

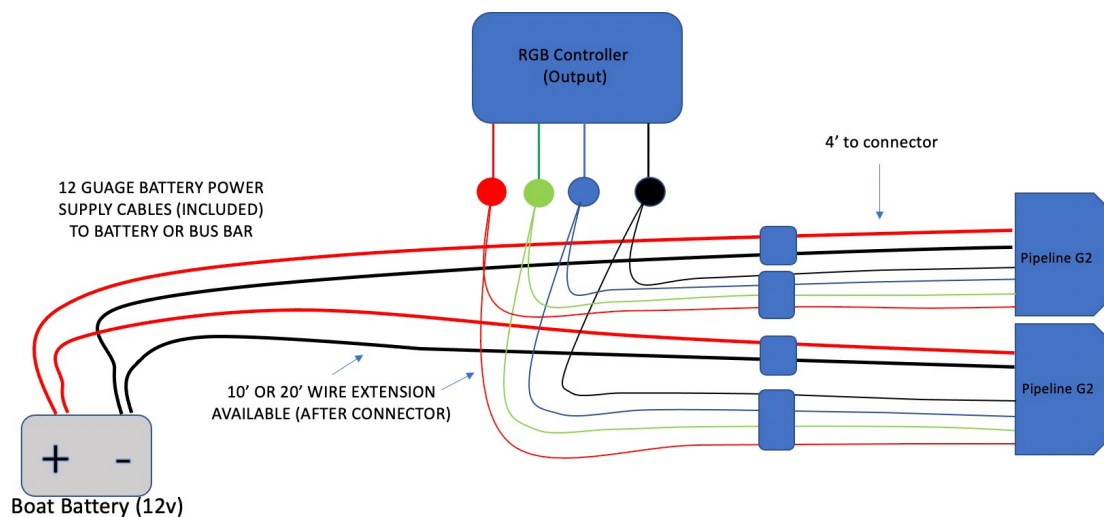


Instructions for Pipeline^{V2} Underwater Transom Lights

The installation instructions below are for a pair of our Pipeline^{V2} Transom LEDs. These lights require the use of an LED RGB controller. If your boat already has one, these lights can be used to receive outgoing LED color signals and off/on inputs. If your boat does not have one, Liquid Lumens has a compatible LED RGB controller for purchase.

Additionally, proper electrical capacity is important to evaluate. One pair of the Pipeline^{V2} lights will require approximately 15 amps of 12V current from the boat's batteries. It is highly important that a dual battery system be used with any boat accessory and that the batteries be in good condition. Dual batteries will ensure that ample power is available to run the lighting system and other functions which the boat may require such as engine start and bilge/blower function of the boat. If you are concerned about being able to support the current draw from your batteries, Liquid Lumens sells a lighting package called Skinny Dip^{V2} that draws about half of the Pipeline^{V2}'s energy consumption.

Refer to the install diagram below for wire harness lengths as you plan where to install the different components needed to complete the installation.



INSTALL DIAGRAM

Tools Needed:

Drill

Philips #2 Screwdriver for drill attachment

Marine grade sealant similar to 3M 4200

Rags or paper towels for cleanup

11/64" drill bit

1" drill bit

Socket driver to remove battery or bus bar bolts

Needle nose pliers

Wire taps (if fitting to an existing RGB controller)

IMPORTANT

ALWAYS TURN LIGHTS OFF BEFORE TRAILERING YOUR BOAT OR REMOVING THE BOAT FROM THE WATER; NEVER LEAVE LIGHTS POWERED ON WHILE TOWING YOUR BOAT ON A TRAILER, AS THIS CAN POSE A SERIOUS HAZARD TO OTHER MOTORISTS BEHIND YOU ON THE ROAD

NEVER INSTALL ANY OF THE EQUIPMENT IN THE ENGINE COMPARTMENT

ALWAYS SHUT OFF MASTER SWITCH WHEN NOT IN USE AND DURING INSTALL

NEVER LENGTHEN THE BATTERY POWER CABLES

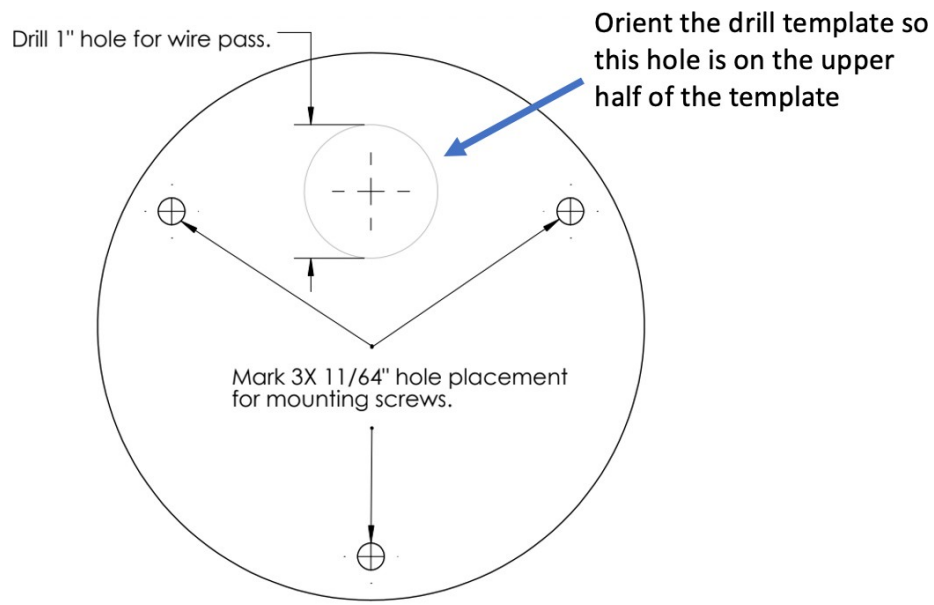
ONLY INSTALL IF YOU ARE A QUALIFIED INDIVIDUAL

For fitment or install questions, please call Liquid Propulsion at 844-218-4888

Step 1 - Mount the lights on the boat transom

The Underwater lights need to be mounted below the water line when the boat is motionless. For best results, mount the lights as low on the transom as possible (the deeper the lights sit in the water, the better they will perform while your boat is underway). Verify that when you drill into the transom, your drill has a clear, unobstructed path on the inside of the boat and that you won't accidentally drill into anything important on the boat's interior. **Note: When you drill into the gel coat, first run the drill in reverse until you break through the colored surface of the gel coat, then run the drill forward to break through to the other side. This will help reduce possible gel coat chipping around the drill hole.**

1. Use the supplied paper template included in the box with the lights (do not use Illustration 1 below as it is not to scale). Mark a spot to drill a 1" hole for the light wires. Drill the 1" hole through the transom. **Note: The installment will be easier if you drill the wire hole on the top half, rather than the bottom half of the template (see Illustration 1).**



DO NOT USE – NOT TO SCALE

ILLUSTRATION 1

2. Remove the paper template.

3. Verify from the inside of the boat that the hole made it into the intended location and that you will have a clear path to run the light wires through the interior of the boat to the boat's battery and RGB zone controller before proceeding to the next step.
4. Pass the light wires through the hole and hold the light flush to the transom surface. With the entire wire inside the boat and the light body held in the desired mounting location against the boat, use the light body as a drill template for drilling the three mounting screws. While holding the light in its desired mounting position firmly against the transom using one hand, use the other hand to drill just one of the three mounting screw holes using the 11/64" drill bit. Start one of the supplied 316 stainless steel #10 screws through the light into the hole you just drilled, but do not tighten it. We recommend installing the screw about halfway for this step. This is to prevent the light from rotating while drilling the other mounting screw holes. Repeat this step for the second and third screw holes. Do not tighten any of the screws yet. **NOTE: When advancing the stainless-steel screw, use a powered drill on a slow setting with firm back pressure against the drill to prevent stripping the head of the screw. Gel coat is strong and requires firm pressure to control the screws as you install them.**
5. Remove the three stainless-steel screws that were used in Step 4 and remove the light from the transom in order to apply marine sealant to the back of the light (leave the wire inside the boat transom during this step). Thoroughly clean the surface where the light will be mounted.
6. Cover the back of the light with a light coat of 3M™ Marine Adhesive Sealant Fast Cure 4200 or similar marine grade sealant, taking extra precaution to fill the channels with sealant. Make sure that the wire coming from the back of the light fixture has a continuous bead of sealant all the way around its perimeter in order to create a watertight seal against the hull of the boat when in place. Fill the three screw holes that pass through into the boat transom with sealant as well to create a watertight seal around the screws when installed.
7. Position the light against the back of the boat, aligned with the three screw holes drilled in Step 4. Install each of the three 316 stainless steel #10 screws into their respective holes, taking care not to tighten any of them until all three screws are in place. The light should mount very snugly, and a slight amount of sealant should ooze out past the edges of the light. Make sure that sealant has oozed out all the way around the light for a good watertight installation, while at the same time taking care not to overtighten the screws and strip the gel coat. Clean off excess silicone per the manufacturer directions. **NOTE: Test a small amount of acetone, or other cleanup chemical, on your boat's hull surface in an area that is not visible prior to use to be sure that no damage or discoloration will occur during cleanup.**

Step 2 - Install wire connectors

1. Locate the light wires inside the boat. There are six total wires found inside the white outer jacket for each light fixture. Two of the wires (red and black) are larger than the other four (see illustration 2). These wires go to the boat's battery or bus bar. The other four smaller wires (red, green, blue, and black or white/red stripe) go to the RGB controller. These two sets of wires will separate at the end of the 4' pig tail that comes from the back of the light. An extension will be necessary to allow the two separate runs to go to the battery and to the RGB LED driver. Liquid Lumens sells a 15' and a 25' extension for both sets of wire runs (see Illustration 3). To make the extension easy and to allow for the smallest hole in the transom, the connectors need to be assembled inside the boat after the lights have been

attached to the transom of the boat. All six wires have been pre-pinned and are ready to insert into the plastic connector. **NOTE: THE PIN PLACEMENT IS CRITICAL. YOUR LIGHTS WON'T FUNCTION CORRECTLY IF THE PINS ARE PUT INTO THE WRONG LOCATION. REFER TO ILLUSTRATION 6 FOR WIRE POSITION.**

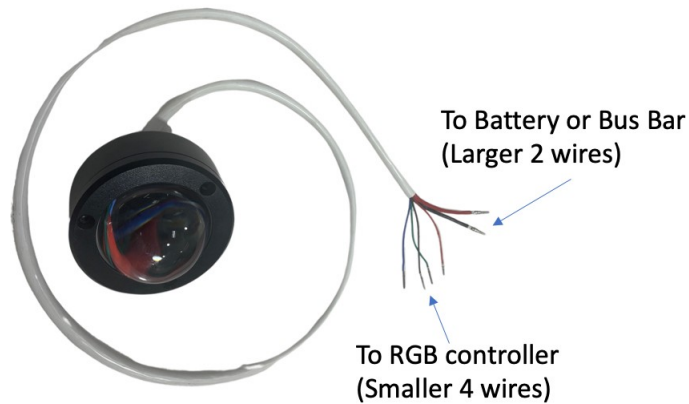


ILLUSTRATION 2

Power Cable Extension (2 wire)

RGB Signal Cable Extension (4 wire)



ILLUSTRATION 3

2. Included with the extension cables are two sets of connectors and wedge locks (to hold the pins in place after they are inserted into the connector.) Identify the 2-wire connector and its respective wedge lock (See Illustration 4). Using only the two larger wires coming from the back of the light, insert the Red Wire into position 1 **through** the orange gasket until you hear it click into place. Give the wire a gentle pull to confirm it won't pull out. Insert the Black Wire into position 2 **through** the orange gasket until you hear it click into place. Give the wire a gentle pull to confirm it won't pull out.

2 Pin (Power Supply) Connector

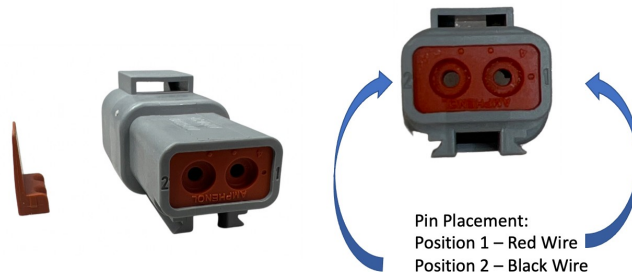
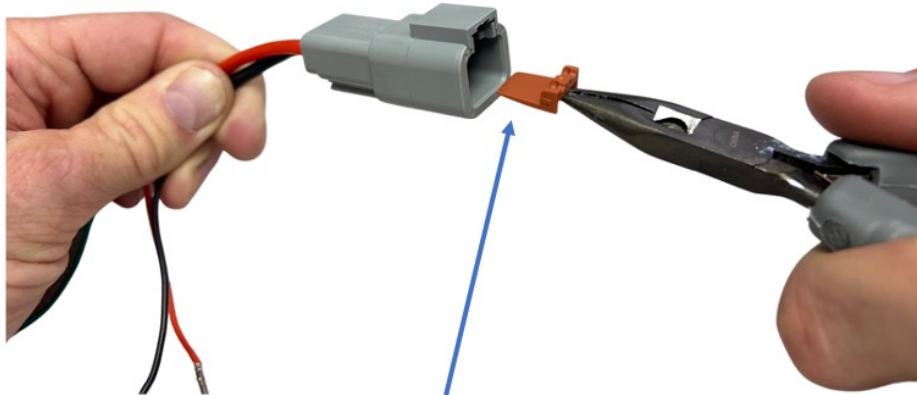


ILLUSTRATION 4

3. Orient the wedge lock on the needle nose pliers such that the flat blade is oriented down and horizontal to the connector. Insert the wedge lock into the **back side** (opposite side of the wire insertion) of the connector using needle nose pliers (see Illustration 5), until you feel it snap into place. It takes medium pressure to set the wedge lock in place.



Blade of wedge lock is oriented down and horizontal

ILLUSTRATION 5

4. Identify the 4-wire connector (6-hole connector) and its respective wedge lock (See Illustration 5). Using only the four smaller wires coming from the back of the light, insert all four of the wires through the orange gasket following illustration 6 until you hear it click into place. Give the wires a gentle pull to confirm they won't pull out. **Note: Positions 5 and 6 will not be used.**

4 Wire (RGB Signal) Connector

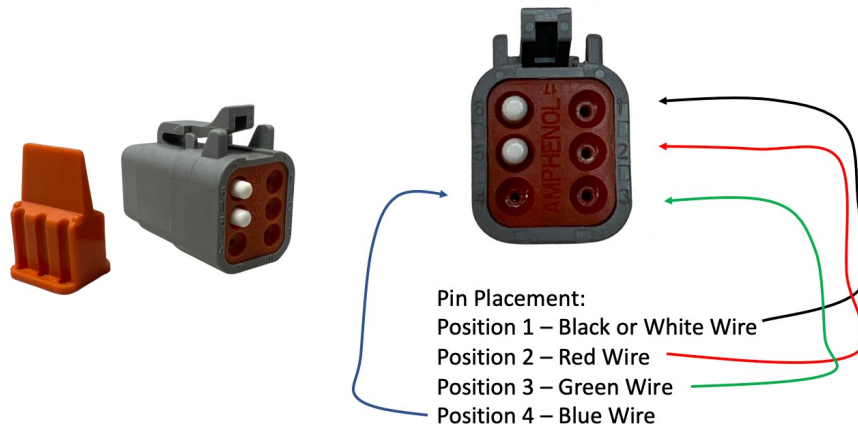


ILLUSTRATION 6

5. Orient the wedge lock for the 4-wire connector on the needle nose pliers such that the flat blade on it is oriented vertical to the connector. Insert the wedge lock in the **back side** (opposite side of the wire insertion) of the connector using needle nose pliers (see Illustration 7), until you feel it snap into place. It takes medium pressure to set the wedge lock in place.

Blade of wedge lock is oriented vertical

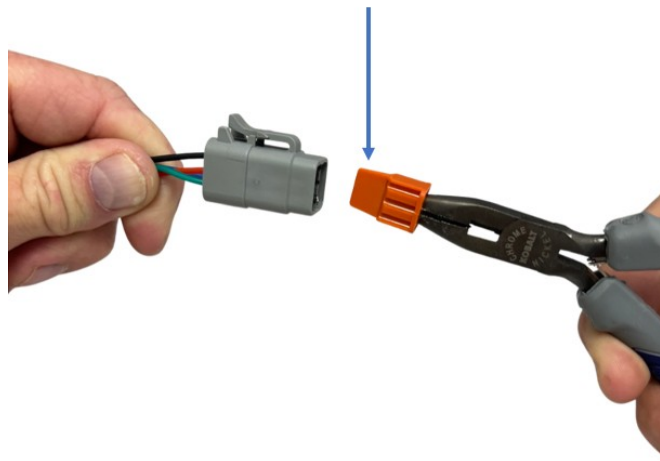


ILLUSTRATION 7

8. Snap the wire extension cables into their respective connectors coming off the back of the light fixture. Verify that the colored wires (the same wires you inserted in the steps above) match.

9. Rout the two sets of wire extension cables around the boat taking precaution to avoid hot parts in the engine compartment. **Note: The 2-wire harness may need to go in a different direction, depending on where the boat's batteries and the RGB controller are located.** Secure the wire harnesses with zip ties so the cables are hidden away and won't interfere with the removal of equipment stored in the storage compartments. Always try to secure the wires in a "high and dry" location. If this install doesn't have an installed RGB driver, please refer to Step 4.

Step 3 - Make power wire connection (2-wire)

1. Determine where you will access 12V power. Connecting directly to the battery is an easy option, but the best approach is to access power from an electrical bus bar or battery cut off selector which will de-energize the light when the boat is shut down or the battery selector switch is in an off position. If you choose to pull 12V power directly from the battery, be aware that the lights should not turn on if the RGB controller isn't sending any color signals, however some "parasitic" electrical consumption may still occur which could lead to a drained battery.
2. Before any electrical connection is made, first verify that there is no blade fuse installed in the fuse holder found about 18" from the end of power supply cable (See Illustration 8).

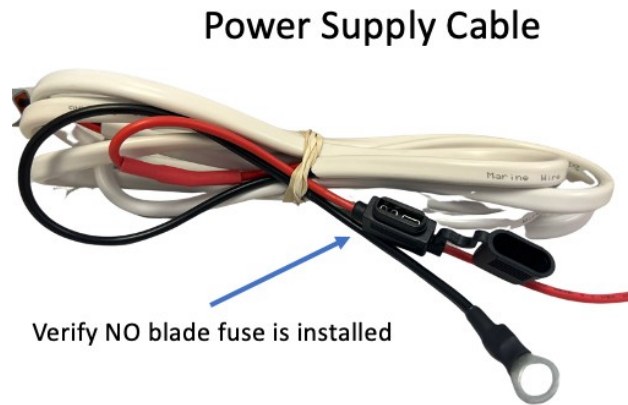


ILLUSTRATION 8

3. If pulling 12V power from a bus bar or battery selector, identify the location to which connections should be made when energy is flowing while the boat's batteries are turned on.

or

If pulling power directly from the boat's battery, identify the "house" battery and use it for the Power Supply Wire Harness connections.

4. Both of the lights' power supply wires' harnesses may be connected to the same location. Make the Positive (Red Wire) connections at the positive terminal. Remove the battery nut and place the 3/8" rings onto the open post. Replace the nut and secure firmly.
5. Make the Negative (Black Wire) connection at the same battery. Remove the battery nut and place the 3/8" rings onto the open post. Replace the nut and secure firmly.
6. **Do not put the blade fuse in at this moment.** (You will insert the blade fuse just before testing.)

Step 4 - Make the RGB signal connections - For the lights to function properly they need to be told what color to display. If your install already has an RGB controller you can "tap" into the signal outputs of the existing controller. If your installation does not have an RGB controller, you can purchase one from Liquid Lumens (see Illustration 9). It comes with a 16-color remote control with two preprogrammed functions as well as two audio functions. Install instructions for the RGB controller are included with the RGB controller kit.



ILLUSTRATION 9

1. Identify the location of the RGB controller and locate the four output wires or output connection points. The four wires are typically red, green, blue, and black/white.
2. You will need to "tap" or "connect" (based on the RGB controller) both sets of lights to the four RGB controller outputs and connect with the open end of the 4-wire harness (two of them) that comes from the light fixture (assembled in Step 2). There are many ways to "tap" into the output wires. Wire taps are available for purchase from any automotive parts store. Whatever the method, connect the red, green, and blue wires (from the light) to their respective output wires (from the RGB controller) as well as the Negative (usually black or white) wire. Verify that the connections are secure and separate.

Step 5 - Test the light

1. Insert the 10 amp Blade fuse into the red wire of the Power Supply wire harness (it's located close to the battery or bus bar connection you make in step 3.)
2. Turn on the batteries and/or the boat, if necessary.
3. Activate the RGB light zone on the boat (if using an already installed RGB controller) or use the remote control if using the Liquid Lumens RGB processor.
4. Verify that the three primary colors (red, green, and blue) illuminate for both lights.
5. Verify that other colors display properly. Both lights should display the same colors at the same time.
6. Verify that the lights shut down when the RGB controller is turned off.
7. Verify that the lights shut off when the battery selector or bus bar installation (if not connected directly to the battery) is turned off.
8. If using a Liquid Lumens RGB controller, verify that the lights shut off when the rocker switch on the box is in the off position.

This completes the install instructions. Should you need further help, please call 844-218-4888 or email us at support@liquidpropulsion.com