



Owners Manual

Submersible Light Kits

LR275 & LR375



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Rev. 02/01/16

THANKS

We at Kasco Marine, Inc. would like to both thank and congratulate you on your purchase of the Submersible Light Kit. The Submersible Light Kit will illuminate your fountain for a beautiful display. We thank you for choosing Kasco for your fountain and aeration needs and want you to be completely satisfied with your purchase.

Important Safety

Please read and follow these extremely important safety and handling instructions for your Kasco equipment. Following these instructions will help ensure your safety and the quality performance of your equipment.

- Under NO circumstances should anyone enter the water with the electrical equipment plugged in and/or in operation. All Kasco equipment is designed and built to UL and CSA standards for safety in water and all fountain models include control panels with GFCI protection. However, it is NEVER recommended to enter the water with the equipment in operation.
- Kasco's Submersible Light Kits are intended for use with a Listed control panel having a GFCI protected receptacle or field wiring terminals and disconnect switch, or a timer with a disconnect for use with a GFCI receptacle. They are intended to be mounted on a floating fountain or aerator for use in a natural or man-made body of water to comply with NEC Article 682.
- Kasco's Submersible Light Kits have not been evaluated for use in swimming pools, spas or stationary fountains.
- All serviceable parts of the light kit are low voltage (12Vac). The power connection for the light kit is 120Vac and MUST be plugged into a GFCI receptacle or GFCI protected field terminal connections.
- Caution should be used when dealing with any electrical and/or moving equipment.
- NEVER run the unit out of water. It could create a dangerous situation for the operator.
- Extreme caution should be used around water, especially cold water, as in Spring, Fall, and Winter, which poses a hazard itself.
- NEVER lift or drag the fountain or light kit by the power cords. If you need to pull the unit to the

side of the pond, use the anchoring ropes.

- Do not use waders in ponds/lakes that are deep, with drop-offs, drastic slopes, or soft bottom material.
- Do not use a canoe or boat that tips easily during installation
- The light kit is supplied with an internal grounding conductor and a grounding-type attachment plug. To reduce the risk of electrical shock, be certain that the light kit is connected to the GFCI protected lighting circuit of your control panel. For more information regarding your control panel instructions, refer to your fountain owners manual or download control panel wiring diagrams from <http://kascomarine.com/instructions.html>. A control panel must be installed a minimum of 5 feet (3m in Canada) from the body of water unless separated from the body of water by a fence, wall, or other permanent barrier that will make the unit inaccessible to persons in the water.

General Instructions

INSPECT THE SHIPMENT

Immediately inspect your Kasco Submersible Light Kit shipment for any visible damages. Also cross reference the "Parts Included" section to check for part shortages. Shortages should be reported immediately to your Kasco Marine distributor or representative and damages reported to your carrier and Kasco Marine.

PARTS INCLUDED

LR275

- A. Light Kit with cord (1)
- B. 75-watt, 12-volt, MR-16 Halogen Bulbs, installed in fixtures (2)
- C. 1/4" x 1" Stainless Steel Bolts (2)
- D. 1/4" Stainless Steel Flat Washer (2)
- E. 1/4" Stainless Steel Lock Washer (2)
- F. 1/4" Stainless Steel Nut (2)
- G. Nylon Cable Tie
- H. Optional Colored Bulbs

Note: Extra hardware may be included.

LR375

- A. Light Kit with cord (1)
- B. 75-watt, 12-volt, MR-16 Halogen Bulbs, installed in fixtures (3)
- C. 1/4" x 1" Stainless Steel Bolts (3)
- D. 1/4" Stainless Steel Flat Washer (3)
- E. 1/4" Stainless Steel Lock Washer (3)
- F. 1/4" Stainless Steel Nut (3)
- G. Nylon Cable Tie
- H. Optional Colored Bulbs

Note: Extra hardware may be included.

TOOLS & SUPPLIES NEEDED

- A. 7/16" Wrench
- B. Flat Head Screw Driver
- C. Diagonal Pliers or Cutter for Nylon Zip Ties

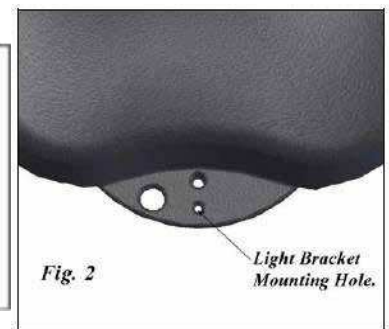
LR275 Light Kit Assembly Instructions

Instructions for mounting lights on:

Model 2400VFX, 3400VFX, 3400HVFX, 3400JF, & 3400HJF Aerating Fountains

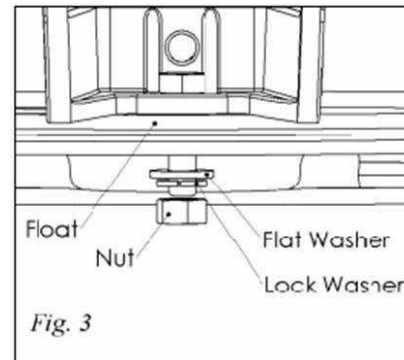
STEP ONE:

Cut Nylon Zip Ties that hold the fixture cords in a coil. Insert the 1/4" x 1" bolt into the light bracket so the flats of the hex head bolt are between the support ribs of the bracket as shown in Figure 1. Align the light bracket to the float tab by placing the bolt through the light mounting hole in the underside of the float tab as shown in Figure 2.



STEP TWO:

Install the 1/4" Flat Washer, 1/4" Lock Washer and 1/4" Nut against the underside of the float tab as shown in Figure 3. Tighten the nut until snug using the 7/16" Wrench.



STEP THREE:

Adjust the angle of the light as desired and tighten the two brass screws on the sides of the fixture until snug. Do not over tighten. It is best to have all two or three fixtures at the same angle.

STEP FOUR:

Repeat steps 1 through 3 for the remaining fixture.

The completely assembled light fixture is pictured in Figure 4. Note the orientation of the lights.



Figure 4
2 light install



Figure 5
3 light install

STEP FIVE:

Upon installation of the assembled unit, connect your lighting package to your field installed GFCI protected outlet and timer. .

STEP SIX:

Using the nylon cable tie provided, tie the light kit power cord to the float opposite the fountain power cord. This will keep the cord from being damaged by the fountain and balance the unit properly.

Note:

Each light fixture and cord entrance must be submerged at least 1" in order for lights to operate properly.

LR375 Light Kit Assembly Instructions

Instructions for mounting lights on:
Model 4400VFX, 4400HVFX, 8400VFX, 8400JF,
3.1JF & 5.1JF Aerating Fountains

NOTE: For 4400VFX & 4400HVFX follow Assembly Instructions for LR275, but repeat with third light fixture. See Figure 5 in LR275 Assembly for correct orientation. Also use LR275 instructions
If you purchased the LR375 for use on 2400 & 3400 models.

STEP ONE:

For ease of assembly, make sure the Aerating Fountain is completely assembled. Place the assembly upright and if needed, use blocks to support the float.

STEP TWO:

Cut Nylon Zip Ties that hold the fixture cords in a coil. Insert the 1/4" x 1" bolt into the light bracket so the flats of the hex head bolt are between the support

ribs of the bracket as shown in Figure 1. Align the light bracket to the lower float bracket by placing the bolt through the light mounting hole in the lower float bracket as shown in Figure 2.



Fig. 1



Fig. 2

STEP THREE:

Install the 1/4" Flat Washer, 1/4" Lock Washer and 1/4" Nut against the lower float bracket as shown in Figure 3. Tighten the nut until snug using the 7/16" Wrench.

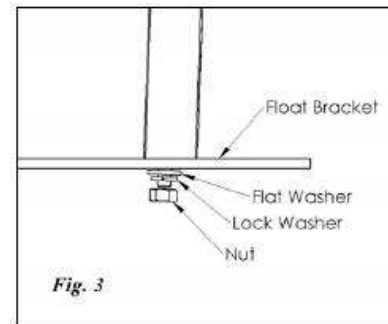


Fig. 3

STEP FOUR:

Adjust the angle of the light as desired and tighten the two brass screws on the sides of the fixture until snug. Do not over tighten. It is best to have all three fixtures at the same angle.

STEP FIVE:

Repeat steps 2 through 4 for the remaining two fixtures. The completely assembled light fixture is pictured in Figure 4.



Fig. 4

STEP SIX:

Upon installation of the assembled unit, connect your lighting package to your field installed GFCI protected outlet and timer.

STEP SEVEN:

Using the nylon cable tie provided, tie the light kit power cord to a float bracket opposite the fountain power cord. This will keep the cord from being damaged by the fountain and balance the unit properly.

Note:

Each light fixture and cord entrance must be submerged at least 1" in order for lights to operate properly.



2. Arrange the brackets into the position shown and tighten down the nuts. Once the brackets are secure, turn the unit back into its upright position.



3. For 8400, 2.3, 3.1 & 3.3 models, follow the instruction on the previous page to mount the light kit, except use the 1/4" x 2" bolts (part #4) that came with the adapter kit instead of the 1/4" x 1" bolts that came with the light kit. Install the round spacers (part #3) between the light fixture bracket and the lower float bracket.

For 5.1, 5.3 & 7.3 models, use the 1/4" x 1" bolts that came with the light kit. The round spacers are not needed.



8400, 2.3, 3.1
& 3.3 models
Use 2" bolts &
Round Spacers

Instructions On Adapter Kit For 6 Lights

Instructions for attaching (2) LR375 light kits on 2hp or larger fountains or decorative aerators

Adapter kit (Part# 840322) includes:

1. Lower float brackets (Qty 6)
2. 3/8" washers (Qty 3)
3. Round Spacers (Qty 6)
4. 1/4" x 2" Stainless Steel Bolts (Qty 6)

Note: Part #3 and Part #4 are only used with the 2hp & 3hp (or 8400, 2.3, 3.1 & 3.3) assemblies

Part 1



Part 2



Part 3



Part 4

1. Turn the unit upside down. Loosen and remove the 3/8" nuts on the three 9" bolts that are closest to the motor unit. Place 2 Lower Float Brackets (Part #1) and one 3/8" washer (Part #2) on each of the 9" bolts over the bottom screen clips and replace the 3/8" nut.

Maintenance Recommendations

**** Under No Circumstances should anyone enter the water while a fountain is operating. ****

**** Please keep the original box for maintenance shipping. ****

The following maintenance procedures can be utilized to ensure many years of quality performance from your Kasco Fountain and Light Kit and reduce the need for more costly repair work.

PROPER INSTALLATION: Proper installation of Kasco equipment will include a power source with ground fault protection. For Fountain models, Kasco provided control panels included with the unit have built-in ground fault protection. Ground fault interrupters are a safety feature that can also alert you to electrical leaks in the equipment. If you have repeat, consistent trips of the ground fault device, the equipment should be disconnected and removed from the water. The power cord should be inspected for damage and you should contact your distributor, or call Kasco Marine at 715-262-4488 for further instructions or email Kasco at returns@kascomarine.com.

OBSERVATION: Operating equipment should be observed on a regular basis (daily, if possible) for any reduction or variation in performance. If a change in performance is observed, the equipment should be disconnected from power and inspected.

WINTER STORAGE: In regions where there is significant freezing in the wintertime, the fountain and light kit should be removed from the water to protect them from the expansion pressure of the ice. In many areas, fountains will keep some amount of ice open through the winter. However, when the water is thrust into the air, it is exposed to the colder air temperatures longer and can actually make ice thicker on the pond/lake. Storage over winter is best in a location that is out of the sun and cool, but above 32° F.

CLEANING: Fountains and light kits should be removed from the water at least once per year (at the end of the season in cold climates) to clean the exterior of the system, especially the stainless steel motor housing (can) and light fixtures. The motor housing and brass light fixtures is the surface that dissipates heat into the water and any algae, calcium, etc. build-up will become an insulator that blocks heat transfer. In warmer regions it is recommended that the motor is removed and cleaned at least two to three times per year depending on conditions. In most cases a power washer will be sufficient if the unit and algae are still wet. Also make sure the lens of the light fixtures is clean to

ensure the brightest light possible.

Lamp Replacement: Disconnect light kit and fountain or decorative aerator from power supply before performing a lamp replacement. Always wear gloves when handling halogen lamps as oils from fingers may result in shorter lamp life. Remove fixture cap by hand or with a soft strap wrench. Do not use channel locks or other types of pliers as they may damage cap and could prevent cap removal. Carefully remove old lamp and reinstall new lamp, making sure the lamp is fully seated in the socket. It is recommended to change all three o-rings (Kasco P/N: 344090) when performing a lamp change to ensure proper sealing of the cap, glass and fixture. Reinstall glass, o-rings and cap. Tighten cap until hand tight. **DO NOT OVERTIGHTEN.**

Any required repairs need to be performed by Kasco Marine. Any alterations or changes made to Kasco units by an unauthorized source will void the warranty. This includes tampering with the unit, power cord, and/or control box. Please contact Kasco Marine, Inc. at 715-262-4488 or returns@kascomarine.com.

Warranty Policy

2 Year Limited Warranty: Kasco® Marine, Inc. warrants this Light Kit to be free from defects in material or workmanship under normal use and service. The Kasco Marine, Inc. obligation under this warranty is limited to replacing or repairing free of charge any defective part within two (2) years from the date of shipment. Customer shall pay shipping charges for returning the unit to Kasco.

THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, AND ANY OTHER OBLIGATION OR LIABILITY WHATEVER ON THE PART OF KASCO MARINE, INC. AND IN NO EVENT SHALL KASCO MARINE, INC. BE LIABLE FOR ANY SPECIAL OR CONSEQUENTIAL DAMAGES.

Warranty is void if:

The Light Kit is not maintained properly according to the Maintenance Recommendations supplied in this Owners Manual.

The Light Kit is returned for repair without the power cord or if the unit, control box, or power cord are altered in any way from original shipment. Cuts in the power cord are not covered under warranty.

The Light Kit is damaged by unauthorized tampering.

Warranty Claim Procedure:

The warranty coverage can be established by the date of purchase receipt or by calling Kasco Marine, Inc. Please call Kasco Marine at 715-262-4488 prior to shipping to receive a Return Authorization Number and/or Repair Form, then ship to:

Kasco Marine, Inc.
800 Deere Rd.
Prescott, WI 54021
Attn: Repairs

You can also email Kasco at returns@kascomarine.com.

Note: Only complete Light Kit assemblies will be accepted for warranty repair. The power cord and all other components must be returned with the Light Kit as originally assembled. Any missing parts will be replaced at the customer's expense and, if determined to have caused the failure, could void the entire warranty. Some parts are essential for structural support during shipping and others, such as the power cord, are essential to properly diagnose potential causes of failure.

Please include the Repair Form received from Kasco Marine or your local distributor with the shipment. If no Repair Form is available, include your name and physical address for return delivery of the repaired Light Kit and a daytime phone number and/or e-mail address for correspondence regarding the warranty claim.

Any expedited shipping method for the return of the unit is at the customer's expense. Kasco Marine will return units repaired under warranty at our expense via ground freight.

Non-Warranty Repairs:

Most failed equipment can be repaired at substantially lower costs than replacement with new. If your light kit requires repair and is no longer covered under warranty, please contact Kasco Marine for current repair pricing. Please ship according to the instructions in the previous section. Again, it is best to call ahead for a Return Authorization Number and/or Repair Form so we know the repair is coming.

All light kits that are rejected for repair will be destroyed unless otherwise directed by the customer. If the customer would like the Light Kit returned, it will be restored as closely as possible to the condition in which it was received and shipped at the customer's expense for shipping and handling charges.

Billing:

All non-warranty repairs will be returned to the customer and billed C.O.D. unless otherwise directed. Kasco Marine also accepts Visa and MasterCard credit card payments. Kasco Marine will call for credit card information upon completion of the estimate at the customer's request.

All other warranty and repair inquiries should be directed to Kasco Marine, Inc. at 715-262-4488 or returns@kascomarine.com.

Troubleshooting tips - light kit

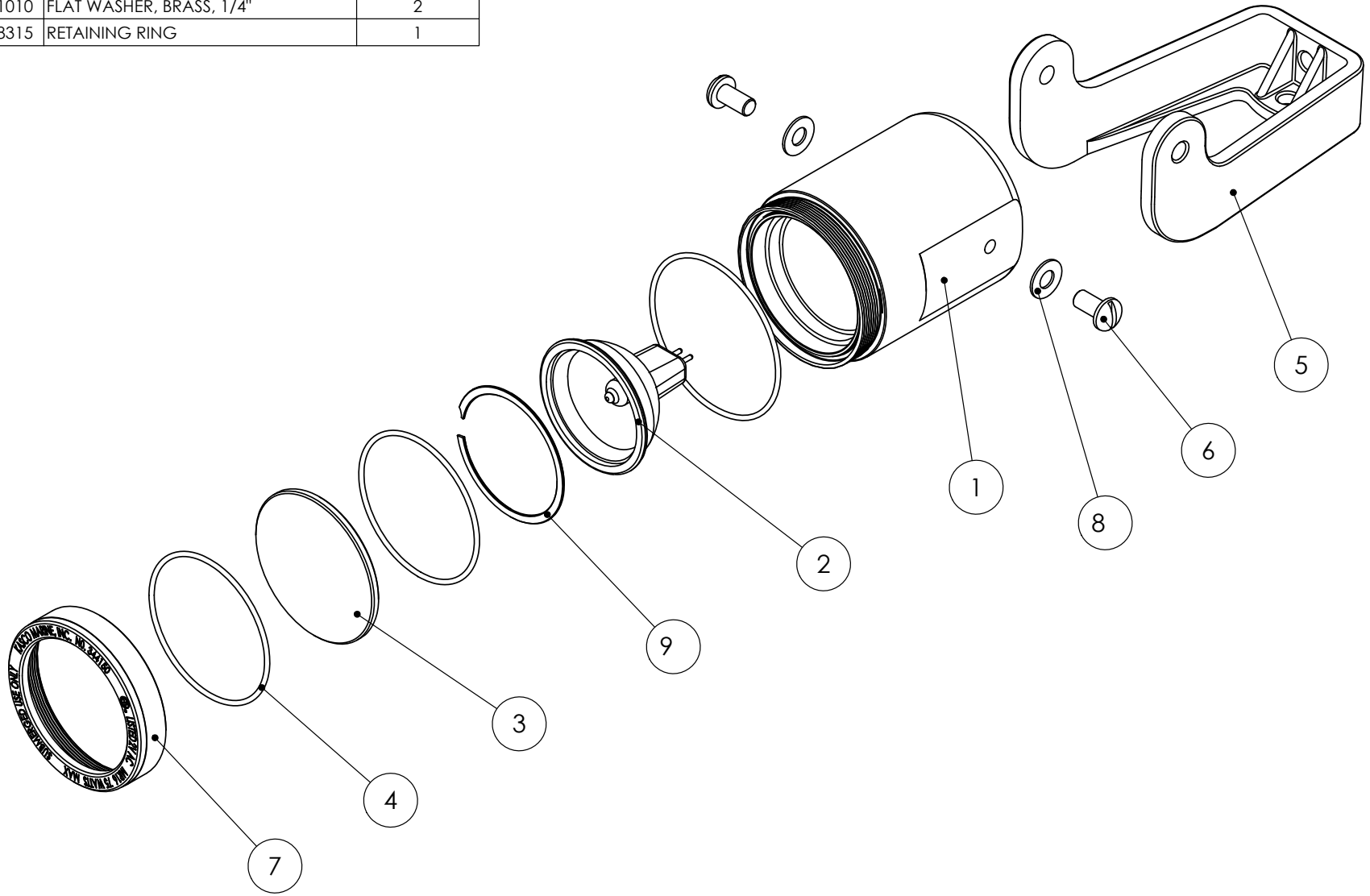
The following is provided to help diagnose a probable source of trouble. It is a guideline only and may not show all causes for all problems. For additional troubleshooting help contact your local distributor or visit www.kascomarine.com for additional help.

NOTE: you may need to refer to your owners manual that was provided with your fountain for additional control panel settings and adjustments.

Problem	Possible Cause	Likely Remedy
Light kit is installed and wired, but will not turn on.	Power is off or disconnected	Ensure control panel is connected to the electrical circuit. Verify circuit breakers, timers, and/or interlock switches are turned on and functional. Refer to your owners manual that was provided with the fountain.
	Not dark enough for photo eye to activate	C-25 control panel: The control panel has a photo eye on the left side of the enclosure exterior. This photo eye measures ambient light. To activate, the photo eye must not measure any ambient light for at least several minutes. Also, the C-25 timer must be turned on (fountain operating) to allow the light circuit to energize. Covering the photo eye with black electrical tape will activate the photo eye for testing. C-85, or C-95 control panel with GFCI outlet and photo eye control: The control panel has a photo eye on the left side of the enclosure exterior. This photo eye measures ambient light. To activate, the photo eye must not measure any ambient light for at least several minutes. Also, the fountain timer must be turned on (fountain operating) to allow the light circuit to energize. Covering the photo eye with black electrical tape will activate the photo eye for testing. While the photo eye is covered, the GFCI outlet can be reset if tripped.
	Timer not set properly	C-85, or C-95 control panel (and all 3phase fountain control panels) with terminal connections and timer control for light kit: The control panel has a second timer for controlling the lights (No photo eye). Ensure the light timer is set to operate the lights. The timer has a built in Hand-Off-Auto switch. Ensure the switch is set properly. Ensure the fountain is turned on. The light timer will not energize the light kit unless the fountain circuit is energized.
	GFCI is tripped	C-25 control panel: Reset the GFCI. If the GFCI does not reset it could be a ground fault in the fountain wiring, or the light kit wiring. Unplug both the fountain and light kit and reset the GFCI. If it resets, plug fountain then light kit back in and see which one trips the GFCI. If the GFCI does not reset with both unplugged, then the GFCI may be defective.
C-85, or C-95 control panel with GFCI outlet and photo eye control: To reset the GFCI outlet the fountain timer must be turned on, and the photo eye must be activated. (black electrical tape can be wrapped around the photo eye to activate it). Once these are on, the GFCI reset button can be pressed. (unplug the light kit prior). Plug the light kit in and see if it operates. If the GFCI trips again then the light kit may be damaged. If the GFCI does not reset (with light kit unplugged) then it may be defective or the photo eye is not activated to send power to the outlet.		
C-85, or C-95 control panel with terminal connections and timer control for light kit: For panels with a GFCB (ground fault circuit breaker) and timer controlled lights, simply reset the two pole breaker. This will turn the fountain and light kit back on if the timers are set to on! If it trips again, disconnect the light kit from the terminals and reset. WARNING! you must turn off power to the panel before disconnecting any wiring from the terminals! If the breaker trips with the light kit disconnected, then disconnect the fountain as well and reset. If the breaker continues to trip it may be a defective GFCB. If the breaker resets, then reconnect the fountain then the light kit to see which one trips the GFCB. 3phase fountain control panels: 3phase fountain panels have a ground fault sensing module that will trip if either the light kit or fountain has a ground fault. To reset the module, simply press the reset button in the panel. This will turn the fountain and light kit back on if the timers are set to on! If it trips again, disconnect the light kit from the terminals and reset. WARNING! you must turn off power to the panel before disconnecting any wiring from the terminals! If the GFI module trips with the light kit disconnected, then disconnect the fountain as well and reset. If the GFI module continues to trip it may be a defective module or an internal wiring issue with the panel. If the module resets, then reconnect the fountain then the light kit to see which one trips the module.		
Light work. However, they are not as bright as when first installed.	Dirty lenses	Turn of power to the control panel and disconnect power cords to the fountain and the light kit. Bring the fountain to the shore and inspect the light lenses. Over time, algae growth and hard water deposits on the lenses can block light output. Clean the lenses with a soft brush and the light should be bright again.
Light turn off and on by themselves. (not by timer or photo eye)	Thermal overload	The light fixtures have built in thermal overload protection to prevent overheating. When the light overheats it will turn off and back on when cooled. If this occurs, ensure the fixture is mounted so they are at least 1" in the water. This water contact with the bottom of the fixture will cool the light for continuous operation.

LR275 / LR375 REPLACEMENT PARTS LIST

ITEM NO.	PART NO.	DESCRIPTION	Replacement Parts/QTY.
1	344070	HOUSING, LIGHT BODY	1
2	375125	LAMP, MR-16, 75 WATT	1
3	344100	WINDOW, LIGHT	1
4	344090	O RING	3
5	322450	MOUNTING BRACKET, MOLDED	1
6	321005	SCREW, 1/4-20 X 1/2, BRASS	2
7	344072	CAP, LIGHT HOUSING	1
8	321010	FLAT WASHER, BRASS, 1/4"	2
9	348315	RETAINING RING	1





800 Deere Rd
 Prescott, WI 54021
 Phone: 715-262-4488 Fax: 715-262-4487
www.Kascomarine.com Sales@kascomarine.com

Repair Contact Form

- ❖ **Kasco requires all Repairs sent in MUST be accompanied by this form and marked to Repairs attention. (ex. Attn: Repairs)**
- ❖ **Repairs returned should include upper pump housing or wire basket for Aerators and De-Icers. These parts protect the motor during shipping.**
- ❖ **Kasco is NOT responsible for shipping damage accrued in return shipment.**
- ❖ **It is the responsibility of customer to ship and pay freight to Kasco.**
- ❖ **Do not ship float or control panel with unit, unless otherwise instructed**
- ❖ **A fee of \$60 per hour will be assessed for cleaning excessively dirty units and float disassembly**
- ❖ **Refer to the Owner's manual for easy-to-follow troubleshooting rule out site issue.**

Note: Contact Information Should be that of the person or company to contact for repair.

Company	First Name	Last Name
Address	City	State
Zip code	Phone #	Alternate Phone #
Email Address	Preferred method of contact (Circle) Phone Email	Purchase order #

Submersible Pump Information (Complete if sending unit)	Light kit Information (complete if sending lights)	Parts Included (For office use)
Model #	Model #	Unit <input type="checkbox"/>
Serial #	Serial #	Cord <input type="checkbox"/>
Cord Length:	Cord Length:	Light Kit <input type="checkbox"/>
Purchased from:	Purchased From	Float <input type="checkbox"/>
Purchase Date:	Purchase Date:	Control Panel <input type="checkbox"/>

Additional notes for technician.

Registration Information

Fill in the information below and keep for your records.

Model # (Ex. LR375) _____

Serial # (Ex. 2101LR31025) _____

Purchase Date: _____

Purchased From: _____

Registration Date: _____



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800 Deere Rd.
Prescott, WI 54021

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www.kascomarine.com • sales@kascomarine.com