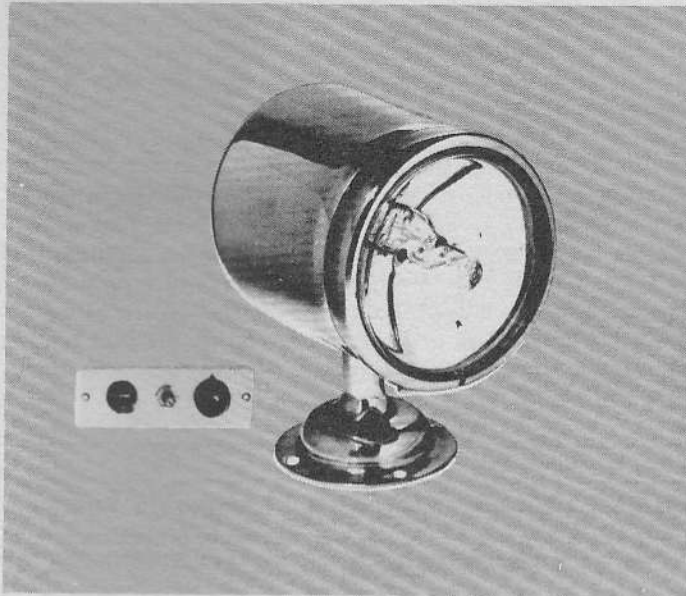
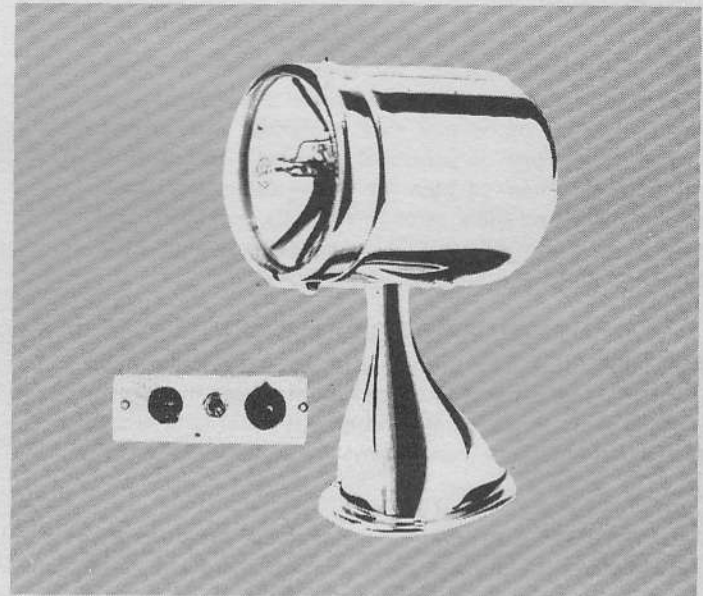


**RAY-LINE®**  
SEARCHLIGHTS

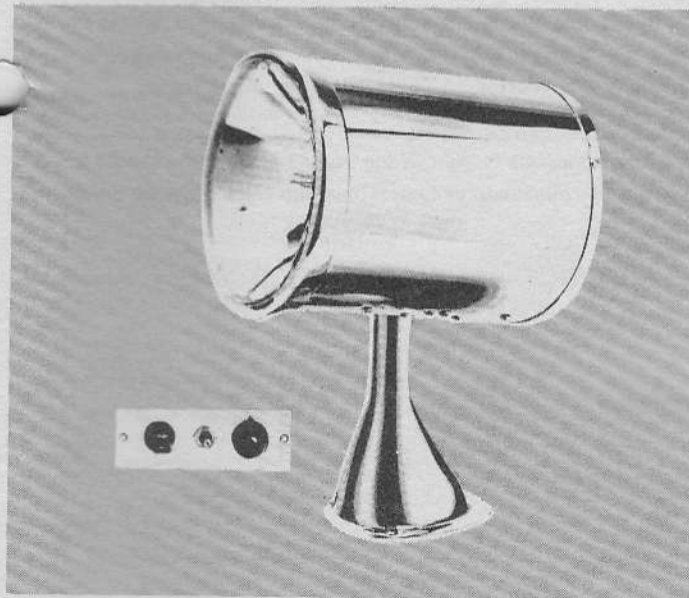
MODELS: 61020-Series 61022-Series  
61024-Series 61025-Series  
61040-Series 61042-Series  
61041-Series  
5", 7" & 8" ELECTRIC REMOTE CONTROL SEARCHLIGHTS  
PRODUCT DATA



MODEL 61020, 61022



MODEL 61024, 61025



MODEL 61040, 61041 & 61042 Series

5", 7" & 8" ELECTRIC REMOTE CONTROL SEARCHLIGHTS

FEATURES

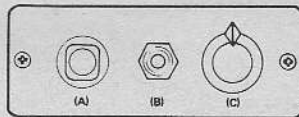
- Complete drive unit enclosed in light housing.
- Single control lever for vertical and horizontal movement.
- Variable speed control for precise beam movement.
- On-off and spot/flood beam selection from a single switch. (Spot only on 8" and 24v 7" models)
- Exclusive Clutch-A-Matic feature protects drive unit against overload. Can operate for extended periods against limit stops without harm. Light head may be moved manually without damage to the drive unit.
- Internal brake system holds beam firmly on target.
- Includes control panel with on-off, spot/flood switch, variable speed control, and single control for vertical and horizontal movement.

Model Number	Volts	Head	Base	Bulb Type	Spot Candle Power	Model Number	Volts	Head	Base	Bulb Type	Spot Candle Power
61020-3002	12	Steel	Zinc	5" Spot/Flood	100,000	61040-3002	12	Brass	Brass	7" Spot/Flood	240,000
61022-3002	12	Brass	Zinc	5" Spot/Flood	100,000	61041-3002	24	Brass	Brass	7" Spot	330,000
61024-3002	12	Steel	Zinc	5" Spot/Flood	100,000	61042-3002	12	Brass	Brass	8" Spot	500,000
61025-3002	12	Brass	Zinc	5" Spot/Flood	100,000						

JABSCO PRODUCTS **ITT**

Form 43000-0170 Rev. 3/80

# CONTROL UNIT OPERATION SINGLE PANEL CONTROL



## SWITCH FUNCTIONS

- (A) Directional Switch - Move it up or down, left or right, and the light will move in the same direction.
- (B) Light Switch - Spot/off/flood switch positions.
- (C) Variable Speed Control - Turn the knob for fast or slow movement of the light head.

## LIGHT MOUNTING

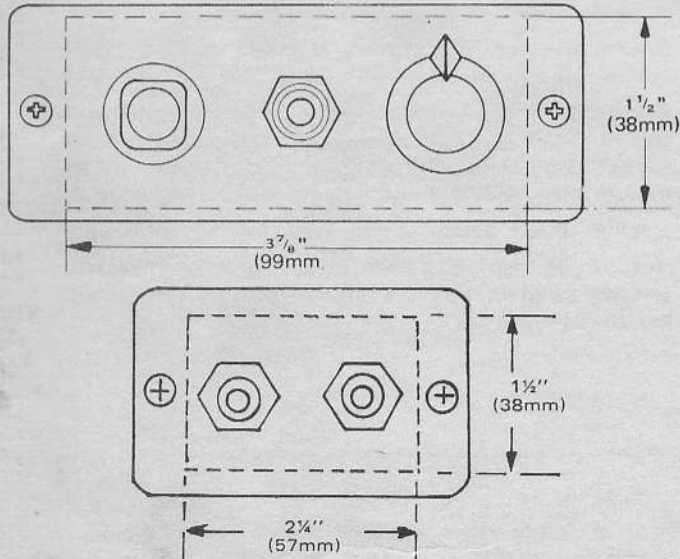
See base mounting dimensions for appropriate model light. Mount all models with front of base toward direction of most intended use (front of circular base is marked with arrow). Drill screw holes (per dimensional drawing) and a 3/8" (10mm) hole at center of base for wiring cable. Drill additional holes for wiring cable through firewalls, bulkheads, etc. for connection to control panel. With gasket under light base, feed wire through hole and fasten light in place.

## CONTROL PANEL MOUNTING

**CONTROL PANELS.** For flush mount, cut rectangular hole in flat surface where panel is to be mounted (see diagrams). Insert wiring cable through hole and mount panel with No. 4 round head sheet metal or wood screws as required.

## SERVICE

For under or over-dash bracket mounting, order Optional Kit No. 66053-0000. Kit includes angle brackets, hardware, and installation instructions. Individual replacement parts are available for the panel controls shown below. To remove the 4-way directional switch, locate the small holes (top and bottom) in the bracket attached to the rear of the chrome faceplate, depress springs in these holes and pull switch out. The variable speed control and on-off switches can be removed simply by removing the locknuts. To wire the new part into place, cut wires to the old part, and splice wires (with butt connectors) to the new part, being sure to match wire colors.



## WIRING

**5" Series** — Refer to wiring diagrams at right and extension cable instructions below. Connect wires from control panel to plug end of cable assembly, matching colors and plugs. String cable through bulkheads, walls, etc. to the light. **NOTE: SECURE CABLE WITH NYLON CLIPS OR EQUIVALENT, PROTECT INSTALLATION AT POINTS OF STRESS, AND LEAVE ADEQUATE SLACK WHERE CABLE MUST BE FLEXIBLE.**

Connect cable wires to light wires using butt connectors provided. Be sure to match colors and plugs. Connect red fused lead from control panel to positive side of correct voltage power source. Connect white wire to negative.

When installation and wiring is completed, check light operation. If light is inoperative, or does not operate correctly, refer to troubleshooting instructions.

**7" Series** — Connection of the 61040 and 61041-Series lights is accomplished in the same manner as the 5" Series above. Cable assemblies of the required gauge and length are available separately to assure proper current to the light (see cable listing below).

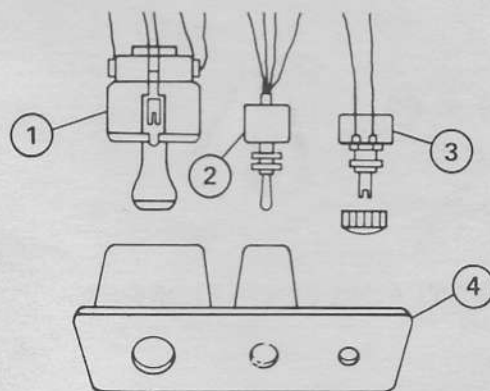
**8" Series** — Connection of the 61042-Series is accomplished in a similar manner to the 5" Series above, except as noted later. Cable assemblies of the required gauge and length are available separately to assure proper current to the light (see the cable listing below). The light base wiring has additional Red (+) and White (-) 14 gauge power leads which must be connected direct to a power source. The power source wiring must be 10 gauge wire or larger depending on the lead run length and be properly fused as shown.

## CABLE LISTING

Part Number	Description	Length	Use
67294-0000	7 conductor, 18' coil (cut & 10 gauge	50' to length at Dealers')	Extension of 5" Series cable by a maximum of 25'
66076-0000	7 conductor, 18' (3M) & 10 gauge		Wiring of 7" and 8" Series lights.
66077-0000	7 conductor, 18' (4.5) & 10 gauge		Wiring of Secondary Remote Control Station
66078-0000	7 conductor, 18' (7.6M) & 10 gauge		

**NOTE:** Any extensions to light wiring beyond limits above should be of 16 gauge wire minimum for control functions and 8 gauge for power circuits.

## CONTROL PANEL NO. 66120-0000 PARTS DIAGRAM



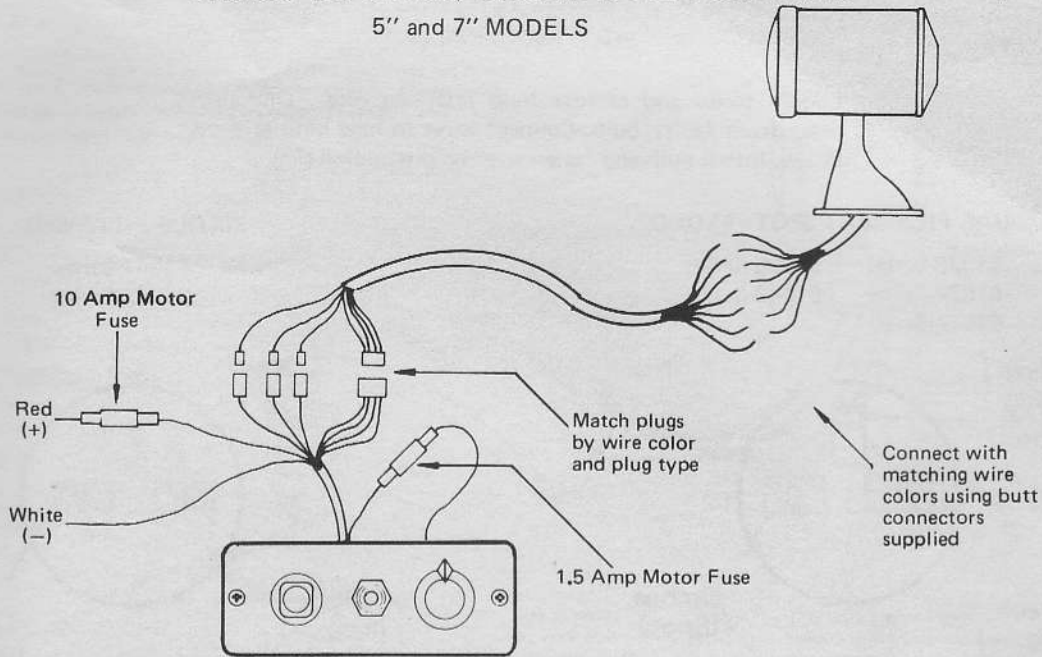
## PARTS LIST

Key	Part Number	Description
1	**66122-0000	Directional Switch
2	**66150-0000	Spot/Flood Switch
3	**66153-0000	Speed Control
4	66154-0000	Face Plate

\*\* Indicates 6" presoldered leads and connectors provided.

## WIRING DIAGRAM, SINGLE PANEL CONTROL

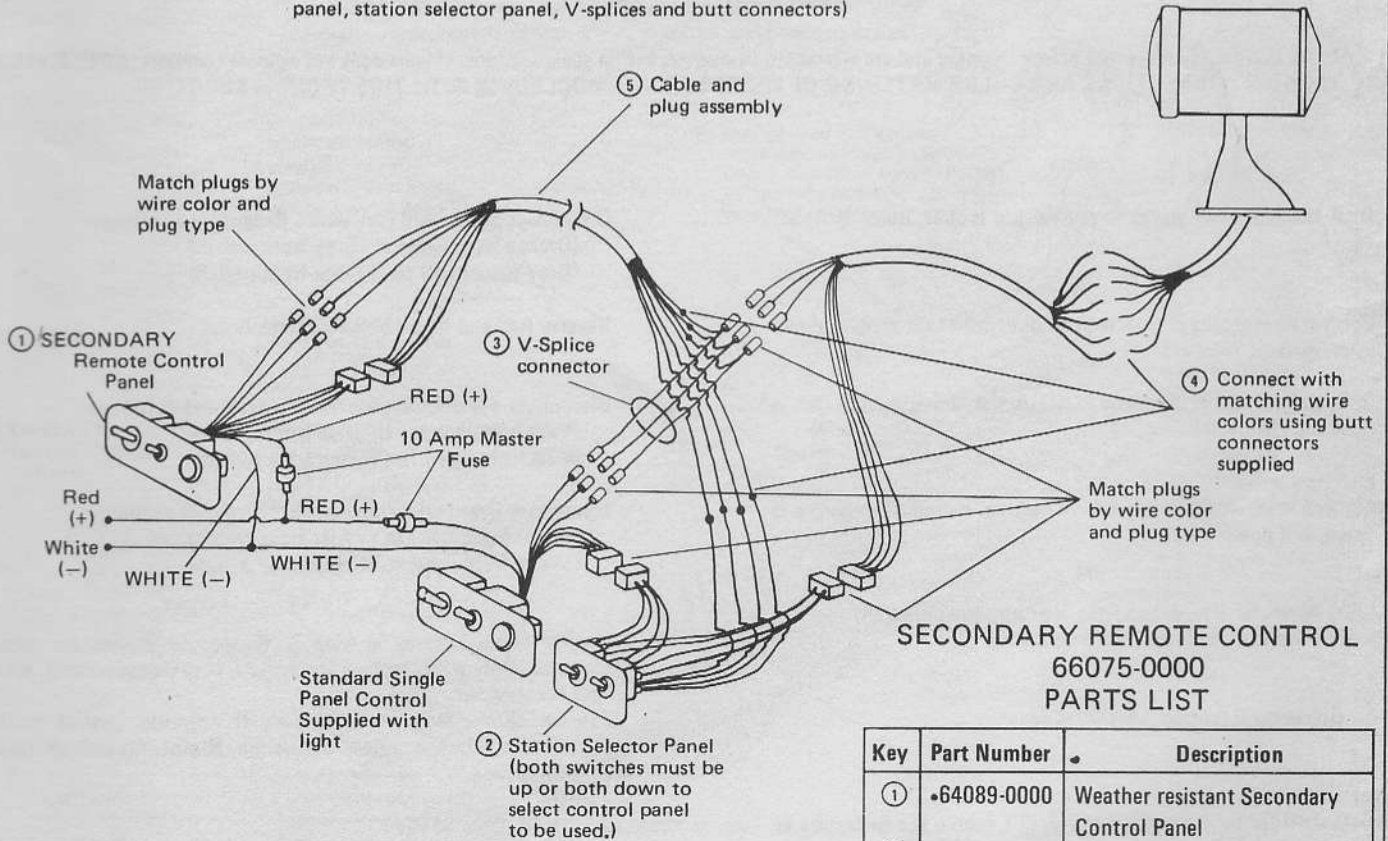
5" and 7" MODELS



## WIRING DIAGRAM, OPTIONAL SECONDARY REMOTE CONTROL

5" and 7" MODELS

Optional Secondary Remote Control No. 66075-0000 (includes secondary control panel, station selector panel, V-splices and butt connectors)



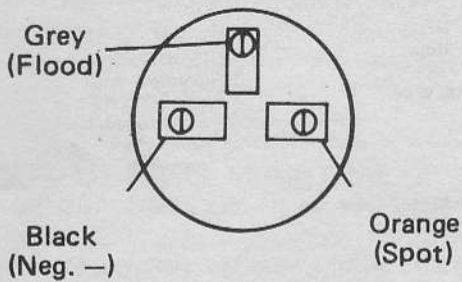
Key	Part Number	Description
①	•64089-0000	Weather resistant Secondary Control Panel
②	64073-0000	Station Selector Panel
③	64074-0000	V-Splices
④	•66158-0000	Butt Connectors
⑤	See Cable Listing	Secondary Control Cable must be acquired separately

## BULB REPLACEMENT

Loosen screw and remove bulb retaining ring. Disconnect wires from faulty bulb. Connect wires to new bulb as shown below. Install bulb and fasten with bulb retaining ring.

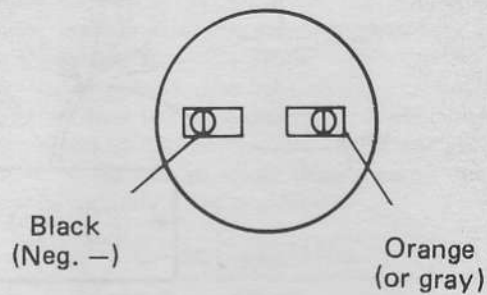
### DUAL FILAMENT SPOT-FLOOD

61020-Series    61025-Series  
61022-Series    61040-Series  
61024-Series



### SINGLE FILAMENT

61041-Series  
61042-Series



## TROUBLESHOOTING

All lights are thoroughly inspected before shipping and are warranted to operate within specifications. If light does not operate correctly, CHECK FUSES, WIRE HARNESS CONNECTIONS AND COLOR MATCHING OF WIRES BEFORE PROCEEDING WITH THIS TROUBLESHOOTING.

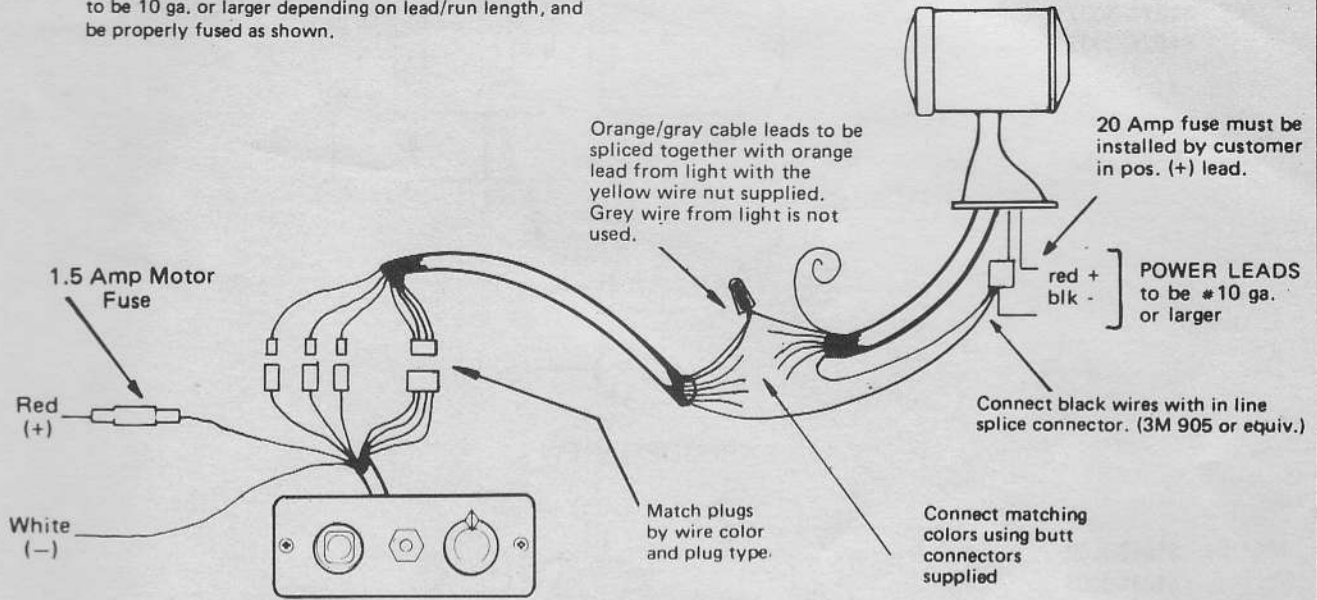
Problem	Solution
1. Dual filament bulb works in reverse (up is spot, down is flood)	Disconnect orange and gray wires. Reconnect as follows: (Orange from light) to (Gray from switch) (Gray from light) to (Orange from switch)
2. Control lever works in reverse in all directions (left is right, down is up, etc.)	Reverse Red and White battery connections.
3. Control lever works in reverse in horizontal direction only (left is right and right is left)	Disconnect Yellow and Blue wires. Reconnect as follows: (Yellow from light) to (Blue from switch) (Blue from light) to (Yellow from switch)
4. Control level works in reverse in vertical direction only (up is down, and down is up)	Disconnect Green and Violet wires. Reconnect as follows: (Green from light) to (Violet from switch) (Violet from light) to (Green from switch)
5. Light moves in only three of the four possible directions: <ol style="list-style-type: none"> <li>One horizontal direction is inoperative</li> <li>One vertical motion is inoperative.</li> </ol>	Reverse connection as in Step 3. If opposite horizontal motion becomes inoperative, replace the switch. If problem persists, return light for service.* Reverse connections as in Step 4. If opposite vertical motion becomes inoperative, replace the switch. If problem persists, return light for service.*

\*Return light for service at the factory, ITT Jabsco Products, 501 W. Liberty Street, Springfield, Ohio 45501

## SINGLE PANEL CONTROL WIRING DIAGRAM

8" MODELS

Note "A": Connect red & black leads (14 ga. wire) from light to positive & negative leads from power source. Power leads to be 10 ga. or larger depending on lead/run length, and be properly fused as shown.

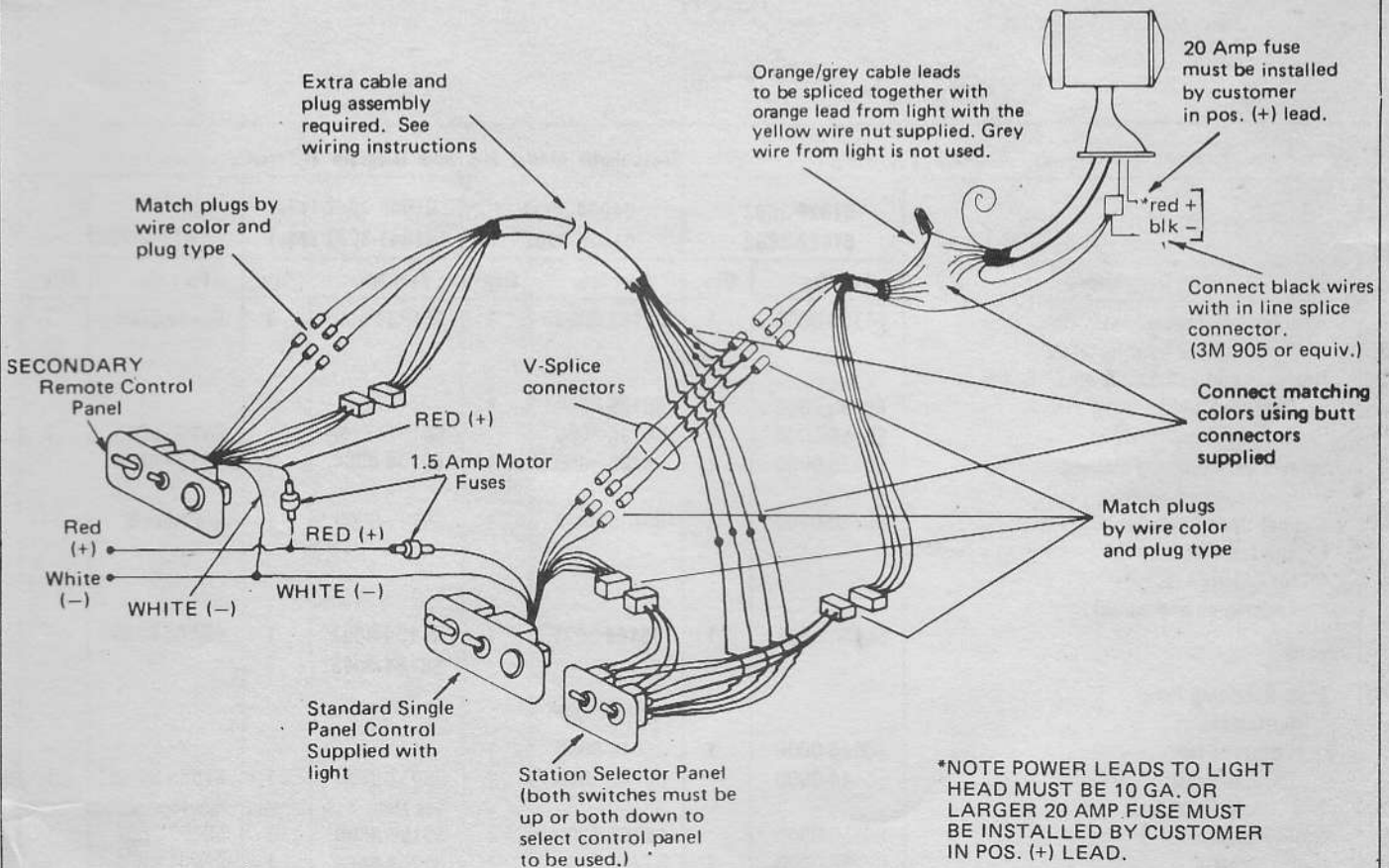


## OPTIONAL SECONDARY REMOTE CONTROL WIRING DIAGRAM

8" MODELS

Optional Secondary Remote Control No. 66075-0000

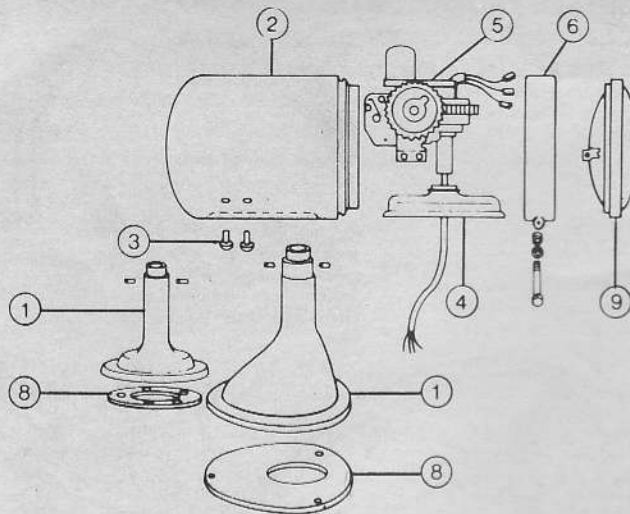
(includes panel, station selector panel, V-splices, and butt connectors).



SEE TWO STATION PARTS LIST ON PAGE 3.

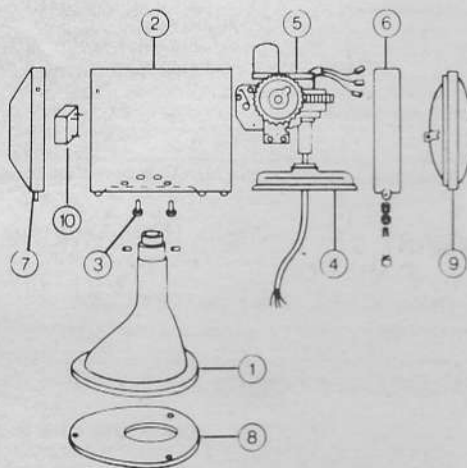
EXPLODED VIEW

MODEL 61020-3002  
61022-3002  
61024-3002  
61025-3002



EXPLODED VIEW

MODEL 61040-3002  
61041-3002  
61042-3002



PARTS LIST

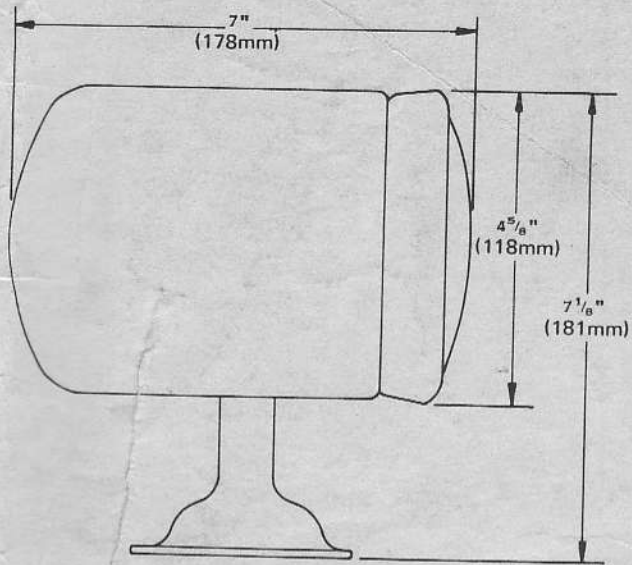
Searchlight Model No. and Diagram Reference

Key No.	Part Description	61020-3002 61022-3002		61024-3002 61025-3002		61040-3002 (12v) 61041-3002 (24v)		61042-3002	
		Part No.	Qty	Part No.	Qty	Part No.	Qty	Part No.	Qty
1	Base (includes set screws)	66130-0000	1	66132-0000	1	66133-0000	1	66133-0000	1
2	Housing (rubber boot installed), (includes end bell, (no. 7), on 7" & 8")								
	Chrome-Steel Housing	66135-0000	1	66135-0000	1	—	—	—	—
	Chrome-Brass Housing	66136-0000	1	66136-0000	1	66137-0000	1	64165-0000	1
3	Screws for mounting housing (package of 4 screws)	66138-0000	1	66138-0000	1	66138-0000	1	66138-0000	1
4	Rubber Boot (includes straps and fasteners)	66140-0000	1	66140-0000	1	66141-0000	1	See Item 2	—
5	Motor Clutch Assembly (assembled and wired)								
	12v	66164-0001	1	66164-0001	1	66164-0002	1	66164-0004	1
	24v	—	—	—	—	66164-0003	1	—	—
6	Bulb Retaining Ring (w/fasteners)								
	Chrome-Steel	66046-0000	1	66046-0000	1	—	—	—	—
	Chrome-Brass	66149-0000	1	66149-0000	1	66032-0000	1	67563-0000	1
7	End Bell (w/fasteners)	—	—	—	—	See Item 2	—	See Item 2	—
8	Gasket (base mount)	66155-0000	—	66156-0000	1	66157-0000	1	66157-0000	1
9	Bulb 12 VDC	67296-0000	1	67296-0000	1	67262-0000	1	65254-0000	1
	24 VDC	—	—	—	—	66165-0000	1	—	—
10	Primary Power Relay	—	—	—	—	—	—	66166-0000	1

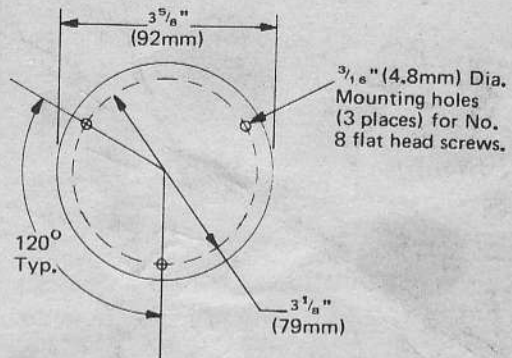
RAY

SEA

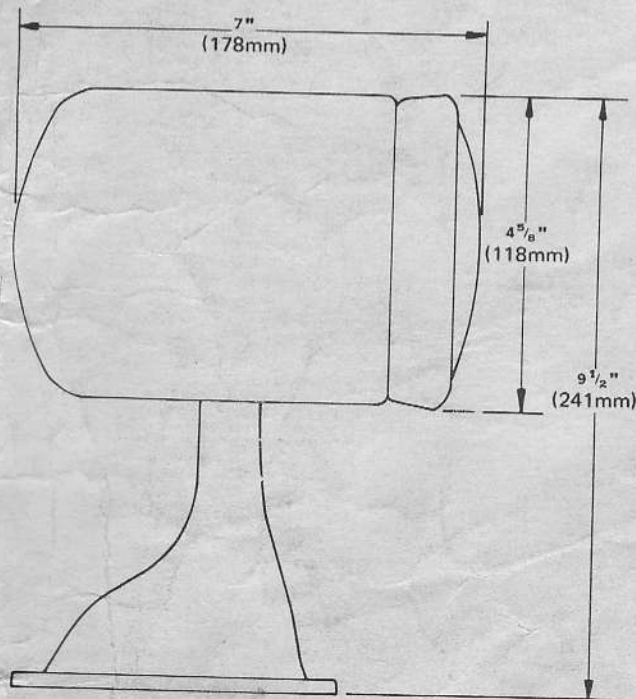
DIMENSIONAL DRAWINGS



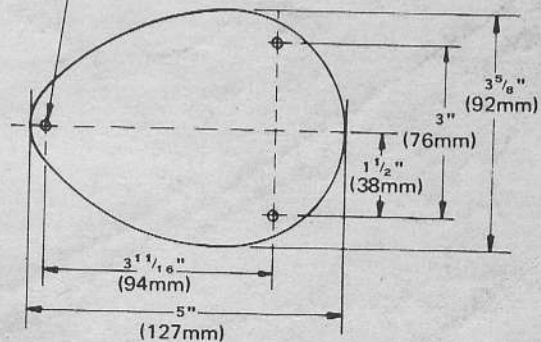
BASE MOUNTING DIMENSIONS



61020-3002/61022-3002



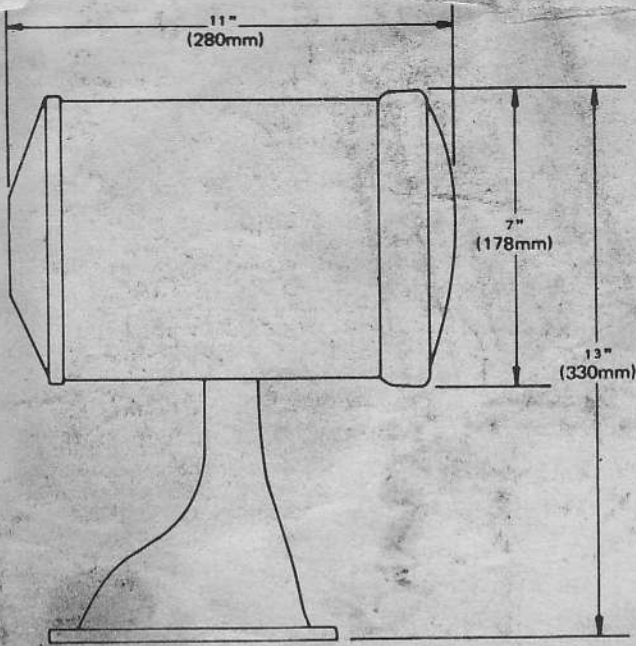
3/16" (4.8mm) Dia. Holes (3 places) for No. 8 flat head screws.



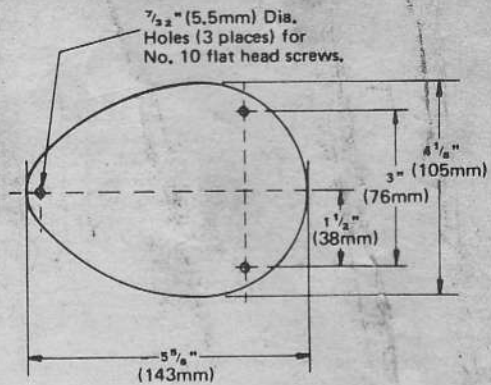
BASE MOUNTING DIMENSIONS

61024-3002/61025-3002

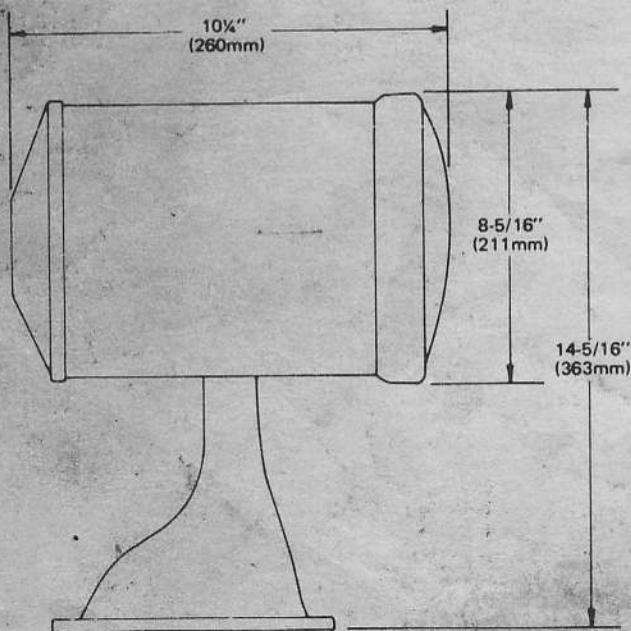
EXPLODED VIEW



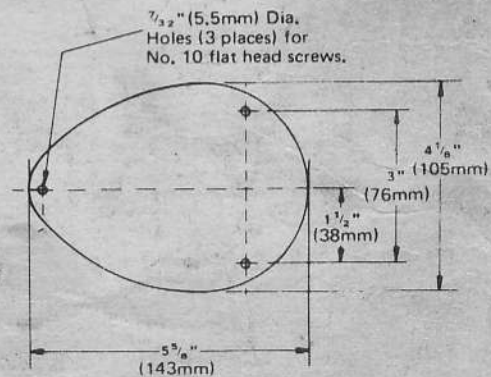
BASE MOUNTING DIMENSIONS



61040-3002/61041-3002



BASE MOUNTING DIMENSIONS



61042-3002

**JABSCO PRODUCTS** **ITT**

Marine and Recreation Components Division  
International Telephone and Telegraph Corporation  
1485 Dale Way, Costa Mesa, California 92626

Telephone: (714) 545-8251