



10810 W. LITTLE YORK RD., STE. 130 HOUSTON, TX 77041-4051  
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web: [www.twrlighting.com](http://www.twrlighting.com)

## IMPORTANT!!!!

**PLEASE TAKE THE TIME TO FILL OUT THE FORM COMPLETELY. FILE IN A SAFE PLACE. IN THE EVENT YOU EXPERIENCE PROBLEMS WITH OR HAVE QUESTIONS CONCERNING YOUR CONTROLLER, THE FOLLOWING INFORMATION IS NECESSARY TO OBTAIN PROPER SERVICE AND PARTS.**

MODEL # AA0M-TSS 230V

SERIAL # \_\_\_\_\_

PURCHASE DATE \_\_\_\_\_

PURCHASED FROM \_\_\_\_\_

# **TWR Lighting, Inc.** **MARK**<sup>®</sup>

*Enlightened Technology*<sup>®</sup>

## **AA0M-TSS 230V CONTROLLER**

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**WARRANTY & RETURN POLICY**

**RETURN MERCHANDISE AUTHORIZATION (RMA) FORMS**

# **TWR Lighting, Inc.** **MARK**<sup>®</sup>

*Enlightened Technology*<sup>®</sup>

## **AA0M-TSS 230V CONTROLLER**

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### **APPENDIX**

<b>CHASSIS LAYOUT .....</b>	<b>1171-R (REV H)</b>
<b>SCHEMATIC LAYOUT.....</b>	<b>1171-S (REV G)</b>
<b>TROUBLESHOOTING FLOW CHART .....</b>	<b>1171-F (REV B)</b>
<b>PHOTOCELL HOUSING DETAIL.....</b>	<b>100239 (REV H)</b>
<b>L-810 OL-2 DOUBLE OBSTRUCTION LIGHT DETAIL .....</b>	<b>310 (REV B)</b>
<b>L-810 OL-1 SINGLE OBSTRUCTION WIRING DETAIL .....</b>	<b>274-S (REV A)</b>
<b>JUNCTION BOX DETAIL.....</b>	<b>100089 (REV A)</b>
<b>TOWER LIGHTING KIT (0M TO 45M) .....</b>	<b>1110-01 (REV C)</b>
<b>WRAPLOCK FASTENING DETAIL .....</b>	<b>100984</b>

## **AA0M-TSS 230V CONTROLLER**

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### **1.0 GENERAL INFORMATION**

The TWR Lighting<sup>®</sup>, Inc. (TWR<sup>®</sup>) Model AA0M-TSS 230V is for applications of two (2) through eight (8) L-810 single obstruction light fixtures.

The obstruction lights burn steady. Each fixture requires one (1) 116W 230V AC bulb (116A21TS230V).

A by-pass switch (SW1) allows the controller to be turned on during daylight hours without covering the photocell.

The photocell is the three (3) blade, twist to lock type.

Power supplied to the controller shall be 230V AC 50/60 Hz.

Controller functions that are monitored by remote alarms in the form of dry contact closures are as follows:

<b>POWER FAILURE</b>	Monitors 230V AC to the controller. Alarms in the event of power failure, or a tripped circuit breaker.
<b>LIGHTS “ON”</b>	Gives an indication whenever the controller is activated.
<b>OBSTRUCTION LIGHTS</b>	Will give an alarm when one (1) of the group of sidelights fails.

## **AA0M-TSS 230V CONTROLLER**

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### **2.0 INSTALLATION INSTRUCTIONS**

#### **2.1 MOUNTING THE CONTROL CABINET**

(Refer to Drawing 1171-R)

- 2.1.1 The power supply control cabinet can be located at the base of the structure or in an equipment building. Mounting footprints are shown on drawing 1171-R. Power wiring to the control cabinet shall be in accordance with local methods and the Electrical National Codes (NEC).
- 2.1.2 If the control cabinet is mounted inside an equipment building, the photocell shall be mounted vertically on ½” conduit outside the building above the eaves facing north. Wiring from the photocell socket to the control cabinet shall consist of one (1) each: red, black, and white wires. The white wire is connected to the socket terminal marked “N,” the black wire is connected to the socket terminal marked “Li” and the red wire is connected to the socket terminal marked “Lo.” As above, the photocell shall be positioned so that it does not “see” ambient light, which would prevent it from switching to the nightmode.
- 2.1.3 If the control cabinet is mounted outside an equipment building, the photocell shall be mounted vertically on ½” conduit so the photocell is above the control cabinet. Care must be taken to assure that the photocell does not “see” any ambient light that will prevent it from switching to the nightmode. The photocell wiring is the same as in 2.1.1.
- 2.1.4 The wiring from the photocell, the service breaker, and the red incandescent sidelights shall enter the control cabinet through the water tight connectors in the bottom of the cabinet. Inside the cabinet, the connections will be made on the terminal block and circuit breakers, which are located at the bottom of the chassis. These connections are made as follows:

#### **2.2 EXTERNAL PHOTOCELL WIRING**

(Refer to Drawing 1171-R)

- 2.2.1 Connect the **BLACK** wire from the photocell to terminal block (TB2) marked “L.”

## **AA0M-TSS 230V CONTROLLER**

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2.2.2 Connect the **RED** wire from the photocell to terminal block (TB2) marked “SSR.”

2.2.3 Connect the **WHITE** wire from the photocell to terminal block (TB2) marked “N.”

### **2.3 POWER WIRING**

(Refer to Drawing 1171-R)

2.3.1 Power wiring to the control cabinet shall be in accordance with local methods and the Electrical National Codes (NEC).

2.3.2 Circuit breaker needs to be rated at 10 amps.

2.3.3 Connect incoming 230V AC “hot” wire to terminal block (TB1) marked “L.”

2.3.4 Connect neutral wire to one (1) of the terminal blocks (TB1) marked “N.”

2.3.5 Connect the AC ground to the aluminum mounting plate.

### **2.4 SIDELIGHT WIRING**

(Refer to Drawing 1171-R and 1110-01)

2.4.1 Connect the black wire from sidelight group to circuit breaker marked “S.”

2.4.2 Connect the white neutral wire(s) to the terminal block (TB1) marked “N.”

### **2.5 SIDELIGHT ALARM WIRING**

(Refer to Drawings 1171-R and 1171-S)

2.5.1 Alarm relays K1, K2, and Module M1, are for independent contact closures, for: Power Failure, Tower Lights “ON,” and Sidelight Lamp Burnout.

## **AA0M-TSS 230V CONTROLLER**

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- 2.5.2 Alarm wiring: To utilize all of the red light alarms, the customer will need three (3) pairs of wires to interface with the alarm device. One (1) wire from each of the three (3) pairs will terminate at K1, pin #4. The remaining wire from each pair will terminate as follows:

**Sidelight Lamp Burnout:** Connect to Module M1, terminal T5, for normally open (or) terminal T6, for normally closed monitoring.

**Power Failure Alarm:** Connect to relay K1, terminal #3, for normally open (or) terminal #6, for normally closed monitoring.

**Lights “ON” Alarm:** Connect to relay K2, terminal #3, for normally open (or) terminal #6, for normally closed monitoring.

- 2.5.3 Testing: To test alarms, follow the procedures using the “ohm” meter between alarm common and alarm points.

**Power Failure** Pull circuit breaker at electrical panel.

**Lights “ON”** Operate photocell by-pass switch (SW1) or cover the photocell.

**Sidelights** Trip circuit breaker on the controller panel.

## **AA0M-TSS 230V CONTROLLER**

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### **3.0 THEORY OF OPERATION**

#### **3.1 POWER SUPPLY**

230V AC enters the controller from the circuit breaker panel. Line sits at the 6390-FAA photocell waiting to be switched and also keeps the power failure relay K1 energized. When the 6390-FAA photocell is activated, line SSR energizes K2 “Lights On” relay. This can also be accomplished by using the photocell by-pass switch (SW1).

#### **3.2 SIDELIGHTS**

Line (SSR) is also being sent to Module M1 and through the toridal sensing coil to circuit breaker “S.” Module M1 is the current sensor for all of the sidelights. If one (1) sidelight within the group burns out, then Module M1 will send 230V to the on board relay coil, which will cause a contact closure for sidelight alarm.



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### **4.0 MAINTENANCE GUIDE**

#### **4.1 RED OBSTRUCTION LIGHTING**

The only required maintenance needed to be performed is replacement of the lamps in the L-810 fixtures. Lamps should be replaced after being operated for not more than 75% of the rated life or immediately upon failure as per FAA Advisory Circular 70/7460-1L. By following these instructions, maximum safety and performance can be achieved.

**TOOLS REQUIRED:**        NONE

#### **4.2 L-810 LAMP REPLACEMENT**

**4.2.1** Unclasp the two (2) latches and let the bail recline back.

**4.2.2** Lift the lens up and over the lamp, letting the lens hang from the safety cable.

**4.2.3** Unscrew the lamp counter-clockwise and remove.

**4.2.4** Install the new lamp by screwing the lamp clockwise.

**4.2.5** Reinstall the lens, making sure it is seated properly on the base.

**4.2.6** Reclasp the two (2) latches.

#### **4.3 CONTROLLER**

No scheduled maintenance is required. Perform on an as needed basis.

#### **4.4 PHOTOCELL**

The photocell is a sealed unit. No maintenance is needed or required other than replacement as necessary.

## AA0M-TSS 230V CONTROLLER

### 5.0 MAJOR COMPONENTS PARTS LIST

QTY	PART NUMBER	DESCRIPTION
1	6390-FAA (This replaces the 102-FAA Photocell)	120 – 240V PHOTOCCELL
1	VJ1008HWPL1X004	ENCLOSURE
2	PB27E122	OCTAL SOCKETS
6	8WA1204	TERMINAL BLOCK (TB1 & TB2)
1	S261-D5	5 amp CIRCUIT BREAKER(S)
2	8WA1808	END STOP
1	9KE-240V	240V AC SPDT RELAY (K1 & K2)
1	SSPIGTAIL	20' PHOTOCCELL SOCKET PIGTAIL
1	STJ01002	PHOTOCCELL BYPASS SWITCH (SW1)
1	CM-250 (This replaces the SCR630T Modules)	120-240V CURRENT SENSOR (M1)
1	V275LA20A	METAL OXIDE VARISTOR (MOV)

## **AA0M-TSS 230V CONTROLLER**

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### **6.0 SUGGESTED SPARE PARTS LIST**

<b>QTY</b>	<b>PART NUMBER</b>	<b>DESCRIPTION</b>
<b>1</b>	<b>6390-FAA</b> <b>(This replaces the 102-FAA Photocell)</b>	<b>120 – 240V PHOTOCCELL</b>
<b>1</b>	<b>9KE-240V</b>	<b>240V AC SPDT RELAY (K1 &amp; K2)</b>
<b>1</b>	<b>S261-D5</b>	<b>5 amp CIRCUIT BREAKER (S)</b>



## AA0M-TSS 230V CONTROLLER

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### Warranty & Return Policy

**TWR Lighting®, Inc. (“TWR®”)** warrants its products (other than “LED Product”) against defects in design, material (excluding incandescent bulbs) and workmanship for a period ending on the earlier of two (2) years from the date of shipment or one (1) year from the date of installation.

**TWR Lighting®, Inc. (“TWR®”)** warrants its “LED Product” against defects in design, material and workmanship for a period of five (5) years from the date of shipment. TWR®, at its sole option, will, itself, or through others, repair, replace or refund the purchase price paid for “LED Product” that TWR® verifies as being inoperable due to original design, material, or workmanship. All warranty replacement “LED Product” is warranted only for the remainder of the original warranty of the “LED Product” replaced. Replacement “LED Product” will be equivalent in function, but not necessarily identical, to the replaced “LED Product.”

**TWR Lighting®, Inc. (“TWR®”)** warrants its “LED Product” against light degradation for a period of five (5) years from the date of installation. TWR®, at its sole option, will, itself, or through others, repair, replace, or refund the purchase price paid for “LED Product” that TWR® verifies as failing to meet 75% of the minimum intensity requirements as defined in the FAA Advisory Circular 150/5345-43G dated 09/26/12. All warranty replacement “LED Product” is warranted only for the remainder of the original warranty of the “LED Product” replaced. Replacement “LED Product” will be equivalent in function, but not necessarily identical, to the replaced “LED Product.”

**Replacement parts (other than “LED Product”) are warranted for 90 days from the date of shipment.**

Conditions not covered by this Warranty, or which might **void** this Warranty are as follows:

- x Improper Installation or Operation
- x Misuse
- x Abuse
- x Unauthorized or Improper Repair or Alteration
- x Accident or Negligence in Use, Storage, Transportation, or Handling
- x Any Acts of God or Nature
- x **Non-OEM Parts**

**The use of Non-OEM parts or modifications to original equipment design will void the manufacturer warranty and could invalidate the assurance of complying with FAA requirements as published in Advisory Circular 150/5345-43.**



## AA0M-TSS 230V CONTROLLER

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### Warranty & Return Policy (continued)

**Field Service** – Labor, Travel, and Tower Climb are not covered under warranty. Customer shall be obligated to pay for all incurred charges. An extensive network of certified and insured Service Representatives is available if requested.

**Repair, Replacement or Product Return RMA Terms** – You must first contact our Customer Service Department at **713-973-6905** to acquire a Return Merchandise Authorization (RMA) number in order to return the product(s). Please have the following information available when requesting an RMA number:

- x The contact name and phone number of the tower owner or
- x The contact name and phone number of the contractor
- x The site name and number
- x The part number(s)
- x The serial number(s) (if any)
- x A description of the problem
- x The billing information
- x The Ship To address

**This RMA number must be clearly visible on the outside of the box.** If the RMA number is not clearly labeled on the outside of the box, your shipment will be refused. Please ensure the material you are returning is packaged carefully. **The warranty is null and void if the product(s) are damaged in the return shipment.**

**All RMAs must be received by TWR LIGHTING®, INC., 10810 W. LITTLE YORK RD. #130, HOUSTON, TX 77041-4051, within 30 days of issuance.**

Upon full compliance with the Return Terms, TWR® will replace, repair and return, or credit product(s) returned by the customer. It is TWR®'s sole discretion to determine the disposition of the returned item(s).

# **TWR Lighting, Inc.** **HARK**<sup>®</sup>

## *Enlightened Technology*<sup>®</sup>

### **AA0M-TSS 230V CONTROLLER**

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#### **Warranty & Return Policy** (continued)

**RMA Replacements** – Replacement part(s) will be shipped and billed to the customer for product(s) considered as Warranty, pending return of defective product(s). When available, a certified reconditioned part is shipped as warranty replacement with a Return Merchandise Authorization (RMA) number attached. Upon receipt of returned product(s), inspection, testing, and evaluation will be performed to determine the cause of defect. The customer is then notified of the determination of the testing.

- x Product(s) that is deemed defective and/or unrepairable and covered under warranty - a credit will be issued to the customer's account.
- x Product(s) found to have no defect will be subject to a **\$75.00 per hour testing charge (1 hour minimum), which will be invoiced to the customer.** At this time the customer may decide to have the tested part(s) returned and is responsible for the return charges.
- x Product(s) under warranty, which the customer does not wish returned, the customer will be issued a credit against the replacement invoice.

**RMA Repair & Return** – A Return Merchandise Authorization (RMA) will be issued for all part(s) returned to TWR<sup>®</sup> for repair. Upon receipt of returned product(s), inspection, testing, and evaluation will be performed to determine the cause of defect. The customer is then notified of the determination of the testing. If the returned part(s) is deemed unrepairable, or the returned part(s) is found to have no defect, the customer will be subject to a **\$75.00 per hour testing charge (1 hour minimum), which will be invoiced to the customer.** Should the returned parts be determined to be repairable, a written estimated cost of repair will be sent to the customer for their written approval prior to any work being performed. In order to have the tested part(s) repaired and/or returned, the customer must issue a purchase order and is responsible for the return shipping charges.

**RMA Return to Stock** – Any product order that is returned to TWR<sup>®</sup> for part(s) ordered incorrectly or found to be unneeded upon receipt by the customer, the customer may be required to pay a minimum **20% restocking fee.** Product returned for credit must be returned within 60-days of original purchase, be in new and resalable condition, and in original packaging. Once the product is received by TWR it's condition will be evaluated and a credit will be issued only once it is determined that the RMA Return Terms have been met.

**Credits** – Credits are issued once it is determined that all of the Warranty and Return Terms are met. All credits are processed on Fridays. In the event a Friday falls on a Holiday, the credit will be issued on the following Friday.



## AA0M-TSS 230V CONTROLLER

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### Warranty & Return Policy (continued)

**Freight** – All warranty replacement part(s) will be shipped via ground delivery and paid for by TWR®. Delivery other than ground is the responsibility of the customer.

REMEDIES UNDER THIS WARRANTY ARE LIMITED TO PROVISIONS OF REPLACEMENT PARTS AND REPAIRS AS SPECIFICALLY PROVIDED. IN NO EVENT SHALL TWR® BE LIABLE FOR ANY OTHER LOSSES, DAMAGES, COSTS, OR EXPENSES INCURRED BY THE CUSTOMER, INCLUDING, BUT NOT LIMITED TO, LOSS FROM FAILURE OF THE PRODUCT(S) TO OPERATE FOR ANY TIME, AND ALL OTHER DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING ALL PERSONAL INJURY OR PROPERTY DAMAGE DUE TO ALLEGED NEGLIGENCE, OR ANY OTHER LEGAL THEORY WHATSOEVER. THIS WARRANTY IS MADE BY TWR® EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESSED OR IMPLIED. WITHOUT LIMITING THE GENERALITY OF THE FORGOING, TWR® MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS OF THE PRODUCT(S) FOR ANY PARTICULAR PURPOSE. TWR® EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES.



## AA0M-TSS 230V CONTROLLER

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### RETURN MERCHANDISE AUTHORIZATION (RMA) FORM

RMA#: \_\_\_\_\_ DATE: \_\_\_\_\_

CUSTOMER: \_\_\_\_\_

\_\_\_\_\_

CONTACT: \_\_\_\_\_ PHONE NO.: \_\_\_\_\_

ITEM DESCRIPTION (PART NO.): \_\_\_\_\_

\_\_\_\_\_

MODEL NO.: \_\_\_\_\_ SERIAL NO.: \_\_\_\_\_

ORIGINAL TWR INVOICE NO.: \_\_\_\_\_ DATED: \_\_\_\_\_

DESCRIPTION OF PROBLEM: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

SIGNED \_\_\_\_\_ DATE NEEDED \_\_\_\_\_

RETURN ADDRESS: \_\_\_\_\_

\_\_\_\_\_

PLEASE RETURN PRODUCT TO: 10810 W. LITTLE YORK RD., #130 HOUSTON, TX 77041-4051





## AA0M-TSS 230V CONTROLLER

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### RETURN MERCHANDISE AUTHORIZATION (RMA) FORM

RMA#: \_\_\_\_\_ DATE: \_\_\_\_\_

CUSTOMER: \_\_\_\_\_

\_\_\_\_\_

CONTACT: \_\_\_\_\_ PHONE NO.: \_\_\_\_\_

ITEM DESCRIPTION (PART NO.): \_\_\_\_\_

\_\_\_\_\_

MODEL NO.: \_\_\_\_\_ SERIAL NO.: \_\_\_\_\_

ORIGINAL TWR INVOICE NO.: \_\_\_\_\_ DATED: \_\_\_\_\_

DESCRIPTION OF PROBLEM: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

SIGNED \_\_\_\_\_ DATE NEEDED \_\_\_\_\_

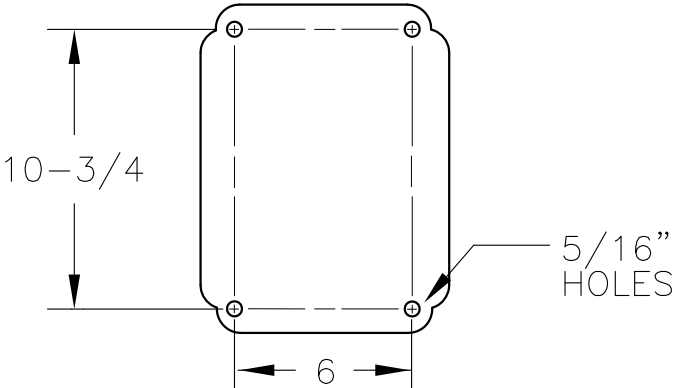
RETURN ADDRESS: \_\_\_\_\_

\_\_\_\_\_

PLEASE RETURN PRODUCT TO: 10810 W. LITTLE YORK RD., #130 HOUSTON, TX 77041-4051

\*CUSTOMER ALARM POINTS

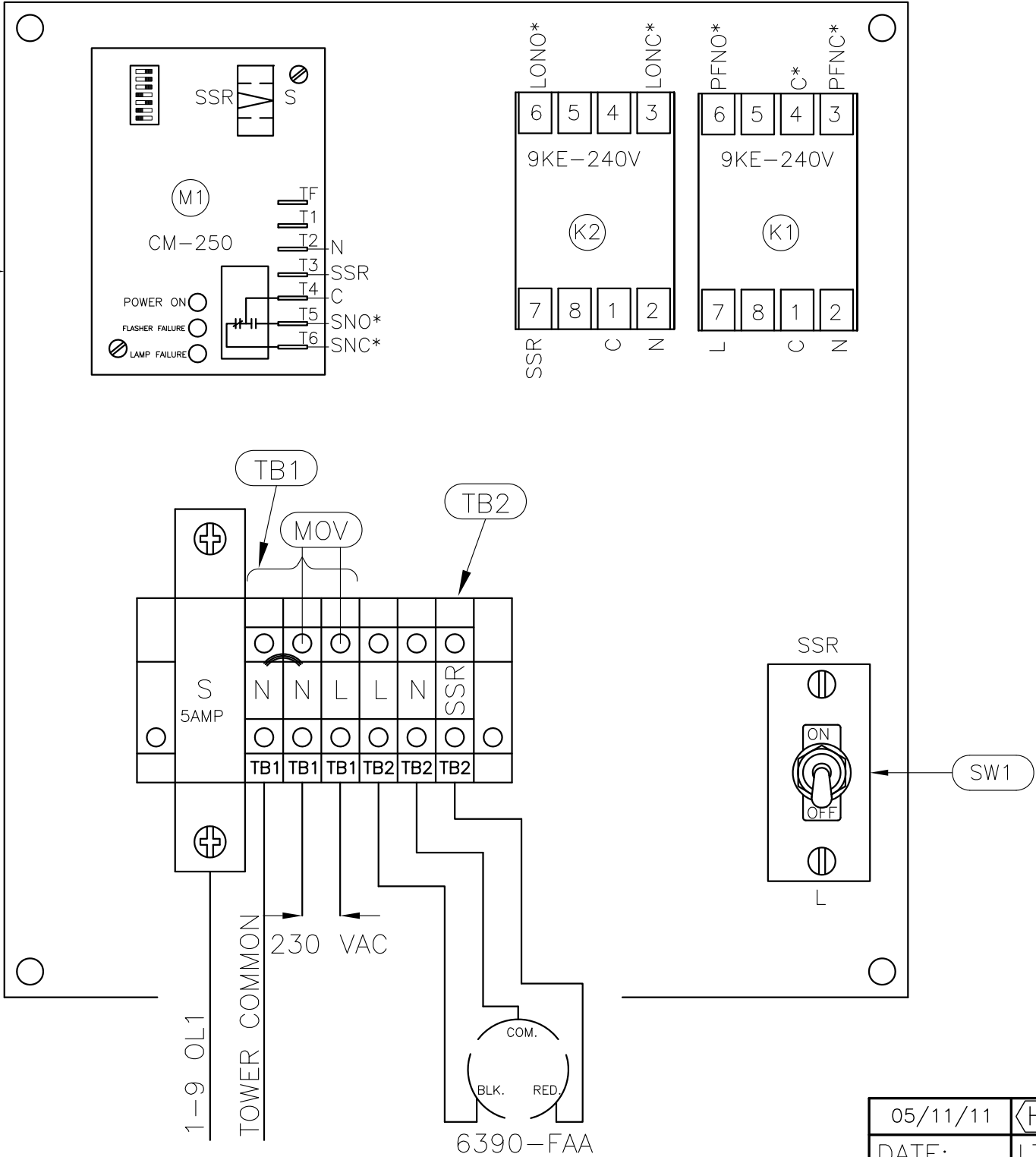
C = ALARM COMMON  
LO = TOWER LIGHTS "ON"  
PFNC = POWER FAILURE N/C  
PFNO = POWER FAILURE N/O  
S1NO = SIDELIGHT ALARM S1 N/O  
S1NC = SIDELIGHT ALARM S1 N/C



MOUNTING DIMENSIONS  
(FOR CABINET)

- NOTES:
1. PLUG 6390-FAA PHOTOCELL INTO 43109 TWIST LOCK RECEPTACLE AND TWIST TO LOCK.
  2. WIRES ARE CONNECTED LETTER TO LETTER.  
(EXAMPLE) N TO N...
  3. CURRENT SENSOR MODULE M1 CAN MONITOR ONE THROUGH NINE LAMPS. USE THE FOLLOWING GUIDE TO CALIBRATE TO YOUR PARTICULAR NEEDS.

9x7 PANEL



<div>FLASH NO FLASH</div> <div>700/620W 116W</div> <div>120V 230V 4</div> <div>A B C D</div> <div>ON</div>	TOTAL NO. OF LAMPS	SWITCHES "ON"
	1	NO SWITCHES
	2	D
	3	C
	4	B
	5	B & C
	6	A
	7	A & C
	8	A & B
	9	A & B & C

AAOM-TSS 230V  
CHASSIS LAYOUT

APP'D	<b>TWR Lighting, Inc.</b> Enlightened Technology		
CHK'D BY			
ENGINEER			
DRAWN BY E.A.SALAZAR	SHEET SIZE B	SHEET QTY. 1 OF 1	
DATE 05/28/98	SCALE N.T.S.	DWG. NO. 1171-R	

The use of non-OEM parts or modifications to original equipment design will void the manufacturer warranty and could invalidate the assurance of complying with FAA requirements as published in Advisory Circular 150/5345-43.  
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05/11/11	(H)	5 AMP/ALARM PT
DATE:	LTR.	REVISION




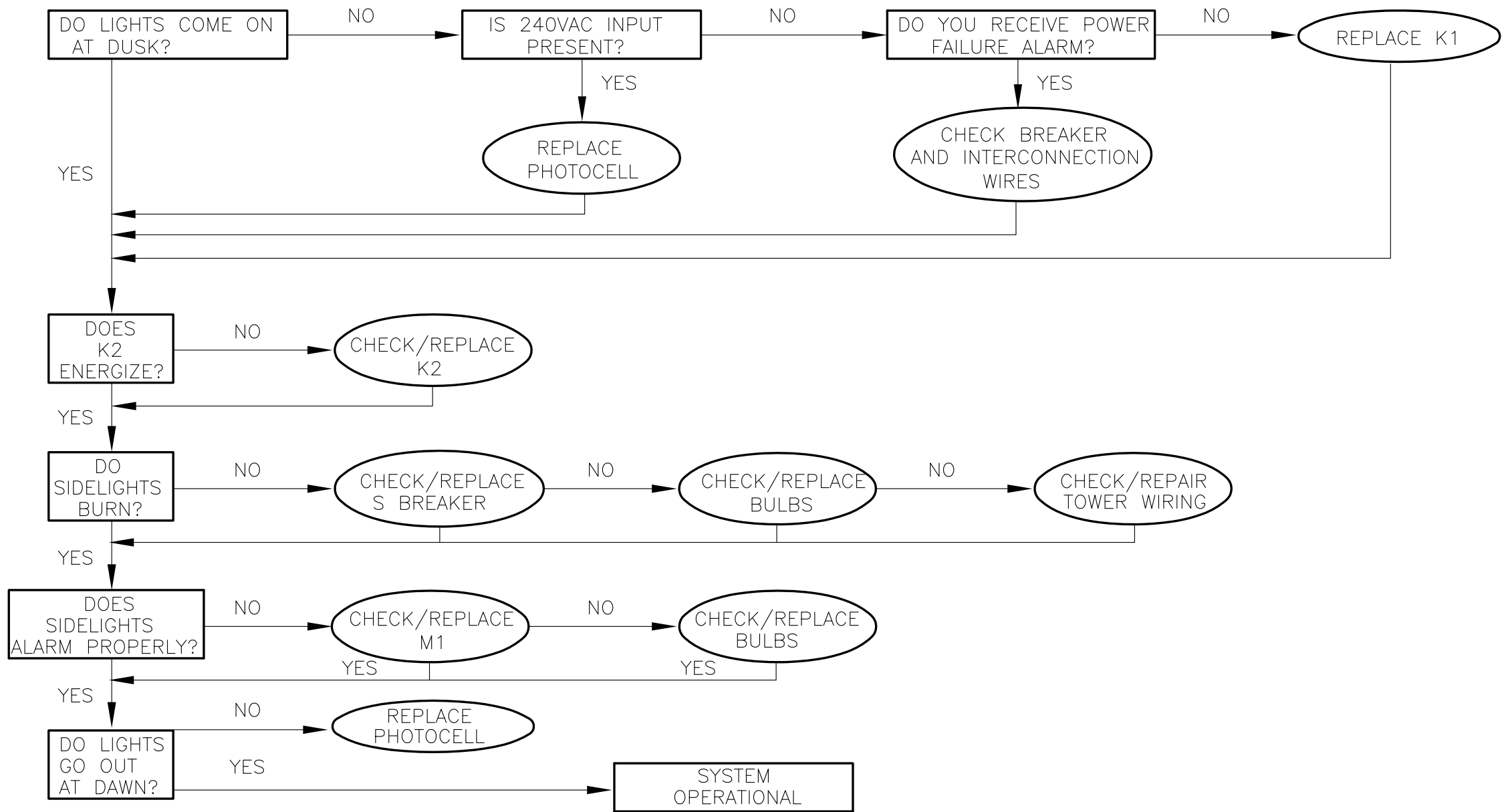
1. NUMBER OF LAMPS MAY VARY  
FROM 1 TO 9.  
SEE SETTING CHART ON DWG. 1171-R.  
\*=CUSTOMER ALARM POINTS

<u>AAOM—TSS 230V</u> <u>SCHEMATIC LAYOUT</u>			
APP'D		<b>TWR Lighting, Inc.</b> <i>Enlightened Technology</i>	
CHK'D BY			
ENGINEER			
DRAWN BY		SHEET SIZE	SHEET QTY.
E.A.SALAZAR		B	1 OF 1
DATE	SCALE	DWG. NO.	
05/28/98	N.T.S.		1171-S

The use of non-OEM parts or modifications to original equipment design void the manufacturer warranty and could invalidate the assurance of complying with FAA requirements as published in Advisory Circular 150/5345-43.

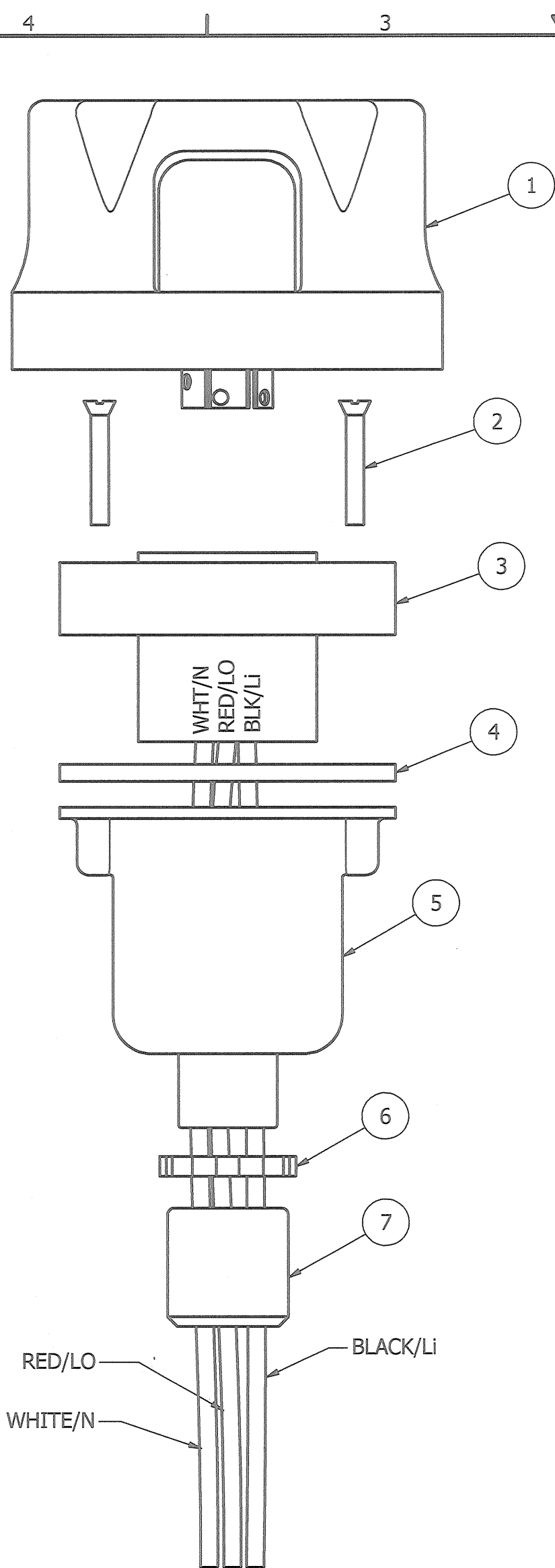
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05/11/11		CHG. S TO 5 AMP
DATE:	LTR.	REVISION



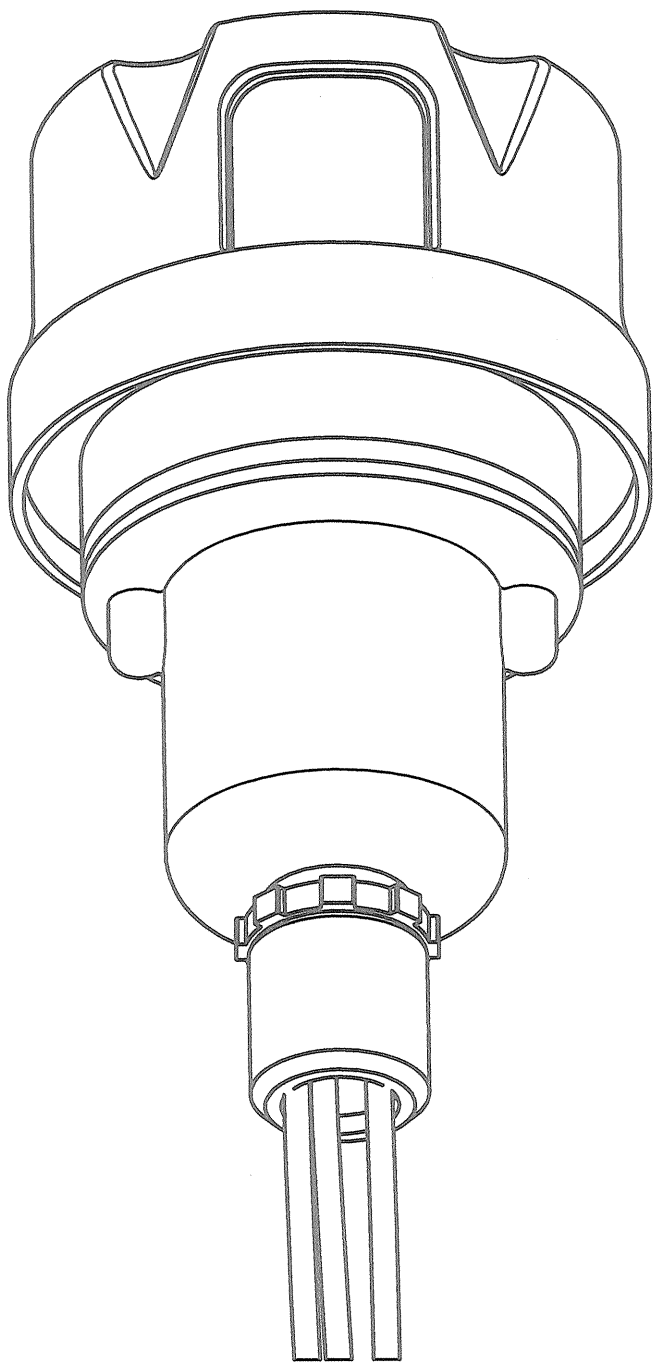
AAOM-TSS 230V			
TROUBLE SHOOTING FLOW CHART			
APP'D		<b>TWR Lighting, Inc.</b> <i>Enlightened Technology</i>	
CHK'D BY			
ENGINEER			
DRAWN BY E.A.SALAZAR		SHEET SIZE B	SHEET QTY. 1 OF 1
DATE 05/28/98		SCALE N.T.S.	DWG. NO. 1171-F
<small>The use of non-TWR parts or modifications to original equipment design will void the manufacturer warranty and could invalidate the assurance of complying with FAA requirements as published in Advisory Circular 150/5345-43. NOTICE: The drawings and photographic images contained herein are the sole property of TWR Lighting, Inc. All information contained herein that is not generally known shall be considered confidential except to the extent the information has been previously established. The drawings and photographic images contained herein may not be reproduced, copied or used as the basis for manufacture or sale or promotion or any other purpose without the expressed written permission of TWR Lighting, Inc.</small>			

12/11/09	<div><div>B</div><div>REVISION</div></div>	REVISION
DATE:	LTR.	REVISION



EXPLODED VIEW

PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	PHOTOCELL
2	2	6-32 x 1" SCREW
3	1	RECEPTACLE SOCKET
4	1	RECEPTACLE GASKET
5	1	RECEPTACLE HOUSING
6	1	1/2" CONDUIT LOCKNUT
7	1	3/4" TO 1/2" REDUCER

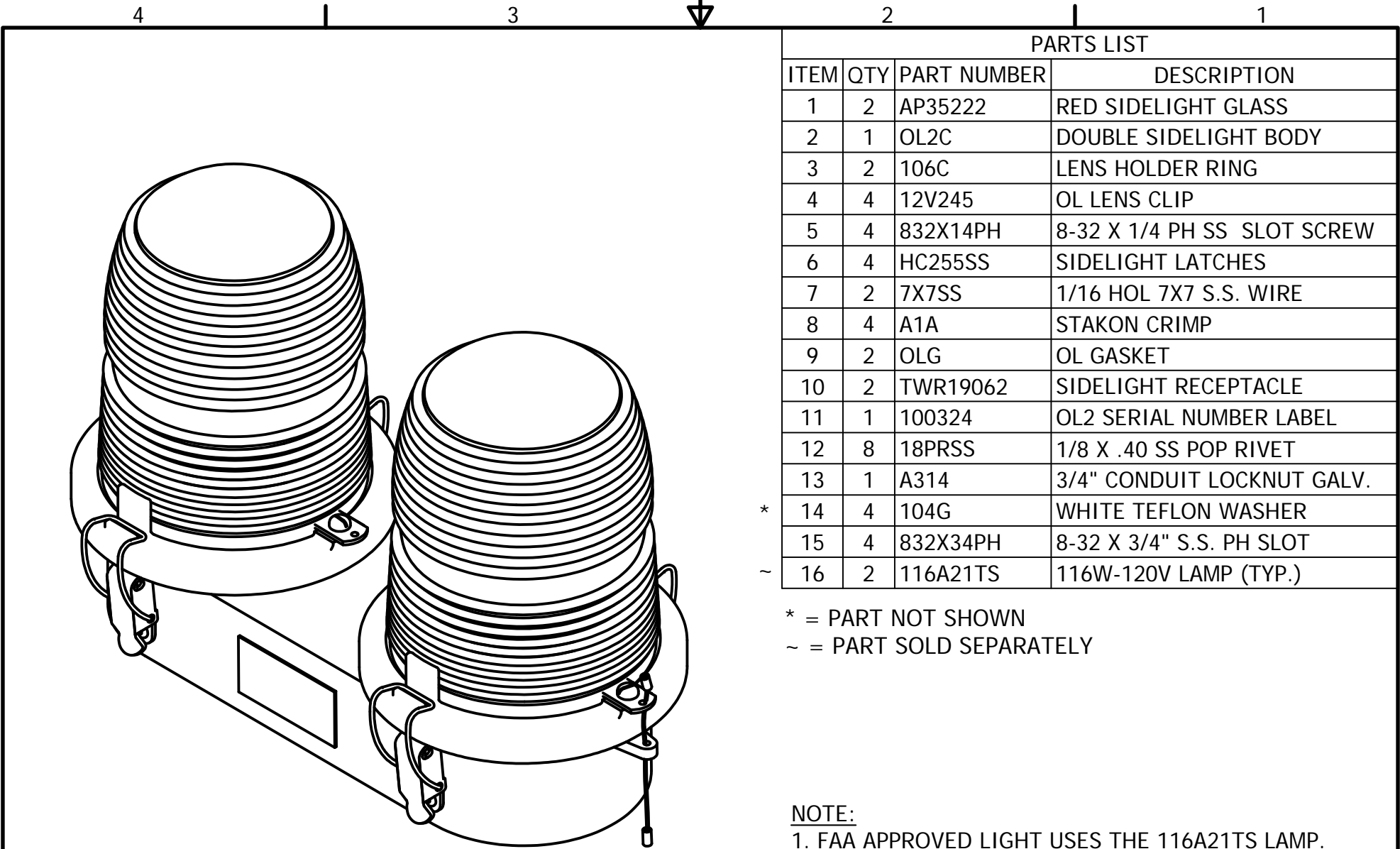


ASSEMBLY

- NOTES:
- ITEM #7 CAN BE USED TO REDUCE 3/4" CONDUIT TO 1/2" CONDUIT AT THE HOUSING OR AT THE CONTROLLER ITSELF.
  - IF ADDITIONAL WIRE IS REQUIRED OVER THE FACTORY 20', USE THE FOLLOWING CHART.  
21' TO 300' - 16 AWG TFFN  
301' TO 500' - 14 AWG TFFN

DATE	REV	AUTHOR	DESCRIPTION
02/03/2015	H	JZAMORANO	UPDATED NOTES

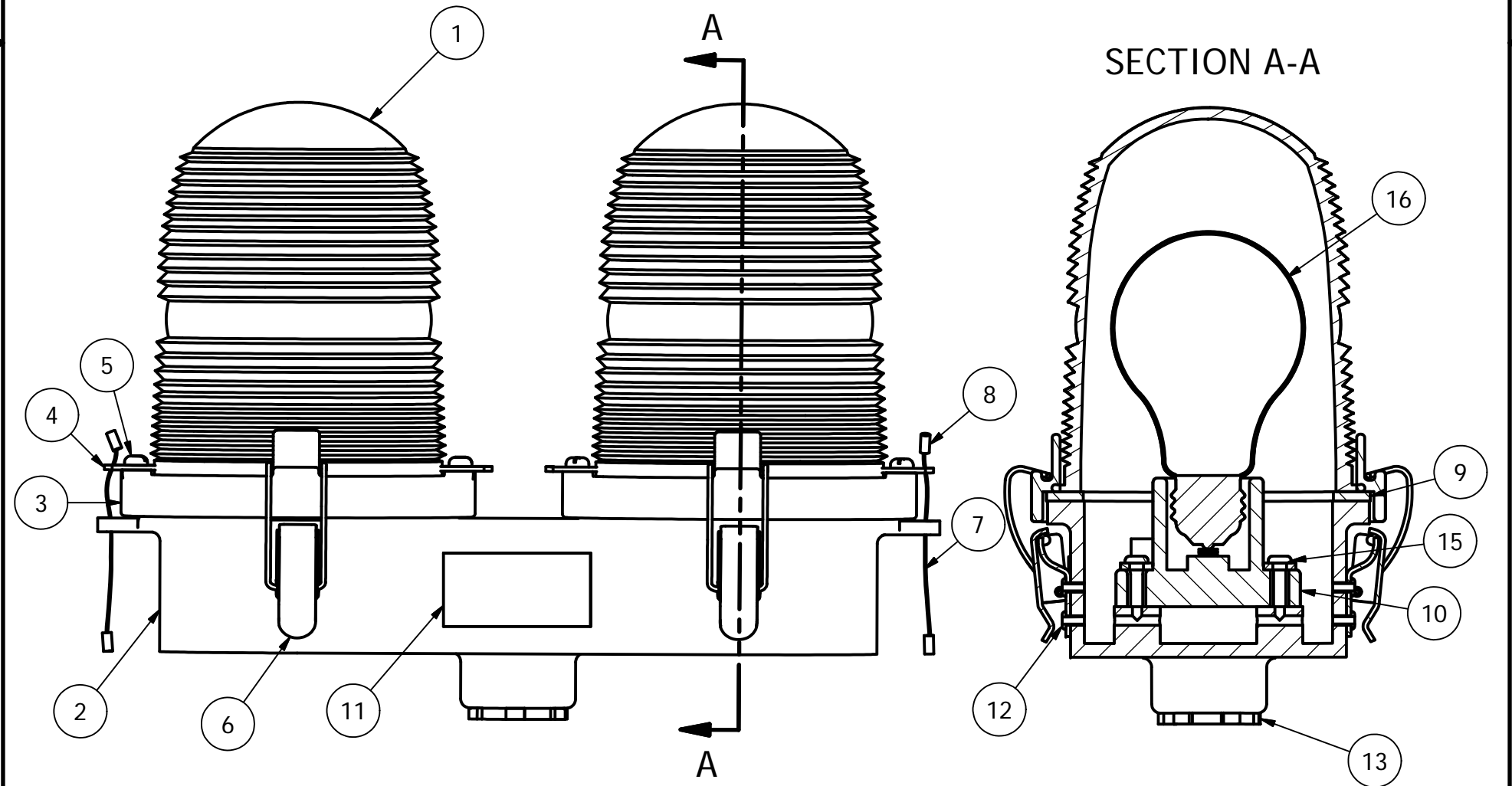
PHOTOCELL HOUSING DETAIL			
PROD. DEPT. SERV. DEPT. ENGINEER		<b>TWR Lighting, Inc.</b> HARK <i>Enlightened Technology®</i>	
DRAWN BY vhernandez		SHEET SIZE B	SHEET QTY. 1 OF 1
DATE 10/18/1995		SCALE 1/1	DWG. NO. 100239i
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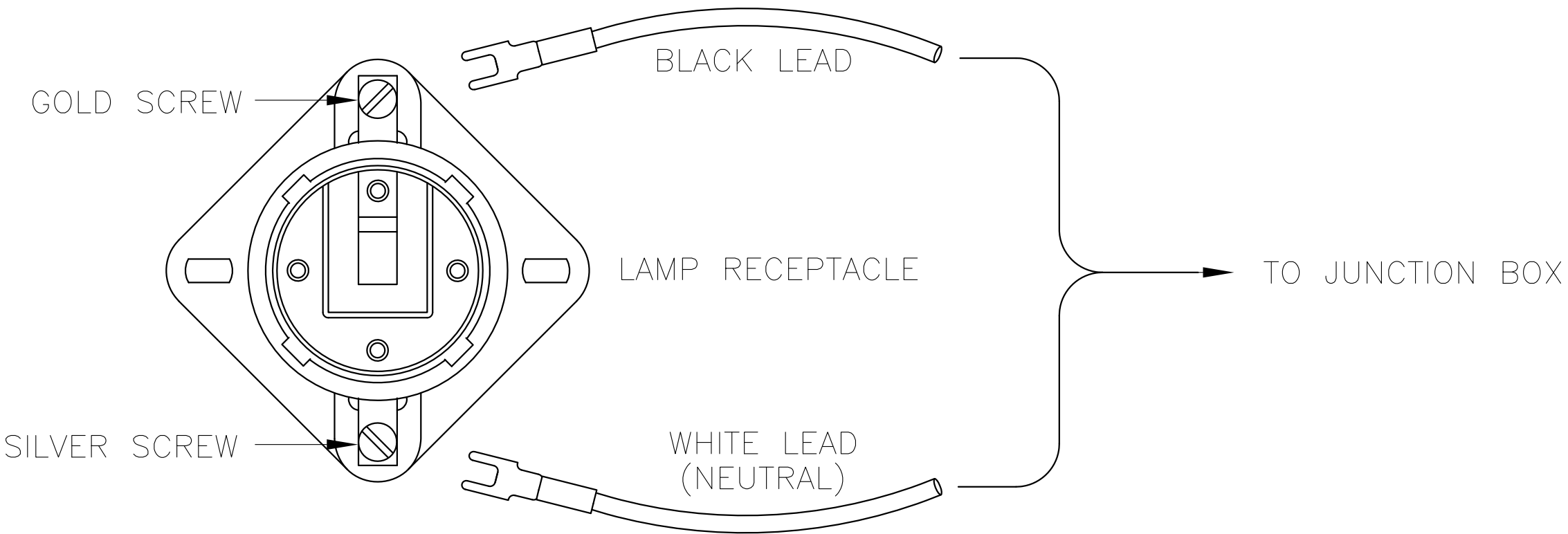
PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	AP35222	RED SIDELIGHT GLASS
2	1	OL2C	DOUBLE SIDELIGHT BODY
3	2	106C	LENS HOLDER RING
4	4	12V245	OL LENS CLIP
5	4	832X14PH	8-32 X 1/4 PH SS SLOT SCREW
6	4	HC255SS	SIDELIGHT LATCHES
7	2	7X7SS	1/16 HOL 7X7 S.S. WIRE
8	4	A1A	STAKON CRIMP
9	2	OLG	OL GASKET
10	2	TWR19062	SIDELIGHT RECEPTACLE
11	1	100324	OL2 SERIAL NUMBER LABEL
12	8	18PRSS	1/8 X .40 SS POP RIVET
13	1	A314	3/4" CONDUIT LOCKNUT GALV.
* 14	4	104G	WHITE TEFLON WASHER
15	4	832X34PH	8-32 X 3/4" S.S. PH SLOT
~ 16	2	116A21TS	116W-120V LAMP (TYP.)

\* = PART NOT SHOWN  
~ = PART SOLD SEPARATELY

NOTE:  
1. FAA APPROVED LIGHT USES THE 116A21TS LAMP.  
OTHER LAMPS ARE AVAILABLE TO MEET YOUR APPLICATION.



DRAWN vhernandez	2/13/2012	<i>TWR Lighting, Inc.</i> <i>Enlightened Technology</i>	
CHECKED			
QA		TITLE  3/4" OL2 SIDELIGHT ASSEMBLY DETAIL (PART#OL2)	
MFG			
APPROVED		SIZE B	DWG NO 310
		SCALE 2/3	REV B
		SHEET 1 OF 1	

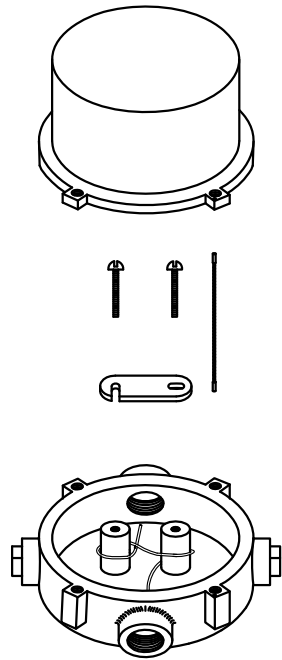
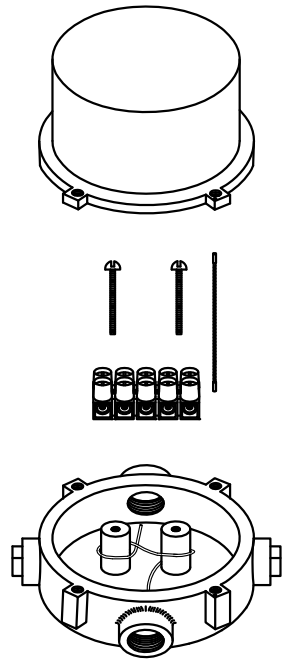


SIDELIGHT RECEPTACLE WIRING

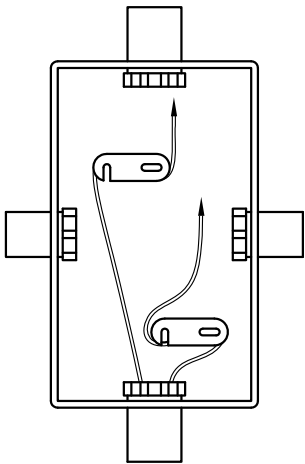
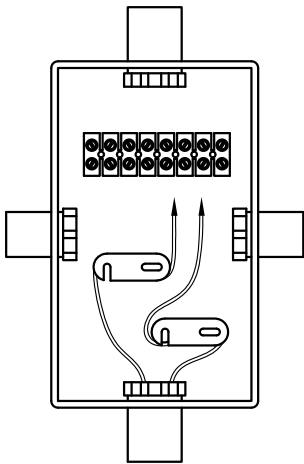
PROD DEPT	<b>TWR Lighting, Inc.</b> <i>Enlightened Technology®</i> <b>WARK®</b>		
SERV DEPT			
ENGINEER			
DRAWN BY G.D. SEBEK		SHEET SIZE B	SHEET QTY. 1 OF 1
DATE 06/08/91	SCALE N.T.S.	DWG. NO.	274-S

7/2/98	<b>A</b>	G.D.S.	CHANGED LABEL
DATE:	LTR.		REVISION

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JB-5 AND JB-0  
3/4" JUNCTION BOX



JB-8 AND JB-8SR  
1" JUNCTION BOX

USING THIS JUNCTION BOX METHOD SPACING IS 100 FEET MAXIMUM.

AWG WIRE SIZE	MAX. NUMBER WIRES IN 3/4" CONDUIT	MAX. NUMBER WIRES IN 1" CONDUIT	WIRE AREA SQ. INCHES	WEIGHT PER 100 FEET
12 THHN	16	26	0.0117	2.50
10 THHN	10	17	0.0184	4.10
8 THHN	6	9	0.0373	6.70
6 THHN	4	7	0.0519	10.30
4 THHN	2	4	0.0845	16.20

NOTES:

- DRAWING ILLUSTRATES METHOD OF STRAIN RELIEVING WIRE. USE THIS METHOD ON ALL JUNCTION BOXES.
- THE NATIONAL ELECTRICAL CODE-ARTICLE 300-19-B3 REQUIRES CONDUCTORS IN A VERTICAL CONDUIT BE SUPPORTED TO RELIEVE STRAIN ON TERMINAL BLOCK CONNECTIONS.
- SKETCH ILLUSTRATES METHOD OF STRAIN RELIEVING A SINGLE CONDUCTOR. SEVERAL CONDUCTORS MAY BE GROUPED TOGETHER.
- CONDUCTORS MAY BE MIXED BUT SHOULD NOT TAKE UP MORE THAN 40% OF CONDUIT'S INSIDE AREA.

JUNCTION AND STRAIN RELIEF BOXES

PROD DEPT

SERV DEPT

ENGINEER

**TWR Lighting, Inc.**  
Enlightened Technology®

DRAWN BY  
G.D. SEBEK

DATE  
07/26/93

SCALE  
N.T.S.

SHEET SIZE  
B

SHEET QTY.  
1 OF 1

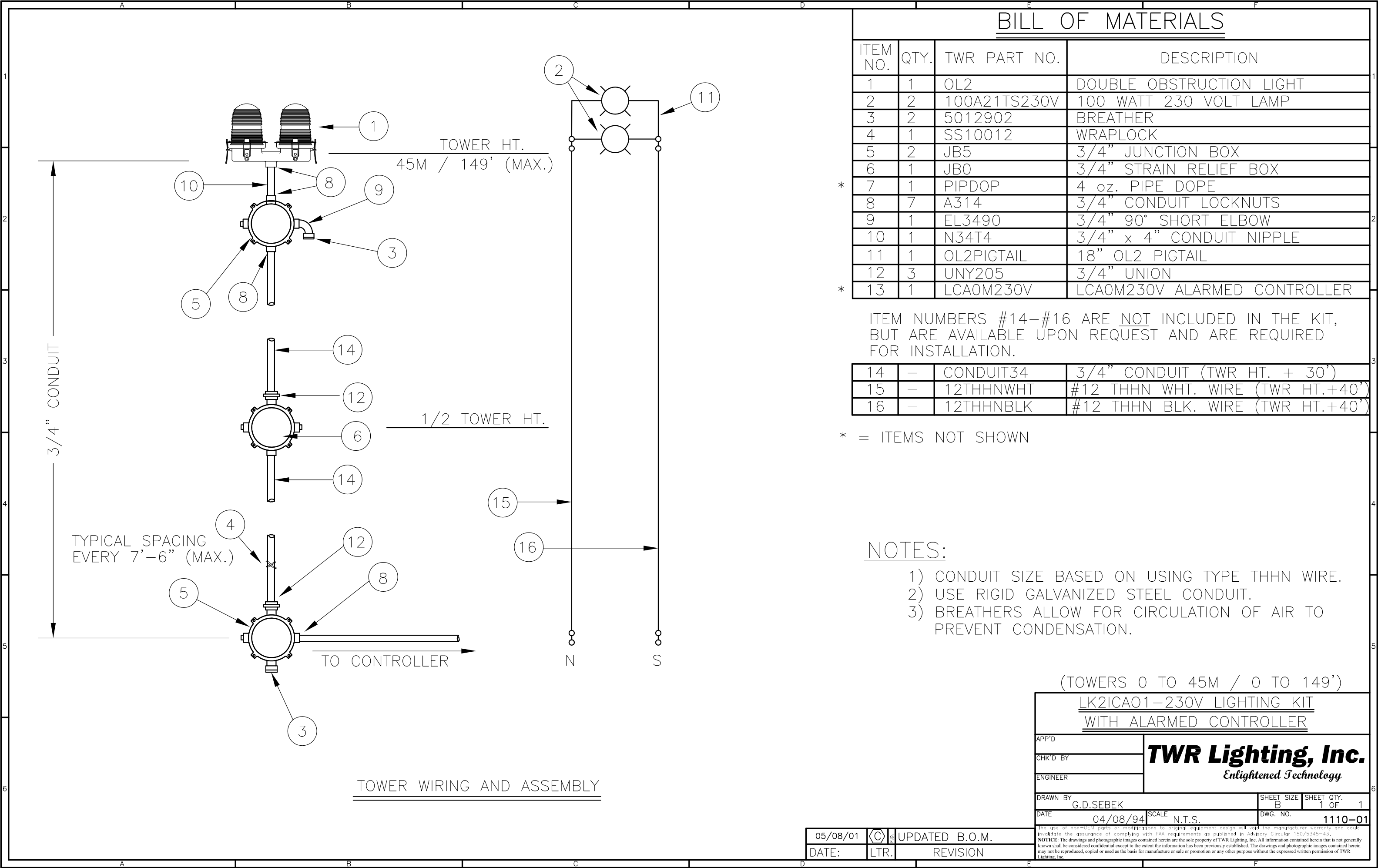
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100089

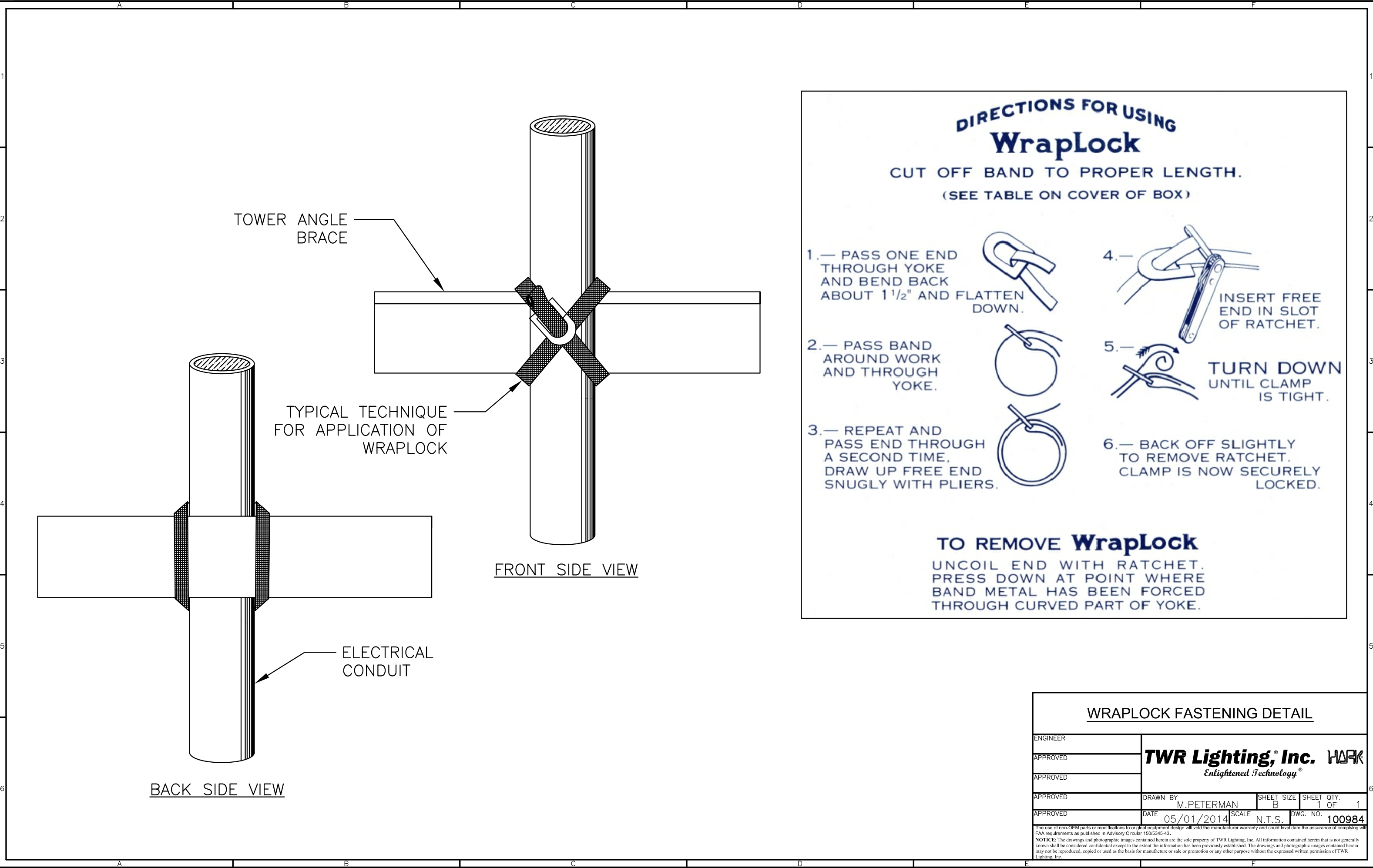
9/29/00 **(A)** 3 UPDATED NOTES

DATE: LTR. REVISION

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WRAPLOCK FASTENING DETAIL				
ENGINEER	<b>TWR Lighting, Inc.</b> <i>Enlightened Technology®</i> <b>WORK</b>			
APPROVED				
APPROVED				
APPROVED	DRAWN BY M.PETERMAN	SHEET SIZE B	SHEET QTY. 1 OF 1	
APPROVED	DATE 05/01/2014	SCALE N.T.S.	DWG. NO. <b>100984</b>	
<small>The use of non-OEM parts or modifications to original equipment design will void the manufacturer warranty and could invalidate the assurance of complying with FAA requirements as published in Advisory Circular 150/5345-43. <b>NOTICE:</b> The drawings and photographic images contained herein are the sole property of TWR Lighting, Inc. All information contained herein that is not generally known shall be considered confidential except to the extent the information has been previously established. The drawings and photographic images contained herein may not be reproduced, copied or used as the basis for manufacture or sale or promotion or any other purpose without the expressed written permission of TWR Lighting, Inc.</small>				