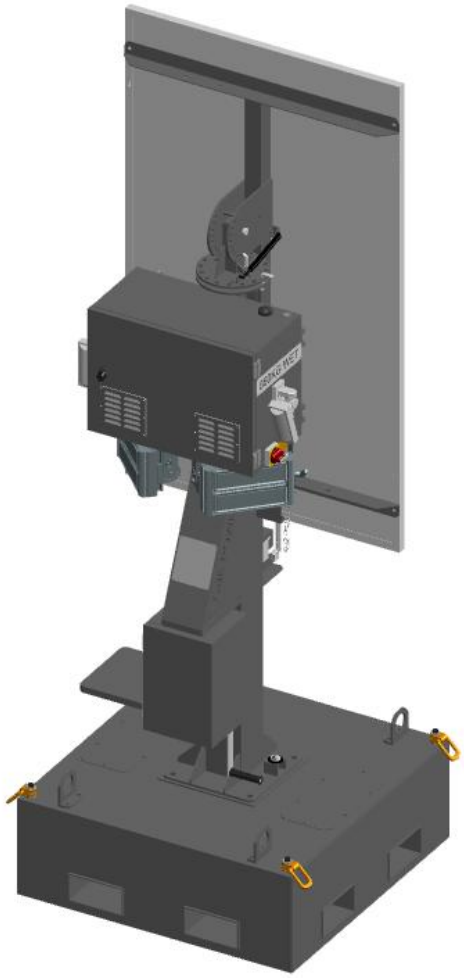
Operating Manual
Solar Smart Floodlight

GPFL200 V1.5



INTRODUCTION

This manual provides information and procedures to safely operate and maintain the Solar Smart Floodlight - GPFL200. For your safety and protection from physical injury, carefully read, understand, and observe the safety instructions described in this manual. *The information contained in this manual was based on units in production at the time of publication. Globe Power reserves the right to change any portion of this information without notice.*

DO NOT MODIFY or use this equipment for any application other than what it was designed for.

Always keep a copy of this manual with the unit. Additional copies are available from Support@globepower.net The manual provides detailed operation and maintenance procedures. GLOBE POWER recommends that a trained and licensed professional perform all electrical wiring and testing functions.

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WHEN CALLING FOR PARTS OR TECHNICAL SERVICE INFORMATION, PLEASE HAVE YOUR UNIT SERIAL/MODEL/VIN NUMBER READY AND REFER TO THE EXPLOSION VIEW IN THE ASSEMBLY SECTION TO HELP FACILITATE YOUR CALL.

Unit Model Number:

Unit Serial Number:

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1 SAFETY NOTES

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
This manual contains DANGERS, WARNINGS, NOTICES and NOTES, which must be followed to prevent the possibility of improper service, damage to the equipment, personal injury, or death.

DANGER
Indicates a hazardous situation that, if not avoided, will result in death or serious injury.

WARNING
Indicates a hazardous situation that, if not avoided, could result in death or serious injury.

NOTICE
Indicates a hazardous situation that, if not avoided, may result in property or equipment damage.

NOTE
Notes contain additional information critical to a procedure and will be found within the regular text body of this manual.

1.1 OPERATING SAFETY

DANGER

MUST POSITION AND OPERATE THE SMART SOLAR FLOODLIGHT ON RELATIVELY LEVEL AND SOLID GROUND (LESS THAN 5° SLOPE)

PLEASE CONTACT MANUFACTURER FOR ASSISTANCE IF THE MAST IS STUCK ON UNLEVELED GROUND

WARNING

DO NOT TURN OFF BATTERY AND PV ISOLATOR UNLESS FOR EMERGENCY OR MAINTENANCE PURPOSES. FAILURE TO DO SO WILL DAMAGE THE LIFE OF THE BATTERY AND BREACH THE WARRANTY.

NOTE

The QUICK START INSTRUCTION can be found inside the winch box door.

Before using the smart solar floodlight, be sure you read and understand all the instructions! The unit is designed for specific applications. Please DO NOT modify or use it for any application other than what it was intended for. Read the operating instructions and familiarise yourself with the location and proper use of all instruments and controls. Inexperienced operators should receive training from someone familiar with the equipment before being allowed to operate or set up the smart solar floodlight. The following points should always be practised:

- **NEVER** operate a unit in need of repair.
- Lower tower when not in use or if high winds or electrical storms are expected in the area.
- The mast can be extended up to 4.6m. Before raising the mast, ensure the area above the unit is open and clear of overhead wires and obstructions.
- Keep the area around the tower clear of people while raising and lowering the mast
- If any part of the mast hangs up or the winch cable develops wear while raising or lowering the tower, **STOP** immediately and replace it.
- Always check the surrounding area and the mast during mast lowering. Ensure the cables are not jammed.
- Always check wear pad tightness and condition before raising or lowering mast, adjust wear pads if the mast doesn't operate smoothly.
- If used in dense crowds, please set up guards 5 metres from the unit.
- If the unit is stored long-term indoors, please turn off all isolators and circuit breakers and fully charge the battery annually or as needed.
- Do not unplug the solar MC4 connectors on the tower during the solar charging process. It will lead to severe personal injury and equipment damage.

1.2 SERVICE SAFETY

This unit includes a solar panel, LEDs and a battery, which are Extra Low Voltage circuits capable of causing severe injury. Only an authorised electrician should troubleshoot or repair electrical issues occurring on this equipment. Failure to follow the safety guidelines described below could result in severe injury or death. Read and follow all safety warnings described in the manual.

The maximum voltage of the light system is 60v DC
The maximum voltage of the solar system is 40v DC
The maximum voltage of the battery system is 14v DC
The maximum voltage of the AC charger system is 240v AC

- Before servicing the smart solar floodlight, ensure all the isolators and the circuit breakers are de-energised.
- Turn off the solar and battery isolator in case of an emergency.
- **NEVER** disconnect the solar panels or battery from the unit while isolators are switched on.
- Please wear correct PPE and use insulated tools for servicing.
- **NEVER** wash the unit with high-pressure hoses, power washers, or steam cleaners. Ensure water is not collected in the electrical enclosure, which will cause damage to electrical parts.
- **NEVER** disassemble and repair the mast in an uneven place. The mast must be installed with correct lifting equipment.
- Regularly check the winch cable and replace it if it is worn.
- Only authorised technicians are allowed to replace the components.

2 SPECIFICATIONS

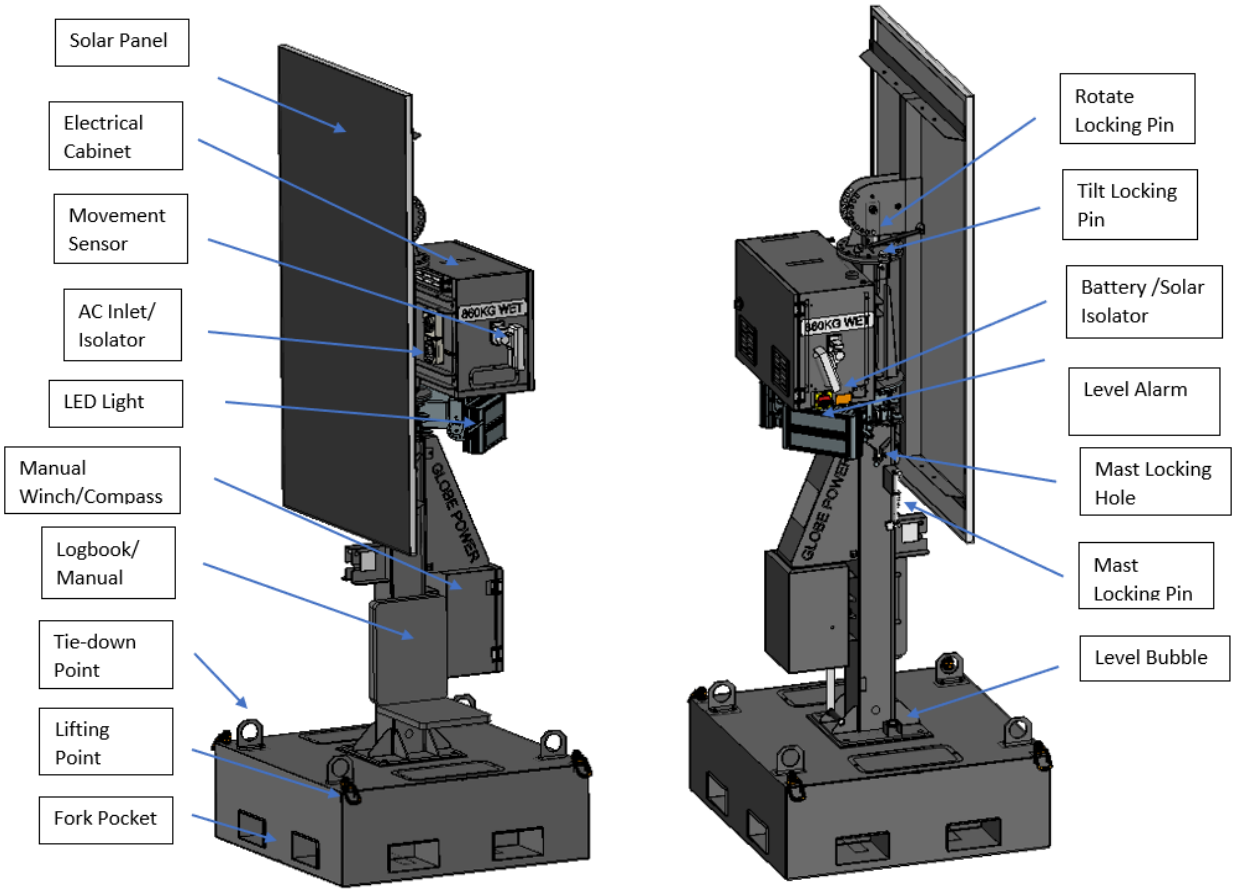
DIMENSIONS & WEIGHTS			
GPFL200 V 1.5	Dimensions (mm)		Weight (Kg)
	Dimensions - Stowed	1000 X 1150 X 2880	900kg
	Dimensions - Deployed	1740 X 1240 X 6070	
SYSTEM PARAMETERS			
Run Time		19 hours (100% Light Output) / 52 hours (50% Dimming)	
System Voltage		DC12V	
Wind Rating Speed		100KPH	
SOLAR PANEL			
No. of Solar Panel		1	
Solar controller		MPPT Solar Charge Controller	
Solar Tilt		0-135°	
Solar Orientation		0-360°	
BATTERY			
No. of Battery		1	
Capacity		2.6 kWh	
Chemistry		Lithium iron phosphate Battery	
AC Charger		12V40A	
LAMP			
Type of Lamp		LED Lamps	
Lamp No.		2	
Lamp Wattage		100W, DC12V per pc	
Lumen Output		23,000	
Coverage		3700m² @ 5 lux	
Light Tilt		0° - 45°	
MAST TOWER			
Type		Cable Winch	
Mast Height		4.6M	

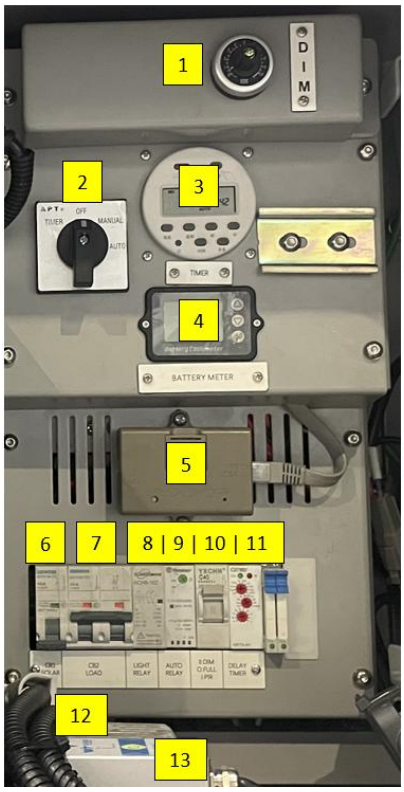
3 OPERATION

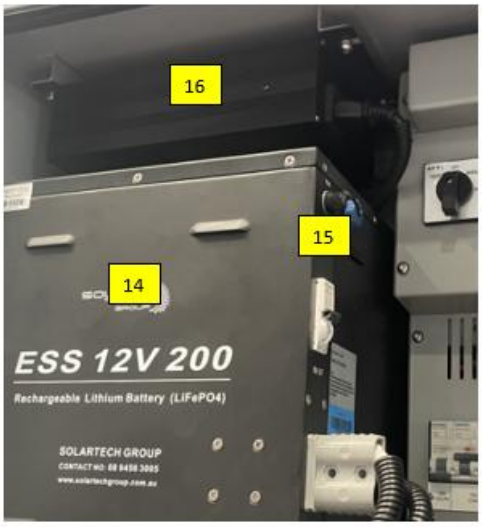
Before operating the unit, all items below must be checked.

- Read and understand ALL safety sections at the beginning of this manual.
- Check the logbook to ensure that all maintenance and inspections are up to date.
- Check the condition of the battery, solar panels, LED lights and other electrical components.
- Inspect all electrical cords and mast cables; repair or replace any that are cut, worn, or bare
- Verify all covers and connections are in place and secure.

3.1 COMPONENTS







1.	Led Dimmer
2.	LED Function Switch
3.	Timer Controller
4.	Battery Meter
5.	E-Logger
6.	Solar Circuit Breaker
7.	Load Circuit Breaker
8.	Light Relay
9.	Twilight Relay
10.	Dimming Function Switch
11.	Multifunction Timer
12.	DC Converter
13.	Level Sensor
14.	12V 200Ah LFP Battery
15.	Battery Circuit Breaker
16.	12V40A AC Charger

3.2 SOLAR SMART FLOODLIGHT SET UP

Use the following guide to implement and optimise the performance of the unit.

⚠ WARNING
The tower extends up to 5.8m. Make sure the area above the tower is open and clear of overhead wires and obstructions.

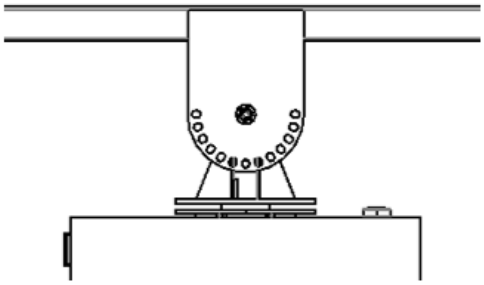
NOTICE
For maximum charging, make sure the solar panels face north with correct tilt angle.

⚠ DANGER
Do not operate/set up the unit in a dangerous area or under hazardous weather conditions such as strong wind, storm or overhead power lines.

NOTICE
The tower will alarm when it is unlevel. Do not raise the tower when the alarm is triggered.

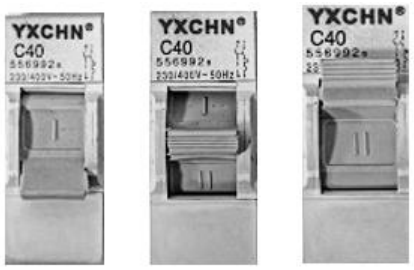
1. Place the solar pod on a level and solid ground, and use the bubble level on the base to check if the unit is level.
2. Pull out the locking pins on the top of the mast rotation plate, **TILT** the panel to the required angle and **ROTATE** the solar panel until it faces north. Refer to the table below based on your location.

Location	Summer Angle November-April	Winter Angle May-October
Darwin	15	15
Port Hedland	15	45
Brisbane	15	45
Perth	15	45
Sydney	15	45
Adelaide	15	45
Albany	15	45
Auckland	15	45
Melbourne	15	45


The user can adjust from 0° to 135° degrees.

NOTICE
The rotation locking hole and locking pin will get damage by the wear and tear. Using different locking hole if the locking pin doesn't secure the rotation plate. Replace locking pin or rotation plate if necessary.

3. Connect the Anderson plug to the battery (if needed) and turn on the battery circuit breakers and the battery/solar isolator.
4. Wait until the Battery Meter powers on, then energize the remaining circuit breakers.
5. Set the Dimming switch to
   - **Mode I-PIR:** movement sensing, the brightness will change from dimming to 100% when the sensor detects movement. After a preset delay, the lights will change back to dim mode.
   - **Mode II-DIM**: Manual Dimming output
   - **MODE-O: FULL**: Full Brightness output



Mode I-PIR Mode O – FULL Mode II-DIM

NOTICE
For continous night illumination of the unit, it is recommended to set the unit with Mode I function and the dimming level set according to the table above.

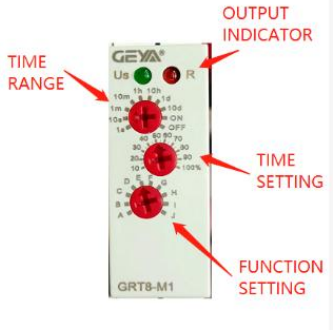
6. Set the LED Function Switch to the desired mode.

- **MANUAL**: LIGHT MANUAL ON mode.
- **TIMER**: TIMER ON/OFF mode. The lights will be turned on and off based on the timer controller settings.
- **AUTO**: DAWN/DUSK mode. The light operation will be based on ambient light (default 25lux).

7. Crank the winch up using the winch handle until the hole in the mast aligns with the inspection hole. After the mast is extended, fit the locking pin through the inspection hole and apply R-clip and padlock.
8. Lower the mast slowly until the mast sits on the mast locking pin.
9. Rotate the winch handle until it is pointing down. Close the winch box and apply the padlock attached and secondary latch if fitted.

NOTICE
If the battery gets low due to a long period of cloudy weather, the VSR will trigger and dim the light to extend the run time of the LED light.

3.3 PIR AND MANUAL DIMMING



In both mode I (PIR controlled) and mode II (dimming), the dimming is governed by the LED dimmer (component No. 1) at top of control panel.

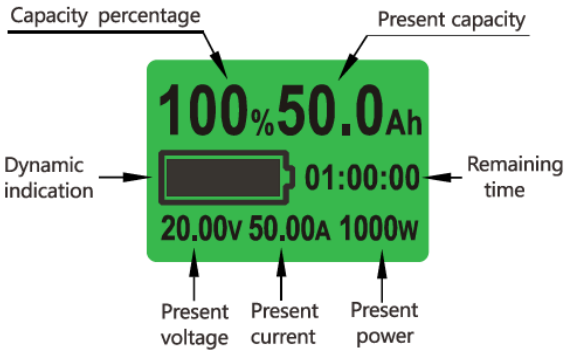
The LED will switch to full brightness in mode I after the PIR sensor detects a movement. The unit will switch back to dimming after a time delay determined by the Timer relay. The delay is set by time range x time setting through the top two dials on the timer relay.

NOTICE
The timer should always stay in Function E, failure to do so will result in LED malfunction.

To adjust the dimmer, please first switch off the load circuit and solar breaker.

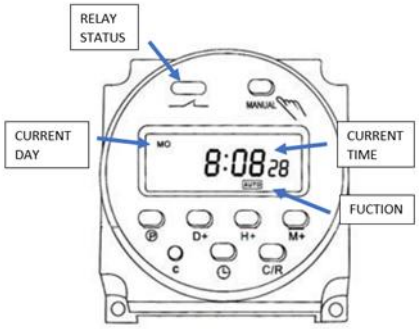
1. Switch the function switch to Mode II (Dimming Mode)
2. Switch on the Load breaker
3. Switch the LED function switch to Manual On,
4. Slowly adjust the dimmer until the load wattage on the battery meter is the same as the Recommended dimming wattage table below.
5. Switch on the Solar Breaker
6. Change the LED Function switch and function switch back to the desired modes.

Location	Recommend Dimming (LED output wattage)
Darwin	114
Port Hedland	114
Brisbane	108
Perth	86
Sydney	84
Adelaide	84
Albany	66
Auckland	70
Melbourne	60



3.4 TIMER CONTROLLER OPERATION

1.	Ⓟ	Timer
2.	D+	Day
3.	H+	Hour
4.	M+	Min
5.	🕓	Clock
6.	C	Reset
7.	MANUAL	Function switch
8.	C/R	Cancel/recovery



1. For the first time start: press the reset key (**C**) to reset the parameter.
2. Press clock (🕓) to check the current time setting, then press D+, H+, M+ while press and hold 🕓 to adjust the present time.
3. Program the time as shown below:

Step	Key	Programming
1.	Press Ⓟ	The screen will display 1-ON (setting-1 ON time)
2.	Press H+/M+	Program hours and minutes for 1-ON time
3.	Press D+	Program 1-ON day in the week
4.	Press Ⓟ	The screen will display 1-OFF (setting-1 OFF time)
5.	Press H+/M+	Program hours and minutes for 1-OFF time
6.	Press D+	Program 1-OFF day in the week
7.	Repeat steps 2-6	Set 2-17 on/off time. If you do not require other time settings, go to step 8
8.	Press 🕓	Escape programming
9.	Check the timer function is on AUTO(default), if not, press the “manual” button till the function change from OFF to AUTO mode	

3.5 LOWERING THE MAST

> **⚠ WARNING**
> Always pay attention to the surroundings during lowering. Ensure the mast cables are not tangled during the process.

> **NOTICE**
> Do not turn off the battery and PV isolator and circuit breaker after each operation. the isolator is only for maintenance and emergency purposes.

> **⚠ WARNING**
> If the mast tower does get stuck in the raised position or drops suddenly, stop immediately and contact the local Globe Power authorised dealer or service centre.

1. To retract the mast, crank the winch up until the mast weight is off the locking pin.
2. Remove the mast locking pin and lower the mast.
3. Open the electrical cabinet and turn off LED function switch**.**
4. Rotate and tilt the solar panel until it is vertically down.
5. Fit tilt and rotation locking pin and fit R-clips.

3.6 MAST DESCENT CONTROL (OPTIONAL)

The solar smart flood light tower features a hydraulic cylinder that controls the descent operation. If the mast cable is broken, cut, or worn, causing the mast to free-fall, the hydraulic cylinder will allow the last section of the mast to descend slowly and smoothly for safe operation.

- Only authorised technicians are allowed to adjust the cylinder's release valve. Please get in touch with Globe Power or the local service centre if the cylinder requires adjustment.

3.7 AC BATTERY CHARGER

1. Connect the power cable to the 10A inlet through a tagged extension lead.
2. Turn on the AC charger isolator.
3. Check the AC charger is powered on
4. Once the charger starts charging, the battery meter’s backlight will begin blinking, and the dynamic indication will start flashing too.
5. The charging time is indicated by the capacity percentage and the remaining time on the battery meter. Once charging ends, turn off the AC isolator and unplug the AC power supply.

4 TRANSPORT

> **⚠ WARNING**
> Ensure the load circuit breaker is de-energized and first and secondary latch (if fitted) is locked before transportation.

Make sure the mast is in **TRANSPORT MODE** (fully lowered, and the solar panel is locked and packed in a vertical position) before transport. Follow the following steps to prepare the unit for transport.

4.1 LIFTING WITH FORKLIFT

The unit can be lifted in transport mode using the fork pockets on each side of the tower. For approximate weights, refer to the spec plate on the mast. Always remain aware of people and objects when moving or lifting the unit.

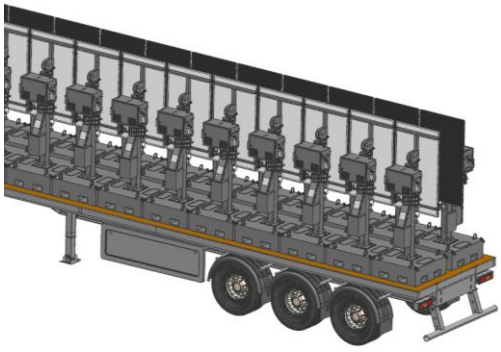
4.2 LIFT WITH CRANE

> **⚠ WARNING**
> Only qualified rigger and crane operator should lift the machine. Be sure the lifting point, lift capacity, loading surfaces and straps are sufficient.

1. The lift points are connected to the lift structure of the unit. Attach a long flex sling directly to the lift point in each tower corner.
2. Approach the unit perpendicular to avoid any damage to the unit.
3. Check the bubble level

4.3 TIE-DOWN

1. **Always** load the tower to the truck with the solar panel facing inside, as shown below. Potential panel damage will occur if the solar panel faces directly to the travel direction.
2. When securing the unit for transportation, ensure all 4 x tie-down points are used.
3. Use a minimum of two chains/straps to secure the machine.



5 MAINTENANCE

5.1 SERVICING THE UNIT

Regular maintenance service and replacement of parts are the responsibility of the owner/operator and, as such, are not considered defects in materials or quality within the terms of the warranty.
It is strongly recommended that a Globe Power Authorized Dealer periodically check the equipment. All work carried out during the warranty period must be done by a Globe Power Authorized Dealer.

Periodic maintenance and occasional repairs are necessary for safe operation and maximum usable life. NEVER perform routine service unless all electrical components are shut down and isolated and locked out. Before servicing this equipment, make sure you are familiarised with the servicing manual.

5.2 MAINTENANCE CHECKS

> **⚠ WARNING**
> Failure to comply with the maintenance procedures described in this manual will breach the warranty, decrease performance, and cause equipment damage or premature equipment failure. Maintenance records are required to be completed for warranty

Use the schedule in the following table as a guide for regular maintenance intervals.

Item	Before each Setup	6 months	12 months
Doors, door seal and door latches are secured	★		
Mast	★		
Batteries		★	
Manual winch	★		
mast wear pads are tight		★	
Electrical wiring			★
Solar panels, clean as required	★	★	
Lights, tilt and rotation		★	
Function test			★

- Check the wiring regularly for UV damage, frictional wear, dryness, insects, etc. Repair if necessary.
- Tighten all the terminals. Inspect for loose, broken, or burnt/discoloured signs.
- Check for dirt, nesting insects, water leak, blocked vent, corrosion, or any physical damage on the control box. Repair if necessary.
- Inspect solar panels regularly for dirt or any physical damage, and clean/replace them if necessary.
- Check for the tightness/play of the panel rotation bearing/disc. Tight up the disc if necessary.
- Inspect the winch/mast cable periodically, and check for corrosion, kinks, slices, fraying or any physical damage. Replace if necessary.