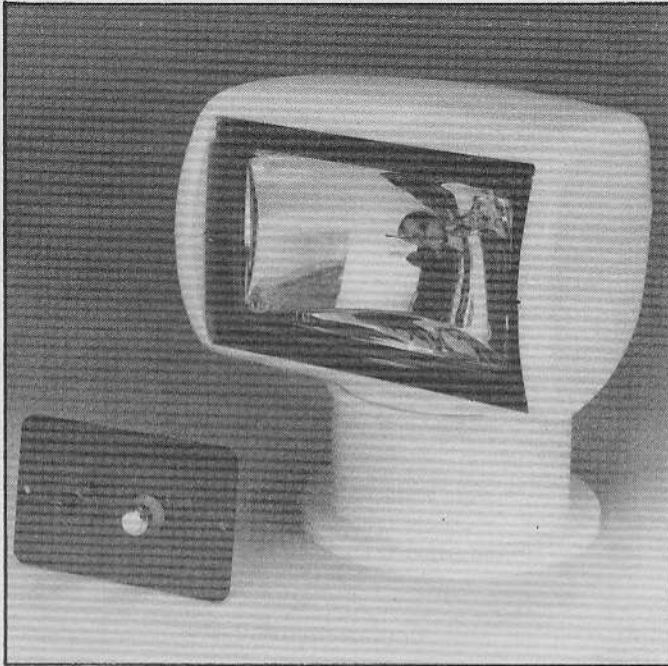


RAY-LINE®

Model 60020-Series 135 SL

MODEL 60020-SERIES



FEATURES

- Constructed of noncorrosive materials.
- Sealed beam halogen lamp
- Remote control and 15' cable included.
- Long life gear drive.
- Low amp draw.

APPLICATION

Ideal for boaters ... locate buoys, moorings, channel markers, etc. Ideal for RV'ers ... pinpoint road signs, campsites, or use as backup light.

SPECIFICATIONS

- 320° horizontal movement
- 75° vertical sweep
- 50 watt 3½" x 6" bulb
- White thermoplastic housing and base

MODEL NUMBER	VOLT DC	AMPS	CANDLEPOWER	WEIGHT lb (kg)	STANDARD CARTON
60020-0000	12	3.6	100,000	6 (2,7)	4
60020-0024	24	2	100,000	6 (2,7)	4

INSTALLATION INSTRUCTIONS

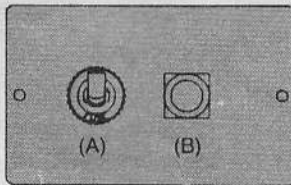
LIGHT MOUNTING – Select a location for the light which will allow for clear beam projection forward and as far aft as possible. Searchlight base should be mounted on level, flat surface. Using the light base mounting template enclosed, drill three (3) mounting holes and a center hole at the center of base for wiring cable. Feed cable through hole and fasten light in place with three (3) #10 x 1" screws provided, or applicable screws for your particular application. Mount light so that the Ray-Line name on the base is facing to the rear.

NOTE: SECURE CABLE WITH NYLON CLIPS OR EQUIVALENT. PROTECT INSTALLATION AT POINTS OF STRESS, AND LEAVE ADEQUATE SLACK WHERE CABLE MUST BE FLEXIBLE.

CONTROL INSTALLATION (60030-0000) – Select a location near the helm which will allow for convenient operation of control.

1. Cut two holes (see Panel Cutout Template enclosed) for mounting control.
2. Route power leads (supplied by customer) from voltage source to control. Note: Wiring must be 16 gauge (minimum).
3. Connect positive (+) power lead to red (+) wire and negative (-) power lead to black wire using butt connectors.
4. Connect wires (matching colors) from control panel to end of light cable using butt connectors provided.
5. Use bedding compound or sealant to waterproof control mounting.
6. Secure control with self-tapping screws provided.

CONTROL UNIT OPERATION



Switch Functions

- (A) Light Switch – On/Off switch positions.
- (B) Directional Switch – Lever has eight contact positions and will operate in horizontal, vertical, and in four intermediate directions.

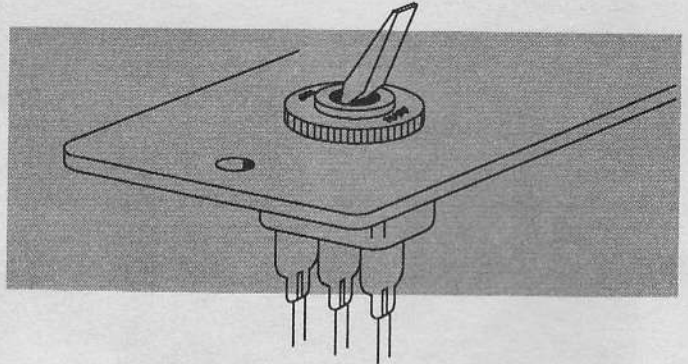
CLEANING OF EXTERIOR PLASTIC SURFACES

Recommendation for cleaning "Exterior Surfaces" is a solution of warm water and a mild "Dish washing" Detergent soap.

CAUTION: Do not use cleaners that contain esters, halogenated solvents, aromatic solvents, keytones and strong acids or bases.

CIRCUIT PROTECTION – A 10 amp fuse is located in the On/Off toggle on control. To replace fuse grasp On/Off toggle and push in while turning to left facing control. Pull out fuse and replace. The proper fuse has been included in the fuse holder. Should this fuse blow, replace with the same size fuse after determining reason for blown fuse.

NOTE: ON SOME MODELS THE FUSE HOLDER MAY BE LOCATED SEPARATELY.



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

SERVICE

Control Replacement

Individual replacement parts are available for the control panel. To replace switches remove the two (2) screws from front of panel and pull forward, exposing wiring.

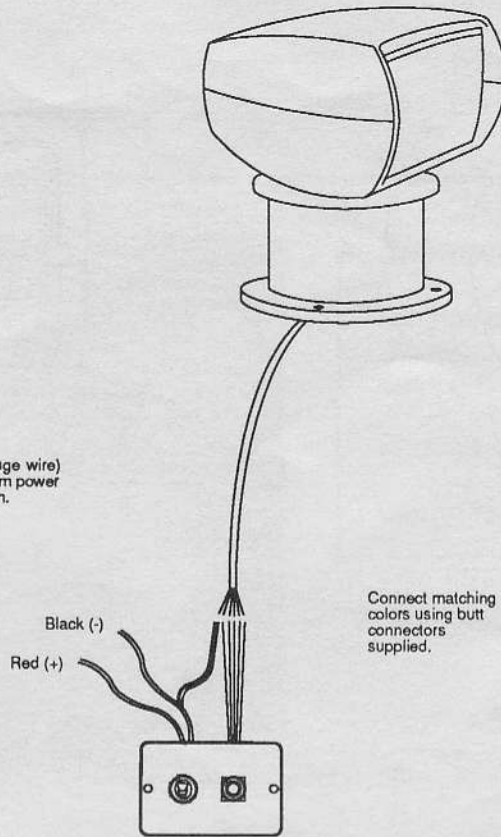
1. To remove directional switch push firmly on the front toggle and remove switch from back side of panel. Cut wires to the defective switch, and splice wires (with butt connectors) to the new switch, being sure to match wire colors.
Note: Install switch with yellow wire on top for correct directional aiming.
2. To remove On/Off fuse switch disconnect wires to defective switch and pull forward with gentle rocking motion from back side of panel easing switch out. Install new switch and secure using clip retainer on back side of control panel. Reconnect wiring terminals to switch.

BULB REPLACEMENT – Remove four (4) screws and retaining bezel. Pull bulb assembly forward and disconnect spade connectors from back of bulb. Reconnect spade terminals to new bulb. Install bulb and fasten with bezel and four (4) screws.

PARTS LIST

Part Number	Description
18753-0178	Bulb Kit
43990-0000	Directional Switch
18753-0180	On/Off Fuse Switch
64073-0020	Station Selector Switch
60030-0000	Control
18753-0350	Motor
43670-0005	Dual Station Kit

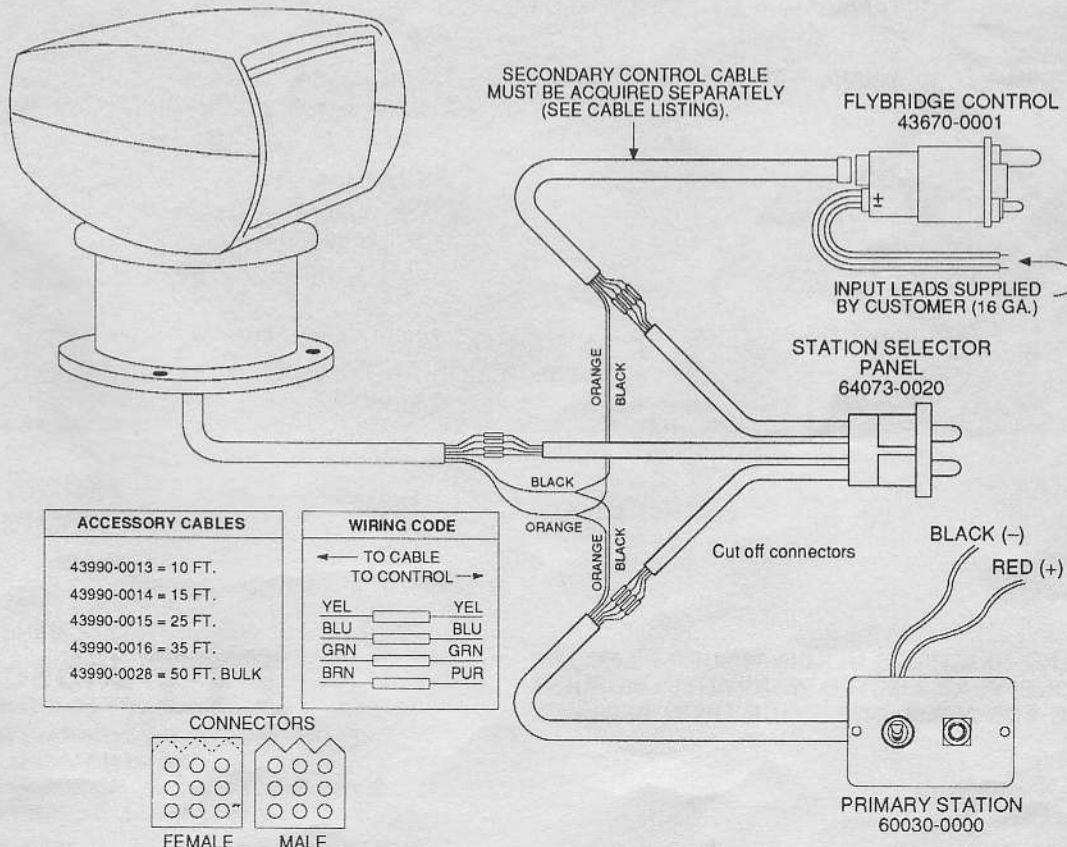
Note: Connect red and one black lead (16 gauge wire) from control to positive and negative leads from power source. Power leads to be 16 gauge minimum.



135 SL CONTROL FRONT VIEW

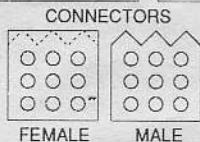
WIRING CODE	
← TO CONTROL	TO CABLE →
GRN	GRN
BRN	BRN
BLU	BLU
YEL	YEL
ORG	ORG
BLK	BLK
	GRY
NOT USED	

DUAL STATION INSTALLATION KIT 43670-0005

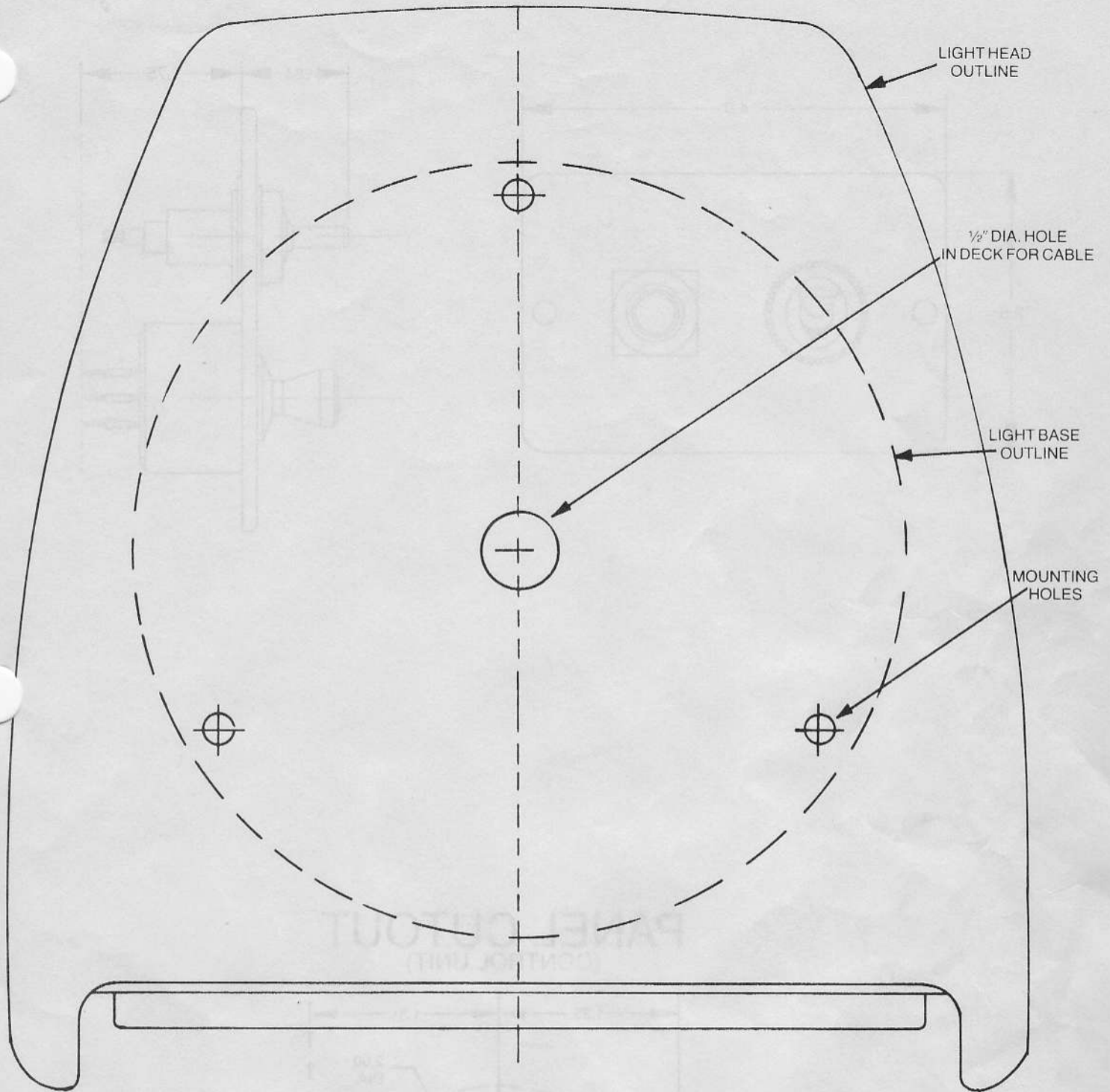


ACCESSORY CABLES
43990-0013 = 10 FT.
43990-0014 = 15 FT.
43990-0015 = 25 FT.
43990-0016 = 35 FT.
43990-0028 = 50 FT. BULK

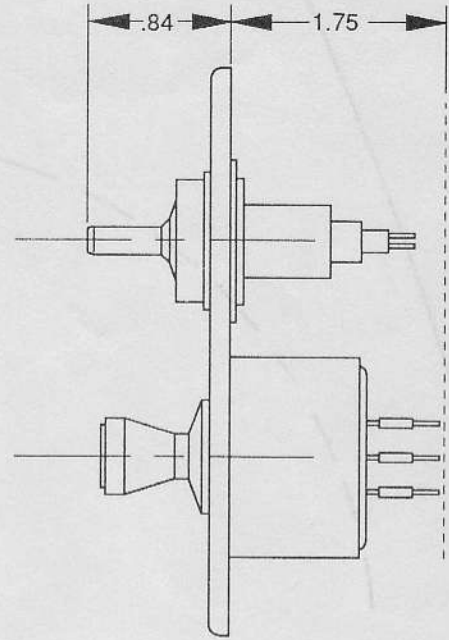
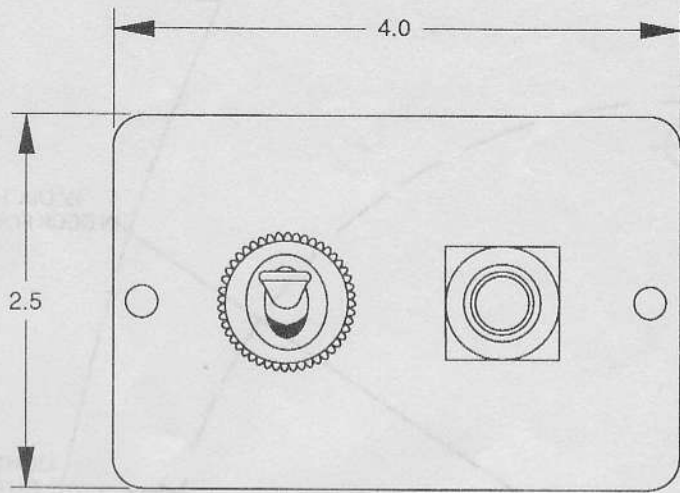
WIRING CODE	
← TO CABLE	TO CONTROL →
YEL	YEL
BLU	BLU
GRN	GRN
BRN	PUR



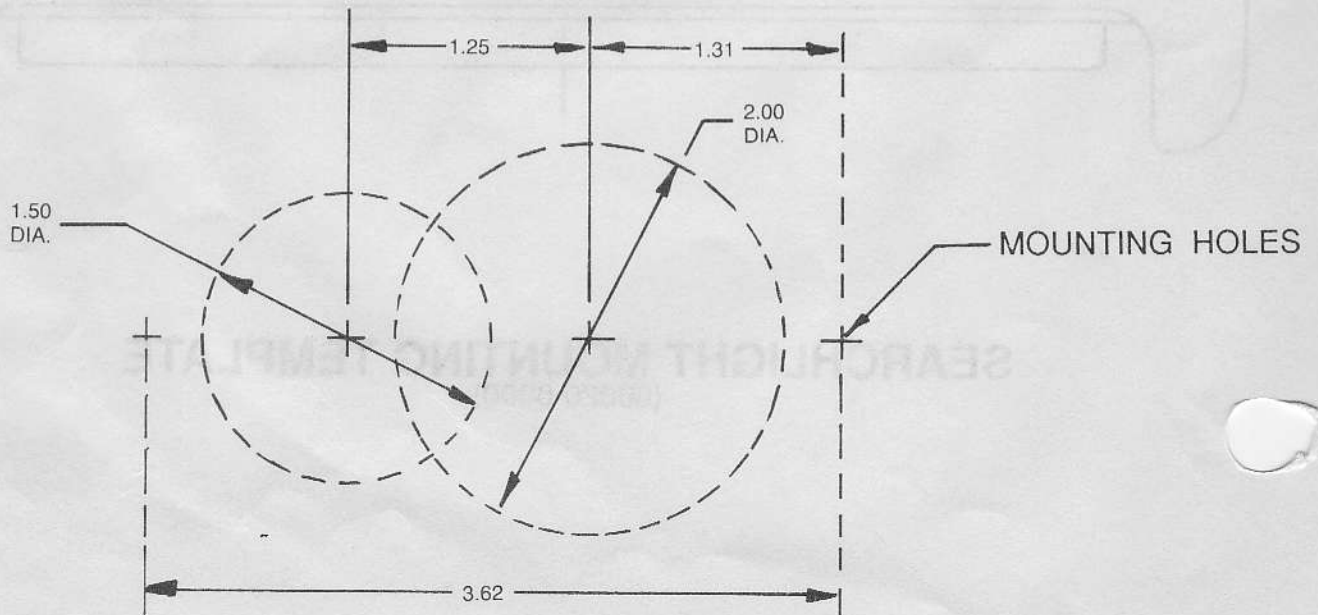
PRIMARY STATION
60030-0000

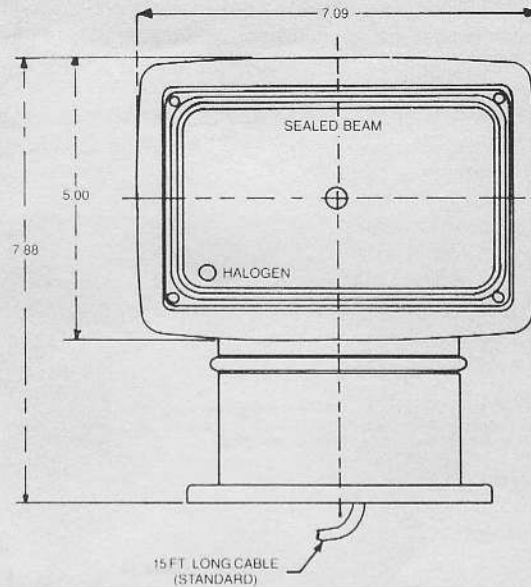
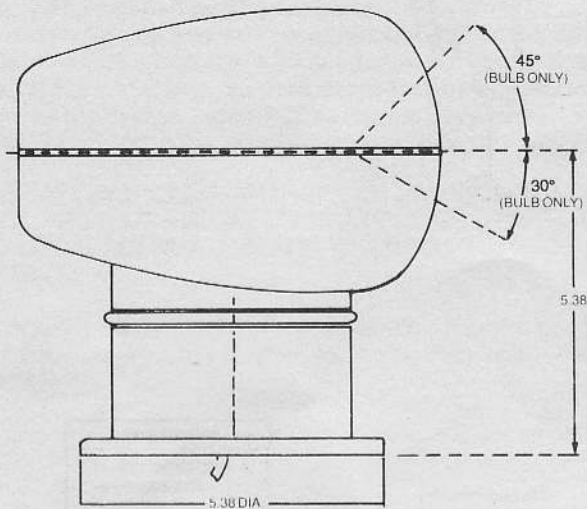


SEARCHLIGHT MOUNTING TEMPLATE
(60020-0000)



PANEL CUTOUT (CONTROL UNIT)





TROUBLESHOOTING

All lights are thoroughly inspected before shipping and are warranted to operate within specifications. If light does not operate correctly, check fuse and wire harness connections before proceeding.

Problem	Solution
Control works in reverse in all directions.	Control installed upside down.
Bulb operates – no light movement .	Check wiring code for proper wire color connections.
Light moves – bulb does not operate .	1. Check bulb. 2. Check wiring code for proper wire color connections.
Dim light	1. Check voltage at power source. 2. Increase wire size from source to control. 3. Check for proper ground circuit.

MAJOR SERVICE: For service requirements on light drive unit, complete light assembly should be returned to the factory at 501 W. Liberty St., Springfield, Ohio 45501.

THE PRODUCT DESCRIBED HEREIN IS SUBJECT TO THE JABSCO® ONE YEAR LIMITED WARRANTY, WHICH IS AVAILABLE FOR YOUR INSPECTION UPON REQUEST.

ITT Jabsco
ITT Fluid Technology Corporation

1485 Dale Way, P.O. Box 2158, Costa Mesa, Ca 92628-2158
Tel: (714) 545-8251; Fax: (714) 957-0609
Bingley Road, Hoddesdon, Hertfordshire EN11 0BU, England
Tel: 0992-467191; Tlx: 26351 G; Fax: 0992-467132