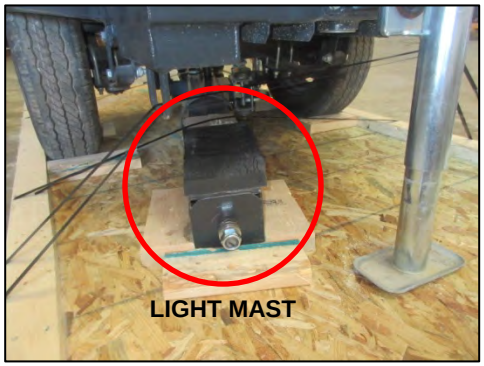
MAST INSTALLATION

Telescoping Mobile Light Tower
Part# WCDE SERIES

This mobile light tower ships with the light head, mast, and winch handle removed to prevent damage during transport. Follow the steps below for installing these parts.

1. Place light tower in an area accessible by forklift or similar lifting device. Remove shipping wrap and straps holding light mast to bottom pallet. Slide light mast out from underneath and set aside.





2. Cut straps and remove the light head from top of light tower and set aside. **<u>WARNING:</u> THERE IS A POWER CABLE ATTACHING THE LIGHT HEAD TO THE TRAILER. DO NOT OVER EXTEND CABLE.**



At this point it is safe to cut any additional straps.

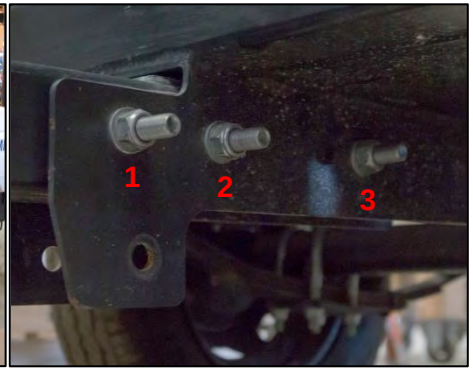
3. Move the tongue down to its tow position. There are 3 bolts near the base of the tongue. Only remove the top(1) and bottom(3) bolts.



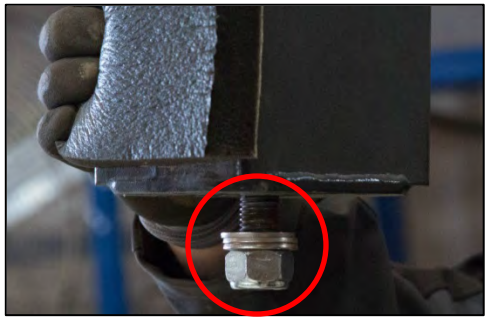
Bolt: 13/16”
Nut: 7/8”

4. Loosen the center bolt and pivot the tongue downward until horizontal with the trailer. Align the holes and replace the 2 bolts removed earlier. Tighten all bolts to secure tongue.

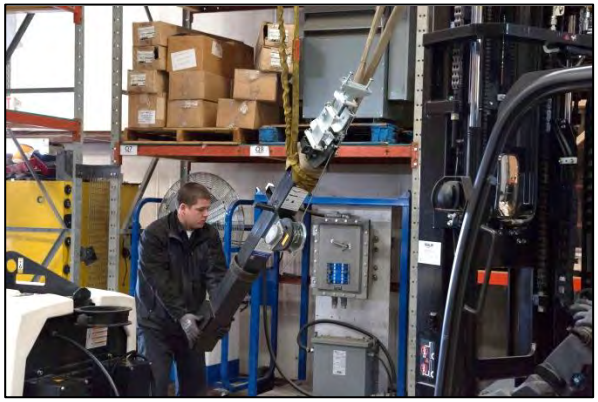




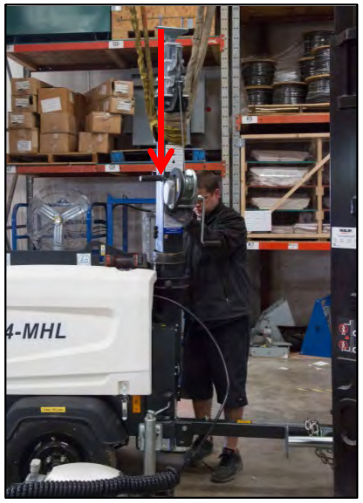
5. Locate light mast and remove bottom nut and 3 washers. Set these aside as they will be used to secure the light mast to trailer.



6. Use a pair of slings to lift and install light mast to trailer. Take appropriate safety precautions when maneuvering equipment on lift.



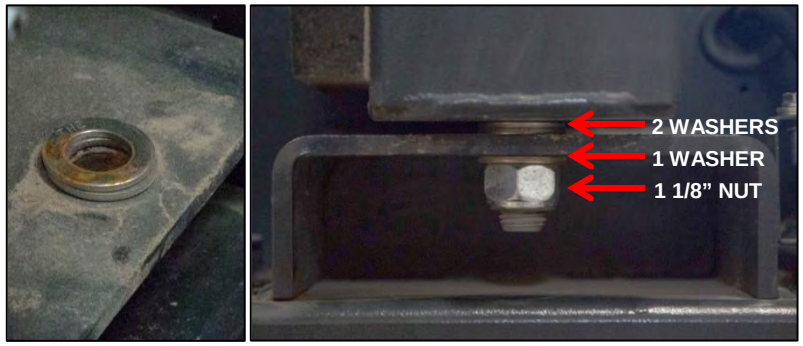
7. Align the mast through the center collar toward the front of the trailer (side with tongue). Be careful not to tear the foam piece while installing light mast. This foam heat shield should face toward the vents on the trailer.



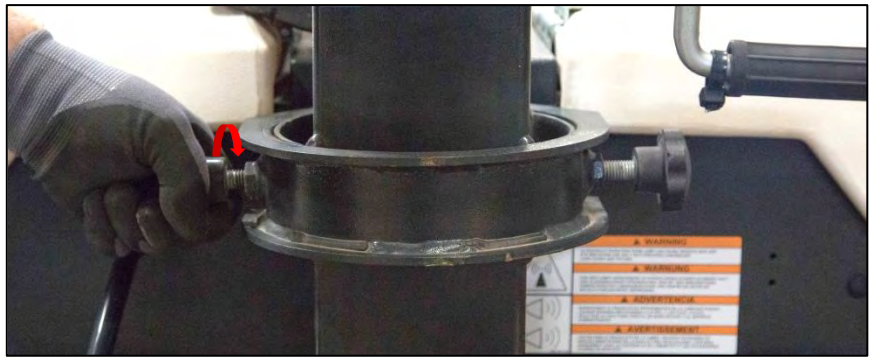


HAND SCREW

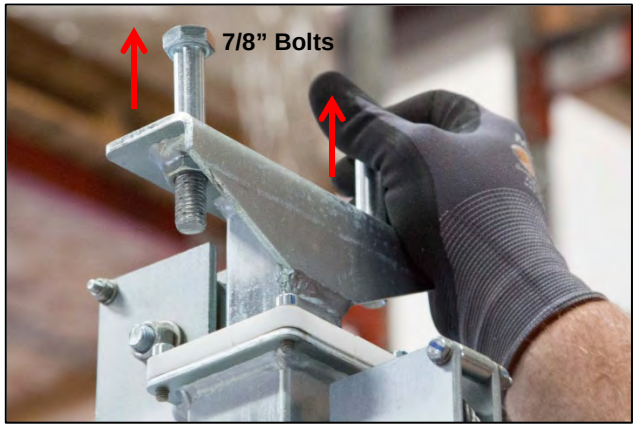
8. Make sure the hand screws of the rotating collar are loosened all the way to allow the light mast to be fully seated.
9. Before inserting bolt of light mast to base, place 2 washers first. Then, slide mast and bolt down all the way. Install last washer and nut to other side and tighten. See reference photos.



10. Next, align the mast center and tighten hand screws for rotating collar. This locks mast in place and will prevent it from rotating while installing light head.



11. Remove the 2 bolts and 2 washers on top of mast for installing the light head.



INSTALLING LIGHT HEAD

1. Locate the light head. Make sure it is able to be removed from the pallet.



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



3. Attach the slings to a forklift or similar lifting device.

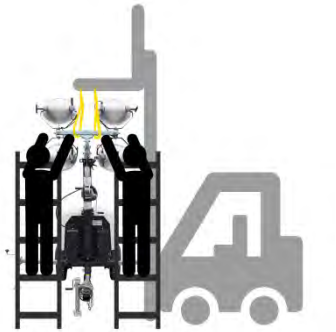


4. With 2 people holding the light head steady, slowly raise the light head above the mast.



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

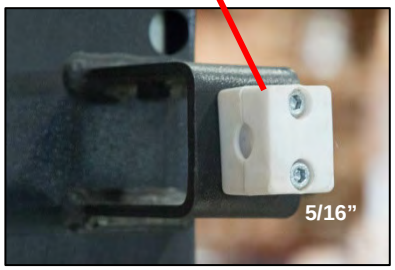
LIGHT HEAD SHOWN MAY VARY



6. Once the light head is on top of the light mast, replace the two bolts, washers, and tighten. Ensure the light head is safely secured to the top of the mast before releasing slack from slings.



7. Using a 5/16” allen wrench, open the cable clamp and place light tower cable inside. See reference photos. Once installed, replace top cover and tighten screws.





8. Repeat this process in reverse order for removing the light head.

INSTALLING WINCH HANDLE

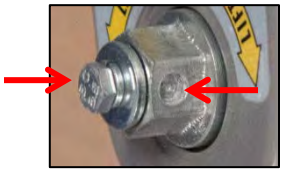
1. The winch handle is located near the winch. It is strapped to the mast for transport. Cut the strap to free the winch handle from the mast.



2. Install winch handle to winch by aligning the two set holes with the screws on the handle. Press the handle into bolt and tighten set screws.







5/16" Socket Screws

Remove trailer from pallet and light tower is ready for deployment.



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

LARSON ELECTRONICS

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Kemp, TX 75143 USA
P: 800-369-6671 | INTL: 903-498-3363 F: 903-498-3364
sales@larsonelectronics.com
www.larsonelectronics.com

Operator's Manual

Serial Number Range

WCDE-4 SERIES

ANSI/CSA
North America
South America
Asia

with
Maintenance
Information

Important

Read, understand and obey these safety rules and operating instructions before operating this machine. Only trained and authorized personnel shall be permitted to operate this machine. This manual should be considered a permanent part of your machine and should remain with the machine at all times. If you have any questions, contact us.

Contact Us:

Internet: www.larsonelectronics.com

E-mail: sales@larsonelectronics.com

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Legend 14
Controls 16
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Operating Instructions 28
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Maintenance 36
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Reporting Safety Defects 40

These machines comply with
ANSI/SIA A92.5
CAN B.354.4

Introduction

Owners, Users and Operators:

Thank you for choosing our machine for your application. Our number one priority is user safety, which is best achieved by our joint efforts. We feel that you make a major contribution to safety if you, as the equipment users and operators:

1 **Comply** with employer, job site and governmental rules.

2 **Read, understand and follow** the instructions in this and other manuals supplied with this machine.

3 **Use good safe work practices** in a commonsense way.

4 **Only have trained/certified operators**, directed by informed and knowledgeable supervision, running the machine.



Danger

Failure to obey the instructions and safety rules in this manual will result in death or serious injury.

Do Not Operate Unless:

☑ You learn and practice the principles of safe machine operation contained in this operator's manual.

1 Avoid hazardous situations.

Know and understand the safety rules before going on to the next section.

2 Always perform a pre-operation inspection.

3 Always perform function tests prior to use.

4 Inspect the workplace.

5 Only use the machine as it was intended.

☑ You read, understand and obey the manufacturer's instructions and safety rules—safety and operator's manuals and machine decals.

☑ You read, understand and obey employer's safety rules and worksite regulations.

☑ You read, understand and obey all applicable governmental regulations.

☑ You are properly trained to safely operate the machine.

Introduction

Hazard Classification

Decals on this machine use symbols, color coding and signal words to identify the following:



Safety alert symbol—used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ 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 Indicates a property damage message.

Intended Use

This machine is intended to be used only to provide lighting and electrical power to a work site.

Safety Sign Maintenance

Replace any missing or damaged safety signs. Keep operator safety in mind at all times. Use mild soap and water to clean safety signs. Do not use solvent-based cleaners because they may damage the safety sign material.

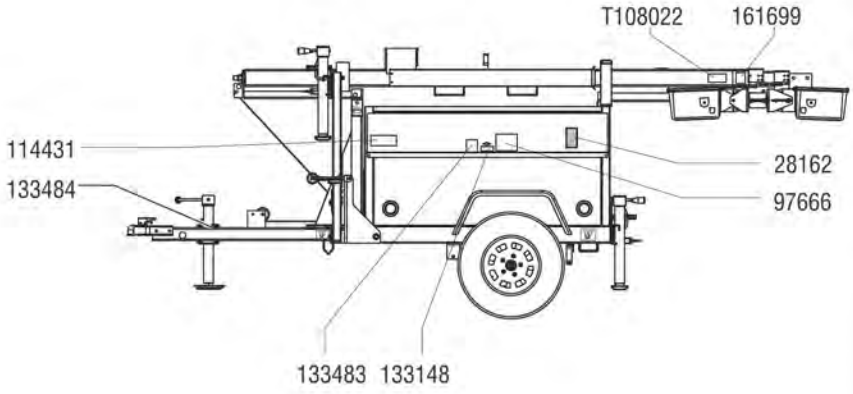
Symbol and Hazard Pictorials Definitions

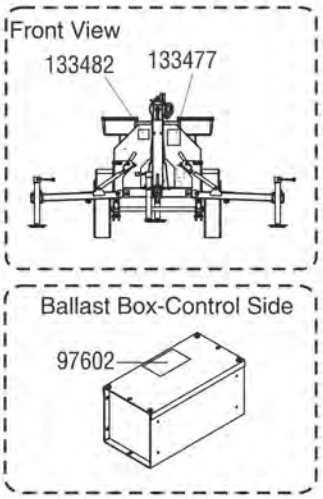
 Read the operator's manual	 Electrocution hazard	 Stop engine	 Earth ground	 Electrocution hazard
 Maintain required clearance	 Explosion / Burn hazard	 Disconnect battery Read the service manual	 Crush hazard	 Keep away from moving parts
 Keep away from moving parts	 Stay clear of belts and fan	 Burn hazard	 Explosion / Burn hazard	 Corrosive acid.
 Explosion hazard	 Do not use ether or other high energy starting aids on machines equipped with glow plugs	 No smoking	 No flame	 No flame

Symbol and Hazard Pictorials Definitions

 Burn hazard	 Burn hazard	 Burn hazard	 Stay clear of hot exhaust	 Stay clear of hot exhaust
 Burn hazard, hot components	 Stay clear of hot surfaces under cover	 Carbon Monoxide hazard	 Wear protective clothing	 Shattering glass hazard
 Crushing hazard	 Stay clear of descending mast	 Tip-over hazard	 Deploy outriggers before raising mast	 Tip-over hazard, tow speed
 Lifting point	 Tie-down point			

General Safety

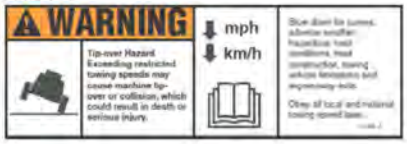




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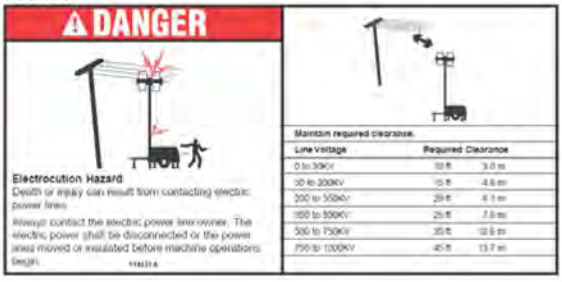
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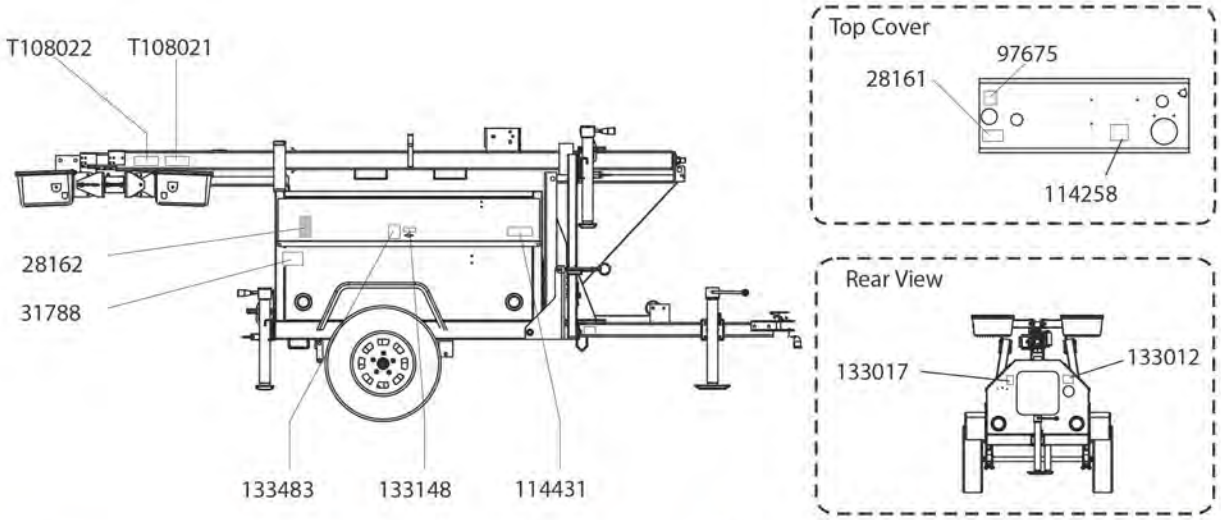
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General Safety



T108022

⚠ WARNING

Burn Hazard
Contact with hot components could result in death or serious injury.

Keep away from hot components.

T108021

⚠ WARNING

Bodily Injury Hazard
Shattering glass could result in death or serious injury.

Keep protective barrier in place.

28161

⚠ WARNING

Crush Hazard
Contact with moving parts can result in death or serious injury.

Keep away from moving parts.

133017

⚠ WARNING

Crushing Hazard
Contact with descending tower could result in death or serious injury.

Keep away from machine when tower is being lowered.

97675

⚠ WARNING

Burn Hazard
Hot fluid under pressure can scald.

Allow to cool before opening.

114258

⚠ DANGER

Burn Hazard
Fuel and fumes can explode and burn.

STOP

No smoking. No flame. Stop engine.

133148

⚠ DANGER

Electrocution hazard.
Contact with voltage will result in death or serious injury.

Shut down engine/generator and disconnect battery supply before servicing.

Read the service manual.

31788

⚠ DANGER

Explosion / Burn Hazard
Will cause death, burns or blindness due to ignition of explosive gases on contact with corrosive acid.

Keep all open flames and sparks away. Wear personal protective equipment, including face shield, gloves and long sleeve shirt.

READ MANUALS
Read all manuals prior to operation.

DO NOT OPERATE equipment if you do not understand the information in the manuals.

Consult your supervisor, the owner or the manufacturer.

133012

⚠ DANGER

Burn / Carbon monoxide hazard.
Hot exhaust can contain carbon monoxide that will result in death or serious injury.

Do not touch hot surfaces or breathe exhaust. Wear protective gloves when handling hot parts. Read the operator's

114431

⚠ DANGER

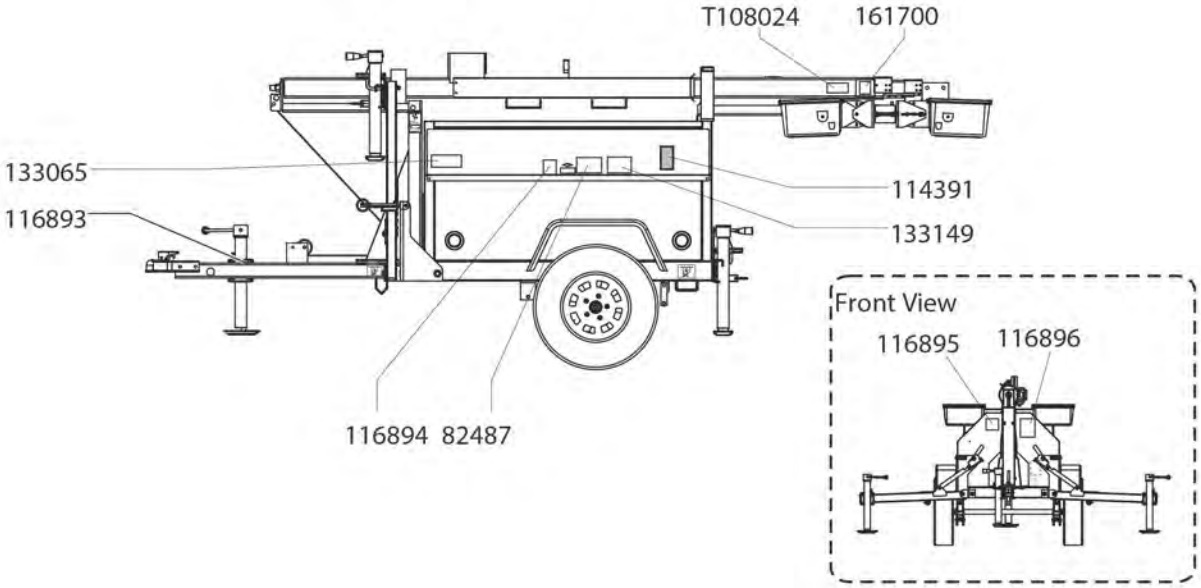
Electrocution Hazard
Death or injury can result from contacting electric power lines.

Always contact the electric power line owner. The electric power shall be disconnected or the power lines moved or insulated before machine operations begin.

Maintain required clearance

Line Voltage	Required Clearance	
0 to 50kV	10 ft	3.0 m
over 50kV to 200kV	15 ft	4.6 m
over 200kV to 350kV	20 ft	6.1 m
over 350kV to 500kV	25 ft	7.6 m
over 500kV to 750kV	35 ft	10.6 m
over 750kV to 1000kV	45 ft	13.7 m

General Safety



T108024



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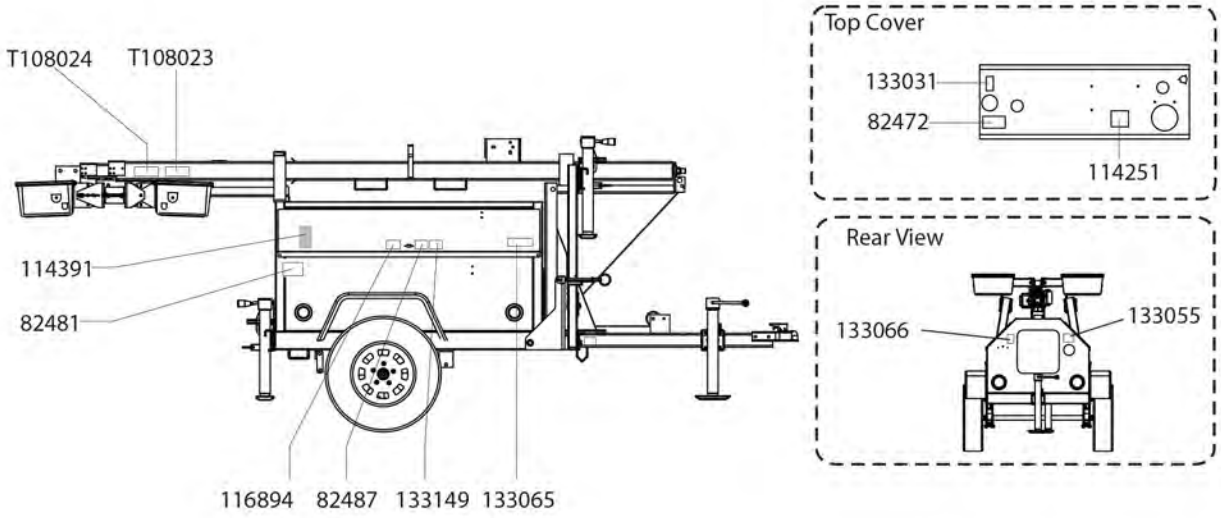
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General Safety



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Work Area Safety

⚠ Electrocution Hazards

This machine is not electrically insulated and will not provide protection from contact with or proximity to electrical current.

Obey all local and governmental regulations regarding required clearance from electrical power lines. At a minimum, the required clearance contained in the chart below must be followed.

Line Voltage	Required Clearance	
0 to 50KV	10 ft	3.05 m
50 to 200KV	15 ft	4.60 m
200 to 350KV	20 ft	6.10 m
350 to 500KV	25 ft	7.62 m
500 to 750KV	35 ft	10.67 m
750 to 1000KV	45 ft	13.72 m

Allow for mast movement, electrical line sway or sag, and beware of strong or gusty winds.

Do not operate the machine during lightning or storms.

Do not use the machine as a ground for welding.



Keep away from the machine if it contacts energized power lines. Personnel must not touch or operate the machine until energized power lines are shut off.

Do not connect wires directly to the generator. Connect auxiliary equipment only to the power outlets provided.

Do not perform service or replace the lamps with the engine/generator running or batteries connected.

This machine should be grounded in accordance with all local electrical codes. Consult the local electrical codes or authority having jurisdiction in the area where the machine will be used for specific requirements.

There is a permanent conductor between the generator (static winding) and the frame.

⚠ Explosion and Fire Hazards

Do not start the engine if you smell or detect liquid petroleum gas (LPG), gasoline, diesel fuel or other explosive substances.



Do not refuel the machine with the engine running.

Do not refuel the machine while it is hot. Allow to cool for several minutes before refueling.

Do not spill fuel inside the engine compartment.

Refuel the machine and charge the battery only in an open, well-ventilated area away from sparks, flames and lighted tobacco.

Do not operate the machine in hazardous locations or locations where potentially flammable or explosive gases or particles may be present.



Do not spray ether into engines equipped with glow plugs.

Work Area Safety

⚠ Tip-over Hazards



Do not raise the mast unless all outriggers are properly deployed, the foot pads are in firm contact with the ground and the machine is level.

Do not set the machine up on a surface where it cannot be leveled using only the leveling jacks.

Do not hang objects from the lights or the mast.

Do not use the mast to raise material or personnel.

Do not move the machine unless the mast is lowered to the horizontal position.



Do not raise the mast when wind speeds may exceed 62 mph / 100 km/h. Do not alter or disable machine components that in any way affect safety and stability.

Do not alter or disable machine components that in any way affect safety and stability.

Do not adjust or stow the outriggers when the mast is raised.

Be sure the tires are in good condition and the lug nuts tightened.



Do not place ladders or scaffolds against any part of the machine.

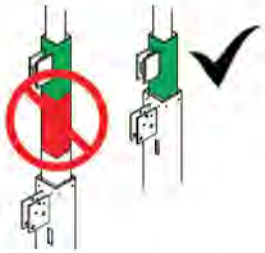
Do not use the machine on a moving or mobile surface or vehicle.

⚠ Crushing Hazard



Do not lower the mast unless the area below is clear of personnel and obstructions.

Keep hands and fingers away from any potential pinch points.



Do not lower the mast until the mast is retracted and the upper retaining bar is locked into the mast. No red should be visible on the mast.

⚠ Collision Hazards

Check the work area for overhead obstructions or other possible hazards.

⚠ Burn Hazards



Do not touch the lamp fixtures while they are turned on. Turn the lamps off and allow them to cool before touching.

Do not touch hot parts of the engine or tailpipe, Use protective gloves when handling hot parts.

⚠ Bodily Injury Hazard

Do not use the machine indoors unless properly ventilated.

Do not breathe exhaust fumes.

Work Area Safety

Do not work on this equipment when mentally or physically fatigued.

Do not work on this equipment when under the influence of drugs or alcohol.

Stay clear of belts and fan when engine is running.

Do not use the machine if the protective barrier on any of the lamps is broken or punctured. Metal halide lamps produce shortwave ultra-violet radiation and can cause serious skin burns or eye inflammation if the protective barrier is not in place.

Do not use where people will remain close to the lamps for more than a few minutes unless adequate shielding or other safety precautions are used.

Stay clear of moving mast.

Do not grasp the cable.

Use proper lifting techniques when lifting and positioning the tongue of the machine.

Always replace the protective lamp cover after replacing the lamp bulbs.

⚠ Fall Hazards

Do not climb or stand on anypart of the light tower.

⚠ Traffic Hazards

Stand clear of traffic when starting or checking the unit along the road.

⚠ Damaged Machine Hazards

Do not use a damaged or malfunctioning machine.

Do not use a machine with a worn, frayed, kinked or damaged cable.

Conduct a thorough pre-operation inspection of the machine and test all functions before each work shift. Immediately tag and remove from service a damaged or malfunctioning machine.

Be sure all maintenance has been performed as specified in this manual and the appropriate Larson Electronics service manual.

Be sure the operator's manual is complete, legible and in the storage container located on the machine.

Be sure all decals are in place and legible.

Do not modify or alter the light tower without the prior written permission of the manufacturer.

Work Area Safety

⚠ Component Damage Hazards

Do not turn the lights on unless the engine is running. Always turn the lights off before shutting down the engine.

Do not tow the light tower while the lamps are hot. Hot lamps will break if moved.

Do not replace lamp bulbs with any bulbs other than those specified on the machine and in this manual.

Note: Lamp bulbs contain mercury (Hg). Dispose of lamp bulbs according to local, state and federal laws.

Be sure lamp fixture connections are properly tightened before turning lights on.

⚠ Battery Safety

Burn Hazards



Batteries contain acid. Always wear protective clothing and eye wear when working with batteries.

Avoid spilling or contacting battery acid. Neutralize battery acid spills with baking soda and water.

Do not use any battery charger greater than 12V to charge the battery.

Do not remove the vent caps from the battery when charging.

Do not expose the batteries or the charger to water or rain during charging.

Explosion Hazards



Keep sparks, flames and lighted tobacco away from batteries. Batteries emit explosive gas.

Do not contact the battery terminals or the cable clamps with tools that may cause sparks.

Electrocution/Burn Hazards

Avoid contact with electrical terminals.

Inspect the power cord for damage prior to each use.

Replace any damaged cord before operating.

Do not allow the power cord to become caught or crushed while raising, lowering or rotating the mast.

Avoid electrical shock from contact with battery terminals. Remove all rings, watches and other jewelry.

Lifting Hazard

Use the appropriate number of people and proper lifting techniques when lifting the batteries.

Work Area Safety

⚠ Towing Hazards

Read, understand and obey all of your tow vehicle manufacturer's recommendations, warnings and instructions before towing this machine.

Do not tow the machine unless the mast is retracted and lowered to the horizontal position and the travel lock pin is secured.

Do not tow the machine unless all outriggers have been retracted and stowed.

Do not overload your tow vehicle. Check the manufacturer's Gross Vehicle Weight Rating (GVWR). To obtain the gross vehicle weight, add the tongue weight of the trailer to the vehicle weight (including vehicle, passengers and cargo).

Do not load cargo on the machine. The light tower is not designed to carry any extra cargo.

Be sure the hitch is securely attached to the tow vehicle.

Be sure the safety chains (if required) are securely attached to the tow vehicle.

Be sure that all driving lights are operational.

Be sure all hitch components, lights and mirrors and methods of attaching the trailer to the tow vehicle conform to local, state and federal regulations.

Do not tow the machine on public roads unless it meets all governmental regulations for towing.

Do not exceed 60 mph / 97 km/h. Obey all local and national towing speed laws.

Be sure to chock the wheels when parking on a hill.

Use extreme care and slow speeds while towing across uneven terrain, debris, holes or drop-offs.

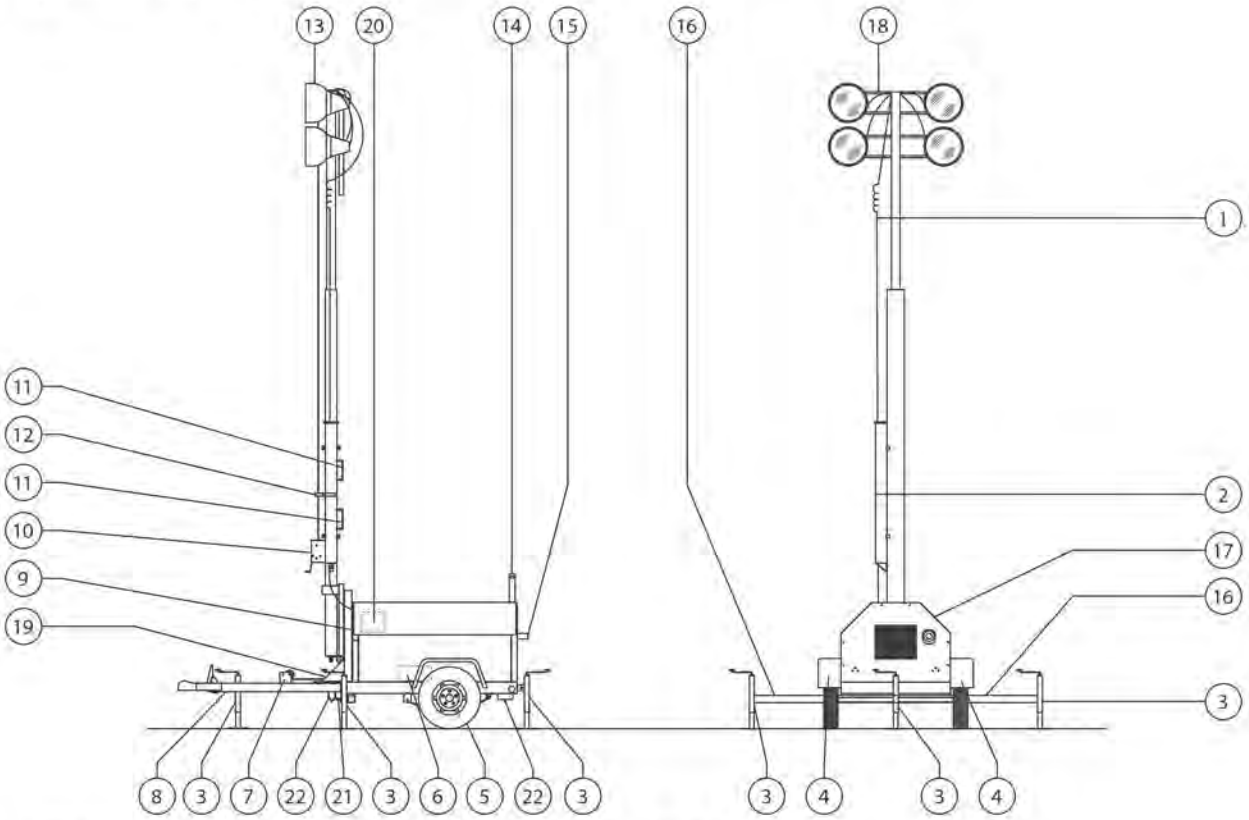
Note: Do not tow machine when engine is running! This can cause severe engine/radiator damage and WILL NOT BE COVERED UNDER WARRANTY!

Lockout After Each Use

When leaving the machine unattended, secure from unauthorized use. Unauthorized personnel may attempt to operate the machine without proper instruction, creating an unsafe condition.

Legend

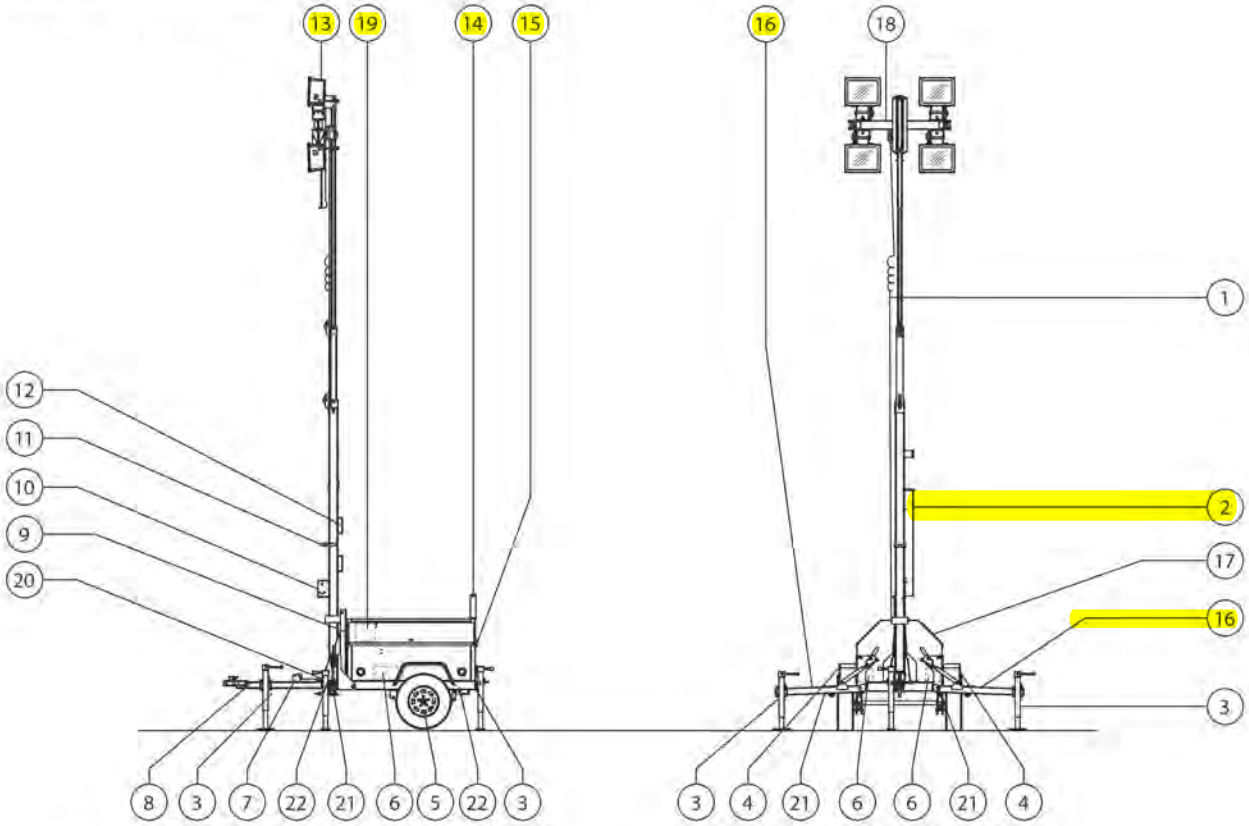
Legend - RL4 & RL4000



1 Coil cord
2 Coil cord sleeve
3 Tongue leveling jack
4 Fender
5 Tire
6 Ballast (located inside cabinet)
7 Raise/lower winch
8 Tongue with trailer hitch
9 Roadside door
10 Extend/retract winch
11 Forklift pockets
12 Lifting eye
13 Lamps
14 Upper retaining bar
15 Muffler
16 Outrigger
17 Curbside door
18 Light bar
19 Lower retaining pin
20 Control panel (located inside cabinet)
21 Spring pin
22 Tie-downs

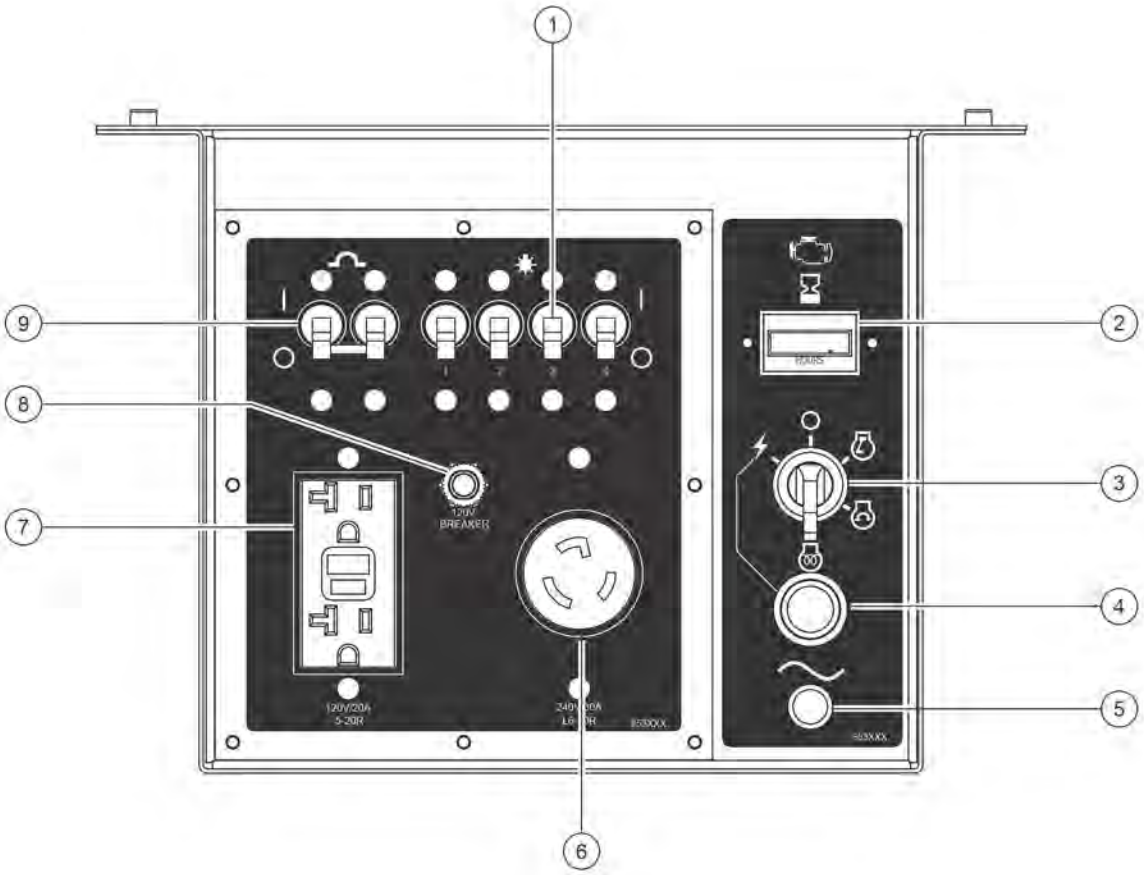
Legend

Legend - TML-4000



1 Coil cord
2 Coil cord sleeve
3 Tongue leveling jack
4 Fender
5 Tire
6 Ballast (located inside cabinet)
7 Raise/lower winch
8 Tongue with trailer hitch
9 Roadside door
10 Extend/retract winch
11 Lifting eye
12 Forklift pockets
13 Lamps
14 Upper retaining bar
15 Muffler
16 Outrigger
17 Curbside door
18 Light bar
19 Control panel (located inside cabinet)
20 Lower retaining pin
21 Outrigger release pin
22 Tie-downs

Controls



Ground Control Panel

1 Light switches
2 Hour meter
3 Ignition switch for engine
4 Engine prime button
5 Alternator failure light
6 T-lock receptacle, 240V/30A
7 Duplex receptacle with GFI, 120V/20A
8 Mini breaker, 120V
9 Main circuit breaker

Controls

Control Panel

1 Light switches

Move each light switch up to turn on the indicated light. Move each light switch down to turn off the indicated light.

2 Hour meter

The hour meter displays the number of hours the machine has operated.

3 Ignition switch for engine

Turn the ignition switch to the prime position and hold the engine prime button down to prime the engine.

Hold the prime button down and turn the ignition switch to the start position to start the engine.

Turn the ignition switch to the off position to turn the engine off.

4 Engine prime button

With the ignition switch in the run position, press and hold the prime button for 15 seconds before starting the engine. Release the prime button when the engine starts.

5 Alternator failure light

Light on indicates that the engine's DC alternator isn't producing enough voltage.

6 T-lock receptacle, 240V/30A

7 Duplex receptacle with GFI, 120V/20A

Convenience duplex receptacle with Ground Fault Interrupter (GFI).

8 Mini breaker, 120V

Pop-out style breaker. Push in button to insure GFI receptacle is ready for use.

9 Main circuit breaker

Move the main circuit breaker switch up on the control panel before turning the individual light switches on or before attempting to use the convenience receptacles.

Inspections



Do Not Operate Unless:

☑ You learn and practice the principles of safe machine operation contained in this operator's manual.

1 Avoid hazardous situations.

2 Always perform a pre-operation inspection.

Know and understand the pre-operation inspection before going on to the next section.

3 Always perform function tests prior to use.

4 Inspect the workplace.

5 Only use the machine as it was intended.

Pre-operation Inspection Fundamentals

It is the responsibility of the operator to perform a pre-operation inspection and routine maintenance.

The pre-operation inspection is a visual inspection performed by the operator prior to each work shift. The inspection is designed to discover if anything is apparently wrong with a machine before the operator performs the function tests.

The pre-operation inspection also serves to determine if routine maintenance procedures are required. Only routine maintenance items specified in this manual may be performed by the operator.

Refer to the list on the next page and check each of the items.

If damage or any unauthorized variation from factory delivered condition is discovered, the machine must be tagged and removed from service.

Repairs to the machine may only be made by a qualified service technician, according to the manufacturer's specifications. After repairs are completed, the operator must perform a pre-operation inspection again before going on to the function tests.

Scheduled maintenance inspections shall be performed by qualified service technicians, according to the manufacturer's specifications and the requirements listed in the responsibilities manual.

Inspections

Pre-operation Inspection

- ❑ Be sure that the operator's manual is complete, legible and in the storage container located on the machine.
- ❑ Be sure that all decals are legible and in place. See Inspections section.
- ❑ Check for engine oil leaks and proper fluid level. Add oil if needed. See Maintenance section.
- ❑ Check for engine coolant leaks and proper coolant level. Add coolant if necessary. See Maintenance section.
- ❑ Check for battery fluid leaks and proper fluid level. Add distilled water if needed. See Maintenance section.
- ❑ Check for proper tire pressure and lug nut torque. Add air to tires if needed. See Maintenance section.

Check the following components or areas for damage, improperly installed or missing parts and unauthorized modifications:

- ❑ Electrical components, wiring and electrical cables
- ❑ Mast components
- ❑ Mast locking pins
- ❑ Latches and pins
- ❑ Tires and wheels
- ❑ Trailer lights and reflectors
- ❑ Outriggers, leveling jacks and foot pads
- ❑ Winch
- ❑ Nuts, bolts and other fasteners
- ❑ Lamp fixtures, connections and bulbs
- ❑ Cable (kinks, frays and abrasions)
- ❑ Safety chains
- ❑ Engine and related components
- ❑ Fuel tanks
- ❑ Generator

Check entire machine for:

- ❑ Cracks in welds or structural components
- ❑ Dents or damage to machine
- ❑ Excessive rust, corrosion or oxidation

- ❑ Be sure that all structural and other critical components are present and all associated fasteners and pins are in place and properly tightened.
- ❑ Be sure the that the battery is in place and properly connected.
- ❑ After you complete your inspection, be sure that all compartment covers are in place and latched.

Inspections



Do Not Operate Unless:

☑ You learn and practice the principles of safe machine operation contained in this operator's manual.

1 Avoid hazardous situations.

2 Always perform a pre-operation inspection.

3 Always perform function tests prior to use.

Know and understand the function tests before going on to the next section.

4 Inspect the workplace.

5 Only use the machine as it was intended.

Function Test Fundamentals

The function tests are designed to discover any malfunctions before the machine is put into service. The operator must follow the step-by-step instructions to test all machine functions.

A malfunctioning machine must never be used. If malfunctions are discovered, the machine must be tagged and removed from service. Repairs to the machine may only be made by a qualified service technician, according to the manufacturer's specifications.

After repairs are completed, the operator must perform a pre-operation inspection and function tests again before putting the machine into service.

Inspections

Function Tests

Setup

1 Position the light tower at the desired work site.

2 Chock the wheels.

3 Disconnect the trailer lights and the safety chains.

4 Open the latch on the trailer hitch.

5 Pull the release pin on the tongue jack and rotate into place.

6 Turn the leveling jack handle to lower the front outrigger foot pad and raise the tongue of the machine enough to clear the tow vehicle.

7 Release the spring pin on the side outriggers and slide them out into the deployed position. Make sure the outriggers are locked in place. Rotate the leveling jack into position.

Pull the release pin on the side outriggers and lower them to the ground. Rotate the leveling jack into position.

Note: the outriggers are not designed to lift the tires of the unit off the ground.

8 Turn the leveling jack handles to level the machine. Level the machine using only the leveling jacks

Note: the outriggers are not designed to lift the tires of the unit off the ground.

9 Check the bubble level (if equipped) on the front of the machine to make sure the machine is level.

Note: This machine should be grounded in accordance with all local electrical codes. Consult the local electrical codes or authority having jurisdiction in the area where the machine will be used for specific requirements.

Test Machine Functions

By raising and extending, then retracting and lowering the mast back to the horizontal position, the following functions will be tested:**winches, latches, mast extension and mast rotation.**

10 Remove the cotter pin and the upper retaining pin from the top of the mast.

11 Turn the raise/lower winch handle clockwise until the mast raises approximately 2 feet / 60 cm.

⊙ Result: A clicking sound should be heard as the mast raises.

12 Release the winch handle.

⊙ Result: The winch brake should hold the mast.

13 Continue to turn the winch handle clockwise until the lower retaining bar locks into the mast.

⊙ Result: The mast sections should raise smoothly, free of hesitation or binding.

14 Insert the lower retaining pin through mast supports. Insert the cotter pin through retaining pin.

Inspections

15 Turn the extend/retract winch handle clockwise until the mast extends approximately 2 feet / 60 cm.

⊙ Result: A clicking sound should be heard as the winch handle is turned.

16 Release the winch handle.

⊙ Result: The winch brake should hold the mast.

17 Continue to turn the winch handle clockwise until the mast reaches full vertical position.

⊙ Result: The mast sections should extend smoothly, free of hesitation or binding.

18 Turn the T-handle to release the mast rotation lock.

19 Rotate the mast clockwise and then counterclockwise as far as it will go in either direction.

⊙ Result: The mast should rotate smoothly and easily in both directions.

20 Rotate the mast to line up the arrows on the front of the mast.

21 Tighten the T-handle to secure the mast.

22 Attempt to rotate the mast in both directions.

⊙ Result: The mast should not rotate.

23 Turn the extend/retract winch handle counterclockwise until the mast sections are fully retracted.

⊙ Result: No clicking sound should be heard when the winch handle is turned.

24 Remove the cotter pin and lower retaining pin.

25 Begin lowering the mast to the horizontal position by turning the raise/lower winch handle counterclockwise.

⊙ Result: No clicking sound should be heard when the winch handle is turned.

26 Turn the winch handle counterclockwise until the mast is lowered into the travel lock.

27 Insert the lower retaining pin into the mast support and install the cotter pin to secure.

Test the Lights

28 Make sure the circuit breakers and the light switches are in the off position.

Note: Be sure the lamp fixture connections are properly tightened before turning the lights on.

29 Start the engine. See Starting the Engine in the Operating Instructions section.

30 Turn the main circuit breakers to the on position.

31 Turn the light switches to the on position.

⊙ Result: The lights should come on.

Note: It can take up to 20 minutes for the lights to reach full intensity. If the lights are turned off and turned back on while they are still warm, they will not light up again for 20-30 minutes.

Note: Make sure the circuit breaker and the light switches are turned off before shutting down the engine.

Inspections



Do Not Operate Unless:

☑ You learn and practice the principles of safe machine operation contained in this operator's manual.

1 Avoid hazardous situations.

2 Always perform a pre-operation inspection.

3 Always perform function tests prior to use.

4 Inspect the workplace.

Know and understand the workplace inspection before going on to the next section.

5 Only use the machine as it was intended.

Workplace Inspection Fundamentals

The workplace inspection helps the operator determine if the workplace is suitable for safe machine operation. It should be performed by the operator prior to moving the machine to the workplace.

It is the operator's responsibility to read and remember the workplace hazards, then watch for and avoid them while moving, setting up and operating the machine.

Workplace Inspection Checklist

Be aware of and avoid the following hazardous situations:

- ❑ drop-offs or holes
- ❑ bumps, floor obstructions or debris
- ❑ sloped surfaces
- ❑ unstable or slippery surfaces
- ❑ overhead obstructions and high voltage conductors
- ❑ hazardous locations
- ❑ inadequate surface support to withstand all load forces imposed by the machine
- ❑ wind and weather conditions
- ❑ the presence of unauthorized personnel
- ❑ other possible unsafe conditions

Operating Instructions



Do Not Operate Unless:

☑ You learn and practice the principles of safe machine operation contained in this operator's manual.

1 Avoid hazardous situations.

2 Always perform a pre-operation inspection.

3 Always perform function tests prior to use.

4 Inspect the workplace.

5 Only use the machine as it was intended.

Fundamentals

The Operating Instructions section provides instructions for each aspect of machine operation. It is the operator's responsibility to follow all the safety rules and instructions in the operator's, safety and responsibilities manuals.

Only trained and authorized personnel should be permitted to operate a machine. If more than one operator is expected to use a machine at different times in the same work shift, they must all be qualified operators and are all expected to follow all safety rules and instructions in the operator's, safety and responsibilities manuals. That means every new operator should perform a pre-operation inspection, function tests, and a workplace inspection before using the machine.

Operating Instructions

Setup

Make sure the machine is set up according to the Setup procedure in the Function Test section.

Starting the Engine

Note: The main circuit breaker and the light switches must be off before starting the engine.

Note: There must be fuel in the fuel tank in order to start the engine.

Note: If the machine is equipped with dual fuel tanks, there must be fuel in both tanks in order to start the engine.

Engine Start

1 Move the ignition switch to the prime position.

2 Press and hold the prime button for 7 seconds.

3 Move the ignition switch to the run position.

4 Press and hold the prime button for 15 seconds.

Note: Never preheat the engine for more than 30 seconds. Damage may be done to the glow plugs.

5 While holding down the prime button, move the ignition switch to engine start position.

Note: To avoid damage, never operate the starter for more than 45 seconds when starting the engine.

Engine Shutdown

1 Turn the lights off using the individual light switches.

Note: After being turned off, the lights must be allowed to cool down before turning them on again. This cool down period can take between 10 and 25 minutes depending on the ambient temperature.

2 Allow the engine to run for 1 to 5 minutes under no load.

Note: Never shut the engine down while under load. This can damage the AC generator.

3 Turn the ignition switch to the engine off position.

Operating Instructions

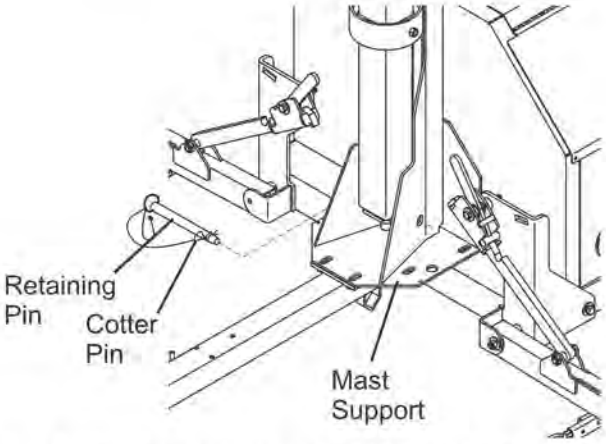
Operation of Tower

1 Remove the cotter pin and the upper retaining pin from the top of the mast.

2 Remove the cotter pin and the retaining pin from the mast support.

3 Turn the raise/lower winch handle clockwise until the mast reaches vertical position.

4 Insert the lower retaining pin through the mast supports. Insert the cotter pin through the retaining pin.



5 Turn the extend/retract winch handle clockwise to extend mast sections.

Mast Rotation

1 Turn the T-handle to release the mast rotation lock.

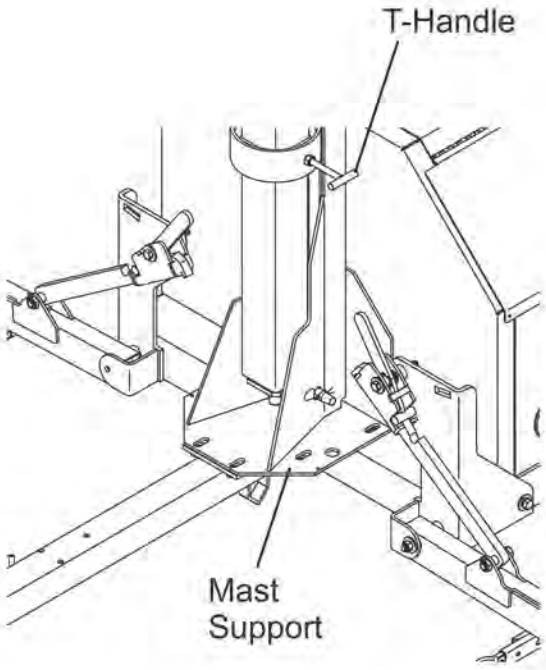
2 Rotate the mast to the desired position.

3 Tighten the T-handle to secure the mast in the desired position.

4 Before lowering the mast sections, the blue arrows on the mast must be aligned.

5 Release the mast rotation lock and rotate the mast to align the arrows.

6 Tighten the T-handle to secure the mast.



Operating Instructions

Operation of Lights

Note: The engine must be running before the lights are turned on.

1 Be sure the position of the lights is adjusted before raising the mast.

2 Start the engine

3 Turn on the main circuit breaker switches on the control panel.

4 Turn on the lights using the individual light switches.

Note:Lights can take up to 20 minutes to reach full intensity.If the lights are turned off and turned back on again while still warm, they will not light up again for 20 to 30 minutes.

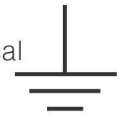
5 Turn the lights off by turning the circuit breaker switches to the off position.

6 Make sure the lights are turned off before engine is shut down.

Grounding

If your light tower has the optional grounding rod, drive the grounding rod into the ground and connect to the grounding lug located on the chassis at the rear of the light tower.

Note: This machine should be grounded in accordance with all local electrical codes. Consult the local electrical codes or authority having jurisdiction in the area where the machine will be used for specific requirements.



Electrical Outlets

A 120V/20 amp GFI duplex receptacle and a 240V/30 amp T-lock receptacle are located on the control panel inside the light tower cabinet.

Note: Before plugging in auxiliary power cords, feed them up through the trailer frame and attach to the receptacles. Close the cabinet doors to protect the control panel and other components from weather.

Operating Instructions

Towing

1 Make sure the mast is rotated to its original position and secured. Line up the arrows on the front of the mast.

2 Turn the extend/retract winch handle counterclockwise until the mast sections are fully retracted.

3 When the mast sections are fully retracted, remove the cotter pin and the lower retaining pin from the lower mast support.

4 Lower the mast by turning the raise/lower winch counterclockwise.

5 When the mast is fully lowered, insert the upper retaining pin and the cotter pin.

6 Insert the lower retaining pin into the storage hole provided in the mast support and insert the cotter pin.

7 Make sure the covers are closed and secured.

8 Raise the side outrigger jacks and the rear leveling jack. Rotate them into the stowed and secured position.

9 Release the spring pin on the side outriggers and slide the outriggers into the stowed and secured position. Make sure the outriggers are locked in place.

10 Pull the release pin on the side outriggers and raise the outriggers into the stowed and secured position. Rotate the leveling jack into the stowed and secured position.

11 If the optional grounding rod has been used, unearth and remove the grounding rod from the grounding lug and stow securely inside the cabinet.

12 Raise the tongue of the light tower by turning the tongue jack handle.

13 Position the transport vehicle under the coupler on the tongue of the light tower.

14 Open the latch on the coupler.

15 Turn the tongue jack handle to lower the tongue onto the transport vehicle.

16 Close the latch on the coupler.

17 Rotate the tongue jack to the stowed position and secure with the lock pin.

18 Attach the safety chains (if required).

19 Connect and test the trailer lights.

Operating Instructions

Towing Information

Driving a vehicle/trailer combination is different from driving a vehicle alone.

Inspect all connections at each stop.

All tires must be properly inflated. Do not overinflate the tires. Tire pressures go up during driving. Checking the tire pressure when the tires are warm will give you an inaccurate pressure reading.

Increase the distance between your vehicle and the vehicle in front of you to twice the normal following distance when towing a trailer. Allow more following distance in adverse weather.

Slow down for downgrades and shift your transmission into a lower gear.

Slow down for curves, hazardous road conditions, freeway exits, and when driving in adverse weather.

Heavy winds, excessive speed, load shifting or passing vehicles can cause a trailer to sway while driving. If this occurs, do not brake, speed up or turn the steering wheel. Turning the steering wheel or applying the brakes can cause the vehicle and trailer to jackknife. Let up on the gas pedal and keep the steering wheel straight.

If the vehicle and/or trailer travels off the paved road, hold the steering wheel firmly and let up on the gas pedal. Do not apply the brakes. Do not turn sharply. Slow down to under 25 mph / 40 km/h. Gradually turn the steering wheel to get back on the road. Proceed with caution when entering traffic.

When passing other vehicles, be sure to leave enough room for the extra length of the trailer. You will need to go much farther beyond the passed vehicle before you can return to your lane.

Avoid sudden movements when turning.

Transport and Lifting Instructions

Observe and Obey:

- ☑ Larson Electronics provides this securement information as a recommendation. Drivers are solely responsible for making sure machines are properly secured and the correct trailer is selected pursuant to US Department of Transportation regulations, other localized regulations, and their company policy.
- ☑ Larson Electronics customers needing to containerize any Larson Electronics product should source a qualified freight forwarder with expertise in preparing, loading and securing construction and lifting equipment for international shipment.
- ☑ The transport vehicle must be parked on a level surface.
- ☑ The transport vehicle must be secured to prevent rolling while the machine is being loaded.
- ☑ Be sure the vehicle capacity, loading surfaces and chains or straps are sufficient to withstand the machine weight. See the serial label for the machine weight.
- ☑ Common sense and planning must be applied to control the movement of the machine when lifting it with a crane or forklift.

Securing to Truck or Trailer for Transit

Fully retract and lower the mast to the stowed position.

Secure the mast for transport with the travel lock pin.

Fully retract, raise and lock all outriggers.

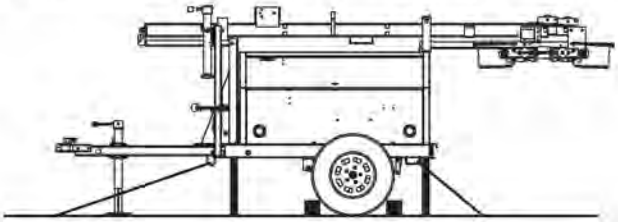
Close and secure the cabinet doors.

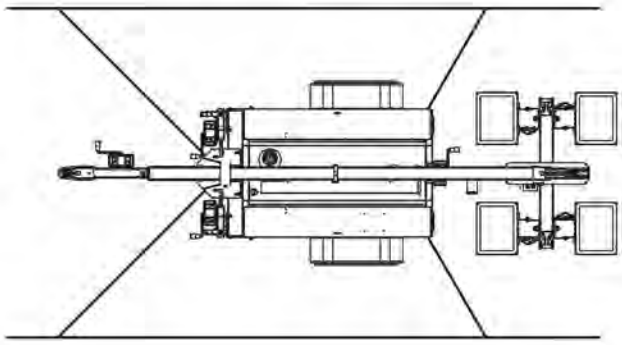
Inspect the entire machine for loose or unsecured items.

Use the four tie-down points for anchoring down to the transport surface.

Use a minimum of four chains to secure the light tower.

Adjust the rigging to prevent damage to the chains.





Transport and Lifting Instructions

Observe and Obey:

☑ Only qualified riggers should rig the machine.

☑ Only certified crane operators should lift the machine and only in accordance with the applicable crane regulations.

☑ Be sure the crane capacity, loading surfaces and straps or lines are sufficient to withstand the machine weight. See the serial label for the machine weight.

☑ Lifting the Machine with a Crane

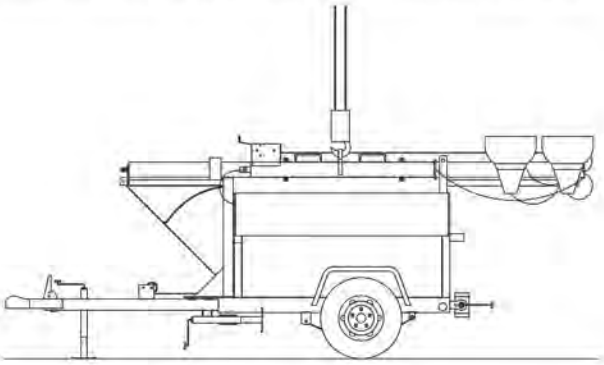
Fully retract and lower the mast to the stowed position.

Secure the mast for transport with the travel lock pin.

Fully retract, raise and lock all outriggers.

Close and secure the cabinet doors.

Use the lifting eye on the mast to lift the machine.



Maintenance



Observe and Obey:

☑ Only routine maintenance items specified in this manual shall be performed by the operator.

☑ Scheduled maintenance inspections shall be completed by qualified service technicians, according to the manufacturer's specifications and the requirements specified in the responsibilities manual.

Maintenance Symbols Legend

The following symbols have been used in this manual to help communicate the intent of the instructions. When one or more of the symbols appear at the beginning of a maintenance procedure, it conveys the meaning below.



Indicates that tools will be required to perform this procedure.



Indicates that new parts will be required to perform this procedure.

Check the Engine Oil Level



Maintaining the proper engine oil level is essential to good engine performance and service life. Operating the machine with an improper oil level can damage engine components.

Note: Check the oil level with the engine off.

1 Check the oil level dipstick. Add oil as needed.

Perkins 403D-11 Engine	
Oil type	15W-40
Oil type - cold conditions	5W-40
Kubota D-1105 Engine	
Oil type	10W-30
Oil type - cold conditions	5W-30

Maintenance

Check the Engine Coolant Level



Maintaining the engine coolant at the proper level is essential to engine service life. Improper coolant level will affect the engine's cooling capability and damage engine components. Daily checks will allow the inspector to identify changes in coolant level that might indicate cooling system problems.

▲ Burn hazard. Beware of hot engine parts and coolant. Contact with hot engine parts and/or coolant may cause severe burns.

Note: Do not remove the radiator cap.

1 Check the fluid level in the coolant recovery tank. Add fluid as needed.

⊙ Result: The fluid level should be at the FULL mark.

Check the Batteries



Proper battery condition is essential to good machine performance and operational safety. Improper fluid levels or damaged cables and connections can result in component damage and hazardous conditions.

▲ Electrocution hazard. Contact with hot or live circuits may result in death or serious injury. Remove all rings, watches and other jewelry.

▲ Bodily injury hazard. Batteries contain acid. Avoid spilling or contacting battery acid. Neutralize battery acid spills with baking soda and water.

1 Put on protective clothing and eye wear.

2 Be sure that the battery cable connections are tight and free of corrosion.

Be sure that the battery hold-down brackets are in place and secure.

Note: Adding terminal protectors and a corrosion preventative sealant will help eliminate the corrosion on the battery terminals and cables.

Maintenance

Check the Tire Pressure



- ⚠ Bodily injury hazard. An over-inflated tire can explode and may cause death or serious injury.
- ⚠ Collision hazard. An excessively worn tire can cause poor handling and continued use could result in tire failure.
- ⚠ Tip-over hazard. Do not use temporary flat tire repair products.

Maintaining the tires and wheels in good condition is essential to safe operation and good performance. Tire and/or wheel failure could result in a machine tip-over. Component damage may also result if problems are not discovered and repaired in a timely fashion.

1. Check the tire surface and sidewalls for cuts, cracks, punctures and uneven or excessive tread wear. Replace the tire if uneven or excessive tread wear is found.
2. Check each wheel for damage, bends and cracks. Replace the wheel if any damage is found.

Note: Tires and wheels must be replaced with tires and wheels of the specifications listed.

3. Check each tire with an air pressure gauge. Add air as needed.
4. Check the torque of each lug nut.

Tire Specifications, U.S.

Tire Size	ST175/80D13	Load B
Lug nut torque	80 ft/lbs	108 Nm
Tire pressure (cold)	35 psi	241 kpa

Scheduled Maintenance

Maintenance performed quarterly, annually and every two years must be completed by a person trained and qualified to perform maintenance on this machine according to the procedures found in the service manual for this machine.

Machines that have been out of service for more than three months must receive the quarterly inspection before they are put back into service.

Specifications

WCDE-4

Height, stowed	5 ft 9.5 in	1.765 m
Length, stowed	14 ft 2 in	4.331 m
Width, stowed	4 ft 6 in	1.372 m
Extended mast height	30 ft	9.114 m
Weight WCDE-4-8X160WSA-LED	1750 lbs	794 kg
(Machine weights vary with option configurations. See serial label for specific machine weight.)		
Maximum tongue weight	199 lbs	91 kg
Tire size, U.S.	ST175/80D13	Load B
Engine type	Kubota	13.6 HP
	Perkins	13.8 HP
Fuel capacity	30 gallons	114 liters
Run time	Kubota	38.3 hours
	Perkins	37.9 hours
Generator	Marathon 6 kW, 60 Hz	
Total lighting wattage Four lights		4000 watts
Replacement bulbs		1000 watts Type BT-37 Metal Halide
Tower rotation		359 degrees non-continuous
Maximum towing speed	60 mph	97 km/h
Maximum wind speed	62 mph	100 km/h
Sound level (dba rating)	71 dba @	23 ft / 7 m

Continuous improvement of our products is a Terex policy. Product specifications are subject to change without notice or obligation.

Reporting Safety Defects

Larson Electronics
9419 E US Highway 175
Kemp, Texas 75143

Reporting Safety Defects

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to Larson Electronics.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in any individual problems between you, your dealer or Larson Electronics.

To contact NHTSA you may either call the Auto Safety Hotline toll-free at 1-800-424-9393 (366-0123 in Washington DC area) or write to:

NHTSA
U.S. Department of Transportation
400 7th Street SW, (NSA-11)
Washington DC 20590

You can also obtain information about motor vehicle safety from the Hotline.

California Proposition 65

Warning

The exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Towing Checklist (use at each stop)

Before Towing

- Travel lock is securely locked in place
- Towing hitch is properly secured to tow vehicle
- Safety chans (if required) are properly attached and secure (chains are crossed below hitch)
- All lights are connected and working
- Tires are properly inflated

Before Driving

- Fasten safety restraints
- Properly adjust mirrors

On the Road

- Do not exceed 60 mph / 97 km/h. Obey all local and national towing speed laws
- Check connections and tire pressure at each stop
- Slow down for hazardous conditions
- Allow extra distance for following and passing other vehicles