

# INSTRUCTION AND PARTS LIST

AIRPORT BEACON

MODEL AB-500FP64 / AB-500FAP64

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 96,000 cp per bulb. Total wattage of unit is 1,190 watts, 10.2 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 20AMP device (#12AWG 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).

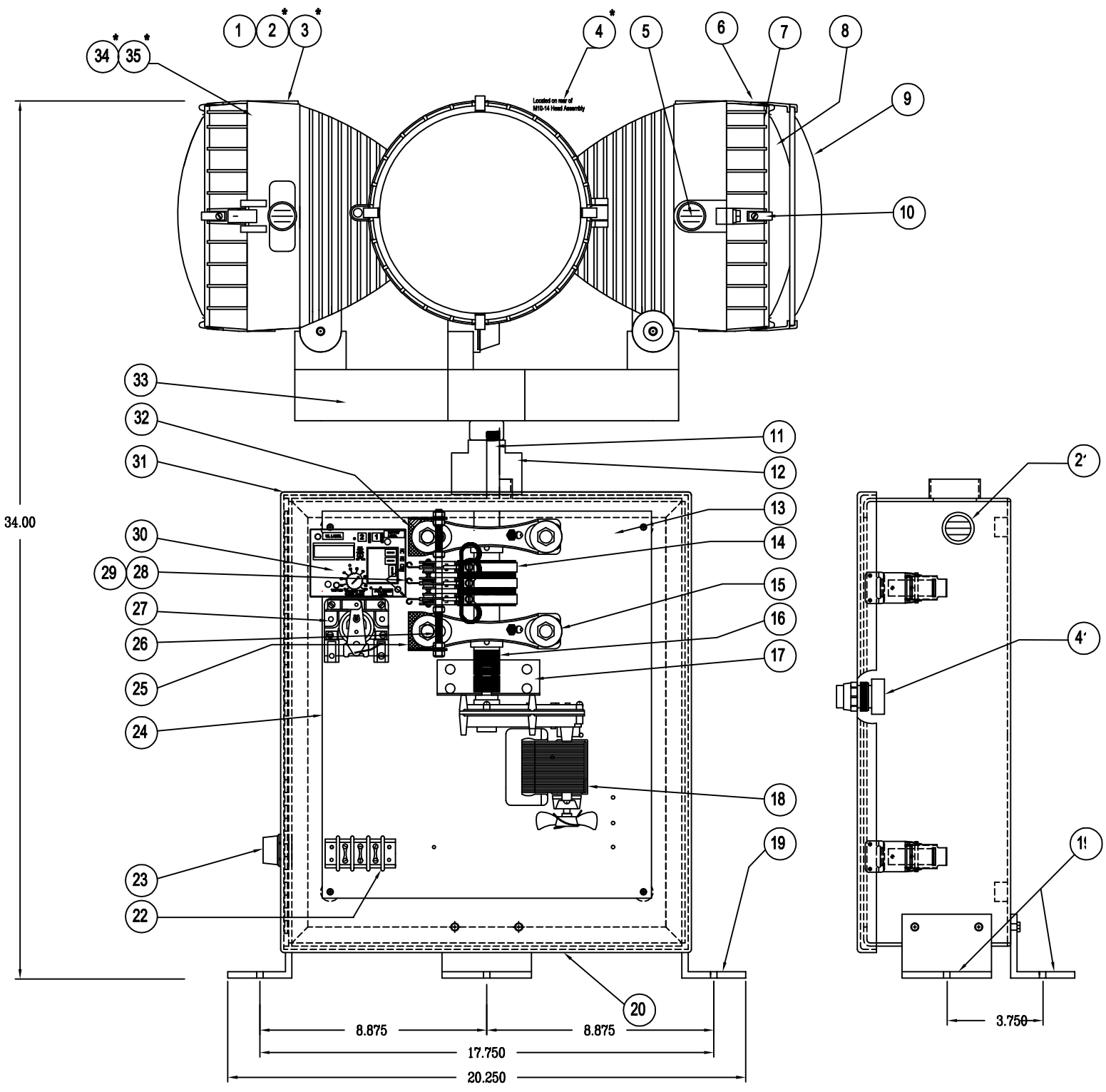
Only routine maintenance is required. Check brushes semiannually, replace when brush length is less than 3/8", clean brush and slip ring assembly with a small brush applicator or no deposit contact cleaner. Check all hardware for tightness.

**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.

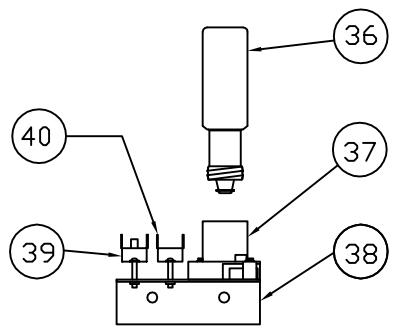
**MAJOR REPAIRS** - Items such as motor, brushes, thermostats and heater can be replaced with unit in place. Beacon is designed so other major components can be removed as a unit and taken to a more convenient working area. (1) TURN OFF ALL POWER AT SOURCE. (2) Disconnect power cables at terminal block inside housing. (3) Remove screws in lamp housing lid. (4) Disconnect wires coming through top of drive shaft. (5) Loosen the two set screws on roundel (M10-16F) 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 back panel (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 roundel (M10-16F) 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 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)	4	PAR 64 (1 NOT SHOWN)
2	M70-7B	LAMP SOCKET	4	*
3	M60-19	500W LAMP	4	120VAC PAR 56 *
4	M460-2	1" VENT	12	
5	M460-3	1" TAB VENT	4	
6	M420-1	LENS STAND-OFF	8	Stands M50-29 off
7	M150-8	LENS/HEAD GASKET	4	
8	M50-28	CLEAR LENS	4	PAR 64 (1 NOT SHOWN)
9	M50-29	GREEN LENS	2	PAR 64 (1 NOT SHOWN)
10	M405-2	LENS RETAINER	32	
11	M320-3	LAMP MTG. SHAFT	1	
12	M20-8	RAIN GUARD	1	
13	M240-8A	SHAFT & MOTOR PANEL	1	
14	M315-3	SLIP RING ASSEMBLY	1	THREE 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	M460-4	3" TAB VENT	1	*
21	M460-3	1" TAB VENT	2	
22	M395-2	5 POS. TERMINAL BLOCK	2	
23	M140-2	CONDUIT HUB	1	
25	M335-3	STUD MTG. FLANGE	1	BOTTOM
26	M320-5	INSULATED STUD	1	Replaced M320-4 10-15-07
27	M250-3	CONTROL RELAY	1	30 AMP
28	M55-2	BRUSH HOLDER	3	
29	M325-2	BRUSH	3	
30	M250-16	CURRENT SENSING RELAY	1	WITH TIMER
31	M10-13	BEACON HOUSING	1	
32	M335-4	STUD MTG. FLANGE	1	TOP
33	M10-16F	LAMP MTG. HOUSING	1	
34	M405-5A	LAMP RETAINER/FRONT	2	PAR 64 TO PAR 56
35	M405-5B	LAMP RETAINER/REAR	2	PAR 64 TO PAR 56
36	M380-2	100 W HEATER	1	
37	M70-6	HEATER SOCKET	1	
38	M335-8	AK-100 MTG. FLANGE	1	
39	M390-2	OVERHEAT THERMOSTAT	1	
40	M390-1	CONTROL THERMOSTAT	1	
41	M65-6	INDICATOR LIGHT	1	

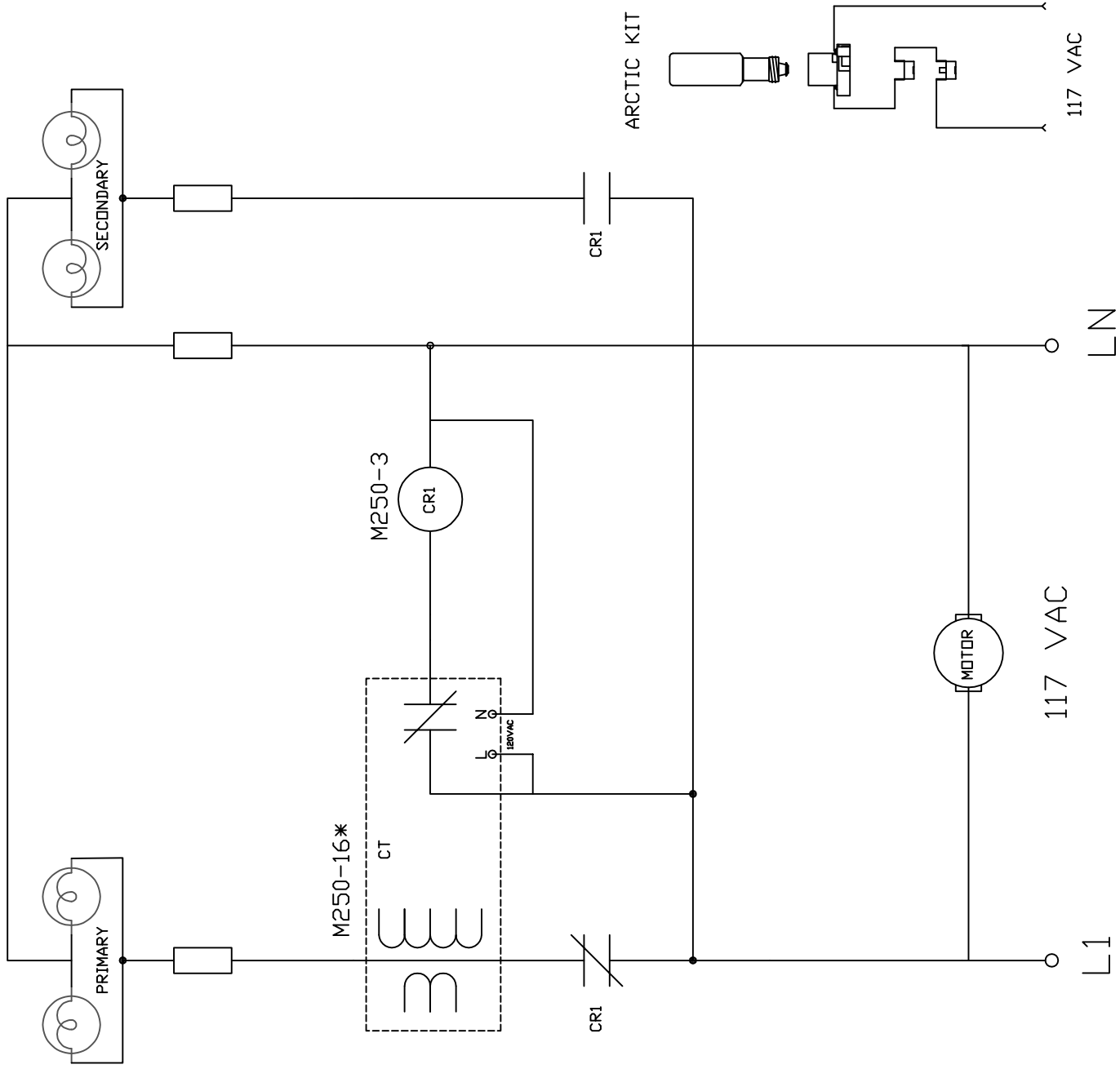
\* Denotes items not shown

**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:

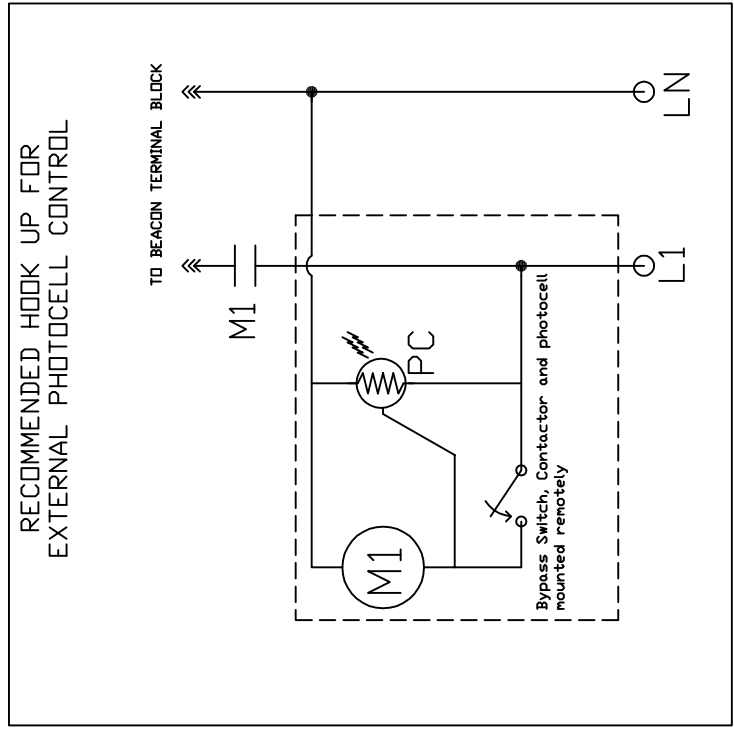
Feet	Miles	6° Beam	3° Beam	1 ½° Beam
10	-	1.05	.5	.13
100	-	10.5	5.2	1.3
1,000	.19	105	52	25
2,000	.38	210	104	51
4,000	.76	420	208	104
6,000	1.14	630	312	156
8,000	1.52	840	416	208
10,000	1.90	1,050	520	260
20,000	3.80	2,100	1,040	520
40,000	7.60	4,200	2,080	1,040
60,000	11.40	6,300	3,120	1,560
80,000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

# AB-500F P64 SCHEMATIC DIAGRAM



Parts Description	
M250-3	Change Over Relay
M250-16	Current Sensing Relay w/5Sec. Timer NC contacts



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

**NOTES**