US Department of Transportation
Federal Aviation Administration

MAJOR REPAIR AND ALTERATION
(Airframe, Powerplant, Propeller, or Appliance)

OMB No. 2120-0020
Exp: 5/31/2018

Electronic Tracking Number

For FAA Use Only

INSTRUCTIONS: Print or type all entries. See Title 14 CFR §43.9, Part 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. §44701). Failure to report can result in a civil penalty for each such violation. (49 U.S.C. §46301(a))

1. Aircraft

Nationality and Registration Mark	Serial No.	
N108WY	108-2444	
Make Stinson	**Model** 108-2	**Series**

2. Owner

Name *(As shown on registration certificate)*	Address *(As shown on registration certificate)*
Christopher McAtee	Address 521 Wind River Ave City Casper State WY Zip 82609 Country USA

3. For FAA Use Only

"The technical data identified herein has been found to comply with applicable airworthiness requirements and is hereby approved for use only on the above described aircraft, subject to conformity inspection by a person authorized in §43.7"

7/11/2018 (Date) — (Signature)

4. Type		5. Unit Identification			
Repair	Alteration	Unit	Make	Model	Serial No.
☐	☒	AIRFRAME	Stinson	*(As described in Item 1 above)*	108-2444
☐	☐	POWERPLANT			
☐	☐	PROPELLER			
☐	☐	APPLIANCE	Type Manufacturer		

6. Conformity Statement

A. Agency's Name and Address	B. Kind of Agency			
Name Christopher McAtee	☒	U. S. Certificated Mechanic	☐	Manufacturer
Address 521 Wind River Ave	☐	Foreign Certificated Mechanic	C. Certificate No.	
City Casper State WY	☐	Certificated Repair Station	A&P 3526048	
Zip 82609 Country USA	☐	Certificated Maintenance Organization		

D. I certify that the repair and/or alteration made to the unit(s) identified in item 5 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Extended range fuel per 14 CFR Part 43 App. B ☐

Signature/Date of Authorized Individual — 7/11/18

7. Approval for Return to Service

Pursuant to the authority given persons specified below, the unit identified in item 5 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is ☒ Approved ☐ Rejected

BY								
	☐	FAA Flt. Standards Inspector	☐	Manufacturer	☐	Maintenance Organization	☐	Persons Approved by Canadian Department of Transport
	☐	FAA Designee	☐	Repair Station	X	Inspection Authorization		Other *(Specify)*

Certificate or Designation No. A&P 3526048 IA

Signature/Date of Authorized Individual — 7/11/18

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished
(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

N108WY — Nationality and Registration Mark

7/11/18 — Date

1) Description: Replaced landing light lamps w/Aero-Lites LED assemblies P/N PAR36L202 IAW Aero-Lites installation instructions ALII-002 Rev 1-5 dated 10/2017. Used existing wiring, circuit breaker, and switch which were deemed appropriate IAW AC 43.13-1B chapter 11 sections 5 and 6. Power and ground wires terminated to new LED lamps w/vendor supplied MS51958-23 machine screws and MS35333-71 lock washers. New lamps installed into existing fixtures w/original hardware and no modifications required. Replaced navigation light lamps w/Aero-Lites model 9SMD-NAV-RGW LEDs P/Ns LED7512-R (left), LED7512-G (right), and LEDBA15S (tail) IAW Aero-Lites installation instructions ALII-002 Rev 1-5 dated 10/2017. Used existing wiring, circuit breaker, and switch which were deemed appropriate IAW AC 43.13-1B chapter 11 sections 5 and 6. New lamps installed into existing fixtures w/original hardware and no modifications required.
2) Control & Operating information: No change.
3) Servicing Information: Stinson 108-2 service manual.
4) Maintenance Instructions: Stinson 108-2 service manual, Aero-Lites installation instructions, AC 43.13-1B chapter 11.
5) Troubleshooting Information: Aero-Lites installation instructions.
6) Removal and Replacement: Stinson 108-2 service manual.
7) Diagrams: Aero-Lites installation instructions.
8) Special Instructions: N/A
9) Application of Protective Treatment: N/A
10) Data: Stinson 108-2 service manual, Aero-Lites installation instructions, AC 43.13-1B, Cessna 172K N79546 field approval form 337 dated 10/10/2017
11) Special Tools: N/A
12) Commuter Category Aircraft: N/A
13) Recommended O/H interval: N/A - Replacable upon condition.
14) Airworthiness Limitations: No additional limitations.
15) Revision: Required revisions are to be submitted to the local FAA Flight Standards office in writing, including the referrenced form 337 and proposed changes to be made.
16) Change to W&B: Negligible.
17) The above modification was found not to interfere with other installed systems and/or modifications and doesn not exeed 80% of generator output. No adverse interference to radios or navigational equipment from RFI was found while testing the installation in all ON/OFF conditions.

☑ Additional Sheets Are Attached

US Department of Transportation Federal Aviation Administration

MAJOR REPAIR AND ALTERATION
(Airframe, Powerplant, Propeller, or Appliance)

OMB No. 2120-0020 Exp: 5/31/2018 | Electronic Tracking Number

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INSTRUCTIONS: Print or type all entries. See Title 14 CFR §43.9, Part 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. §44701). Failure to report can result in a civil penalty for each such violation. (49 U.S.C. §46301(a))

1. Aircraft

Nationality and Registration Mark	Serial No.
N79546	17258165
Make	**Model** / **Series**
CESSNA	172 / K

2. Owner

Name *(As shown on registration certificate)*	Address *(As shown on registration certificate)*
DIAKONIS EMMANUEL W	Address PO BOX 8771
	City MAUMEE State OHIO
	Zip 43537 Country USA

3. For FAA Use Only

"The technical data identified herein has been found to comply with the applicable airworthiness requirements and is hereby approved for use only on the above described aircraft, subject to conformity inspection by a person authorized in FAR Section 43.7

Oct 10, 2017
DATE

FAA INSPECTOR, GL25

4. Type		5. Unit Identification			
Repair	Alteration	Unit	Make	Model	Serial No.
☐	☒	AIRFRAME	CESSNA	*(As described in Item 1 above)*	17258165
☐	☐	POWERPLANT			
☐	☐	PROPELLER			
☐	☐	APPLIANCE	Type / Manufacturer		

6. Conformity Statement

A. Agency's Name and Address	B. Kind of Agency		
Name EMMANUEL W. DIAKONIS	X	U. S. Certificated Mechanic	☐ Manufacturer
Address 6852 SHOOTERS HILL RD.	☐	Foreign Certificated Mechanic	C. Certificate No.
City TOLEDO State OHIO	☐	Certificated Repair Station	3170659
Zip 43617 Country USA	☐	Certificated Maintenance Organization	

D. I certify that the repair and/or alteration made to the unit(s) identified in item 5 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Extended range fuel per 14 CFR Part 43 App. B ☐	Signature/Date of Authorized Individual

7. Approval for Return to Service

Pursuant to the authority given persons specified below, the unit identified in item 5 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is ☐ Approved ☐ Rejected

BY								
	☐	FAA Flt. Standards Inspector	☐	Manufacturer	☐	Maintenance Organization	☐	Persons Approved by Canadian Department of Transport
	☐	FAA Designee	☐	Repair Station	X	Inspection Authorization		Other *(Specify)*

Certificate or Designation No. 3170659	Signature/Date of Authorized Individual

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished
(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

N79546	6/10/2017
Nationality and Registration Mark	Date

1.Description:
Replaced existing OEM landing and Taxi light bulbs with Aero-Lites LED Landing Light assembly, Part # PAR36L201, and Taxi Light assembly Part # PAR36TR1, IAW the Aero-Lites Installation Instructions, Doc. ALII-001 Rev. 1-4 Dated 6/16. Used existing OEM landing light circuit, which consists of a 20 amp S1360-20 circuit breaker that is appropriately placarded and On/OFF switch that is appropriately placarded. All circuit wiring was determined appropriate per AC 43.13-1B Chapter 11, Section 5 & 6. Power and ground wires were terminated to new LED lamps with vendor-supplied MS51957-23 machine screws and MS35333-71 lock washers. The new LED landing and taxi lights were installed in the OEM landing and taxi light fixtures with original hardware without any modifications. Replaced the existing OEM NAV lamps with Aero-Lites Stellar Series LED Replacement Aircraft NAV Position Lamps, Model 9SMD-NAV-RGW, Left Part # LED7512-R, Right Part # LED7512-G, and Tail Part # LEDBA15S, IAW the Aero-Lites Installation Instructions Doc. ALII-002 Rev.1-0 Dated 5/17. Used existing OEM NAV light circuit, which consists of a 10 amp S1360-10 circuit breaker that is appropriately placarded and On/OFF switch that is appropriately placarded. The new LED NAV lamps were installed in the OEM NAV lamp fixtures with original hardware without any modifications. All circuit wiring was determined appropriate per AC 43.13-1B Chapter 11, Section 5 & 6. Post installation test were found to meet all lighting requirements as published in the Civil Aviation Regulations: CAR 3.700~CAR 3.703.
2. Control & Operating Information: No change
3. Servicing Information: Approved Cessna 172 Service Manual
4. Maintenance Instructions: Approved Cessna 172 Service Manual. Aero-Lites Installation Instructions. AC 43.13-1B Chapter 11.
5. Troubleshooting Information: Aero-Lites Installation Instructions.
6. Removal and Replacement: Approved Cessna 172 Service Manual.
7. Diagrams: Aero-Lites Installation Instructions.
8. Special Instructions: None Apply.
9. Application of Protective Treatment: None Apply.
10. Data: Approved Cessna 172 Service Manual. Aero-Lites Installation Instructions.
11. List of Special Tools: None Apply.
12. Commuter Category Aircraft: Not Applicable.
13. Recommended Overhaul Interval: No limitation.Replaceable on condition.
14. Airworthiness Limitations: No additional Airworthiness Limitations.
15. Revision: Required revisions are to be submitted to the local FAA Flight Standards Office in writing, including the referenced Form 337 and proposed changes to be made.
16.The above modification was found not to interfere with other installed systems and/or modifications and does not exceed 80% of generator output. No adverse interference to radios and navigation systems from RFI was found while testing the LED landing and taxi lights in both the ON and OFF configuration.
17. Change to Weight and Balance is negligible. Equipment list was revised.
**********NOTHING FOLLOWS**********

☑ Additional Sheets Are Attached

AERO-LITES SunSetter + PLUS Series

Installation Instructions

PART #	STYLE	Application	Weight	VDC	Input Current
PAR36L202	PAR 36	Landing/Recognition	0.60 lbs.	10-30VDC	1.57a @ 14VDC / 0.785a @ 28VDC
PAR36TR2	PAR 36	Taxi/Recognition	0.60 lbs.	10-30VDC	1.57a @ 14VDC / 0.785a @ 28VDC

*******THOROUGHLY READ THIS GUIDE, INCLUDING WARNINGS, BEFORE ATTEMPING LIGHT INSTALLATION*******

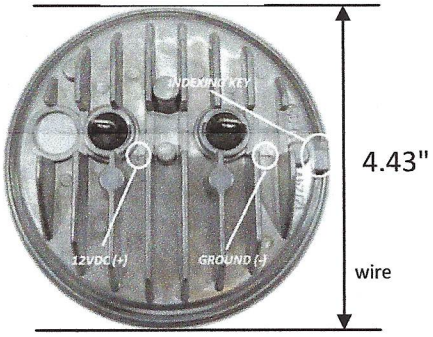
INSTALLATION PROCEDURES:

*It is the responsibility of the installer to determine installation eligibility for use in certified aircraft.
*Always install aircraft electrical equipment in accordance with the methods and practices as published in FAA *AC43.13-1B Chapter 11*

RETROFIT INSTALLATIONS ONLY

1. Before proceeding, verify your currently installed lamp is a PAR36 / 4.5" diameter sealed beam lamp.
2. REMOVE NEGATIVE (GROUND) TERMINAL FROM SHIP BATTERY
3. Remove existing lamp from fixture per instructions in your aircraft's approved AMM. Retain all OEM hardware.
4. Disconnect both existing wires* from lamp
5. Determine if currently installed circuit wiring is of sufficient gauge for your wire length. (This information is found via reference to FAA AC 43.13-1B, Paragraph 11-66(d) and FIGURE 11-2.) If existing wire is determined undersize, it must be replaced before proceeding.
6. Identify negative (ground) wire using a multi-meter. The negative wire will have continuity to aircraft ground and should be identified by a ring of black electrical tape.
   (This LED light assembly is "polarity" sensitive and must be wired such that:
   + terminal of the lamp is attached to Voltage (10-32vdc)
   – terminal of lamp is attached to ground wire.
   a. Using supplied hardware **(See figure 2.0 for wire termination options)**, attach aircraft Power to the lamp terminal identified with a "+". Attach Ground wire to the lamp terminal identified with a "– "
7. Install new LED lamp into OEM landing light fixture per instructions in your aircraft's approved AMM.
   NOTE:
   1. If installing a TAXI lamp, it is imperative that the Indexing Key be position at either 3 o'clock or 9 o'clock position. This is to ensure that the projected light beam is oriented parallel to the horizon.
   2. If installing a LANDING lamp, it is only necessary to align the indexing key with that of the mounting fixture; orientation of the lamp will not affect projected beam.
8. Attach Negative terminal of the battery to regain electrical system continuity.
9. Place light switch in the ON position and verify proper operation of lamp.
10. With reference to the instructions in your aircraft's approved AMM, verify that the light is aimed in accordance with the aircraft manufacturers recommendations.
11. To satisfy **14CFR 23.1383**, "Hazard Analysis" & "Electromagnetic Interference":
    1. Perform an operational check of the LED light at night and confirm compliance with above referenced code.
    2. Test the full frequency spectrum of your aircraft's Communication and Navigation equipment to verify no adverse interference due to EMI or RFI while the light is in the ON position.
13. Submit appropriate FAA Form 337, listing work accomplished and include this manual as a supplement.
14. Make entry in appropriate aircraft logbook and update equipment list to reflect installed equipment.
    Note: Retrofit installations have negligible affect to Aircraft Weight & Balance.

Figure 1.0



NEW INSTALLATIONS ONLY (EXPERIMENTAL AND/OR KIT AIRCRAFT)

1. New installations will consist of at least the following components (Reference wiring diagram):
   a. 12/24VDC Power source
   b. Aircraft approved Circuit Breaker
   c. Aircraft approved Single Pole/Single Throw Switch
   d. Aircraft approved single conductor wire of sufficient gauge and length to span from the power source and to terminate at the load (LED light assy). (This information is found via reference to FAA AC 43.13-1B, Paragraph 11-66(d) and FIGURE 11-2.)
   e. PAR36 mounting fixture.
   f. Method to appropriately placard ON/OFF switch and Circuit breaker.
2. Reference recommendations and precautions provided by the manufacturer of your Experimental/Kit Aircraft as to the proper way to install the components for your landing/taxi light circuit.
3. With all hardware components installed and properly placarded, Identify negative (ground) wire using a multi-meter. The negative wire will have continuity to aircraft ground and should be identified by a ring of black electrical tape.
   (This LED light assembly is "polarity" sensitive and must be wired such that:
   + terminal of the lamp is attached to Voltage (10-30vdc)
   – terminal of lamp is attached to ground wire.
4. Using supplied hardware, attach aircraft Power wire to the lamp terminal identified with a "+". Attach Ground wire to lamp terminal identified with a "-"

5. Install new LED lamp into landing/taxi light fixture per instructions in your Kit Aircraft's instructions.
   NOTE:
   1. If installing a TAXI lamp, it is imperative that the "TRAP" imprinted on the lens is oriented at ***EITHER*** **twelve o'clock *OR* six o'clock** position relative to the lens. This is to ensure that the projected light beam is oriented parallel to the horizon.
   2. If installing a LANDING lamp, it is only necessary to align the indexing key with that of the mounting fixure; orientation of the lamp will not affect projected beam.

6. Follow steps 8-14 from above "Retrofit Installation" Instructions

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INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

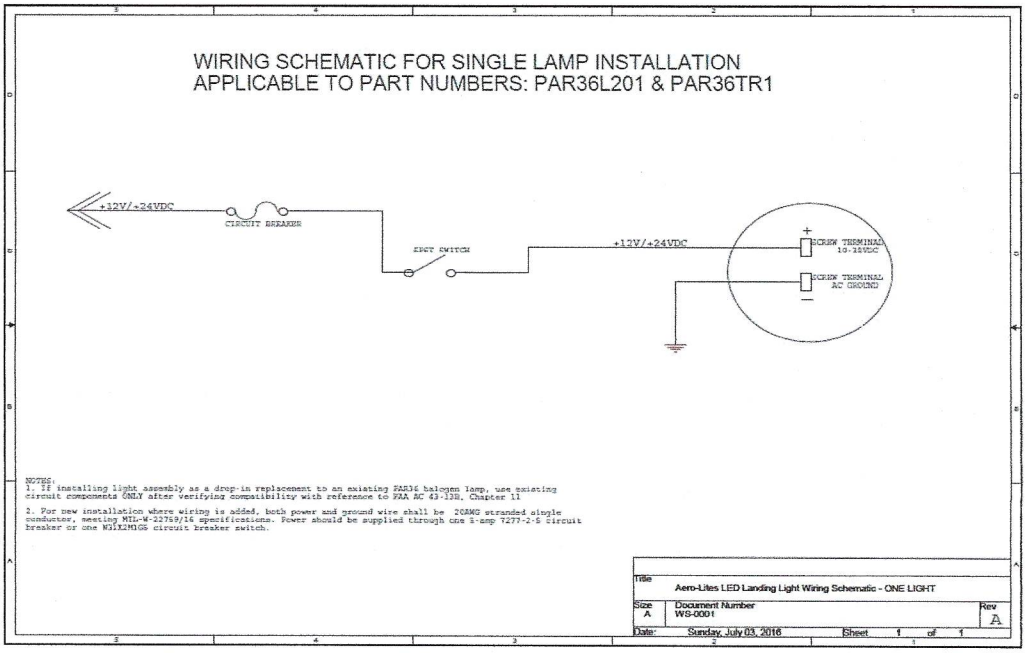
Interval:	Action:	Remarks:
Every Flight	• Perform function check of lamp(s)	If lamp is found defective, discontinue aircraft operation between sunset and sunrise until serviceable replacement lamp has been installed.
100hr	• Perform function check of lamp(s) • Inspect lens for cracks or discoloration • Inspect heat sink for corrosion. Treat if necessary • Check security of fasteners in housing/mount • Check security of electrical terminations. • Check condition of visible wiring	Replace defective lamp before return to service. *Lamp assembly has no serviceable parts. Any evidence of breach to access internal circuit will void warranty.
Annually	• Perform function check of lamp(s) • Inspect lens for cracks or discoloration • Inspect heat sink for corrosion. Treat if necessary • Check security of fasteners in housing/mount • Check security of electrical terminations. • Check condition of visible wiring	Replace defective lamp before return to service. *Lamp assembly has no serviceable parts. Any evidence of breach to access internal circuit will void warranty.

WARNING: *Aero-Lites LED Landing Lights and Taxi / Recognition Lights are not certified for Installation on FAA Type-Certified Aircraft. Additional FAA field approval may be necessary to satisfy FAA installation regulations.*

WARNING: DO NOT install any HSI compass components within 24 inch proximity of LED light or its circuit for risk of EMI. LED power wire MUST NOT parallel any compass Flux Gate wiring closer than 24 inches apart for risk of EMI.

WARNING: A compass swing MUST be performed, notating the compass position error with the LED light in the ON and OFF position.

Figure 2.0: Wire Termination Options



AERO-LITES

Installation Instructions

Stellar Series – LED Replacement Aircraft Nav/Position Lamps

*******THOROUGHLY READ THIS GUIDE, INCLUDING WARNINGS, BEFORE ATTEMPING LIGHT INSTALLATION*******

*It is the responsibility of the installer to determine installation eligibility for use in certified aircraft.

PART #	Description	Bulb Base	Weight	VDC	Input Current
LED7512-G	Wingtip Nav - GREEN	BAY15S	0.40 oz.	10-30VDC	230mA @ 14VDC / 0.110mA @ 28VDC
LED7512-R	Wingtip Nav - RED	BAY15S	0.40 oz.	10-30VDC	230mA @ 14VDC / 0.110mA @ 28VDC
LEDBA15S-W	Rear Position - WHITE	BA15S	0.40 oz.	10-30VDC	230mA @ 14VDC / 0.110mA @ 28VDC

Figure 1.0

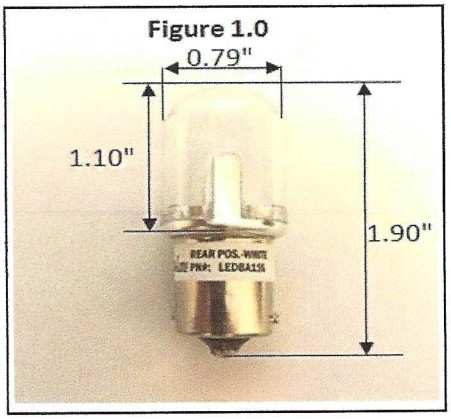


Figure 2.0

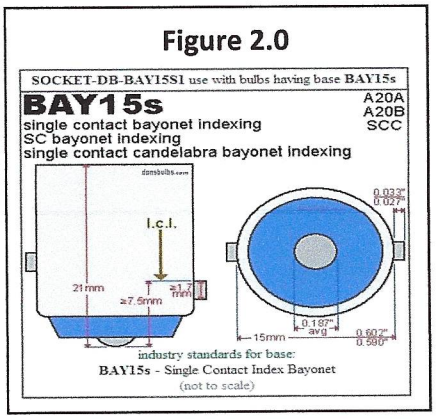
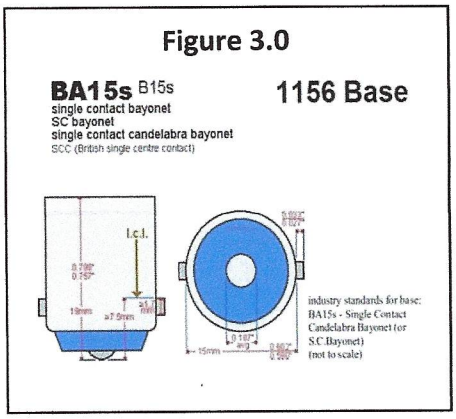


Figure 3.0



*Always install aircraft electrical equipment in accordance with the methods and practices as published in FAA *AC43.13-1B Chapter 11*

INSTALLATION PROCEDURES:

1. Remove existing bulb from fixture per instructions in your aircraft's approved AMM. Retain all OEM hardware.
2. Before proceeding, verify your currently installed wingtip lamp is a pn# A7512, with a **BAY15S** base, or other approved alternate for this lamp. (Reference **Figure 2.0** to verify your existing lamp base style). The BAY15S has two (2) offset indexing tabs that are mandatory for proper installation in the wingtip light fixture.
   WARNING: DUE TO THE OFFSET "INDEXING" TABS ON THE BASE, THE BULB WILL ONLY FIT ONE WAY.
   DO NOT FORCEFULLY PUSH OR TWIST BULB INTO WINGTIP SOCKETS OR DAMAGE TO BULB WILL RESULT!!
3. Align the indexing tabs on bulb with slots in the wingtip socket. Gently press the LED bulb into the socket while rotating the bulb in a clockwise direction. If properly aligned, bulb should twist approximately 20 degrees and seat in the socket. IF THE BULB WILL NOT TWIST, DO NOT FORCE. Remove the bulb and rotate it 180 degrees and repeat step 3.
4. To replace the rear position light mounted on tail, repeat step 1.
5. Verify the lamp base on the removed bulb is a BA15S base and is consistent with that in **Figure 3.0**
6. Align the indexing tabs on bulb with slots in the tail position light socket. Gently press the LED bulb into the socket while rotating the bulb in a clockwise direction.
7. Test the aircraft Nav Light circuit via the appropriate procedure in the aircraft operating handbook to verify the new lamps function.
8. Reinstall all lenses and hardware in the reverse order from how it was removed.
9. To satisfy **14CFR 23.1383**, "Hazard Analysis" & "Electromagnetic Interference":
   1. Perform an operational check of the LED light at night and confirm compliance with above referenced code.
   2. Test the full frequency spectrum of your aircraft's Communication and Navigation equipment to verify no adverse interference due to EMI or RFI while the light is in the ON position.
4. Make entry in appropriate aircraft logbook and update equipment list to reflect installed equipment.
   Note: Retrofit installations have negligible affect to Aircraft Weight & Balance.

WARNING: *Aero-Lites Stellar Series Replacement Nav/Position Lights are not certified for Installation on FAA Type-Certified Aircraft. Additional FAA field approval may be necessary to satisfy FAA installation regulations.*
WARNING: DO NOT install any HSI compass components within 24 inch proximity of LED light or its circuit for risk of EMI. LED power wire MUST NOT parallel any compass Flux Gate wiring closer than 24 inches apart for risk of EMI.
WARNING: A compass swing MUST be performed, notating the compass position error with the LED lights in the ON and OFF position.