

OPERATION AND PARTS MANUAL



GloBug Solo **MODEL GB114BW** **LIGHTING SYSTEM**

Revision #5 (01/06/09)

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THIS MANUAL MUST ACCOMPANY THE EQUIPMENT AT ALL TIMES.

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MQ GLOBUG SOLO LIGHTING SYSTEM

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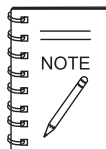
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GLOBUG SOLO LIGHTING SYSTEM — SAFETY INFORMATION

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**.

WARNING

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

CAUTION

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
	Electric shock hazards

GENERAL SAFETY

CAUTION

- **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.



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.



GLOBUG SOLO LIGHTING SYSTEM — SAFETY INFORMATION

LIGHTING SYSTEM SAFETY

DANGER

- **NEVER** use lighting system in **rain, snow** or areas of high humidity that could generate electrical storms.



WARNING

- **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.

CAUTION

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

NOTICE

- To prevent the lighting system from overturning, **NEVER** use in winds that exceed 22mph (10 m/s).
- The lighting system should only be used in temperatures between 23° to 104°F (-5° to 40° C). Failure to comply with these operating parameters could cause the lamp to malfunction and shorten the ballast life.
- **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.

CAUTION

- **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.
- If applicable, **ALWAYS** make sure the lamp guard is installed correctly. **NEVER** deform the lamp guard.
- **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.

BALLOON SAFETY

WARNING

- To prevent serious burns, **NEVER** touch or unzip the balloon envelope when the lamp is on.



CAUTION

- **ALWAYS** keep the balloon away from sharp objects and excessive amounts of heat.

NOTICE

- To prevent balloon deformation, **NEVER** use lighting system in strong winds.
- **DO NOT** place the balloon inside its protective cover until the lamp has had a sufficient amount of time to cool down. This will prevent the balloon's nylon cover from being burned (touching the lamp surface).
- **ALWAYS** place the balloon inside its protective cover after each use. This will prolong the life of the balloon material, keeping it protected from harsh environmental elements.
- Replace balloon immediately if damaged. A damaged balloon will not inflate properly, and may become more damaged by touching the hot lamp surface.
- **DO NOT** use excessive force when zipping and unzipping the balloon. Be gentle with the zipper mechanism. If the zipper is broken, the balloon will become unusable.

GLOBUG SOLO LIGHTING SYSTEM — SAFETY INFORMATION

GENERATOR SAFETY

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



ELECTRICAL SAFETY

DANGER

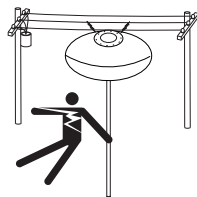
- Lighting system is equipped with a ground pin on the power plug. For your protection, **ALWAYS** complete the grounding path. **NEVER** insert the AC power plug into a 2-prong receptacle to operate lighting system.

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**.



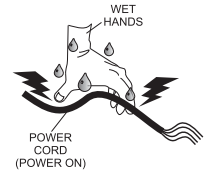
- **ALWAYS** make sure the area above the lighting system is open and clear of overhead power lines and other obstructions. Contact with overhead power lines or other obstructions could result in equipment damage, **electrical shock, electrocution and even death**.



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.

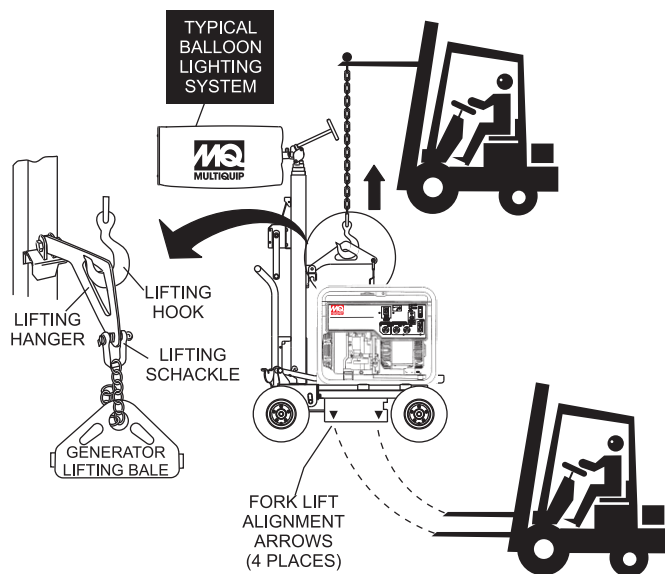
GLOBUG SOLO LIGHTING SYSTEM — SAFETY INFORMATION

LOADING AND UNLOADING

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

⚠ CAUTION

- 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.

TRANSPORTING SAFETY

NOTICE

- When transporting the lighting system, if applicable, always place in **stow position** and place mast in its carrying case.
- **ALWAYS** remove balloon/lamp assembly from the mast when transporting lighting system. This will prevent damage to the bulb due to vibration.
- **NEVER** leave the balloon/lamp exposed during transport. Exposure to excess wind or rain could damage the balloon's nylon cover.
- **ALWAYS** place balloon inside its protective cover during transport. Be sure the cover is secured tightly around the balloon/lamp assembly.

GLOBUG SOLO LIGHTING SYSTEM — SPECIFICATIONS

Table 1. Specifications

GloBug Solo	
Model	GB114BW
Input Voltage	120 VAC
Frequency	60 Hz Single-Phase
Max. Current	9.5 Amps
Wind Stability with Generator	65 mph (80.46 kph)
Weight	130 lbs. (59 kg)
Lamp	
Lamp Type	(1)1000 Watt Metal Halide
Lumens	112,000
Light Coverage (360°)	150 ft. (45.72 meters)
Surface Temperature (Longitudinal)	476.6°F (247°C) Max.
Surface Temperature (Transversal)	417.2°F (214°C) Max.
Fan Motor	
Balloon Fan Motor	115 VAC, 60 Hz
Max. Current	.360 Amps
Pressure	31.26 PSI (215.6 kPA)
Balloon	
Diameter	3.9 ft. (1.1 meters)
Material	Heat Resistant Nylon
Heat Resisting Temperature	320° ~ 356°F (160° ~ 180°C)
Melting Temperature	500°F (260°C)
Internal Temperature of Balloon	126°F (52°C) Average
Water Resistance	1,500 mm H ₂ O
Mast	
Number of Stages	3 (4 with extension pole)
Maximum Height	16.5 feet (5 meters)
Dimensions	See Figure 2, Table 2

GLOBUG SOLO LIGHTING SYSTEM — DIMENSIONS

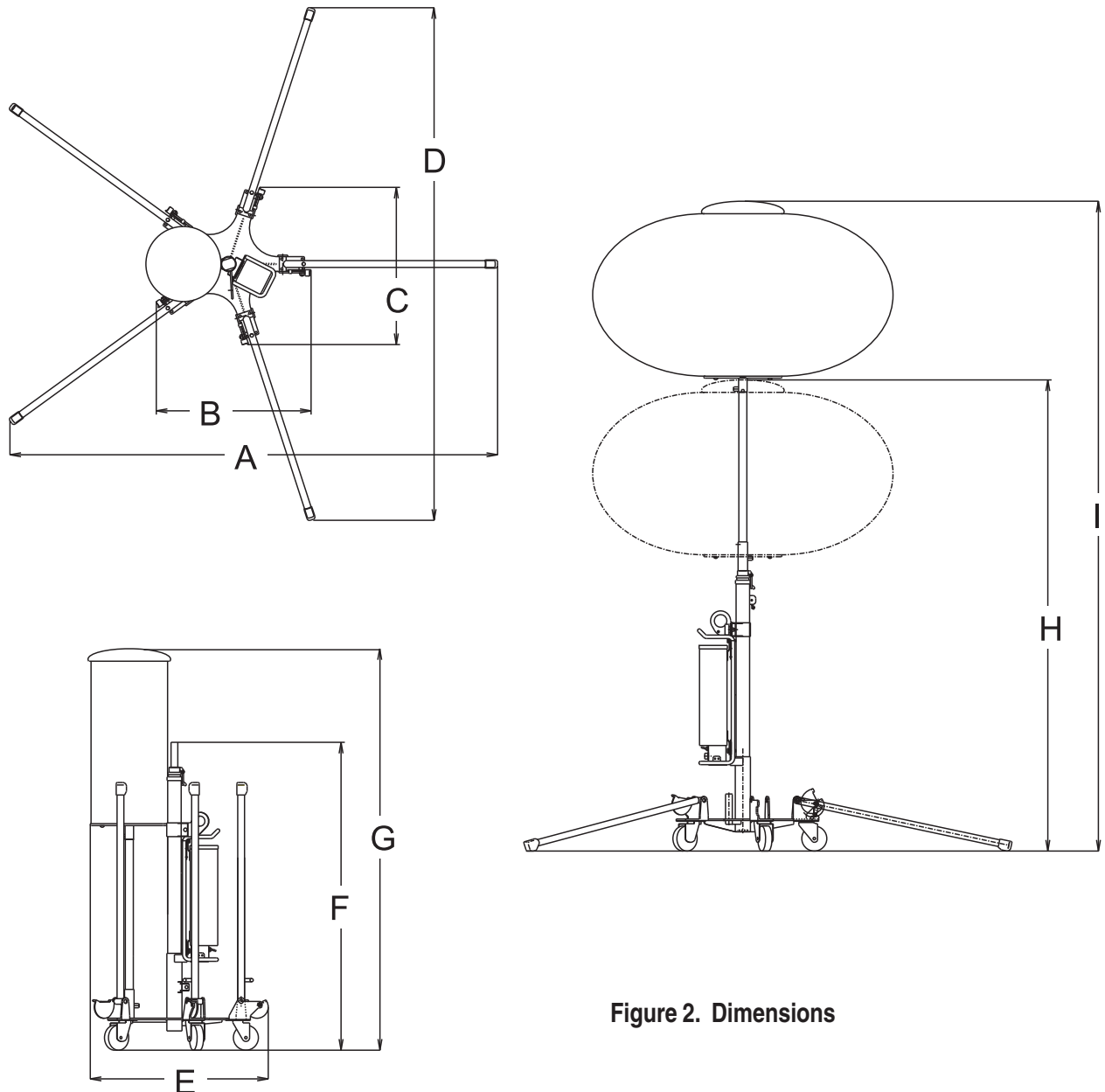


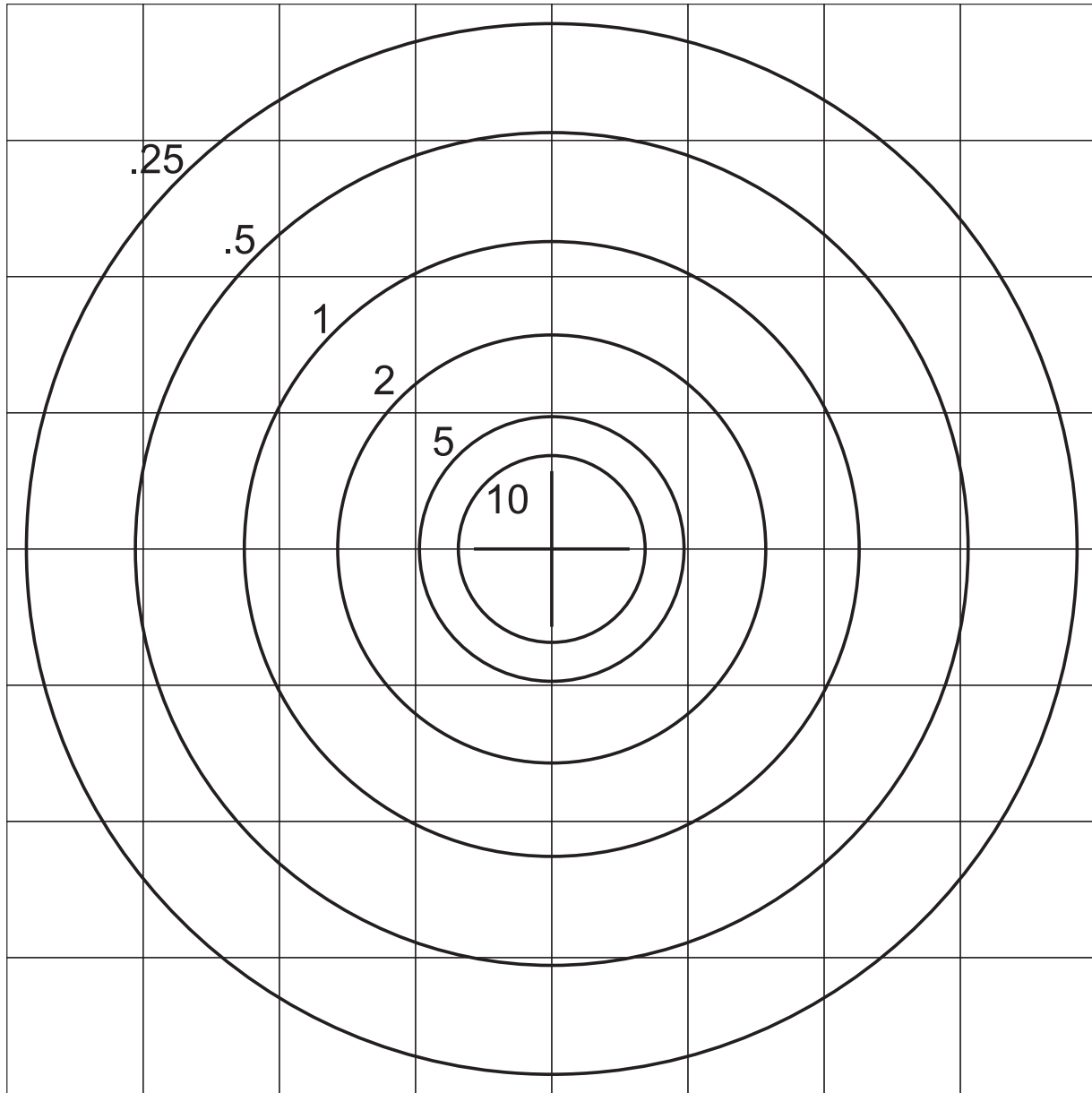
Figure 2. Dimensions

TABLE 2. DIMENSIONS

Reference Letter	Dimension ft. (mm.)	Reference Letter	Dimension ft. (mm.)
A	6.33 ft. (1,929 mm.)	F	4.0 ft. (1,219 mm.)
B	2 ft. (609 mm.)	G	5.25 ft. (1,600 mm.)
C	2 ft. (609 mm.)	H	6.08-10.9 ft. (1,853-3,322 mm.)
D	8.66 ft. (2,640 mm.)	I	8.33-12.75 ft. - (2,539-3886 mm.)
E	2.33 ft. (710 mm.)		

GLOBUG SOLO LIGHTING SYSTEM — FLOODLIGHT FOOTCANDLE PLOT

Based on 360° glare-free coverage.



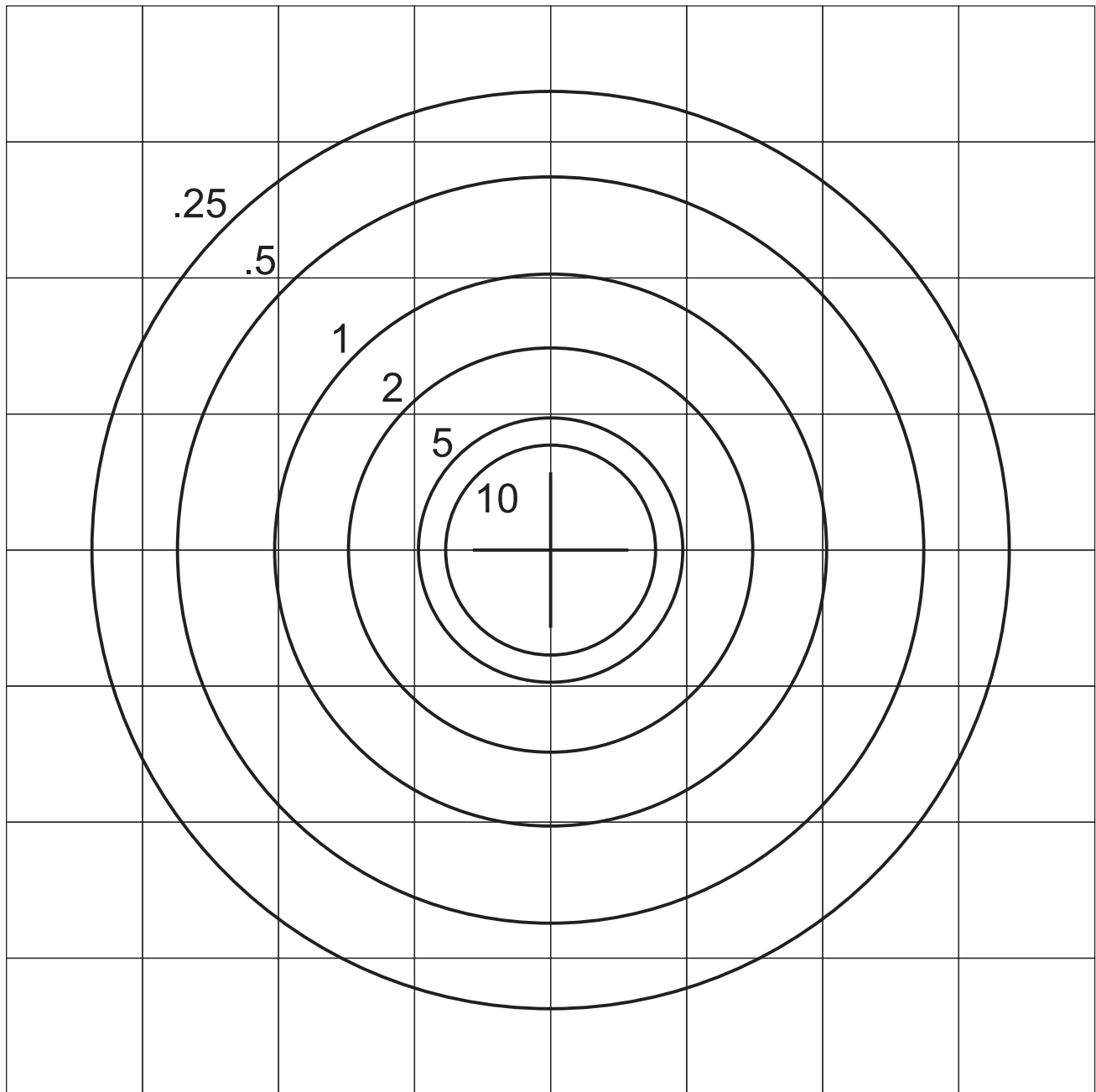
Values listed as footcandles

Scale: .5 IN. = 20 ft.

Figure 3. Floodlight Footcandle Plot (Bal120-Standard)

GLOBUG SOLO LIGHTING SYSTEM — FLOODLIGHT FOOTCANDLE PLOT

Based on 360° glare-free coverage.



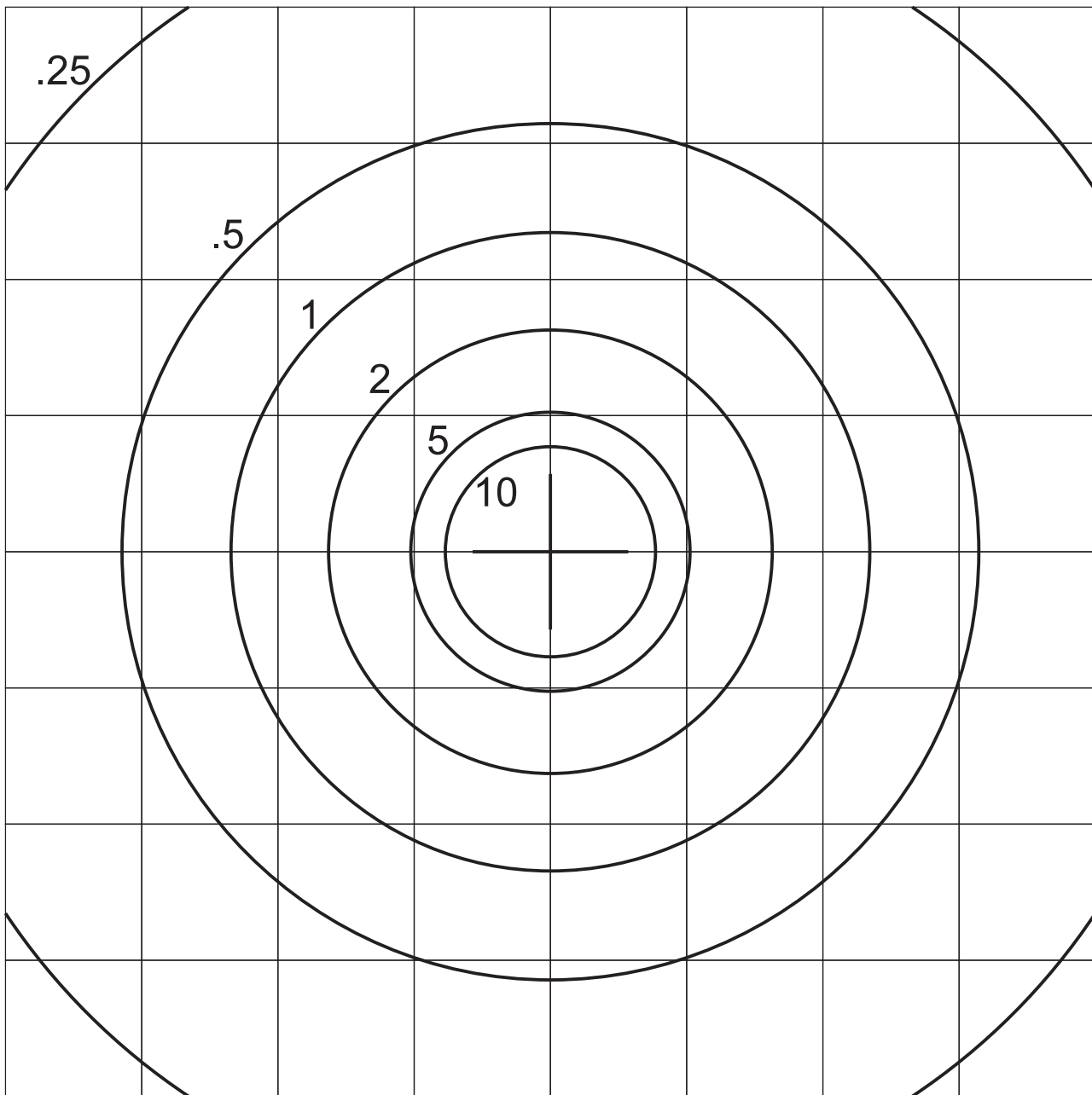
Values listed as footcandles

Scale: .5 IN. = 20 ft.

Figure 4. Floodlight Footcandle Plot (BAL120R-Reflector)

GLOBUG SOLO LIGHTING SYSTEM — FLOODLIGHT FOOTCANDLE PLOT

360 degree coverage



Values listed as footcandles

Scale: .5 IN. = 20 ft.

Figure 5. Floodlight Footcandle Plot (BAL115D-Drum Shaped)

GLOBUG SOLO LIGHTING SYSTEM — GENERAL INFORMATION

The Multiquip GloBug Solo Lighting System is a general purpose floodlight tower intended for emergency and remote lighting conditions. Power requirements for running the GloBug Solo are 120 VAC, 60 Hz @ 9.5 amps. The GloBug Solo can be plugged into a standard 120 VAC wall receptacle.

The lighting system of Multiquip's GloBug Solo is comprised of one "Metal Halide" 1000-watt lamp. This lamp has an output of 112,000 lumens. Typical lighting coverage is in excess 150 ft. (45.72 meters) in a 360 degree pattern.

Located on the side of the mast is a weather-resistant ballast box that contains the ballast for starting the lamp. The lamp is activated by an ON/OFF switch located at the base of the ballast.

For ease of service or transport, the lamp is equipped with a quick-disconnect connector that allows the lamp fixture to be removed quickly. This feature is extremely useful during transport of the GloBug Solo over rough terrain. It is always best to remove the lamp and pack it safely so it will not be damaged.

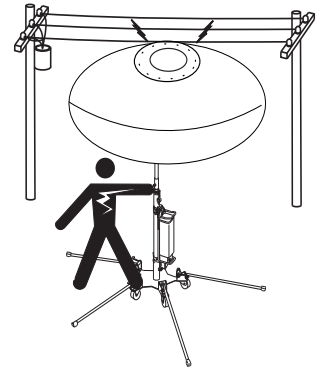
Balloon Envelopes

The GloBug Solo can be configured with a variety of balloon envelopes (canopy). Please contact the MQ sales department for the balloon of your choice. The GloBug Solo, Model GB114BW comes with the standard balloon (BAL-120).

The lighting system can be raised vertically in excess of 16.5 feet (5 meters) . Outriggers must always be deployed prior to raising the mast.

DANGER - GloBug Solo Overhead Obstructions

ALWAYS make sure the area above GloBug Solo is open and clear of overhead power lines and other obstructions. The tower extends in excess of 16.5 ft. (5 meters). Contact with overhead power lines or other obstructions could result in equipment damage, **serious injury or death!**



Alarm Buzzer

The GloBug Solo is equipped with a "Balloon Alarm" feature. This alarm will sound if the lamp is on and the balloon attempts to make contact with the **hot** surface of the lamp. This alarm is intended to inform the operator that a potential burn hazard exists between the lamp surface and the balloon material.

Always allow the lamp to cool down before removing the AC power from the GloBug Solo. In the event the balloon begins to deflate during normal operation, immediately place the GloBug Solo's ON/OFF switch in the OFF position.

GLOBUG SOLO LIGHTING SYSTEM — COMPONENTS

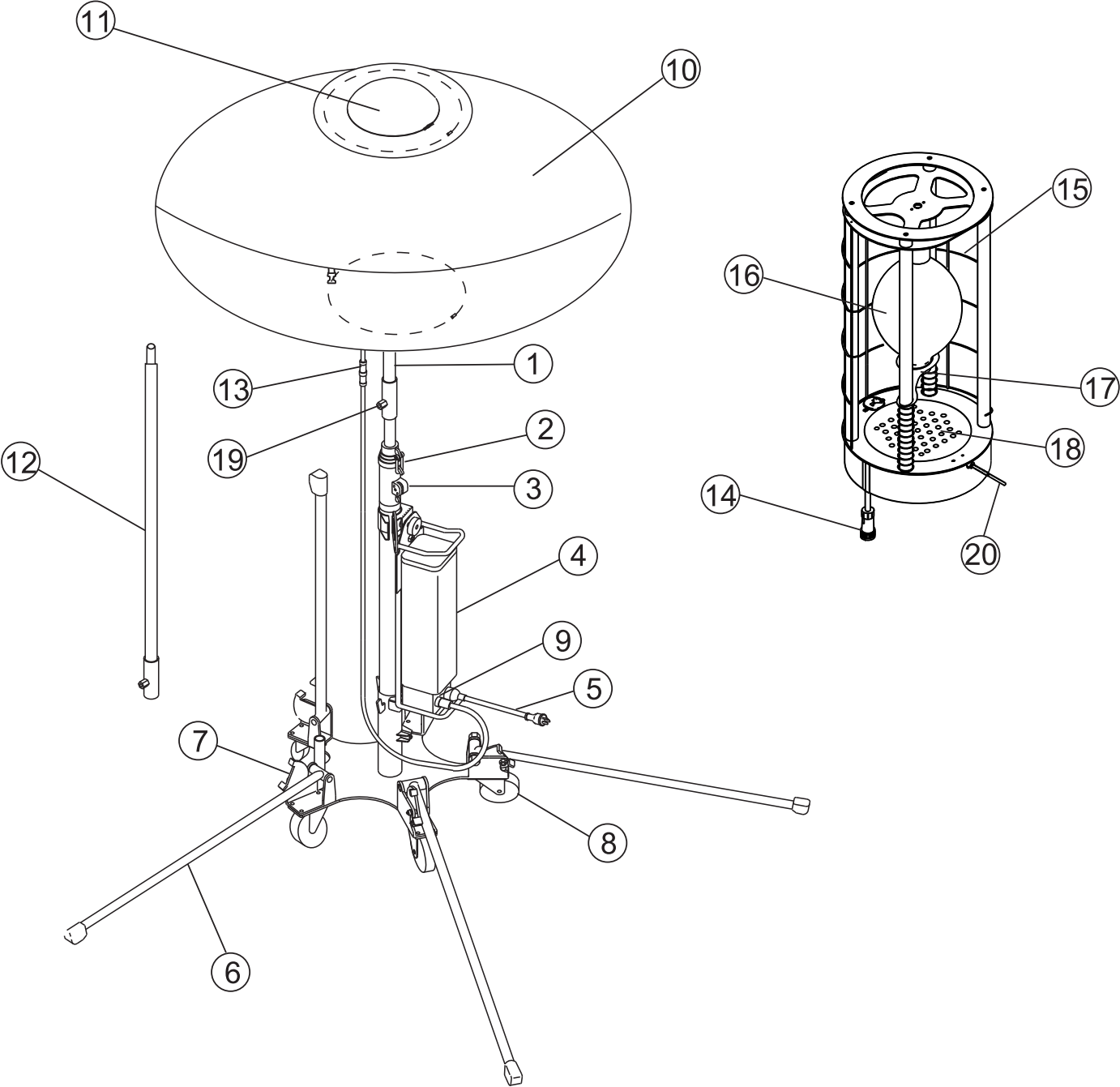


Figure 6. Major Components

GLOBUG SOLO LIGHTING SYSTEM — COMPONENTS

Figure 6 shows the location of the controls and components for the GloBug Solo Lighting System. The function of each control is described below:

1. **Mast** – This mast is comprised of three separate stages (four - with extension pole). The mast can be raised in excess of 16.5 ft. (5 meters). When raising the mast, always be on the lookout for overhead obstructions. Never adjust the mast with the balloon off to prevent mast from shooting up and causing injury.
2. **Mast Release Latch**– Use this latch to raise the mast by pushing down the mast and then releasing the latch. Always be on the lookout for overhead obstructions. Keep immediate area free of bystanders and debris when raising the mast.
3. **Mast Lock Lever** – Use this lock to keep mast in place after the mast height has been adjusted.
4. **Ballast** – Provides the necessary electronics to light the lamp.
5. **AC Power Cable** – Connect this cable to a 120 VAC, 60 Hz power source.
6. **Outriggers** – **ALWAYS** deploy the outriggers when raising the mast.
7. **Counter-Weight Lever** – Locks the outriggers in place when they are deployed.
8. **Wheels** – The GloBug Solo uses 5 caster wheels. To prevent the Globug Solo from moving, always lock 3 caster wheels.
9. **ON/OFF Switch** – Place this switch in the **ON** position to turn on the lamp. To turn off the lamp place in the **OFF** position. Please wait for approximately 10 minutes before attempting to turn the lamp back on.
10. **Balloon** – This balloon is made of heat-resistant nylon, with a diameter of 3.9 ft. (1,150 mm). The balloon shall be inflated to a pressure of 31.26 psi (215.6 kPA).
11. **Balloon Cover** – Covers the balloon when not in use. Allow a sufficient amount of time for the lamp to cool down before covering balloon. Possibility exists of balloon getting burned.
12. **Extension Pole** – extends the height of the mast when needed.
13. **Lamp Power Cable (Ballast)** – Connect this quick-disconnect cable plug (ballast-side) to the balloon lamp power cable plug.
14. **Lamp Power Cable (Balloon)** – Connect this quick-disconnect cable plug (balloon-side) to the ballast lamp power cable plug.
15. **Lamp Guard** – This guard (cage) protects the lamp from being hit by objects.
16. **Lamp** – 1000 watt metal-halide type lamp. Replace only with MQ recommended type lamp. Always allow a sufficient amount of time for the lamp to **cool down** before changing.
17. **Lamp Holder** – Screw lamp into this holder. If lamp becomes difficult to screw into holder or holder is damaged, replace holder.
18. **Fan Motor (Blower)** – This electric motor is responsible for inflating the balloon. It will supply a pressure of 31.26 psi (215.6 kPA). Please note that the balloon will begin to inflate as soon as power is applied to the GloBug Solo. The OFF/ON switch **does not** control the electric fan motor.
19. **T-Handle Bolt Lock** – Always tighten this lock to hold the lamp/balloon securely in place before raising mast.
20. **Balloon Alarm Buzzer** – Will sound during normal operation if the balloon attempts to make contact with the lamp's **hot** surface. If this condition occurs, immediately place the GloBug Solo's ON/OFF switch in the OFF position.

GLOBUG SOLO LIGHTING SYSTEM — PRE-SETUP

CAUTION - READ MANUAL

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



GloBug Solo Setup

1. Place the GloBug Solo on a ***firm level surface*** so that it will not slide or turn over. Make sure there is enough space around the GloBug Solo for the outriggers to be deployed.
2. Lock the three caster wheels (two wheels have no locks) by stepping on the red end (S) of the caster lever (Figure 7).

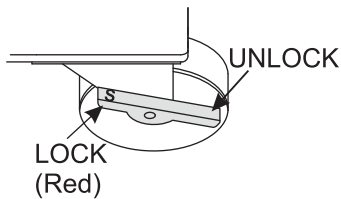


Figure 7. Locking Caster Wheels

3. Pull outriggers downward at the ends until they lock in place in the ground (Figure 8).

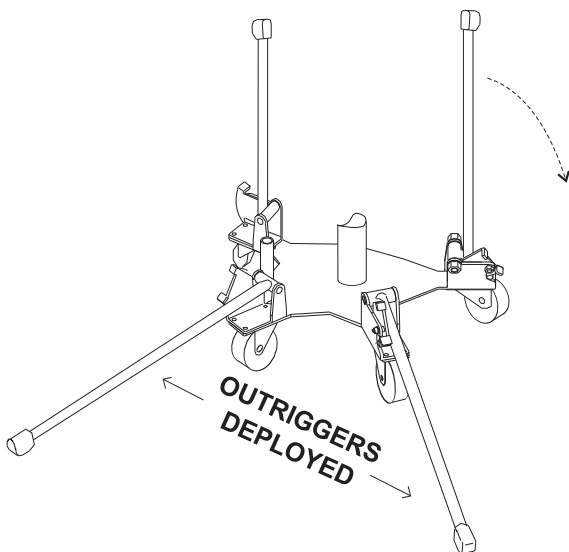


Figure 8. Outriggers (Deployed Position)

4. Expose the balloon by pulling down on the velcro tabs and unzipping the protective cover as shown in Figure 9. Next, fold the protective cover into itself and zip.

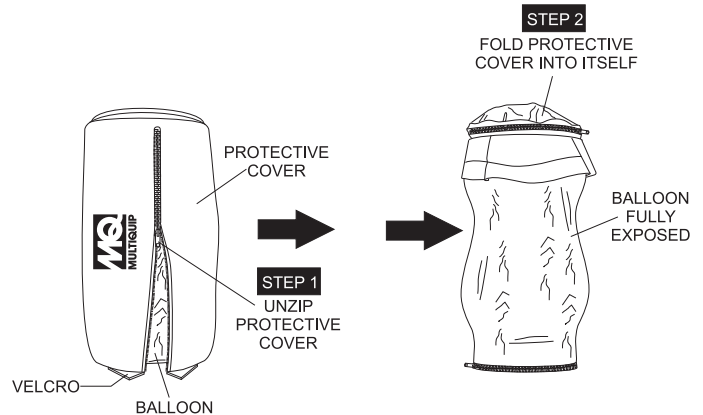


Figure 9. Exposing the Balloon.

5. Before raising the mast, make sure the T-Handle Bolt Lock (Figure 10) is securely tightened. This will prevent the balloon/lamp assembly from falling off. In addition make sure that the lamp power cable (balloon) is connected to the lamp power cable (ballast).
6. Push down the mast and unhook the Mast Release Latch (Figure 10). Extend the mast to the desired height.

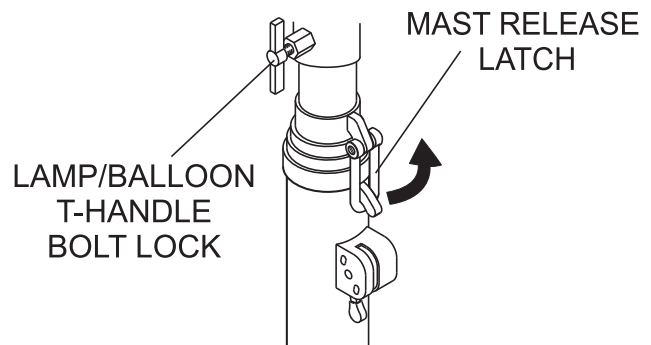


Figure 10. T-Handle Bolt Lock and Mast Release Latch

! DANGER SPRING LOADED MAST

The mast is spring loaded and will automatically extend when unhooked. **NEVER** extend the mast with balloon or lamp removed. The possibility exists of the mast rapidly shooting upward.

GLOBUG SOLO LIGHTING SYSTEM — PRE-SETUP

! CAUTION - MAST PINCH POINT

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 (Figure 11).

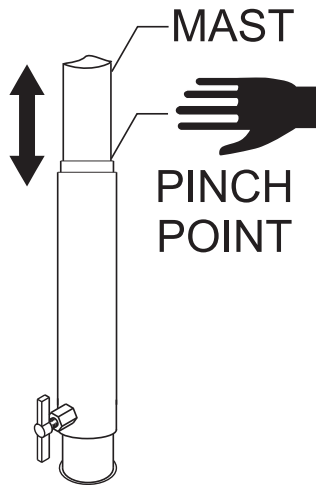


Figure 11. Pinch Point

7. When the desired height is achieved, lock the mast in place with the Mast Lock Lever (Figure 12).

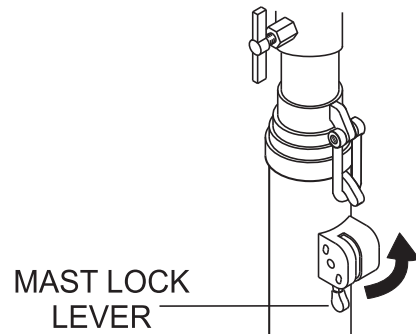


Figure 12. Mast Lock Lever

! DANGER SPRING LOADED MAST

NEVER lock the Mast Lock Lever with balloon or lamp removed. The possibility exists of the mast rapidly shooting upward.

NEVER release the latch with balloon or lamp removed.

Make sure latch is hooked before balloon or lamp is removed.

GLOBUG SOLO LIGHTING SYSTEM — OPERATION

! DANGER - HIGH VOLTAGE POWER LINES

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 GloBug Solo comes in contact with **high voltage power lines**.



Applying Power

1. Make sure the power ON/OFF switch (Figure 13) located near the bottom of the ballast is in the **OFF** position.

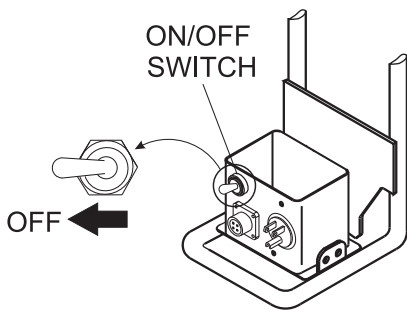


Figure 13. Power OFF/ON Switch (OFF Position)

2. The GloBug Solo has a power requirement of 120 VAC, 60 Hz @ 9.5 amps. Connect the GloBug Solo's AC power cord to a 120 VAC power receptacle (Figure 14).

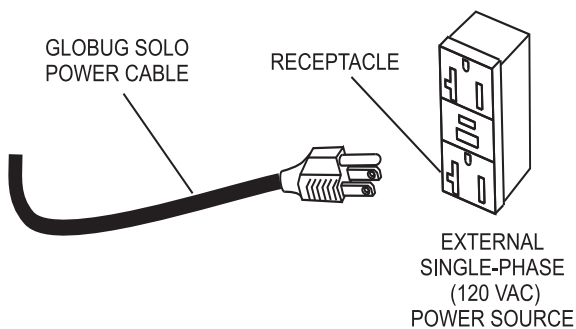


Figure 14. 120 VAC Receptacle

4. Notice that the balloon envelope will begin to deploy as soon as power is applied. This function **is not** controlled by the power ON/OFF switch.
5. Wait until the balloon is fully deployed before attempting to turn on the lamp. The possibility exists of the balloon getting burned (touching the lamp).
6. If the balloon is fully deployed, place the GloBug Solo's ON/OFF switch in the **ON** position (Figure 15).

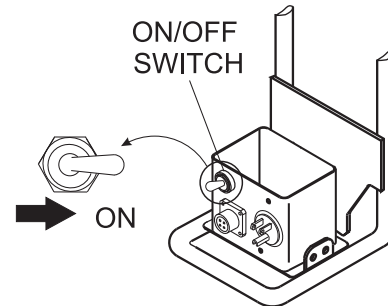


Figure 15. Power OFF/ON Switch (ON Position)

7. The lamp should now be on. If the lamp is not on, check all connections and repeat steps 1 through 6. If the lamp still does not come on, contact the MQ service department.

Shutdown

1. Place the power ON/OFF switch (Figure 16) in the **OFF** position.

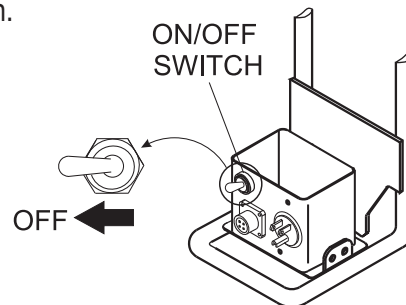


Figure 16. Power OFF/ON Switch (OFF Position)

! CAUTION - LAMP COOL DOWN

Allow a sufficient amount of time (15-20 minutes) for the lamp (Figure 17) to **cool down** before disconnecting power cable from power receptacle. The possibility exists of the balloon getting burned (touching the lamp).

2. Disconnect the GloBug Solo's AC power cable from the power receptacle. The balloon should begin to deflate.

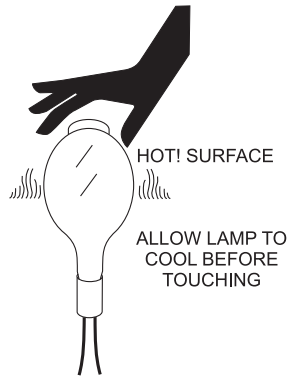


Figure 17. Hot Lamp Surface

3. Push down the mast and unhook the Mast Release Latch (Figure 10). **Fully lower** the mast. Extend the mast to the desired height.
4. When the mast is fully lowered, lock the mast in place with the Mast Lock Lever (Figure 12).
6. Unzip the protective cover as shown in Figure 18, and place cover over balloon/lamp assembly. Fully zip protective cover and fold velcro tabs in place.

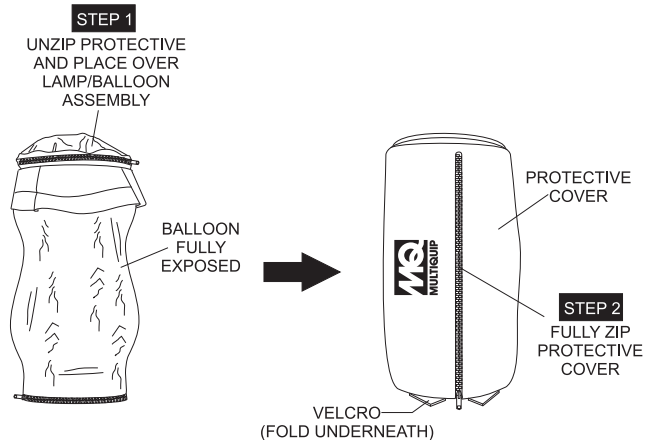


Figure 18. Covering the Lamp/Balloon Assembly

7. To unlock outriggers, push downward on the counterweight lever indicated by arrow (Figure 19). Grab hold of outrigger, pull upward, and place in stow position (Figure 20).

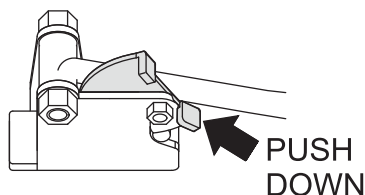


Figure 19. Outriggers (Released)

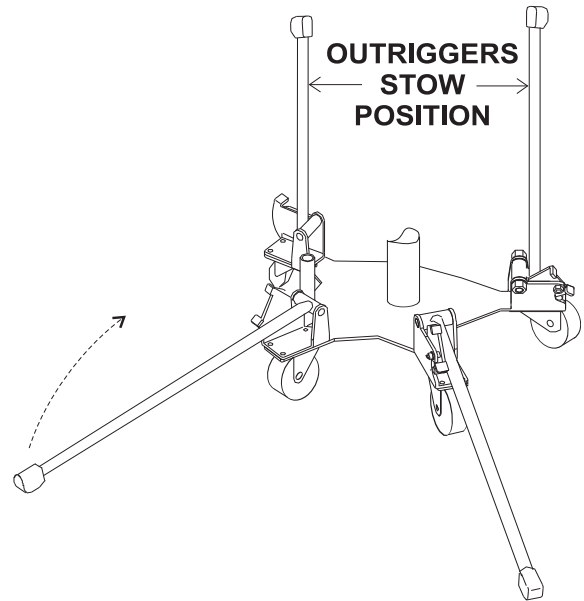


Figure 20. Outriggers (Stow Position)

7. Wrap the AC power cable and lamp power cable around the ballast frame.
8. Step on the blue end of the caster lever (Figure 21) on the three caster wheels to unlock them. The GloBug Solo can now be moved.

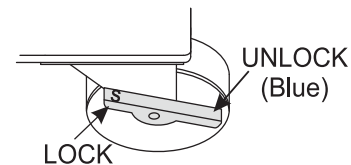


Figure 21. Unlocking Caster Wheels

Storage

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

GLOBUG SOLO LIGHTING SYSTEM — MAINTENANCE

CAUTION - READ SAFETY GUIDELINES

Before performing any maintenance procedures, be sure to **READ** the lamp, balloon, and general safety guidelines in this manual. Failure to **read** and **understand** these safety guidelines could cause severe equipment damage and bodily harm.



CAUTION - BALLOON ZIPPER SAFETY

DO NOT use excessive force when zipping or unzipping the balloon. The possibility exists of the zipper tearing, which would make the balloon unusable.



Removing the Lamp/Balloon Assembly

1. Loosen the T-Handle Bolt Lock (Figure 22) that secures the lamp to the mast.

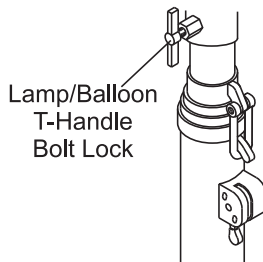


Figure 22. Loosening the Balloon/Lamp

3. Disconnect the lamp power cable (Figure 6) and slide the balloon/lamp forward from the mast adapter stand. Place lamp/balloon assembly on a suitable work bench that is free of dirt, and sharp objects that could damage the balloon.

Removing the Lamp

1. Expose the balloon (Figure 23) by pulling down on the velcro tabs and unzip the protective cover as shown in Figure 19. Next, fold the protective cover into itself and zip.

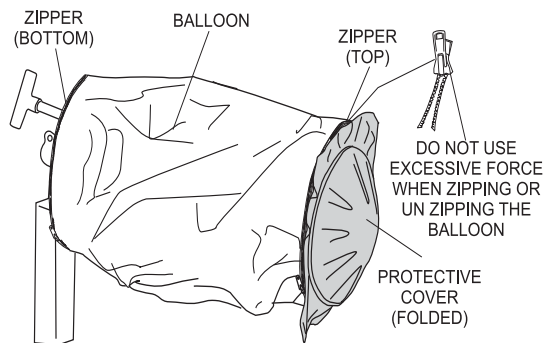


Figure 23. Exposing the Balloon

2. Unzip the zipper (Figure 23) at the bottom of the balloon and roll the balloon envelope upwards to expose the lamp (Figure 24). Remove the lamp guard to gain access to the lamp. **DO NOT** use excessive force when unzipping the balloon.

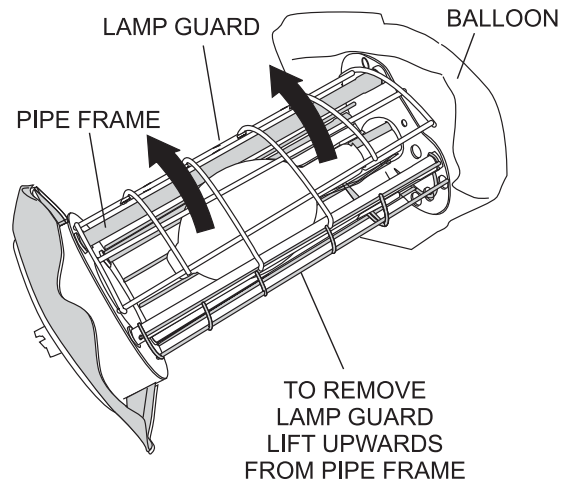


Figure 24. Removing the Lamp Guard

3. Push down and hold the lamp holder (spring loaded) away from the lamp (Figure 25). Unscrew the lamp (turn counterclockwise) from the lamp socket.

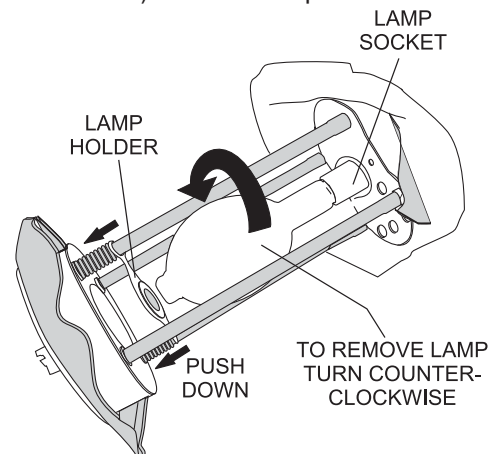


Figure 25. Removing the Lamp

GLOBUG SOLO LIGHTING SYSTEM — MAINTENANCE

Installing a New Lamp

1. When installing a new lamp (Figure 26) use only MQ recommended type lamp. See parts section of this manual. Failure to use correct type lamp could adversely affect lighting capability and may cause damage to the equipment.
2. Push down and hold the lamp holder (spring loaded) away from the lamp. Screw the lamp (turn clockwise) into the lamp socket. Gently place the lamp holder firmly over the top of the lamp. This will prevent the lamp from touching the lamp guard or pipe frame.

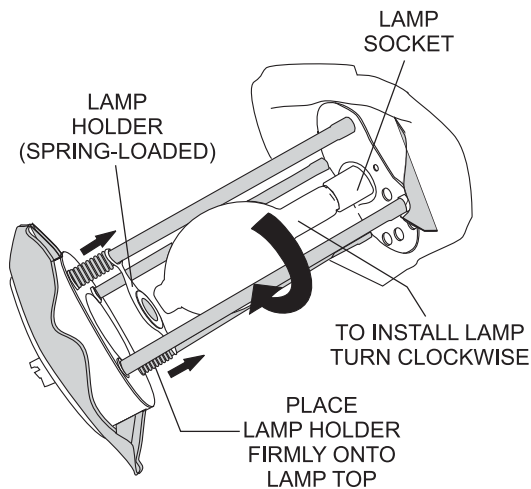


Figure 26. Installing the Lamp

Re-Installing the Lamp/Balloon Assembly

1. Reinstall the lamp guard (Figure 27). Be careful not to install the lamp guard in the wrong direction.

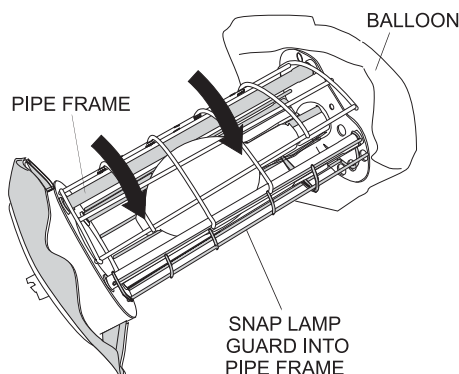


Figure 27. Installing the Lamp Guard

2. Zip up the zipper at the bottom (Figure 24) of the balloon and pull down the balloon envelope to cover the lamp
3. Place the lamp/balloon assembly back onto the mast.
4. Tighten the T-Handle Bolt Lock to secure the lamp to the mast.
5. Reinstall the protective cover over the balloon/lamp assembly. Be sure to fold the velcro tabs.
6. Reconnect the power cables.

Replacing the Balloon

1. Follow the procedures as outlined in the "Removing the Balloon Lamp" assembly section.
2. Unzip the zipper at the bottom and top of the balloon. Slide the balloon over the top of the lamp guard as shown in Figure 28.

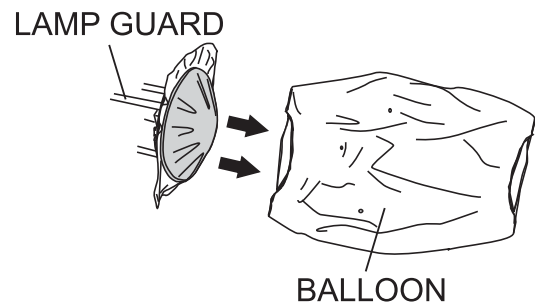


Figure 28. Removing the Balloon

3. Slide the new balloon over the top of the lamp guard as shown in Figure 29. Zip up the zipper at the bottom and top of the balloon.

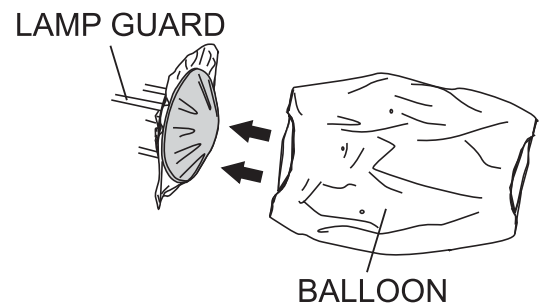


Figure 29. Removing the Balloon

GLOBUG SOLO LIGHTING SYSTEM — MAINTENANCE

Ballast Box Removal

WARNING - HOT SURFACE (BALLAST)

Dangerous conditions exist inside the ballast compartment. Please use extreme caution when performing maintenance on the ballast box. **NEVER** touch the ballast or ballast cover while the lamp is on. These components generate an extreme amount of heat, which makes their surfaces very **hot!** **ALWAYS** allow the ballast box and cover surface to cool down before servicing.



DANGER - HIGH VOLTAGE (BALLAST)

The electronic components of the ballast generate high voltage conditions. These conditions can be **lethal and cause bodily harm, even death**. When performing maintenance or troubleshooting, have only experience personnel work on the ballast.



1. Remove cable clamp from the hook located under the balloon (Figure 30).

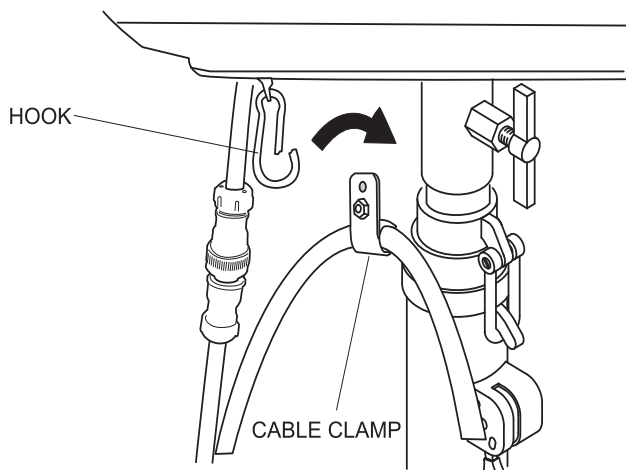


Figure 30. Cable Clamp

2. Disconnect the AC power cable and Lamp Power Cable from the ballast (Figure 31).

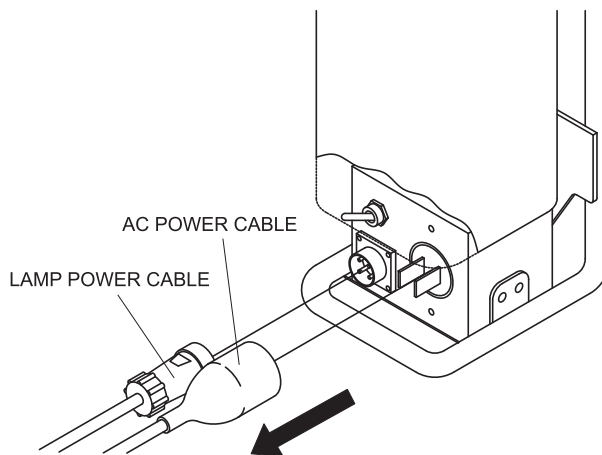


Figure 31. Cable Disconnection

3. Unscrew and remove the knob bolt that attaches the ballast to the mast (Figure 32).
4. Unhook the bottom of the ballast from the slot on the mast and detach the ballast from the mast.

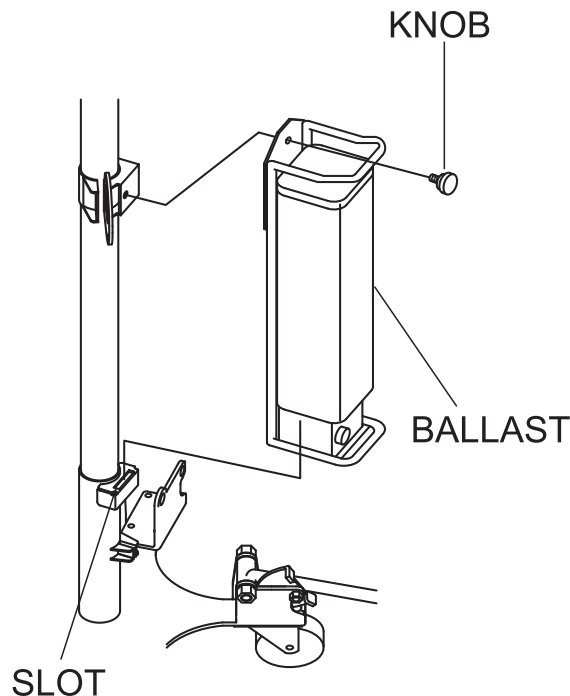


Figure 32. Ballast Removal

GLOBUG SOLO LIGHTING SYSTEM — MAINTENANCE

Filter Replacement

WARNING - HOT SURFACE (LAMP FRAME)

DO NOT replace filter immediately, allow a sufficient amount of time for the lamp assembly to cool down before changing filter.



1. Remove the balloon as described in the "Removing the Lamp/Balloon" section.
2. Disconnect the lamp power cable (Figure 6).
3. Rotate the balloon/lamp base assembly so that the filter is facing upwards. See Figure 30.

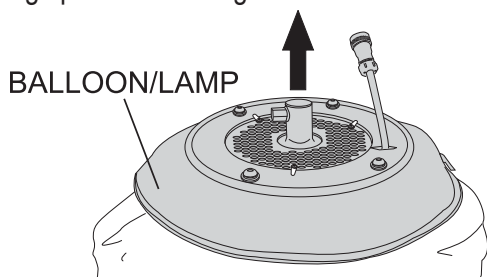


Figure 30. Balloon/Lamp Placement

4. Turn the three locking tabs (Figure 31) inward to release the plate. Remove plate and filter.

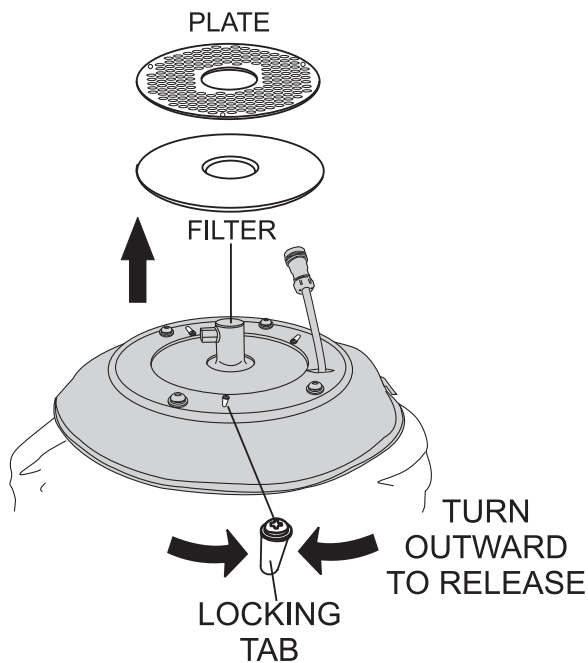


Figure 31. Filter Removal

5. Install a new filter over the brace as shown in Figure 32. Be sure to align the **cut of the filter** over the brace.

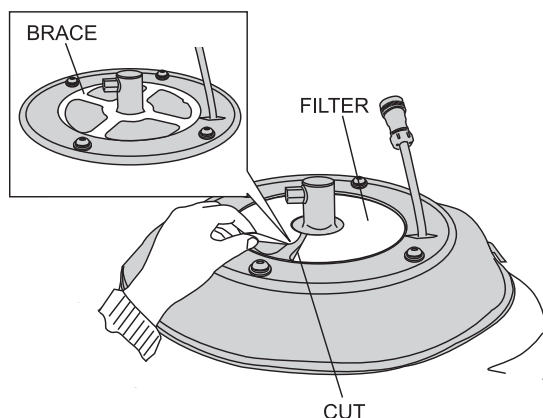


Figure 32. Filter Placement

CAUTION - FILTER ALIGNMENT

When placing the filter element, always align the cut of the filter on top of the brace. This will keep the filter from being dislodged and getting damaged.

6. Turn the three retaining tabs (Figure 33) outward so that they touch the lamp base.

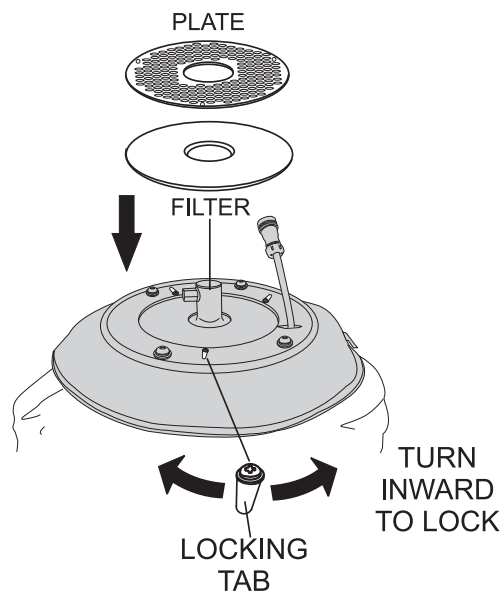
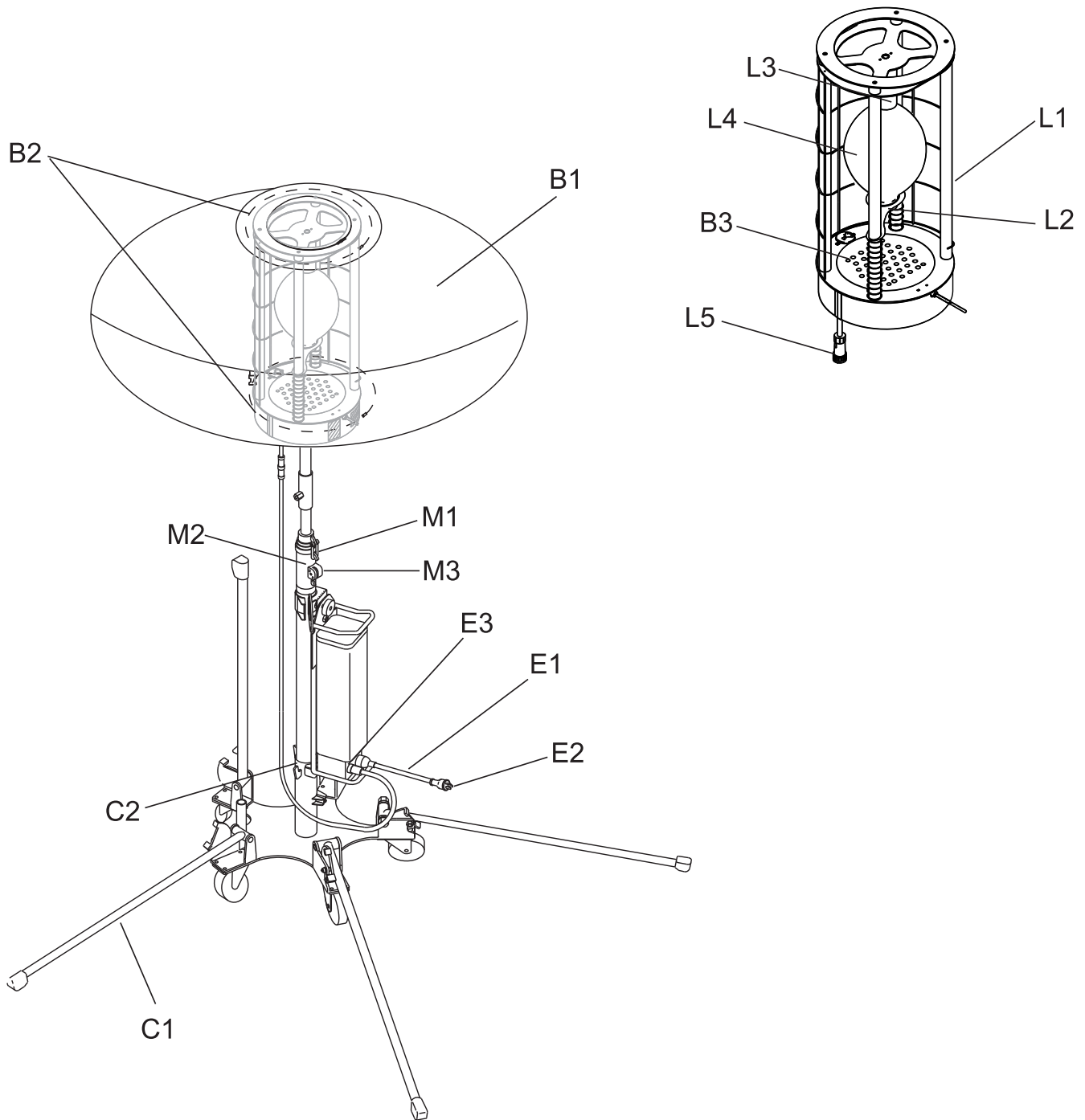


Figure 33. Filter/Plate Install

GLOBUG SOLO LIGHTING SYSTEM — MAINTENANCE



GLOBUG SOLO LIGHTING SYSTEM — MAINTENANCE

For a prolonged life cycle an extended quality follow the recommended GloBug Solo service guidelines as referenced in Table 3.

TABLE 3. PERIODIC CHECK AND MAINTENANCE

FIGURE		PART	CHECK ITEM	SOLUTION	
Lamp	L1	Frame Pipe	Frame pipe skewed?	Replace.	❖
	L2	Lamp Holder	Lamp holder loose?	Tighten or replace.	❖
	L3	Lamp (Base)	Lamp base loose?	Screw in securely.	❖
	L4	Lamp	Defective lamp?	Replace.	❖
	L5	Cable/Connector	Cable disconnected or loose?	Connect securely.	■
Balloon	B1	Balloon (Envelope)	Defective or dirty?	Replace.	❖
	B2	Zipper	Broken?	Replace.	❖
	B3	Fan Motor (Blower)	Not working properly?	Repair or replace.	❖
Mast	M1	Mast Release Latch	Bolt loose?	Tighten securely.	■
	M2	Mast Pole	Damaged?	Replace.	❖
	M3	Mast Lock Lever	Not working properly?	Repair.	▲
Caster	C1	Outrigger	Not moving smoothly?	Spray grease.	●
	C2	Pole Socket	Not securely clamped?	Clamp securely.	❖
Electric	E1	Power Cable	Defective or worn cable?	Replace.	❖
	E2	Plug	Damaged?	Replace.	❖
	E3	Lamp Switch	Not working properly?	Replace.	❖
❖ - Daily Check ■ - Every 20 Hours ● - Every 100 hours ▲ - Every 500 hours					

GLOBUG SOLO LIGHTING SYSTEM — TROUBLESHOOTING (LAMPS)

Practically all breakdowns can be prevented by proper handling and maintenance inspections, but in the event of a breakdown, please take a remedial action following the diagnosis based on the Lamp Troubleshooting (Table 4) information shown below.

If the problem cannot be remedied, please leave the unit just as it is and consult or company's service department.

TABLE 4. LAMP TROUBLESHOOTING

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
Lamp does not light.	Is plug disconnected?	Plug in correctly.
	Is lamp power switched off?	Turn on switch.
	Is lamp loose?	Screw lamp securely into socket.
	Is contactor disconnected or loose?	Connect disconnected contactor.
	Are any other electric appliances (other than light tower) plugged into power source?	Unplug all other appliances.
	Is model of lamp incompatible?	Use genuine MQ lamp.
	Is lamp not cool enough to light again? (Interval of 20 to 30 minutes is required before turning on lamp again)	Wait for lamp to cool down.
Lamp only lights for a short time.	Is ambient temperature too high (more than 104 °F (40 °C)?)	Move lamp where there is proper ventilation.
Balloon does not inflate.	Is fan motor (blower) not working properly?	Check or repair fan motor (blower).
	Is balloon envelope defective?	Repair or replace balloon envelope.

GLOBUG SOLO LIGHTING SYSTEM — TROUBLESHOOTING (MAST)

Practically all breakdowns can be prevented by proper handling and maintenance inspections, but in the event of a breakdown, please take a remedial action following the diagnosis based on the Mast Troubleshooting (Table 5) information shown below.

If the problem cannot be remedied, please leave the unit just as it is and consult or company's service department.

TABLE 5. MAST TROUBLESHOOTING

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
Mast cannot be raised.	Is Mast Lock Lever locked?	Release Mast Lock Lever.
The mast cannot be lowered.	Is Mast Lock Lever locked?	Release Mast Lock Lever.

GLOBAL SOLO LIGHTING SYSTEM — WIRING DIAGRAM (S/N G20070 & BELOW)

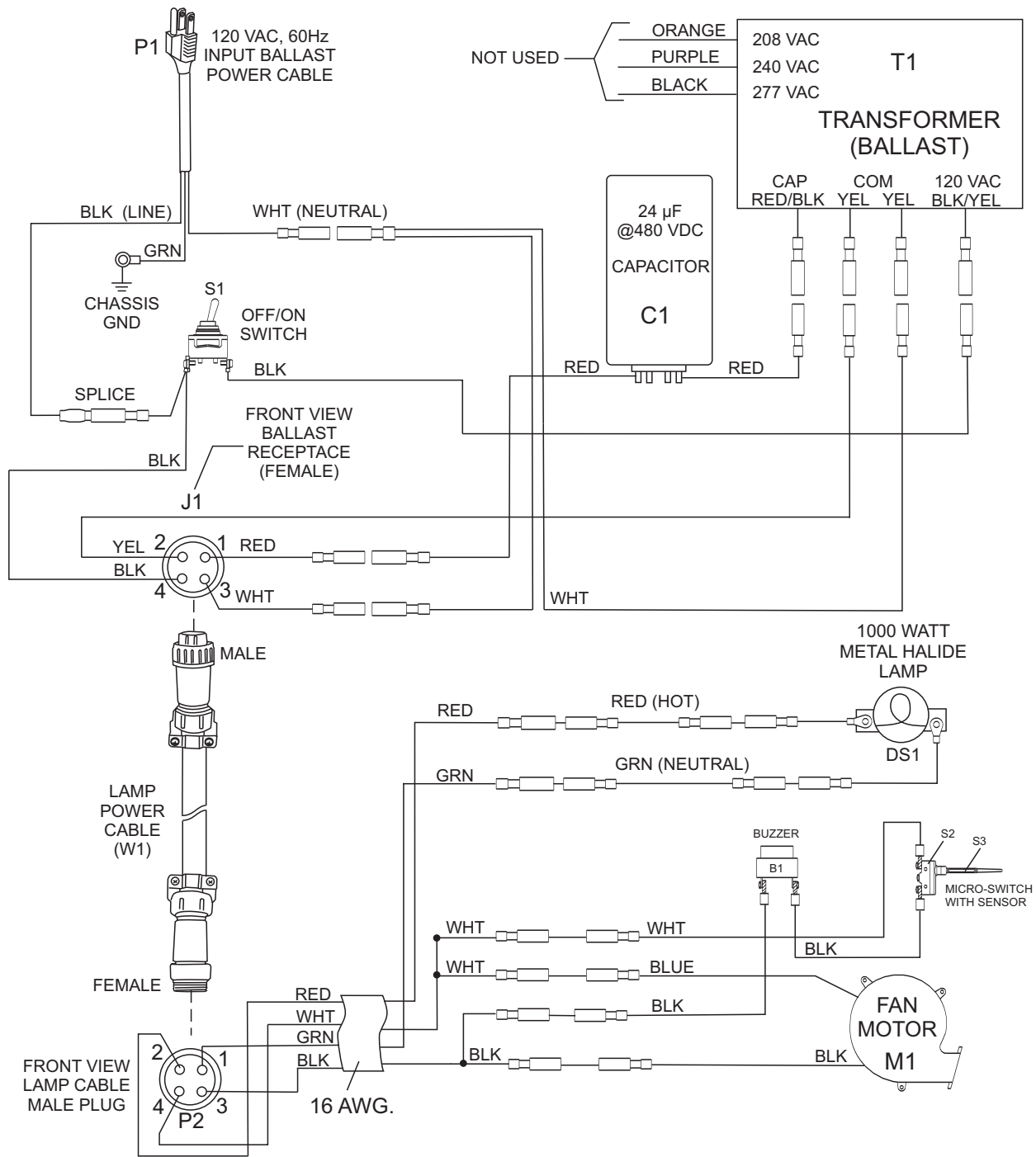


TABLE 6. REFERENCE DESIGNATIONS

REF. DESC.	DESCRIPTION	PART NUMBER	REF. DESC.	DESCRIPTION	PART NUMBER
P1	Input Power Cable Assy. (Ballast)	A300066700	M1	Fan Motor Assy.	A300033500
J1	Ballast Output Receptacle	A400037600	B1	Buzzer Alarm Balloon	E000030100
P2	Lamp Fan Cable Assy. (Input)	A300033600	S1	ON/OFF Switch	A400037502
DS1	1000 Watt Metal Halide Lamp	E000009800	S2	Micro-Switch	1400150210
C1	24 µF Capacitor @ 480 VDC	19598	S3	Micro-Switch Cap	1400150410
T1	Ballast (Transformer)	A300033800	W1	Lamp Power Cable	A300083800

GLOBUG SOLO LIGHTING SYSTEM — WIRING DIAGRAM (SN G20071 & ABOVE)

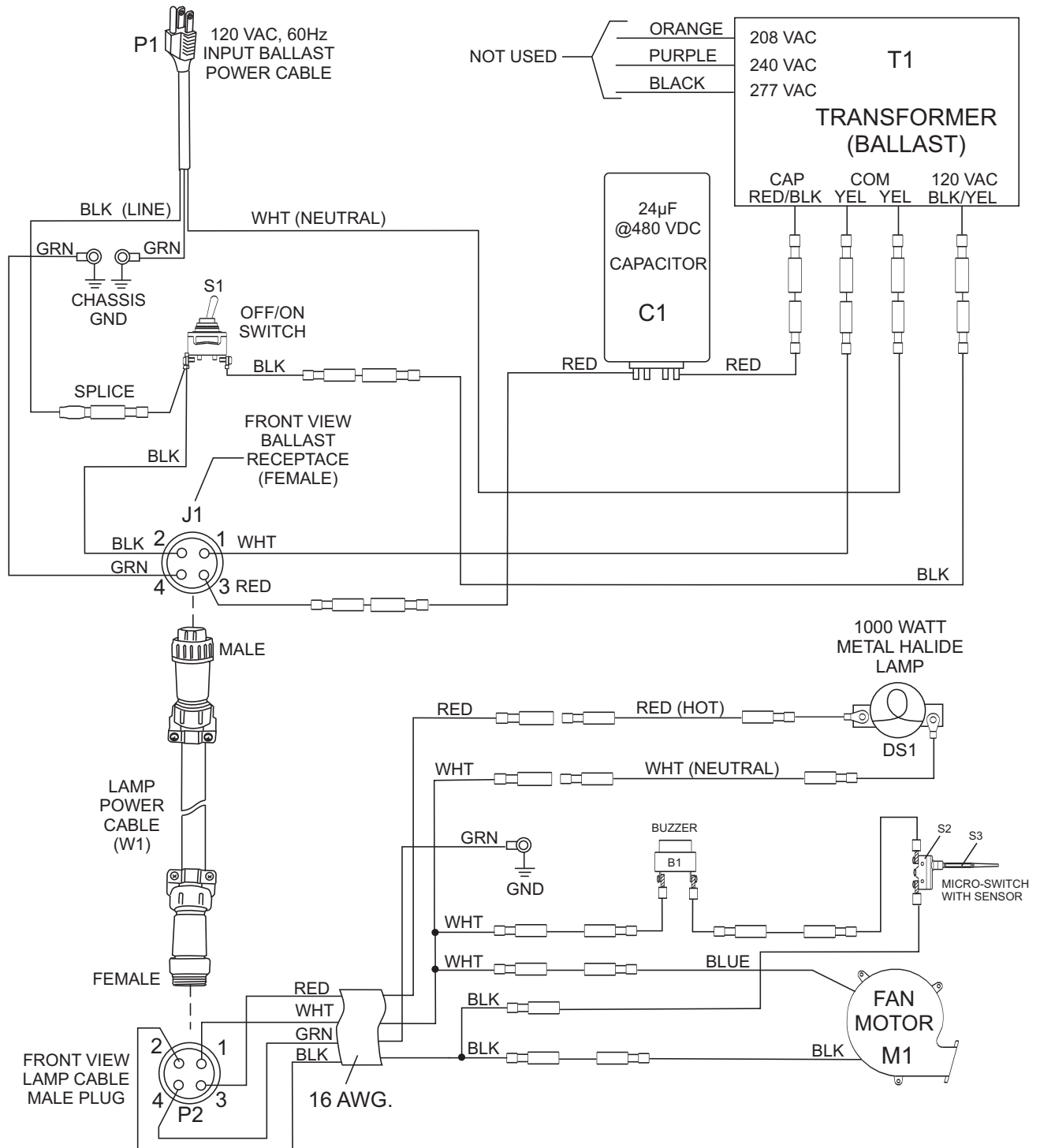


TABLE 6. REFERENCE DESIGNATIONS

REF. DESC.	DESCRIPTION	PART NUMBER	REF. DESC.	DESCRIPTION	PART NUMBER
P1	Input Power Cable Assy.(Ballast)	A300066700	M1	Fan Motor Assy.	A300033500
J1	Ballast Output Receptacle	A400079400	B1	Buzzer Alarm Balloon	E000030100
P2	Lamp Fan Cable Assy. (Input)	A300105500	S1	ON/OFF Switch	A400037502
DS1	1000 Watt Metal Halide Lamp	E000009800	S2	Micro-Switch	1400150210
C1	24 µF Capacitor @ 480 VDC	19598	S3	Micro-Switch Cap	1400150410
T1	Ballast (Transformer)	A300033800	W1	Lamp Power Cable	A300083900

EXPLANATION OF CODE IN REMARKS COLUMN

The following section explains the different symbols and remarks used in the Parts section of this manual. Use the help numbers found on the back page of the manual if there are any questions.

The contents and part numbers listed in the parts section are subject to change **without notice**. Multiquip does not guarantee the availability of the parts listed.

Sample Parts List:

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	12345	BOLT	1	INCLUDES ITEMS W/*
2*		WASHER, 1/4 IN.		NOT SOLD SEPARATELY
2*	12347	WASHER, 3/8 IN. ...	1	MQ-45T ONLY
3	12348	HOSE	A/R	MAKE LOCALLY
4	12349	BEARING	1	S/N 2345B AND ABOVE

NO. Column

Unique Symbols - All items with same unique symbol (*, #, +, %, or >) in the number column belong to the same assembly or kit, which is indicated by a note in the "Remarks" column.

Duplicate Item Numbers - Duplicate numbers indicate multiple part numbers are in effect for the same general item, such as different size saw blade guards in use or a part that has been updated on newer versions of the same machine.



When ordering a part that has more than one item number listed, check the remarks column for help in determining the proper part to order.

PART NO. Column

Numbers Used - Part numbers can be indicated by a number, a blank entry, or TBD.

TBD (To Be Determined) is generally used to show a part that has not been assigned a formal part number at time of publication.

A blank entry generally indicates that the item is not sold separately or is not sold by Multiquip. Other entries will be clarified in the "Remarks" Column.

QTY. Column

Numbers Used - Item quantity can be indicated by a number, a blank entry, or A/R.

A/R (As Required) is generally used for hoses or other parts that are sold in bulk and cut to length.

A blank entry generally indicates that the item is not sold separately. Other entries will be clarified in the "Remarks" Column.

REMARKS Column

Some of the most common notes found in the "Remarks" Column are listed below. Other additional notes needed to describe the item can also be shown.

Assembly/Kit - All items on the parts list with the same unique symbol will be included when this item is purchased.

Indicated by:

"INCLUDES ITEMS W/(unique symbol)"

Serial Number Break - Used to list an effective serial number range where a particular part is used.

Indicated by:

"S/N XXXXX AND BELOW"

"S/N XXXX AND ABOVE"

"S/N XXXX TO S/N XXX"

Specific Model Number Use - Indicates that the part is used only with the specific model number or model number variant listed. It can also be used to show a part is NOT used on a specific model or model number variant.

Indicated by:

"XXXXX ONLY"

"NOT USED ON XXXX"

"Make/Obtain Locally" - Indicates that the part can be purchased at any hardware shop or made out of available items. Examples include battery cables, shims, and certain washers and nuts.

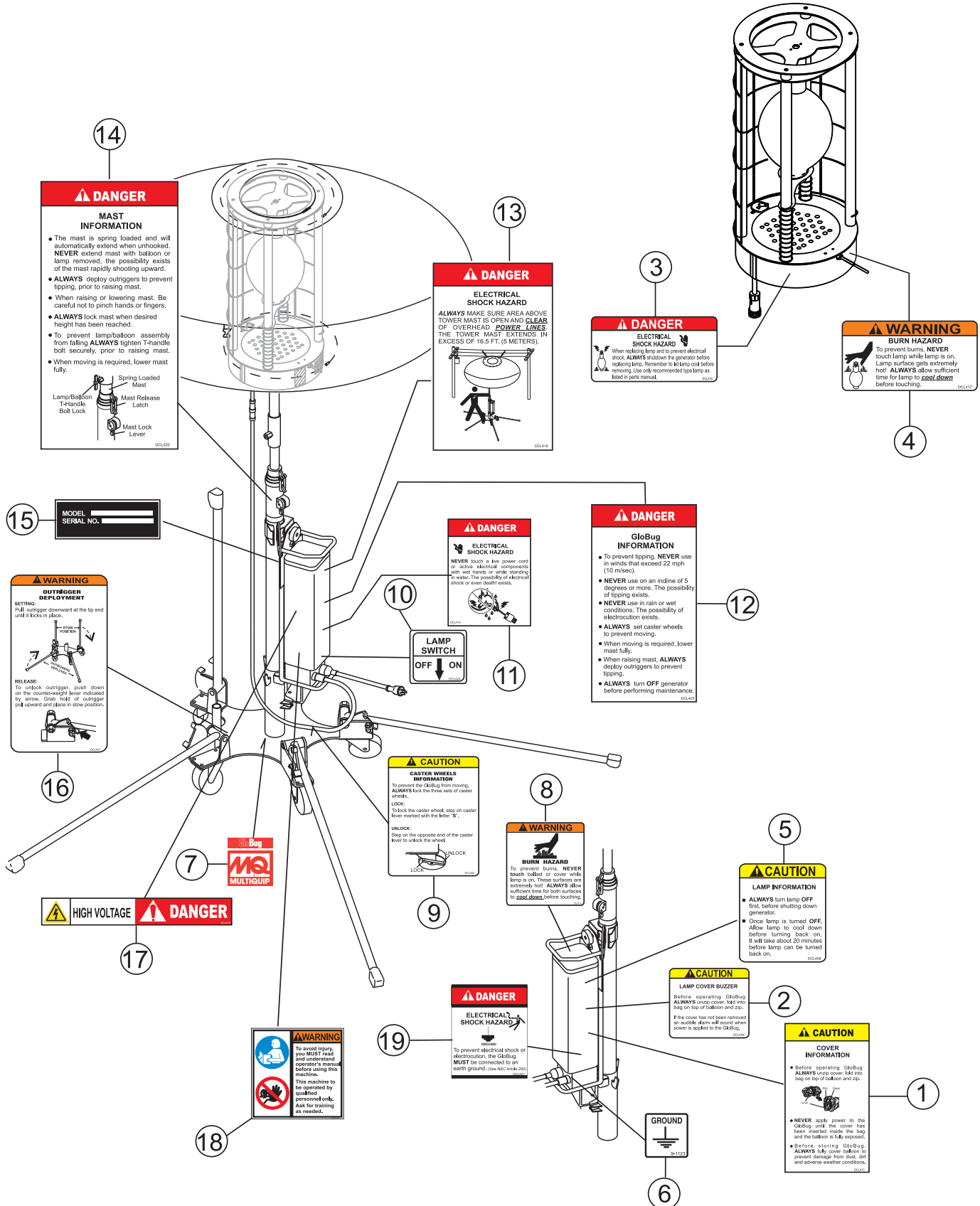
"Not Sold Separately" - Indicates that an item cannot be purchased as a separate item and is either part of an assembly/kit that can be purchased, or is not available for sale through Multiquip.

GLOBUG SOLO LIGHTING SYSTEM — SUGGESTED SPARE PARTS

GloBug Solo LIGHTING SYSTEM *1 TO 3 UNITS*

<u>Qty.</u>	<u>P/N</u>	<u>Description</u>
2	E000009800	BULB
2	A300033800	BALLAST/TRANSFORMER
2	A300038400	22 μ F CAPACITOR, @480 VDC
2	GBBAL115D.....	BALLOON CLOTH, DRUM-SHAPED

GLOBUG SOLO LIGHTING SYSTEM — NAMEPLATE AND DECALS



14

⚠ DANGER

MAST INFORMATION

- The mast is spring loaded and will automatically extend when unlocked. **NEVER** extend mast with balloon or lamp removed, the possibility exists of the mast rapidly shooting upward.
- **ALWAYS** deploy outriggers to prevent tipping, prior to raising mast.
- When raising or lowering mast. Be careful not to pinch hands or fingers.
- **ALWAYS** lock mast when desired height has been reached.
- To prevent lamp/balloon assembly from falling **ALWAYS** tighten T-handle bolt securely, prior to raising mast.
- When moving is required, lower mast fully.

Spring Loaded Mast
Lamp/Balloon T-handle Bolt Lock
Mast Release Latch
Mast Lock Lever

051420

13

⚠ DANGER

ELECTRICAL SHOCK HAZARD

ALWAYS MAKE SURE AREA ABOVE TOWER MAST IS OPEN AND CLEAR OF OVERHEAD POWER LINES. THE TOWER MAST EXTENDS IN EXCESS OF 16.5 FT. (5 METERS).

051419

3

⚠ DANGER

ELECTRICAL SHOCK HAZARD

When replacing lamp and to prevent electrical shock, **ALWAYS** shut down the generator before replacing lamp. Remember to let lamp cool before removing. Use only recommended type lamp as listed in parts manual.

051421

4

⚠ WARNING

BURN HAZARD

To prevent burns, **NEVER** touch lamp while lamp is on. Lamp surfaces gets extremely hot! **ALWAYS** allow sufficient time for lamp to **cool down** before touching.

051417

15

MODEL SERIAL NO. _____

16

⚠ WARNING

OUTRIGGER DEPLOYMENT

SETTING: Pull outrigger downward at the tip and until it locks in place.

RELEASE: To unlock outrigger, push down on the counterweight lever indicated by arrow. Grab hold of outrigger pull upward and place in stow position.

051420

10

⚠ DANGER

ELECTRICAL SHOCK HAZARD

NEVER touch a live power cord or active electrical components with wet hands or while standing in water. The possibility of electrical shock or even death exists.

051420

11

LAMP SWITCH

OFF ON

051420

12

⚠ DANGER

Globug INFORMATION

- To prevent tipping, **NEVER** use in winds that exceed 22 mph (10 m/sec).
- **NEVER** use on an incline of 5 degrees or more. The possibility of tipping exists.
- **NEVER** use in rain or wet conditions. The possibility of electrocution exists.
- **ALWAYS** set caster wheels to prevent moving.
- When moving is required, lower mast fully.
- When raising mast, **ALWAYS** deploy outriggers to prevent tipping.
- **ALWAYS** turn OFF generator before performing maintenance.

051422

9

⚠ CAUTION

CASTER WHEELS INFORMATION

To prevent the Globug from moving, **ALWAYS** lock the three sets of caster wheels.

LOCK: To lock the caster wheel, step on caster lever marked with the letter "L".

UNLOCK: Step on the opposite end of the caster lever to unlock the wheel.

051420

8

⚠ WARNING

BURN HAZARD

To prevent burns, **NEVER** touch ballast or cover while lamp is on. These surfaces are extremely hot! **ALWAYS** allow sufficient time for both surfaces to **cool down** before touching.

051417

5

⚠ CAUTION

LAMP INFORMATION

- **ALWAYS** turn lamp OFF first, before shutting down generator.
- Once lamp is turned OFF, allow lamp to cool down before turning back on. It will take about 20 minutes before lamp can be turned back on.

051417

2

⚠ CAUTION

LAMP COVER BUZZER

Before operating Globug, **ALWAYS** unplug cover, lift into bag on top of balloon and zip.

If the cover has not been removed an audible alarm will occur when power is applied to the Globug.

051420

1

⚠ CAUTION

COVER INFORMATION

- Before operating Globug, **ALWAYS** unplug cover, lift into bag on top of balloon and zip.
- **NEVER** apply power to the Globug until the cover has been inserted inside the bag and the balloon is fully exposed.
- Before storing Globug, **ALWAYS** fully cover balloon to prevent damage from dust, dirt and adverse weather conditions.

051420

19

⚠ DANGER

ELECTRICAL SHOCK HAZARD

To prevent electrical shock or electrocution, the Globug **MUST** be connected to an earth ground. (see NEC Article 250)

051420

18

⚠ WARNING

To avoid injury, you **MUST** read and understand operator's manual before using this machine.

This machine to be operated by qualified personnel only. Ask for training as needed.

051420

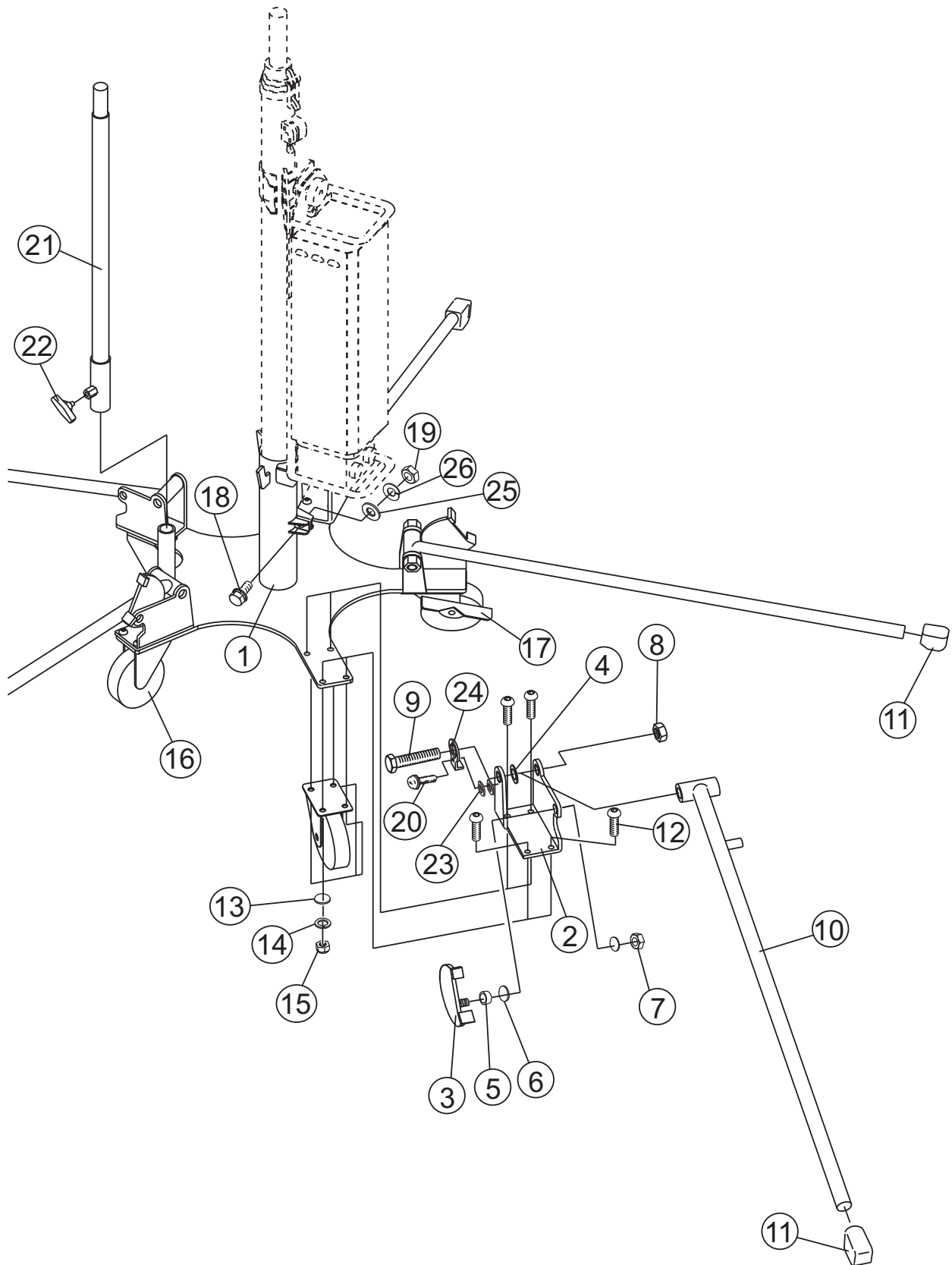
GLOBUG SOLO LIGHTING SYSTEM — NAMEPLATE AND DECALS

NAMEPLATE AND DECALS.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	DCL413	DECAL; CAUTION COVER INFORMATION	1	
2	DCL404	DECAL; CAUTION LAMP COVER BUZZER	1	
3	DCL416	DECAL; DANGER, ELECTRICAL SHOCK HAZ.	1	
4	DCL417	DECAL; WARNING, BURN HAZARD (LAMP)	1	
5	DCL409	DECAL; CAUTION, LAMP INFORMATION	1	
6	0800628504	DECAL; GROUND	1	
7	DCL429	DECAL; GLOBUG MQ LOGO	1	
8	DCL415	DECAL; BURN HAZARD (BALLAST)	1	
9	DCL422	DECAL: CASTER WHEELS INFORMATION	1	
10	DCL424	DECAL: LAMP SWITCH ON/OFF	1	
11	DCL410	DECAL; DANGER, ELECTRICAL SHOCK (CORDS)	1	
12	DCL423	DECAL; DANGER, GLOBUG INFORMATION	1	
13	DCL419	DECAL; DANGER, ELECTRICAL SHOCK HAZARD	1	
14	DCL420	DECAL: DANGER, MAST INFORMATION	1	
15		NAMEPLATE	1 CONTACT MQ PARTS DEPT.
16	DCL421	DECAL; WARNING, OUTRIGGER DEPLOYMENT	1	
17	DCL418	DECAL; DANGER, HIGH VOLTAGE	1	
18	35137	DECAL; WARNING, READ MANUAL	1	
19	DCL427	DECAL; DANGER, ELECTRICAL SHOCK HAZARD	1	

GLOBUG SOLO LIGHTING SYSTEM — BASE ASSY.

BASE ASSY.



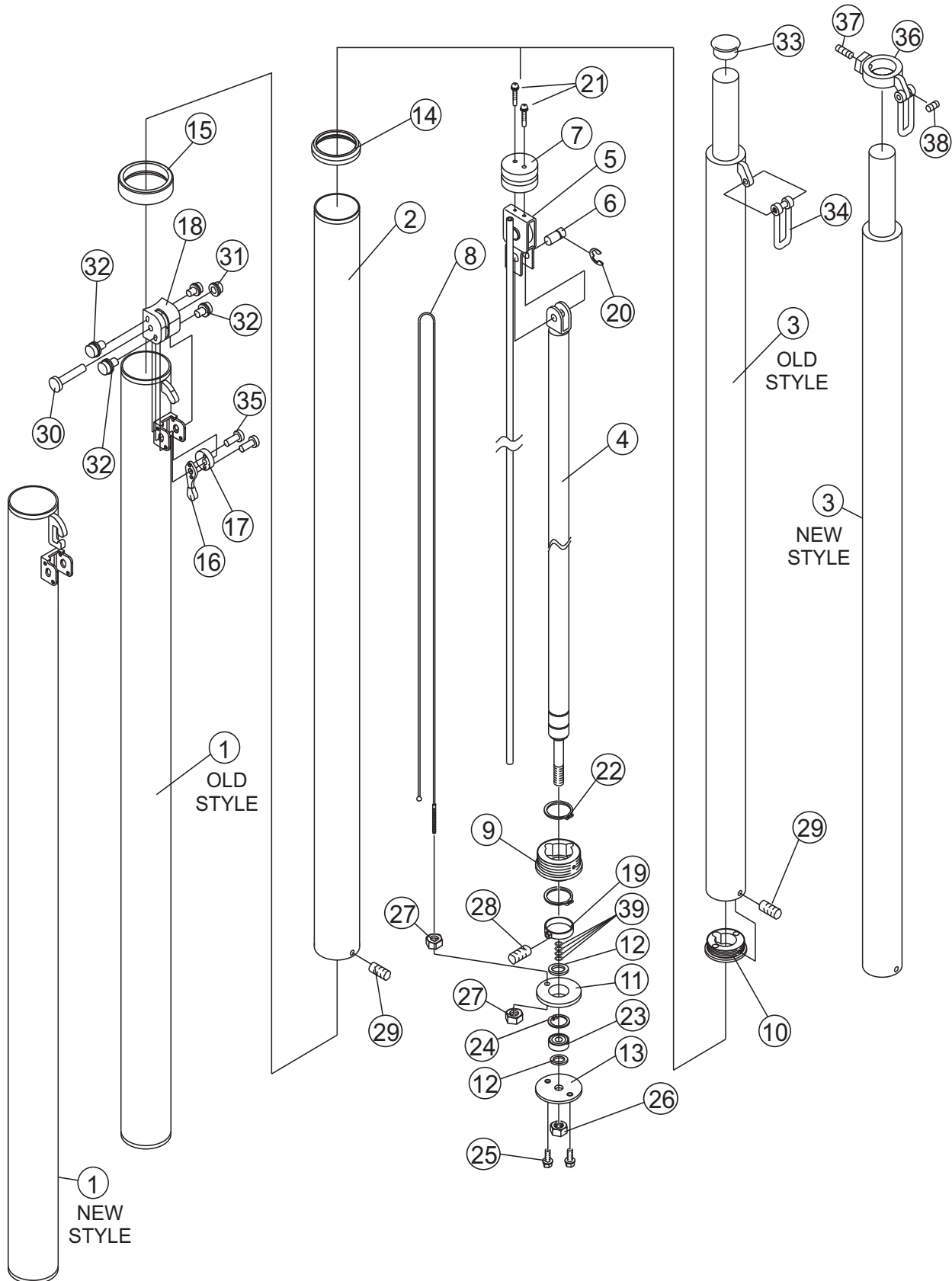
GLOBUG SOLO LIGHTING SYSTEM — BASE ASSY.

BASE ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	A100012302	BASE	1	REPLACES P/N A100012300 AND S/N A100012301
2	A200017801	BRACKET (OUT, R)	5	REPLACES P/N A200017800
3	2031320213	WEIGHT (OUT, R) L	5	
4	A400073100	WASHER	20	REPLACES P/N A400038700
5	1501100430	SPACER	5	
6	0043110000	WASHER (M10)	11	REPLACES P/N 0040110000
7	0033210000	SELF LOCK NUT (M10)	5	REPLACES P/N 0030210000
8	0033216000	SELF LOCK NUT (M16)	5	REPLACES P/N 0030216000
9	0013216090	BOLT (M16x90)	5	REPLACES P/N 0010116090
10	A300033100	OUTRIGGER	5	S/N G20040 AND BELOW
10	A300033101	OUTRIGGER	5	S/N G20041 AND ABOVE
11	1641000330	RUBBER (OUT, R)	5	
12	0014708025	BUTTON SCREW (M8x25)	30	
13	0043108000	WASHER (M8)	30	
14	0043208000	SPRING WASHER (M8)	30	
15	0033108000	NUT (M8)	30	REPLACES P/N 0030108000
16	E000008800	CASTER	2	
17	E000008900	CASTER (STOPPER)	3	
18	0010510030	BOLT AND WASHER (M10x30)	1	S/N G20040 AND BELOW
18	0010110045	BOLT (M10x45)	1	S/N G20041 AND ABOVE
19	0030110000	NUT (M10)	1	
20	0010506020	BOLT AND WASHER (M6x20)	5	
21	A300030900	EXTENSION POLE	1	
22	2202751110	KNOB LEVER	1	
23	0040106000	WASHER (M6)	10	
24	A400037800	STOPPER PLATE	1	
25	0040110000	WASHER (M10)	1	S/N G20041 AND ABOVE
26	0040210000	SPRING WASHER (M10)	1	S/N G20041 AND ABOVE

GLOBUG SOLO LIGHTING SYSTEM —MAST ASSY.

MAST ASSY.



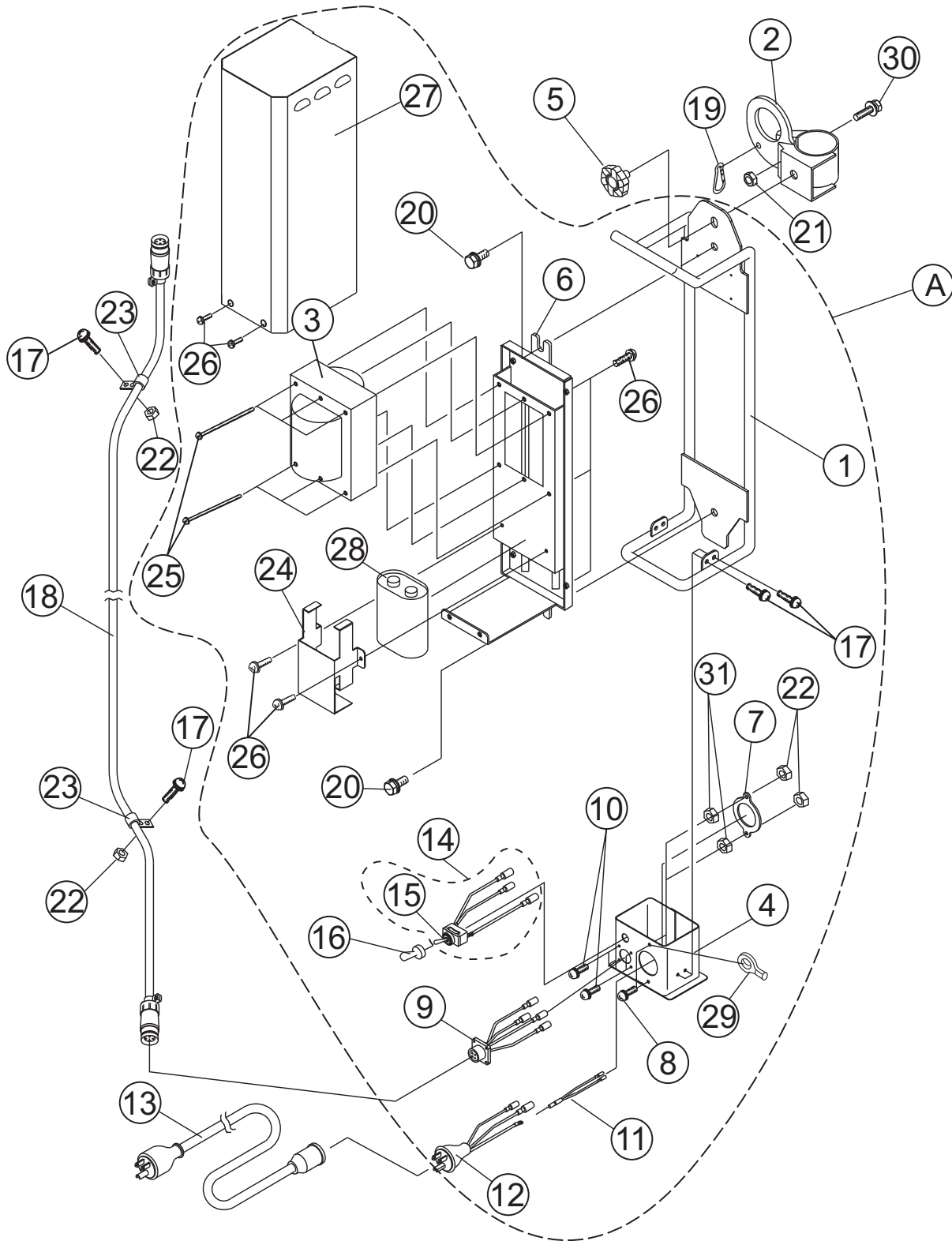
GLOBUG SOLO LIGHTING SYSTEM — MAST ASSY.

MAST ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	A200014303	POLE 1	1	REPLACES P/N A200014300
2	A300027701	POLE 2	1	
3	A300027801	POLE 3	1	REPLACES P/N A300027800
4	1020000200	GAS SPRING	1	
5	A300027900	BRACKET (PULLEY)	1	
6	A400032100	PIN (GAS SPRING)	1	
7	A400032000	SLIDER (GAS SPRING)	1	
8	A400034303	WIRE	1	REPLACES P/N A400034300
9	A400031801	BLIND PLUG 2	1	
10	A400031902	BLIND PLUG 3	1	REPLACES P/N A400031901
11	A400032200	BEARING HOLDER	1	
12	A400035500	WASHER	2	
13	A400035600	BRACKET (GAS SPRING)	1	
14	A400161800	NUT 1	1	REPLACES P/N A400031602
15	A400161900	NUT 2	1	REPLACES P/N A400031702
16	A400030400	LEVER (CHOKE)	1	S/N G20040 AND BELOW
16	A400030500	LEVER (CHOKE)	1	S/N G20041 AND ABOVE
17	A400028801	PLATE (CHOKE)	1	
18	A400030600	COVER (CHOKE)	1	
19	A400033702	RING (CHOKE)	1	REPLACES P/N A400033700
20	0040608010	E-CLIP	1	
21	0023304030	SCREW & WASHER (M4x30)	2	REPLACES P/N 0020304030
22	0040722000	SNAP RING (OUTER)	2	
23	E000009200	BALL BEARING	1	
24	0040822000	SNAP RING (INNER)	1	
25	0013806008	FLANGE BOLT (M6x8)	2	REPLACES P/N 0010806008
26	0033208000	SELF LOCK NUT (M8)	1	
27	0033105000	NUT (M5)	2	
28	0024704010	SET SCREW (M4x10)	1	REPLACES P/N 0021804010
29	0024704008	SET SCREW (M4x8)	2	REPLACES P/N 0021804008
30	0023106035	SCREW (M6x35)	2	REPLACES P/N 0020106035
31	0033306000	CAP NUT (M6)	1	REPLACES P/N 0030306000
32	0025304008	SCREW & WASHER (M4x8)	4	REPLACES P/N 0020304008
33	E000007400	HOLE PLUG	1	REPLACES P/N E000007200
34	E000008700	LONG SHACKLE	1	
35	0023104010	SCREW (M4x10)	2	REPLACES P/N 0020104010
36	A400075801	HOOK	1	S/N G20071 AND ABOVE
37	0021708010	SET SCREW (M8X10)	1	S/N G20071 AND ABOVE
38	A400070600	SPRING (HOOK)	1	S/N G20071 AND ABOVE
39	0043110000	WASHER (M10)	4	

GLOBUG SOLO — BALLAST ASSY. (S/N G20040 & BELOW)

BALLAST ASSY.



GLOBUG SOLO — BALLAST ASSY. (S/N G20040 & BELOW)

BALLAST ASSY.

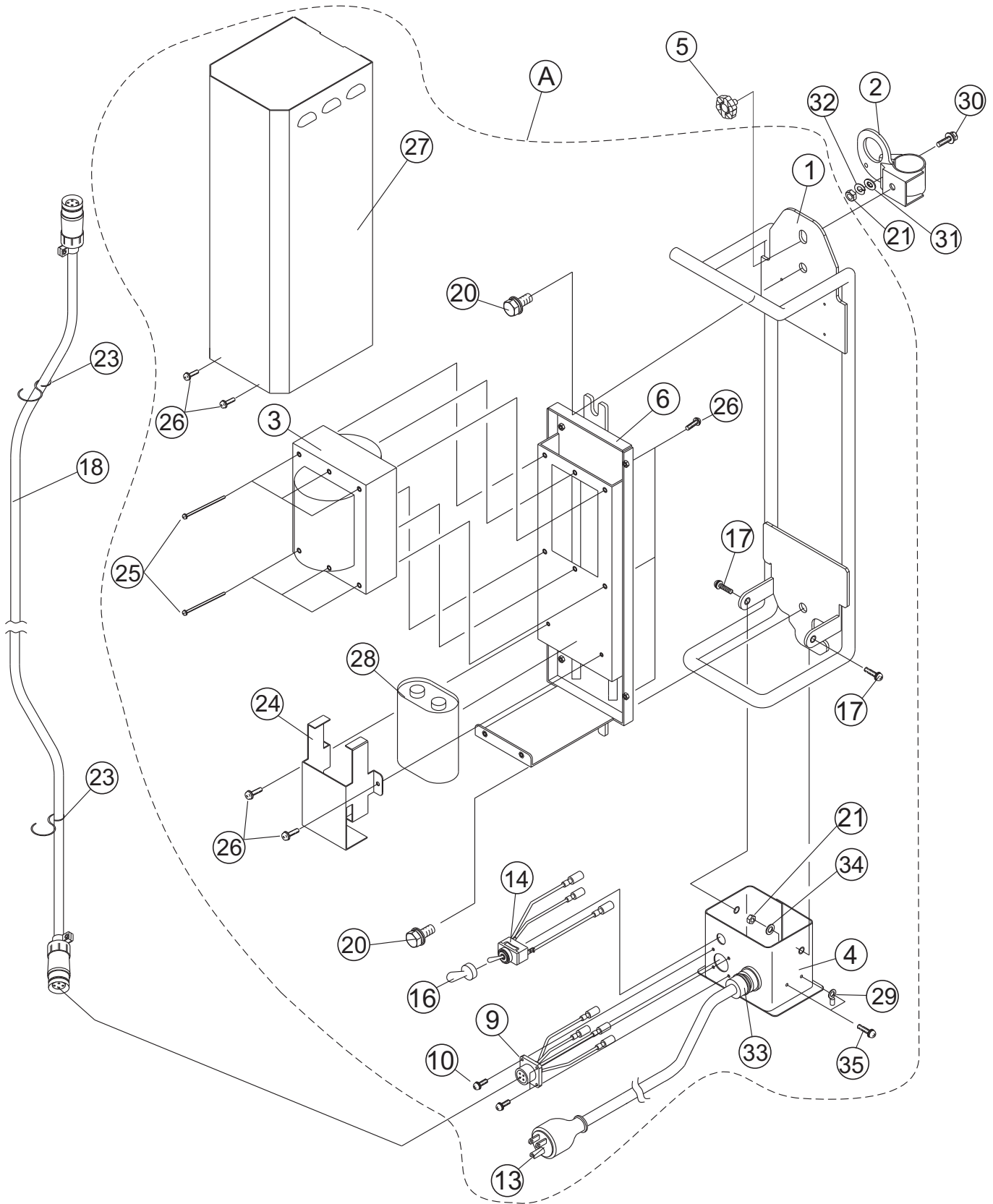
<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
A	A000017700	BALLAST ASSY	1	INCLUDES ITEMS W/ \$
1\$	A100010202	FRAME	1	
2	A100010601	HOLDER (BALLAST)	1	
3\$	A300033800	BALLAST (TRANSFORMER) CP	1	INCLUDES ITEM W/ #
4\$	A200016900	CASE (WIRE)	1	
5	E000024600	KNOB	1	REPLACES P/N E000009100
6\$	A200018100	CASE (BALLAST) 1 CP	1	
7\$	A400035200	HOLDER (PLUG)	1	
8\$	0020304015	SCREW & WASHER (M4x15)	2	
9\$	A400037600	CABLE (LAMP) CP, QUICK DISC.	1	
10\$	0020503012	SCREW & WASHER (M3x12)	4	
11\$	A400038200	CABLE (JOINT)	1	
12\$	A400035800	PLUG CP	1	
13	A300034700	CABLE (MAIN) CP	1	
14\$	A400037500	SWITCH ASSY.....	1	INCLUDES ITEM W/ *
15\$*	E000036400	TOGGLE SWITCH	1	REPLACES P/N 1406000610
16\$	1406000700	RUBBER CAP	1	
17	0020104008	SCREW & WASHER (M4x8)	4	
18	A300034800	CABLE (LAMP) CP	1	
19	2204510260	SNAP HOOK	1	
20\$	0013510025	BOLT & WASHER (M10x25)	2	
21	0033110000	NUT (M10)	1	REPLACES P/N 0030110000
22	0033104000	NUT (M4)	3	
23	A400034100	CLAMP	2	
24\$	A200018200	HOLDER	1	
25\$	0023305090	SCREW & WASHER (M5x90)	6	
26\$	0023304012	SCREW & WASHER (M4x12)	10	
27\$	A100013500	CASE (BALLAST) 2 CP	1	
28\$#	19598	CAPACITOR, 24 μ F @ 480 VDC	1	
29\$	1367020430	GROUNDING TERMINAL	1	
30	0013510025	BOLT AND WASHER (M10 X 25)	1	
31	0030105000	NUT (M5)	2	

GLOBUG SOLO — BALLAST ASSY. (S/N G20041 - G20070)

BALLAST ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
A	A000017701	BALLAST ASSY	1	INCLUDES ITEMS W/ \$
1\$	A100015401	FRAME	1	
2	A100010602	HOLDER (BALLAST)	1	
3\$	A300033800	BALLAST (TRANSFORMER) CP	1	INCLUDES ITEM W/ #
4\$	A200020904	CASE (WIRE)	1	
5	E000024600	KNOB	1	REPLACES P/N E000009100
6\$	A200018100	CASE (BALLAST) 1 CP	1	
9\$	A400037600	CABLE (LAMP) CP, QUICK-DISC	1	
10\$	0023303008	SCREW & WASHER (M3x8)	4	REPLACES P/N 0020303008
11\$	A400038200	CABLE (JOINT)	1	
13\$	A300066700	CABLE (MAIN-GB5)	1	
14\$	A400037502	SWITCH ASSY.	1	INCLUDES ITEMS W/ *
15\$*	E000036400	TOGGLE SWITCH	1	REPLACES P/N 1406000610
16\$	1406000700	RUBBER CAP	1	
17	0023306012	SCREW & WASHER (M6X12)	2	
18	A300034800	CABLE (LAMP) CP	1	
20	0013510025	BOLT & WASHER (M10x25)	2	
21	0033110000	NUT (M10)	1	REPLACES P/N 0030110000
22	0033104000	NUT (M4)	3	
23	E000028200	S HOOK	2	
24\$	A200018200	HOLDER	1	
25\$	0023305090	SCREW & WASHER (M5x90)	6	
26\$	0023304012	SCREW & WASHER (M4x12)	10	
27\$	A100013500	CASE (BALLAST) 2 CP	1	
28\$#	19598	CAPACITOR, 24 μ F @ 480 VDC	1	
29\$	1367020430	GROUNDING TERMINAL	1	
30	0013110035	BOLT (M10 X 35)	1	
31	0043110000	WASHER (M10)	1	
32	0043210000	SPRING WASHER (M10)	1	
33	E000010400	CABLE CLAMP	1	
34	0043210000	SPRING WASHER	1	
35	0023304012	SCREW AND WASHER (M4 X 12)	2	

GLOBUG SOLO — BALLAST ASSY. (S/N G20071 AND ABOVE)



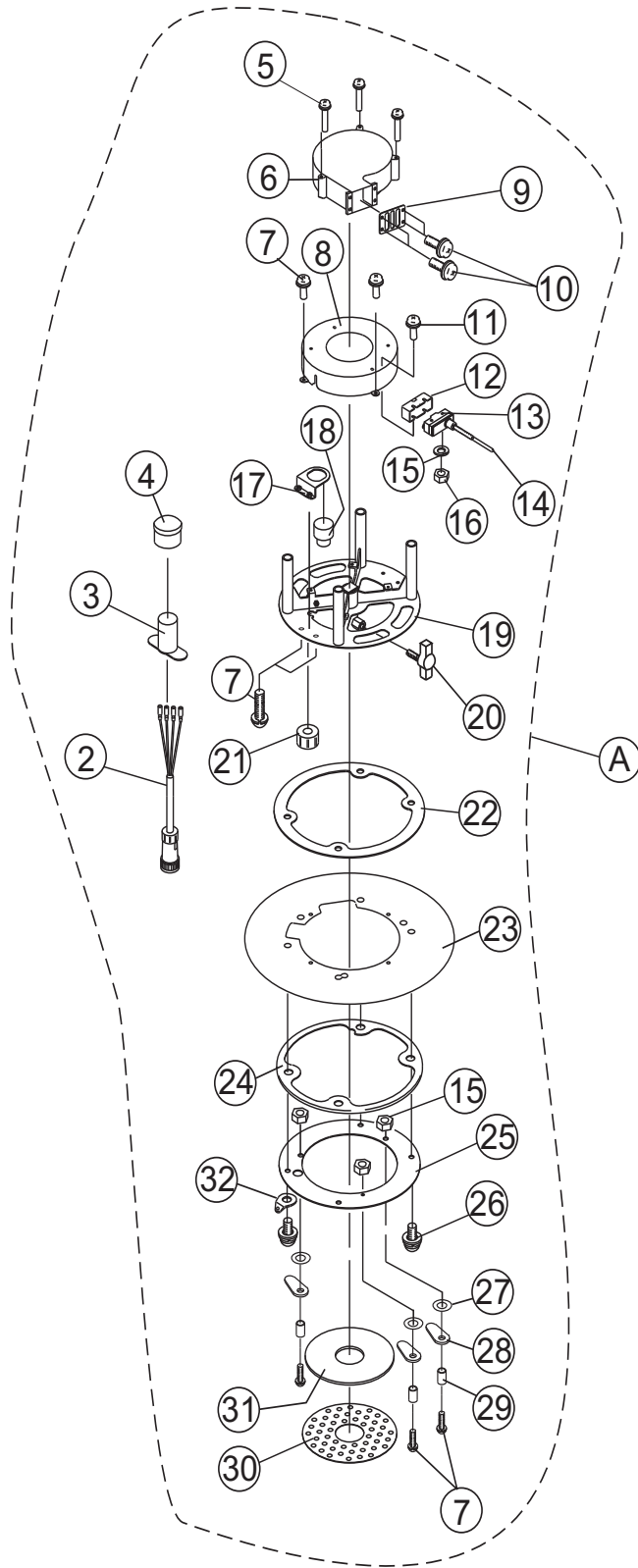
GLOBUG SOLO — BALLAST ASSY. (S/N G20071 AND ABOVE)

BALLAST ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
A	A000017702	BALLAST ASSY	1	INCLUDES ITEMS W/ \$
1\$	A100015401	FRAME	1	
2	A100010602	HOLDER (BALLAST)	1	
3\$	A300033800	BALLAST (TRANSFORMER) CP	1	INCLUDES ITEM W/ #
4\$	A200020904	CASE (WIRE)	1	
5	E000024600	KNOB	1	REPLACES P/N E000009100
6\$	A200018100	CASE (BALLAST) 1 CP	1	
9\$	A400079400	CABLE (LAMP) CP, THREADED	1	
10\$	0023303008	SCREW & WASHER (M3x8)	4	REPLACES P/N 0020303008
13\$	A300066700	CABLE (MAIN-GB5)	1	
14\$	A400037502	SWITCH ASSY.	1	
16\$	1406000700	RUBBER CAP	1	
17	0023306012	SCREW & WASHER (M6X12)	2	
18	A300066900	CABLE (LAMP) CP	1	
20	0013510025	BOLT & WASHER (M10x25)	2	
21	0033110000	NUT (M10)	1	REPLACES P/N 0030110000
22	0033104000	NUT (M4)	1	
23	E000028200	S HOOK	2	
24\$	A200018200	HOLDER	1	
25\$	0023305090	SCREW & WASHER (M5x90)	6	
26\$	0023304012	SCREW & WASHER (M4x12)	10	
27\$	A100013500	CASE (BALLAST) 2 CP	1	
28\$#	19598	CAPACITOR, 24 μ F @ 480 VDC	1	
29\$	1367020430	GROUNDING TERMINAL	1	
30	0013110035	BOLT (M10 X 35)	1	
31	0043110000	WASHER (M10)	1	
32	0043210000	SPRING WASHER (M10)	1	
33	E000045000	CABLE CLAMP	1	
34	0043204000	SPRING WASHER	1	
35	0023304012	SCREW AND WASHER (M4 X 12)	2	

GLOBUG SOLO LIGHTING SYSTEM — FAN BLOWER/LAMP BASE ASSY.

FAN BLOWER/LAMP BASE ASSY.



GLOBUG SOLO LIGHTING SYSTEM — FAN BLOWER/LAMP BASE ASSY.

FAN BLOWER/LAMP BASE ASSY.

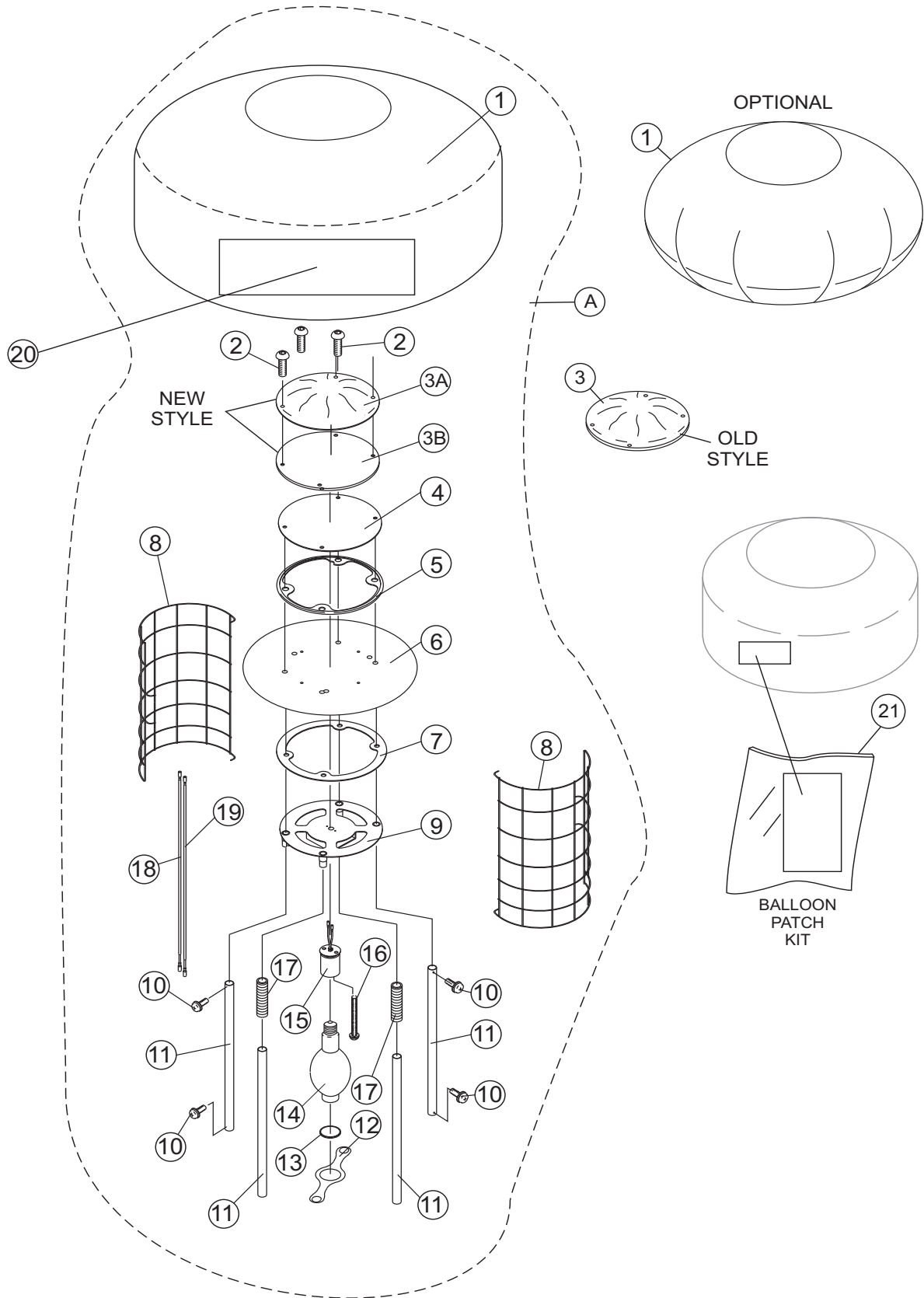
<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
A	A000017600	BALLOON ASSY	1	S/N G20070 AND BELOW SEE NOTE 1 BELOW
A	A000017601	BALLOON ASSY	1	S/N G20071 AND ABOVE SEE NOTE 2 BELOW
2\$	A300033600	CABLE 1 (BALLOON) CP, QUICK-DISC	1	S/N G20070 AND BELOW
2%	A300105500	CABLE 1 (BALLOON) CP, THREADED	1	S/N G20071 AND ABOVE
3#	A400038901	COVER (WIRE)	1	
4#	E000011900	COVER	1	
5#	0023305060	SCREW & WASHER (M5x60)	3	
6#	A300033500	FAN MOTOR CP	1	
7#	0024304008	SCREW (M4x8)	9	
8#	A200017702	FAN SUPPORT	1	
9#	A400037400	GUARD (FAN)	1	
10#	0023105008	SCREW (M5x8)	4	
11#	0023204030	SCREW (M4x30)	2	
12#	1400150300	MICRO SWITCH COVER	1	
13#	1400150210	MICRO SWITCH	1	
14#	1400150410	MICRO SWITCH CAP (SENSOR)	1	
15#	0043104000	WASHER (M4)	2	
16#	0033104000	NUT (M4)	5	
17\$	E000010500	BUZZER	1	S/N G20040 AND BELOW
17%	E000030100	BUZZER	1	S/N G20041 AND ABOVE
18\$	A400038600	BRACKET (BUZZER)	1	S/N G20040 AND BELOW
18%	A400038601	BRACKET (BUZZER)	1	S/N G20041 AND ABOVE
19\$	A100013301	FLANGE	1	S/N G20040 AND BELOW
19%	A100013302	FLANGE	1	S/N G20041 AND ABOVE
20#	E000065400	T-HANDLE KNOB	1	
21\$	E000010400	CABLE CLAMP	1	S/N G20070 AND BELOW
21%	E000045000	CABLE CLAMP	1	S/N G20071 AND ABOVE
22#	2204500130	SEAL (NORMAL)	1	
23#	1800001100	SHEET (BOTTOM)	1	
24#	2204500230	PACKING	1	
25#	A300034400	PLATE (BOTTOM)	1	
26#	0014808025	BUTTON SCREW & WASHER (M8x25)	8	
27#	E000009701	WAVE WASHER (M5)	3	
28#	A400030700	STOPPER (FILTER) CP	3	
29#	E000010301	SPACER	3	
30#	A200018000	PLATE (AIR)	1	
31#	A400038300	FILTER 200 (AIR)	1	
32#	2204510110	WASHER	1	

NOTE 1: The balloon assembly A includes all items w/ # and \$ on the Fan Blower/Lamp Base Assy parts list on this page AND on the Balloon/LampGuard Assy parts list.

NOTE 2: The balloon assembly A includes all items w/ # and % on the Fan Blower/Lamp Base Assy parts list on this page AND on the Balloon/LampGuard Assy parts list.

GLOBUG SOLO LIGHTING SYSTEM — BALLOON/LAMP GUARD ASSY.

BALLOON/LAMP GUARD ASSY.



GLOBUG SOLO LIGHTING SYSTEM — BALLOON/LAMP GUARD ASSY.

BALLOON/LAMP GUARD ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
A	A000017600	BALLOON ASSY	1	S/N G20070 AND BELOW SEE NOTE 1 BELOW
A	A000017601	BALLOON ASSY	1	S/N G20071 AND ABOVE SEE NOTE 2 BELOW
1	GBBAL120	BALLOON CLOTH CP, OVAL-SHAPED	1	CONTACT MQ UNIT SALES (OPTIONAL)
1#	GBBAL115D	BALLOON CLOTH CP, DRUM-SHAPED	1	CONTACT MQ UNIT SALES
2#	0014808025	BUTTON SCREW & WASHER (M8 X 25)	1	
3	A100013400	PRIMARY COVER	1	NO LONGER AVAILABLE
3A#	A100028505	BALLOON COVER	1	REPLACES P/N A100028600 S/N G20001 AND ABOVE
3B#	A300060202	SEAL (TOP)	1	S/N G20001 AND ABOVE
4#	2204220130	PLATE (CAP)	1	
5#	2204500230	PACKING	1	
6#	1800001000	SHEET (TOP)	1	
7#	2204500130	SEAL NORMAL (TOP)	1	
8#	A100010800	LAMP GUARD	2	
9\$	A300026900	PLATE (LAMP)	1	S/N G20070 AND BELOW
9%	A300026901	PLATE (LAMP)	1	S/N G20071 AND ABOVE
10#	0024304008	SCREW & WASHER (M4x8)	16	
11#	2204400130	FRAME PIPE	4	
12#	A300032700	PLATE (LAMP HOLDER)	1	
13#	2204231730	RUBBER (LAMP)	1	
14#	E000009800	LAMP	1	
15#	E000009601	SOCKET ASSY	1	
16#	0025304025	SCREW & WASHER (M4x25)	2	
17#	2204231530	SPRING (LAMP)	2	
18#	A400038400	CABLE (LAMP) 1 R CP	1	
19\$	A400038500	CABLE (LAMP) 1 G CP	1	S/N G20070 AND BELOW
19%	A400038501	CABLE (LAMP) 1 G CP	1	S/N G20071 AND ABOVE
20	GBBALD1	BLANK MESSAGE STRIP (OPTIONAL)	1	CONTACT MQ UNIT SALES
21	1654000230	BALLOON PATCH KIT (OPTIONAL)	1	CONTACT MQ UNIT SALES

NOTE 1: The balloon assembly A includes all items w/ # and \$ on the Balloon/LampGuard Assy parts list on this page AND on the Fan Blower/Lamp Base Assy parts list.

NOTE 2: The balloon assembly A includes all items w/ # and % on the Balloon/LampGuard Assy parts list on this page AND on the Fan Blower/Lamp Base Assy parts list.

PAYMENT TERMS

Terms of payment for parts are net 30 days.

FREIGHT POLICY

All parts orders will be shipped collect or prepaid with the charges added to the invoice. All shipments are F.O.B. point of origin. Multiquip's responsibility ceases when a signed manifest has been obtained from the carrier, and any claim for shortage or damage must be settled between the consignee and the carrier.

MINIMUM ORDER

The minimum charge for orders from Multiquip is \$15.00 net. Customers will be asked for instructions regarding handling of orders not meeting this requirement.

RETURNED GOODS POLICY

Return shipments will be accepted and credit will be allowed, subject to the following provisions:

1. A Returned Material Authorization must be approved by Multiquip prior to shipment.
2. To obtain a Return Material Authorization, a list must be provided to Multiquip Parts Sales that defines item numbers, quantities, and descriptions of the items to be returned.
 - a. The parts numbers and descriptions must match the current parts price list.
 - b. The list must be typed or computer generated.
 - c. The list must state the reason(s) for the return.
 - d. The list must reference the sales order(s) or invoice(s) under which the items were originally purchased.
 - e. The list must include the name and phone number of the person requesting the RMA.
3. A copy of the Return Material Authorization must accompany the return shipment.
4. Freight is at the sender's expense. All parts must be returned freight prepaid to Multiquip's designated receiving point.

5. Parts must be in new and resalable condition, in the original Multiquip package (if any), and with Multiquip part numbers clearly marked.
6. The following items are not returnable:
 - a. Obsolete parts. (If an item is in the price book and shows as being replaced by another item, it is obsolete.)
 - b. Any parts with a limited shelf life (such as gaskets, seals, "O" rings, and other rubber parts) that were purchased more than six months prior to the return date.
 - c. Any line item with an extended dealer net price of less than \$5.00.
 - d. Special order items.
 - e. Electrical components.
 - f. Paint, chemicals, and lubricants.
 - g. Decals and paper products.
 - h. Items purchased in kits.
7. The sender will be notified of any material received that is not acceptable.
8. Such material will be held for five working days from notification, pending instructions. If a reply is not received within five days, the material will be returned to the sender at his expense.
9. Credit on returned parts will be issued at dealer net price at time of the original purchase, less a 15% restocking charge.
10. In cases where an item is accepted, for which the original purchase document can not be determined, the price will be based on the list price that was effective twelve months prior to the RMA date.
11. Credit issued will be applied to future purchases only.

PRICING AND REBATES

Prices are subject to change without prior notice. Price changes are effective on a specific date and all orders received on or after that date will be billed at the revised price. Rebates for price declines and added charges for price increases will not be made for stock on hand at the time of any price change.

Multiquip reserves the right to quote and sell direct to Government agencies, and to Original Equipment Manufacturer accounts who use our products as integral parts of their own products.

SPECIAL EXPEDITING SERVICE

A \$35.00 surcharge will be added to the invoice for special handling including bus shipments, insured parcel post or in cases where Multiquip must personally deliver the parts to the carrier.

LIMITATIONS OF SELLER'S LIABILITY

Multiquip shall not be liable hereunder for damages in excess of the purchase price of the item with respect to which damages are claimed, and in no event shall Multiquip be liable for loss of profit or good will or for any other special, consequential or incidental damages.

LIMITATION OF WARRANTIES

No warranties, express or implied, are made in connection with the sale of parts or trade accessories nor as to any engine not manufactured by Multiquip. Such warranties made in connection with the sale of new, complete units are made exclusively by a statement of warranty packaged with such units, and Multiquip neither assumes nor authorizes any person to assume for it any other obligation or liability whatever in connection with the sale of its products. Apart from such written statement of warranty, there are no warranties, express, implied or statutory, which extend beyond the description of the products on the face hereof.

OPERATION AND PARTS MANUAL

HERE'S HOW TO GET HELP

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

UNITED STATES

Multiquip Corporate Office

18910 Wilmington Ave. Tel. (800) 421-1244
Carson, CA 90746 Fax (800) 537-3927
Contact: mq@multiquip.com

Mayco Parts

800-306-2926 Fax: 800-672-7877
310-537-3700 Fax: 310-637-3284

Service Department

800-421-1244 Fax: 310-537-4259
310-537-3700

MQ Parts Department

800-427-1244 Fax: 800-672-7877
310-537-3700 Fax: 310-637-3284

Warranty Department

800-421-1244, Ext. 279 Fax: 310-537-1173
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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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