

# INSTRUCTION AND PARTS LIST

AIRPORT BEACON

MODEL AB-1000D / AB-1000DA

ALWAYS FURNISH BOTH MODEL AND SERIAL NUMBER WHEN PLACING  
PARTS ORDER

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## **PLEASE . . . . READ THESE INSTRUCTIONS BEFORE INSTALLATION**

Your airport beacon is designed to give you trouble free service with a minimum of attention. However, one important fact that you must take into consideration before installation: bulbs do burn out and must be replaced. Therefore, it is important to mount the beacon in such a location that it is easily accessible for maintenance. The bulbs have a rated life of 4,000 hours. Based on average use of 10 hours per night, one might expect to replace bulbs once a year. Light output is 200,000 cp per bulb. Total wattage of unit is 2,250 watts, 19.2 amps.

**UNPACKING** - Carefully inspect beacon for shipping damage. If any is noted, notify the appropriate carrier at once.

**INSTALLATION** - The beacon should be mounted in the highest possible location, keeping in mind the comment above about bulb changes and maintenance. Provide a secure, level platform; bolt beacon firmly in place, using 5/16" bolts. Make sure the beacon is perfectly level. Uneven mounting will cause the beam to be low on one side and high on the opposite side, making angle adjustment virtually impossible. There is also a possibility that improper leveling will cause excessive wear and tear on the bearings.

**WIRING** - Unit is designed to operate on 117 VAC, 60 HZ. Connect power supply and ground wire through watertight connector and attach to terminal block located in lower left corner of the enclosure. The 117 VAC conductors connected to the first and third terminal on the block. The feeder circuit should be configured for a 30AMP device (#10AWG minimum) and length of run should be considered for sizing. If the Arctic Kit has been installed, a separate 117 VAC power supply must be connected to the two most left terminals on the block and the beacon supply will be connected to the two most right terminals. The ground wire will always be connected to the center terminal on the block regardless of whether the unit has an Arctic Kit or not. The use of a separate power supply on Arctic Kit will insure that the heating element will function during the beacons off cycle.

Time clock or photoelectric cell may be used to control the operating time of the beacon. Since the inrush current of the halogen lamps far exceeds the capabilities of most control timers and photocells. It is highly recommended that a minimum 30AMP contactor with the appropriate inrush characteristics be used to load the beacon. Make sure to only switch the hot wire, **(DO NOT SWITCH THE NEUTRAL)**. Be sure to fuse power supply to the beacon.

**MAINTENANCE** - (TURN OFF POWER SUPPLY BEFORE OPENING ENCLOSURE).

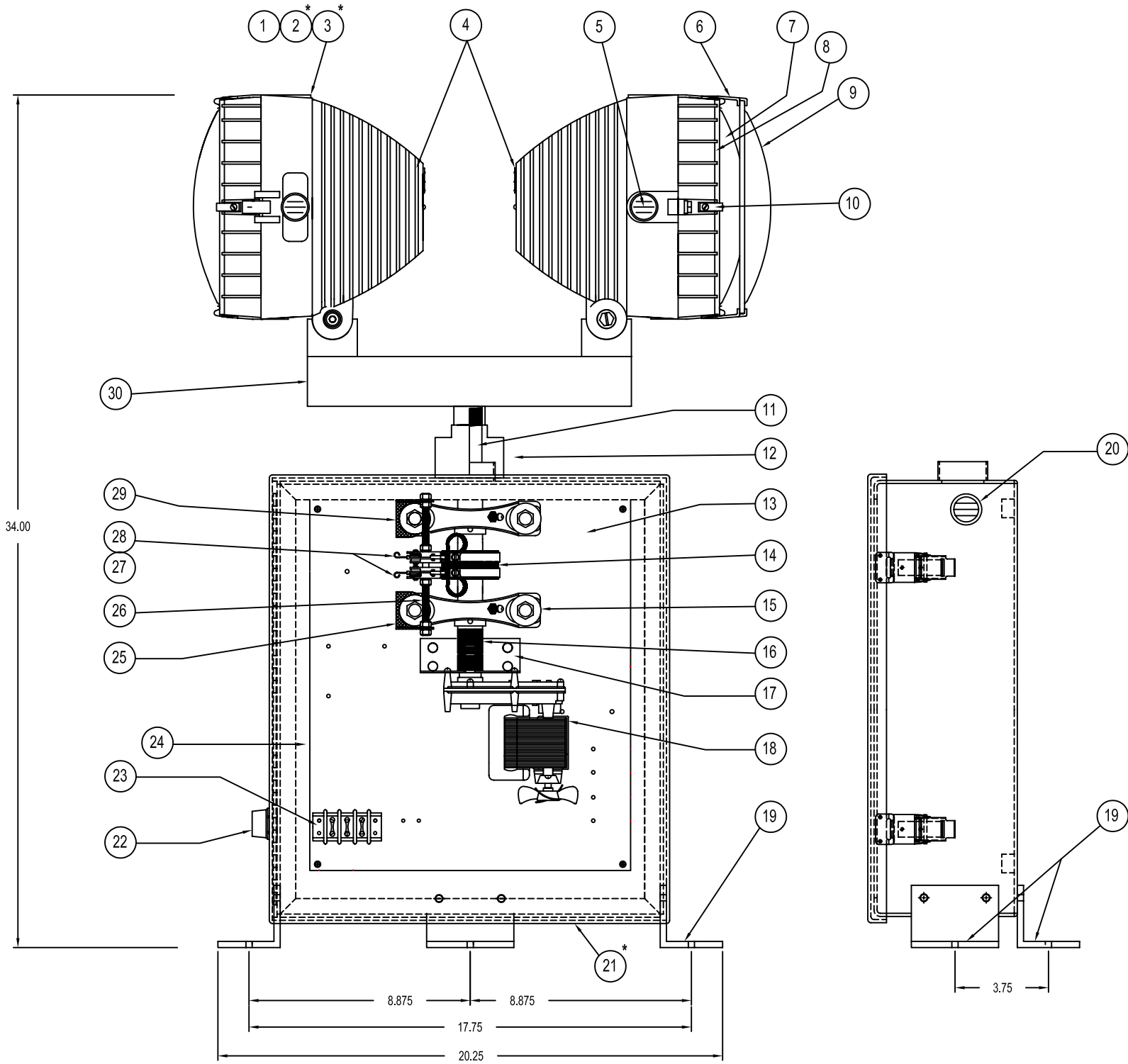
Only routine maintenance is required. Check brushes semiannually, replace when brush length is less than 3/8", clean brush and slip ring assembly with a small brush applicator or no deposit contact cleaner. Check all hardware for tightness.

**CHANGING BULBS** - (TURN OFF POWER SUPPLY). Loosen bolt at 9 o'clock position on lamp housing w/ 1/2" socket or wrench. Swing front of head aside, unplug lamp from socket and replace with new lamp. Socket retaining clip must be in a vertical position. Beam spread is 15° x 32°, so lamp must be installed with terminals in vertical position. Proper seating of gasket is important as lamp must be protected from moisture.

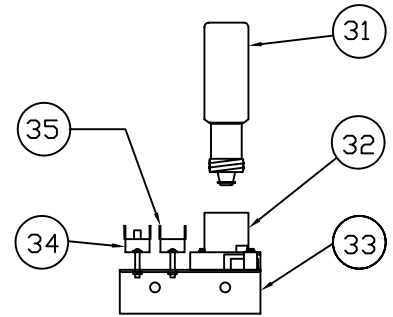
**OPERATION OF ARCTIC KIT** - With a constant source of power, control thermostat will start 100 WATT heater when temperature in unit reaches a low of approximately 32° F. Heater will operate until temperature reaches approximately 45° F. The overheat thermostat will shut heater off if the temperature reaches 160° F., and must be manually reset by pushing the red button. It is possible for the overheat thermostat to trip during extremely hot weather conditions. Check the reset button before operating in cold weather conditions.

**MAJOR REPAIRS** - Items such as the motor, brushes, thermostats and heater can be replaced with unit in place. The beacon is designed so other major components can be removed as an assembly and taken to a more convenient working area. (1) TURN OFF POWER AT SOURCE. (2) Disconnect power supply at terminal block inside housing. (3) Remove screws in lamp bar (M10-11) cover and remove. (4) Disconnect wires coming through top of drive shaft. (5) Loosen the two set screws (M10-11) and remove both set screws. (6) Unscrew beacon head and lay aside (turn counter clockwise). (7) Loosen set screws securing rain guard (M20-8). (8) Remove rain guard. (9) Remove four screws holding backpanel (M240-8A). (10) Entire rotating assembly can now be removed.

**TO REINSTALL** - (1) Insert shaft through hole in top of housing and secure mounting plate loosely in place with four screws. (2) Center the shaft and tighten four back panel screws. (3) Install rain guard on shaft and hand tighten set screws. Place a small amount of duct seal or silicone compound around shaft at top of rain guard. (4) Screw lamp bar assembly on shaft until tight. (5) Tighten set screws. (6) Slide rain guard up until it makes contact with the bottom of lamp bar assembly. Tighten set screws securely. Bottom of rain guard should not touch top of beacon enclosure (M10-13). Ideal distance is 3/8". (7) Connect shaft wires to socket wires in order they were removed. (8) Replace M10-11 cover plate. (9) Connect power supply to terminal block.



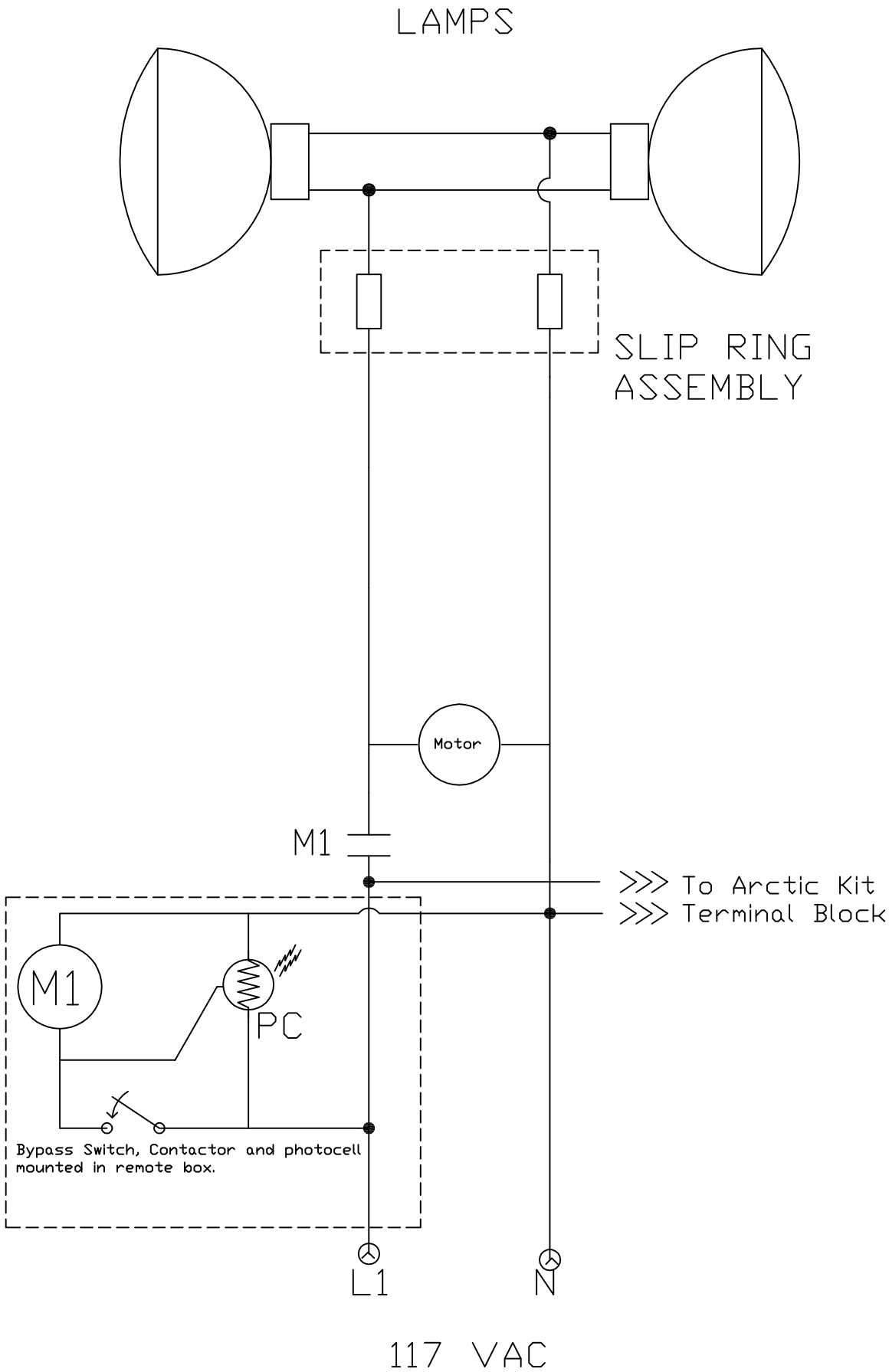
# ARCTIC KIT (OPTIONAL)



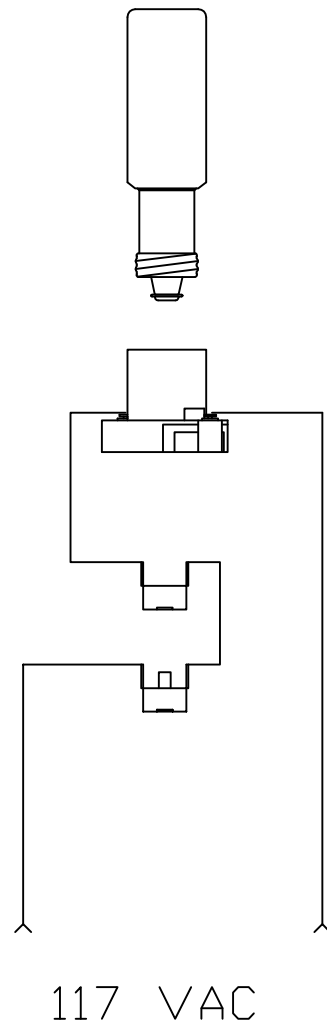
| REF. NO. | PART NO. | DESCRIPTION            | TOT. REQ. | DWG. OR REMARKS   |
|----------|----------|------------------------|-----------|-------------------|
| 1        | M10-14   | LAMP HOUSING (HEAD)    | 2         | PAR 64            |
| 2        | M70-7B   | LAMP SOCKET            | 2         | *                 |
| 3        | M60-20   | 1000W LAMP             | 2         | 120VAC PAR 64 *   |
| 4        | M460-3   | 1" HOUSING VENT (TAB)  | 2         |                   |
| 5        | M460-2   | 1" HOUSING VENT        | 6         |                   |
| 6        | M420-1   | LENS STAND-OFF         | 4         | Stands M50-29 off |
| 7        | M50-28   | CLEAR LENS             | 2         | PAR 64            |
| 8        | M150-8   | LENS/HEAD GASKET       | 2         |                   |
| 9        | M50-29   | GREEN LENS             | 1         | PAR 64            |
| 10       | M405-2   | LENS RETAINING CLIP    | 16        | 8 PER LENS        |
| 11       | M320-3   | LAMP MTG. SHAFT        | 1         |                   |
| 12       | M20-8    | RAIN GUARD             | 1         |                   |
| 13       | M240-8A  | SHAFT & MOTOR PANEL    | 1         |                   |
| 14       | M315-2   | SLIP RING ASSEMBLY     | 1         | TWO RING          |
| 15       | M330-2   | PILLOW BLOCK BEARING   | 2         |                   |
| 16       | M370-1   | FLEXIBLE COUPLING      | 1         | THREE PARTS       |
| 17       | M335-5   | MOTOR MTG. FLANGE      | 1         |                   |
| 18       | M260-8A  | GEARMOTOR, 120VAC 60HZ | 1         | 12 RPM            |
| 19       | M335-2   | HOUSING MTG. FLANGE    | 3         |                   |
| 20       | M460-3   | 1" HOUSING VENT (TAB)  | 2         |                   |
| 21       | M460-4   | 3" HOUSING VENT (TAB)  | 1         | *                 |
| 22       | M140-2   | CONDUIT HUB            | 1         |                   |
| 23       | M395-1   | TERMINAL BLOCK         | 1         |                   |
| 24       | M10-13   | BEACON HOUSING         | 1         |                   |
| 25       | M335-3   | STUD MTG. FLANGE       | 1         | BOTTOM            |
| 26       | M320-5   | INSULATED STUD         | 1         |                   |
| 27       | M55-2    | BRUSH HOLDER           | 2         |                   |
| 28       | M325-2   | BRUSH                  | 2         |                   |
| 29       | M335-4   | STUD MTG. FLANGE       | 1         | TOP               |
| 30       | M10-11   | LAMP BAR HOUSING       | 1         |                   |
| 31       | M380-2   | 100 W HEATER           | 1         |                   |
| 32       | M70-6    | HEATER SOCKET          | 1         |                   |
| 33       | M335-8   | AK-100 MTG. FLANGE     | 1         |                   |
| 34       | M390-2   | OVERHEAT THERMOSTAT    | 1         |                   |
| 35       | M390-1   | CONTROL THERMOSTAT     | 1         |                   |

\* Denotes items not shown

# AB-1000D SCHEMATIC



## ARCTIC KIT



**SETTING BEAM ANGLE** - Beacon heads can be set at any angle desired. When shipped, angle is 3° to 5° which works well in most cases. If beam is too low or too high, adjust heads one notch at a time. Table below shows vertical height in feet of beam center line above beacon at various angles:

| Feet    | Miles | 6°<br>Beam | 3°<br>Beam | 1 ½°<br>Beam |
|---------|-------|------------|------------|--------------|
| 10      | -     | 1.05       | .5         | .13          |
| 100     | -     | 10.5       | 5.2        | 1.3          |
| 1,000   | .19   | 105        | 52         | 25           |
| 2,000   | .38   | 210        | 104        | 51           |
| 4,000   | .76   | 420        | 208        | 104          |
| 6,000   | 1.14  | 630        | 312        | 156          |
| 8,000   | 1.52  | 840        | 416        | 208          |
| 10,000  | 1.90  | 1,050      | 520        | 260          |
| 20,000  | 3.80  | 2,100      | 1,040      | 520          |
| 40,000  | 7.60  | 4,200      | 2,080      | 1,040        |
| 60,000  | 11.40 | 6,300      | 3,120      | 1,560        |
| 80,000  | 15.20 | 8,400      | 4,160      | 2,080        |
| 100,000 | 19.00 | 10,500     | 5,250      | 2,625        |

**EXAMPLE:** With 3° setting, center line of beam will be 3,120 feet above beacon at a distance of 11.4 miles.

SERIAL NO. \_\_\_\_\_

NOTES