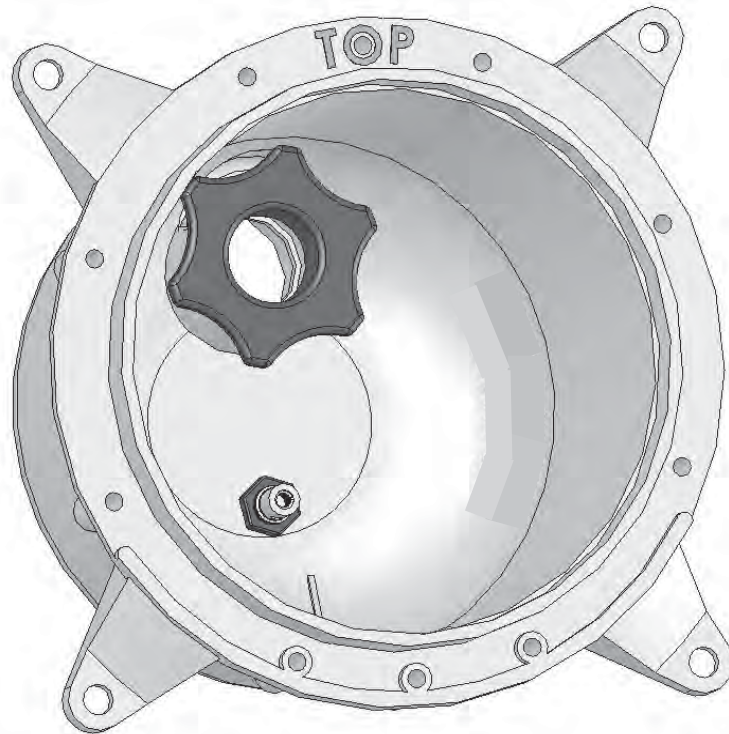




# LARGE PLASTIC NICHE

FOR USE WITH PENTAIR WET NICHE LIGHT FIXTURES



## INSTALLATION AND USER'S GUIDE

IMPORTANT SAFETY INSTRUCTIONS  
READ AND FOLLOW ALL INSTRUCTIONS  
SAVE THESE INSTRUCTIONS

## IMPORTANT WARNING AND SAFETY INSTRUCTIONS



**Attention Installer:** This manual contains important information about the installation, operation and safe use of this product. This information should be given to the owner and/or operator of this equipment after installation.

**⚠ WARNING** — Before installing this product, read and follow all warning notices and instructions which are included. Failure to follow safety warnings and instructions can result in severe injury, death, or property damage. Call (800) 831-7133 for additional free copies of these instructions.

### **⚠ DANGER! Risk of Electrical Shock or Electrocution!**



This product must be installed by a licensed or certified electrician or a qualified pool serviceman in accordance with the National Electrical Code and all applicable state and local codes and ordinances. Improper installation will create an electrical hazard which could result in death --- or serious injury to pool users, installers or others due to electrical shock, and may also cause damage to property. Always disconnect the power to the pool light at the circuit breaker before servicing the light. Failure to do so could result in death or serious injury to serviceman, pool users or others due to electrical shock. **READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL.**

### **⚠ WARNING** — **Important Safety Information for Pentair Aquatic Systems Niche and Light Installation**

- All Niche and Light installations must conform with all codes.
- Under no circumstances replace lights by splicing wire under water or behind niche.

### **⚠ WARNING** — **RISK OF ELECTRIC SHOCK AND INJURY.** **USE ONLY THE INSTALLATION METHOD SPECIFIED BELOW.**

#### **Important Safety Information for Fountain Fixture Installations**

<b>Location of Luminaire Use</b>	<b>Pentair Fountain Fixture* (P/N 560000 – P/N 560001) (P/N 560002 – P/N 560003)</b>	<b>Required Installation Method</b>
Swimming Pool or Spa	Wet-Niche Swimming Pool (or Spa) Luminaire (Light)	Fixture Housing (Forming Shell) ONLY. <b>DO NOT USE</b> Fountain Fixture Stand.
Fountain	Wet-Niche Submersible Swimming Pool (or Spa) Luminaire (Light)	Fixture Housing (Forming Shell) or Fountain Fixture Stand.

(\* **Note:** Wet-niche luminaires complying with requirements for both uses may bear both the Listed Wet-Niche Swimming Pool (or Spa) Luminaire UL Mark and the Listed Wet-Niche Submersible Luminaire UL Mark. A luminaire not bearing the corresponding UL Listing Mark is not considered by UL to have been produced under UL's Listing and Follow-Up Service for the associated usage location.

**CAUTION:** The IntelliBrite® LED light fixture must only be used with Pentair fixture housings (niches). If the IntelliBrite LED light fixture is installed into other niches, the installation will not carry U.L. approval and will void all warranties.

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### Large Plastic Niche Kit Contents

The following items are included in the Large Plastic Niche kit. If any items are missing please contact Pentair Technical Support.

- Plastic niche (large) (P/N 79206700)
- Cord Seal Cap (P/N 670040)
- PVC Conduit, Elbow (P/N 520272)
- Large Plastic Niche Installation Guide (this manual)

### Cord Seal Grommet Assembly Accessory (sold separately)

The cord seal grommet assembly accessory includes:

- Cord Seal Grommet Assembly (P/N 670044)
  - Seal and Stub

### Pentair compatible light fixture part numbers

Use the large plastic niche with any of the following Pentair wet niche light fixture part numbers:

P/N 783xxxxx  
 P/N 784xxxxx  
 P/N 788xxx xx  
 P/N 789xxxxx  
 P/N 6000xx

### Technical Support

Contact Technical Support at:

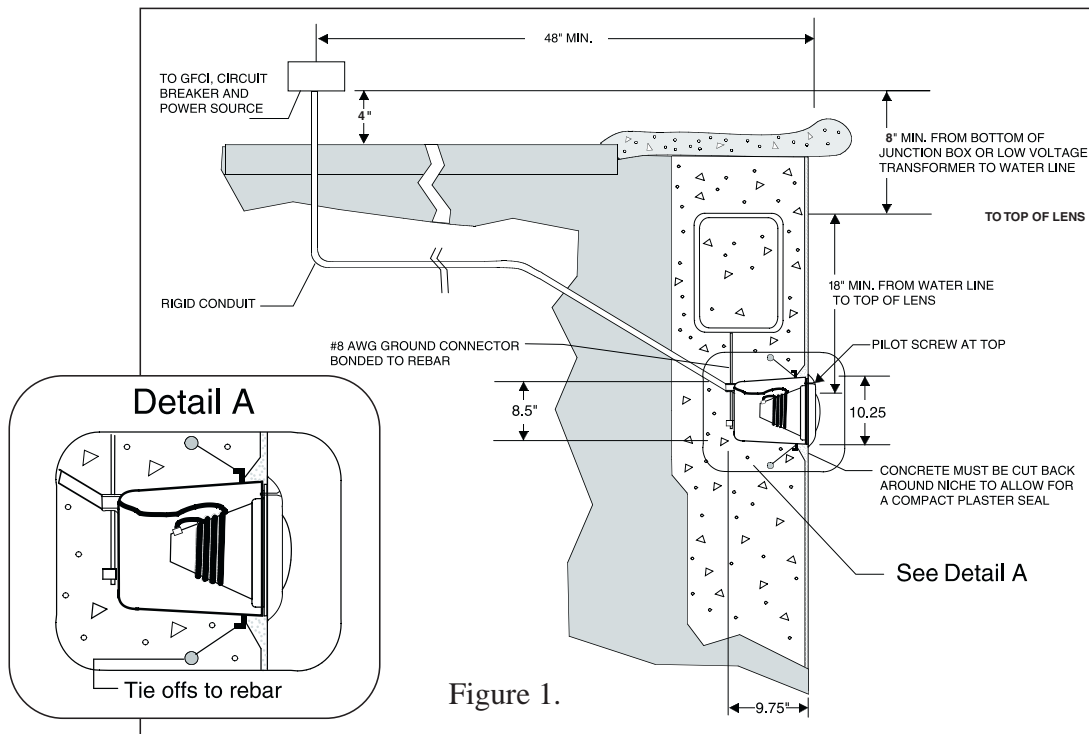
Phone: (800) 831-7133  
 8 A.M. to 5:30 P.M.)  
 Fax: (800) 284-4151

**Web site:** [www.pentair.com](http://www.pentair.com)

# Large Plastic Niche Overview

## READ THIS FIRST BEFORE INSTALLING

1. Ensure that the electrical system of your pool conforms with all current National Electrical Code (NEC), and all local codes and ordinances. A licensed or certified electrician must install the electrical system to meet or exceed those requirements before the Small Plastic Niche (fixture-housing) is installed.
2. Some of the NEC requirements are as follows:
  - The lighting circuit must have a Ground Fault Circuit Interrupter (GFCI), and have an appropriately rated circuit breaker.
  - The junction box or the low voltage transformer shall be located at least eight (8) inches above the maximum water line and at least four (4) inches above the ground level or pool deck whichever provides the greater elevation. The junction box shall be no less than 48 inches from the inside wall of the pool, unless separated from the pool by a solid fence, wall or other permanent barrier. For more information, see NEC 680.24 code requirement. See Figure 1 below.
  - The light fixture and all metal items within five (5) feet of the pool must be properly electrically bonded. For more information, see NEC 680.26 code requirement. See Figure 1 below.
  - The niche must be properly installed so the pilot screw hole is at the 12 o'clock position and the top edge of the Underwater Light's lens is at least 18 inches below the surface of the water in the pool, see Figure 1.



The niche is properly electrically bonded and grounded using the NO. 8 AWG ground connector located at the rear of the niche, see Figure 1.

Use only Pentair lighting fixtures in this niche to ensure proper bonding and grounding connections.

## Large Plastic Niche Concrete/Gunite Pool Installation- USA Only

The following steps describe how to install the large plastic niche to the pool rebar, connect the metal conduit to the niche and connect the bonding/grounding wire to the outside of the niche.

### DANGER RISK OF ELECTRICAL SHOCK OR ELECTROCUTION

#### **WARNING — Risk of electrical shock or electrocution.**



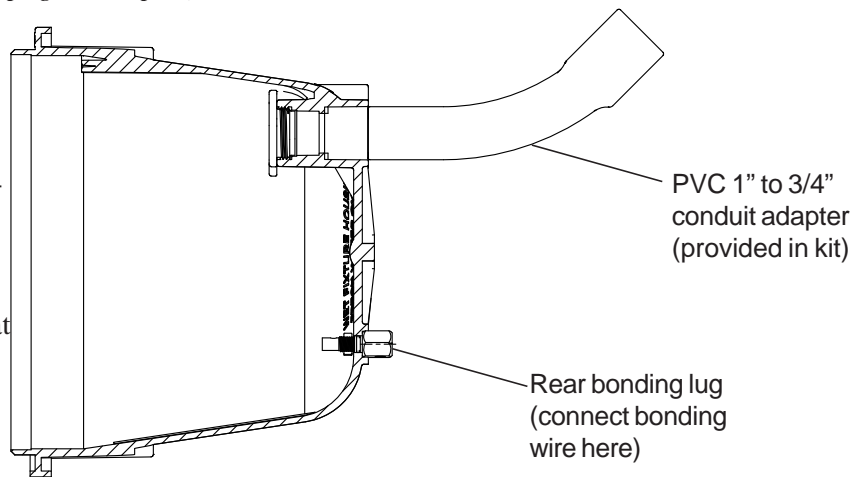
For proper bonding and grounding connections, use only Pentair Underwater Light fixtures with this niche-fixture housing. Failure to do so could create an electrical hazard which would result in death or serious injury to pool users, installers and others.

1. Locate position on the vertical surface where the niche and light is to be installed. The top of the light lens must be a minimum of 18" below normal water level.
2. Connect the PVC conduit to the niche using an approved PVC cement.
 

*Note: If required, a 45° PVC 1" to 3/4" conduit elbow adapter is provided with the kit. When gluing the PVC elbow to the niche, ensure to insert the elbow with the niche facing up, to avoid glue running into the inside of the niche.*
3. Secure the niche-fixture housing to the rebar with tie wires. Orient the niche so that the pilot screw receptacle is located at the top of the niche. The niche must be properly installed so the pilot screw hole is at the 12 o'clock position and that the top edge of the underwater light's lens is at least 18 inches below the surface of the water in the pool. See Figure 1.
4. Connect the bonding wire from rebar and bonding grid to the bonding lug at the rear of the niche.
5. Bond the niche-fixture housing to all other metallic items within 5 feet of the pool, using a No. 8 AWG bond wire. The Bond connection is located at the rear of the niche.

*Note: If using non-metallic conduit (PVC), a No.8 AWG bonding/grounding wire must be installed through the conduit from the junction box to the bonding/grounding lug inside the niche. The connection inside the niche must be sealed with a listed sealant such as Pentair P/N 60028300 or equivalent, (see page 5, step13).*

Note: If pool surface is to be plastered, you must allow proper concrete cut-back for plaster thickness. Finished concrete surface must be cut-back behind the niche flange, see Detail A of Figure 1 on page 1). Finished area surrounding niche must be flat and flush with the front face of the niche. This ensures a snug fit between light and wall.



Large Plastic Niche (side view)

6. Support conduit to hold the Large Plastic Niche at the proper distance in front of rebar so that the front of mounting ring is flush with the desired finish surface.

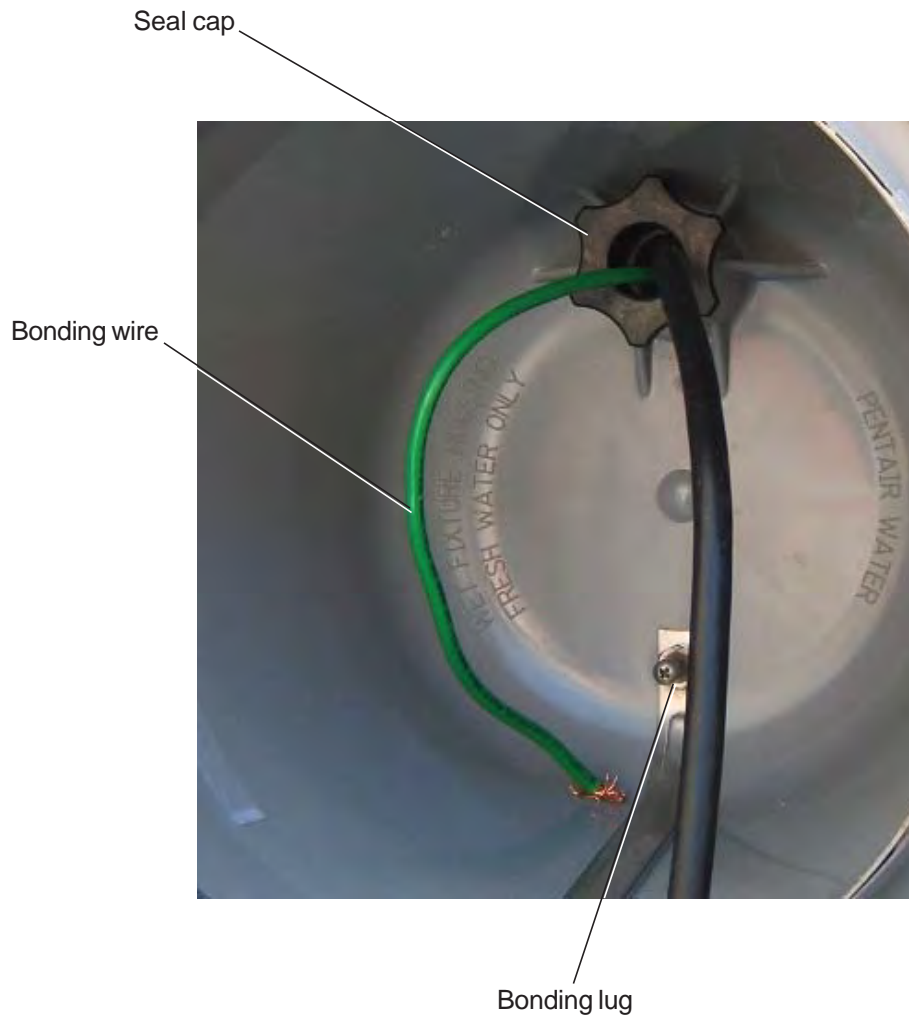
## Installing the seal in the large plastic niche

Note: A Cord Seal Grommet is required in some locations, please review local code before installation. If a Cord Seal Grommet is required, please order the Cord Seal Grommet Kit separately (part number 670044).

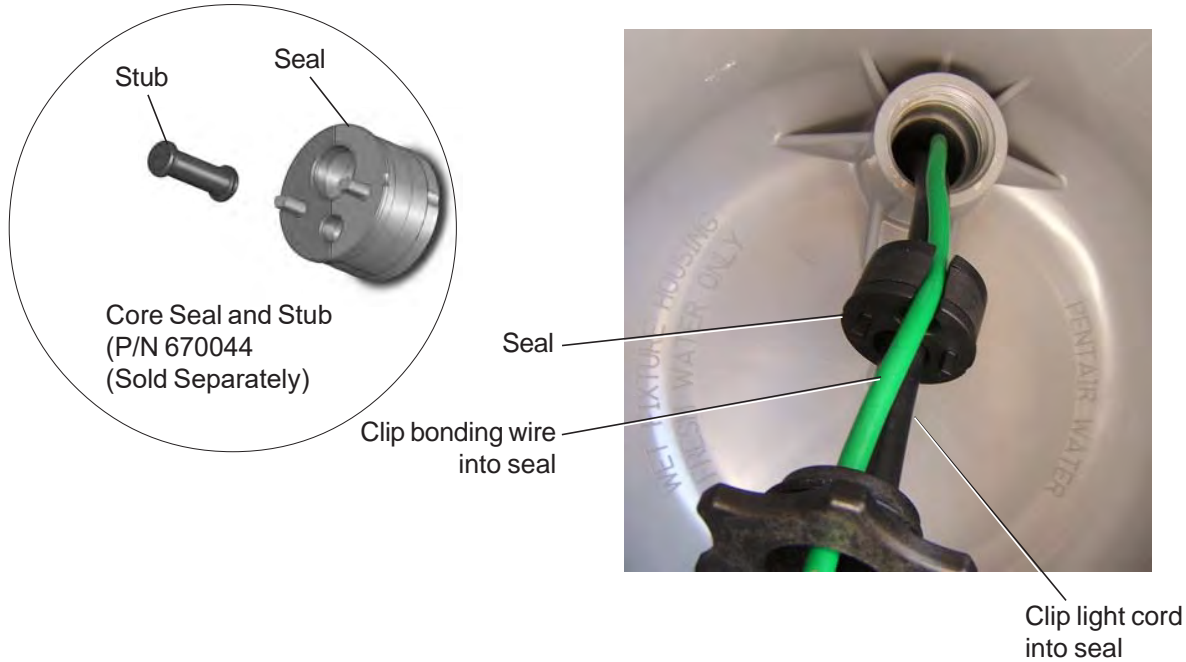
Before installing, read through the following steps. The following describes how to attach the seal to the bonding/grounding wire and light cord and to install the water tight seal inside the niche.

To install the seal in the niche:

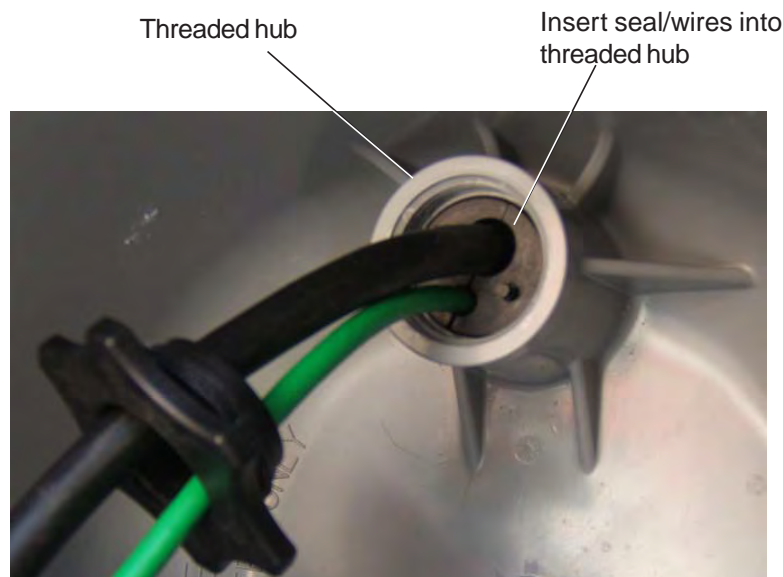
1. Leave the seal cap in the niche as installed at the factory.
2. Route the bonding/ground wire and the light cord through the conduit and seal cap into the inside of the niche as shown below.
3. Pull the required length of light cord through the niche.
4. Pull the bonding/ground wire through with enough slack to connect to the niche bonding lug.



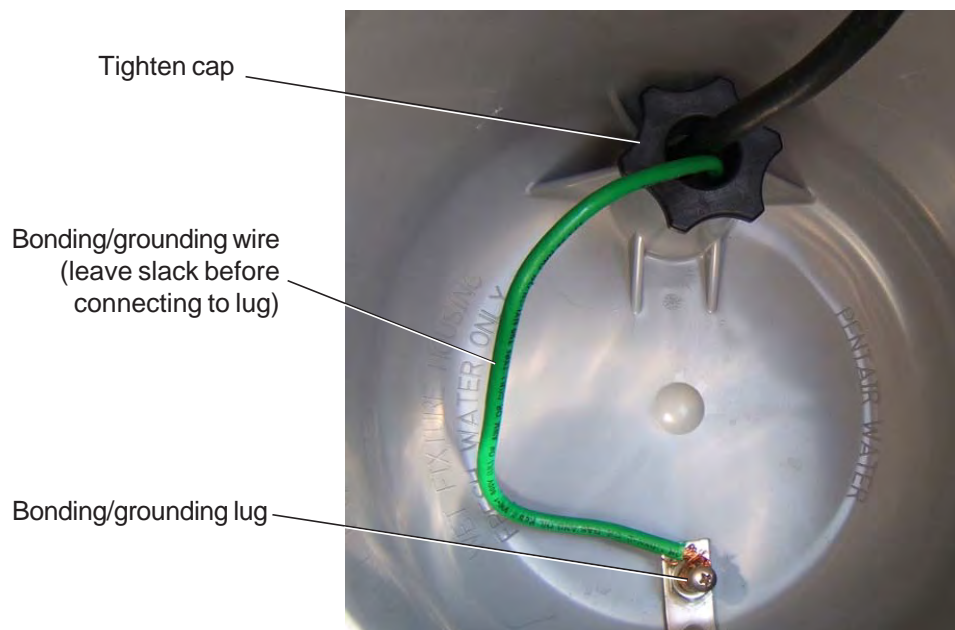
5. The Cord Seal Grommet Assembly (P/N 670044), includes the Seal and Stub (sold separately).
6. Grasp the seal and spread the smaller opening, and clip onto the bonding/ground wire. Spread the larger opening, and clip onto the light cord as shown. Orient the seal pins facing outward.



7. Ensure that the seating surface in the threaded hub is clean and clear of any debris or glue.
8. Remove the plastic bag containing the cap and cord seal. Slide the seal down the wires and insert it into the threaded hub in the niche. Push the seal and wires into the hub until it bottoms out.



9. Slide the seal cap into the niche threaded hub. Remove Cap from the plastic bag. Carefully position and align the cap with the threaded hub. Hand tighten the cap clockwise two or three turns.
10. Gently tug on the wire, you still should be able to pull the wires in or out of the seal to adjust the wire length if necessary.
11. Tighten the cap clockwise to lock the seal and wires in place. Tug on the wires to ensure that they do not move. The seal will form a water tight seal so that water cannot enter the conduit from inside of the niche.
12. Connect the bonding/ground wire to the lug inside the niche. Tighten the screw to secure the wire to the lug. Ensure that the wire has sufficient slack to allow removal of the cap and seal in the future.
13. Sealed the wire/lug connection with a listed sealant such as Pentair P/N 60028300 or equivalent.



14. The niche installation is complete. The niche is ready for the light installation.



## Seal Removal and Replacement

It may be necessary to remove and replace a light assembly which requires removal of the seal and cap to allow running a new light cord to the junction box. After the existing seal is removed, a new seal should be installed.

### **WARNING — Risk of electrical shock or electrocution.**



For proper bonding and grounding connections, use only Pentair Underwater Light Fixtures with this niche-fixture housing. Failure to do so could create an electrical hazard which would result in death or serious injury to pool users, installers and others.

To remove and replace the seal (refer to illustrations on previous pages):

1. Remove the light assembly from the niche and cut the wire that is connected to the existing light.
2. Unscrew the cap from the niche hub.
3. Tug on the light cord to loosen the seal from the niche threaded hub. Using needle-nose pliers, gently pull on each of the seal pins to remove the seal and wires from the hub.
4. Unsnap the seal from the wires and remove the seal from the niche. Leave the bonding/ground wire connected to the lug inside the niche.
5. Insert the light cord through the cap.
6. Run the new light cord into the niche hub and through the conduit to the junction box.
7. Allow for the required length of light cord to wrap around the light assembly.
8. Spread the larger opening of the seal, and clip it onto the light cord. Spread the smaller opening, and clip it onto the bonding/ground wire.
9. Ensure that the seating surface in the threaded hub is clean and clear of any debris or glue.
10. Slide the seal down the wires and insert it into the niche hub. Push the seal and wires into the hub until it bottoms out.
11. Slide the seal cap into the niche threaded hub. Carefully position and align the cap with the threaded hub. Hand tighten the cap clockwise two or three turns.
12. Gently tug on the wire, you still should be able to pull the wires in or out of the seal to adjust the wire length if necessary.
13. Tighten the cap clockwise to lock the seal and wires in place. Tug on the wires to ensure that they do not move. The seal will form a water tight seal so that water cannot enter the conduit from inside of the niche.
14. The installation is complete.

## Installation Information - Canada Only.

- A. Ensure that the electrical system of your pool conforms with the following requirements of the Canadian Electrical Code (CE), and all local codes and ordinances. A licensed or certified electrician must install the electrical system to meet or exceed those requirements before the light and (fixture-housing) is installed.
- B. Some of the CE requirements are listed below.
  1. The lighting circuit must have a Ground Fault Circuit Interrupter (GFCI), and have an appropriately rated circuit breaker.
  2. The GFCI or a transformer must be located at least 3 m or more from the edge of the pool, see \*NOTE and Figure 3.
  3. The junction/deck box must be sealed to the conduit to prevent water from getting into the box, see Figure 4.
  4. The light fixture and all metal items within 3 m of the pool must be properly electrically bonded.

## Installation Information - Canada Only (Continued)

### NOTE

Different rules apply to Fountain Light installations, consult the Canadian Electrical Code.

- The niche must be properly installed so the pilot screw hole is at the 12 o'clock position and that the center line of the Underwater Light's lens is at a maximum depth of 600 mm below the surface of the water in the pool, see Figure 3.

### NOTE

The required orientation of all Pentair lights is with the pilot screw at the 12 o'clock position. This is guaranteed by proper niche installation.

- Be sure the niche is properly electrically bonded via the No. 6 AWG ground connector located at the rear of the niche.

C. Use only Pentair lighting fixtures in this niche to ensure proper bonding and grounding connections.

## **⚠ DANGER**



### RISK OF ELECTRICAL SHOCK OR ELECTROCUTION

For proper bonding and grounding connections, use only Pentair Underwater Light Fixtures with this niche-fixture housing. Failure to do so could create an electrical hazard which would result in death or serious injury to pool users, installers and others.

### \*NOTE

Very specific exceptions allowed as defined in the Canadian Electrical Code.

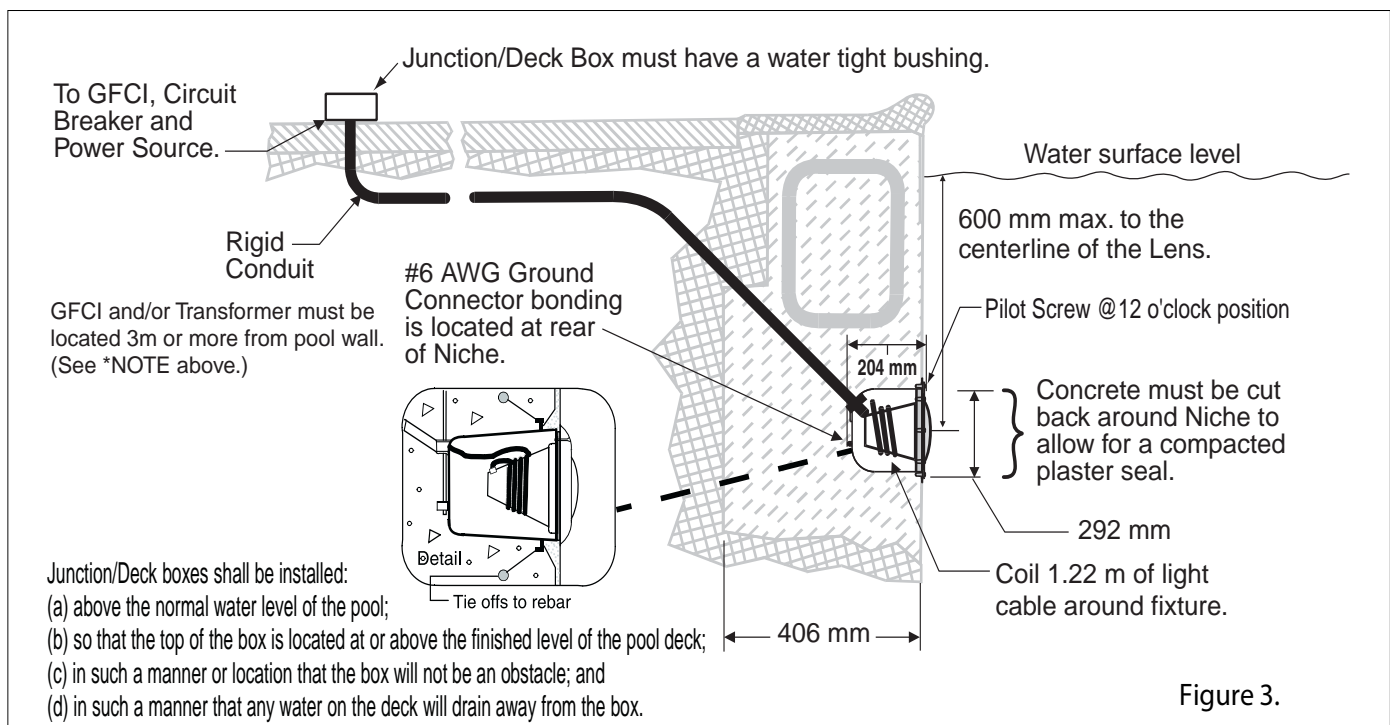
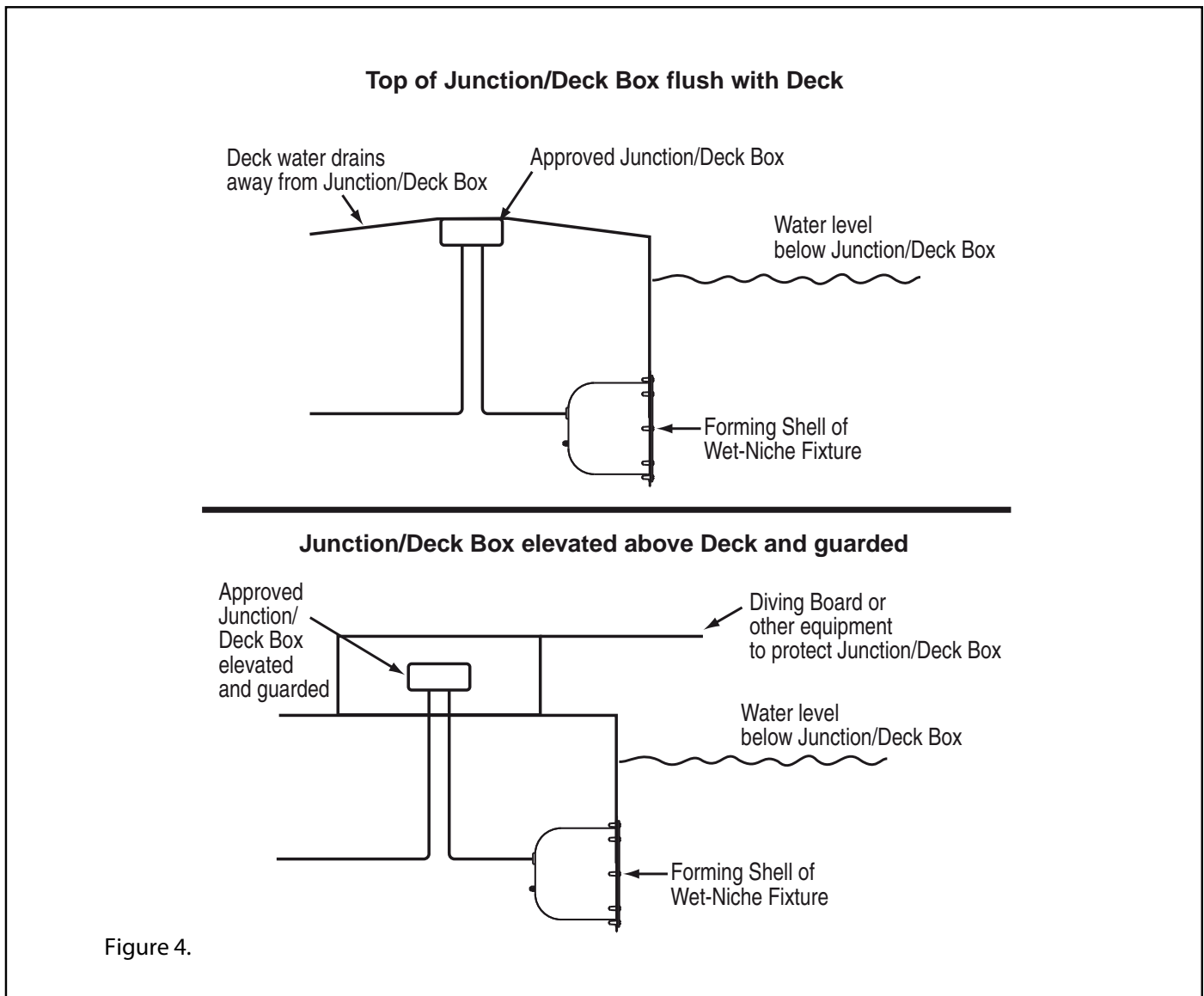


Figure 3.

## Junction/Deck Box Location Information - Canada Only.

A. Junction/Deck boxes shall be installed:

- (a) above the normal water level of the pool;
- (b) so that the top of the box is located at or above the finished level of the pool deck;
- (c) in such a manner or location that the box will not be an obstacle; and
- (d) in such a manner that any water on the deck will drain away from the box (See Figure 4).



## SAVE THESE INSTRUCTIONS



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