

# INSTALLATION and MAINTENANCE INSTRUCTIONS

FOR

"HALF-MILE RAY" - "ONE-MILE RAY"

MARINE SEARCHLIGHTS

BY

**"RAY-LINE"**

## Model Numbers

500	503	533	533L	544	577
700	703	733	733L	744	777
800	803	833	833L	844	877
1500	1503	1533	1533L	1544	1577

Your searchlight has been constructed from the best materials available. Care and skill have been utilized in the production and assembly to produce the finest searchlight in the industry. Please adhere to the following instructions. We know that by doing so you will remain a proud and satisfied "HALF-MILE RAY" or "ONE-MILE RAY" searchlight owner.

**THIS MANUAL AND PARTS LIST SHOULD BE KEPT  
ON THE OWNER'S BOAT AT ALL TIMES**

THE PORTABLE LIGHT CO., INC.

65 PASSAIC AVENUE

KEARNY, N. J.

- SINCE 1923 -

**I. INSTALLATION – Please read the entire instructions before beginning installation.**

**A. All Models:**

1. Choose a location that is convenient for both the pilot and a passenger.
2. A mounting block between the searchlight base and mounting surface is recommended. The block should be contoured to fit the deck so that the searchlight base is perfectly level. This allows a full vertical sweep.
3. All holes for shafts should be 1/8" larger than the shaft to prevent any rubbing or binding.
4. A good sealing compound should be applied around the base of the searchlight when screwing or bolting in place.
5. Connect the light to the power source using wire of sufficient size to carry the load with a minimum voltage drop (See table). The positive wire should be fused and have a switching device located in a convenient location.

Bulb		Wire Size	Wire Length Searchlight to Battery
Voltage	Amps		
6	8	No. 10	16' Max.
12	6	No. 12	27' Max.
24	4	No. 14	53' Max.
32	3½	No. 16	50' Max.
24	21	No. 10	28' Max.
32	15½	No. 10	43' Max.
110	4½	No. 16	125' Max.
110	7	No. 16	90' Max.

**NOTE:** If the distance exceeds that shown in the chart, a heavier wire must be used.

**B. Models 500, 700, 800, 1500, 577, 777, 877, 1577**

1. Use the searchlight base as a template to locate all holes. Screw or bolt the unit in place (See I. A4). The base on the -77 series of lights should be set so that the wire enters towards the stern of the boat.
2. A waterproof electrical connector must be installed when mounting the -00 series.

**C. Models 503, 703, 803, 1503, 533, 733, 833, 1533**

1. Remove the small and large wheels by loosening one or two set screws. Remove the stop collar and escutcheon plate.
2. Drill a hole for the center shaft and set the light in place (See I. A3).
3. Use the base as a template to locate all holes. The base should be set so the wire enters towards the stern of the boat.
4. Screw or bolt the unit in place (See I. A4).
5. Screw the escutcheon plate to the cabin ceiling with flat-head wood screws. The split in the escutcheon plate **MUST** point towards the stern of the boat. It may be necessary to place shims under the plate to align and allow free movement of the light shaft.
6. Install the stop collar with the lug pointing up. Turn the searchlight so that it points directly forward. Tighten the stop collar screw with the lug pointing directly forward.
7. Replace the large and small wheels. **CAUTION**, the pinion gear **MUST** be seated before tightening the small-wheel set screw. There should be only enough play between the pinion gear and small wheel to allow free rotation. This operation requires two men - one to hold the pinion gear down while the other installs the small wheel and tightens the set screw.

**D. Models 533L, 733L, 833L, 1533L**

1. Push the lever to the extreme UP position (light down). Remove the complete lever assembly by loosening the set screws in the stud and fulcrum. Be sure to hold the inside rod in position when removing the assembly.
2. Tape the inside rod to the outside rod with masking tape to prevent the inside rod from dropping out during installation.
3. Follow steps C2 through C6 above.
4. Replace the lever assembly. First make sure that the light is pointed forward and in the extreme down position. Remove the tape and replace the lever assembly with the lever pointing aft. The stud set screws should be tightened when the lever is in the up position.

**E. Models 544, 744, 844, 1544**

1. Engage the inside control rod (small) with the corresponding base extension and pin in place with the pin which is taped to the base extension. Slide the outside rod (large) over the inside rod (large connector lug towards the base) and tighten the two set screws locking in place.
2. Set the unit in the approximate location desired so a line can be observed to locate the hole through the windshield frame for the control rods. Drill the proper size hole—WATCH that the hole is drilled at the proper height. THE HEIGHT OF THE SEARCHLIGHT-MOUNTING-BLOCK MUST BE COMPENSATED FOR. THE RODS SHOULD BE FREE OF BENDS AND CURVES.
3. Slide the pipe hanger(s) on the control rod. NOTE: if the rod is to extend into the cabin more than one foot, one hanger must be saved for support at that point. Next, place the windshield plate and gasket on the rod and set the unit in place with the rod projecting into the cabin. If the rods are to be shortened, cut EQUAL amounts off each at this time. Remove any burrs.
4. Use the searchlight base as a template to locate all holes. Screw or bolt the unit in place (See I. A4).
5. Space the pipe hangers equally and fasten in place using mounting blocks or shims as necessary.
6. Fasten the windshield plate in place on the windshield frame.
7. Install the escutcheon plate on the inside of the windshield frame using an angled block as necessary to prevent binding. The thumb screw should be located for easy access to tighten.
8. Install the stop collar. Adjust the light so it is pointing directly forward. Tighten the stop collar set-screw with its lug directly opposite the thumb screw in the escutcheon plate.
9. Install a pipe hanger inside the cabin if necessary (See E3).
10. Replace the large and small wheels and tighten the set screws.

## I. ORDERING PARTS

- A. Please specify the searchlight model number, voltage, finish, part number and name. Any special information or dimensions should also be included. This information will permit us to give you rapid and accurate service.

## II. MAINTENANCE

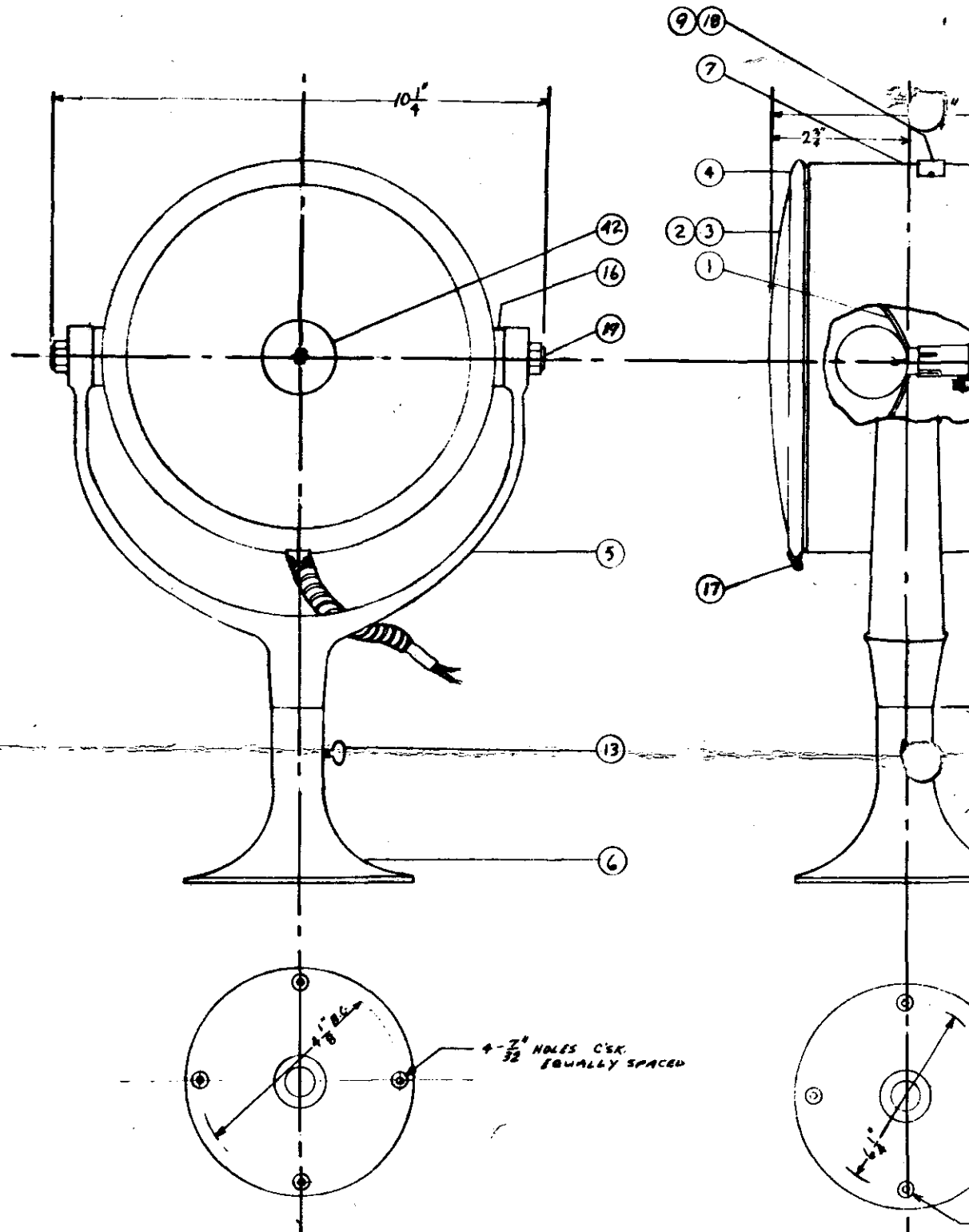
- A. Salt spray should be washed off with plain water as soon as possible to protect the searchlight finish. (A "Silver-Spray" cover may be purchased for protection when the searchlight is not in use.)
- B. All waterproofing seals, gaskets etc. should be checked on a yearly basis.
- C. Clean the bulb, reflector and lens with a soft, lint-free cloth once a year or as required.
- D. Periodically apply a coating of "all-weather high and low temperature" grease to all moving parts.
- E. Periodically check the focus and adjust if necessary.
- F. An application of a good clear silicon coating is helpful in keeping the searchlight free of marks and smudges.
- G. **IMPORTANT** - Condensation may form on the inside of the lens. This is normal and will evaporate shortly after the searchlight is turned on.

## III. RE-LAMPING and FOCUSING

- A. Install the new bulb in the searchlight. Clean the lens, bulb and reflector with a soft, lint-free cloth before replacing the lens.
- B. To focus, project the ray against a building 100 or 200 feet away. Adjust the focus knob or screw to obtain the most concentrated beam. In some cases, removing and turning the bulb 180 degrees will produce a better beam pattern.
- C. Bulbs supplied by THE PORTABLE LIGHT Co., Inc. incorporate filaments and focal lengths designed for their searchlights. Other bulbs will not focus properly or at all. We suggest using the proper bulb for replacement as shown below for satisfactory performance.

MODEL SERIES	VOLTS	AMPS	BULB NUMBER
500	6	8	R68 or R68B*
700	12	6	R12 or R12B*
800	24	4	R24 or R24B*
	32	3½	R32 or R32B*
1500	24	21	24V - 500 Watt
	32	15½	32V - 500 Watt
	110	4½	110V - 500 Watt
	110	7	110V - 750 Watt

\* Side rays and glare can be reduced by ordering "PENET-RAY" shielded bulbs. Add suffix "B".

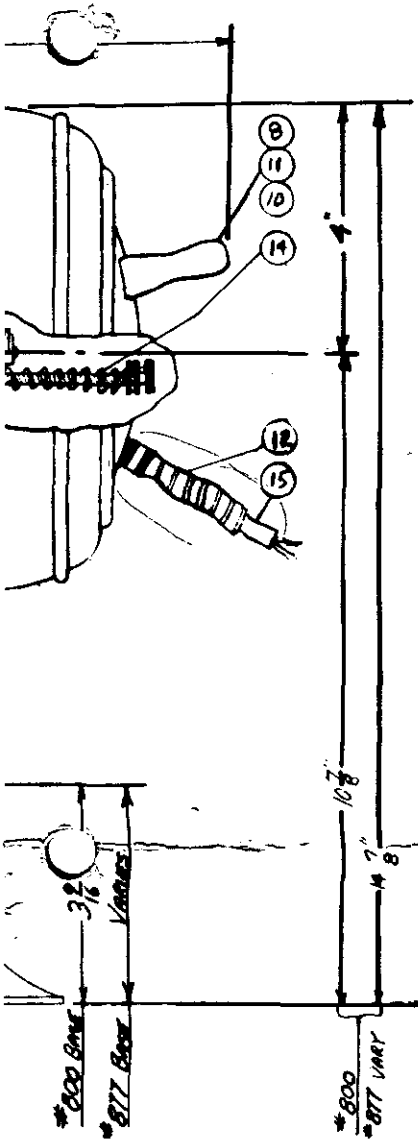


PARTS LIST

PART NO.

PART NAME

NO. REQ'D



1	Reflector w/ Socket Sleeve	1
2	Lens Gasket	1
3	Lens	1
4,17	Lens Ring w/ Screw	1
5	Trunion	1
6,13	Base w/ Thumb Screw	1
7,9,16,18	Housing w/ Nameplate, Nameplate Screws & Side Bolt Lock Screws	1
8,10,11	Back Handle w/ Screws & Washers	1
12	Flexible Cable w/ End Bushing	1
14	Focusing Device w/ Socket	1
15	Wire	1
19	Side Bolt	2
42	Bulb	1

NOTE: WHEN ORDERING PARTS PLEASE SPECIFY:

1. MODEL
2. FINISH
3. VOLTAGE
4. PART NO. & PART NAME

4 - 1/8" HOLES EQUALLY SPACED

17 BASE HOLE SPACING

*Now  
III  
Rail Line  
Machine*

Revisions	Model No. 800,877 Assembly		
	The Portable Light Co. Inc. 65 Passaic Ave. Kearny, N.J.		
	DRN BY: <i>J. Fugano</i>	CHK'D BY:	PART NO.:
	DATE: <i>10/27/65</i>	SCALE:	DRN BY: <i>ASSEMBLY</i>

