



# Installation Instructions

## Sunspot 36-4313/4314



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Approval	Name	Intent	
Author	Robert Prew	Installation and Operation Instructions for the Sunspot 36-4313/4314 series lights (01-1030-4313/4314)	
Check	Nate Calvin		
Quality	Mike D'Amico		
Date:	16 October 2018		
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# REVISION RECORD

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IR	Initial Revision	10/16/2018	Robert P.

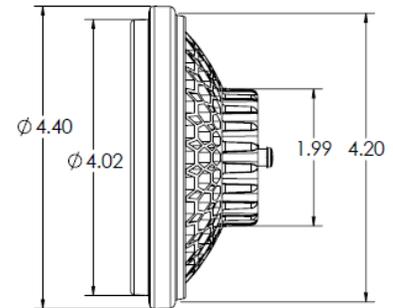
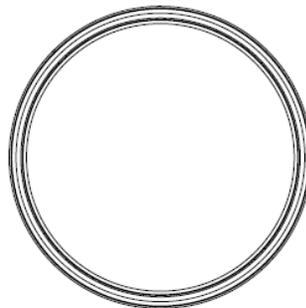
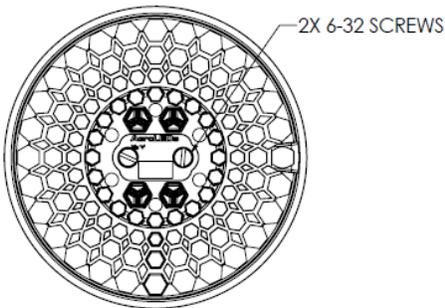
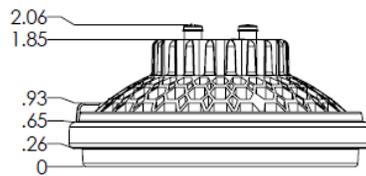
## TABLE OF CONTENTS

<b>1</b>	<b>Limitations and Installations.....</b>	<b>3</b>
1.1	Equipment Limitations:.....	3
1.2	Airworthiness Limitations: .....	4
1.3	Instructions for Continued Airworthiness .....	4
1.4	Installation Procedures.....	4
1.5	Wire Sizes .....	5
1.6	Removal .....	5
1.7	Installation .....	5
1.8	Troubleshooting .....	5
<b>2</b>	<b>Wiring Diagrams.....</b>	<b>6</b>
2.1	Wiring Diagram for Single Sunspot with Pulse .....	6
2.2	Wiring Diagram for Single Sunspot Without Pulse .....	6
2.3	Wiring Diagram for Dual SunSpots with Wig-Wag.....	7
2.4	Wiring Diagram for Four LED SunSpots with Wig-Wag.....	8

**Installation Guide:**

Sunspot 36 4313 and 4314  
P/N 01-1030-4313 or P/N 01-1030-4314  
LED Landing or Taxi light

Sunspot 36 4313-H and 4314-H  
P/N 01-1030-4313-H or P/N 01-1030-4314-H  
LED Landing or Taxi light with  
built-in pulse recognition mode



**Operational Voltage:** 14 Volt DC  
**Input Current:** 6.5 Amps Peak

## 1 Limitations and Installations

### 1.1 Equipment Limitations:

- 1.1.1 Mount in approved PAR36 bulb holder with circuit breaker or fuse appropriate for rated current. For retrofit installation existing circuit breaker or fuse can typically be used. The procedures contained herein are not intended to conflict with the procedures set forth by aircraft and engine manufacturers, nor do they supersede the FAA approved manuals and FAA regulations. Consult **14CFR, §43.13-1B** for guidance on acceptable methods, techniques, and practices.

## 1.2 Airworthiness Limitations:

1.2.1 The Airworthiness Limitations section is FAA approved and specifies maintenance required under **14 CFR, §43.16** and **14 CFR, §91.403** of the Federal Aviation Regulations unless an alternative program has been FAA approved. There are no new (or additional) airworthiness limitations associated with this equipment and/or installation.

## 1.3 Instructions for Continued Airworthiness

1.3.1 The Sunspot 36 LED landing or taxi light assembly is designed with 15 high power LEDs mounted behind a lens. The lights contain no user repairable items; should more than two LEDs fail; the unit must be replaced.

Interval	Description	Notes
50 hr.	<ul style="list-style-type: none"><li>• Perform functional check on landing light(s)</li><li>• Replace components as required</li></ul>	Landing and taxi lights are not field repairable and should be sent to manufacturer for repair/replacement if defective
100 hr.	<ul style="list-style-type: none"><li>• Perform functional check on landing light(s) / replace unit if defective</li><li>• Inspect for discoloration of lens</li><li>• Inspect mounting for security</li><li>• Inspect all connectors for good engagement</li><li>• Inspect wiring for chaffing / defects</li><li>• Replace components as required</li></ul>	Landing and taxi lights are not field repairable and should be sent to manufacturer for repair/replacement if defective
Annually	--SAME AS 100 HOUR--	Landing and taxi lights are not field repairable and should be sent to manufacturer for repair/replacement if defective

## 1.4 Installation Procedures

1.4.1 The installation procedure described in the following text is for a single light installation, and multiple light installations. The pulsing function of the -H model landing and/or taxi light(s) is a self-contained feature and does not require the use of an externally mounted pulse light controller. Wiring diagrams are provided for single, dual, and quad light installations for the -H model to illustrate typical wiring for enabling the pulsing mode and wig-wag synchronization. For the non-pulsing model lights, existing wire and switches and breakers will be utilized. For the -H model lights, an additional wire and switch will be required to enable the pulse mode, and for multiple lights an additional synchronization wire will be required.

1.4.2 Refer to the aircraft manufacturer's service manual and/or illustrated parts catalog: Locate the landing and/or taxi light system installed in your aircraft. This will provide details on the location of the components and the assembly details.

1.4.3 **WARNING:** If the aircraft being modified incorporates a remote sensor (flux gate) compass: **DO NOT** mount the LED light within 24 inches of the remote compass components. After installation of the LED lighting system, a compass swing **MUST** be performed with the landing/taxi lights **ON & OFF** and the position error card must be annotated accordingly.

1.4.4 **WARNING: DO NOT** mount the LED light with less than 4 inches clearance to exhaust system components unless an adequate heat shield is utilized to block radiant heat.

## 1.5 Wire Sizes

1.5.1 Reference: **AC43.13-1B, Chapter 11, §4 and §5** for appropriate wire sizing and fuse/breaker protection

## 1.6 Removal

- 1.6.1 Prepare the aircraft for maintenance: Make sure all switches are in the OFF/NORMAL position, attach maintenance warning tags, pull landing/taxi light circuit breakers.
- 1.6.2 Reference airframe manufacturer's current maintenance manual to remove any light covers to gain access to lamp assembly(s) and bracket(s).
- 1.6.3 Disconnect connection to positive aircraft power.
- 1.6.4 Disconnect ground from aircraft power.
- 1.6.5 Remove existing lamp(s) from brackets, mark and retain hardware.
- 1.6.6 Record weight of removed lamps.

## 1.7 Installation

- 1.7.1 Reference airframe manufacturer's current maintenance manual and install LED light(s) in brackets using retained hardware.
- 1.7.2 Install suitable aircraft approved connectors to wires coming from landing light assemblies and wires routed from switch using appropriate wiring diagram to the number of lights shown on pages 7-9. **Note** that the non pulsing version only has screw terminals for #6 ring terminals and does not support the pulse function. The screw terminals are not polarized, so the power and ground can be connected to them in either order. The positive wire for powering the pulse mode is connected to the yellow wire. Follow the wiring diagrams for connecting the blue and green synchronization wires for two and four light installations.
- 1.7.3 If necessary, install an appropriate aircraft approved switch and circuit breaker of correct rating for the lights installed for the pulse function. Original landing light switch/switches may be used.
- 1.7.4 Placard switches appropriately.
- 1.7.5 Power up aircraft and verify proper operation of LED light(s), in both pulsing and steady functions (as appropriate to the installation)
- 1.7.6 Using the appropriate aircraft maintenance manual, verify that the light angle has not changed, and is oriented & aimed in accordance with manufacturer's instructions.
- 1.7.7 Perform EMI test to verify there is no interference caused by light installation.
- 1.7.8 Reinstall any light covers removed to gain access to lamp assemblies and brackets.
- 1.7.9 Enter appropriate logbook entry detailing work, and if necessary fill out and submit appropriate form 337 for work accomplished.
- 1.7.10 Perform an operational check of the landing/taxi light(s) in accordance with **14CFR, §91.407 (b) (c)** to determine that the installed landing/taxi light(s) provide enough light for night operations in accordance with **14CFR, §23.1383**.
- 1.7.11 Weight & balance change from standard position light assemblies to LED landing light assemblies is considered negligible.

## 1.8 Troubleshooting

- 1.8.1 Check for bus voltage at power input wire to the light, reestablish power if inadequate power is found. Check for excessive resistance at light ground and repair if necessary. Remove and bench check light if wiring is verified good.

## 2 Wiring Diagrams

### 2.1 Wiring Diagram for Single Sunspot with Pulse

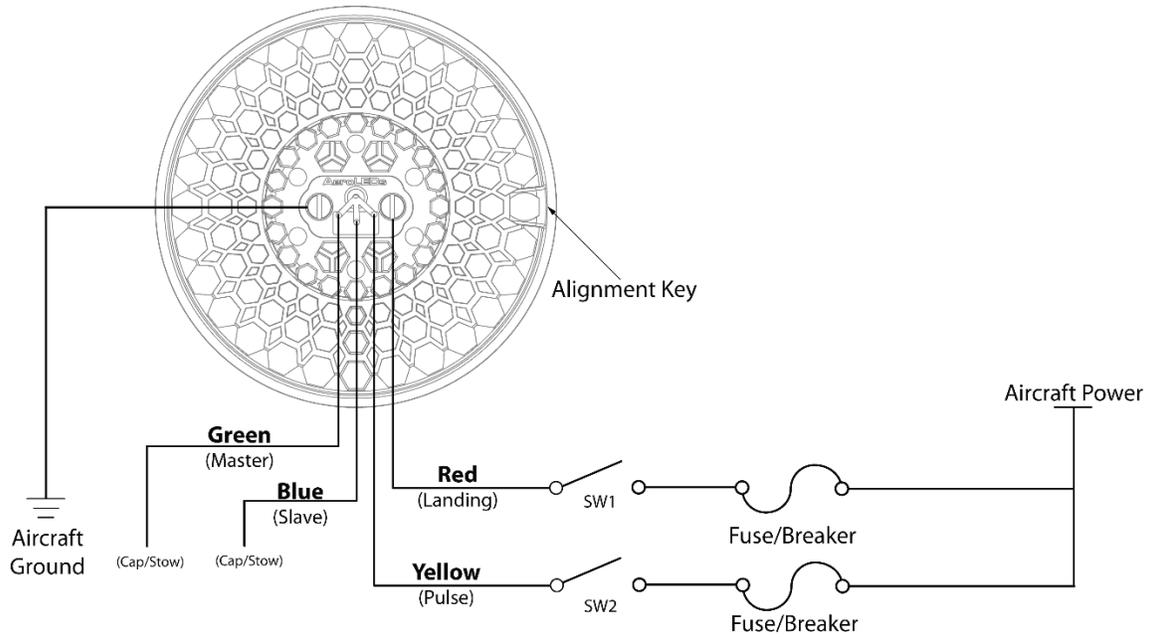


Photo 2-1

Fuse/breaker should be rated for wire size per **AC43.13-1B**

### 2.2 Wiring Diagram for Single Sunspot Without Pulse

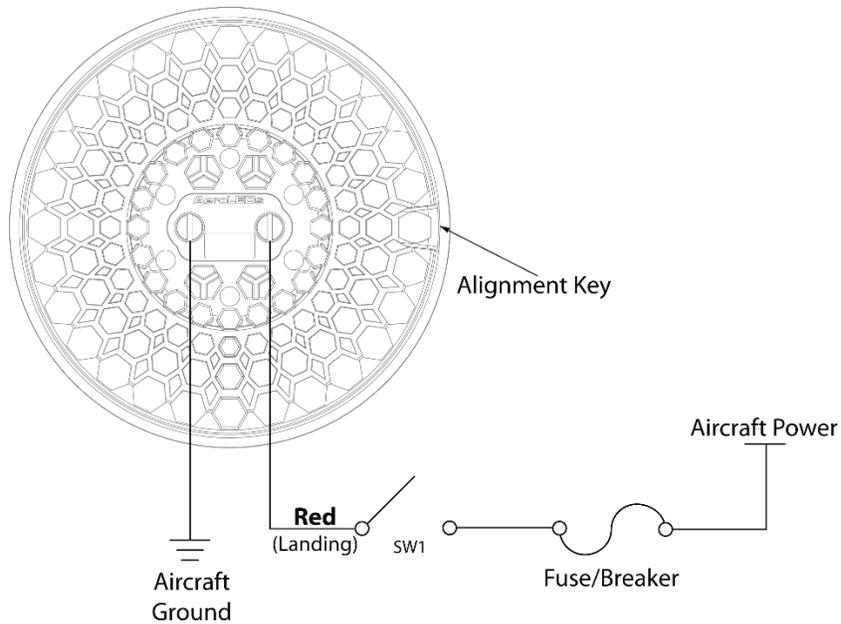


Photo 2-2

Fuse/breaker should be rated for wire size per **AC43.13-1B**

## 2.3 Wiring Diagram for Dual SunSpots with Wig-Wag

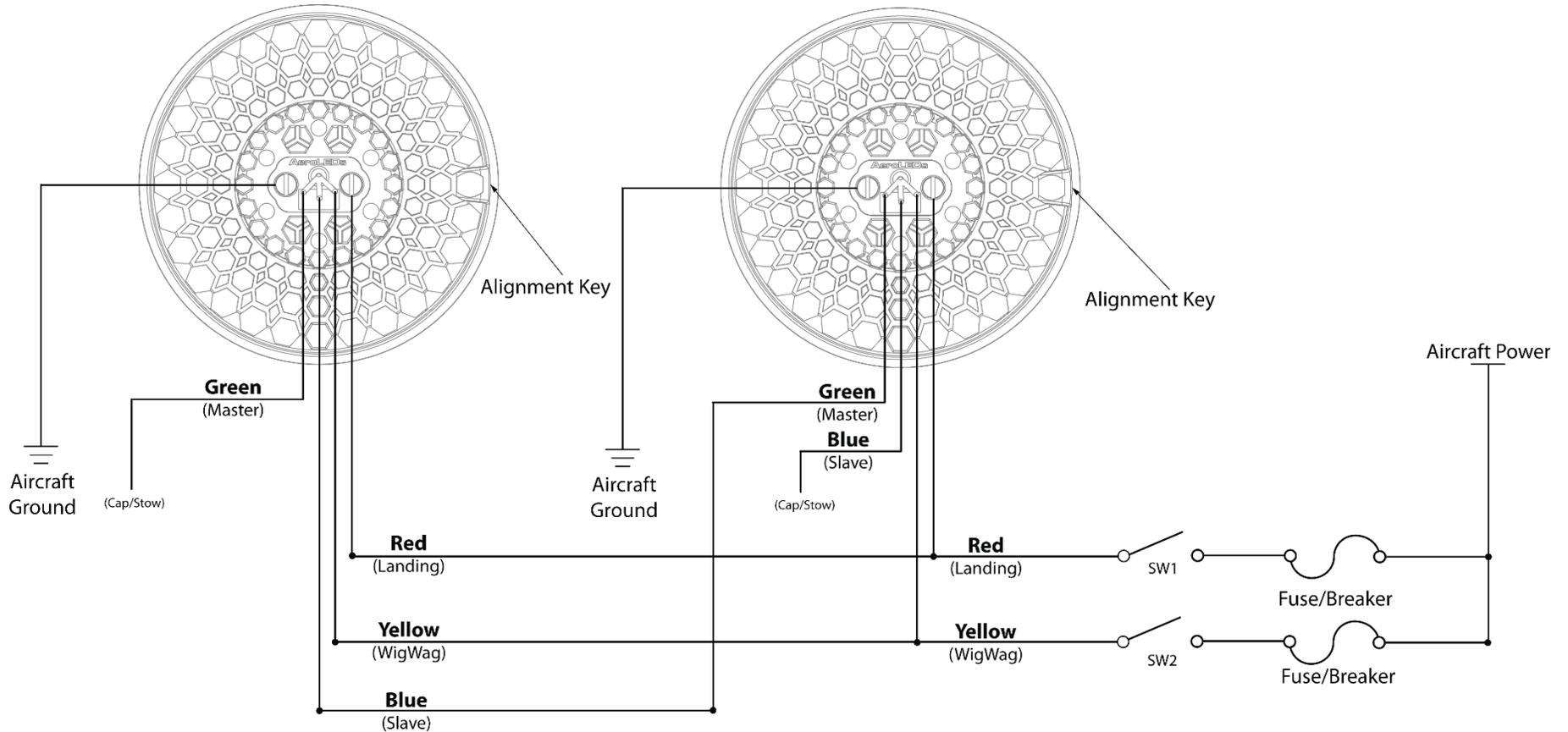


Photo 2-3

Fuse/breaker should be rated for wire size per **AC43.13-1B**

## 2.4 Wiring Diagram for Four LED SunSpots with Wig-Wag

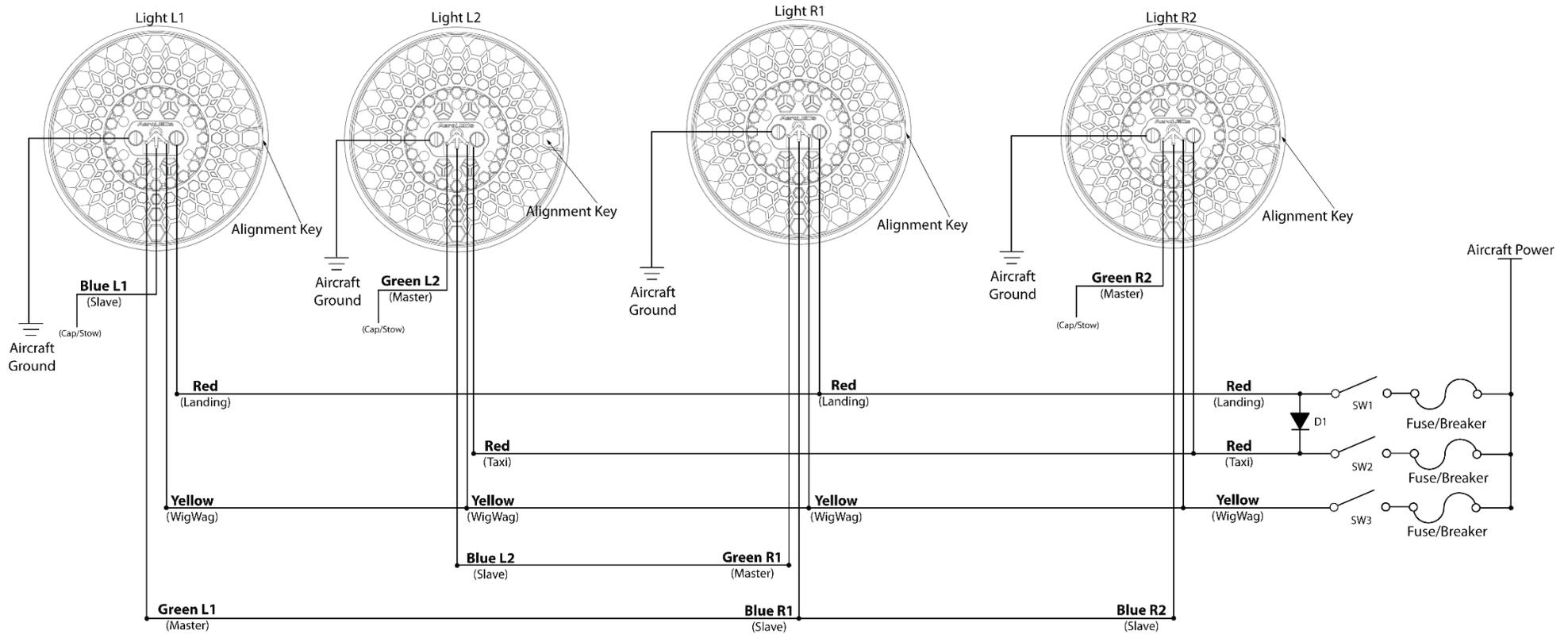


Photo 2-4

Optional Diode (D1): If all four lights are desired to turn on when landing, place a Diode rated for 15 Amps at 14V between the landing and taxi wires  
 Fuse/breaker should be rated for wire size per **AC43.13-1B**

DO-160E Section	Compliance Level
4	F2
5	S2
6	B
7	A
8	U
9	H
10	S
11	F
12	S
13	F
14	T
15	A
16	Z
17	A
18	Z
19	ZC
20	RR
21	H
22	A3E3
24	C