## **OPERATION MANUAL**



# GloBug MODEL GB43LED LIGHTING SYSTEM SERIAL NO. G4100154 AND ABOVE

Revision #3 (9/12/23)

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(200000)	

THIS MANUAL MUST ACCOMPANY THE EQUIPMENT AT ALL TIMES.




## **GB43LED Lighting System**

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#### NOTICE

Specifications and part numbers are subject to change without notice.

Do not operate or service the equipment before reading the entire manual. Safety precautions should be followed

at all times when operating this equipment. Failure to read and understand the safety messages and operating instructions could result in injury to yourself and others.



#### SAFETY MESSAGES

The four safety messages shown below will inform you about potential hazards that could injure you or others. The safety messages specifically address the level of exposure to the operator and are preceded by one of four words: **DANGER, WARNING, CAUTION** or **NOTICE.** 

#### SAFETY SYMBOLS

#### 🚹 DANGER

Indicates a hazardous situation which, if not avoided, WILL result in DEATH or SERIOUS INJURY.

#### 

Indicates a hazardous situation which, if not avoided, COULD result in DEATH or SERIOUS INJURY.

#### 

Indicates a hazardous situation which, if not avoided, COULD result in MINOR or MODERATE INJURY.

#### NOTICE

Addresses practices not related to personal injury.

Potential hazards associated with the operation of this equipment will be referenced with hazard symbols which may appear throughout this manual in conjunction with safety messages.

Symbol	Safety Hazard	
	Burn hazards	
Ż	Electric shock hazards	

## SAFETY INFORMATION

#### **GENERAL SAFETY**

### 

NEVER operate this equipment without proper protective clothing, shatterproof glasses, respiratory protection, hearing protection, steel-toed boots and other protective devices required by the job or city and state regulations.





- NEVER operate this equipment when not feeling well due to fatigue, illness or when under medication.
- NEVER operate this equipment under the influence of drugs or alcohol.







- ALWAYS check the equipment for loosened threads or bolts before starting.
- **DO NOT** use the equipment for any purpose other than its intended purposes or applications.

#### NOTICE

- This equipment should only be operated by trained and qualified personnel 18 years of age and older.
- Whenever necessary, replace nameplate, operation and safety decals when they become difficult read.
- Manufacturer does not assume responsibility for any accident due to equipment modifications. Unauthorized equipment modification will void all warranties.
- NEVER use accessories or attachments that are not recommended by Multiquip for this equipment. Damage to the equipment and/or injury to user may result.
- ALWAYS know the location of the nearest fire extinguisher.



- ALWAYS know the location of the nearest first aid kit.
- ALWAYS know the location of the nearest phone or keep a phone on the job site. Also, know the phone numbers of the nearest ambulance, doctor and fire department. This information will be invaluable in the case of an emergency.



#### LIGHTING SYSTEM SAFETY

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NEVER disconnect any emergency or safety devices. These devices are intended for operator safety. Disconnection of these devices can cause severe injury, bodily harm or even death. Disconnection of any of these devices will void all warranties.

#### 

**NEVER** attempt service on a running machine.

#### NOTICE

- To prevent the lighting system from overturning, NEVER use in winds that exceed 40 mph.
- The lighting system should only be used in temperatures between 23° to 104°F (-5° to 40° C).
- ALWAYS keep the lighting system in proper running condition.
- Fix damage to lighting system and replace any broken parts immediately.
- ALWAYS store equipment properly when it is not being used. Equipment should be stored in a clean, dry location out of the reach of children and unauthorized personnel.

#### LAMP SAFETY

#### **WARNING**

- NEVER attempt to replace lamp with the power on. Always unplug the power cord from the generator or power source when changing the lamp.
- ALWAYS allow a sufficient amount of time for the lamp to cool before changing. The possibility exists of severe burns.

#### 

■ NEVER use force when installing the lamp. Excessive force could cause the lamp to break, causing bodily harm.

#### NOTICE

- NEVER leave any grease or oil residue on lamp surface when replacing or removing lamp. This can create hot spots, reducing the service life of the lamp.
- ALWAYS make sure lamp surface is clean and dry.
- ALWAYS replace with MQ recommended type lamp. See parts section of this manual.
- NEVER unplug the lamp's AC power cable during operation.
- ALWAYS have a trained technician to install and remove lamp or replace any damaged fixture wiring.

#### **GENERATOR SAFETY**

If using a generator to power lighting system, refer to applicable generator manual safety information section.



#### **ELECTRICAL SAFETY**

#### DANGER

Lighting system is equipped with a ground pin on the power plug. For your protection, ALWAYS complete the grounding path. NEVER insert the AC power plug into a 2-prong receptacle to operate lighting system.

When applying power to the lighting system, **ALWAYS** connect the AC power plug to a 3-prong receptacle that is grounded. The possibility exists of **electrical shock**, **electrocution and even death** if the lighting system is not grounded.

NEVER operate lighting system or handle any electrical equipment while standing in water, while barefoot, while hands are wet or in the rain. A dangerous electrical shock could occur, causing severe bodily harm or even death.



ALWAYS make sure the area above the lighting system is open and clear of overhead power lines and other obstructions. Contact with overhead power lines or other obstructions could result in equipment damage, electrical shock, electrocution and



#### even death.

#### **Power Cord/Cable Safety**

#### **DANGER**

- NEVER let power cords or cables lay in water.
- NEVER use damaged or worn cables or cords. Inspect for cuts in the insulation
- NEVER grab or touch a live power cord or cable with wet hands. The possibility exists of electrical shock, electrocution or death.



Make sure power cables are securely connected. Incorrect connections may cause electrical shock and damage to the lighting system.

#### NOTICE

ALWAYS make certain that proper power or extension cord has been selected for the job. See Cable Selection Chart in this manual.

#### LOADING AND UNLOADING

#### Cart Type - With Lifiting Hook

If lighting system is equipped with a transport lifting hook, refer to the following safety information.

#### 

- Before lifting, make sure that lighting system parts are not damaged and screws are not loosened or lost.
- ALWAYS make sure crane or lifting device has been properly secured to lifting hook of the equipment.
- **NEVER** lift the equipment while lighting system is running.
- Make sure the mast is completely lowered before lifting the lighting system.

- Use adequate lifting cable (wire or rope) of sufficient strength.
- Use one point suspension hook and lift straight upwards.



- Never allow any person or animal to stand underneath the equipment while lifting.
- DO NOT lift machine to unnecessary heights.

#### Cart Type - No Lifiting Hook

If lighting system is not equipped with a transport lifting hook and the mast is removable, refer to the following safety information.

- The cart's weight makes it prohibitive to be lifted by individuals.
- When transporting the lighting system, always fully lower the mast assembly and place the 4 lamps in their horizontal (stowed) position.

#### TRANSPORTING SAFETY

#### NOTICE

ALWAYS remove lamp assembly from the mast when transporting lighting system. This will prevent damage to the lamp due to vibration.

## **SPECIFICATIONS**

Table 1. Specifications				
Model	GB43LED			
Input Voltage	120 VAC			
Max. Current	11 Amps			
Frequency	60 Hz			
Appropriate Generator	2,500 Watts			
Wind Stability with Generator	40 mph (64.37 kph)			
Weight (less generator)	316 lbs. (143.33 kg)			
Lamp				
Lamp Type	Four 300W LED			
Lamp Material	Polycarbonite Spotlight			
Lumens	152,000			
Lamp Life	40,000 hours			
Plug Type	NEMA 5-15P			
Mast				
Number of Stages	4			
Maximum Height	17 ft. (5.2 meters)			
Mast (Raise)	Manual Winch			
Cart				
Cart Type	Steel, Zinc-Plated			
Outriggers	2			
Wheels	Four 11.8-inch (300 mm) Puncture-Proof			
Brake System	Mechanical			
Generator (See Specified Generator N	lanual)			



Figure 1. Dimensions

	Table 2. Dimensions					
Reference Dimension Letter in (mm)		Reference Letter	Dimension in (mm)			
Α	41.7 (1060)	Н	34.6 (878)			
В	29.9 (760)	I	61.0 (1550)			
С	63.0 (1600)	J	43.7 (1110)			
D	31.5 (800)	K	40.9 (1040)			
E	3.9 (100)	L	29.1 (740)			
F	80.3 (2040) - 207.1 (5260)	М	Ø 11.8 (300)			
G	69.3 (1760)					

## irradiation angle : 60 degrees



illuminance (footcandles)	20	10	5	2.5	1	0.5
distance(ft)	31.6	41.7	53.6	68.4	93.1	117.4

**Figure 2. Footcandle Plot** 

## **GENERAL INFORMATION**

The Multiquip GloBug model GB43LED is a compact 1,200W LED mobile cart lighting solution that supports multiple lighting solutions such as: indoor/outdoor construction, emergency and first response situations, residential and industrial jobs, and for area security.

The lighting system comprises (4) 300W LED lamps with internal power units that provides an output of 152,000 total lumens. The unit requires common 120 VAC, 60 Hz single-phase power that can be accepted from a portable generator or an established power source.

The industrial grade mobile cart is made from zinc-plated steel and provides four puncture-proof tires, mechanical foot brake, lifting bale, and stability outriggers.

#### NOTICE

If a portable generator is used to power the GB43LED, please refer to its Operations and Parts Manual for proper operating procedures.

The GloBug GB43LED has the following features:

- Highly efficient LED lamps produce clean, clear light and deliver 40,000 hour service life.
- Immediate lighting as lamps strike instantly with no waiting required at start-up or during re-strike.
- Durable lamp housings feature aluminum and poly construction along with shatter resistant lenses.
- Flexible power options permit connection to local 120 volt power or portable generator.
- Mechanically assisted 4-stage mast extends to a maximum height of 17 feet.
- Rugged steerable cart utilizes zinc-plated steel to prevent corrosion.
- Large puncture-proof tires permit easy on-site mobility.
- Versatile platform allows secure mounting of most pipeframe generators and includes center-mount lifting bale.
- Stability assured through mechanical foot brake and dual locking outriggers.
- Folds to tight 3.6' x 3.5' x 6.8' footprint for transport and storage.



**Figure 3. Major Components** 

Figure 3 shows the location of the controls and components for the GloBug GB43LED. The functions of each control is described below:

- 1. **Lamp** 300 Watt LED lamp that delivers 40,000 hour service life.
- Lamp Arm Holds the lamp and allows it to be individually twisted left to right and vice versa.
- 3. **Adjust Lever** This lever allows the lamp to be positioned up or down. Turn counterclockwise to release lamp and position. Turn clockwise to tighten.
- 4. Main Power Switch-to-Lamp Power Cord Connects the lamps to the power (generator).
- Mast This mast is comprised of four separate stages. The mast can be raised up to a maximum height of 17 feet (5.2 meters). When raising the mast, always be on the lookout for overhead obstructions.
- Mast Winch Use this winch to raise and lower the mast. Always be on the lookout for overhead obstructions. Keep immediate area free of bystanders and debris when raising the mast.
- 7. Winch Handle Use this handle to adjust the mast height.
- 8. Steering Handle The GB43LED can be moved in either a forward or reverse direction by pulling back or pushing forward on the T-handle. In addition, the front wheels are designed to turn in the opposite direction of the T-handle placement thus allowing the unit to turn either left or right.
- 9. **Counterweight Lever** Holds the outriggers in place when deployed.
- 10. Lamp Switches Left switch turns upper lamps on and off. Right switch turns lower lamps on and off.
- 11. **Brake Pedal** Step on this pedal to apply the brakes. To release the brakes, press down on brake pedal again.
- 12. **Tires** The GB43LED uses 4 pneumatic type

tires. Replace with only recommended type tire. **NEVER** allow the rear tires to go flat. This could adversely affect the braking system. Inflate tires to 35.5 psi (245 kPa).

- 13. **Outriggers ALWAYS** deploy the outriggers when raising the mast.
- 14. **Brake Pad** When the brake pedal is pressed, this pad will strike and hold the rear tires in place. Make sure rear tires are inflated to the correct air pressure.
- 15. **Catcher** Holds the outrigger in place in the stow position.
- 16. **Cart** Holds the generator that supplies power to the lighting unit.
- 17. Locking Clamps To secure the generator to the GB43LED cart platform, place clamps (4) around the pipe frame of the generator. Tighten securely to prevent movement.
- 18. **Generator Stopper** Holds the generator in place.
- Lift Hanger When lifting of the GB43LED is required, always use a suitable lifting device of adequate lifting capability. NEVER stand underneath the GB43LED while it is being lifted.
- 20. **Fold Lever** Holds the lamp stand in place after adjusting its position.
- 21. Lamp Stand Holds the four lamps and allows the lamps to be positioned.
- 22. Main 120 VAC Power Cord (with molded NEMA5-15P Plug) — This plug-end may be connected to a suitable portable generator (11 amps at 120 VAC) or to an established power source.

#### 



Please read this entire manual carefully before attempting to operate the GB43LED. Failure to read this manual could cause damage to the unit and serious injury to the operator.

#### **CART SETUP**

1. Move the GB43LED, using the T-handle (Figure 4), to a firm level surface so that it will not slide or turn over.



#### Figure 4. T-Handle (Directional Control)

2. To apply the parking brake (Figure 5), step on the brake pedal and pull back on the T-handle. This will lock the rear wheels. For additional safety, use chock blocks to prevent rolling.



Figure 5. Parking Brake (Set Position)

3. Lift up on each outrigger (2) from its stow position, rotate backwards and place it in the deployed position, as shown in Figure 6. The outriggers will automatically lock in place once they touch the ground.



#### Figure 6. Outriggers (Deployed Position)

#### **RAISING THE LAMP STAND**

1. Support the lamp stand with one hand and pull up the fold lever with the other hand. The lever will spring up. See Figure 7.



#### **Figure 7. Raising Lamp Stand**

2. Pull up the light stand to raise it and push down the

fold lever to lock the lamp stand (Figure 8).



#### Figure 8. Locking Lamp Stand

#### 

When operating the fold lever, keep hands and fingers clear of the pinch points to prevent injury.

#### TURNING ALL LIGHTS IN ONE DIRECTION

1. Loosen the adjust lever. Turn the lighting units in the desired direction (Figure 9).



#### Figure 9. Adjusting Direction of Lighting Units

#### TURNING LIGHTS INDIVIDUALLY

1. Hold the arm of the lamp and turn it to the desired direction (Figure 10).



# Figure 10. Adjusting Direction of Individual Lamp

#### ADJUSTING ANGLE OF THE LIGHTS

1. Hold the lamp and tilt it to the desired direction (Figure 11).



## Figure 11. Adjusting Angle of Light

#### ADJUSTING HEIGHT OF THE LIGHTING UNIT

2. Turn the handle of the mast winch clockwise to raise the lighting unit and turn the handle of the mast winch counterclockwise to lower the lighting unit (Figure 12).



#### Figure 12. Adjusting Height of Lighting Unit



DANGER

When raising mast, **ALWAYS** be on the lookout for overhead obstructions such as high voltage power lines. The possibility exists of electrocution, even death, if the GB43LED comes in contact with high voltage power lines.

#### 



When raising or lowering the mast, keep hands and fingers clear of the various mast sections. This will prevent hands and fingers from getting pinched.

## **OPERATION**

#### **APPLYING POWER**

1. Make sure both lamp switches (Figure 13) are in the OFF position.



#### Figure 13. Lamp Switches

#### CAUTION Before the gene operation generato manual c to the equ the operation

Before attempting to operate the generator, **READ** the entire operation section of the supplied generator manual. Failure to read manual could cause severe damage to the equipment and bodily harm to the operator.

- The GB43LED has a power requirement of 120 VAC, 60 Hz @ 11 amps. For generator operations, select a properly sized unit that provides the receptacle to match the AC power cord plug (5-15P). Plug the GB43LED into the receptacle and follow the operating instructions of the generator.
- 3. For hard-wired power source operations, select the proper receptacle to match the unit's AC power cord plug (5-15P).

 Lamp operations are controlled by (2) ON/OFF toggle switches located on the Main Switch Box (Figure 14). The left lamp switch controls both upper lamps, and right lamp switch controls both bottom lamps.



#### Figure 14. Turning ON/OFF Lamp Switches

 When the lamp switches are placed in the ON position, the LEDs should fully illuminate within seconds. The LED lamps provide immediate strike/re-strike capability.

#### SHUTDOWN

- 1. Place the GB43LED lamp switches to the OFF position.
- 2. If a generator is used as the power source, turn the circuit breaker providing power to the GB43LED to the OFF position and secure the generator.
- 3. If a hard-wired power source is used, pull the GB43LED power plug from the receptacle and secure it to the light cart.

#### PREPARATION FOR STORAGE

- 1. Using the mast winch (Figure 12), lower the mast fully. Turn winch handle counterclockwise to lower mast.
- 2. Set the lighting units facing the front (Figure 15).



Figure 15. Lighting Unit Facing Front

3. Holding the lamp stand with one hand, pull up the fold lever with the other hand (Figure 16).



Figure 16. Lowering Lamp Stand

4. Push down the lamp stand (Figure 17). Some force is required when pushing down because of the installed springs.



#### Figure 17. Pushing Down Light Stand

5. After lighting unit has been completely pushed down, push down fold lever (Figure 18) to lock the lamp stand in place.



Figure 18. Locking Lamp Stand

6. To unlock outriggers, push downward on the counterweight lever indicated by arrow (Figure 19).



#### Figure 19. Outriggers (Released)

7. Grab hold of outrigger, pull upward, push down and place in stow position (Figure 20).



Figure 20. Outriggers (Stow Position)

8. Press down on the top of the brake pedal (Figure 22) and hold, then release. This action will disengage the brake mechanism and allow the GB43LED to be moved.



#### Figure 21. Parking Brake (Released Position)

#### STORAGE

- Wipe dirt or foreign matter that may have accumulated on the GB43LED during operation. Use a mild detergent to clean the unit. **DO NOT** spray the engine with water.
- 2. Avoid storing the GB43LED in areas that can be exposed to rain, harsh elements, and high humidity.
- 3. Place the GB43LED in a clean dry location away from dirt and debris.



### MAINTENANCE

	4		Table 3. Maintenance Chart	0 - I. ( <sup>1</sup>	<b>.</b>	
Loca	1	Part	Symptom	Solution	Freq	
	L1	Cable Gland	Loose?	Screw tightly.	•	
	L2	Pin Terminal	Loose or disconnected?	Tighten or connect securely.		
1	L3	Nut	Too loose or too tight?	Tighten correctly.		
Lamp	L4	Hinge for Lamp Stand	Hinge does not move smoothly?	Apply grease.	•	
	L5	Pivot for Lamp Stand	Pivot does not turn smoothly?	Apply grease.	•	
	L6	Lamp	Lamp burned or damaged?	Replace.	•	
	L7	Polycarbonate Cover	Dirty?	Wipe off dirt.	•	
	M1	Fold Lever	Does not lock and unlock properly?	Repair.	•	
	M2	Mast Sliding Surface	Does not slide smoothly?	Apply grease.	•	
	M3	Pulley, Top of Winch	Does not move smoothly?	Apply grease or replace	•	
Mast	M4	Wire Rope	Damaged, rusty, frayed?	Apply grease or replace.	•	
mast	M5	Wire Rope End	Damaged (caulking)?	Replace.	•	
	M6	Winch Brake	Defective?	Replace.	•	
	M7	Winch Stopper	Does not operate properly?	Replace	•	
	M8	Safety Stop	Loose wire rope and stopper jutting out?	Repair or replace.		
	C1	Counterweight	Does not move smoothly?	Spray grease.	•	
	C2	Outriggers	Do not move smoothly?	Spray grease.	•	
	C3	T-handle and Wheels	Loose links?	Tighten securely.	•	
	C4	Bolt for Handle	Loose bolt?	Tighten securely.	•	
	C5	Brake Pedal	Linkage not working smoothly?	Check, spray grease	•	
Cart	C5	Brake Pedal	Notch worn-out?	Replace.	•	
	C6	Hanger	Loose installation?	Fasten securely.	•	
	C7	Tires	Damaged?	Replace.	•	
	C8	Tire Pressure	Tire pressure not 35.5 psi (294 kPa)?	Adjust.	•	
	C9	Link for Front Shaft	Linkage does not move smoothly?	Spray grease.	•	
	C10	Brake	Does not work properly?	Adjust.	•	

## TROUBLESHOOTING

Troubleshooting ( LED Lamps)					
Symptom	Possible Problem	Solution			
	Are couplers not securely connected?	Connect coupler correctly.			
	Is generator lamp switch turned off?	Turn on switch.			
	Are connectors not properly connected?	Connect disconnected contactor.			
Lamp does not light.	Are any other electric appliances (other than light tower) plugged into power source?	Unplug all other appliances.			
	Is input not 100 VAC?	Make sure input is 100 VAC.			
	Is fan inside light tower not operating properly?	Repair or replace.			
Lamp only lights for a short time.	Is generator used not appropriate?	Use generator with sufficient capacitance.			
	Is ambient temperature too high - more than 104 °F (40 °C)?	Move lamp where there is proper ventilation.			

## TROUBLESHOOTING

	Troubleshooting (Mast)					
Symptom	Possible Problem	Solution				
	Is cable caught in mast?	Set cable free.				
Mast cannot be	Is end of wire rope disconnected from winch?	Connect wire rope to winch.				
raised.	Does surface of mast not slide smoothly?	Apply grease to sliding surface of mast.				
	Is winch handle being turned in the wrong direction?	Operate correctly.				
Mast keeps coming down.	Is winch latch defective?	Replace part if not functioning properly.				
	Is dram shaft loose?	Tighten dram shaft and check its operation.				
	Does surface of mast not slide smoothly?	Apply grease to sliding surface of mast.				
The mast cannot be lowered.	Is brake disk of winch held tight?	Holding winch handle securely, remove the latch and lower mast slowly (Repair).				
	Is safety stopper not working correctly?	Winch up mast a little and lower mast by putting a load on it (Repair).				



9	E-0001534-00	SWITCH	2
8	A-4004021-00	WIRE(JOINT 6)CP	2
7	A-4004020-00	WIRE(JOINT 5)CP	2
6	A-4004019-00	WIRE(JOINT 4)CP	1
5	A-4004018-00	WIRE(JOINT 3)CP	1
4	A-0000620-00	LED300W SPOT LIGHTING UNIT L AY	2
3	A-0000619-00	LED300W SPOT LIGHTING UNIT R AY	2
2	A-3003297-00	WIRE(LAMP)CP	1
1	A-3003341-00	CABLE (MAIN GB43LED) CP	1
NO.	PART NUMBER	DESCRIPTION	QTY

## **OPERATION MANUAL**

# **HERE'S HOW TO GET HELP**

PLEASE HAVE THE MODEL AND SERIAL NUMBER ON-HAND WHEN CALLING

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This manual MUST accompany the equipment at all times. This manual is considered a permanent part of the equipment and should remain with the unit if resold.

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