

PRODUCT SUPPORT MANUAL

Y1-03-0158
Rev. D

RCL-75

Product No. 1946

Remote Control
Searchlight System



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1.0 FORWARD

Congratulations and thank you for purchasing the ACR **RCL-75** Searchlight. The combination of computer aided design; high quality raw materials and quality-controlled manufacturing produce a superior product. The Test Facility at ACR can reproduce some of the harshest environmental conditions known to man. This assures that the products we produce can stand up to the tough marine environment. With proper care and maintenance, your searchlight will be in service for years to come.

ACR is proud to be ISO 9001 certified, the International Standard for Quality.

Note. It is important to read this entire instruction manual carefully for proper installation and operation of this product.

2.0 SEARCHLIGHT

The **RCL-75** was specially designed for mariners who require a high intensity remote controlled searchlight that is compact, light weight and can stand up to the tough marine environment.

The **RCL-75** Searchlight System contains an intense light beam that produces 180,000 peak candlepower by combining two 55W halogen lamps with our unique optical quality, parabolic reflectors. All functions of the Searchlight can be electrically operated by remote control from the pilot area of the vessel using the remote control Point Pad™, and interconnecting cable supplied with the **RCL-75**.

The sleek, robust design and modern construction materials of the searchlight body makes it attractive for recreational and commercial vessels. The searchlight is made of an UV resistant ASA plastic to resist yellowing, and is gasketed and finished to be resistant to the weather.

The Searchlight Unit can be mounted where desired (*see Figure 1 and Figure 2*), using appropriate length 1/4" diameter, stainless steel fasteners. When mounting, be sure that the unit is able to rotate 361° without hitting any obstructions. Refer to Paragraph 4 for wiring details.

Caution - DO NOT mount the searchlight upside down.



FIGURE 1



FIGURE 2

3.0 UNPACKING THE UNIT

Every effort is made to assure that the **RCL-75** has been delivered in good condition. It is important to make sure that all parts are present before you begin installation. (see *Figure 3*)

The **RCL-75** Searchlight contains the following:

	<u>Part Number</u>
- Light Assembly	A3-06-2177
- Deck Mount	A1-18-1724
- 17' wire harness	9426
- Remote Control Point Pad™ and extra cover for flush mounting	9428
- 4 ea. S/S Allen Bolts	A1-05-0734-1
- 4 ea. S/S Nuts	A1-05-0736
- 4 ea. S/S Flat washers	A1-05-0741
- 4 ea. S/S Lock washers	A1-05-0737
- Special L wrench (Allen wrench and Phillips head screwdriver)	T1-04-0047
- 2 ea. U clamps for Remote Control Point Pad™ flush mount	A1-17-1366
- Mounting Gasket	A1-25-0132
- Surface Mount Gasket	A1-25-0135-1
- Flush Mount Gasket	A1-25-0135-2
Light Base Mount Template*	Y1-03-0158-1
Remote Control Panel Template (Flush)*	"
Remote Control Panel Template (Surface)*	"

*Templates are on a separate sheet in this box.

If by chance your kit is missing a part, please call our Toll free Customer Service Phone at (800) 432-0227. Please provide the Serial number of your unit and location of purchase.

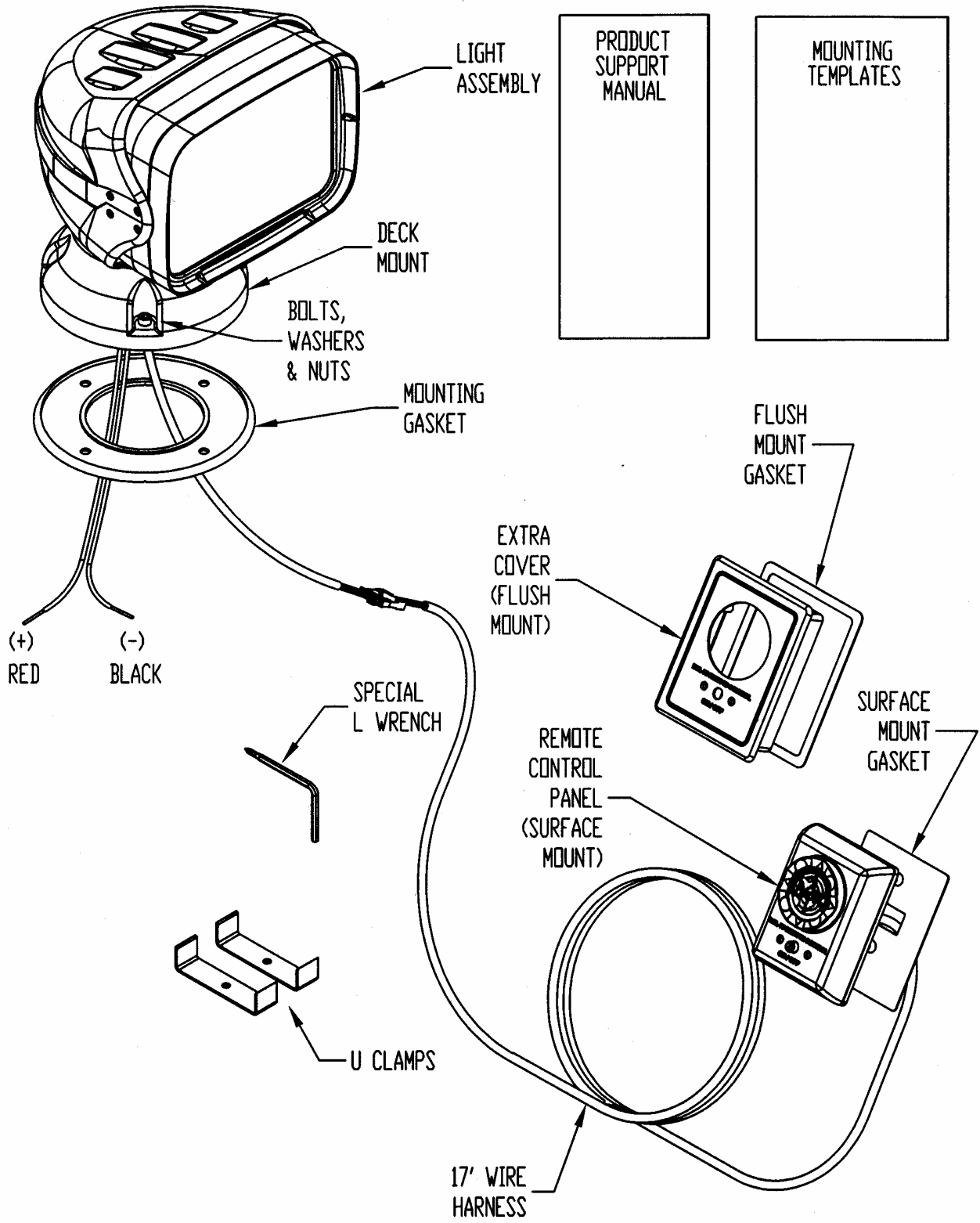


FIGURE 3

4.0 WIRING

The **RCL-75** has two wiring requirements:

1. Connect the remote control to the light
2. Connect the light to 12-volt power with 15 amp rated wiring. The light works best with 13.5 volts.

Caution - The connectors on each side of the wire harness are different. Test fit connector to switch before running the harness to the light.

A 17' wiring harness to connect the remote control to the light has been supplied for ease of installation. The wire should be run from the switch to the light. Do not run wire near sharp edges. When passing through bulkheads, use a cable outlet (*available at marine hardware stores*). After cable has been run, the remote control is ready to be connected.

The light needs to be connected to a power source. It is recommended to use 14 Gauge AWG for this installation. Positive lead should be fused with a (15 Amp fuse). For wire runs over 16 feet, use 12 Gauge AWG.

Precautions should be taken to make power connections as water tight as possible.

5.0 INSTALLATION

5.1 Location Selection

In order for the **RCL-75** to achieve maximum performance, care and consideration should be given to the selection of a mounting location for the Searchlight and Remote Control Panel.

Typical mount locations include, bow pulpit, fore deck, and cabin hardtop. *See Figure 1 and 2.*

Caution: Do not mount the searchlight upside down.

Mounting surface should be flat and parallel to the water's surface. Keep in mind that the further the light is from the pulpit, the greater the chance that light will reflect off the boat into the operator's vision.

Before installing the light or remote control switch, find a suitable path for the wires to run. There are two sets of wires, a 17' wiring harness, which will connect the light and the remote control panel, and power leads which will connect the light to a power source. A path will be needed for both. Wire should be kept from contact of sharp edges, and tight radii. If wire needs to pass through a bulkhead, use a cable outlet (*available at marine hardware stores*). Wire should be supported where necessary by the use of cable straps.

The location selected must be sufficiently rigid to support the weight of the total installation at the same time, considering surroundings hazards such as equipment movement, hatches being opened, accidental covering, personnel traffic, etc.

Depending on the location selected, your light will need 1/4" diameter stainless steel bolts, nuts, and washers. If mounting area is robust enough panhead lag screws may be used. If the surface area can be reached from the under side, through bolting with lock nuts and washers should be used.

5.2 Tools and fasteners needed for installation

- 4 ea. 1/4" dia. bolts and
- 4 ea. Lock nuts and
- 4 ea. Washers or
- 4 ea. 1/4" dia. Lag screws

- 1 ea. 1/4" Drill bit for bolt holes or
- 1 ea. 17/64" Drill bit for lag screws
- 1 ea. 15/16" Drill bit for cable clearance
- 1 ea. 13/64" Drill bit for remote switch mounting bolts
- 1 ea. Tube of silicone or bedding compound to close hole around cable.

Option: 1" mounting riser shapeable for irregular surfaces. (P/N 9427 - Figure 4)

Caution - Be careful when using electrical power tools around water. Electric shock could occur.

5.3 Mounting the Remote Control Point Pad™

The Point Pad™ should be located within reach of the helm station. Point Pad™ has two mounting options. Flush mount and Surface mount.(see Figures 6 & 7) Both mounting options require access to the backside of the mounting location. (see Templates – Y1-03-0158-1) Make sure there are no obstructions behind the area where the switch is to be located. (i.e. bulkheads, wires, plumbing, hardware.) Check in advance to verify the wiring harness can be routed to this location. Use Templates for hole pattern.

5.3.1 Surface Preparation for Remote Control Point Pad™

Make sure area is clean and dry. Mark hole locations for drilling. Verify that drill hole will not impact or harm other items (wires, plumbing, hardware bulkhead).

5.4 Mounting the Light

Remove deck mounting plate from light base (4 Allen bolts). Save the bolts and washers. Locate the mounting plate on the spot that you want your light. Rotate the plate so that the arrows are pointing forward and the length of the arrow is aligned parallel to the keel. Mark the 4 mounting holes, starting with the one between the 2 arrows. Mounting holes are in 90° increments. (See template Y1-03-0158-1)

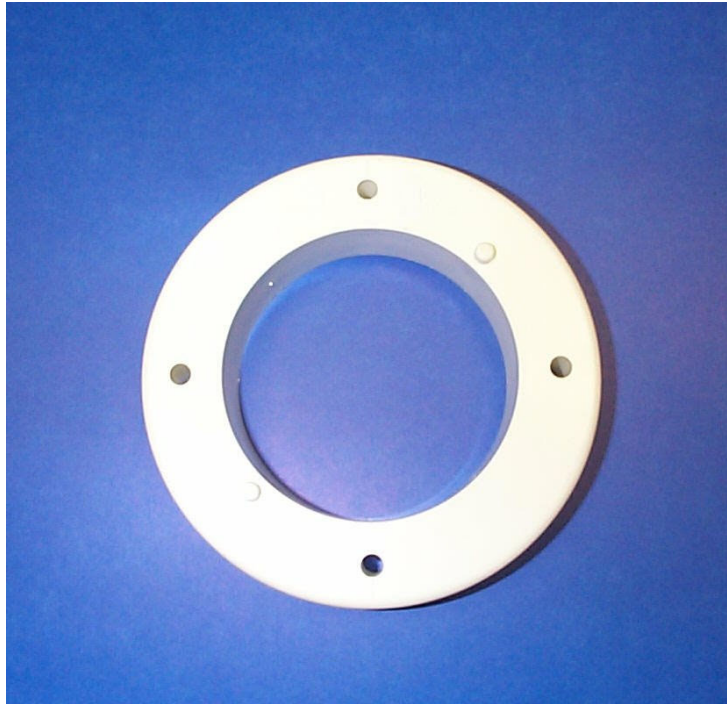


FIGURE 4

5.4.1 Surface Preparation for light

Make sure surface is clean and dry. Verify that drill holes will not impact or harm other items (wires, plumbing, hardware or bulkheads). Decide on the use of screws or bolts. Can the backside of mounting surface be reached to install nuts and washers?

Note: If the mounting surface is not flat, a special shapeable plate can be purchased, (P/N 9427), to adapt the light base to the surface. This plate can also be used to raise the light 1" if desired. (see Figure 4)

Drill 4 mounting holes (1/4") and a centered cable clearance hole (3/4"). Put the mounting gasket on the deck mount (or shaped plate, if used). Use caulk or bedding compound to seal bolt and wire holes before deck mount is attached to deck. The plates are keyed to each other and to the light, be sure the arrows are pointing in the correct direction. (the light will rotate 180° either way from the arrows).

Use marine grade 316 stainless steel bolts, nuts, and lock washers to fasten the plate(s) to the mounting surface. Install and connect the control cable and (+) Red and (-) Black power leads. Seal hole if desired. Leave at least 8" of wire coiled in the base of light to allow for servicing. (see Figure 5)

Seat the light assembly on the deck mount. Make sure the key is mated and the gasket edge is not pinched. Reinstall the four (4) stainless steel Allen bolts with the flat washer next to the plastic and the lock washer under the bolt head. (Allen wrench for these bolts is furnished). Tighten securely.



FIGURE 5

6.0 OPERATION

The remote control Point Pad™ is simple to operate. A red LED tells you that power is available. A green LED lights when the light is in use.

The ON/OFF button turns the dual beams ON and OFF. The control disk is pushed down in the direction you want to aim the light. Elevation and rotation can be operated at the same time and with the light in the ON or OFF mode.



FIGURE 6



FIGURE 7

7.0 CARE AND MAINTENANCE

The **RCL-75** is relatively maintenance free. Clean the exterior of the light with a mild detergent and water if desired. Rotate the light left, then right and up then down periodically to keep motors and turning surfaces clean and operational.

Caution – DO NOT rotate light manually. This will strip the gear rack.

8.0 BULB REPLACEMENT

The bulbs are rated at over 200 hours of operation. If one burns out, you can replace it with a prefocused, desiccated bulb assembly from ACR. (Product No. 9403) We recommend that you replace both bulbs at the same time.

Note: One bulb will continue to run if one burns out, to give you 100,000 CD to get home with.

To replace a bulb:

- 1) Do not rotate light head by hand. This will strip the gear rack. Do not remove the front bezel to replace the bulbs. Before replacing bulb, move lens via remote control to the farthest down position, then it is recommended to remove the light from its mounting location. Lamps should be changed while light is at a suitable work place.
- 2) Remove top cover, (4 top screws at sides of front, and 4 counter sunk phillips screws attaching top cover to lower case). Use L wrench furnished with light. (*see Figure 8*)
- 3) Carefully remove top cover by lifting straight up. (*see Figure 9*)
- 4) Observe shape and position of the bulb wire loop. (*see Figure 10*)
- 5) Disconnect bulb wires from terminal block and with small wire snips, remove the cable ties from bulb wires. (*see Figure 11*)
- 6) At the point where the grey bulb wire passes through the partition wall, remove the sealant with a razor, screwdriver or snips. Beneath the sealant is a wire sleeve. Hold this sleeve with needle nose pliers and push through the partition wall. (*see Figure 12*)
- 7) Gently remove the entire reflector assembly from the body. (*see Figure 13*)
- 8) Place the reflector assembly face down.
- 9) Remove rubber sleeve. (*see Figure 14*)
- 10) Squeeze the 2 wire ends of the G-clip together to get release of the insert pin from the reflector and remove the clip. (*see Figure 15*)
- 11) Pull bulb out and discard
- 12) Install new bulb, aligning the larger hole toward the back of the tube with the G-clip hole. Do not touch bulb with bare hands. (*see Figure 16*)
- 13) Re-install G-clip
- 14) Install the rubber sleeve over the base of the reflector, flush to the G-clip.
- 15) Hold the reflector assembly in one hand and feed the bulb wires through the partition. (*see Figure 17*)
- 16) Seal metal sleeves on the bulb wires half way through the partition wall. (*see Figure 18*)

- 17) Set reflector housing into the swivel sockets with the light pointed down and carefully engage the gear rack. (make sure the drain hole and serial number is facing down).
- 18) Form the loops in the bulb wires in the same shape as the ones removed. (looking into the back, the gear-toothed rack is on the right and the smooth arch is on the left). The wires on the left are formed sharply down and back of the bulb assembly, then a 1" diameter loop is formed back up and toward the smooth arch, continuing around to pass through the partition below the lever switch.
The bulb wires on the right side are formed sharply up and back at the back of the bulb assembly, then a 1" diameter loop is formed on the gear side and continued to pass through the partition wall above the lever switch. These loops allow the elevation movements and must not interfere with the lever switches or touch the reflector.
- 19) When the bulbs are properly installed to this point, you will have one long wire and one short wire for each bulb.
- 20) The short wire of the left bulb and the long wire of the right bulb are joined together and inserted into the lower left hole of the terminal block and screw tightened securely.
- 21) The short wire of the right bulb and the long wire of the left bulb are joined together and inserted into the upper right side hole of the terminal block and screw tightened securely. Gather wires together and install new cable ties. (see Figure 19)
- 22) Replace the top cover carefully, making sure the partition is seated in its proper groove and the screw holes at the front match the metal braces.
- 23) Reinstall the four (4) long cover screws starting from the back and work forward, then install the four (2) top screws at each side (total of 4). Tighten all screws securely, taking care not to overtighten.
- 24) Light assembly is ready to be reinstalled on mount. Reattach control cable and wire power leads. Precautions should be taken to make power connections as water tight as possible.

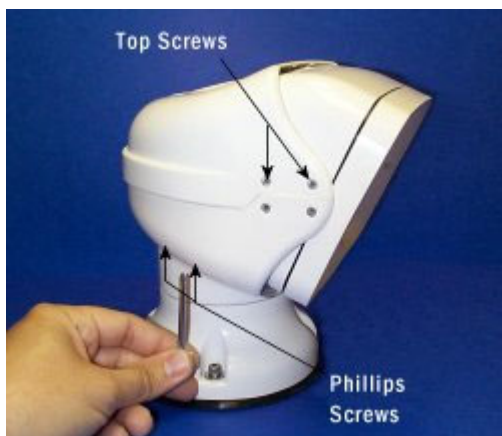


FIGURE 8



FIGURE 9



FIGURE 10

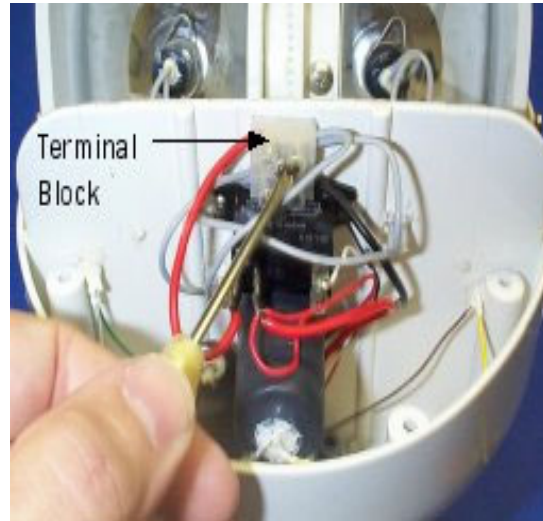


FIGURE 11



FIGURE 12



FIGURE 13



FIGURE 14



FIGURE 15

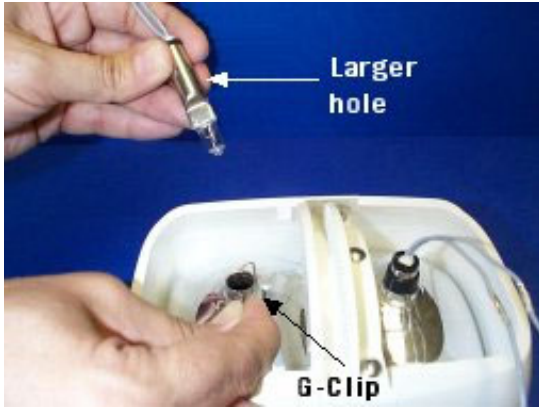


FIGURE 16

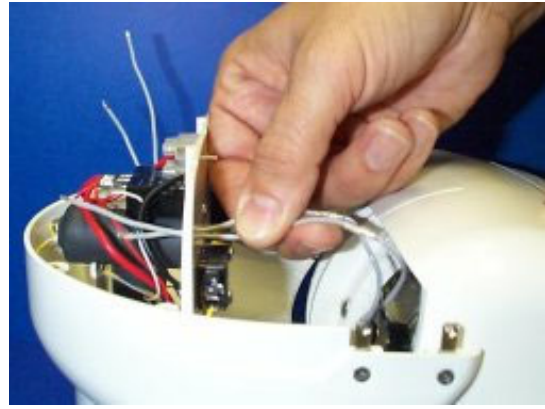


FIGURE 17

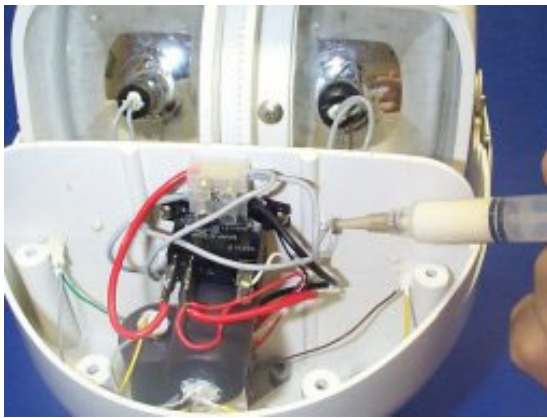


FIGURE 18



FIGURE 19

9.0 RCL-75 SPECIFICATIONS *(with Remote Control Point Pad™)*

9.1 Specifications

	<u>RCL-75</u>
Power Requirements	12 – 14 Volts DC
Current Draw	10 Amps
Power Wire Leads	14 Gauge
Wire harness	17' minimum with Molex quick connect locking connectors on each end
Peak Beam Candle Power	180,000 Candela*
Lamp	Dual beam 55 watt halogen
Reflector Size	6" x 4.5"
Beam Spread (degrees)	
Horizontal	8° Approx.
Vertical	3° Approx.
Elevation Angle (degrees)	
Up	18°
Down	45°
Turning Angle (degrees)	361°
Elevation Speed (top to bottom)	10 seconds
Turning Speed (1 revolution)	20 seconds (18° per sec approx.)
Weight	4.2 Lbs. (1.9 kg)

**Measured with direct light meter at 100'*

9.2 Warranty

This product is warranted against factory defect in material and workmanship for a period of one year from date of purchase or receipt as a gift. During the warranty period ACR Electronics, Inc. will repair or, at its option, replace at no cost to you for labor, materials or return transportation, provided you obtain a Return Authorization from ACR Electronics, Inc., 5757 Ravenswood Road, Ft. Lauderdale, Fl. 33312-6645. To obtain a Return Authorization, call our Customer Service Department at (800) 432-0227. This warranty does not apply if the product has been damaged by accident or misuse, or as a result of service or modification by other than the factory.

Except as otherwise expressly stated in the previous paragraph, the COMPANY MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, AS TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER MATTER WITH RESPECT TO THIS PRODUCT. The Company shall not be liable for, consequential or special damages.

In order to place the warranty in effect, the accompanying registration card must be returned to us within ten days of purchase or receipt as a gift.

10.0 ACCESSORIES

Here is a list of options and replacement parts that can be ordered for your searchlight.

	<u>Product Number</u>
1) Mounting riser. <i>This will raise the searchlight 1" from mounting surface to allow for clearance of deck hardware. It can be shaped to adapt light to uneven surfaces.</i>	9427
2) Replacement bulbs	9403
3) 17' Extension Wire harness	9426
4) 2 nd station harness adapter (splitter)	9442
5) 2 nd station Point Pad™ (flush & surface mount)	9428

11.0 TEMPLATES *(see Y1-03-0158-1)*