting.**


FIGURE 2

With assistance, slowly lift the mast and position it upright on the pallet. (**FIGURE 2)**

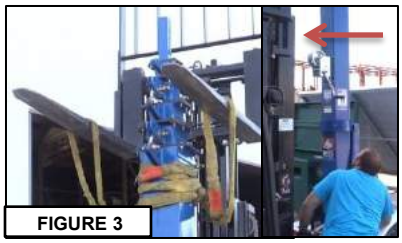
FIGURE 3

Once upright, apply a second sling to maneuver mast towards trailer. Lift mast so the winch will be facing the rear of the trailer when installed. **FIGURE 3**


FIGURE 4

With assistance, slowly transport and position the mast on the trailer. (**FIGURE 4)** There are six (6) mounting holes. Align the holes on the trailer to the holes on the mast. (**FIGURE 5)**

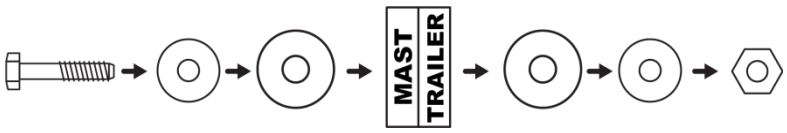



FIGURE 5

Secure the mast with the included mounting hardware. Mounting hardware for each mast is located in a box attached to the top of the green job box. There will be 6 bolts, 6 nuts, 12 small washers, and 12 large washers per mast. Ensure each bolt is tight and secure.

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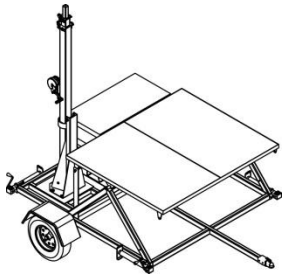
DEPLOYING THE UNIT



1. Choose a location that is close to level as possible to position the trailer. Drop the trailer from the tow vehicle using the single jack located on the front of the trailer. Ensure that the safety chains and cable have been disconnected from the tow vehicle.





2. Once the trailer has been disconnected from the hitch of the tow vehicle, extend the remaining jacks. There are (2) leveling jacks located on the back and (2) jacks located on the front of the trailer. Pull the pin on the side of the jack to rotate it 90° toward the ground and hand crank the jack clockwise to extend it. **Use a bubble level to ensure the mast is level before extending!**



3. Unlatch the solar panel and reposition it 45°. There is a hand screw located on each side of the solar panel. With help, remove each hand screw to free the panels and pivot the solar panels down against the frame at a 45° angle. Insert each hand screw to secure the panels.



4. Locate the hand winch on the mast. Turn the handle clockwise to raise the mast until it stops. Watch for snags during this process if there are any cords attached. The mast is now deployed. To rotate the mast, view **ROTATING THE MAST** on this manual.



5. Open the job box located next to the mast. When included with a padlock, locate the keys to both padlocks if it is locked. The job box will open once unlocked and there is no need to remove the padlocks.



6. Move the power switch to its **ON** position to power the internals. Make sure all breakers and switches are moved to the **ON** position at this time. This will enable power to your attached devices and allow the solar panels to begin charging the batteries. A built in cooling system will circulate air when the job box exceeds 90° F (32° C) to help keep the internals cool.

The trailer is now deployed.

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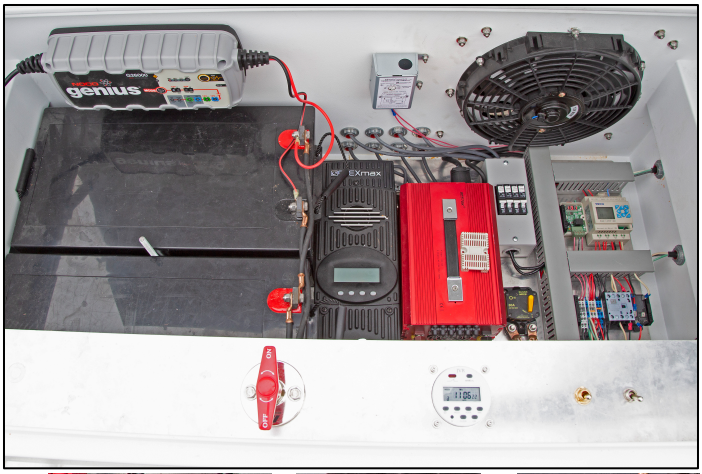
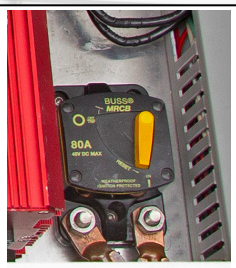
Solar Controls

The job box consists of all the solar controls and batteries. To start the system, first turn on the battery disconnect switch, then turn on the solar breakers. If the battery voltage dips below 11.5V the generator will automatically start and will run for a minimum of 2Hrs. After two hours the system will check the battery voltage. If it has risen to an acceptable level the generator will automatically stop and resume solar charging. If the battery voltage has not risen to an acceptable level then this process will repeat indefinitely. If the generator dies for any reason then the system will turn off all generator related accessories, and will resume solar charging. The generator will NOT attempt to restart until power is cycled to the system. In solar charging mode the solar circuit breakers, and the 80A DC circuit breaker must be on. For best results, expose all four solar panels to sunlight by unlocking the top panels and sliding them out. If the system voltage falls below 11V, The low voltage disconnect module will turn off power to the system. This is to protect the Programmable Logic Controller. If the Low voltage disconnect is bypassed the controller can be damaged. The lighting system consists of the inverter, programmable timer, the 3 position switch, and the SPST Switch. With the 3 position switch all the way down the lights are in manual mode and can be toggled on/off by the SPST Switch. With the 3 position switch in the middle position the day night sensor controls the lights-on at night-off during the day. With the 3 position switch all the way up the lights are controlled by the programmable timer. See timer instructions below. To completely turn off the system, first turn off all 4 solar circuit breakers, then turn off the battery disconnect switch. Turning off the battery disconnect switch while the generator is running will kill the generator, however this is not recommended unless absolutely necessary as turning the generator either on or off while its under a load can potentially damage it. No adjustments should be made to the solar controller.





80A BREAKER



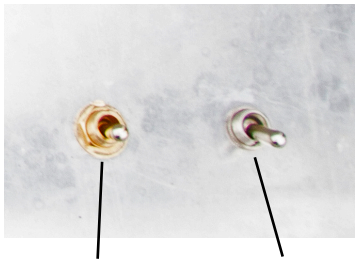
15A BREAKERS



MAIN POWER
(Disconnect Switch)



Solar Battery Charger



3-position Switch

SPST Switch

THERMOSTAT

Adjusted from factory to keep the unit cool in warm temperatures. The thermostat will automatically enable a fan when temperatures exceed the set point and turn off once cooled.

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Generator Information and Instructions

- The default generator settings should be - start switch set to the OFF position (this is important, if it is in the run position then it will not be able to automatically turn off). Main breaker set to the ON position and the voltage select switch set to 120V.
- The 5-15 plug that is plugged into the 120V outlet **MUST remained plugged in at ALL TIMES**, this is what tells the controller that the generator is or isn't running - without it, it's possible that it will attempt to keep starting once it's already running and will damage the starter. It's also what charges the batteries.
- The generator can be started manually either by the engine start switch or pull cord. However, it will not charge the batteries, this is only possible through the automated sequence.
- It's best to not change settings on the generator control panel at all because if the engine start switch gets left in the wrong position or the power cord gets unplugged then the system will not function properly.

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ROTATING THE MAST

The mast can be rotated while fully lowered or elevated.

1. Loosen the two bolts located toward the center of the mast on the collar.



2. Once loose, rotate the mast to your desired position



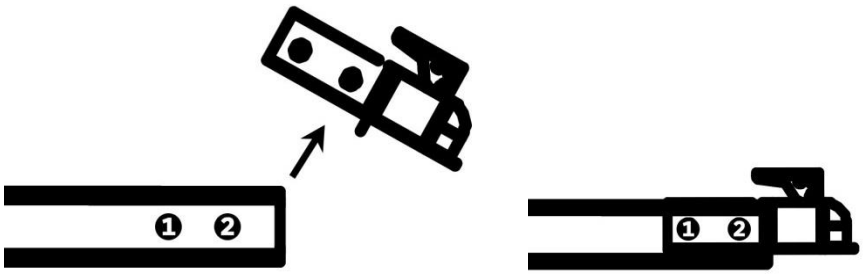
3. Tighten the two bolts in order to hold the mast in place



Note: Pay attention to any attached cords while rotating the unit to prevent tangles or strain around the light mast.

REMOVING THE HITCH

The trailer hitch can be removed preventing the trailer from unauthorized towing. Remove the two bolts ❶ & ❷ from the graphic below holding it in place and lift the hitch off. This can be stored inside the job box when not in use. To install the hitch, place it back on the trailer tongue and replace the two bolts. Be sure both safety chains are attached.



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PREPARING FOR TRANSPORT

1. Lower the mast by rotating the hand winch counter-clockwise until the light mast is no longer supported by the winch cable.



2. If previously rotated, return the mast to its original position.



3. Power off all equipment. Open the job box and position the main power switch **OFF**.



4. Lock the job box and take the keys to prevent unauthorized access.



5. Position the solar panels horizontal and secure them with the two hand screws.



6. Lift the (4) jacks on each corner of the trailer by rotating the hand crank counter-clockwise. Pull the pin and rotate each jack 90°.



7. When the mast is fully lowered, powered off, and the (4) main jacks are raised, you are ready to attach a tow vehicle. Once tied to a tow vehicle, raise the tow jack and ensure all other outriggers are raised. Ensure the trailer hookup and safety chains are connected. Test the trailer lights to ensure stop/tail/brake lights work before operating on public roadways.

If you have any questions about your trailer please call the manufacturer.

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Programmable Timer Instructions



Programmable Timer Module

Controls:
Reset - Long press "R" until it reboots.
Unlock Timer:
Press the "C/R" four times, and the "a" will disappear from screen. If no keys are pressed for 30 seconds, all the keys will be automatically locked.
Set Current Time:
Press "WEEK" to select the current day. Press "HOUR" and "MIN" to select the current time.

Programming the Timer:

1. Press "P" and "1 ON" will display. This is indicates you are setting Program 1 ON time.
2. Then press "WEEK" to select the day(s) of the week for Program 1 ON.
3. Press "HOUR" and "MIN" to select the time for Program 1 ON time.
4. Press "P" and "1 OFF" will display. This indicates you are setting Program 1 OFF time.
5. Then press "WEEK" to select the day(s) of the week for Program 1 OFF.
6. Press "HOUR" and "MIN" to select the time for Program 1 OFF time.

*Repeat these steps to set additional programs.

Quick Setup:

1. Reset timer
2. Unlock timer
3. Set current time
4. Press "P" to select ON/OFF program setting
5. Press "WEEK", "HOUR", "MIN" to set on-off time
6. Press "CLOCK" to exit programming mode
7. Press "MANUAL" and select "AUTO"

Note: Each "ON" time requires an "OFF" time. Be careful that program times do not overlap or conflict each other or the timer will not function as expected.

Cancel/Recover Functions:
Press "C/R" to cancel or recover the setting.
Note: When the time is "--:--", it means that the setting is being canceled. When time is "00:00", it means 12AM.

Manual Override:
Select mode, "Auto" or "ON" or "OFF". "Auto" is for timer functions.

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HEAD INSTALLATION

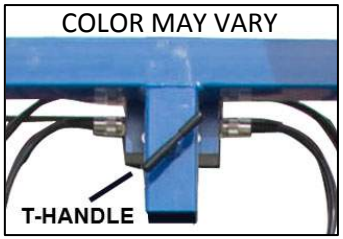
LIGHT HEAD SHOWN ON THIS SHEET MAY VARY PER MODEL

Follow the steps below in order to install and remove the light head for Larson Electronics light towers.

1. Locate the light head.



2. The light head is equipped with a T-Handle.



3. Make sure the T-Handle is loose, to allow the head to slide over the top stage of the mast.

4. Using a pair of slings, wrap both slings around the light head in between the lights on both sides.



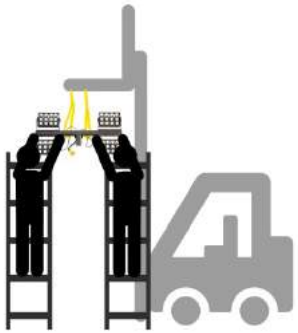
5. Attach the slings to a forklift or other lifting device.



6. With 2 people holding the light head steady, slowly raise the light head above the mast.



7. A ladder will need to be placed on both sides of the mast, in order for 2 people to guide the head in to place.



8. Once the light head is on top of the light mast, tighten the T-Handle to ensure the light head is safely secured to the top of the mast.

9. Make the electrical connections for the lights. Repeat this process in reverse order for removing the light head.



10. Proceed to the **OPERATION MANUAL** for operating the unit.

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