

INSTRUCTION MANUAL



ZA737/757

CHAPI (STYLE A)

Revision: 2.03



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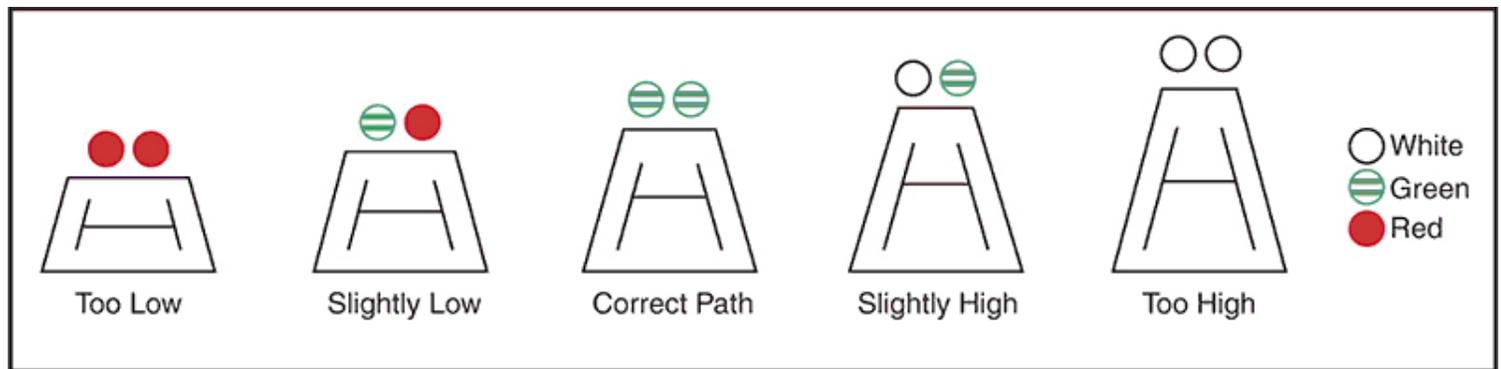
SECTION ONE Siting and Aiming

Flight Light, Incorporated is not a provider of heliport engineering design services. Flight Light recommends qualified personnel performs the analysis, design and implementation of your CHAPI installation. All installation descriptions and examples in this manual are for illustrative purposes and do not take into account the conditions present at any specific site location.

1.10 Signal Presentation

The heliport approach path indicator (CHAPI) is a system of two identical Light Housing Assemblies (LHA) placed on the left of the heliport, aimed outward into the approach zone (see Figure 1). The front face of each unit is perpendicular to the heliport centerline. The boxes are positioned and aimed to produce the signal presentation described below.

L-881 “Two Box System”: when making an approach, the helicopter pilot will see:



1.20 General Site Considerations

When viewed from the approach end, the CHAPI system shall be located on the left side of the heliport. In the event of siting problems, such as conflicts with obstructions, the CHAPI may be located on the right side of the heliport. The CHAPI must be sited and aimed so that it defines an approach path with adequate clearance over obstacles and a minimum Threshold Crossing Height (“TCH”). When an ILS glide slope is not present, the designer must determine a position and aiming for the CHAPI which will produce the required threshold crossing height and clearance over obstacles in the approach area.

1.30 Threshold Crossing Height (TCH)

The TCH is the height of the lowest on-course signal at a point directly above the intersection of the runway centerline and the threshold. The minimum allowable TCH varies according to the height group of aircraft that uses the runway. The CHAPI approach path must provide the proper TCH for the most demanding height group that uses the runway.

1.40 Glide Path Angle

The visual glide path angle is the center of the on-course zone, and is normally 6 degrees when measured from horizontal for a CHAPI.

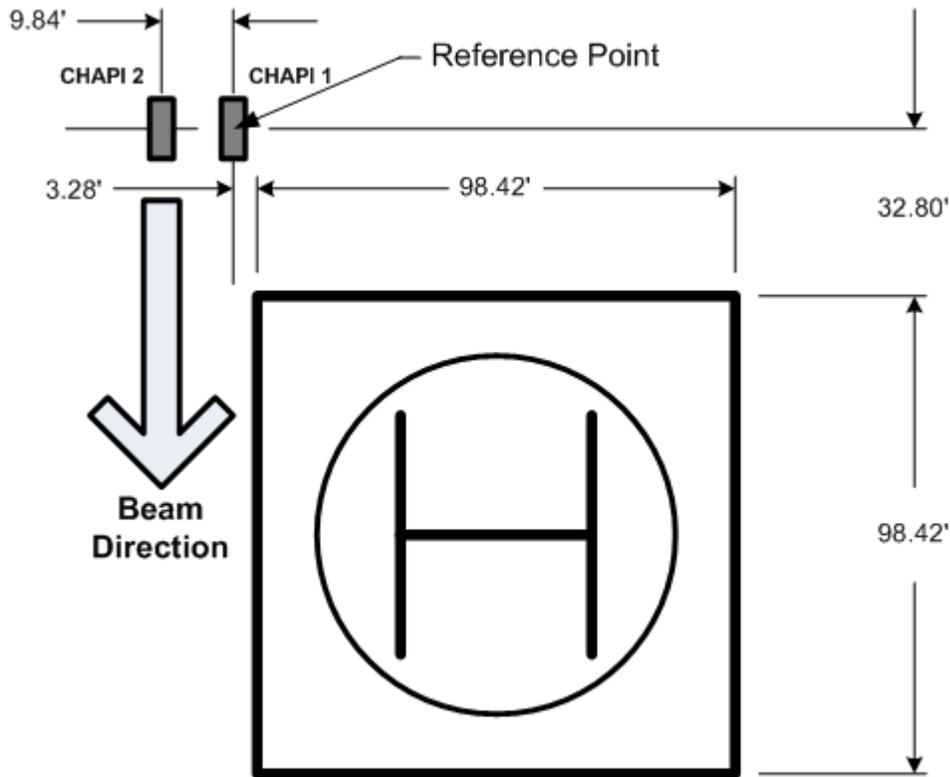


Figure 1 – Helipad Layout for CHAPI

1.50 The CHAPI Obstacle Clearance Surface

The CHAPI obstacle clearance surface is established to provide the pilot with a minimum clearance over obstacles during approach. Obstacle clearance slope, through which no object shall protrude, can be defined as 1° below the angle which defines the lower boundary of the on-slope indication, for a distance of 17.40 miles, in an area generally bounded by 15° on either side of an extended runway centerline.

1.60 Other Site Dimension and Tolerances

1.61 Azimuth Aiming

Each light unit shall be aimed outward into the approach zone on a line parallel to the helipad centerline within a tolerance of $\pm 1/2$ degree.

1.62 Mounting Height Tolerances

The beam centers of all light units shall be within ± 1 inch of a horizontal plane. This horizontal plane shall be within ± 1 foot (0.3m) of the elevation of the helipad centerline at the intercept point of the visual glide path with the helipad (except for the condition at 1.67 below).

1.63 Tolerance Along Line Perpendicular to Helipad

The front face of each light unit in a bar should be located on a line perpendicular to the helipad centerline within ± 6 inches.

SECTION TWO INSTALLATION

2.00 Installation Overview

The ZA737/757 CHAPI system requires several steps to insure proper installation and maximum performance. Consultation and approval with a civil engineer is highly recommended for proper installation.

These are the basic steps for installing the CHAPI:

- * Determination of proper location of the light boxes.
- * Installation of the footers and mounting pads.
- * Interconnect wiring and home run (star topology) wiring.
- * Alignment of the light box assemblies.
- * Electrical adjustments.
- * Flight check.

Included with your CHAPI is a hardware package, containing the necessary components for the bracket assemblies, unit mounting screws and studs, which enables the unit to be mounted to the base unit assembly.

2.10 Determination of Proper Light Boxes

To obtain an optimized approach system, several factors must be considered. These are:

- * What is the desired threshold crossing height?
- * What is the desired glide slope angle?
- * Will the selection of the above parameters satisfy the required obstacle clearance angle?

NOTE:

If nearby trees are an obstacle to your approach, allowances should be made in siting your system, because the trees will continue to grow and could become a serious hazard.

2.11 CHAPI Light Housing Location

Location of CHAPI units shall be in accordance with local licensing authority requirements. See Figure 1 for general layout dimensions.

2.20 Installation of Footers and Mounting Pads

Once the elevation and exact physical location of the light boxes has been determined, footers should be prepared as depicted in drawing FLP28407A/B (see section 5). After the footers have been set up, the EMT (2") legs should be cut. Because of the legs and mounting hardware, 16" is the minimum height that the center of the light box will be above the mounting surface. To determine the length to cut the EMT legs, subtract 11.25" from the height of the proposed mounting center of the light box lens, above the mounting pad. Mount the light boxes and power supply on the pads.

2.21 Align and Secure the Base Unit

- * Locate the base unit assembly onto packing blocks, (i.e. wood or metal), placed on the top of the foundation.
- * Level the base unit assembly using 'shims' under packing blocks and a standard builders spirit level.
- * Align the base unit assembly to the appropriate 'toe-out' angle, in accordance with the layout for a particular Airport.
- * Mix and pour concrete, to retain the base unit in place. The top of the concrete to be level with the 'marks' on each leg of the base unit assembly, approximately 0.787 inches below the leg securing bolts. **DO NOT** cover these bolts.

2.30 Interconnect Wiring

WARNING!

**Turning the circuit breaker (CB1) to 'OFF' does NOT remove All voltages.
TB1, SA1/2, and CB1 are still 'HOT'!**

2.31 Home Run Wiring Choice

The home run wiring size should be carefully selected to insure optimum performance of the system. Select the size as indicated by plans and specifications. If the power unit is located within 30' of the light box, #10 wire is adequate for the lamp circuit, and #14 wire is adequate for the tilt switch circuit.

2.32 Above Ground Wiring Protection

To protect the wiring between the light box assembly and the point at which it goes underground, 1" watertight flex duct is a good selection. It can be terminated in a 1" conduct (pipe) sweep to interface to the trench.

2.33 Wiring Connections

- *Connect 240 VAC to terminals Marked 240V of the power adapter.
- *Connect a ground rod ground to the power supply ground lug.
- *Connect all light box assemblies to the Power Supply. Please refer to the appropriate wiring diagrams at the back of the manual.

Install and connect the twist lock photocell in its socket on top of the power supply. Orient the window of the photocell away from the runway to prevent aircraft landing lights from switching the photocell. Orient the fixture facing north for best results. Test the PEC by covering the cell. Lights should dim in 40 seconds.

2.40 Adjustment of the Light Housing Assembly (LHA)

The Aiming Device consists of precision machined aluminum blocks corresponding to the particular angles required by Glide Slope and number of boxes. There are 5 blocks for a four box system and 3 blocks for a two box system with standard CHAPI Glide Slope Angle of 6 degrees. Non standard Glide Slopes will require special sets of aiming blocks. The Aiming Blocks are designed to be set on the edge of the light box with the provided spirit level on the top surface. Refer to Figs. 1 & 2



Figure 1 - Aiming Device positioning.

2.41 L-881 (Two LHA system)

The Light Housing Assembly nearest the helipad should be adjusted to the Glide Slope Angle + 1/4 degree (+15 minutes). The light box assembly farthest from the helipad should be adjusted to the Glide Slope Angle - 1/4 degree (-15 minutes). When the LHA's are in place, make sure both are adjusted with the adjustment jacks so that the center of the LHA lens are at the same elevation. Remove the cover from the Light Housing Assembly.

For horizontal alignment place the 6" spirit level across the light box, either on the lens housing or reflector housing. Adjust the forward nuts on the adjustment jacks to bring the spirit level to center.

For each 1/4 turn executed on the nut on one side, turn the nut on the other side 1/4 turn in the opposite direction. This will keep the lens center at the same elevation at all times during adjustment. Recheck both points.

Position the proper aiming block on the edge of the light box for vertical alignment. Place the spirit level on the aiming block. Adjust the both rear adjustment jacks to bring the spirit level to center. Next, tighten the bolts holding the pivots. These are accessible underneath the unit at the forward corners.

Recheck the horizontal adjustment at points at each corner and adjust as required. Tighten all nuts securely. Recheck the vertical adjustment, then tighten all nuts on the new pivot. Last, place the level on top of the tilt switch. Adjust the tilt switch until the spirit level is centered. Tighten the bolts to hold the tilt switch secure. Replace the cover on the light box assembly.

2.42 L-880 (four LHA system)

The Light Housing Assembly nearest the helipad should be adjusted to the Glide Slope Angle + 1/2 degree (+30 minutes). The next adjacent Light Housing Assembly should be adjusted to the Glide Slope Angle + 1/6 degree (+10 minutes). The next adjacent Light Housing Assembly should be adjusted to the Glide Slope Angle - 1/6 degree (-10 minutes). The next adjacent Light Housing Assembly should be adjusted to the Glide Slope Angle - 1/2 degree (-30 minutes). When the LHA's are in place, make sure both are adjusted with the adjustment jacks so that the center of the lens of all boxes are at the same elevation. Remove the cover from the light box assembly.

For horizontal alignment place the 6" spirit level across the light box, either on the lens housing or reflector housing. Adjust the forward nuts on the adjustment jacks to bring the spirit level to center.

For each 1/4 turn executed on the nut on one side, turn the nut on the other side 1/4 turn in the opposite direction. This will keep the lens center at the same elevation at all times during adjustment. Recheck both points.

Position the proper aiming block on the edge of the light box for vertical alignment. Place the spirit level on the aiming block. Adjust the both rear adjustment jacks to bring the spirit level to center.



Figure 2 - Spirit level placed on Aiming Device.

Next, tighten the bolts holding the pivots. These are accessible underneath the unit at the forward corners. Recheck the horizontal adjustment and adjust as required. Tighten all nuts securely. Recheck the vertical adjustment, then tighten all nuts on the new pivot. Last, place the level on top of the tilt switch. Adjust the tilt switch until the spirit level is centered. Tighten the bolts to hold the tilt switch secure. Replace the cover on the light box assembly.

2.50 Color Filter Installation and Electrical Adjustments

When installing the color filters, as viewed from the rear, select the indicated serial numbered filter set and install so that "TCR" is positioned top, center, (toward the center of the light box) and to the rear. This is marked on each color filter.

After each light box assembly has been properly aligned, and the tilt switches properly set, the system is ready to be turned on.

Apply power to the system and energize the circuit breaker (CB1) in the Power Supply. The lamps in all light boxes should now be 'ON'.

CAUTION!

Do not look directly into the front of the light box because the light beam is very intense at that point.

Assuming it is daytime, the power supply should be adjusted to produce approximately 6.6 amps of current as read on the amp meter in the power adapter. If the amp meter reads less than 6.6 amps, turn the circuit breaker 'OFF'. Move the input to TB2-5 to the next lower numbered terminal, i.e. change from #5 to #4 would increase the amperage. At night the amperage should be 4.8 amperes.

Turn the circuit breaker 'ON'. check the amp meter for 6.6 amps. Continue this procedure until the current is as close to 6.6 amps as possible, but in no case, exceeding 6.6 amp.

Clean out the residue from the power supply and neatly dress the wiring.

Be sure that all light boxes and the power supply are connected to ground rod ground.

Close the door of the power supply and secure its latch.

2.51 Lamp Installation

Install LA-6373 lamps into each light box assembly's lamp holder.

CAUTION!

Do not touch the quartz tube of the LA-4373 lamp as finger oils will significantly reduce lamp life. If touched, clean with rubbing alcohol.

2.52 Interlock Adjustment, set in over-current mode (optional feature only)

The 77-ECS31BC current monitor is set at the factory to turn on when the current being sensed rises to a level greater than 6.3 amps after a time delay. This internal delay may require adjustment based upon airfield operational requirements, but set to minimum unless advised otherwise. Apply power to the runway lights at the required operational step. Fine-tune the trip point by turning the adjustment and watching the LED. The LED will light indicating over-current. When a over-current is sensed (**LED ON**), the output relay is energized. This is the normal state when the runway lights are energized.

2.60 Flight Check

Before placing in service, the system should be thoroughly flight checked. The flight check should include flying over any and all obstructions in the approach area to be sure that all light boxes show red whenever you are close to the obstructions. Several normal approaches should be made to insure good signal at all points in the approach path.

SECTION THREE SYSTEM DESCRIPTION AND COMPONENTS

3.00 Principal Components

The model ZAZ737/757 CHAPI 'A' Style system consists of the following main components:

- ❖ Light Box Assemblies (Qty 4 for L880; 2 for L881)
- ❖ Power Adapter (qty 1)
- ❖ Mounting Hardware
- ❖ Aiming Device with precision 6" Spirit Level

3.10 Light Housing Assembly

The Light Housing Assembly (LHA) is a stable optical platform which supports the lamp, reflector, lenses, color filter, and tilt switch. Light from the lamp is collected and focused into the plano-convex lens set. This combination produces the field of illumination into the approach area. Concurrent with the illumination, a red filter is located at the focal point of the plano-convex lens set as one would view the light box from the approach area. The transition zone is factory adjusted so it agrees with the calibrated scale on the alignment arrow assembly. When the Light Housing Assembly is being adjusted, the process elevates the front of the LHA so the transition zone is set to the desired angle of inclination (alignment angle). It is extremely important that when the LHA is aligned in the field, all bolts and nuts are tightened properly, then alignment rechecked to insure accuracy. The Lamp is Flight Light PN: LA-6373, 200W, 6.6A.

3.20 Power Adapter

The Power Adapter sub-system converts the 240 VAC input voltage to 6.6 amps out to operate the lamps. This is accomplished by transformer's T1 (and T2 in a 4 box system) which provide lower amperage taps so the lamps can be dimmed for nighttime service. Following is a description of the purpose of the main components in the power supply:

SA1/2	Provides basic lightning surge protection of the 240 VAC input.
CB1	Circuit over-current protection and ON/OFF switch.
T1(or T2)	Power transformer(s): convert the input 240 VAC to standard output current to control lamp brightness.
PEC	Photo Electric Controller (Photocell): detects night or day condition and provides signal (1=night, 0=day).
RTE-P21	Tilt failure detector and delay timer - adjustable - set to 30 seconds in factory.
M1	0 - 10 Meter: provides visual indication of lamp current and assists in prevention of over-driving the lamps. It's accuracy is 2%.
CR1 & CR2	Lamp intensity step-down relay: Energized during low light levels.
CR3 & CR4	Lamp/tilt circuit control element - normally energized. Tilt failures de-energize this unit with delay set by RTE-P21. This turns OFF all lamps.
Monitor	This is an optional unit used to provide interlock to runway lighting circuits.
K1	Control relay for optional interlock control.
PS1	Power supply for stable timer and monitor operation.

3.30 Day/Night Control

By utilizing a PEC and a DPST relay, the controller can automatically switch between two different brightness levels depending on ambient light levels. This in essence provides day/night brightness levels. During daylight the PEC's output will be de-energized. Relays CR1 and CR2 will be de-energized. During night operation, the PEC's output is energized which in turn energizes the relays CR1 and CR2. Minimum rated current is supplied to the lamps from T1/T2.

This reduced lamp current (4.8A) intensity insures pilot safety and convenience. By design in the event of component failure, the system will default to the night brightness level for insured aircraft safety or shut down completely with tilt failures.

3.40 Power Protection Circuit

The power regulation circuit consists of a 15 amp circuit breaker, and multi-tap transformers (T1 and T2). In operation CB1 acts as the ON/OFF switch while providing circuit over-current protection. SA1 and SA2 provide basic lightning surge protection to the entire unit. The multi-tap power transformer(s) allows adjustment of both the day and night brightness levels via the taps on the secondary side.

3.50 Tilt Detection Circuit

To insure aircraft safety by preventing out-of-alignment systems from operating, a tilt detection circuit has been incorporated into the controller. This circuit utilizes a time delay feature to screen out false signals due to vibrations. In normal operation with a closed tilt loop switch-loop,

NOTE: BOTH RTE & P21 LEDS WILL BE 'ON'.

Should the tilt circuit fail, the Mode LED (top) will extinguish after the delay period which was factory adjusted to 30 seconds. At no time should this or any other safety feature be bypassed or modified. To do so will risk aircraft safety.

3.60 Lens Heater Circuit, Class II only

In severe winter climates, the lens must be heated to insure dependable operation in all weather conditions. This is accomplished by a power resistor in series with each lamp filament. It dissipates approximately 20 watts into its heater mount; this insures complete lens heat absorption and dependable signal presentation to pilots.

3.70 Alignment & Aiming Device Calibration

This component has two parts. The structural component shown in Figure 2 has no calibration. It has been factory checked for accuracy and cannot be altered without damage to the frame. The adjustable precision spirit level is shown in Figure 3. The level was factory aligned and should not require adjustment, but if this were ever necessary, the check and alignment is quite simple:

- A. Use any flat level surface - the more level and stable the better. Insure the surface is clean, and that the bottom of the level is also clean.
- B. Place the level on the inspected area, marking its location. Now, reverse the level (turn it 180 degrees). The bubble **MUST** be in the same relative position on the scale.
- C. With each movement of the level, give the bubble time to become stable.
- D. Should the bubble **NOT** be in the same relative position, loosen the adjustment nuts and correct for **one-half** of the difference in the readings. Re-tighten the nuts. Repeat steps B, C, and D until there is no difference. This completes the Alignment and Aiming Device's calibration. It should be accomplished before each use, or at least semi-annually.

SECTION FOUR TROUBLESHOOTING

4.00 Troubleshooting

Your system has been designed to provide years of trouble-free operation. The following pointers will help you locate and correct common problems. It is assumed that all interconnect wiring is good and that tilt switches are aligned and have continuity.

Symptom

Likely Problem

CLASS I or CLASS II

Lamp 'OUT'	Check lamp (if either lamp burns out, it would not shut off the other lamp).
Photocell operation reversed (dim in daylight)	Check wiring of PEC to TB3 (color coded red/blk/wht).

CLASS II ONLY

Lamp not 'ON'

Temporarily short TB1B, R1-1 and R1-2, then R2-1 and R2-2. As each is tested, if the failed lamp turns 'ON', the heater resistor may have failed. Check for .5 ohm resistance - replace if required.

CLASS I or CLASS II

Lamps do not light
(RTE-P21 mode light out)

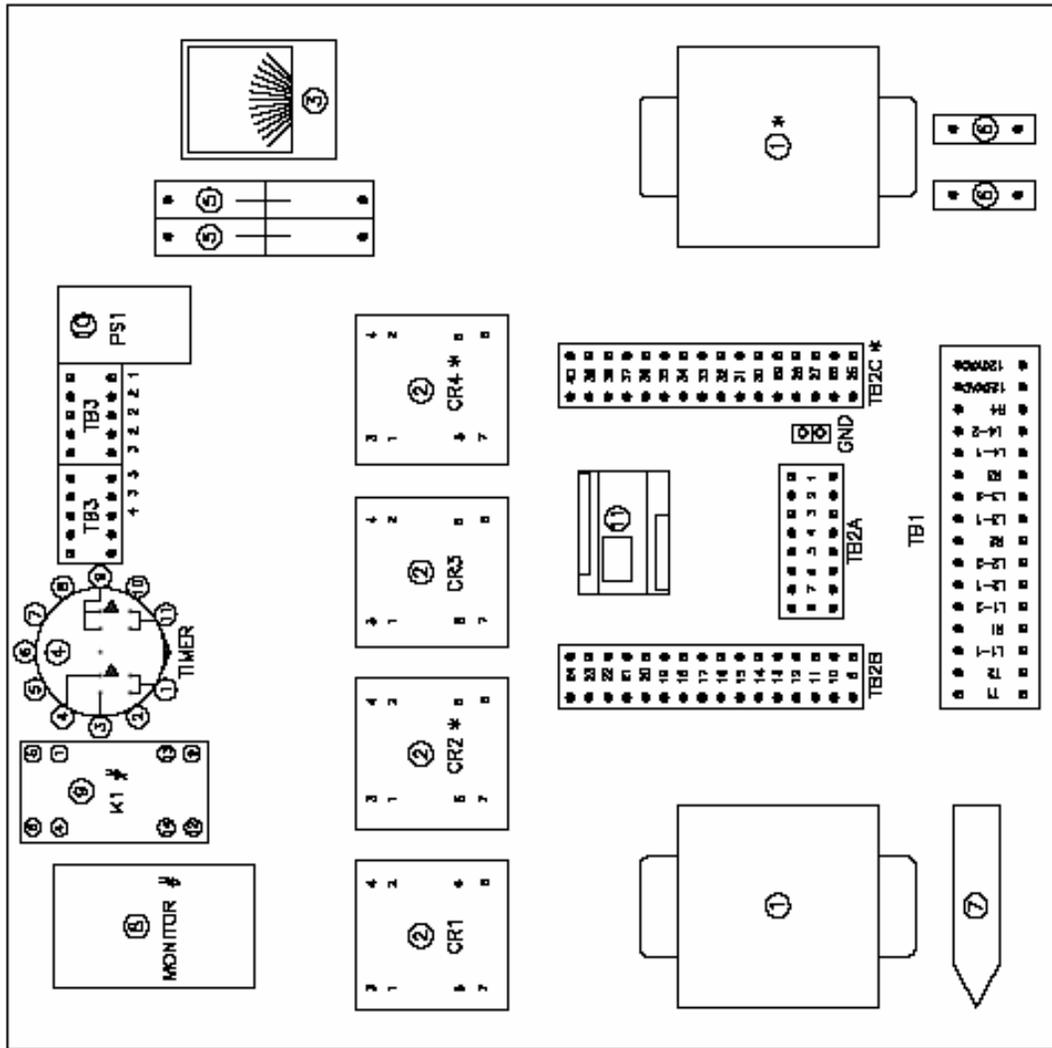
Temporarily short Power Supply TB1 T-1 and TB1 T-2 and engage CB1. If system now functions, problem is either switches or tilt switch wiring.

If problem is determined to be a particular tilt switch, readjust tilt switch by going through zero and then back.

DO NOT LEAVE JUMPER IN PLACE!

Light Housing Alignment

Footers not stable.
Mounting hardware is not tight.
Check floor flanges, nuts on frangible couplings, bolts & nuts on light box.



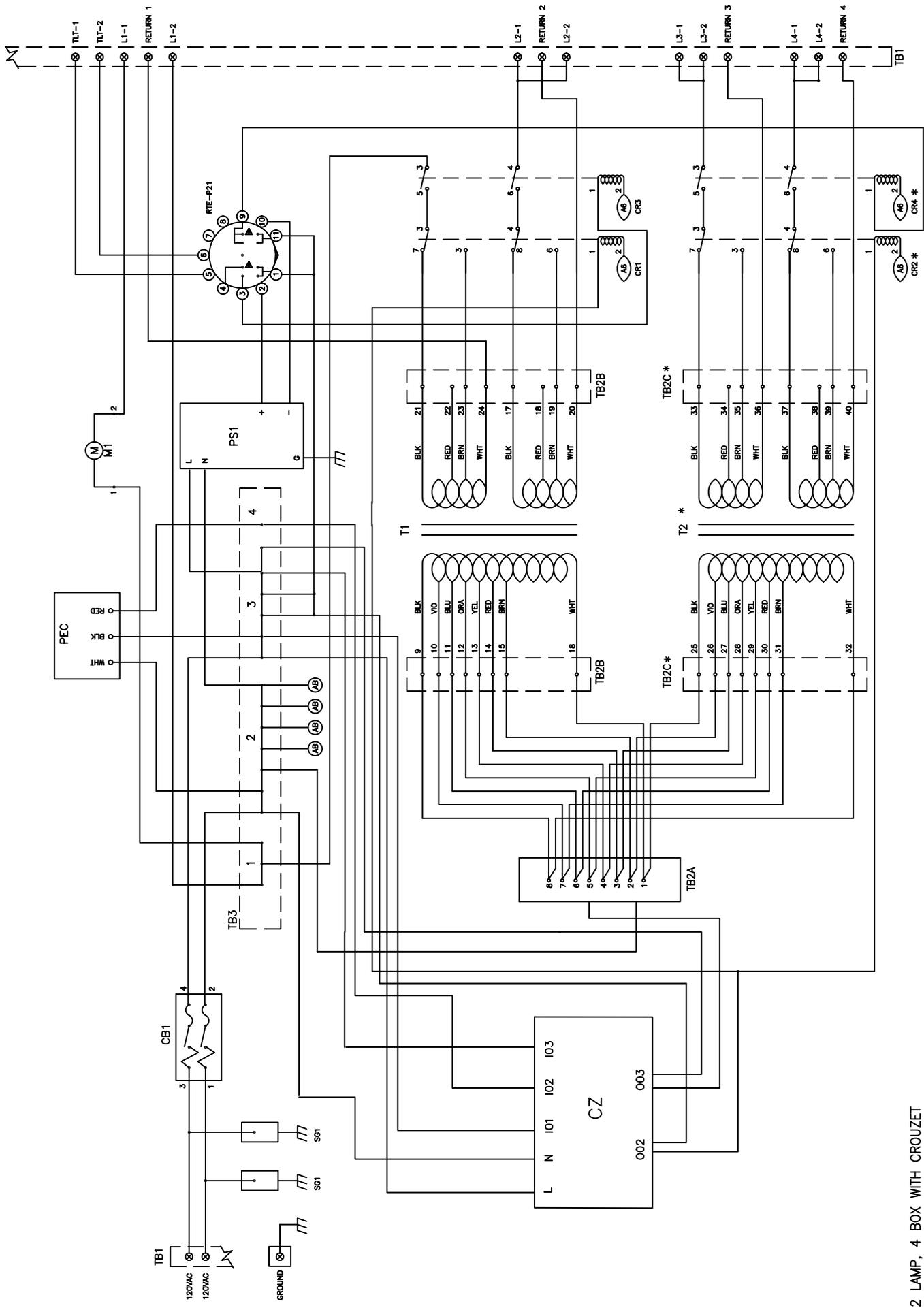
PART LIST

ITEM NO.	QUANTITY	ED.	QTY
1) Transformer	2 ea. *	77-837-10X	
2) Relay	4 ea. *	77-N186W-15	
3) Motor	1 ea.	77-153-0809	
4) Timer	1 ea.	77-RTE-P21	
5) DCI Bracket	1 ea.	77-16.884U	
6) Surge Arrestor	2 ea.	77-V2510A40	
7) Tool	1 ea.	77-277-310	
8) MONITOR #	1 ea.	77-EGS018C	
9) RELAY #	1 ea.	77-RA28-UJ	
10) POWER SUPPLY	1 ea.	77-PSR024	
11) MICROCONTROLLER	1 ea.	77-MA5TORCA	

Notes:
 * = Not present in 2 box system
 # = Present w/Inmatek Option
 PN: 77-937-10X
 X=6-2837, Class 1
 K=7-2837, Class 2

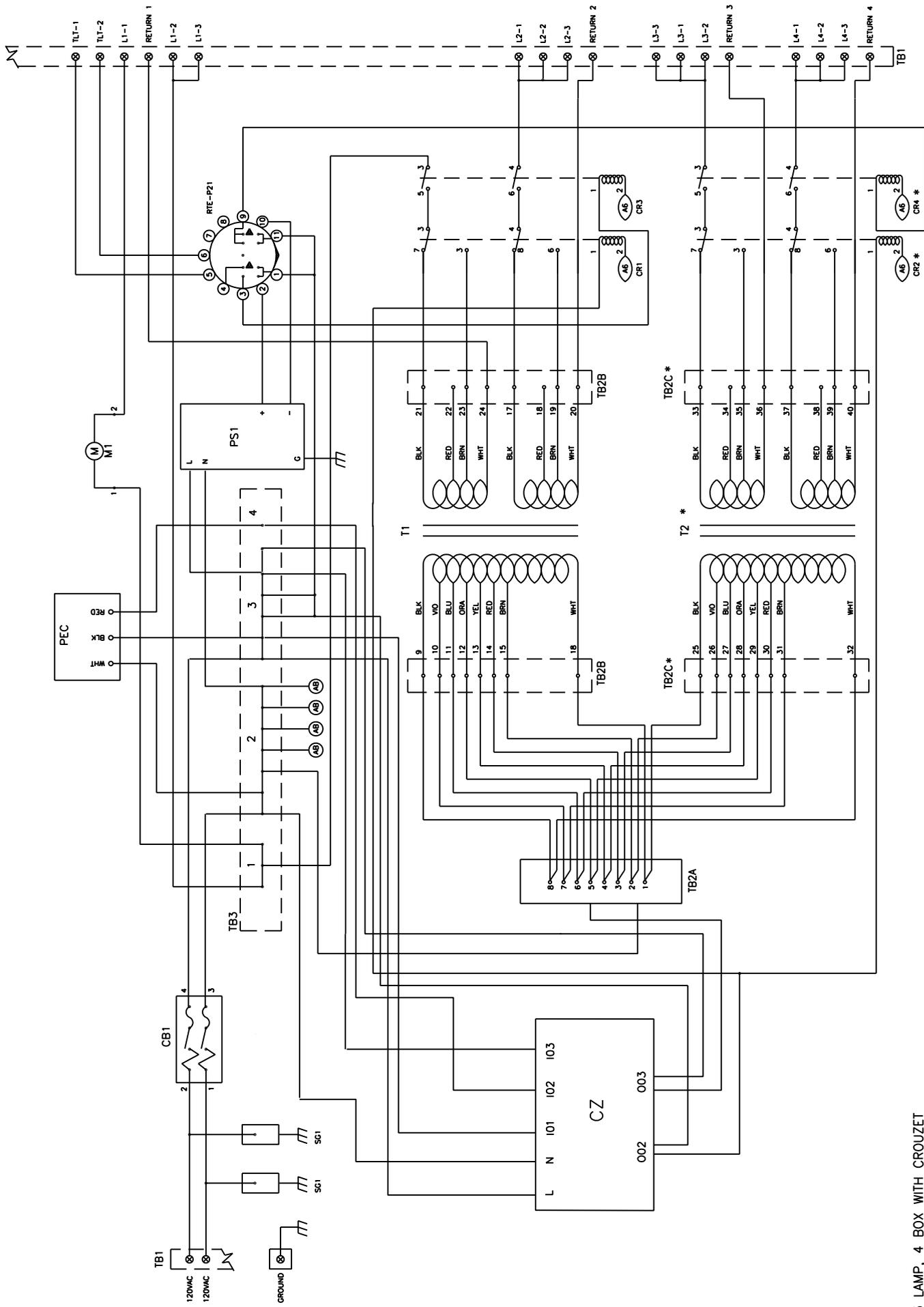
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				ZA-737 POWER ADAPTER LAYOUT TYPE-A, 24.0VAC	DESIGNED BY	REPLD	N/A	



2 LAMP, 4 BOX WITH CROUZET
P/N: FLP28401E
T1 and T2 must be selected for 50 or 60 Hz operation.

DATE	REV.	REVISION RECORD	BY	TITLE:	DRAWN BY:	DATE:	DWG. NO.
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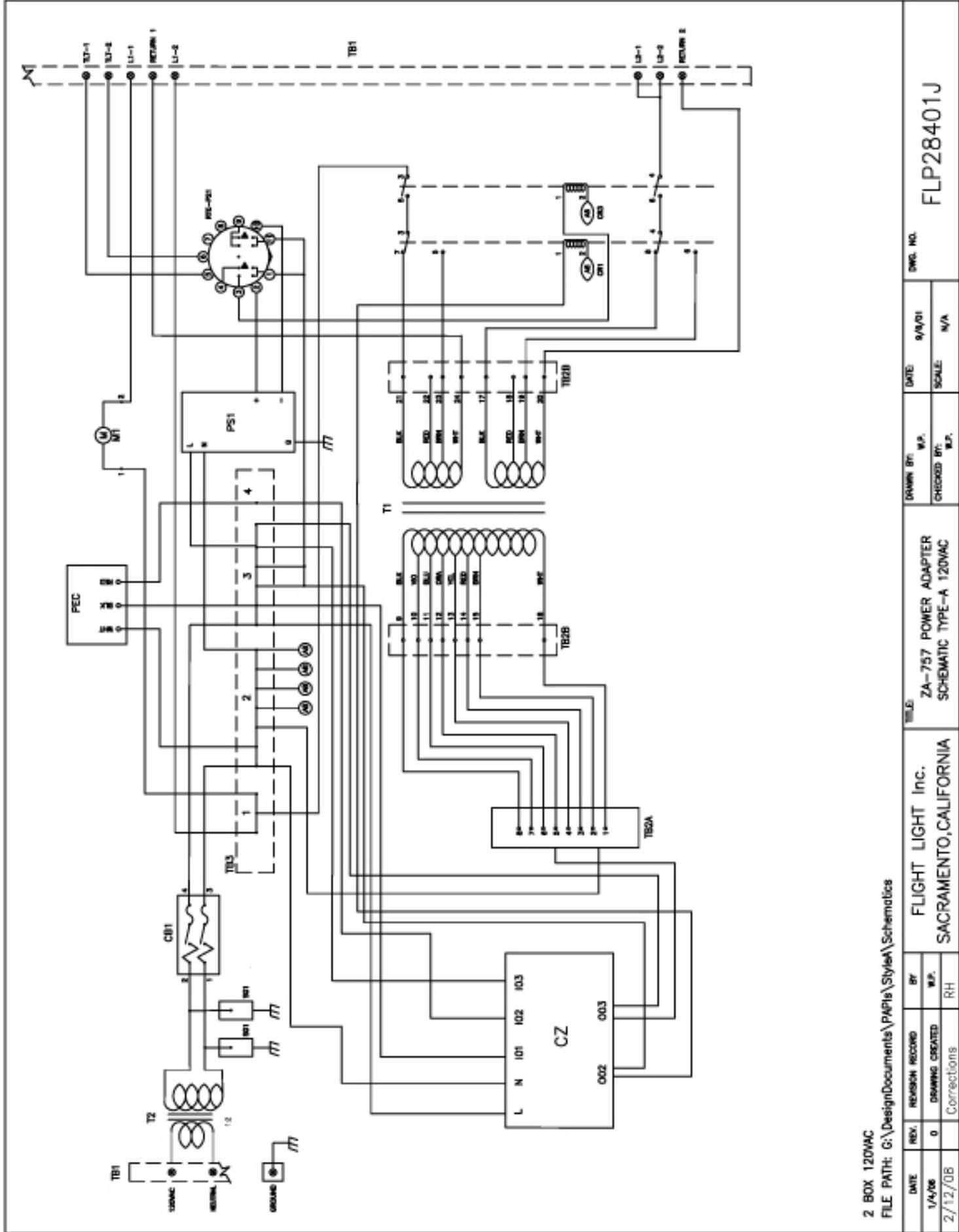


3 LAMP, 4 BOX WITH CROUZET

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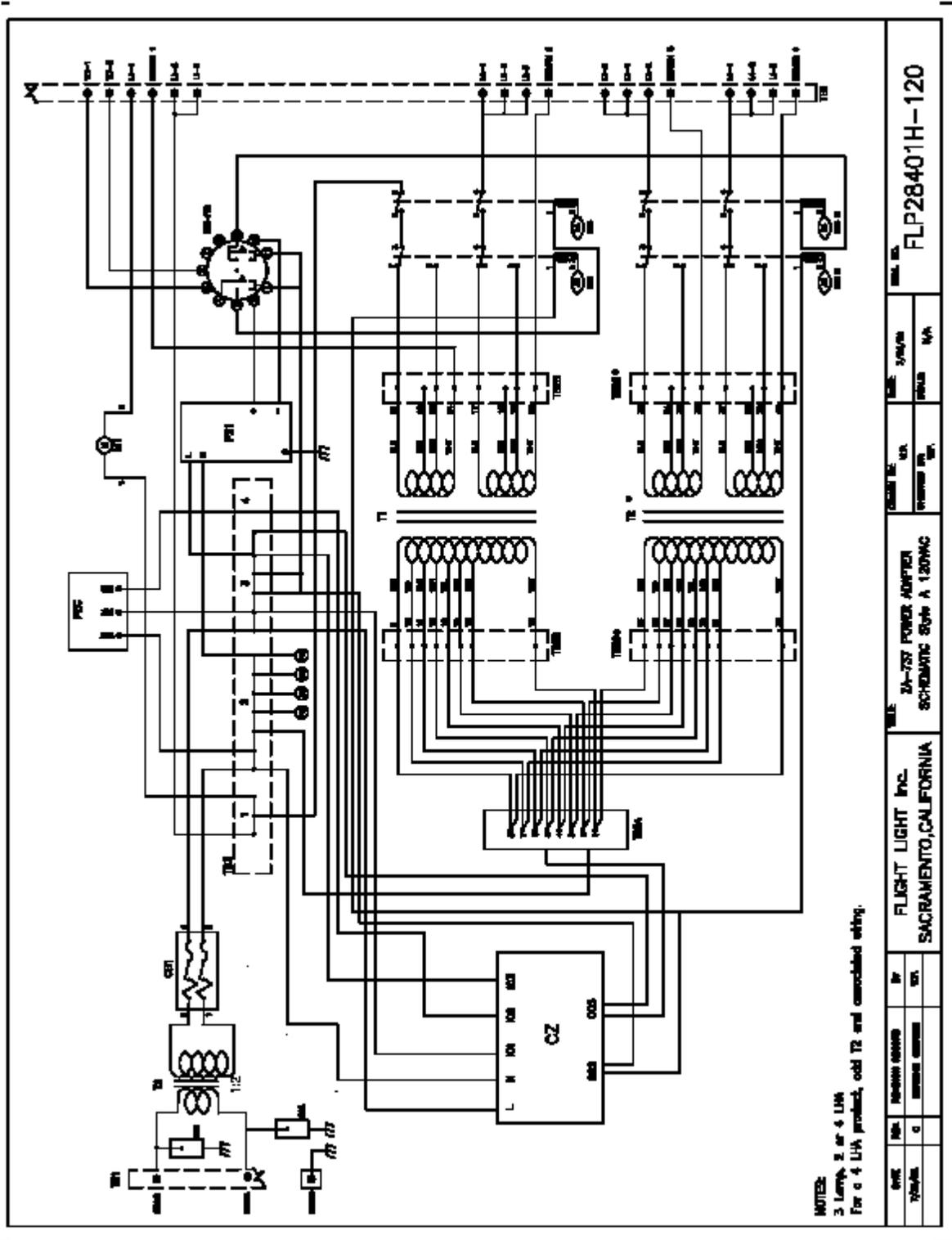
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					W.P.	N/A	



2 BOX 120VAC
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2/12/08		Corrections	RH					



FLP28401H-120

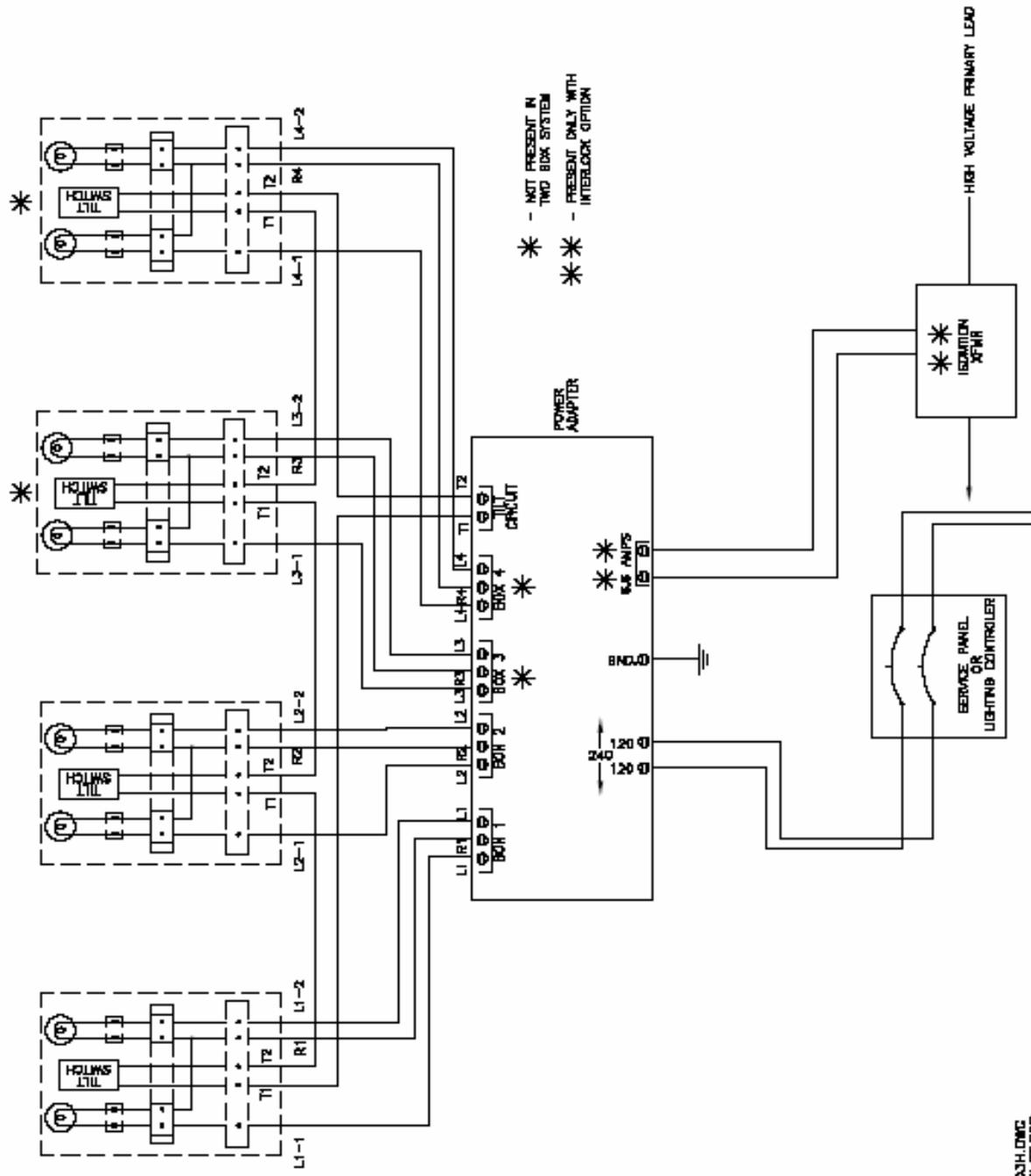
DATE: 2/20/76
REVISED: N/A

DESIGNED BY: JAC
CHECKED BY: JAC

24-757 POWER ADAPTER
SCHEMATIC Style A 120VAC

FLIGHT LIGHT INC.
SACRAMENTO, CALIFORNIA

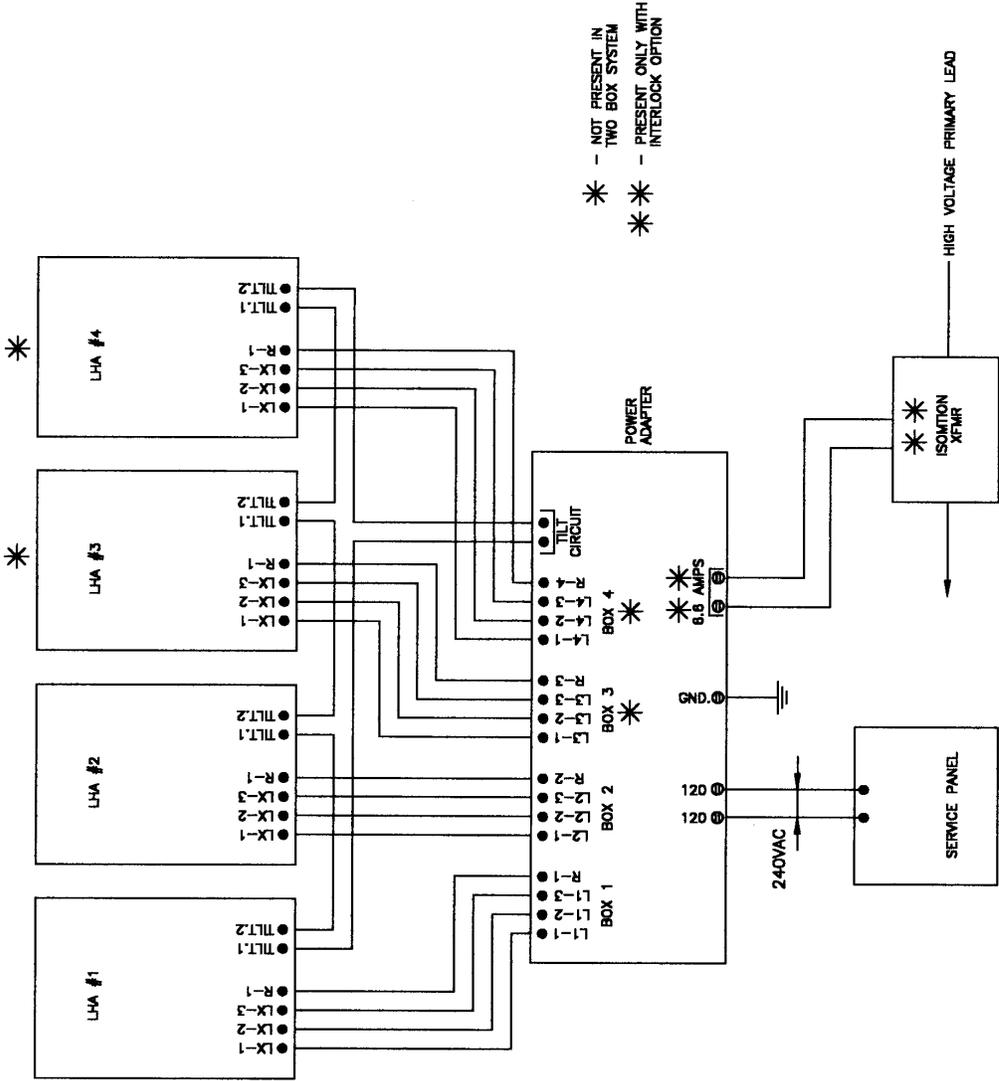
DATE	REV.	DESCRIPTION	BY
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- * - NOT PRESENT IN TWO BOX SYSTEM
- * * - PRESENT ONLY WITH INTERLOCK OPTION

CAD FILE: FLP28403H.DWG
 PLOT PALETTE: FLPLOT.PCP

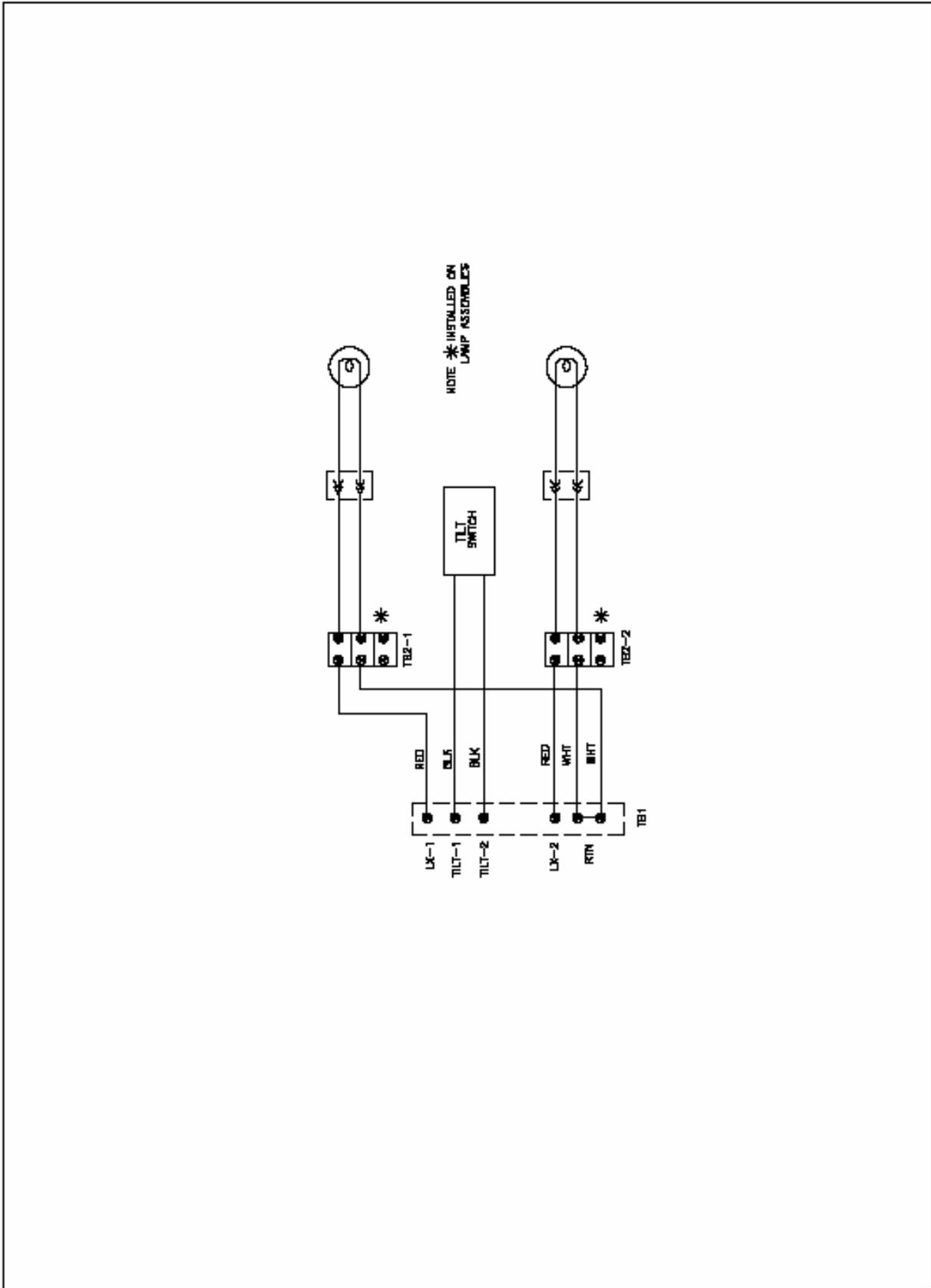
DATE	REV.	REVISION REQUIRED	BY	TITLE	DRAWN BY:	DATE	DWG. NO.
2/15/00	0	ISSUING ORIGIN	A.L.	FLIGHT LIGHT INC. SACRAMENTO, CALIFORNIA	A.M.G.	2/15/00	FLP28403H
7/18/03	A	TERMINAL CHG.	W.P.	ZA-757 (A) PAPI SYSTEM INSTALLATION WIRING DIAGRAM	CREATED BY:	N/A	



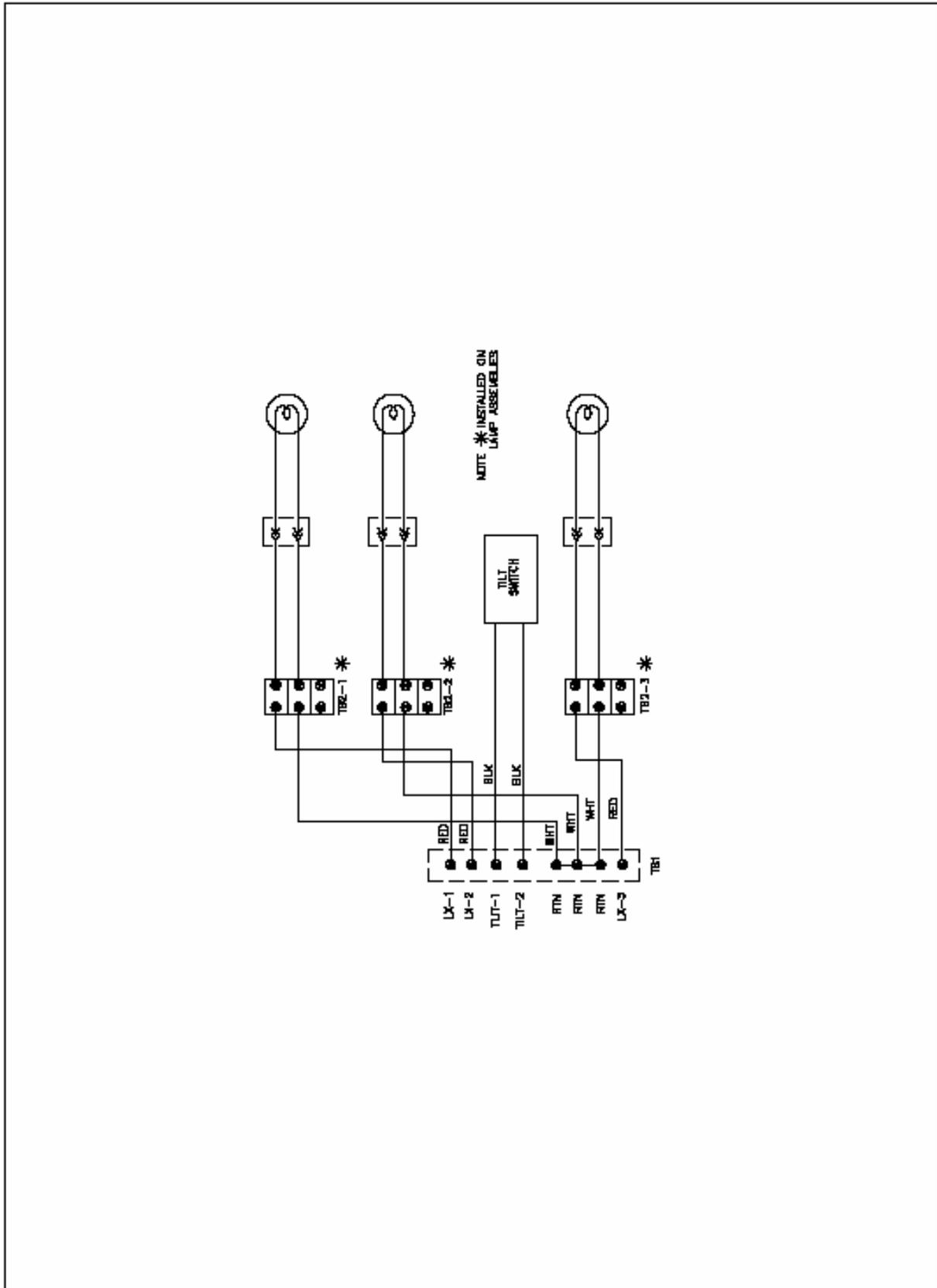
* - NOT PRESENT IN TWO BOX SYSTEM
 * - PRESENT ONLY WITH INTERLOCK OPTION

CAD FILE: FLP284031.DWG PLOT PALETTE: FLPLOT.PCP		BY: A.S.		TITLE: FLIGHT LIGHT INC. SACRAMENTO, CALIFORNIA		DRAWN BY: A.S.G.		DATE: 2/18/98		DWG. NO. FLP284031	
DATE	REV.	REVISION RECORD	BY	TITLE: ZA-737 (A) PAPI SYSTEM INSTALLATION WIRING DIAGRAM				DATE	SCALE	DWG. NO.	
2/18/98	0	DRAWING CREATED	A.S.					2/18/98	N/A	FLP284031	

ATTACHMENT 5.51



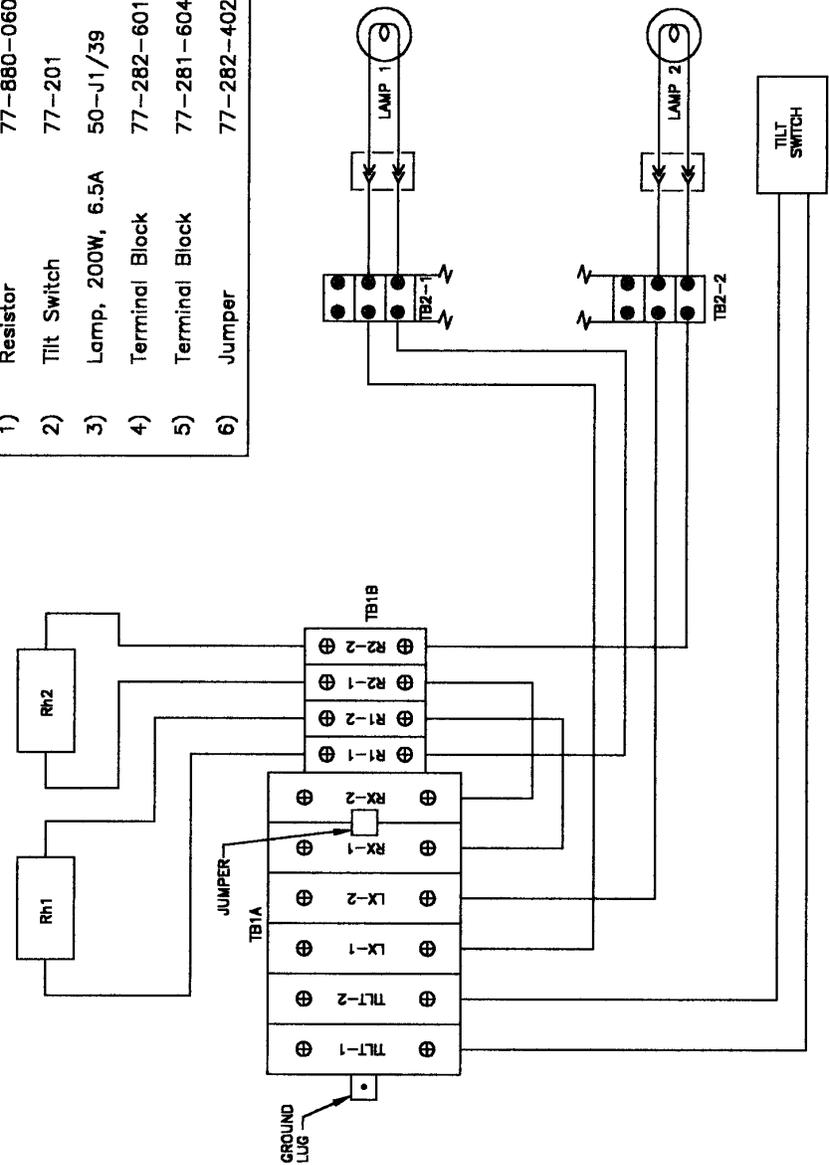
DATE	10/11/09	REVISION	0	REVISION	REVISION	BY	DATE	DESIGN BY	DATE	FLIGHT LIGHT INC. SACRAMENTO, CALIFORNIA	TITLE	DATE	DESIGN BY	DATE	FLP1006A
											ZA 757 LHA WIRING DIAGRAM STYLE A CLASS 1		W.P.	10/11/09	N/A



DATE	10/14/08	BY	YCL	TITLE	FLIGHT LIGHT Inc. SACRAMENTO, CALIFORNIA	DESIGN OR M.P.	DATE	10/14/08	DWG. NO.	FLP1006B
REV.	0	REVISION REQUIRED			ZA 737 LHA WIRING DIAGRAM STYLE A CLASS 1	DESIGNED BY	SEALD	SCALE		
		CREATED								N/A

PART LISTS

Item:	Noun:	Pn:	Qty:
1)	Resistor	77-880-0604	2
2)	Tilt Switch	77-201	1
3)	Lamp, 200W, 6.5A	50-U1/39	2
4)	Terminal Block	77-282-601	6
5)	Terminal Block	77-281-604	4
6)	Jumper	77-282-402	1

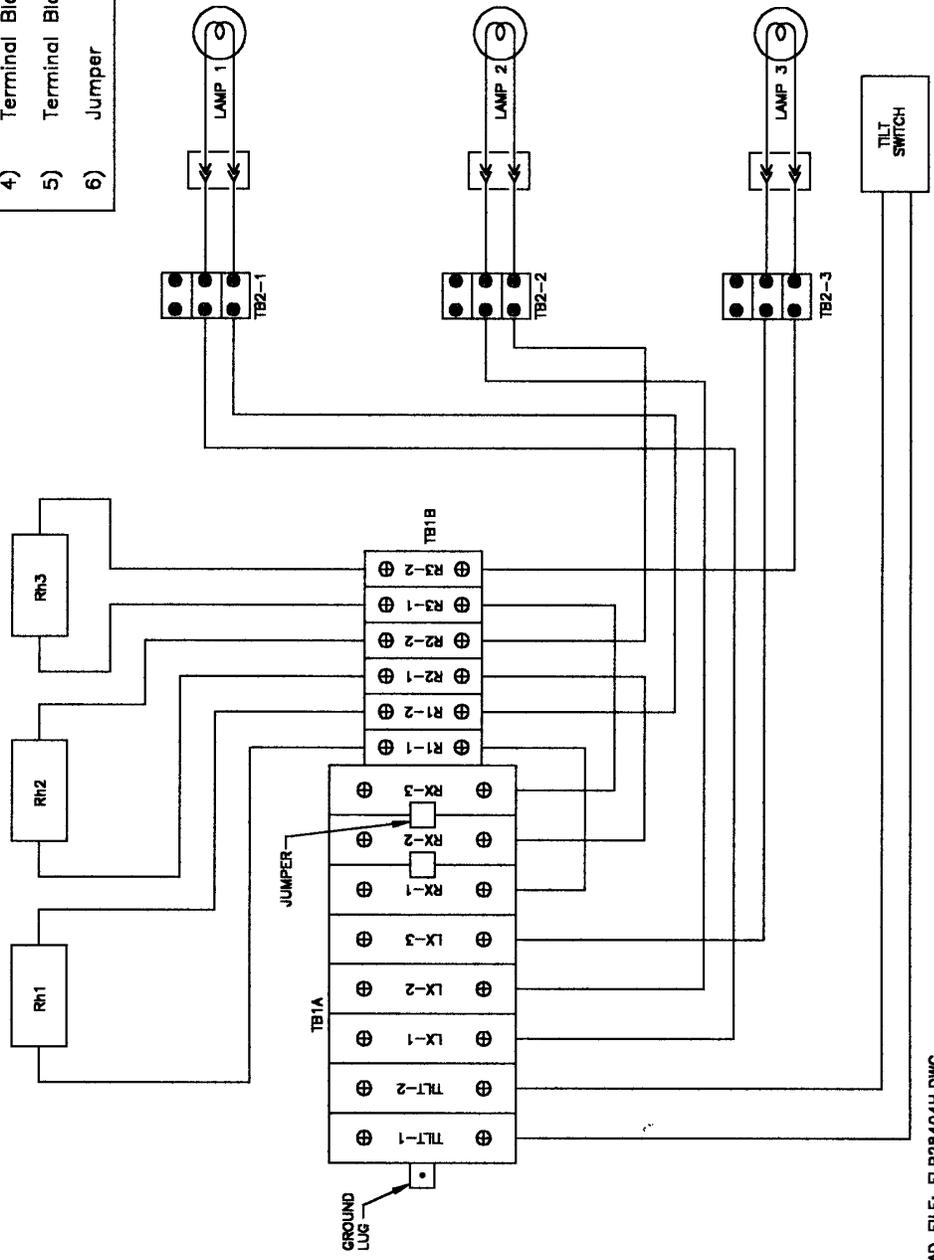


CAD FILE: FLP28404D.DWG
 PLOT PALETTE: FLPLOT.PCP

DATE	3/22/98	REV.	0	REVISION RECORD	BY	A.G.
DRAWING CREATED			DRAWING CREATED			
TITLE:			FLIGHT LIGHT Inc. SACRAMENTO, CALIFORNIA			
DRAWN BY:			A.M.G.			
CHECKED BY:			N/A			
DATE:			2/22/98			
SCALE:			N/A			
DWG. NO.			FLP28404D			

PART LISTS

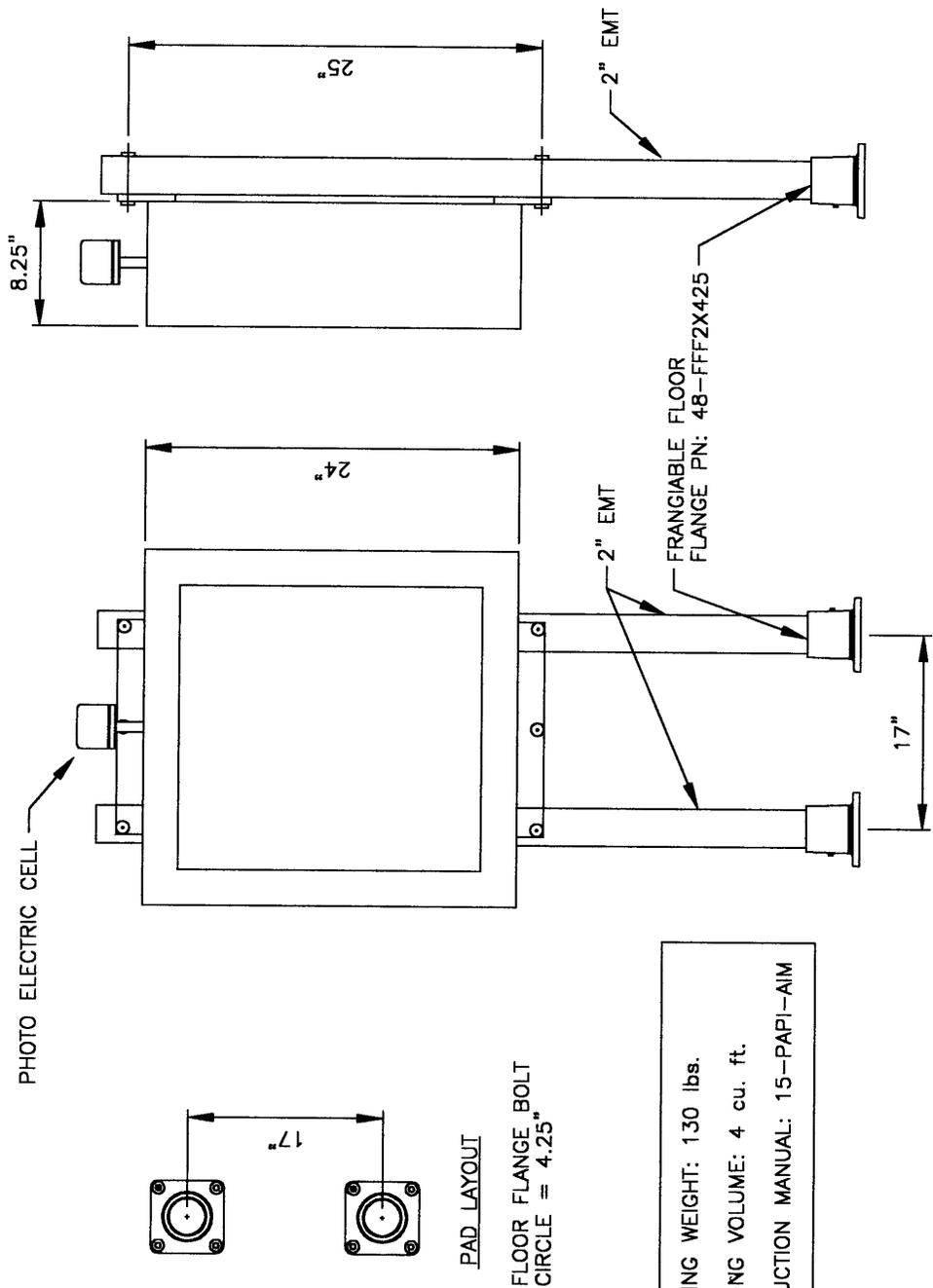
Item:	Noun:	Pn:	Qty:
1)	Resistor	77-880-0604	3
2)	Tilt Switch	77-201	1
3)	Lamp, 200W, 6.5A	50-J1/39	3
4)	Terminal Block	77-282-601	8
5)	Terminal Block	77-281-604	6
6)	Jumper	77-282-402	2



CAD FILE: FLP28404H.DWG
PLOT PALETTE: FLPLOT.PCP

DATE	REV.	REVISION RECORD	BY	TITLE	DRAWN BY	DATE	DWG. NO.
2/22/08	0	DRAWING CREATED	A.G.	FLIGHT LIGHT INC. SACRAMENTO, CALIFORNIA	AL.G.	2/22/08	FLP28404H
				ZA 737 LHA WIRING DIAGRAM, TYPE A, CLASS 2	CHECKED BY:	SCALE	N/A

ATTACHMENT 5.71



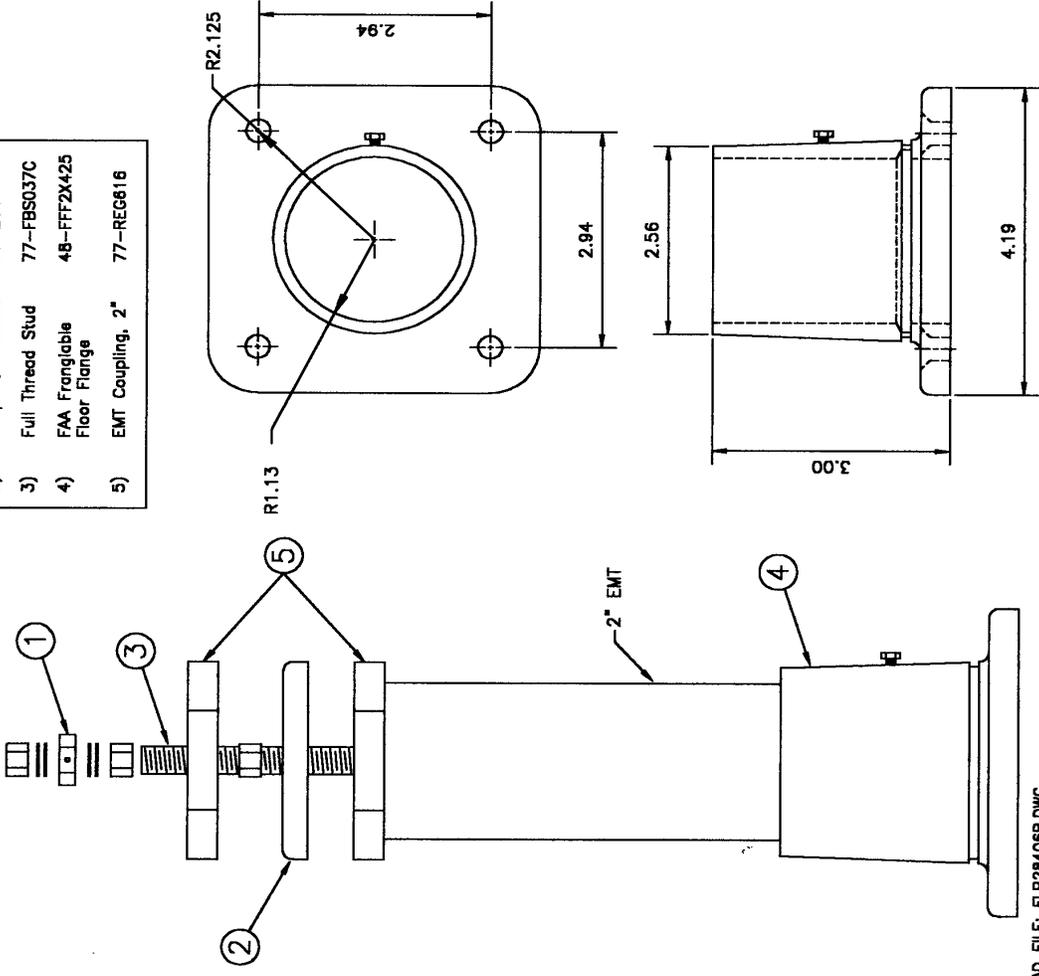
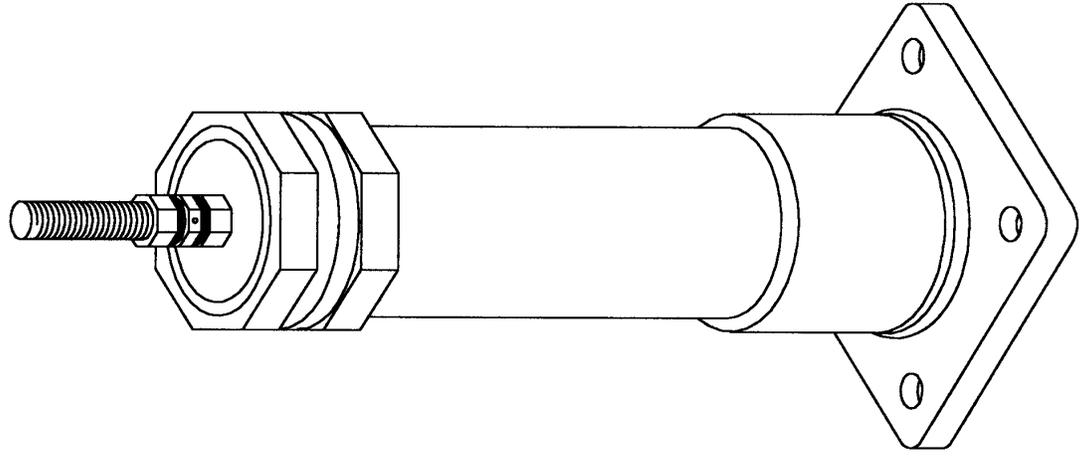
SHIPPING WEIGHT: 130 lbs.
 SHIPPING VOLUME: 4 cu. ft.
 INSTRUCTION MANUAL: 15-PAPI-AIM

ATTACHMENT 5.80

CAD FILE: FLP28405A.DWG PLOT_PALETTE: FLPLOT.PCP		TITLE: ZA 757/737 POWER ADAPTER ENCLOSURE		DWG. NO. FLP28405A	
DATE	REV.	REVISION RECORD	BY	M.F.B.	DATE
3/18/08	1	-	TS	TONY SANNER	3/18/08
			CHECKED BY:		SCALE: N.T.S.

NOTE:
FLOOR FLANGE BOLT
CIRCLE = 4.25"

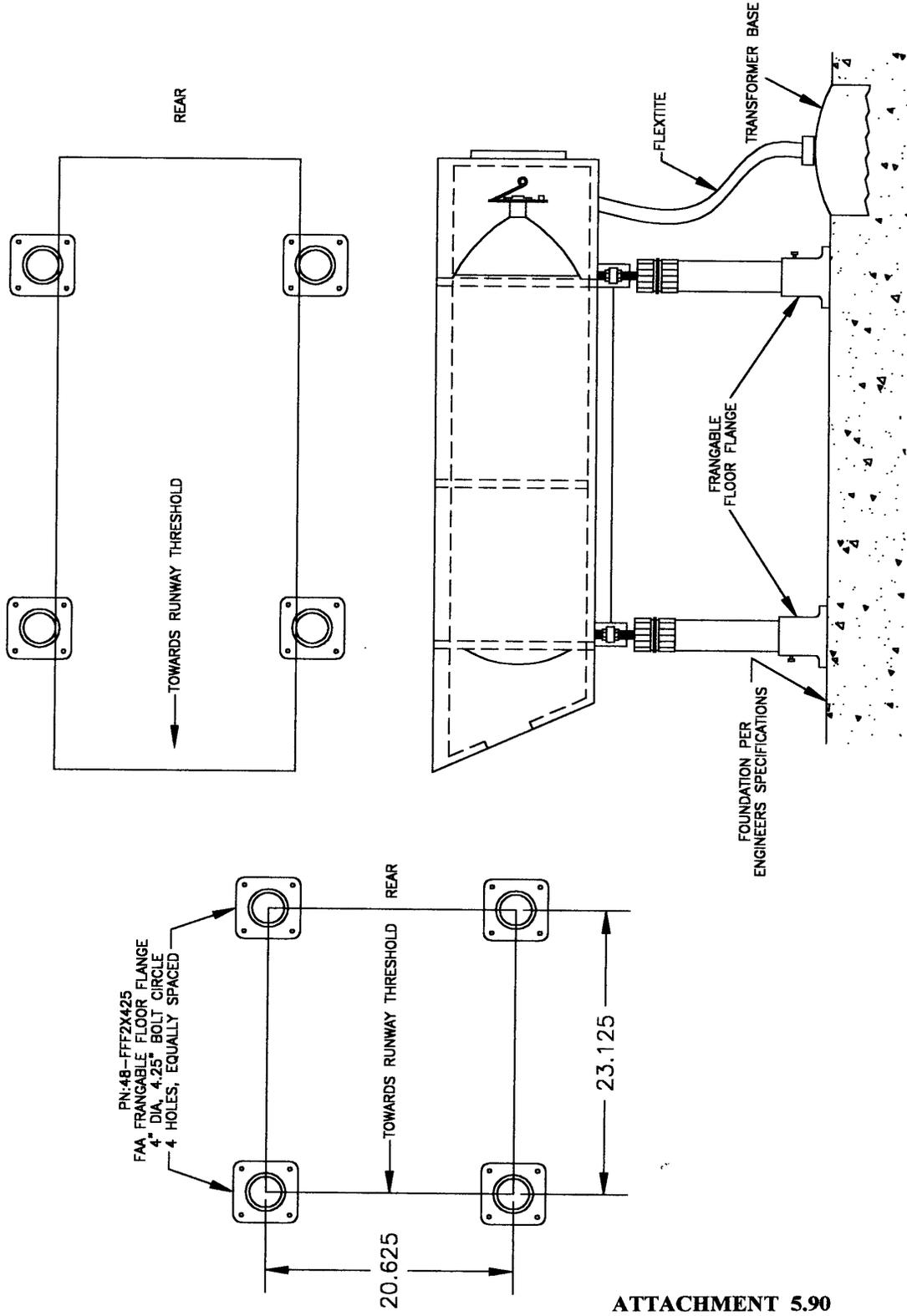
PART LISTS	
Item: Nouni:	Part:
1) Pivot Lra	77-208
2) Adaptor, Allthread	77-204
3) Full Thread Stud	77-FBS037C
4) FAA Frangible Floor Flange	48-FFF2X425
5) EMT Coupling, 2"	77-REG616



CAD FILE: FLP28406B.DWG
PLOT PALETTE: FLPLOT.PCP

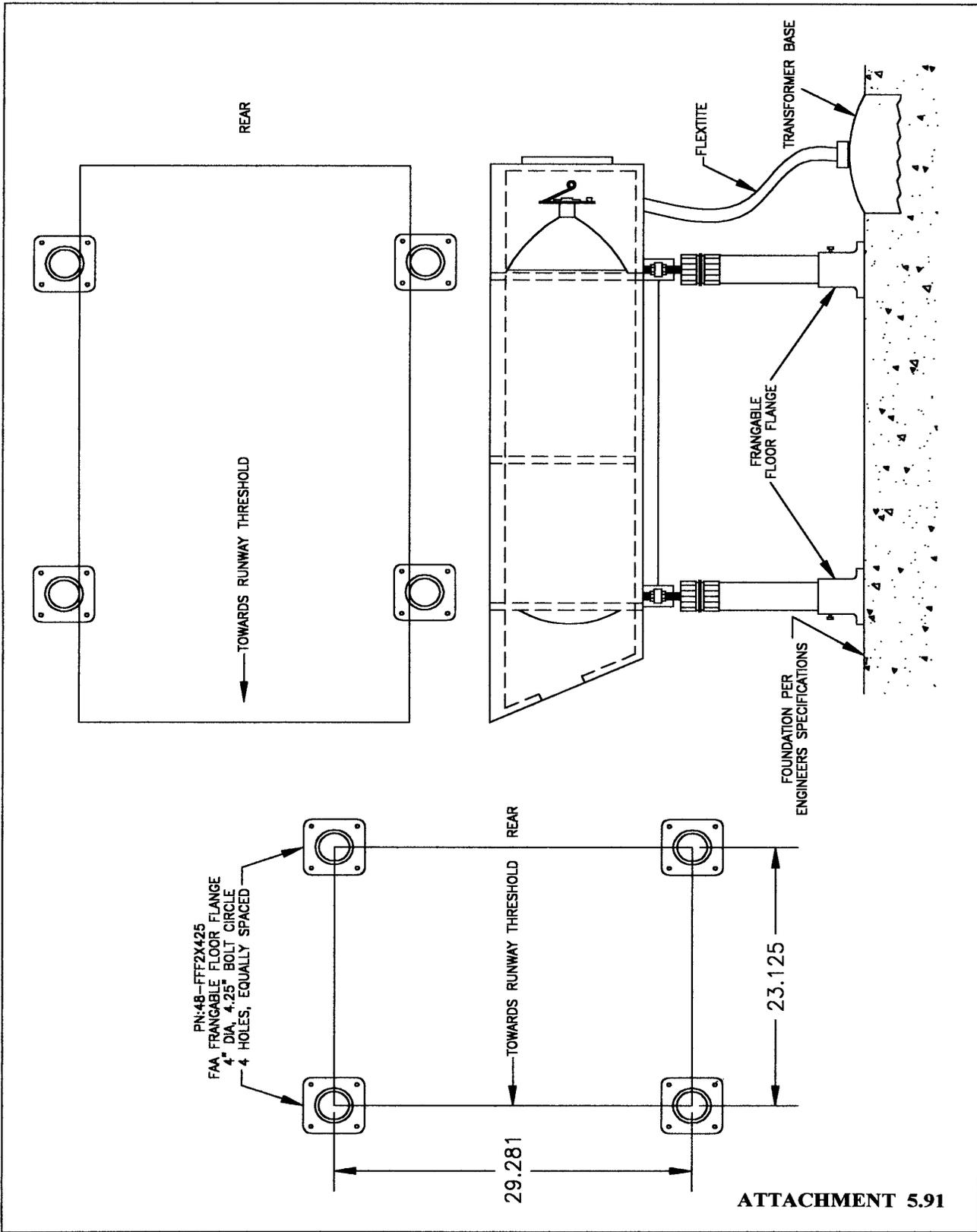
DATE	REV.	REVISION RECORD	BY	DATE	DRAWN BY:	DATE:	DWG. NO.
-	-	-	-	2/10/08	M.F.B.	SCALE:	FLP28406B
					CHECKED BY:	N.T.S.	
					TONY SANNER		
FLIGHT LIGHT INC. SACRAMENTO, CALIFORNIA				FRANGIBLE MOUNTING ACCESSORIES			

ATTACHMENT 5.81



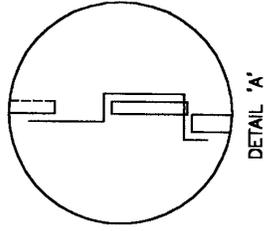
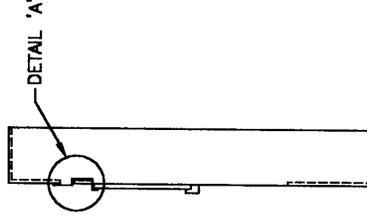
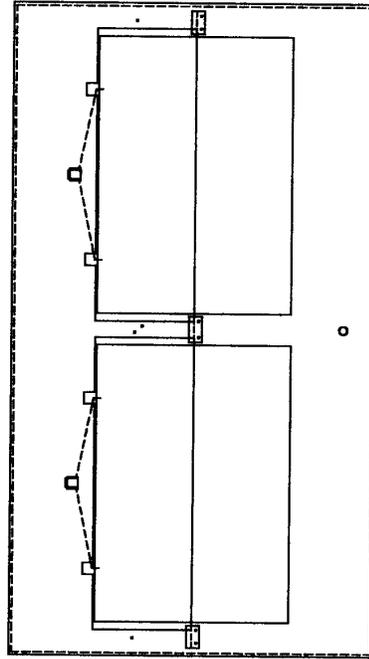
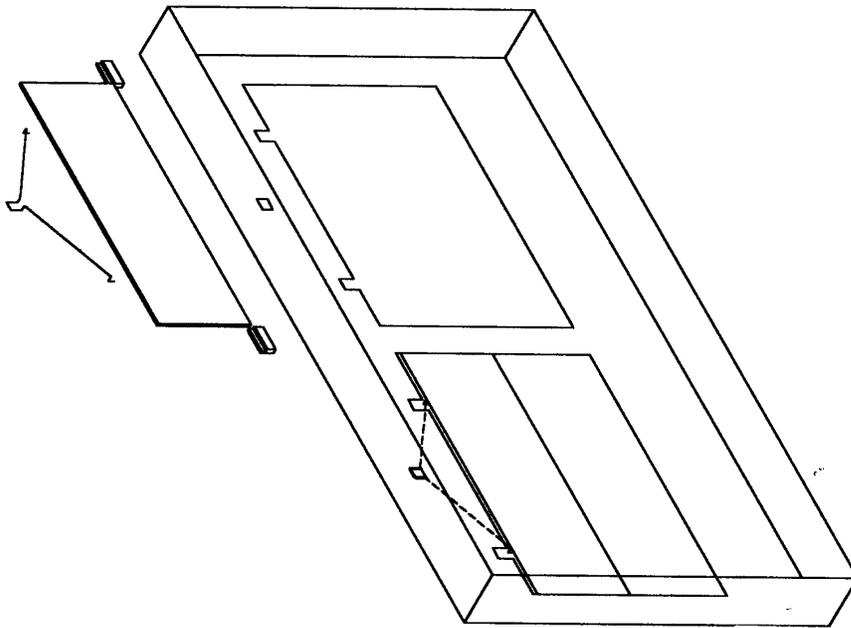
ATTACHMENT 5.90

DATE	REV.	REVISION REQUIRED	BY	FLIGHT LIGHT Inc. SACRAMENTO, CALIFORNIA	ZA 757 BASE MOUNTING GUIDE	J BRANT	DATE: 9/23/06	SCALE:	FLP28407A
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DATE		REV.	REVISION RECORD	BY	FLIGHT LIGHT Inc. SACRAMENTO, CALIFORNIA		ZA 737 BASE MOUNTING GUIDE		DATE: 9/23/98		SCALE:		FLP28407B	

ATTACHMENT 5.91



ATTACHMENT 5.92

FILE: FLP28408.DWG
 PLOT PALETTE: FLPILOT.PCP

DATE	REV.	REVISION RECORD	BY
-	1	-	-

FLIGHT LIGHT Inc.
 SACRAMENTO, CALIFORNIA

TITLE: ZA 757
 FILTER INSTALLATION

DRAWN BY: M.F.B.
 CHECKED BY: TONY SPANNER

DATE: 2/10/09
 SCALE: N.T.S.

DWG. NO.

FLP28408

ZA737/757 CHAPI Parts List (Style A and B)

Flight Light Part Number	Description
15-201TSA	PAPI Tilt Switch Assy. A
Components:	
15-FFF2X425	FAA Frangible Floor Flange
LA-6373	200W 6.6A Quartz G6.35
77-203	Tilt switch mounting plate
77-204	Adapter, all-thread
77-206	Pivot, LHA
77-207	Filter holder
77-249-117	End Stop
77-282-402	Jumper, adjacent
77-282-601	Terminal block, gray, 315"
77-HC83314SS	Catch, stainless steel
77-HS83314	Strike, stainless steel
77-REG5803-S	Connector, 1" LT metallic, ins.
77-REG616	EMT coupling, 2"
77-REG8413	Reducer, 2" to 1"
80-015053	ZA757/4 Lamp Holder assembly
80-016045	ZA757/4 lens assembly
80-019035	ZA757/4 filter glass, red
80-032081	CHAPI filter frame assembly red/white/green
80-021077	Hatch cover
80-021253	ZA757/4 filter spring
80-021254	ZA757/4 reflector assembly
Lens heater Class II	
77-215	Lens heater mount
77-281-604	Terminal block, blue, .236"
77-821-604	Jumper
77-880-0604	Resistor, 25W, .47 ohm
15-7x7LHA-X	PAPI Light Housing Assy, B, I/II, Tilt Switch
Components:	
15-FFF2X425	FAA Frangible Floor Flange
77-FA9812103	Printed circuit assembly, master (2lamp)
77-FA9812104	Printed circuit assembly, slave (2lamp)
77-FA9812101	Printed circuit assembly, master (3lamp)
77-FA9812102	Printed circuit assembly, slave (3 lamp)
77-LA-6	Ground Lug
77-937-106	Transformer, 240/34 VAC, 60 Hz (ZA737) Class I
77-937-100	Transformer, 240/34 VAC, 60 Hz (ZA757) Class I
77-937-105	Transformer, 240/34 VAC, 60 Hz (ZA757) Class II
77-937-107	Transformer, 240/34 VAC, 60 Hz (ZA737) Class II
77-021042	Aiming Device (Block)

77-#98-6	Level, spirit, precision, 6"
15-737AD	ZA737 Aiming and Alignment Device
77-ECS31BC	Current Sensor
77-RM2S-UL	Relay, 240 VAC