



**WACKER
NEUSON**

Operator's Manual

Multifunction Floodlight Tower

ML440(Raw)



EN

5000409314

02

1218



5 0 0 0 4 0 9 3 1 4

**Copyright
notice**

© Copyright 2018 by Wacker Neuson Machinery (China) Co., Ltd.

All rights, including copying and distribution rights, are reserved.

This publication may be photocopied by the original purchaser of the machine. Any other type of reproduction is prohibited without express written permission from Wacker Neuson Machinery (China) Co., Ltd.

Any type of reproduction or distribution not authorized by Wacker Neuson Machinery (China) Co., Ltd. represents an infringement of valid copyrights. Violators will be prosecuted.

Trademarks

All trademarks referenced in this manual are the property of their respective owners.

Manufacturer

Wacker Neuson Machinery (China) Co., Ltd.

No. 1688 Xinkai Road, Pinghu Economic Development Zone,

Pinghu City, Zhejiang Province, P.R. China

www.wackerneuson.com

**Original
instructions**

This Operator's Manual presents the original instructions. The original language of this Operator's Manual is American English.

Foreword

SAVE THESE INSTRUCTIONS—This manual contains important instructions for the machine models listed below. These instructions must be followed during installation and maintenance of the machine (and battery, if equipped).

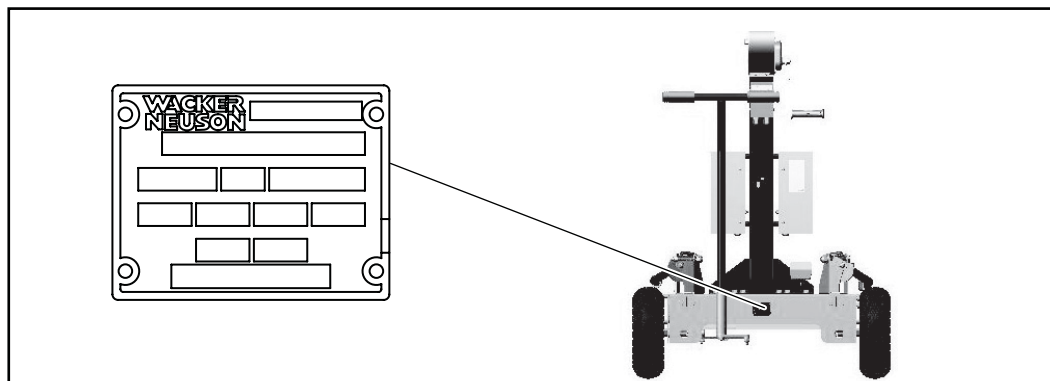
Machines
covered in
this manual

Machine	Item Number
ML440-50Hz Raw	5000630425
ML440-60Hz Raw	5000630426
ML440-AU Raw	5000630204

**DANGER**

Carbon monoxide. Using a generator indoors CAN KILL YOU IN MINUTES. Generator exhaust contains carbon monoxide (CO). This is a poison you cannot see or smell. If you can smell the generator exhaust, you are breathing CO. But even if you cannot smell the exhaust, you could be breathing CO.

- ▶ NEVER use a generator inside homes, buildings, garages, crawlspaces, or other partly enclosed areas. Deadly levels of carbon monoxide can build up in these areas. Using a fan or opening windows and doors does NOT supply enough fresh air.
- ▶ ONLY use a generator outside, and far away from homes, buildings, windows, doors, and vents. Windows, doors, and vents can pull in generator exhaust.
- ▶ Point the engine exhaust away from homes, buildings, windows, doors, and vents. Also, point the engine exhaust away from combustible materials.
- ▶ Even when you use a generator correctly, CO may leak into the home or building. ALWAYS use a battery-powered or battery-backup CO alarm in the home or building.
- ▶ If you start to feel sick, dizzy, or weak after the generator has been running, move to fresh air RIGHT AWAY. See a doctor. You could have carbon monoxide poisoning.



wpm_gr011851

Machine identification

A nameplate listing the model number, item number, revision number, and serial number is attached to this machine. The location of the nameplate is shown above.

Serial number (S/N)

For future reference, record the serial number in the space provided below. You will need the serial number when requesting parts or service for this machine.

Serial Number:

Machine documentation

- From this point forward in this documentation, Wacker Neuson Machinery (China) Co., Ltd. will be referred to as Wacker Neuson.
- Keep a copy of the Operator's Manual with the machine at all times.
- Refer to the separate Repair Manual for detailed instructions on servicing and repairing the machine.
- If you are missing any of these documents, please contact Wacker Neuson to order a replacement or visit www.wackerneuson.com.
- When ordering parts or requesting service information, be prepared to provide the machine model number, item number, revision number, and serial number.

Expectations for information in this manual

- This manual provides information and procedures to safely operate and maintain the above Wacker Neuson model(s). For your own safety and to reduce the risk of injury, carefully read, understand, and observe all instructions described in this manual.
- Wacker Neuson expressly reserves the right to make technical modifications, even without notice, which improve the performance or safety standards of its machines.
- The information contained in this manual is based on machines manufactured up until the time of publication. Wacker Neuson reserves the right to change any portion of this information without notice.
- The illustrations, parts, and procedures in this manual refer to Wacker Neuson factory-installed components. Your machine may vary depending on the requirements of your specific region.

Manufacturer's approval

This manual contains references to *approved* parts, attachments, and modifications. The following definitions apply:

- **Approved parts or attachments** are those either manufactured or provided by Wacker Neuson.
- **Approved modifications** are those performed by an authorized Wacker Neuson service center according to written instructions published by Wacker Neuson.
- **Unapproved parts, attachments, and modifications** are those that do not meet the approved criteria.

Unapproved parts, attachments, or modifications may have the following consequences:

- Serious injury hazards to the operator and persons in the work area
- Permanent damage to the machine which will not be covered under warranty

Contact your Wacker Neuson dealer immediately if you have questions about approved or unapproved parts, attachments, or modifications.

Note:

Foreword	3
1 Safety Information	9
1.1 Signal Words Used in this Manual	9
1.2 Machine Description and Intended Use	10
1.3 Safety Guidelines for Operating the Machine	11
1.4 Lamp Safety	12
1.5 Safety Guidelines for Towing the Machine	13
1.6 Service Safety	14
2 Labels	16
2.1 Label Locations	16
2.2 Label Meanings	17
3 Lifting and Transporting	20
3.1 Tie-Down Points	21
4 Operation	22
4.1 Preparing the Machine for First Use	22
4.2 Adjusting the Lights	23
4.3 Operating the Lights	24
4.4 Raising the Tower (Manual Winch System)	25
4.5 Lowering the Tower (Manual Winch System)	27
4.6 Emergency Shutdown Procedure	28

5	Maintenance	29
5.1	Periodic Maintenance Schedule.....	29
5.2	Installing/Removing the Light Fixtures	30
5.3	Replacing and Removing the Lamp	31
5.4	Daily Inspection	32
5.5	Long Term Storage	33
6	Troubleshooting	34
7	Technical Data	35
7.1	Machine	35
8	Dimensions	36

1 Safety Information

1.1 Signal Words Found in this Manual

This manual contains DANGER, WARNING, CAUTION, *NOTICE*, and NOTE signal words which must be followed to reduce the possibility of personal injury, damage to the equipment, or improper service.



This is the safety alert symbol. It is used to alert you to potential personal hazards.
► Obey all safety messages that follow this symbol.



DANGER

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

- To avoid death or serious injury from this type of hazard, obey all safety messages that follow this signal word.



WARNING

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

- To avoid possible death or serious injury from this type of hazard, obey all safety messages that follow this signal word.



CAUTION!

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

- To avoid possible minor or moderate injury from this type of hazard, obey all safety messages that follow this signal word.

NOTICE: Used without the safety alert symbol, NOTICE indicates a situation which, if not avoided, could result in property damage.

Note: A Note contains additional information important to a procedure.

1.2 Machine Description and Intended Use

This machine is a Multifunction Floodlight Tower. The Wacker Neuson Light Tower is perfectly fit for any construction jobsite. It is safe and simple, yet reliable and durable, and can be widely used for construction, municipal, road maintenance, commercial, landscaping and wherever the reliable and safe lighting is needed.

This machine is intended for the illumination of outdoor areas. This machine is also intended for the purpose of supplying electrical power to connected loads. Refer to the product specifications for the output voltage and frequency of this Light Tower, and for the maximum output power limit of this Light Tower.

This machine has been designed and built strictly for the intended use described above. Using the machine for any other purpose could permanently damage the machine or seriously injure the operator or other persons in the area. Machine damage caused by misuse is not covered under warranty.

- The following are some examples of misuse:
 - Connecting a load that has voltage and frequency requirements that are incompatible with the machine output
 - Overloading the machine with a device that draws excessive power during either continuous running or start-up
 - Operating the machine in a manner that is inconsistent with all federal, state and local codes and regulations
 - Using the machine as a ladder, support, or work surface
 - Using the machine to carry or transport passengers or equipment
 - Using the machine to tow other machines (unless factory equipped)
 - Using the machine as a hoist or hanging items from the tower
 - Operating the machine outside of factory specifications
 - Operating the machine in a manner inconsistent with all warnings found on the machine and in the Operator's Manual
-

This machine has been designed and built in accordance with the latest global safety standards. It has been carefully engineered to eliminate hazards as far as practicable and to increase operator safety through protective guards and labeling. However, some risks may remain even after protective measures have been taken. They are called residual risks. On this machine, they may include exposure to:

- Heat, noise, exhaust, and carbon monoxide from the engine
- Heat from the lights
- Ultraviolet radiation from the lights
- Fire hazards from improper refueling techniques
- Fuel and its fumes
- Electric shock and arc flash
- Personal injury from improper lifting
- Glare from lights (lights may blind drivers of nearby motor vehicles if the lights are incorrectly positioned)

1.3 Safety Guidelines for Operating the Machine

Operator training

Before operating the machine:

- Read and understand the operating instructions contained in all manuals delivered with the machine.
- Familiarize yourself with the location and proper use of all controls and safety devices.
- Contact Wacker Neuson for additional training if necessary.

When operating this machine:

- Do not allow improperly trained people to operate the machine. People operating the machine must be familiar with the potential risks and hazards associated with it.

Personal Protective Equipment (PPE)

Wear the following Personal Protective Equipment (PPE) while operating this machine:

- Close-fitting work clothes that do not hinder movement
- Safety glasses with side shields
- Hearing protection
- Safety-toed footwear

Work area

- Make sure the area immediately surrounding the Light Tower is clean, neat, and free of debris.
- The tower extends up to 5 m (16 ft). Make sure the area above the light tower is open and clear of overhead wires and obstructions.

Machine setup

- Make sure the machine is on a firm, level surface and will not tip, roll, slide, or fall while operating.
- Make sure the machine is well-grounded and securely fastened to a good earthen ground per national and local regulations.
- The trailer must be leveled and the outriggers extended before raising the tower. The outriggers must be extended while the tower is down and the foot brakes are engaged.
- Never connect the machine to other power sources, such as supply mains of power companies.

Machine integrity

- Do not start a machine in need of repair.
- Do not use the machine if the insulation on any electrical cord is cut or worn through.
- Do not operate the lights without the protective lens cover in place or with a lens cover that is cracked or damaged.
- Replace or repair electrical components with components that are identical in rating and performance to the originals.

While operating the machine

- Keep the area behind the light tower clear of people and obstructions while raising and lowering the tower.
- Do not raise the tower or operate the machine in high winds. Lower the tower immediately if high winds are expected in the area.
- Do not raise, lower, or turn the tower while the unit is operating.
- If any part of the tower hangs up, or the winch cable develops slack while raising or lowering the tower, STOP immediately! Contact an authorized Wacker Neuson service representative.
- Lamps become extremely hot in use! Allow the lamps and fixtures to cool 10–15 minutes before handling.
- Lower the tower when not in use.

1.4 Lamp Safety

Description

The lamps provided with your Light Tower are electric discharge lamps. They are designed for use with metal halide ballasts only, and require time to reach full brightness on initial startup and after a power interruption. These lamps comply with FDA regulation performance standards 21 CFR 1040-30.

**WARNING**

Personal injury hazard. Broken or punctured lamps can cause serious skin burns and eye inflammation from shortwave ultraviolet radiation.

- ▶ Do not operate the Light Tower if a lamp is damaged.
- ▶ Replace damaged lamps immediately.

Operating safety

- Replace damaged lamps according to the instructions in section *Removing / Replacing Lamps*.
- Alternative lamps that automatically extinguish when the outer envelope is broken or punctured are commercially available.

1.5 Safety Guidelines for Towing the Machine



WARNING

Risk of severe injury or death. Improper trailer condition and towing technique can lead to an accident.

- ▶ Obey the trailer manufacturer's instructions and the instructions below to reduce the risk of an accident.
-

When towing the machine:

- Do not tow the machine if the towing vehicle's hitch or the trailer's coupler are damaged.
- Do not tow the machine if any of the trailer's lug nuts are missing.
- Do not tow the machine if the trailer's tires have less than 1.5 mm (1/16 inch) of tread.
- Do not tow the machine unless the trailer's brakes are functioning properly.
- Do not exceed the trailer manufacturer's speed limitations.

When towing the machine:

- Only tow the machine when the trailer's lug nuts are properly torqued.
 - Only tow the machine when the trailer's tires are properly inflated.
 - Only tow the machine when all trailer lights are functioning correctly.
 - Only tow the machine when the trailer's safety chains are connected to the towing vehicle in a crisscross pattern.
 - Maintain extra distance between the towing vehicle and other vehicles.
 - Avoid soft shoulders, curbs, and sudden lane changes.
 - Abide by all licensing requirements for your area.
-

If you have not driven a towing vehicle with trailer before, practice turning, stopping, and backing up the towing vehicle with trailer in an area away from traffic. Only drive the towing vehicle with trailer when you are confident in your ability to do so.

1.6 Service Safety



WARNING

High voltage! This machine produces high voltage capable of causing serious injury or death.

- ▶ Only a qualified electrician should troubleshoot or repair electrical problems occurring with this machine.

Precautions

- To reduce the risk of personal injury, read and understand the service procedures before performing any service to the machine.
- All adjustments and repairs **MUST** be completed before operation. Do not operate the machine with a known problem or deficiency! All repairs and adjustments should be completed by a qualified technician.
- Do not service the machine if your clothing or skin is wet.

Personal Protective Equipment (PPE)

Wear the following Personal Protective Equipment (PPE) while servicing or maintaining this machine:

- Close-fitting work clothes that do not hinder movement
- Safety glasses with side shields
- Hearing protection
- Safety-toed footwear

In addition, before servicing or maintaining the machine:

- Tie back long hair.
- Remove all jewelry (including rings).

Before servicing the machine

- Turn the engine off before performing maintenance or making repairs.
- Make sure the engine start switch is turned to OFF.
- Make sure the circuit breakers are open (off).
- Make sure the negative terminal on the battery is disconnected.
- Do not perform even routine service (oil / oil filter changes, cleaning, etc.) unless all electrical components are shut down.
- Make sure water has not accumulated around the base of the machine. If water is present, move the machine and allow it to dry before servicing.
- If the machine must be started while servicing, keep hands, feet, and loose clothing away from moving parts on the generator and engine.

Safety devices and modifications

- Replace all safety devices and guards after repair and maintenance.
- Do not modify the machine without the express written approval of the manufacturer.

Replacing parts and labels

- Replace worn or damaged components.
- Use only spare parts recommended by Wacker Neuson.
- Replace all missing and hard-to-read labels.
- Check all external fasteners at regular intervals.

**Lifting and
transporting**

When lifting the machine:

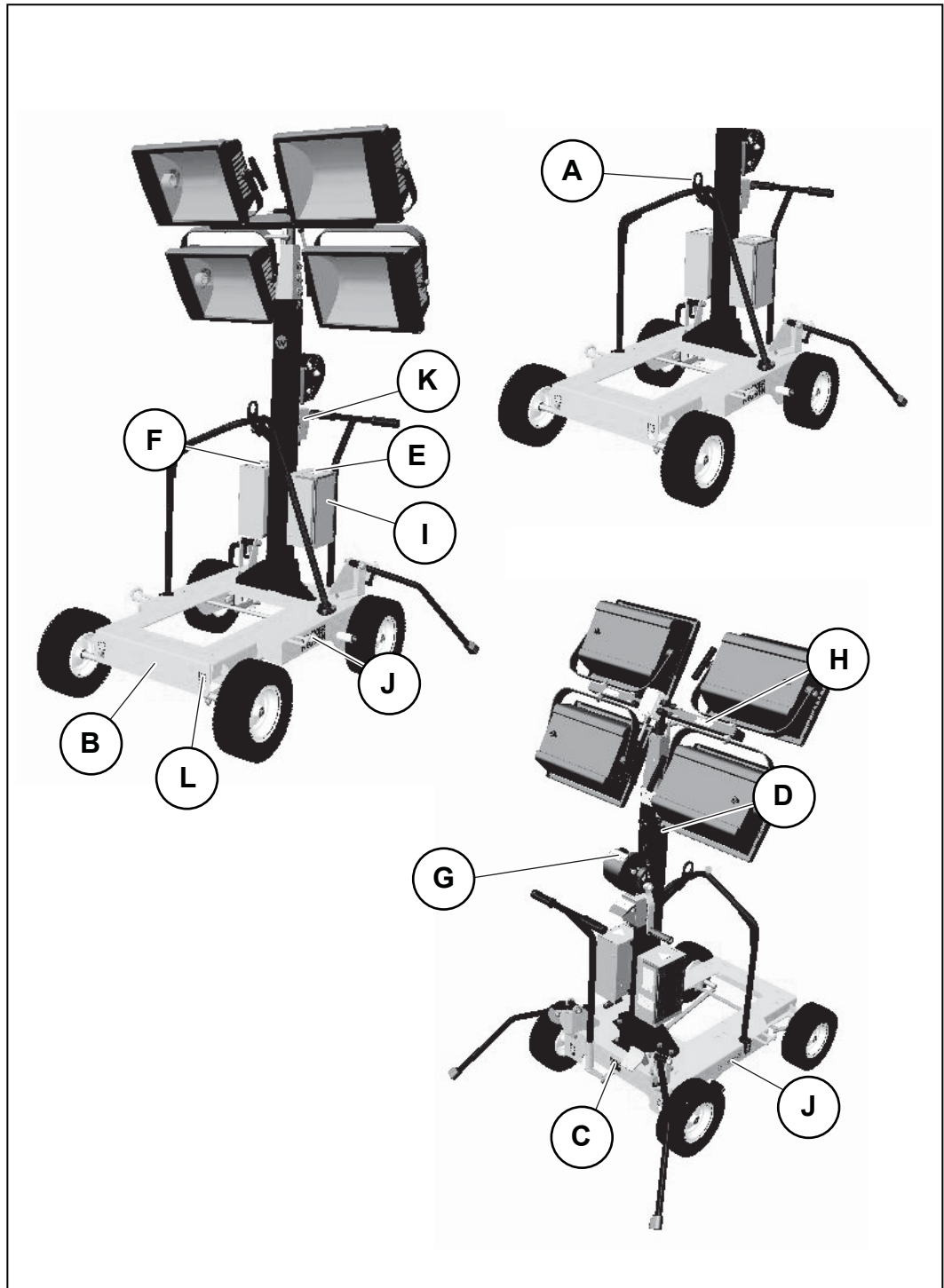
- Make sure slings, chains, hooks, ramps, jacks and other types of lifting devices are attached securely and have enough weight-bearing capacity to lift or hold the machine safely.
- Remain aware of the location of other people when lifting the machine.

To reduce the possibility of injury:

- Do not stand under the machine while it is being hoisted or moved.
- Do not get onto the machine while it is being hoisted or moved.


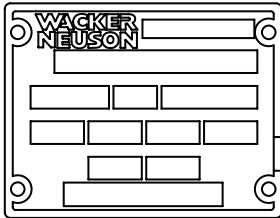

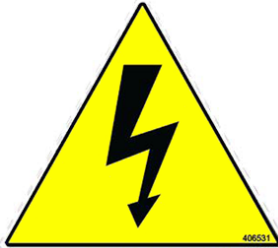
2 Labels






2.1 Label Locations





wpm_gr011852

2.2 Label Meanings

A		NOTICE! Lifting point
B	WACKER NEUSON	Company label
C		A nameplate listing the model number, item number, revision number, and serial number is attached to each unit. Please record the information found on this nameplate so it will be available should the nameplate become lost or damaged. When ordering parts or requesting service information, you will always be asked to specify the model number, item number, revision number, and serial number of the unit.
D		CAUTION 1. Before first operation, read the manual carefully 2. Prohibition of use when it rains, to prevent electric shock 3. Must cut off the power before the machine check/maintenance 4. Contact with water will cause electric shock. Do not touch with wet hands.
E		WARNING! Attention to electric shock!

F		CAUTION! Hot Surface Label
G		CAUTION! Pinch Point, Stay clear.
H		WARNING! 1. It is absolutely essential that you know the safe and proper use of the power tool or appliance that you intend to use. All operators must read, understand and follow the tool/ appliance owners manual. 2. Do not operate in rain, in wet or damp conditions, or with wet hands. The operator may suffer severe electric shock if the generator is wet due to rain or snow. 3. Contact with water will cause electric shock. Do not touch with wet hands. 4. Always unplug when not in use.
I		Company logo and label
J		Machine label

K		ON-OFF Label
L		NOTICE! Tie down point.

3 Lifting and Transporting

Lifting the Machine

This machine is heavy enough to cause injury if proper lifting techniques are not used. Observe the following guidelines when lifting the machine.

- Do not attempt to lift the machine unassisted. Use appropriate lifting equipment such as slings, chains hooks, ramps or jacks.
 - Make sure lifting equipment is attached securely and has enough weight-bearing capacity to lift or hold the machine safely.
 - Remain aware of the location of other people nearby when lifting the machine.
-

Transporting the Machine

Observe the following guidelines when transporting the machine to and from the job site.

- Ensure that the machine is securely strapped down in the transport vehicle to prevent it from sliding or tipping.
- Ensure that the mast is completely down.

Do not refuel the machine in or on the transport vehicle. Move the machine to its operating location and then fill the fuel tank.

3.1 Tie-Down Points

The following illustration indicates the locations of this item on the machine:

- Tie-down points (a)



wpm_gr011853

4 Operation

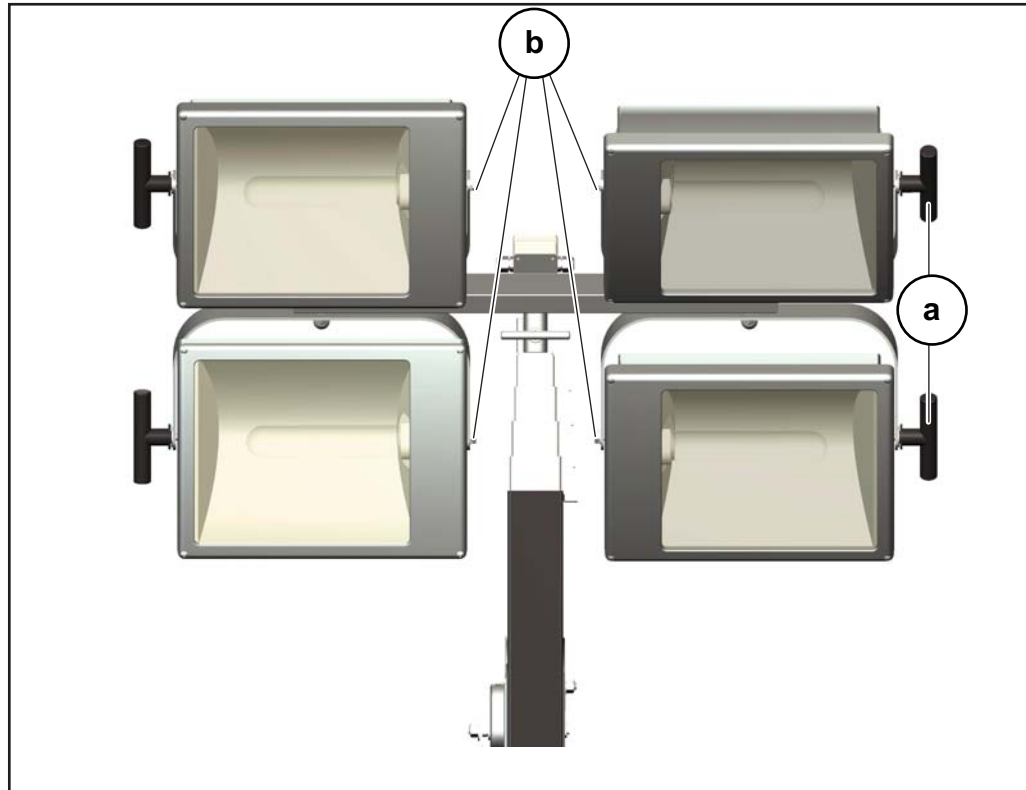
4.1 Preparing the Machine for First Use

1. Make sure all loose packaging materials have been removed from the machine.
2. Check the machine and its components for damage. If there is visible damage, do not operate the machine! Contact your Wacker Neuson dealer immediately for assistance.
3. Take inventory of all items included with the machine and verify that all loose components and fasteners are accounted for.
4. Attach component parts not already attached.
5. Move the machine to its operating location.

4.2 Adjusting the Lights

Overview Each light fixture can be aimed up, down, left or right. Position each fixture by loosening toolless light adjusters **(a)** and aiming the light up or down. DO NOT loosen the inside nut **(b)**. Loosening this nut could cause damage to the light fixture. Light fixtures can be turned left and right without loosening any nut or adjusters. Tighten adjusters after positioning the lights.

Remember Always return the light fixtures to aim at the ground when transporting the machine.



wpm_gr011345

4.3 Operating the Lights

Metal halide floodlights require a warm-up of 5–15 minutes before they reach full output. If floodlights are shut down, a 10-minute cool-down period is required before turning them back on.



wpm_gr009325

4.4 Raising the Tower (Manual Winch System)

Procedure Perform the procedure below to raise the tower in manual winch system.



WARNING!

NEVER raise the tower or operate the Light Tower in high winds.
NEVER raise the tower while the engine is running.
Do not move the Light Tower while it is operating.



WARNING!

HIGH VOLTAGE! DO NOT use the Light Tower if insulation on electrical cord is cut or worn through. Repair or replace the cord before using. Bare wires in contact with the metal frame of the trailer or tower can cause electrocution.



WARNING!

NEVER allow anyone to stand near the rear of the unit while raising the tower.

- ▶ The Light Tower includes a winch for raising and lowering the tower.
- ▶ The winch is an automatic brake-type that automatically brakes when the handle is released. The handle must be rotated to wind in the cable as well as to unwind the cable.

1. Check winch cables **(a)** for wear or damage, and make sure they are resting properly in pulleys. Do not use the Light Tower if either winch cable is damaged.
2. Secure the machine by engaging the wheel stopper **(b)** and deploying the stabilizers **(c)**

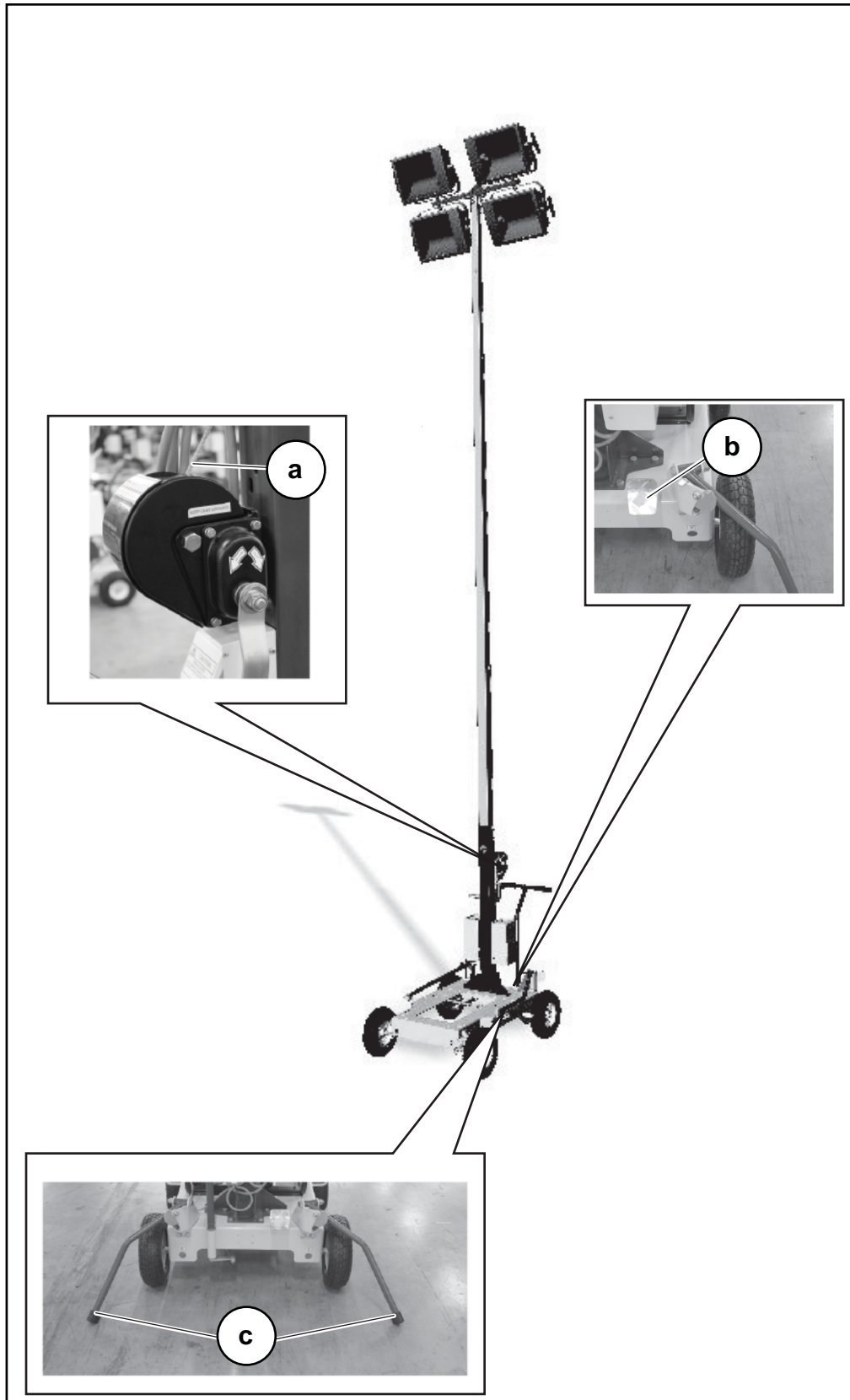


WARNING!

Pinching/crushing hazards. Moving parts can crush or cut extremities. Keep hands and fingers clear of pinch points when raising the tower

NOTICE: While raising the tower, pay close attention to the coil cord and make sure that it does not tangle or become caught on any part of the machine.

3. Rotate the winch handle until tower is at the desired height. Do not over crank the winch when the tower is fully extended.



wpm_gr011854

4.5 Lowering the Tower (Manual Winch System)

Procedure Perform the procedure below to lower the tower in manual winch system.



WARNING!

If for any reason a part of the tower hangs up or a winch cable develops slack before tower is fully lowered, **stop immediately!** Continuing to turn the winch handle will increase the slack in the cable. Too much slack could cause the tower to collapse should it suddenly free up. If the tower hangs up, level the trailer. Contact an authorized Wacker Neuson service representative immediately.



WARNING!

Never lower the tower while the unit is operating.



WARNING!

Never allow anyone to stand near the rear of the unit while lowering the tower.

1. Turn the lights off.

NOTICE: Observe power cord while lowering the tower. Make sure the coiled cord is not damaged during the lowering process.

2. Lower the tower by turning the handle on the winch **(a)** counterclockwise ("cable out" direction).



WARNING!

NEVER disengage the wheel stopper **(b)** and undeploy the stabilizers while lowering the tower. Releasing the wheel stopper and stabilizers while the tower is being lowered may cause the machine to tip over.

3. Position the light fixtures to aim at the ground.

NOTICE: Allow the floodlights to cool 10–15 minutes before moving trailer. Moving the trailer while the lights are still hot could cause the lamps to break.

4.6 Emergency Shutdown Procedure

Procedure If a breakdown or accident occurs while the machine is operating, follow the procedure below:

1. Press the emergency stop button (if equipped).
2. Disconnect tools.
3. Lower the tower.
4. Allow the machine to cool.
5. Contact the rental yard or machine owner for further instructions.

5 Maintenance

5.1 Periodic Maintenance Schedule

The table below lists basic machine maintenance. Tasks designated with check marks may be performed by the operator. Tasks designated with square bullet points require special training and equipment.

	Before each use	Every 125 hours	Every 250 hours	Every 500 hours	Every 1000 hours or two years
Apply grease to the winch				■	
Apply grease to the mast				■	
Check the tire pressure		■			
Check the electrical cable insulation	■				

5.2 Installing / Removing the Light Fixtures



WARNING

Always turn off light circuit breakers and shut down engine before disconnecting light fixtures or changing lamps.

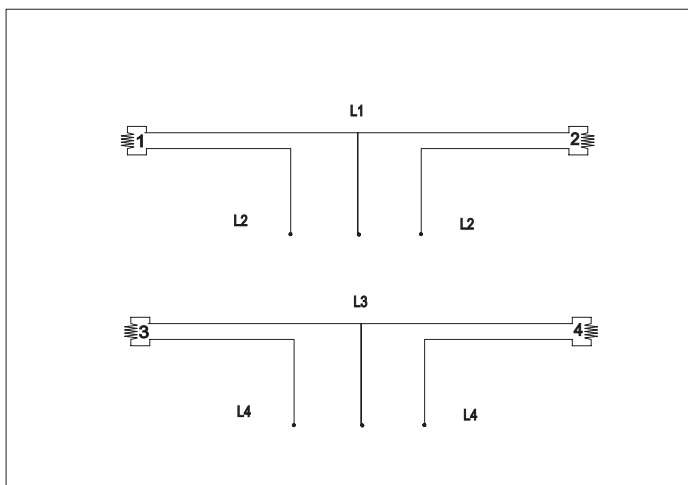
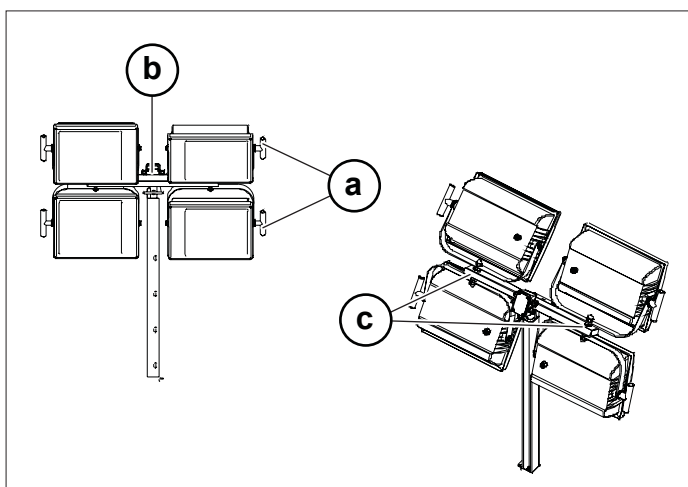
Remove fixtures by disconnecting electrical cords at the junction box **(b)**. Remove nuts **(c)** from fixture mounting brackets and remove both fixture and bracket off stud.

NOTICE: Only a trained technician should be allowed to install and remove fixture wiring.



WARNING

Lamps become extremely hot in use! Allow lamp and fixture to cool 10-15 minutes before handling.



wpm_gr011495

5.3 Replacing and Removing the Lamp

- Prerequisites**
- Light circuit breakers is turned OFF.
 - Lamps and fixtures is cool to the touch.
 - Eye protection and gloves.

**WARNING**

Burn hazard. Lamps become extremely hot in use.

- ▶ Allow lamps and fixtures to cool 10–15 minutes before handling.

**WARNING**

Personal injury hazard. Ultraviolet radiation from the lamps can cause serious skin and eye irritation.

- ▶ Use only undamaged lamps.
- ▶ Use the lamps only with undamaged original equipment lenses and fixtures.

**WARNING**

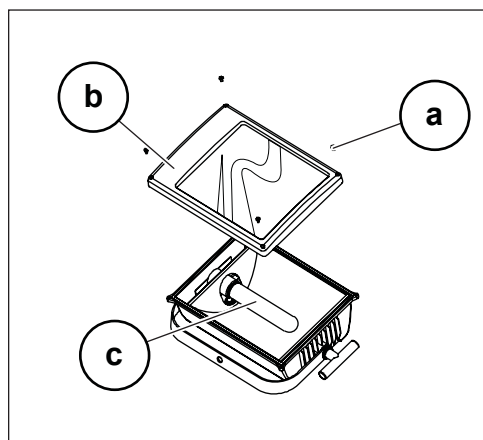
Explosion hazard. Grease or oil residue on the lamp can cause the outer jacket to burst or shatter. Hot flying glass particles can cause personal injury, property damage, burns, or fire.

- ▶ Do not operate the lights with a lens that is cracked, damaged, or missing.
- ▶ Do not scratch the lamp or subject the lamp to excess pressure.
- ▶ Wear eye protection and gloves when removing or replacing lamps.

Procedure

Perform the procedure below to remove and install the lamp.

1. Remove the screws **(a)** that secure the lamp cover **(b)**.



wpm_gr008842

2. Unscrew the lamp **(c)**.

Installing the lamp

1. Screw the lamp in firmly, but not forcibly, to minimize loosening due to vibration.
2. Secure the lens to the reflector with the lamp cover using the screws.

5.4 Daily Inspection

Procedure Perform the procedure below to inspect the machine.

1. Inspect condition of electrical cords. Do not use Light Tower if insulation is cut or worn through.
2. Check that winch cables are in good condition. Do not use a cable that is kinked or starting to unravel.

5.5 Long Term Storage

Introduction	Extended storage of equipment requires preventative maintenance. Performing these steps helps to preserve machine components and ensures the machine will be ready for future use. While not all of these steps necessarily apply to this machine, the basic procedures remain the same.
When	Prepare your machine for extended storage if it will not be operated for 30 days or more.
Procedure	<p>Perform the procedure below to prepare your machine for storage.</p> <ol style="list-style-type: none">1. Complete any needed repairs.2. Grease all fittings and, if applicable, repack bearings.
Procedure	<p>Perform the procedure below to store your machine.</p> <ol style="list-style-type: none">1. Move the machine to a clean, dry, secure storage location. Block or chock wheels to prevent machine movement.2. Use touch-up paint as needed to protect exposed metal against rust.3. If the machine has a battery, either remove or disconnect it. <p>NOTICE:Allowing the battery to freeze or completely discharge is likely to cause permanent damage. Periodically charge the battery while the machine is not in use. In cold climates, store and charge the battery indoors or in a warm location.</p> <ol style="list-style-type: none">4. Cover the machine. Tires and other exposed rubber items should be protected from the weather. Either cover them or use a readily available protectant.

6 Troubleshooting

**WARNING**

HIGH VOLTAGE! This unit uses high voltage circuits capable of causing serious injury or death. Only a qualified electrician should troubleshoot or repair electrical problems occurring in this equipment.

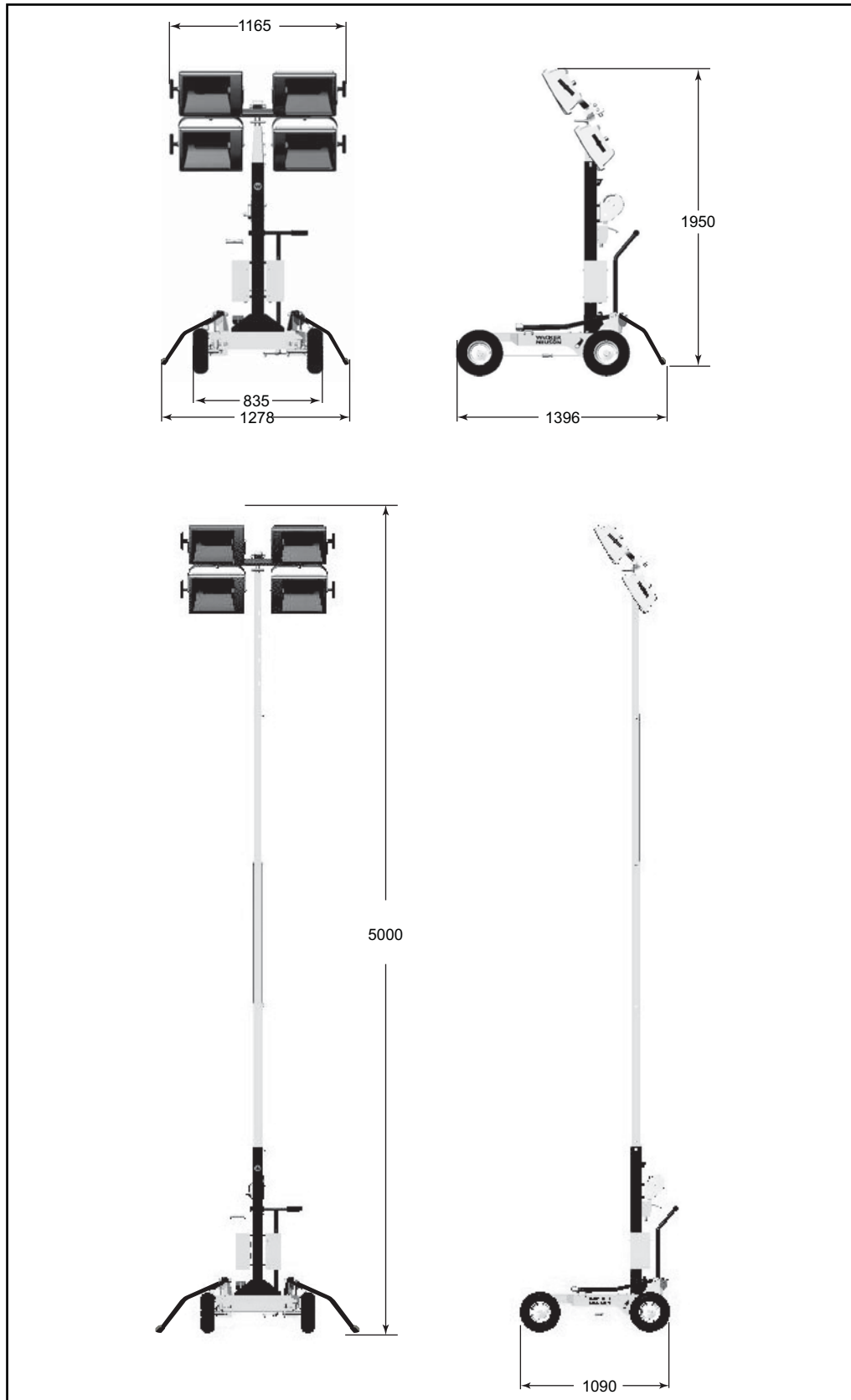
Problem / Symptom	Reason	Remedy
Lamp will not light	<ul style="list-style-type: none"> ■ Lamp is too hot. ■ Faulty lamp connection ■ Fuel tank has fuel. ■ Plug connection at fixture is loose or damaged. ■ Lamp broken or burned out. ■ Circuit breaker is turned on. ■ Circuit breaker is loose or defective ■ Generator output is incorrect. 	<ul style="list-style-type: none"> ■ Allow lamp to cool 10–15 minutes before restarting. ■ Check that lamp is tight in socket. ■ Check connections inside connection boxes on light fixtures and tower. ■ Have a licensed electrician repair or replace the plug connection. <p>Check for:</p> <ul style="list-style-type: none"> ■ broken arc tube or outer lamp jacket ■ broken or loose components in lamp envelope ■ blackening or deposits inside lamp tube. ■ Turn off circuit breaker. ■ Have a licensed electrician repair or replace the circuit breaker. ■ Check incoming voltage to ballast. ■ Incoming voltage should be 220V ± 5V. ■ If voltage is incorrect, engine speed may need to be adjusted or generator may require service.
Low light output	<ul style="list-style-type: none"> ■ Lamp degraded ■ Low ballast output ■ Fixture or lens dirty 	<ul style="list-style-type: none"> ■ Replace lamp due to normal lamp life. ■ Check ballast for proper voltage output. ■ Clean reflective surface inside fixture and both inside and outside surface of glass lens.

7 Technical Data

7.1 Machine

Machine		ML440(Raw)
Machine		
Shipping size	mm (in.)	1210(48) x 870(34) x 2435(96)
Max. mast height	m (ft.)	5 (16)
Lamp type		Pulse-start metal halide
Number of lamps		4
Each lamp wattage	m (ft.)	400W
Dry weight	kg (lbs.)	208

8 Dimensions



wpm_gr011855



**WACKER
NEUSON**