

**SE** Spa Electrics®

***retro***™

REPLACEMENT LED POOL LIGHT



**POOL LIGHT (UNIVERSAL)  
INSTALLATION**

**R6 INSTALLATION &  
OWNER'S MANUAL**

/ PATENT PENDING /

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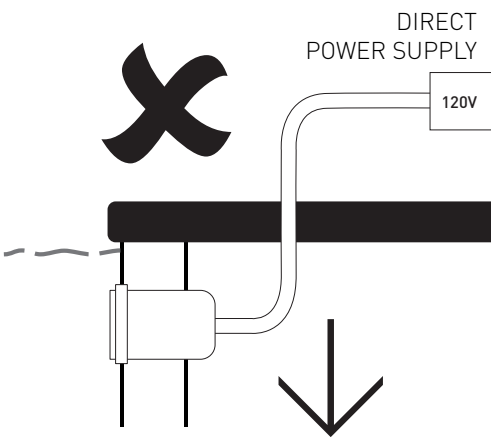
## IMPORTANT NOTE

FRESH WATER USE ONLY  
NOT INTENDED FOR OPERATION OUT OF WATER

# PRE-INSTALLATION CHECK

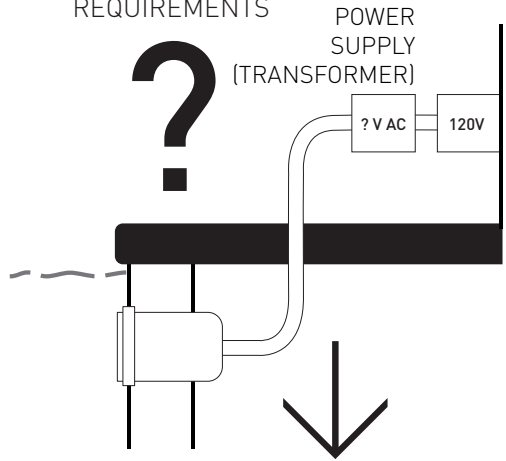
## 1 CHECK POWER SUPPLY

**1A:** IF THE POOL LIGHTS ARE DIRECTLY CONNECTED TO A 120V POWER SUPPLY, DO NOT CONTINUE INSTALLATION



**1B:** A 12V AC TRANSFORMER **MUST** BE INSTALLED BETWEEN THE 120V POWER SUPPLY AND POOL LIGHT

**2A:** IF THE POOL LIGHTS ARE CONNECTED TO A TRANSFORMER CHECK THAT IT MEETS STEP 1B REQUIREMENTS



**2B:** IF THE TRANSFORMER DOES NOT MEET THE REQUIREMENTS, IT WILL REQUIRE REPLACEMENT

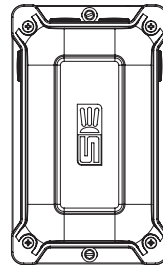
## 2 ADD TRANSFORMER (if needed)

### EXISTING TRANSFORMER **MUST BE:**

- UL Listed Isolating Low Voltage power supply, evaluated for swimming pool use
- Installed as per current NEC wiring rules
- 12~14v AC output
- Minimum 15W per Retro Series Pool light
- In good working order

### EXISTING TRANSFORMER **MUST NOT BE:**

- DC or 'LED Driver'
- Electronic or Switch mode
- Weather damaged or in otherwise poor condition



### Models Available:

LVX50  
LVX50P  
LVX100  
LVX100P

Spa Electrics recommends "LVX" safety transformers for use with **Retro Universal** lights

# PRE-INSTALLATION CHECK

## 3 CHECK CABLE THICKNESS

RETRO UNIVERSAL CAN  
FIT CABLES FROM 9/32" (7mm)  
UP TO 9/16" (14mm) DIAMETER

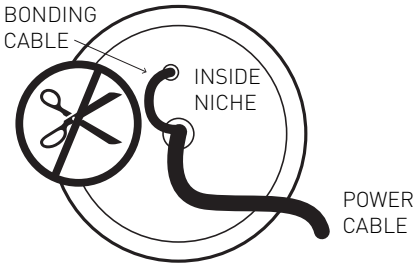
Max  $\varnothing$   
9/16 inch  
(14mm)



## 4 CHECK BONDING

ENSURE BONDING IS SECURE AT THE BACK OF THE NICHE  
**DO NOT CUT** THE BONDING CABLE

**DO NOT DISTURB** THE BONDING CABLE  
WHEN WORKING WITH THE PLUG CABLE



### ELECTRICAL GROUNDING

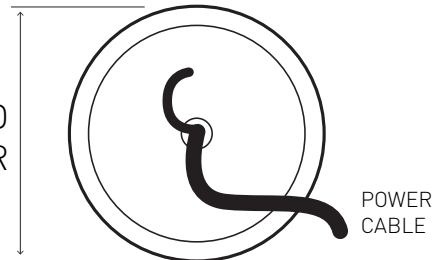
DUE TO ITS PLASTIC HOUSING  
DESIGN, THE RETRO UNIVERSAL  
LUMINAIRE DOES NOT REQUIRE  
GROUNDING / BONDING.

SEE PAGE 24 FOR MORE INFORMATION

## 5 CHECK NICHE DIAMETER

THE RETRO UNIVERSAL  
IS DESIGNED TO WORK WITH  
6 inch OUTSIDE DIAMETER  
NICHERS

6 inch OD  
DIAMETER



REFER TO APPENDIX A FOR A LIST OF NICHERS THE R6 RETRO  
UNIVERSAL HAS BEEN UL TESTED WITH

# READ THIS FIRST

Congratulations on your purchase of a Spa Electrics **Retro Universal** Series Pool Light. This light has been designed in conjunction with leading pool professionals across the USA and manufactured solely in Australia.

The Retro Series Pool light is designed to quickly and easily replace existing LOW VOLTAGE, 6" Pool Light (PAR 38) fittings from major brands.

Its patented cam-lock system allows for simple installation in situations where the existing niche hardware has been damaged or is no longer serviceable.

**For safe and proper installation, please read this manual in full before commencing installation and use only the parts (screws, plugs, sealant, etc) as provided.**

**For operating instructions, please refer to the MULTI PLUS Operating Manual.** (Provided)

**NOTE:** The use of DC / Electronic (or Switch mode) power supplies is **not** permitted as they can cause disruptions in the light's normal operation & in some cases damage the light's internal electronic components. For more information, please contact Spa Electrics Inc.



## WARNING

- Ensure sufficient cable is coiled behind the light to allow for servicing (~12 to 24inch)
- Ensure only circular cable not exceeding 9/16" (14mm) diameter is connected to the **Retro Universal** Light. The use of Fig. 8 or non-circular cable will not seal correctly & will void the product warranty.
- The **Retro Universal** LED Light does not contain any user-serviceable parts, opening the light will void the product warranty.
- Pool chemicals & pH levels: Due to the corrosive nature of unbalanced pool water, Spa Electrics strongly recommends that your pool water is balanced prior to installing your pool lights or any plastic or stainless steel components, and tested weekly to maintain these levels. pH levels should be maintained between 7.2- 7.6 at all times to ensure the longevity of these components. Failure to do so can result in chemical damage to the light housing and pool fittings, including stainless steel components.
  - Please note: Lights or components found to have excessive chemical damage will not be covered under our manufacturer's warranty policy.

# TOOLS REQUIRED

- Phillips head screwdriver
- Small flat blade screwdriver



## IMPORTANT NOTES

- The use of power tools during installation is **not** recommended as these devices can cause faults and damage to light components.
- All installation steps should be carried out with manual tools only.
- The enclosed images are for illustrative purposes only. Appearances of parts and assemblies may vary from the enclosed illustrations.
- Please contact your reseller if you have any questions regarding the correct installation of this product.



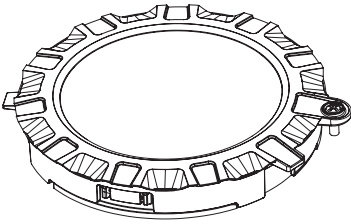
## WINTERIZATION

- Lights must be removed from the pool wall and cable disconnected via plug connection & stored in a safe place.
- Winterization Cover must be fitted to Plug Top prior to reinstalling into the niche for winter.
- Unless niche/conduit connection is adequately sealed (i.e. via included cable gland components), the pool water level must be drained down 12" below the lowest light(s) position in the pool wall.
- All conduits should be checked for accumulated water and drained if required.
- Follow instructions on page 20 OR consult your local pool professional for a complete pool winterization process.

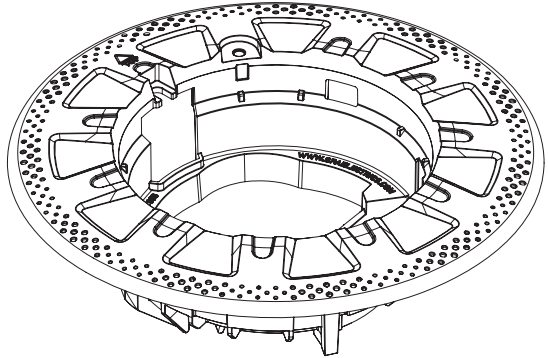
## PRODUCT SUPPORT & INFORMATION

For the most update to date installation and contact information please visit [www.spaelectrics.com](http://www.spaelectrics.com)

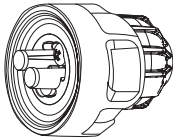
# INCLUDED PARTS



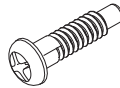
LIGHT ASSEMBLY



NICHE ADAPTER



QUICK CONNECT PLUG  
(PROVIDED AS COMPONENTS  
SEE BELOW)



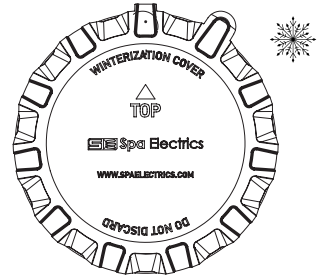
NICHE ADAPTOR  
MOUNTING SCREW



LANOLIN



LIGHT MOUNTING  
SCREW (SPARE)



WINTERIZATION COVER  
SEE PAGE 5

## CONNECTOR PLUG COMPONENTS



SCREW TERMINAL  
END WITH FILLING  
SCREWS ATTACHED



STRAIN  
RELIEF CLIP  
(OPTIONAL)



CONNECTOR  
BARREL



GLANDS  
X 3 SIZES  
PROVIDED



GLAND  
NUT



LARGE  
GLAND NUT  
(ALSO SUPPLIED)



PLUG  
COLLAR



1x INSTALLATION  
MANUAL



1x WARRANTY  
CARD



1x MULTIPLUS  
MANUAL



## REQUIRED PART (NOT INCLUDED)

**UL LISTED ISOLATING LOW VOLTAGE POWER SUPPLY, EVALUATED FOR SWIMMING POOL USE.**

Installed as per current NEC wiring rules. 12-14v AC output. Minimum 15W per Retro Series Pool Light. Spa Electrics recommends the use of its "LVX Series" safety transformers with the Retro Series lights.

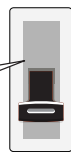
# A: CONNECTION TO CABLE

## STOP! WARNING ELECTROCUTION

CHECK POWER IS  
TURNED OFF  
FIRST



TURN  
POWER  
OFF



OFF

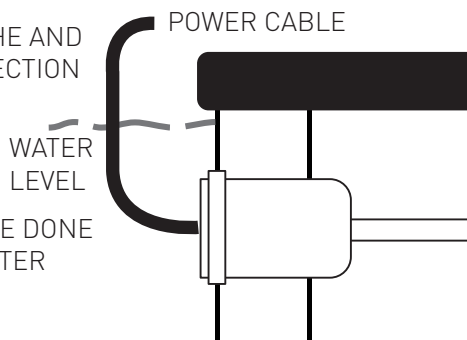
TURN OFF BREAKER  
TO POOL LIGHT  
TRANSFORMER

## 1 REMOVE EXISTING LIGHT

REMOVE EXISTING LIGHT FROM NICHE AND  
BRING TO THE SURFACE FOR CONNECTION

ENSURE YOU DON'T DISTURB  
THE BONDING CABLE

ALL CABLE CONNECTIONS ARE TO BE DONE  
AT SURFACE LEVEL, AND OUT OF WATER

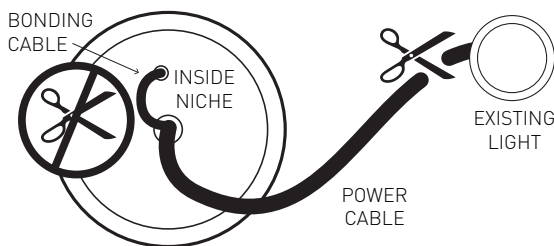


## 2 DISCONNECT EXISTING LIGHT

DISCONNECT LIGHT  
FROM POWER CABLE

CUT POWER CABLE  
AS CLOSE TO BACK OF  
EXISTING LIGHT AS POSSIBLE

ENSURE BONDING CABLE  
IS NOT CUT OR DISTURBED



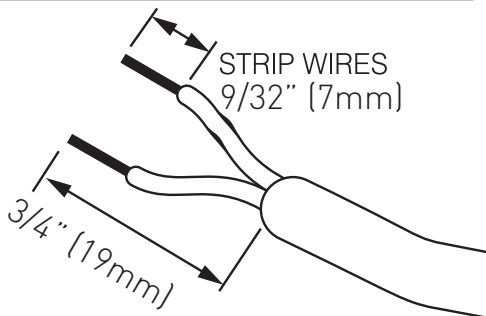
## 3 CABLE PREPARATION

STRIP POWER CABLE TO  
SPECIFIED LENGTH



### NOTE

IF CABLE LENGTH ALLOWS,  
CUT CABLE BACK UNTIL  
FRESH COPPER APPEARS.





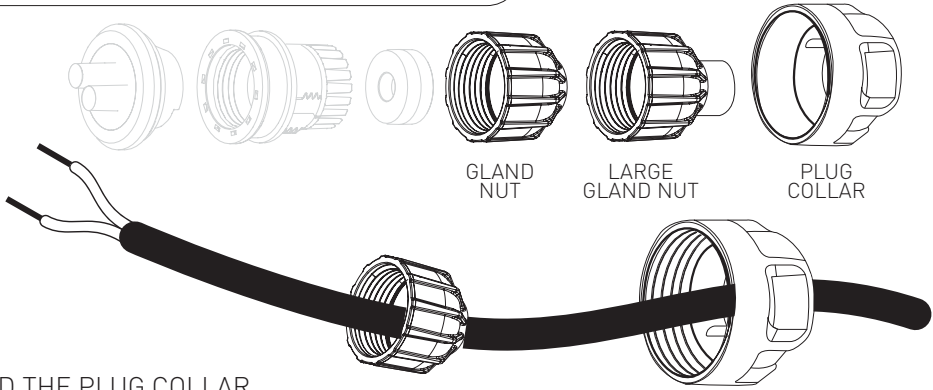
# 4

## START ASSEMBLY OF CONNECTOR PLUG

### LANOLIN USE



GENTLY WARM  
LANOLIN  
BEFORE USE



FEED THE PLUG COLLAR  
ONTO THE CABLE, THEN FEED THE  
**APPROPRIATE** GLAND NUT ONTO THE CABLE

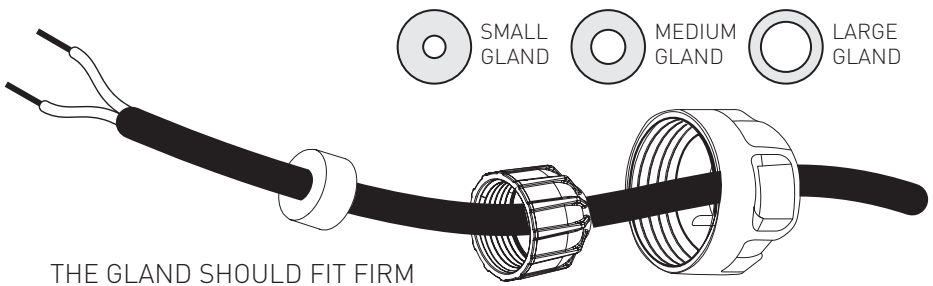
# 5

## CHOOSE THE APPROPRIATE GLAND

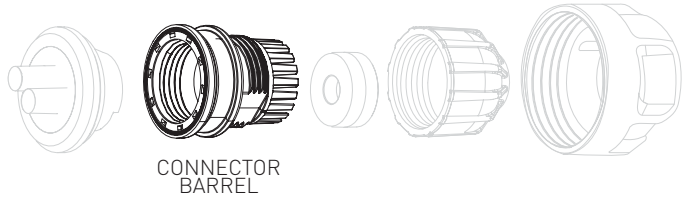


SELECT THE **APPROPRIATE** CABLE  
GLAND FROM THE THREE SUPPLIED  
THAT SNUGLY FITS THE EXISTING  
POWER CABLE WITHOUT BULGING

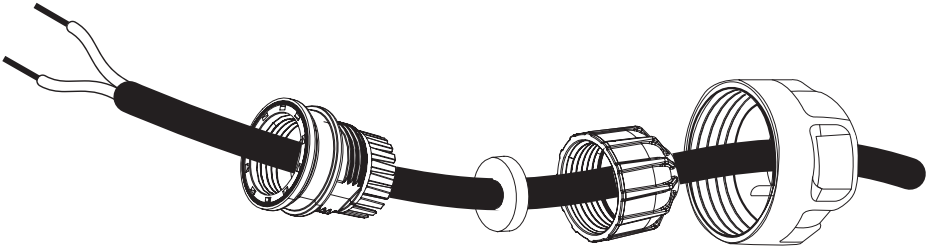
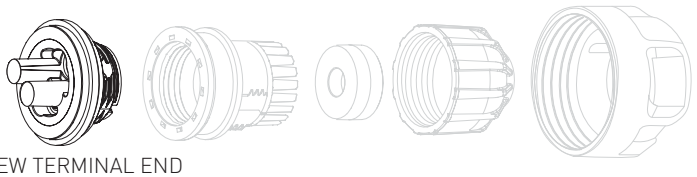
GLANDS  
X 3 SIZES  
PROVIDED



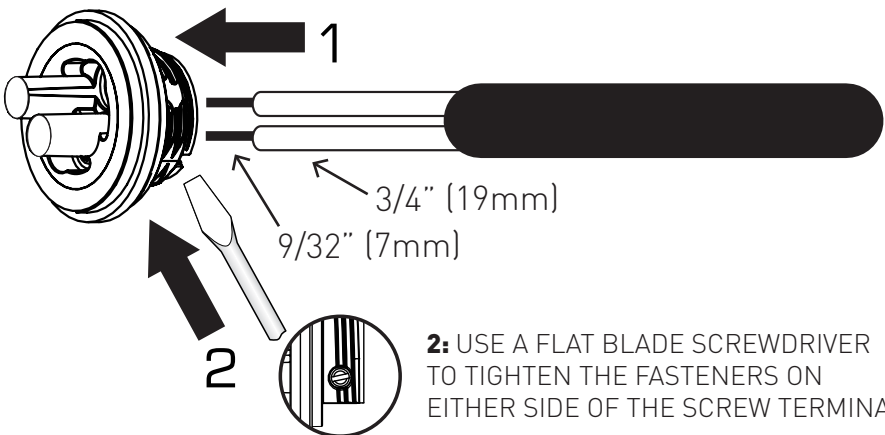
THE GLAND SHOULD FIT FIRM  
OVER THE CABLE WITHOUT BULGING  
OR DEFORMING THE GLAND

**6****CONTINUE ASSEMBLY OF CONNECTOR PLUG**CONNECTOR  
BARREL

FEED THE CONNECTOR BARREL ONTO THE CABLE

**7****CONNECT THE SCREW TERMINAL END**

SCREW TERMINAL END

**1:** FEED THE TWO STRIPPED CABLE ENDS THROUGH THE TWO HOLES IN THE BACK OF THE SCREW TERMINAL END**2:** USE A FLAT BLADE SCREWDRIVER TO TIGHTEN THE FASTENERS ON EITHER SIDE OF THE SCREW TERMINAL

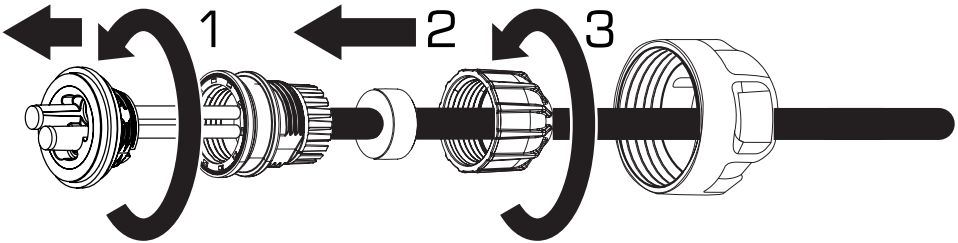
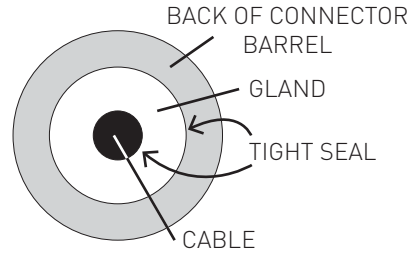
# 8

## START ASSEMBLY OF CONNECTOR PLUG

**1:** CAREFULLY THREAD CONNECTOR BARREL ONTO SCREW TERMINAL AND TIGHTEN FIRMLY BY HAND

**2:** SEAT CABLE GLAND ALL THE WAY INTO CONNECTOR (DO A VISUAL CHECK TO MAKE SURE THERE IS A SEAL BETWEEN GLAND AND CABLE)

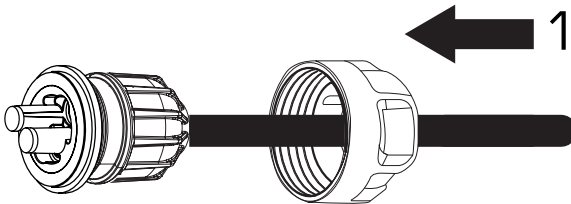
**3:** CAREFULLY THREAD GLAND NUT ONTO CONNECTOR BARREL AND TIGHTEN FIRMLY BY HAND



# 9

## CONTINUE ASSEMBLY OF CONNECTOR PLUG

**1:** PUSH CONNECTOR COLLAR ALL THE WAY IN TO THE END UNTIL THERE ARE TWO DISTINCT "CLICKS". THE END WILL BE FREE TO ROTATE



"CLICK"  
"CLICK"

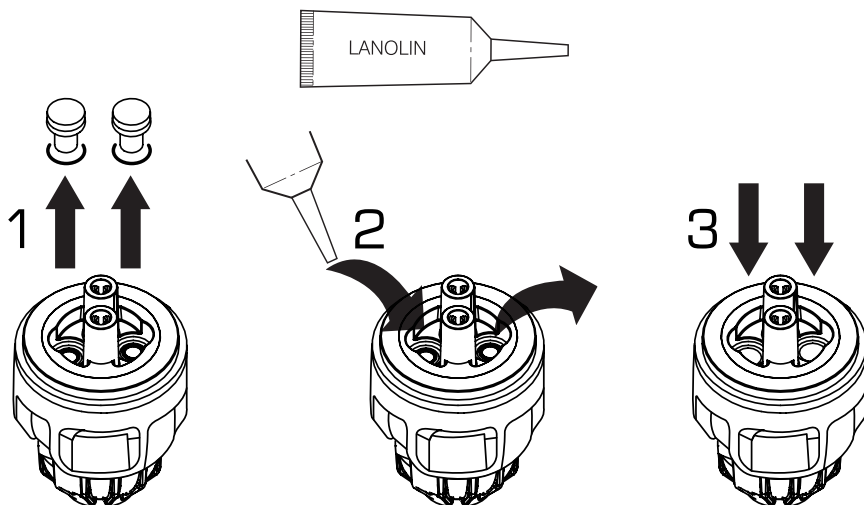
# 10 ADD LANOLIN

**1. REMOVE**  
2 X FILLER SCREWS  
AND O-RING SEALS  
FROM SCREW  
TERMINAL PLUG

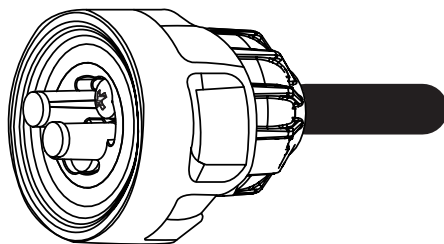
**2. INJECT LANOLIN**  
INTO LEFT FILLER HOLE  
UNTIL VISIBLE IN  
RIGHT FILLER HOLE

**3. ENSURE O-RINGS**  
ARE IN PLACE BEFORE  
FASTENING THE 2X  
FILLER SCREWS IN  
THE FILLER HOLES

ENSURE NOT TO  
OVER TIGHTEN



## ASSEMBLED VIEW OF CONNECTOR PLUG



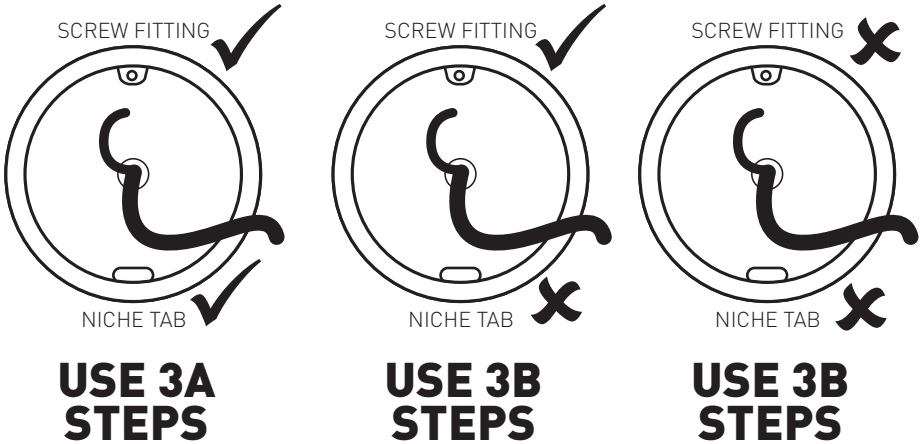
ASSEMBLED VIEW

# B: ATTACH NICHE ADAPTOR

## 1 CHECK QUALITY OF NICHE

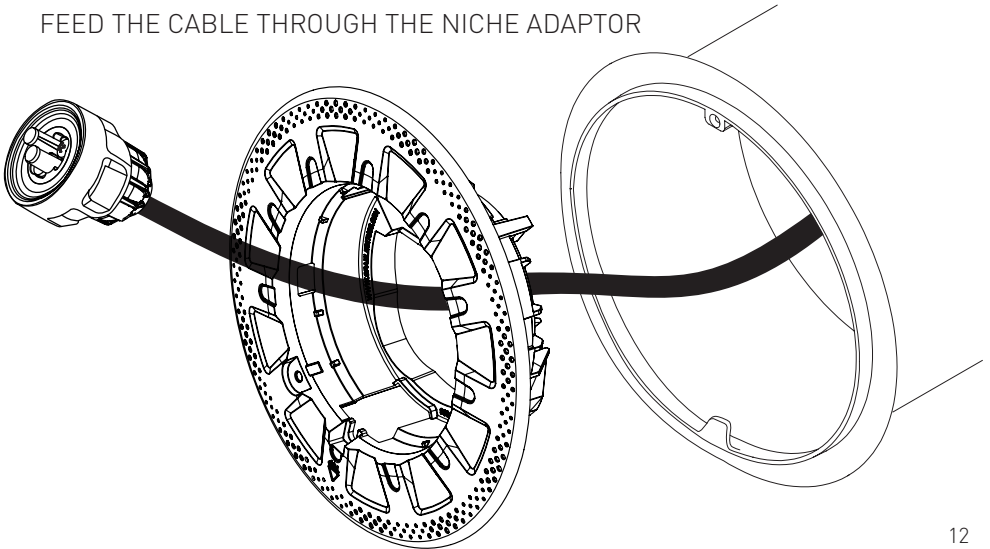
ENSURE NICHE TAB AND SCREW FITTING IS INTACT, NOT DAMAGED OR CORRODED AND FIT FOR PURPOSE

IF THE NICHE TAB AND SCREW FITTING IS INTACT: THEN FOLLOW **3A STEPS**  
IF ANY PARTS ARE BROKEN OR NOT SERVICEABLE, FOLLOW **3B STEPS**



## 2 INSERT NICHE ADAPTOR

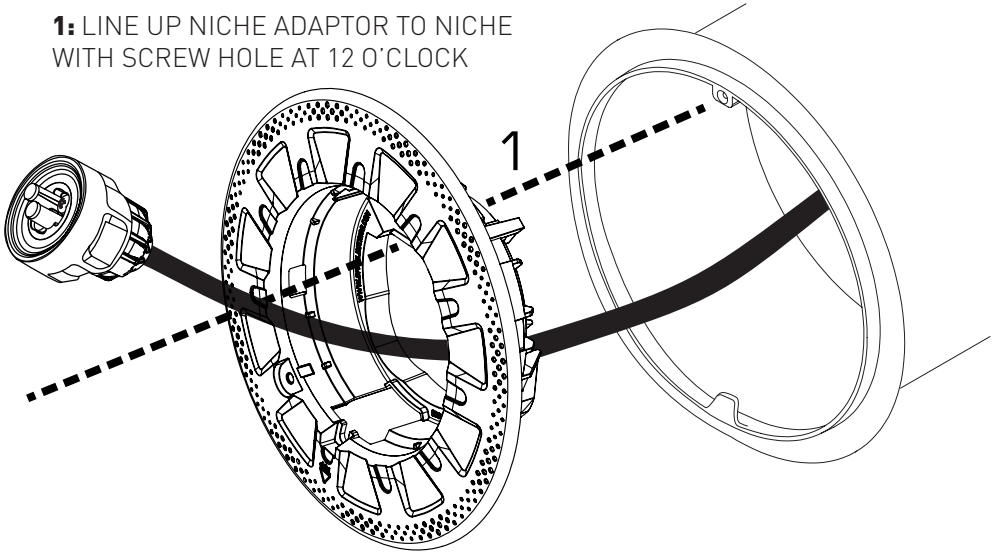
FEED THE CABLE THROUGH THE NICHE ADAPTOR



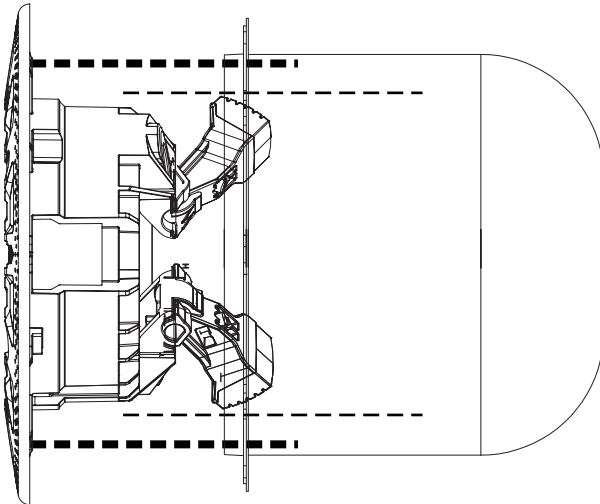
# 3A

## IF NICHE TAB & SCREW FITTING IS INTACT:

**1:** LINE UP NICHE ADAPTOR TO NICHE WITH SCREW HOLE AT 12 O'CLOCK

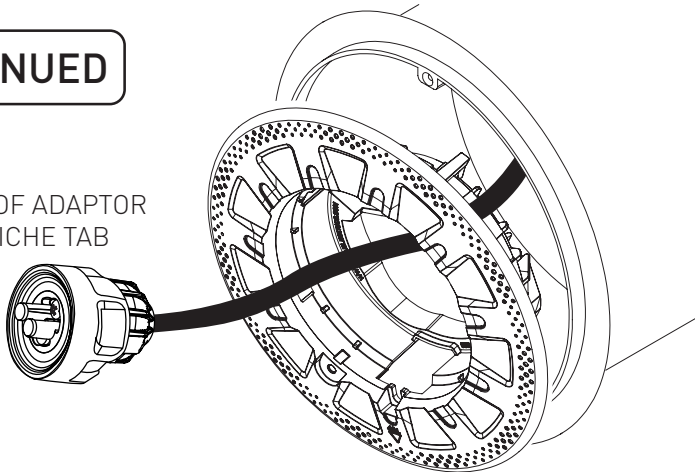


**2:** ENSURE CAM LOCKS FIT INSIDE NICHE NEATLY

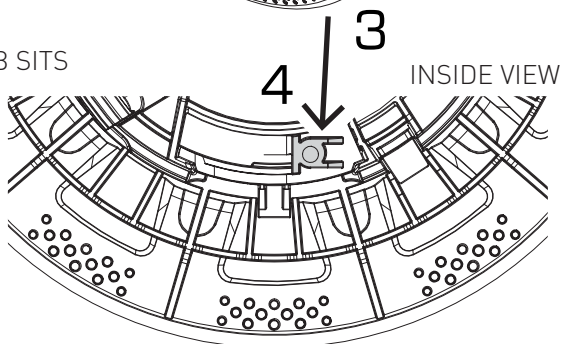


# 3A ... CONTINUED

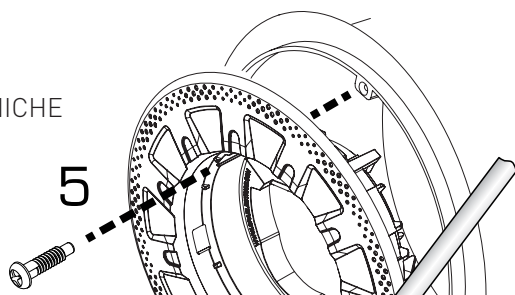
**3:** PLACE BASE OF ADAPTOR TAB INTO THE NICHE TAB



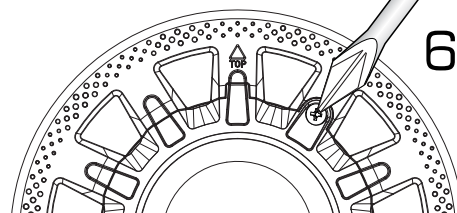
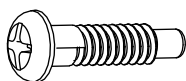
**4:** ENSURE THE ADAPTOR TAB SITS FIRMLY IN THE NICHE TAB



**5:** ALIGN THE TOP SCREW WITH THE SCREW HOLE INSIDE THE NICHE



**6:** USE A SCREWDRIVER TO FIX THE NICHE ADAPTOR TO THE NICHE USING THE MOUNTING SCREW



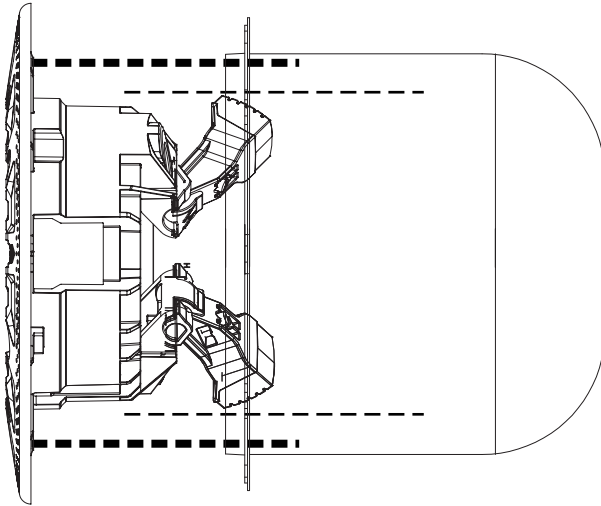
**7:** TIGHTEN THE LOWER SCREW IN THE ADAPTOR TAB

**8:** GO TO **SECTION C: CONNECT LUMINAIRE**

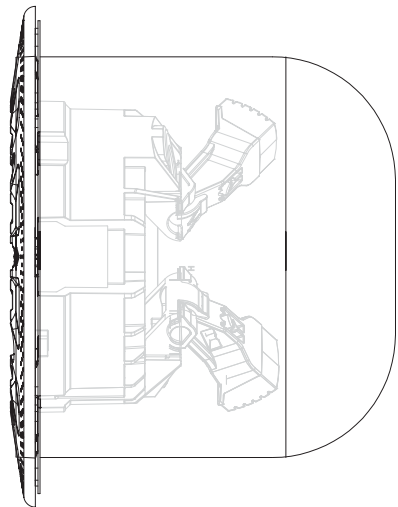
## 3B IF NICHE TAB & SCREW FITTING IS NOT INTACT:

**1:** CENTRE NICHE ADAPTOR INTO NICHE, SO THE SCREW HOLE IS AT 12 O'CLOCK, OR LINES UP WITH THE SCREW FITTING ON NICHE

ENSURE THE CAM LOCKS GO INTO THE NICHE EASILY



**2:** PUSH THE NICHE ADAPTOR INTO THE WALL SO IT SITS FLUSH AND IS FULLY INSERTED INTO THE NICHE





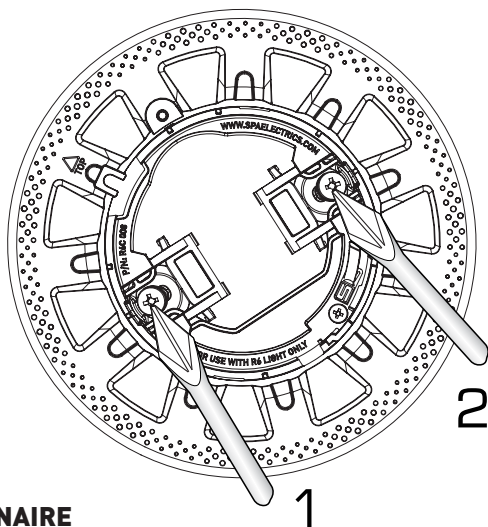
# 3A ... CONTINUED

TIGHTEN THE TWO CAM LOCK SCREWS EQUALLY AND IN ROTATION, AS SHOWN, BY HAND UNTIL YOU FEEL THE NICHE ADAPTOR IS SECURE IN PLACE

**DO NOT OVERTIGHTEN.**

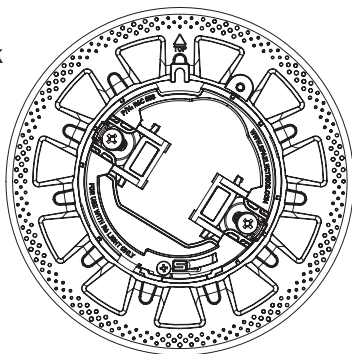
CHECK FOR SECURE FITTING, THE NICHE ADAPTOR SHOULD BE FIRM AND NOT ABLE TO MOVE EASILY BY HAND

GO TO **SECTION C: CONNECT LUMINAIRE**

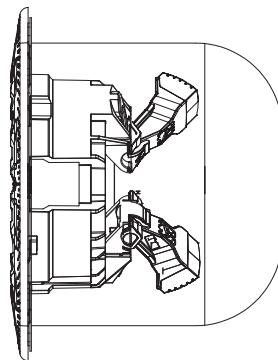


AS THE CAM LOCK SCREWS TIGHTEN, THE CAM LOCKS WILL MOVE IN AND UP, PULLING THE NICHE ADAPTOR FIRMLY INTO THE NICHE

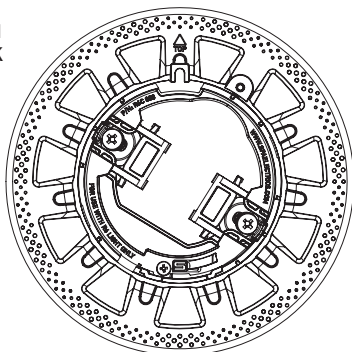
MINIMUM  
CAM LOCK  
POSITION  
(LOOSE)



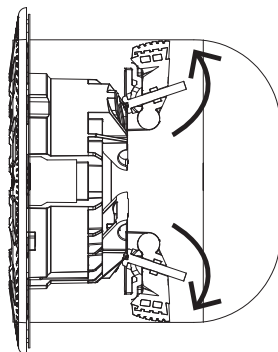
TIGHTEN  
SCREWS  
TO PULL  
NICHE ADAPTOR  
INTO NICHE



MAXIMUM  
CAM LOCK  
POSITION  
(TIGHT)



WHEN ALL  
CAM LOCKS ARE  
SCREWED TIGHT,  
THE CAM LOCKS  
SIT TIGHT  
AGAINST THE  
INSIDE OF THE  
NICHE, AND THE  
NICHE ADAPTOR  
IS PULLED FURTHER  
INTO THE WALL



PLEASE REFER TO PAGE 26 FOR NICHE DIMENSIONS

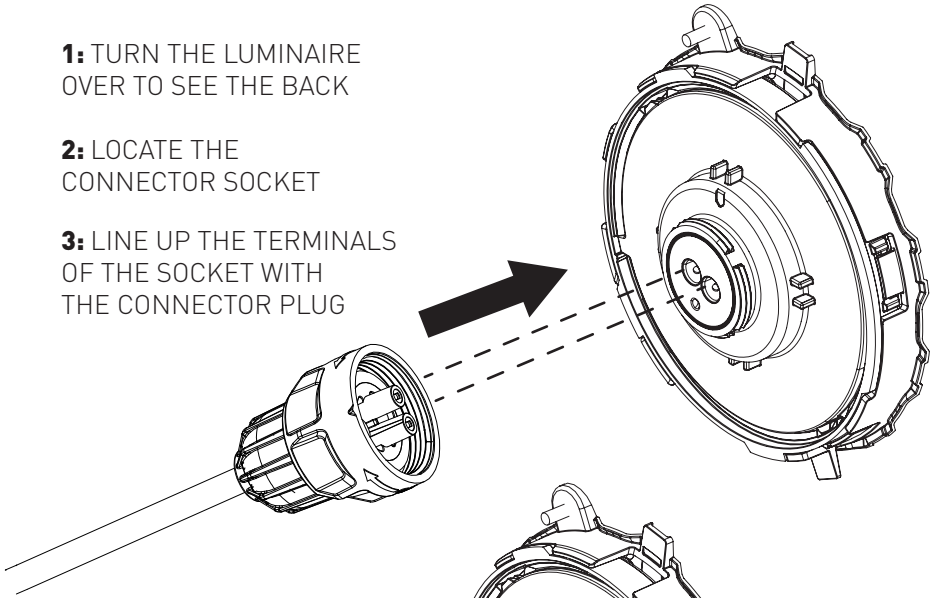
# C: CONNECT LUMINAIRE

## 1 ALIGN UP AND CONNECT CONNECTOR PLUG

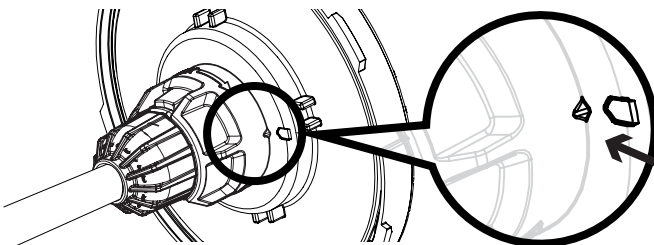
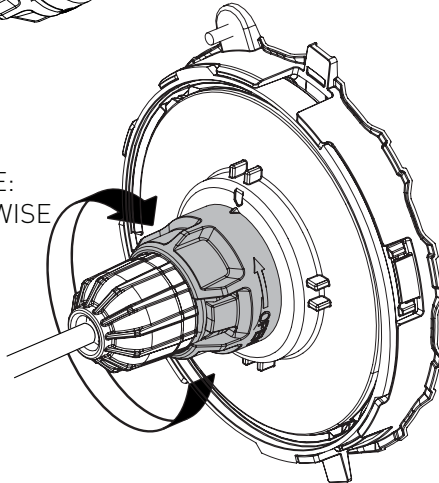
**1:** TURN THE LUMINAIRE OVER TO SEE THE BACK

**2:** LOCATE THE CONNECTOR SOCKET

**3:** LINE UP THE TERMINALS OF THE SOCKET WITH THE CONNECTOR PLUG



**4:** TO LOCK INTO PLACE: TWIST COLLAR CLOCKWISE A FEW TIMES UNTIL IT'S HAND TIGHT

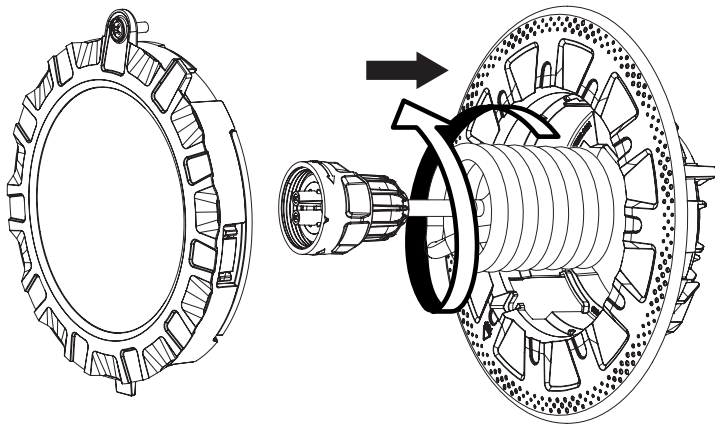


### IMPORTANT

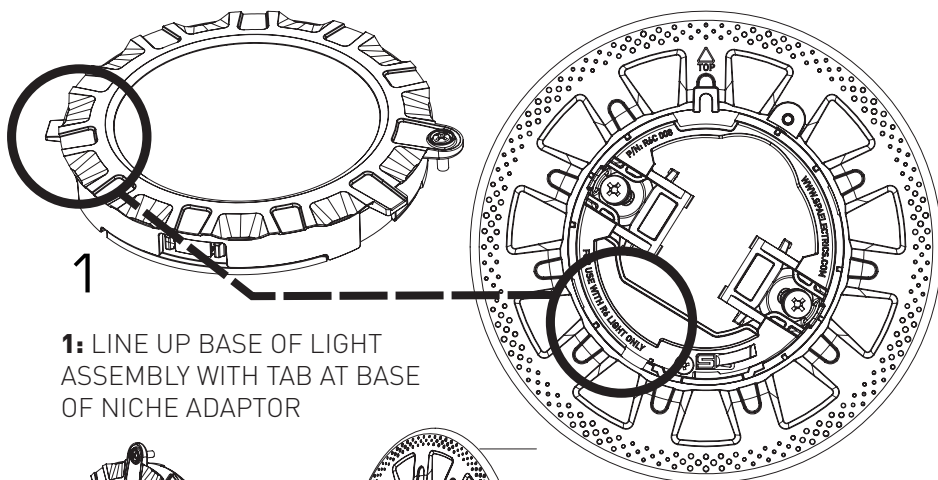
ENSURE THE COLLAR MARKER STOPS AT OR PAST THE ALIGNMENT MARKER ON THE LIGHT HOUSING

# D: FIT LIGHT TO NICHE

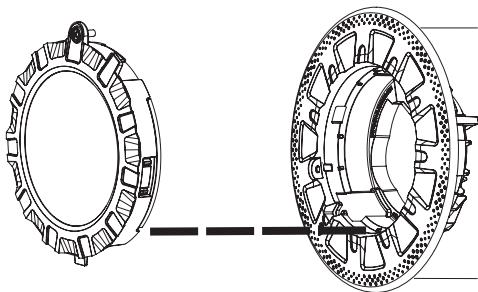
## 1 COIL EXCESS CABLE INTO NICHE



## 2 CONNECT LIGHT ASSEMBLY



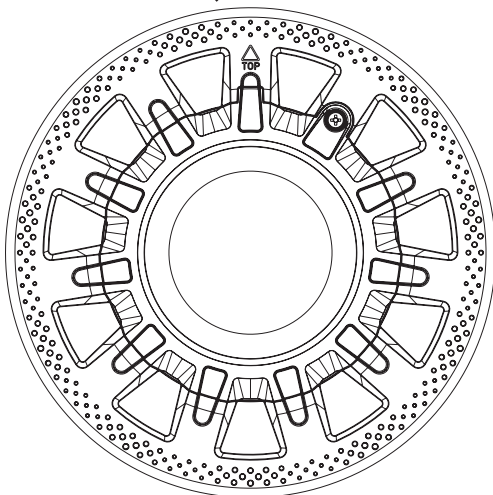
**1:** LINE UP BASE OF LIGHT ASSEMBLY WITH TAB AT BASE OF NICHE ADAPTOR



**2****CONNECT LIGHT ASSEMBLY CONTINUED**

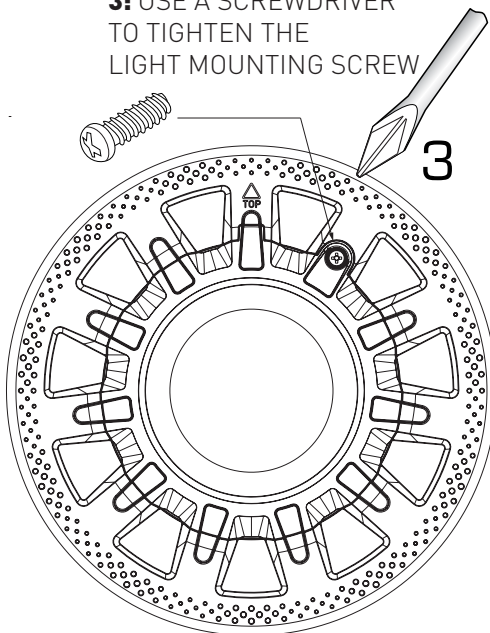
**2:** PUSH LUMINAIRE INTO PLACE ENSURING TAB LOCATES AT TOP AT 12 O'CLOCK

↓ 2

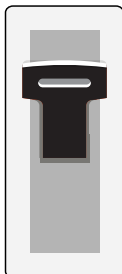


**3:** USE A SCREWDRIVER TO TIGHTEN THE LIGHT MOUNTING SCREW

3

**POST INSTALLATION CHECK****1****TEST SYSTEM**

TURN ON POWER AND CHECK ALL WORKING CORRECTLY

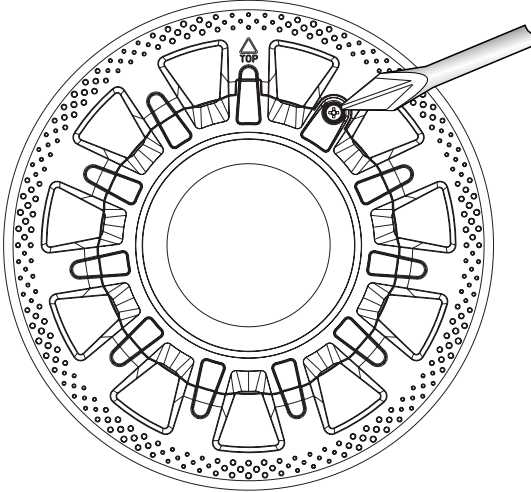
**ON**

TURN ON BREAKER TO POOL LIGHT TRANSFORMER

# WINTERIZATION

## LIGHT REMOVAL

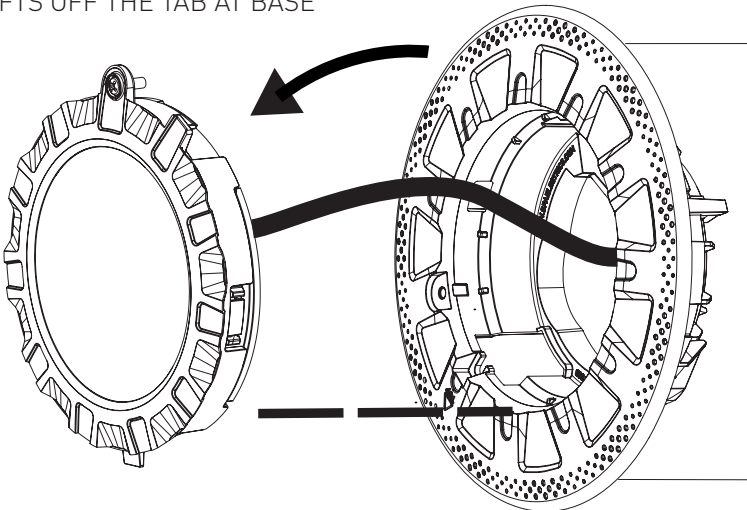
### 1 DETACH THE LIGHT ASSEMBLY



USE A SCREWDRIVER  
TO LOOSEN THE  
CAPTIVE SCREW

### 2 PULL OUT LIGHT ASSEMBLY

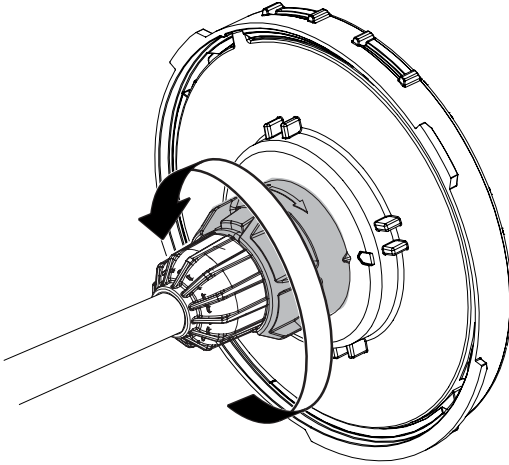
PULL THE LIGHT ASSEMBLY FORWARD AND UP  
SO IT LIFTS OFF THE TAB AT BASE



# WINTERIZATION

## LIGHT REMOVAL

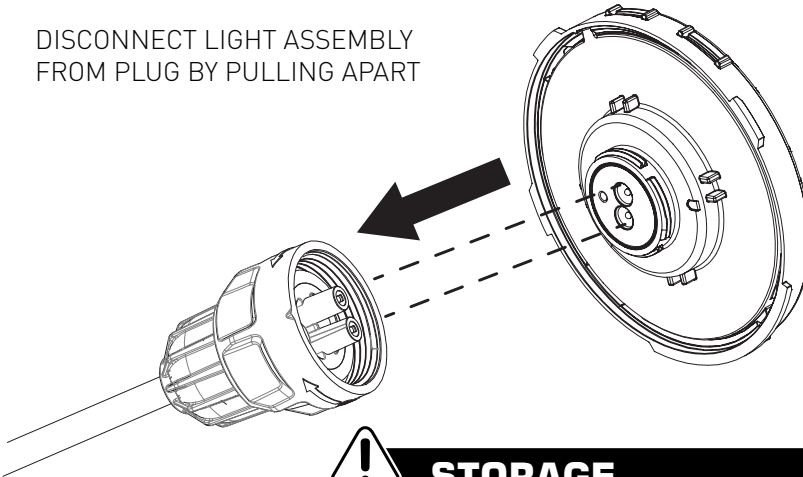
### 3 UNLOCK THE PLUG



UNSCREW PLUG COLLAR  
COUNTER-CLOCKWISE  
UNTIL IT IS FREE SPINNING

### 4 REMOVE THE LIGHT ASSEMBLY

DISCONNECT LIGHT ASSEMBLY  
FROM PLUG BY PULLING APART



### STORAGE

ENSURE LIGHT ASSEMBLY AND LIGHT RIM  
IS SAFELY STORED FOR NEXT SEASON USE

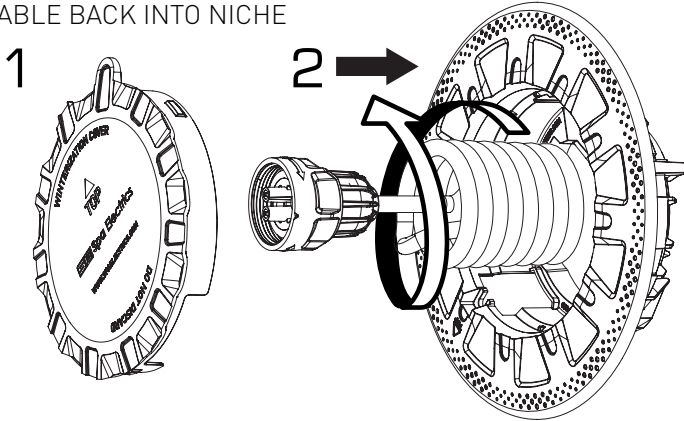
# WINTERIZATION

## WINTERIZATION PLUG CAP ATTACHMENT

### 5

#### CONNECT WINTERIZATION PLUG CAP

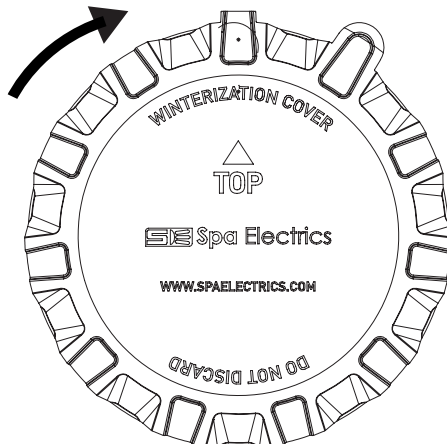
- 1: ALIGN TERMINAL PINS ON PLUG WITH TERMINAL PINS ON BACK OF WINTERIZATION COVER AND FIRMLY ASSEMBLE PLUG TO COVER
2. COIL CABLE BACK INTO NICHE



### 6

#### SCREW ON WINTERIZATION CAP

PLACE WINTERIZATION COVER ONTO CLAMP RING AT 10 O'CLOCK AND TURN CLOCKWISE TO 12 O'CLOCK TO LOCK INTO PLACE



# TROUBLESHOOTING

ISSUE	REASON	ACTION
Light returns to WHITE colour during manual colour change	Light synchronization process has been triggered	Refer to MultiPlus User Guide instructions
Light flashes red	Light over heating	Check light is fully submerged. Check vents are not obstructed
Light not operating (1)	Faulty connection to transformer	Ensure cable correctly connected to transformer terminals
Light not operating (2)	Mains power not connected	Check transformer is plugged in to GPO and switched on
Light not operating (3)	Damaged cable	Disconnect plug top and test voltage under load using multi-meter (ie. 15w 12v) Required voltage (11v ~ 13.5v)
Light not operating (4)	Transformer not working	Check fuses & test transformer using multimeter under load (ie.15w 12v)
Light not operating (5)	Damage caused by high voltage and/or incorrect power supply	Return product to your local Spa Electrics reseller for analysis
Light colours not synchronized with controller	Incorrect operating mode selected	Refer to MULTI PLUS setup procedure

**If these issues cannot be resolved with the above recommended actions, please contact your local Spa Electrics reseller or Spa Electrics directly.**



# ELECTRICAL GROUNDING

## **Underwriters Laboratories (UL) Statement**

Per the NEC, NFPA 70, Article 680.23 (B)(5), states that bonding shall not be required for luminaires that are listed for the application and have no non-current carrying metal parts. In addition, per Article 680.26 (B)(4), exception states that Listed low-voltage lighting systems with non-metallic forming shells shall not require bonding.

Therefore, luminaires with polymeric/non-current carrying metal parts are not required to be grounded / bonded.

## **Manufacturers Statement**

Spa Electrics **Retro Universal** luminaires with their plastic housing designs do not require grounding / bonding.

Spa Electrics **Retro Universal** lights have also been determined to comply with the applicable requirements for wet-niche, LED type Swimming Pool and Spa Luminaires.

# FCC COMPLIANCE STATEMENT

This device complies with part 15 of the FCC rules. Operation is subject to the following two (2) conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- **Reorient or relocate the receiving antenna**
- **Increase the separation between the equipment and receiver**
- **Connect the equipment into an outlet on a circuit different to that to which the receiver is connected**
- **Consult the dealer or an experienced radio / TV technician for help**

**Do not make any changes or modifications to the equipment unless otherwise specified in the manual.**

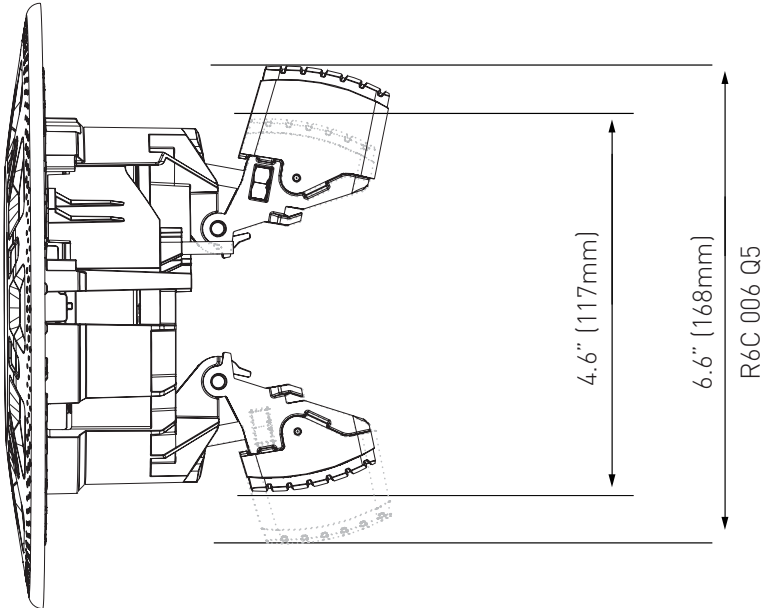
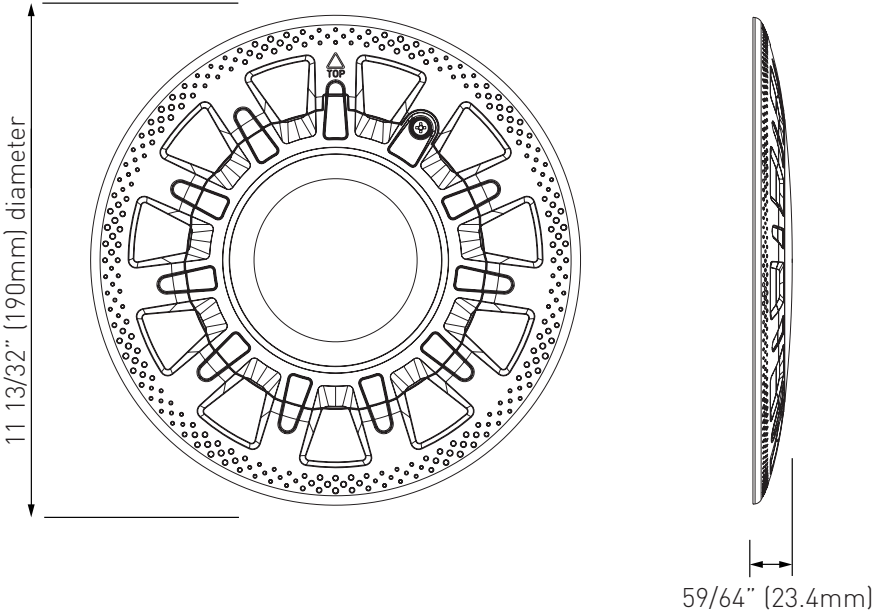
# APPENDIX A

THE RETRO UNIVERSAL HAS BEEN UL TESTED WITH THE FOLLOWING NICHES

PENTAIR	PENTAIR	JANDY	JANDY
(PLASTIC NICHE SMALL) P/N 79206600	STAINLESS STEEL NICHE - SMALL	PRO NICHE PL - SMALL	PRO SERIES S/S SMALL 1" REAR OULET, GUNITE & SIDE OULET GUNITE
P/N 79206600	P/N 78243100, 78243200, 78243300, 78244100, 78244200, 78244300	PLNICSM SMALL PLASTIC PLNICSM	#SSNICSM1R & #SSNICSM1S

JACUZZI	HAYWARD	HAYWARD	HAYWARD
9431-1234 GUNITE NICHE FOR FULL MOON POOL LIGHT	UCL SERIES UNDERWATER SMALL LIGHTING NICHE - 6.5 INCH	DURANICHE SP0601U - 4.8 TO 6.5 INCH	S/S UNDERWATER LUMINAIRE HOUSINGS (NICHES)
6 X 4 6 INCHES ASIN: B018QQLDVE	LGGUY1000	SP0601U	SP0606C

# KEY DIMENSIONS





## NOTE

PLEASE STORE THIS MANUAL IN A SAFE PLACE  
FOR FUTURE REFERENCE



 **Spa Electrics<sup>®</sup>**

*The underwater lighting specialists*

[spaelectrics.com](http://spaelectrics.com)

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