LIGHT MAST OPERATION

LM-30-3S-4X1000W

Read instructions carefully before attempting to install or operate the mast. Failure to comply with instructions and guidelines could result in serious or fatal injury, as well as void any warranty. Retain these instructions for future reference.

EXTEND MAST



1. Position light mast in the desired location. Ensure that the unit is **completely level** and anchor the light mast using all mounting holes located on the base. When picking a location, ensure the mast is free and clear from any overhead obstructions.



2. (If applicable) Attach equipment to mast head. Use appropriate measures for securing attached devices. Drill thru-holes as necessary. ***Do not exceed weight capacity listed on nameplate!***

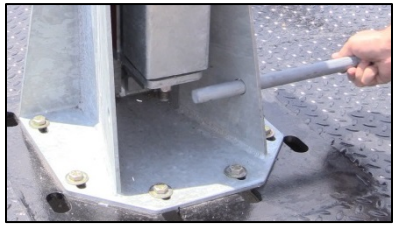
3. Install mast head. *See mast head installation steps.*

NOTE: Wait 15-20 minutes between cycling the mast up and down allowing the winch to cool down.

FOLD OVER MODELS

MAST HEAD INSTALLATION:
With the mast folded over, install light head. Use additional help with heavy equipment installed.





4. Remove the retaining pin from the base of the mast and set aside.



5. Use the hand winch to fold the mast upright. Turn this clockwise until the mast is fully upright and enough tension keeping the mast in place. You should hear a clicking noise from the hand winch indicating the proper direction.



6. **Replace the pin removed in Step 3!** This retaining pin will prevent the mast from falling over should the winch cable fail.



7. ***Mast must be level!*** Use a bubble level to level the mast before extending! Adjust outriggers until mast is level on all sides.

8. Use the electric winch for extending the mast. See electric winch operating instructions.

WARNING: *Ensure the mast retaining pin is installed at the base of the mast before elevating!*

ROTATING MAST

The mast can be rotated while lowered or elevated.



1. Loosen bolt(s) located toward center collar of light mast.

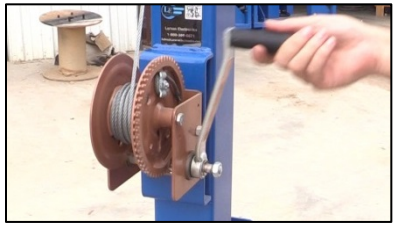
2. Rotate mast to desired angle.

3. Tighten bolt(s) in order to secure mast in place.

When using power cables, minimize full 360° rotation to prevent tangling cord around light mast. *Ensure cables are not in the way or tangled when lowering mast!*

LOWER MASTER

1. Use the electric winch for lowering the mast. See electric winch operating instructions.

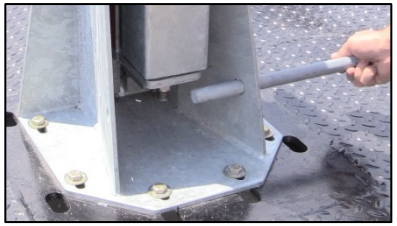


WARNING: *Power cables can become pinched or tangled around light mast while lowering or rotating. Take caution in keeping cables clear.*

NOTE: Wait 15-20 minutes between cycling the mast up and down allowing the winch to cool down.

FOLD OVER MODELS

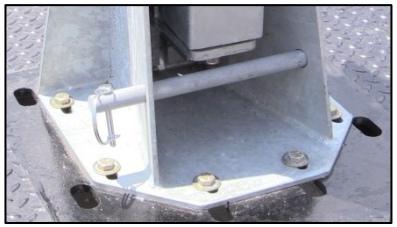
2. Once mast is lowered, remove the retaining pin from the base of the mast and set aside. *This pin must be removed before folding the mast!*



3. Use the hand winch to fold the mast down. Rotate the winch counter-clockwise until there is no more tension on the cable and the mast is set in its holder (if applicable).



4. Replace the retaining pin on the base of the mast removed in **Step 2**.



WARNING: *Ensure mounted equipment does not exceed weight capacity listed on nameplate!*

➔ ***For trailer models:*** *Replace all safety cables and pins before transport!*
Be sure there are no loose objects on the trailer before transport!
If applicable, extend outriggers for maintaining stability of the mast while deployed!

ELECTRIC WINCH OPERATING INSTRUCTIONS

The electric winch can be powered in or out. Allowing the switch to return to the off position will automatically stop the winch and hold the load.

For units with the hand held Dynamic Brake Remote Control, press the “In/Out” switch to the desired direction and then push and hold the “Run” switch to power the winch.



⚠ **CAUTION: Do not change cable direction while the motor is running. Changing directions prior to releasing the “Run” switch may result in winch or motor damage.**

It is recommended that whenever the winch is not being used that it be unplugged from the power supply. The bridge is subject to damage caused by electrical storms or voltage surges if the winch is left plugged in when not in use.

NOTE: Some models are supplied with a GFCI cord set. To ensure protection against electrical shock, test the GFCI before each use. See back of GFCI for test procedure.

NOTE: It is normal for smoke to be produced during the initial power down use.

⚠ **WARNING: BECAUSE THE WINCH IS NOT EQUIPPED WITH CIRCUIT BREAKER OVERLOAD PROTECTION, PARTICULAR CARE SHOULD BE TAKEN NOT TO CREATE AN OVERLOAD. PAY ATTENTION TO THE SOUND OF THE WINCH AND THE LOAD BEING PULLED. MAKE CERTAIN THAT THE CABLE TENSION DOES NOT RISE SUDDENLY BECAUSE OF A BIND IN THE LOAD.**

⚠ **CAUTION: The electric motor is designed for intermittent service only. Extended use without cooling off periods will cause overheating resulting in motor damage. Maximum continuous run time is three minutes.**

⚠ **WARNING: NEVER ALLOW CHILDREN, OR ANYONE WHO IS NOT FAMILIAR WITH THE OPERATION OF THE WINCH, TO USE IT.**

AUXILIARY HANDLE

1. An emergency crank handle is provided for use in the event of a power failure. Remove the electrical power from the winch.
2. Remove the plastic plug from the side of the winch housing and insert the handle so that it completely engages with the drive shaft. The handle can be cranked in either direction.

⚠ **WARNING: NEVER OPERATE THE WINCH ELECTRICALLY WITH THE EMERGENCY HANDLE IN POSITION.**

3. Always remove the handle from the winch after use and replace the plastic plug.

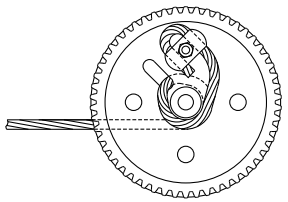
WINCH MAINTENANCE

For long life and trouble-free operation your winch should periodically be inspected for any required maintenance. This should be done at least once annually and more frequently in adverse conditions such as salt water areas or areas of extreme dust and dirt.

1. Carefully inspect the winch cable for any kinks, frays or abnormal stiffness and replace at the first sign of this kind of damage. Periodic lubrication with a light oil will improve the life of the cable. In order to replace the winch cable, it is necessary to remove the four cover mounting bolts. Be sure that the power is disconnected from the housing and lift the housing off of the winch by gently stretching it open near the lower front corner. Rotate the winch reel so that you have access to the rope clamp. Remove the old cable and replace it with a new cable of the same size. Be sure that the cable passes under both sides of the rope clamp and that the clamp is tightened securely.

NOTE: CABLE IS WOUND UNDER THE DRUM THIS WINCH MODEL SEE ATTACHMENT METHOD BELOW.

CABLE ATTACHMENT METHODS



2. With the cover removed as described above, inspect the entire gear train and all drive shafts for any significant wear or loose bearing fits. Grease all of the gears on the inside of the winch base and apply a drop of oil on all of the bearings in the base. Also, place a drop of oil on the roller clutch. Do not over lubricate these areas and do not use grease in the roller clutch. The brake pads and brake disc must be kept clean and oil free.

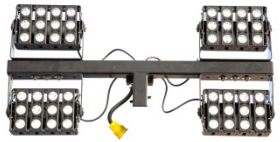
3. Check the operation of the roller clutch. Carefully rotate the brake disc and observe the motor shaft. When the disc is turned clockwise the motor shaft should turn with it. When the disc is turned counterclockwise the motor shaft should not turn. Also, check all nuts, bolts, retaining rings, etc., to be sure that they are tight and secure.

4. If a pully block and hook is used, check assembly to be sure that the pulley rotates freely on the bronze pulley spacer. Occasional greasing of these two items is recommended.

MAST HEAD INSTALLATION

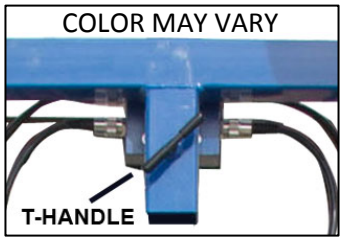
The light mast ships with the light head / T-head removed to prevent damage during transport. Follow the steps below for installing or removing light head.

1. Locate light head. Color, style, and mounted lights will vary.



2. The light head is equipped with a T-Handle / Hand Screw.

3. Make sure the hand screw is loose, to allow the head to slide over the top stage of the mast.



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



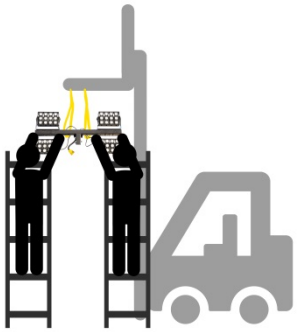
5. Attach the slings to a forklift or other lifting device.



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

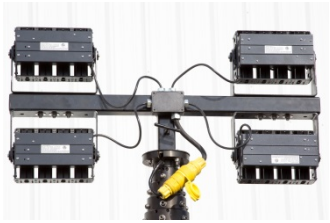


7. A ladder will need to be placed on both sides of the mast, in order for 2 people to guide the head in to place.



8. Once the light head is on top of the light mast, tighten the T-Handle to ensure the light head is safely secured to the top of the mast.

9. Make the electrical connections for the lights. Repeat this process in reverse order for removing the light head.



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

Slings are recommended for installing heavy loads and to ensure operator safety. Should other methods be used, Larson Electronics shall not be held responsible for damages or personal injuries.



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ELECTRIC WINCH TROUBLESHOOTING CHART

SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Safety hook spreads.	1. Point loading of hook. 2. Load exceeds rated capacity of unit.	1. Replace hook. 2. Lighten load, reduce % of incline or reduce load friction.
Cable snaps.	1. Improperly maintained cable. 2. Overloading.	1. See “Maintenance”. 2. Reduce load.
Cable miswrap and/or crushing.	Loose cable being wound onto drum.	Keep tension on cable at all times.
Load creeps when power is OFF.	1. Roller clutch, not engaging. 2. Overloading.	1. Replace. 2. Reduce load.
Damaged level wind spring Models SA9000AC, SA9010AC, SA9015AC,SA12000AC & SA12015AC.	Loose cable.	Keep tension on cable at all times.
Winch motor runs hot.	In operation too long.	Let motor cool for at least 20 minutes. (See Winch Rating Section).
Winch motor fails to run.	Electrical.	Check the following: power supply, wiring, control switch, male/female connections and motor.
Winch pops circuit breaker immediately when plugged in.	Damaged bridge.	Replace bridge and keep winch unplugged when not in use.
GFCI interrupts circuit or will not reset.	Possible short or electrical leakage.	Correct electrical problem and reset GFCI.
GFCI does not test properly.	Faulty GFCI.	Replace GFCI.
Smokes.	Normal on initial power down use.	None.