



A Siemens Company

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# **INSTRUCTION MANUAL**

## **RB-2 L-801A (AIRPORT) ROTATING BEACON**

Manufactured per FAA Specification

AC 150/5345-12C



**ADB**

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Additional manuals are available upon request for a nominal charge of \$25.

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# Record of Changes

PAGE	REV	DESCRIPTION	CHECKED	APPROVED
5-3, 7-13	H	Revised P/N's for Photocell Contactor assembly	EP	WT
5-2, 7-5/7-6	I	Revised P/N for fuse holder	EP	WT
3-3, 7-7	J	Revised Table 3-1, Figure 7-4	EP	WT
7-1,7-5,7-9, 7-11, 7-13,7-17,7-19, 7-21,7-23, 6-2, i	K	Revised Part lists for Figs., added metric dimensions and added Sec. 6.9. Added CE mark to pg i	EP	WT

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## **Safety Notices**

The operating and maintenance personnel should refer to FAA Advisory Circular AC 150/5340-26, "Maintenance of Airport Visual Aids Facilities" for instructions on safety precautions. Personnel must observe the safety regulations at all times. While every practicable safety precaution has been incorporated in this equipment, the following rules must be strictly observed:

### **Keep Away From Live Circuits**

Operating and maintenance personnel must at all times observe all safety regulations. Do not change plug-in components or make adjustments inside equipment with high voltage supply ON.

### **Resuscitation**

Operating and maintenance personnel should familiarize themselves with the technique for resuscitation found in the First Aid Instruction Manual.

## **WARRANTY**

ADB, Inc. warrants that the RB-2 Rotating Beacon described herein, when sold by ADB, Inc. or its approved representatives, will perform in accordance with FAA specification AC 150/5345-12C, L-801A, and that any defect in design, materials or workmanship which may occur during proper and normal use during a period of one (1) year from date of installation or a maximum of two (2) years from date of shipment will be corrected by repair or replacement by ADB, Inc., f.o.b. factory. Such corrections shall constitute the limit of all ADB, Inc. liabilities for the L-801A Rotating Beacon.

# SECTION 1. GENERAL INFORMATION AND REQUIREMENTS

## 1.1 Introduction

The RB-2 all-weather Rotating Beacon consists of two main subassemblies. The cast-aluminum motor box contains a gear motor which drives an output shaft at 12.4 (FAA) or 12.5 (EXPORT) revolutions per minute. Mounted on this shaft is a rotating subassembly which includes two cast-aluminum finned housings, each containing a 1000 watt PAR 64 spot quartz lamp. The rotating unit produces a total output of 25 flashes per minute, alternately white and green.

### 1.1.1 Purpose

This manual describes procedures for the installation, operation, maintenance and troubleshooting of the RB-2 Rotating Beacon.

### 1.1.2 Scope

This instruction manual covers equipment manufactured to specification AC 150/5345-12C.

## 1.2 Description

(See Figure 7-1).

### 1.2.1 Lamp Housing

The lamp housing is a finned aluminum casting; the fins dissipate excess heat to the air, allowing the lamp to operate at its correct temperature for maximum life. The front section of the housing is hinged to allow access to the lamp for replacement, or to the lens for cleaning. A canopy, mounted on the hinged front section, is designed to deflect rain or hail from the lens. One lens is green, and the other clear. The housings are mounted 180° apart, and each is factory preset to an elevation of 5° above the horizontal.

### 1.2.2 Hub and Shaft Assembly

The rotating hub is mounted on a shaft which passes through the top of the motor box, and is supported by bearings at the top and bottom of the box. The lamp housings are attached to the hub by fittings which allow adjustment of the light beam elevation angle.

### 1.2.3 Motor Box

A heavy duty aluminum casting with a cover plate houses the motor and electrical equipment, and is vented to prevent an accumulation of excess heat. Access to the interior of the housing is gained by removal of the four cover plate screws and the plate.

### 1.2.4 Motor and Drive Assembly

The 50/60 Hz motor is geared to drive the shaft at 12.4 (FAA) or 12.5 (EXPORT) RPM. This output shaft is connected to the hub assembly which rotates the lamp heads.

### 1.2.5 Optional Heater Assembly

(See Figure 7-3.) A heater assembly is available for use at temperatures below  $-10^{\circ}\text{C}$  ( $+14^{\circ}\text{F}$ ). The heater turns off at temperatures above  $+10^{\circ}\text{C}$  ( $+50^{\circ}\text{F}$ ).

### 1.2.6 Optional Mounting Bases

Optional bases are available for mounting the beacon on a flat, horizontal roof or on top of a pole. See Figure 7-5 for optional pole mounting adapter. An optional roof mounting assembly is shown in Figure 7-6.

### 1.2.7 Optional Photocell Assembly

(See Figure 7-7.) An optional photocell assembly is available to automatically turn the beacon on at dusk and off at dawn.

## 1.3 Equipment Specification Data

The ADB part number for the RB-2 is given in Table 1-1 for each of the four options. Table 1-2 provides reference data pertinent to the equipment. Table 1-3 lists the equipment and accessories supplied. Items not supplied which might be required for installation are listed in Table 1-4.

**Table 1-1. L-801A Part Numbers**

<u>Type</u>	<u>Part Number</u>	<u>Includes Heater</u>
RB-2 (FAA approved)	44D0793-1	No
RB-2 (FAA approved)	44D0793-2	Yes
RB-2 (Export)	44D0793-3	No
RB-2 (Export)	44D0793-4	Yes



## Table 1-2. Equipment Data

Type.....	L-801A, RB-2
Input .....	120 VAC, $\pm 10\%$ , 50/60 Hz
Watts .....	2100W
Watts .....	2500W (with optional heater)
Lenses.....	One clear, one green
Lamps .....	Part No.: GE. 1000W, Quartzline, Q1000 PAR64/NSP (ADB P/N: 48A0004)
Quantity .....	2
Watts .....	1000W
Rated Average Life .....	4000 hours
Beam Intensity .....	25,000 min. effective candelas from $+1^\circ$ to $+2^\circ$ vertical and from $+8^\circ$ to $+10^\circ$ vertical, 50,000 min. effective candelas from $+2^\circ$ to $+8^\circ$ vertical.
Rotation Speed.....	12.4 (FAA) or 12.5 (EXPORT) RPM (Produces 25 flashes per minute)
Heater.....	400W (heating element)
Turns On.....	Below $-10^\circ\text{C}$ ( $+14^\circ\text{F}$ )
Turns Off: .....	Above $+10^\circ\text{C}$ ( $+50^\circ\text{F}$ )
Temperature Range of Installation.....	$-55^\circ\text{C}$ ( $-67^\circ\text{F}$ ) to $+55^\circ\text{C}$ ( $+131^\circ\text{F}$ )
Humidity.....	0% to 100%
Altitude.....	Sea level to 10,000 feet (3000 m)
Wind .....	Velocities to 100 mph (161 km/h)
Dimensions.....	Height: 28 in.(711.2 mm) ; ..... Width: 26 in. (660.4 mm)
Clearance for Rotation .....	30 inches (762 mm)
Mounting Dimensions.....	Four $5/16"$ (7.9375 mm) ( holes in a rectangular pattern: ( $5"$ x $9-5/8"$ ) (127 x 244.475 mm)
Shipping Weight.....	Approximately 120 lb. (54.4 kg)

**Table 1-3. Equipment and Accessories Supplied**

<u>Quantity</u>	<u>Description</u>
1	RB-2 Rotating Beacon
1	Instruction Manual

**Table 1-4. Equipment Required But Not Supplied**

<u>Quantity</u>	<u>Description</u>
1	Wrench (7/16)
A/R	Set of Screwdrivers
A/R	Set of Pliers
1	Voltmeter
1	Insulation Tester
1	Level
1	Lightning Rod
A/R	Ground Wire (for lightning rod)
A/R	Liquid Glass Cleaner
1	S0-3 Cable, AWG 10

## SECTION 2. THEORY OF OPERATION

### 2.1 RB-2 Operation.

(See Figure 7-4.) Power is connected to TBI terminals L1 (120 VAC) and N (neutral). Power is supplied through fuse F1 to Motor Relay K1. Relay K1 is a motor starting relay. When power is first applied, 120 VAC is present at K1 pins 2 and 3. Relay pin 3 is connected to the motor main winding and pin 2 is connected to the start winding. When the motor is first turned on, it draws a current greater than 4.4 A, energizing the relay and placing 120 VAC on pin 2. After the motor has reached its operating speed, the current drops to less than 3.2 A and relay K1 de-energizes. This disconnects 120 VAC from the motor start winding. 120 VAC is continuously connected to the motor main winding at relay K1 pin 3.

Power is supplied to the lamps through fuse F2, brush blocks #1 and #2.

### 2.2 Optional Heater Assembly

(See Figure 7-4.) The optional heater assembly consists of a 400 watt heating element, thermostat, and safety fuse. The heater assembly should be connected through a power cord to a separate circuit breaker, so that it may remain operable when the beacon is turned off. The circuit breaker should be switched off during the summer months.

When the temperature drops below +14°F (-10°C), the thermostat activates the heater, which is attached to the motor gear box. The gear box lubricant is warmed and this facilitates rotation of the beacon when it is energized; the more effective lubrication which results also extends the service life of the motor.

### 2.3 Optional Photocell Assembly

(See Figure 7-8.) At dusk the decrease in light on the photocell causes a current to flow through terminal block TBX, the photocell and into the coil of relay K1 in the photocell relay assembly. This closes the normally open contact which connects 120 VAC to terminal block TBX terminal L0. This is connected to terminal block TB1 in the rotating beacon and starts it operating. At dawn the increase in light on the photocell stops current from flowing through relay K1 which opens the contact and shuts down the beacon.

## SECTION 3. MAINTENANCE

### 3.1 Lamp Replacement

(See Fig. 7-11.) Loosen the hexagonal slotted screw on the left side of the hinged lens cover and swing the cover open. Grasp the lamp with the fingertips and pull it straight out. Carefully insert replacement lamp into socket. Make sure the lamp filament is vertical before closing the lens cover and tightening the hexagonal screw.

### CAUTION

The lens temperature can be as high as 373°F (189°C). Allow one-half hour for the lamps to cool before opening the lens cover.

### 3.2 Brush Replacement

(See Fig. 7-10.) All three brushes should be replaced at the same time to provide even wear. Remove the two screws, lockwashers and nuts (see Fig. 7-9) holding the Brush block Assembly (Item 10, Fig. 7-9) to the motor box. Lift Brush Block Assembly away from shaft, being careful not to place any strain on the wires.

Next remove the screw (Item 7, Fig. 7-10) holding the brush (Item 5) to the brush bracket (Item 2). Install new brushes by reversing the removal procedure.

To install new brush bracket on brush block, use the blade of a screw driver to loosen and remove the #2 x 1/4 Rd. Hd. drive pin on the old bracket. Next remove the outer hex nut, lockwasher and wire from the screw holding the end of the bracket to the brush block. Remove solder from the remaining hex nut (brass), and remove the hex nut and brush bracket from screw on brush block. Do not remove screw. Place new bracket on screw, install drive pin on bracket and use 60/40 solder to secure brass hex nut to screw and bracket. Then reinstall wire, lockwasher and outer hex nut on the screw.

Pre-bend new brush bracket(s) as shown in Fig. 7-10.1. The brushes must have a tension of 14 + 2 oz against the shaft. Verify the tension is correct by using a spring scale (e.g., Linear Barrel Scale (0-16 oz in 1/4 oz increments)[not supplied]) attached to the screw holding the brush on the brush bracket. If there is too much tension, release tension by bending the brush bracket as shown in Fig. 7-10.1.

## **3.3 Cleaning**

### **3.3.1 Lenses**

Clean lenses periodically with alcohol or glass cleaner and soft cloths. Wipe dry with a clean soft cloth.

### **3.3.2 Lamp Housing Assemblies**

Remove dust and dirt from the lamp housing assemblies using a soft cloth or sponge with soap and water.

### **3.3.3. Vents**

Make certain that all vents in the lamp housing assemblies and motor box are clean and not plugged with dust and dirt. This is necessary to ensure adequate cooling of the quartz lamps and motor.

### **3.3.4 Slip Rings and Brushes**

Clean the slip rings and brushes with a cloth moistened with an appropriate solvent which will not leave a film or residue. If sparking or pitting occurs, rings may be smoothed with 420 sandpaper. Avoid sanding if possible. Sanding produces a raw copper surface which shortens brush life. Replace brushes showing excessive wear. It is recommended that all three brushes be replaced at the same time to provide even wear. See Section 3.2 for brush replacement.

## **WARNING**

If brushes are worn down to brush bracket, the bracket may damage the slip rings. Replace brushes worn to 1/8" (3.175 mm) of the bracket edge.

## **3.4 Lubrication**

All moving parts are permanently lubricated and will not require further attention.

## **3.5 Preventive Maintenance**

The preventive maintenance checks for the RB-2 Rotating Beacon shall be performed as listed in Table 3-1,

**Table 3-1. Preventive Maintenance Tasks**

<u>Interval</u>	<u>Maintenance Task</u>	<u>Action</u>
Daily	Lamp failure	Replace lamp. See Sec. 3-1.
	Incorrect RPM for beacon (count number of flashes per minute)	If flash rate is not 25 flashes per minute, check motor and shaft bearing.
Bi-monthly	Dirty or pitted slip rings and brushes	Clean. Replace worn brushes, deeply pitted slip rings or shaft. See Sec. 3.2 & Sec. 3.3.4.
	Loose lens retainer	Tighten screws or clamps.
	Dirty or pitted photocell relay contacts	Clean. Replace if badly pitted.
	Dirty lamp glassware	Clean.
Semi-annually	Input voltage out of tolerance	Record reading. If out of tolerance (within $\pm 10\%$ rated lamp voltage) contact power company or install an autotransformer.
	Verify beam elevation	Adjust. Check angle indicator on beacon head assembly.
	Poor contact on electrical switches and contacts	If contacts are corroded, repair or replace.
	Loose lightning rod connections	Tighten loose connections. Check and record ground resistance.
Annually	Beacon not level	Level. Check level in four directions.
	Loose or broken wiring, lugs and conduit	Repair or renew wiring when needed. Tighten loose lugs, conduit supports and connections. Replace broken brackets.
	Cracked or deteriorated gaskets or deteriorated weatherproofing	Replace.

## SECTION 4. TROUBLESHOOTING

### 4.1 Troubleshooting Table

The troubleshooting guide for the RB-2 is given in Table 4-1.

**Table 4-1. Troubleshooting Guide**

Problem Short Lamp Life

<u>Possible Cause</u>	<u>Solution</u>
Loose connections	Tighten.
Excess vibrations	Replace bearing or shaft.
Brush pressure is too little causing arcing	Adjust brush bracket or replace brush assembly.
Bad socket	Replace socket.
High voltage (> 126 VAC) or voltage spikes	Check input voltage. See Table 3-1.

Problem: Lamp will not light

<u>Possible Cause</u>	<u>Solution</u>
Defective lamp	Replace lamp.
Blown fuse	Replace fuse F2 (30 amp, Slo-Blo).
Photocell inoperable	See photocell problem (below).
Brush assembly	Replace brush assembly.
Loose or broken wire	Replace feedthru or socket.

Problem: Photocell will not operate

<u>Possible Cause</u>	<u>Solution</u>
Photocell defective	Replace photocell.
Relay defective	Replace relay.
Loose or broken wire	Repair or replace.

Problem: Poor beacon visibility

<u>Possible Cause</u>	<u>Solution</u>
Lamp filament not vertical	Align socket so lamp filament is vertical.

Problem: Motor will not turn

<u>Possible Cause</u>	<u>Solution</u>
Blown fuse	Replace fuse F1 (3.2 amp, Slo-Blo)
Defective motor relay	Replace relay.
Motor defective	Replace motor.
Shaft bearing seized	Replace defective bearing.
Loose or broken wire	Repair or replace.

## Table 4-1. Troubleshooting Guide

Problem: Motor will not turn during cold weather

<u>Possible Cause</u>	<u>Solution</u>
Inoperable heater	See "Problem: Heater will not operate" (below).

Problem: Heater will not operate

<u>Possible Cause</u>	<u>Solution</u>
Blown fuse	Replace fuse F3 (3.2 amp, Slo-Blo).
Thermostat defective	Replace thermostat.
Defective heater	Replace heater.
Loose or broken wire	Repair or replace.



## SECTION 5. PARTS LIST

### 5.1 Parts List

Table 5-1 lists parts ordinarily required for repair or replacement.

**Table 5-1. Parts List**

Item No.	Description:	ADB P/N
Fig. 7-1	Beacon Final Assembly (44D0793-X)	
1	Box Assembly (FAA approved).....	44C0230-1
1	Box Assembly (Export).....	44C0230-2
15	Lamp, GE #Q1000 PAR64/NSP .....	48A0004
16	Clear Lamp Housing Assembly .....	44C0238-1
17	Green Lamp Housing Assembly .....	44C0238-2
19	Lid Assembly .....	44B0231
20	Hub Assembly.....	44B0282
26	Hub Gasket.....	63A0027
58	Heater Assembly.....	44B0788

Item No.	Description:	ADB P/N
Fig. 7-11	Lamp Housing Assembly (Single Head) (44C0238-X)	
3	Clip, Socket .....	61A0012
5	Socket .....	49A0004
6	Spring, Retainer .....	61A0008
10	Clear Lens.....	63B0022
10	Green Lens .....	63B0023
11	Lens Gasket.....	63A0091
12	Lens Clip .....	61A0009
	Stand-off Clips.....	61A0010

Item No.	Description:	ADB P/N
Fig. 7-9	Box Assembly (44C0230-X)	
9	Bearing .....	75A0004
10	Brush Block Assembly .....	44D0953-6
14	Shaft Assembly .....	44B0204
15	Fiber Gear (48 Teeth) .....	68A0002
30	Motor Assy. (FAA approved) (115V, 50/60 Hz, 22-Teeth Gear) ...	44B0998-1
30	Motor Assy. (Export) (115V, 50/60 Hz, 26-Teeth Gear) .....	44B0998-2

Table 5-1. Parts List

Item No.	Description:	ADB P/N
Fig. 7-12	Motor Assembly (44B0998-X)	ADB P/N
1	Gear motor, (50/60 Hz, 115V, 26-28 RPM; Von Weise Gear Co. #V0378AA88, Series K83) .....	69C0006
	Relay for motor (Von Weise Gear Co., #K03225-0011).....	53A0168
2	Motor Mount (USA).....	62C0179-1
2	Motor Mount (Export).....	62C0179-2
3	Gear, 22 Teeth (USA).....	68A0001
3	Gear, 26 Teeth (Export).....	68A0007

\*see note

Item No.	Description:	ADB P/N
Fig. 7-10	Brush Block Assembly (44D0953-6)	ADB P/N
5	Brush.....	76A0001
16	Fuse, 30 A, Slo-Blo .....	47A0024
17	Fuse, 3.2 A, Slo-Blo .....	47A0003

Item No.	Description:	ADB P/N
Fig. 7-7	Photocell Contactor Assembly (44B0812)	ADB P/N
4	Relay .....	53A0126-1
5	Socket .....	49A0095
6	Photocell.....	48A0089
15	Terminal Block .....	72A0016

Item No.	Description:	ADB P/N
Fig. 7-3	Heater Assembly (44B0788)	ADB P/N
5	Heater Element, 400 W.....	85A0050
6	Fuse, 5 A, Slo-Blo .....	47A0107
7	Fuse Holder .....	47A0061
13	Thermostat (Dayton #2E998).....	54A0010
17	Terminal Block .....	72A0016

Optional Assemblies	ADB P/N
Photocell Contactor Assembly.....	44B0812
Roof Mounting Assembly.....	44D0351-1
Pole Mounting Assembly.....	44B0194
Heater Assembly .....	44B0788

\*fNOTE: part number 68A0001 (GEAR STEEL 22 TOOTH) is included in part number 44B0998/1S (L801 MOTOR ASSY). use part number 44B0998/1S when ordering.

## SECTION 6. INSTALLATION

### 6.1 Introduction

This section provides instructions for the installation of the RB-2 Rotating Beacon. Refer to the project plans and specifications for the specific installation instructions.

### 6.2 Unpacking

The equipment must be handled very carefully to prevent component damage. Note any exterior damage to carton/crate which might lead to detection of equipment damage. Open top of carton/crate. Remove foam packing from the top of the box. Carefully lift unit out of box by the handles on the side of the motor box. Do not lift unit by the lamp housings.

#### 6.2.1 Damage

Check the contents and their condition. If damage to any equipment is noted, a claim form should be filed with the carrier immediately. Inspection of equipment by the carrier may be necessary.

### 6.3 Assembly

Your RB-2 is completely assembled except for installation of an AWG 10, S0-3 power cord (not supplied) and the canopies which are packaged separately in the box.

### 6.4 Canopy Attachment

(See Figure 7-11.) Loosen the hexagonal slotted screw on the left side of the hinged lens cover and swing the cover open. Three holes are provided on the hinged lens cover (one on top and one on each side) for attachment of the canopy. Fasten the canopy to the lens cover with the three screws (10-24 x 1/2), lockwashers, spacers (placed between canopy and lens cover) and hex nuts (#10-24) provided. Close the lens cover and tighten the hexagonal screw.

### 6.5 Mounting

Remove the cover plate from the motor box. Inspect the interior to make sure all parts are tight and have not been loosened in shipment. Reinstall the cover plate. Mounting adapters furnished are for mounting on a level surface with the following mounting dimensions: four 5/16-inch (7.9375 mm) holes in a rectangular pattern 5 x 9 - 5/8 inches (127 x 244.475 mm). If the surface is not level, spacers or shims will be needed. Place a level on top of the motor box and use shims as necessary under the four corners to bring the beacon to level. Tighten the mounting bolts, four each #1/4 - 20 length as required.

## 6.6 Wiring

An AWG 10, S0-3 power cord (user supplied) must be attached to the beacon. To install power cord, remove motor box cover plate and gasket by removing the four screws (7/16 wrench required) on the front of the motor box. Route cable through bottom hole (see Fig. 7-2) into box\*. Connect power cord at the terminal strip as shown in Fig. 7-2. Attach 3-conductor black wire (120 VAC) to terminal marked L1, white wire (neutral) to terminal marked N, and green wire (ground) to terminal marked G. Reinstall cover plate and gasket.

## 6.7 Optional Heater Wiring

(See Figure 7-4.) The optional heater assembly, when ordered, is pre-wired at the factory. The power cord for the heater assembly should be connected from a separate circuit breaker to terminal block TBI terminals L1<sub>H</sub> and N so the heater can be operated when the beacon is turned off.

## 6.8 Angle Adjustment

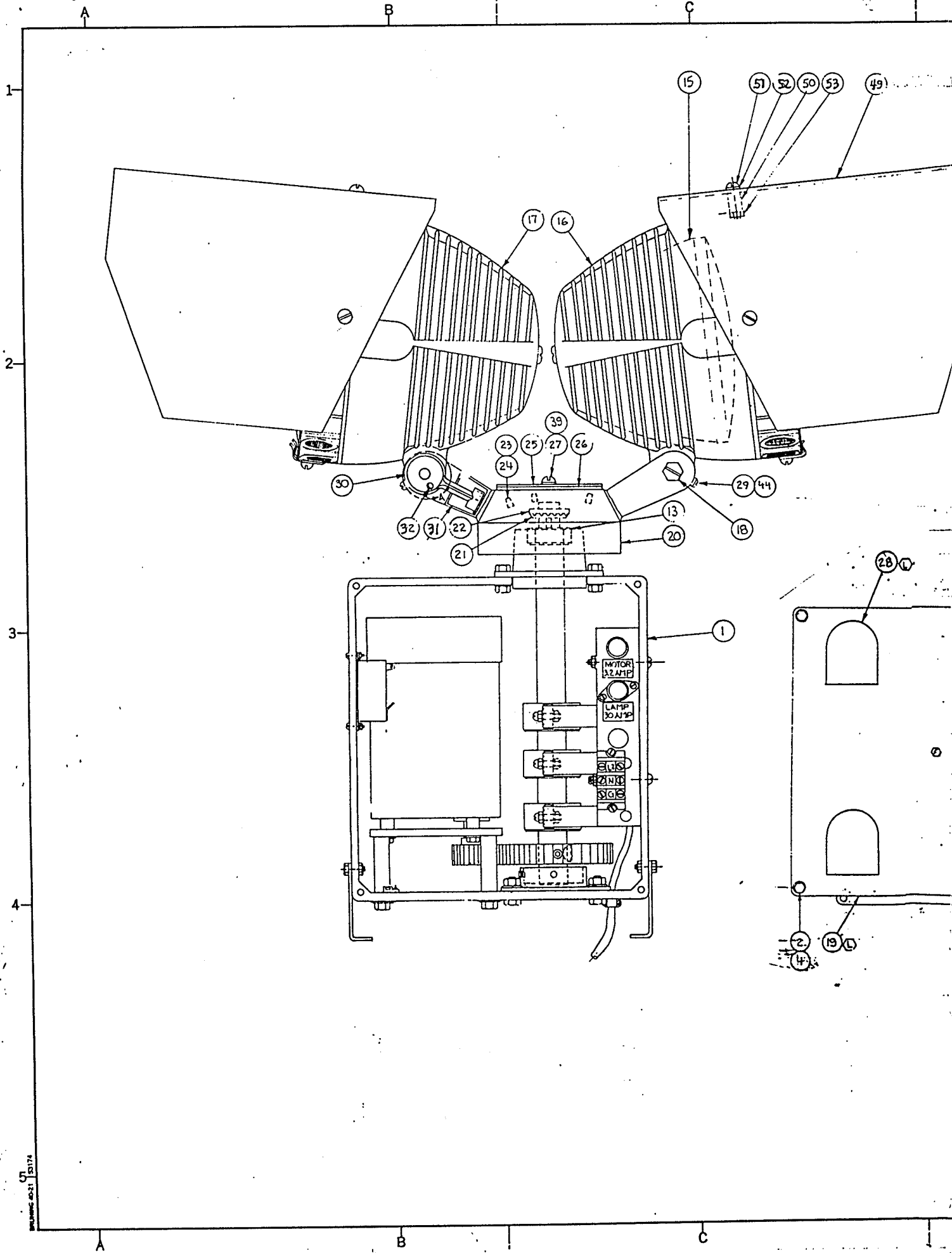
(See Figure 7-1.) All beacons are shipped from the factory preset at an angle of 5°. If the angle needs to be adjusted in the field, loosen the screw holding head in place, adjust the pointer to the desired angle and tighten screw.

## 6.9 Export Beacon Installation Requirement

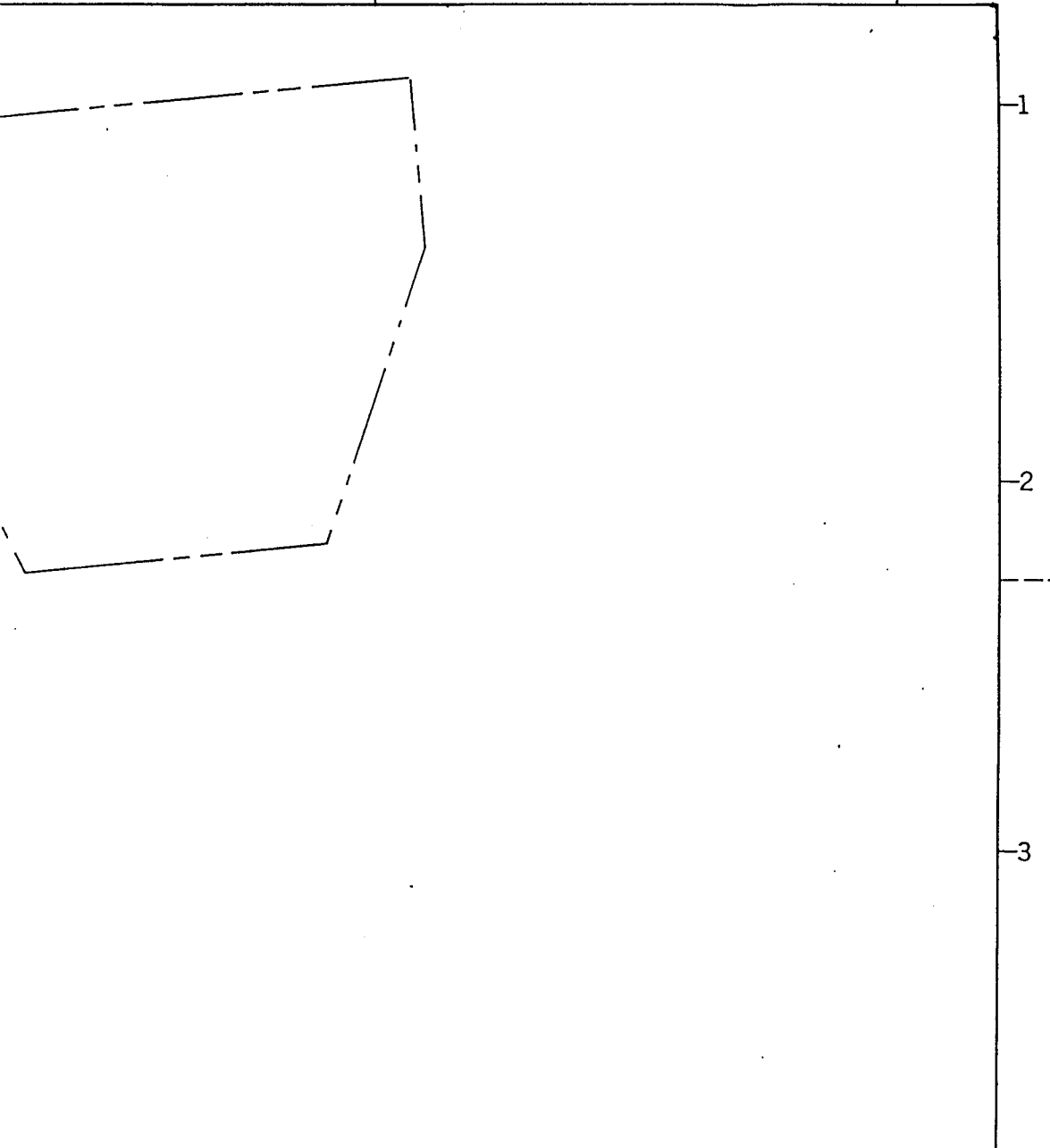
Requirement for export beacon installation only: *A fence with a padlock gate shall be installed around the beacon to prevent unauthorized entry.*

---

\*Alternate location is right side of box (facing box cover).



17  
 15178



120VAC to L1  
 (neutral) to N  
 (ground) to G

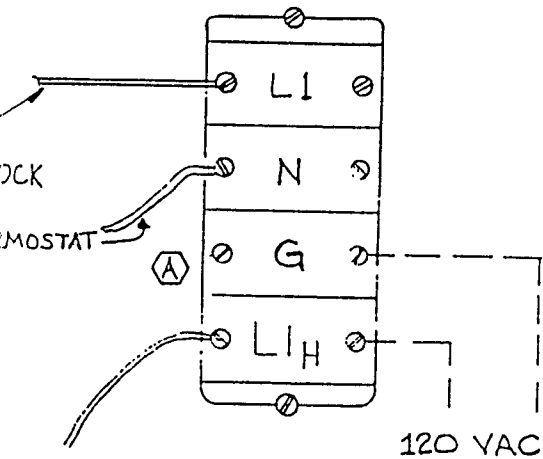
Cord AWG 10  
 (supplied)  
 ALTERNATE LOCATION

Information contained on this drawing is to be used expressly in accord with purpose for which it was submitted. Any disclosure of this information is strictly prohibited except as ADB-ALNACO may otherwise agree in writing.

DO NOT SCALE DRAWING	
<b>ADB</b> ALNACO	ADB-ALNACO, INC. P.O. BOX 30829 977 GAHANNA PARKWAY COLUMBUS, OHIO 43230
Figure 7-2.  Beacon Final Assembly Wiring Diagram	
DRAWING NO. 43C0614	REV. A

ITEM NO	PART NUMBER	DESCRIPTION	QTY
1	63A0261	CLIP	2
2	64A0174-8	SCREW, RD. HD., 10-32x1/2"	2
3	66A0038-6	LOCKWASHER, #10 INT. S.S.	2
4	65A0015-19	NUT, #10-32 S.S.	2
5	85A0050	HEATER ELEMENT, 400W	1
6	47A0107	FUSE, 5 AMP, S.B.	1
7	47A0061	FUSE HOLDER	1
8	64A0194-4	SCREW, RD. HD., 6-32x1/4"	1
10	65A0031-1,2	SPLICE KIT	3
11	63A0081	CABLE TIE	3
12	63A0126	CABLE TIE MOUNT	3
13	54A0010	THERMOSTAT SET AT 30°	1
14	66A0026-15	LOCKWASHER, #8 SPLIT	3
15	64A0197-4	SCREW, RD.HD., 8-32x1/4"	3
17	72A0016	TERMINAL BLOCK	1
18	64A0174-4	SCREW, PAN HD. #10-32x1/4 LG	2
19	66A0026-17	LOCKWASHER, #10 SPLIT	2

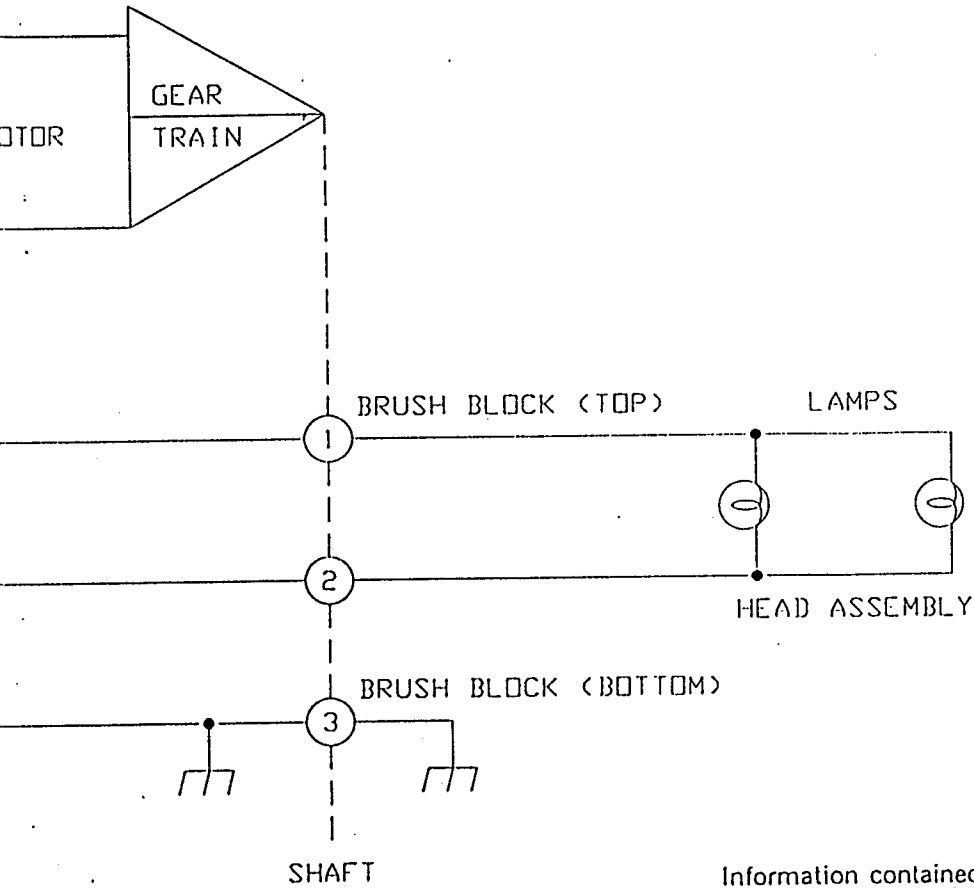
TAIL "A"



TO 3.2 A FUSE  
DETAIL "A" - TB-1

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		COLUMBUS, OHIO 43230	
Figure 7-3. Heater Assembly			
RAW STOCK NO:		MAT'L.	
NEXT ASSEM:		CHKD BY:	DATE
SCALE:	DRAWN BY:	DATE	
DRAWING NO.			REV.
4480788			



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Figure 7-4. RB-2 Schematic with Optional Heater Assembly			
RAW STOCK NO:		MAT'L:	
NEXT ASSEM:		CHKD BY:	DATE:
SCALE:	DRAWN BY:	DATE	
DRAWING NO. 43 B 0 5 7 2			REV. E



4

ITEM NO	PART NUMBER	DESCRIPTION	QTY
1	44A0736	BASE ASSEMBLY	1
3	62A0155	WASHER	1
4	62B0153	MOUNTING PLATE	1
5	44A0193	TRAILER HITCH ASSEMBLY	1
6	64A0196-32	SCREW, RD.HD. 1/4-20x2" LG	4
7	65A0015-24	NUT, HEX. 1/4-20	12
8	66A0026-24	LOCKWASHER, 1/4" I.D., SPLIT	8

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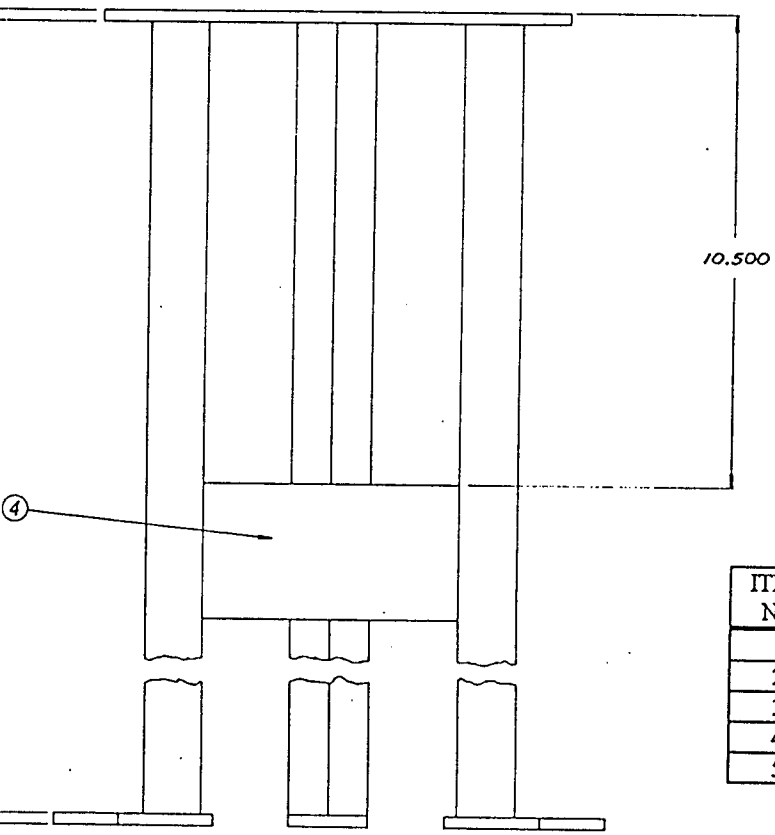
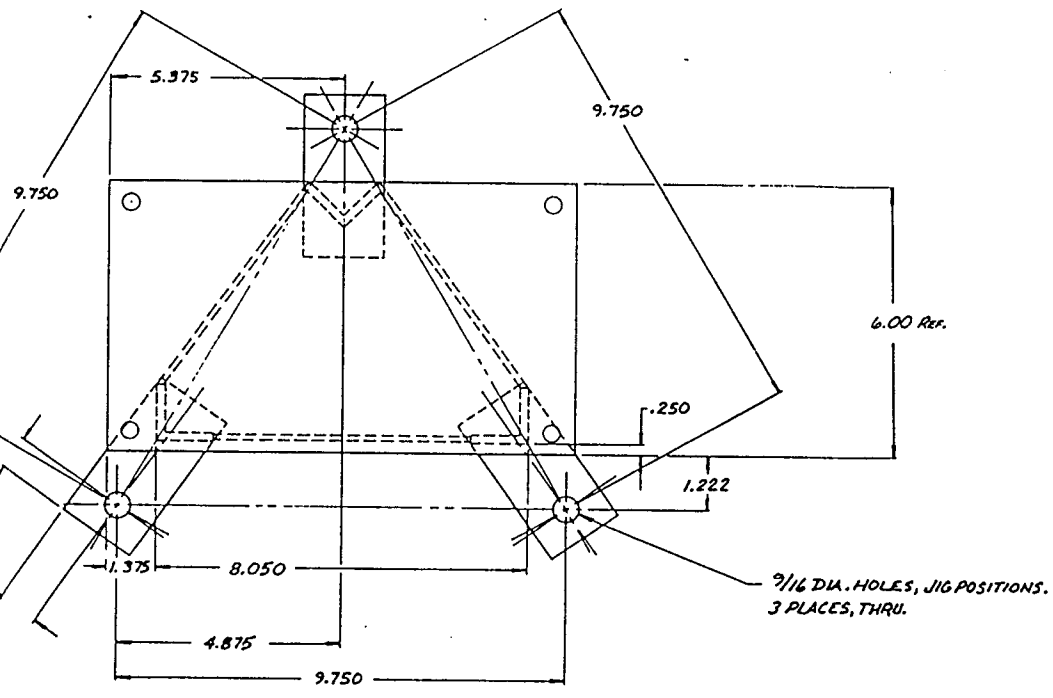
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Figure 7-5. Pole Mounting Adapter Assembly

DRAWN BY	SCALE	MATERIAL
CHK'D	DATE	DRAWING NO
TRACED	APP'D	44B0194



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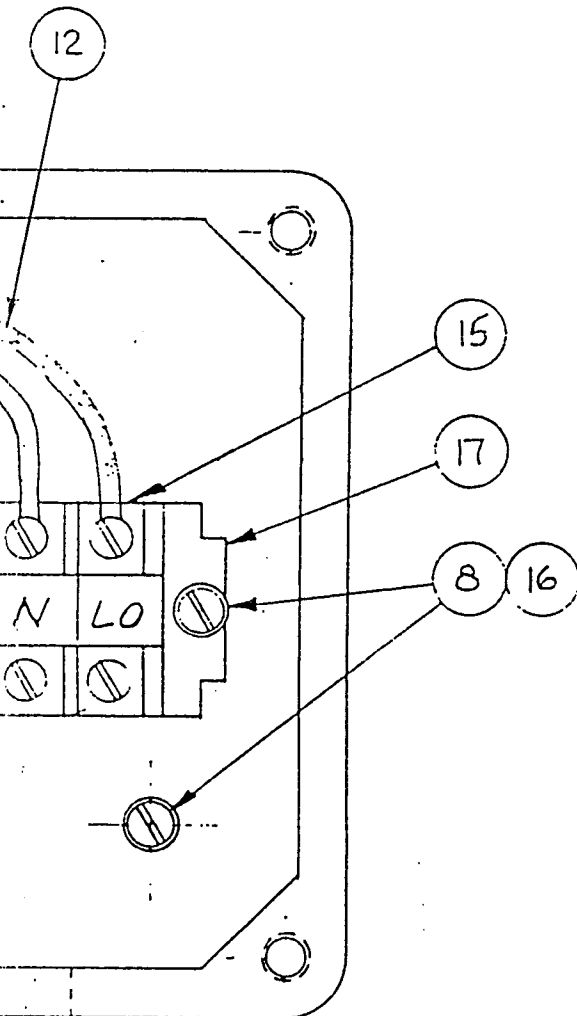
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ITEM NO	PART NUMBER	DESCRIPTION	QTY
1	44D0342-1	STL. PLATE, 3 5/8x1 3/4x1/4 THK.	3
2	44D0342-2	STL. ANGLE, 1 1/4x1 1/4x3/16x23 1/2	3
3	44D0342-3	ST. PLATE, 3x1/8x5 3/8 LG	2
4	44D0342-4	ST. PLATE, 3x1/8x5 9/16 LG	1
5	62B0153	MOUNTING PLATE (BK-3)	1

Figure 7-6.  
Roof Mounting Assembly

44D0351-1



ITEM NO	PART NUMBER	DESCRIPTION	QTY
1	62C0220	BOX	1
2	62B0134	BOX LID	1
3	RM0212	GASKET	1
4	53A0126-1	RELAY	1
5	49A0095	SOCKET	1
6	48A0089	PHOTOCELL	1
7	64A0197-12	SCREW, RD.HD., #8-32x3/4" LG	2
8	66A0038-4	LOCKWASHER, INT.TOOOTH, #8	5
9	70A0027	TERMINAL, RING TONGUE	6
13	64A0173-12	SCREW, HEX HD., 1/4-20x3/4" LG	4
14	66A0026-24	LOCKWASHER, SPLIT, 1/4" I.D.	4
15	72A0016	TERMINAL BLOCK	3
16	64A0197-6	SCREW, RD. HD., #8-32x3/8" LG	3
17	72A0025	TERMINAL BLOCK END PIECE	1

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Figure 7-7. Photocell Contactor Assembly

RAW STOCK NO: _____		MAT'L: _____	
NEXT ASSEM: _____		CHKD BY: _____	DATE: _____
SCALE: FULL	DRAWN BY: _____	DATE: _____	
DRAWING NO. 44B0812			REV. A

ITEM NO	PART NUMBER	DESCRIPTION	QTY
1	62D0177	BOX	1
2	60B0029	MOUNTING ADAPTER	2
3	6 4A0173-16	BOLT, HEX HD, 1/4-20x1 LG	20
4	65A0015-24	NUT, 1/4-20 HEX	16
5	66A0026-24	LOCKWASHER, 1/4 I.D., SPLIT	20
7	62B0181	LOWER BEARING HOUSING	1
8	64A0053-4	SET SCREW, ALLEN, 1/4-20x1/4 LG	1
9	75A0004	BEARING	1
10	44D0953-6	BRUSH BLOCK ASSEMBLY	1
11	64A0191-36	SCREW, PAN HD, 8-32x2 1/4 LG, S.S.	2
12	66A0026-15	LOCKWASHER, #8 SPLIT, S.S.	2
13	65A0015-15	NUT, 8-32 HEX	2
14	44B0204	SHAFT ASSEMBLY	1
15	68A0002	FIBER GEAR (48 TEETH)	1
16	66A0009	WOODRUFF KEY	1
17	66A0024	THRUST WASHER	1
18	64A0191-4	SCREW, PAN HD, 8-32x1/4, S.S.	3
19	63A0081	CABLE TIE, PANDUIT	3
20	63A0126	CABLE TIE MOUNT, PANDUIT	3
22	70A0042	CABLE CONNECTOR	1
23	72A0022	TERMINAL CONNECTOR	1
27	65A0031-1	SPLICE CAP	1
28	65A0031-2	INSULATOR	1
29	64A0049-4	SET SCREW, 10-32x1/4 LG	2
30	SEE TABLE	MOTOR ASSEMBLY	1
31	66A0015-24	FLAT WASHER, 1/4 I.D., S.S.	4
32	77A0018-2	PLUG, INTERNAL 1/2-14 NPT	1
37	64A0198-10	SCREW, PAN HD, #6-32x5/8, S.S.	2
38	66A0026-11	LOCKWASHER, #6 SPLIT	2
39	65A0015-11	NUT, HEX #6-32, S.S.	2
40	61A0078-2	HANDLE	2

BOX ASSY.	DESCRIPTION	PART NO.
44C0230-1	MOTOR ASSY., FAA APPROVED	44B0998-1
44C0230-2	MOTOR ASSY., EXPORT	44B0998-2
44C0230-3	MOTOR ASSY., CANADIAN	44B0998-3

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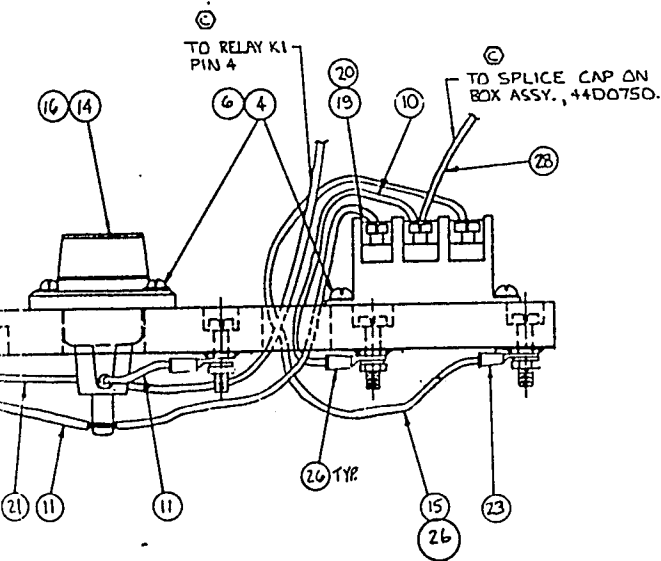
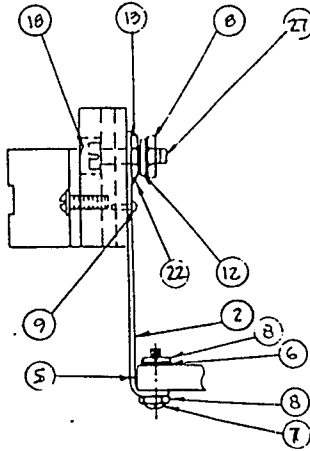
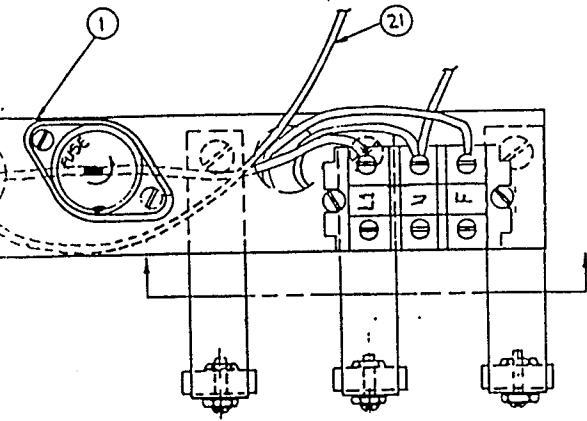
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Figure 7-9.  
Box Assembly

DRAWING NO. 44C0230-3

(19)  
(18)  
SEE NOTE 1  
BRUSH BLOCK)  
b  
screws  
remove  
k assembly



RB2, RB3, AND RB6  
44D0953-6

ITEM NO	PART NUMBER	DESCRIPTION	QTY
1	60B0314	BRUSH BLOCK	1
2	60B0097	BRUSH BRACKET	3
3	49A0040	FUSE HOLDER (FOR 3.2A)	1
4	64A0191-6	SCREW, PAN. HD., #8-32x3/8 L.G	4
5	76A0001	BRUSH	3
7	64A0191-12	SCREW, PAN HD., #8-32x3/4 L.G	3
8	65A0015-15	NUT HEX #8-32	9
9	65A0019-4	DRIVE PIN, #2x1/4, RD. HD.	3
12	66A0026-15	LOCKWASHER, SPLIT #8	3
13	65A0022-15	NUT HEX, #8-32, (BRASS)	3
14	49A0033	FUSE HOLDER (FOR 30A)	1
16	47A0024	FUSE, 30A	1
17	47A0003	FUSE, 3.2A, SLOW BLOW	1
19	72A0016	TERMINAL BLOCK	3
20	72A0025	TERMINAL BLOCK END PIECE	1
23	70A0102	TERMINAL, RING TONGUE	3
27	64A0191-14	SCREW, PAN HD., #8-32x7/8 L.G	3
29	42A0107	DECAL MOTOR FUSE	1
30	42A0155	DECAL, LAMP FUSE	1
31	70A0347	TERMINAL, FEMALE SLIP ON	1

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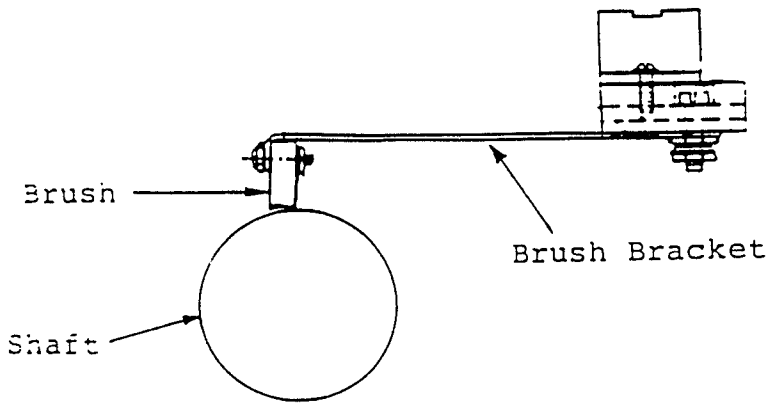
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Figure 7-10.

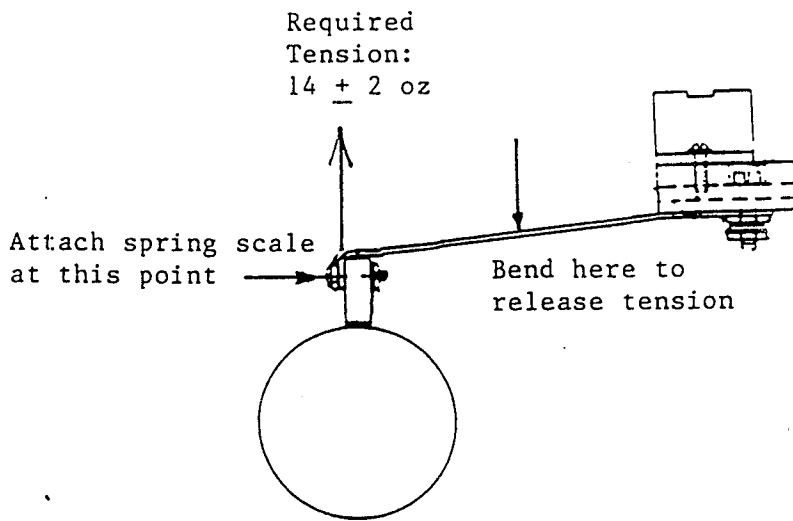
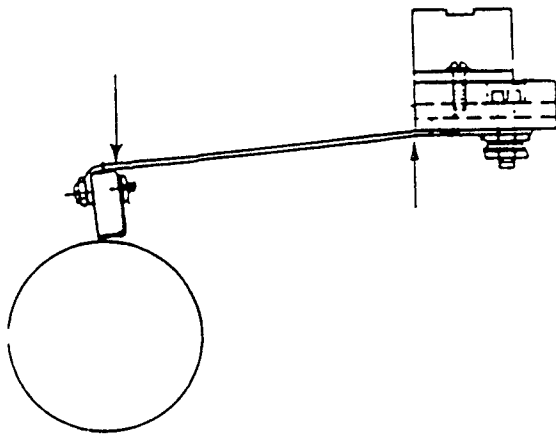
Brush Block Assembly

44D0953-X C

New Brush Bracket Assembly



STEP 1 : Pre-bend new brush bracket at the points shown so that the bend in the bracket is similar to the bend in the old bracket.

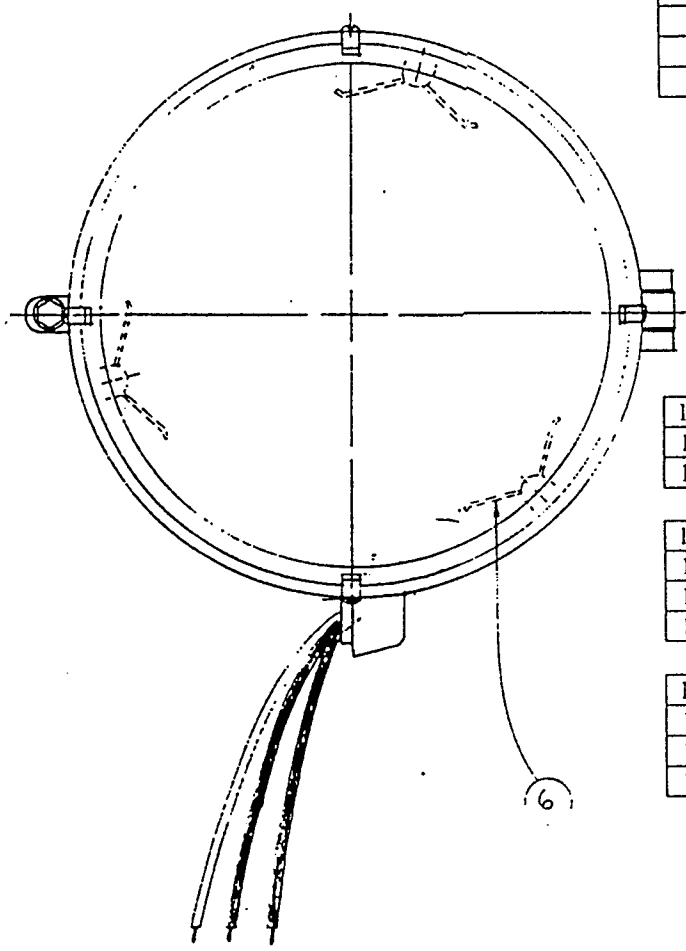


STEP 2: After installation of Brush Block Assembly to motor box, check the tension of the brush against the shaft assembly by use of a spring scale (not supplied) attached to the head of the screw (see figure). A tension of  $14 \pm 2$  oz is required for proper operation.

Adjust tension by bending bracket until a tension of  $14 \pm 2$  oz is obtain on each bracket assembly. Note:if too much tension is present, release tension by bending at the point shown in the figure.

Figure 7-10.1. Brush Replacement

ITEM NO	PART NUMBER	DESCRIPTION	QTY
1	62D0379	BEACON HOUSING (MACH.)	1
2	61A0011	VENT, SCREEN	10
3	61A0012	CLIP, SOCKET	1
4	64A0221-12	SCREW, SELF TAP, #10-3/4 LG	1
5	49A0004	SOCKET	1
6	61A0008	SPRING RETAINER	3
10	SEE BELOW	LENS	1
11	63A0091	GASKET, LENS	1
12	61A0009	CLIP, LENS	4
13	64A01956	SCREW, RD. HD., 10-24x3/8 LG	4
15	64A0197-4	SCREW, RD. HD., 8-32x1/4 LG	1
17	72A0022	TERMINAL SPADE, #8	1
19	61A0010	CLIP, STAND-OFF	4



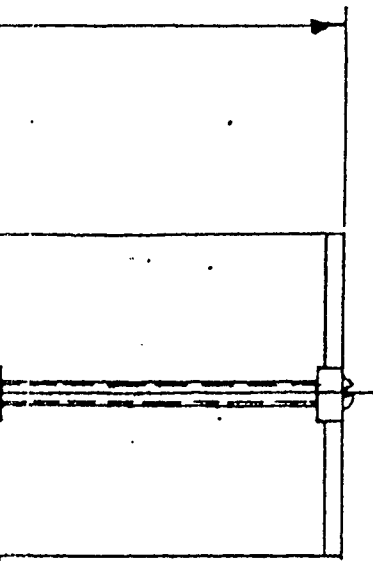
ITEM NO.	(44C0238-1 HSG. ASSY)	PART NO.
18	LENS, CLEAR	63B0022
12	CLIP, LENS	61A0009

ITEM NO.	(44C0238-2 HSG. ASSY)	PART NO.
10	LENS, GREEN	63B0023
12	CLIP, LENS	61A0009
19	CLIP, STAND-OFF	61A0010

ITEM NO.	(44C0238-3 HSG. ASSY)	PART NO.
10	LENS, YELLOW	63B0068
12	CLIP, LENS	61A0009
19	CLIP, STAND-OFF	61A0010

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Figure 7-11. Lamp Housing Assembly	
DRAWING NO. 4.A.C.O.2.3.8.	REV. G



ITEM NO	PART NUMBER	DESCRIPTION	QTY
1	69C0006	GEAR MOTOR	1
2	SEE BELOW	MOUNT, MOTOR	1
3	SEE BELOW	GEAR	1
4	64A0173-12	SCREW, HEX HD., 1/4-20x 3/4, S.S.	3
5	66A0026-24	LOCKWASHER, 1/4 I.D., SPLIT, S.S.	3

MOTOR ASSY.	DESCRIPTION	PART NO.
44B0998-1 (FAA)	MOUNT, MOTOR GEAR, 22 TEETH	62C0179-1 68A0001
44B0998-2 (EXPORT)	MOUNT, EXPORT MOTOR GEAR, 26 TEETH	62C0179-2 68A0007

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Figure 7-12. Motor Assembly

RAW STOCK NO.		MAT'L:	
NEXT ASSEM:		CHKD BY	DATE
SCALE: HALF	DRAWN BY:	DATE	
DRAWING NO. 44.B0.998-X			REV



SHAFT ASSY (44B0204)

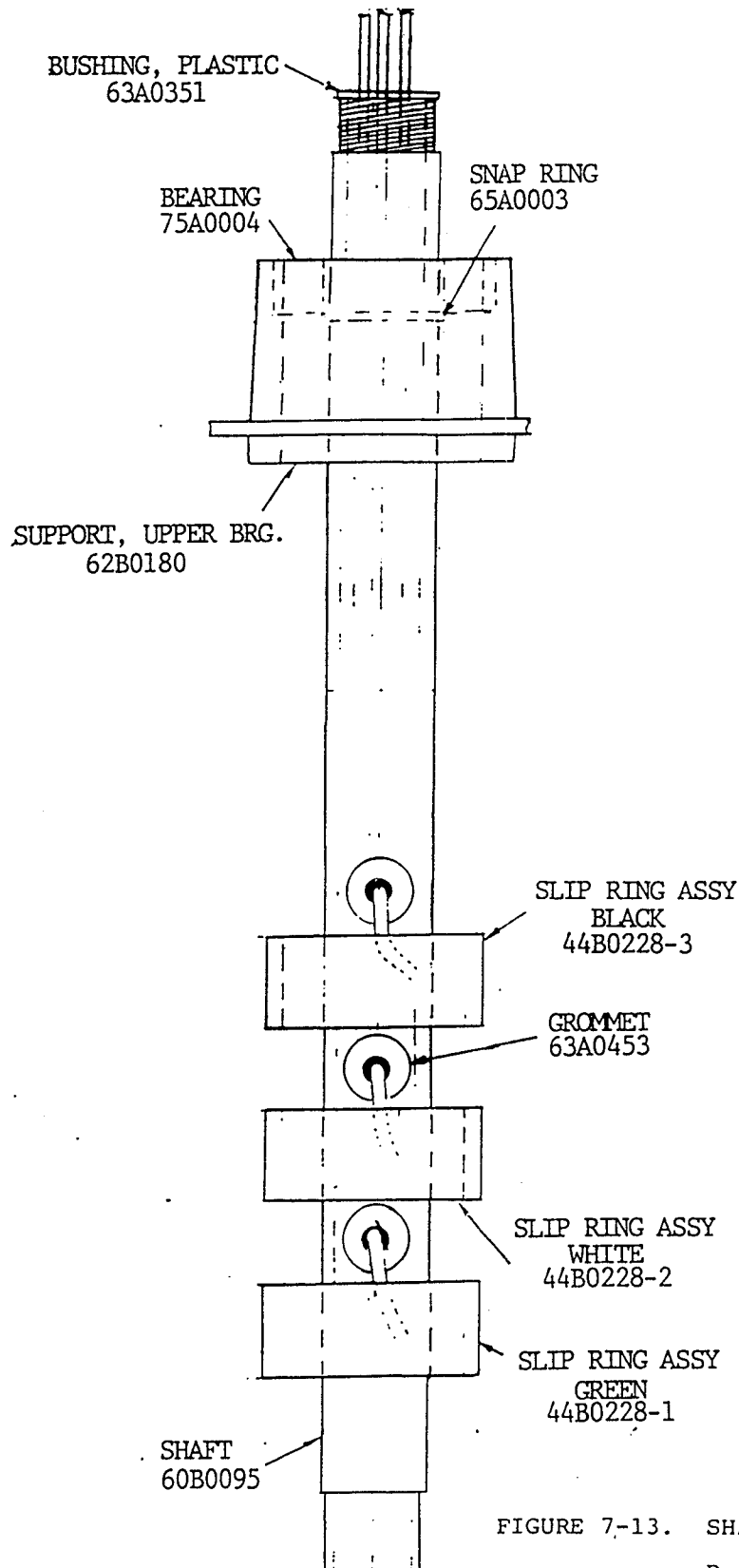


FIGURE 7-13. SHAFT ASSEMBLY