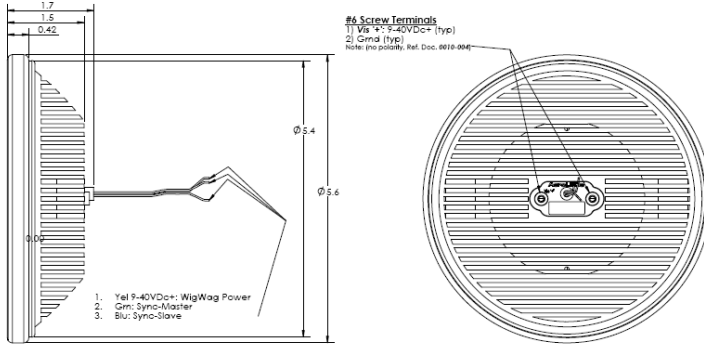


Document 0010-0004
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Installation Guide:
Sunspot 46HX
P/N 01-2130-HX
LED Landing light with
built-in pulse recognition mode
P/N 01-2130-LX
LED Landing Light
Installed in Accordance with STC SA02386AK
for VARIOUS MODEL AIRCRAFT



Operating Instructions:

Operational Voltage: 14 & 28 Volt Systems
Input Current: 5A at 14V, 2.5A at 28V

EQUIPMENT LIMITATIONS:

Mount in approved PAR46 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. If necessary, consult AC 43.13-1B for guidance on acceptable methods, techniques, and practices.

AIRWORTHINESS LIMITATIONS:

The Airworthiness Limitations section is FAA approved and specifies maintenance required under Secs. 43.16 and 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.

The Sunspot 46 LED landing or taxi light assembly is designed with 9 high power LEDs mounted behind lenses. Should any one LED fail, the unit must be replaced.

Interval	Description	Notes
50 hr.	<ul style="list-style-type: none"> Perform function check on landing light(s) Replace components as required 	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"> Perform function check on landing light(s) / replace unit if defective Inspect for discoloration of lens Inspect mounting for security Inspect all connectors for good engagement Inspect wiring for chaffing / defects Replace components as required 	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

Troubleshooting: 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 the light and bench check light if wiring is verified good.

INSTALLATION PROCEDURES:

1. The installation procedure described in the following text is for a single light installation, and multiple light installations. The pulsing function of the HX 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 HX model to illustrate typical wiring for enabling the pulsing mode and wig-wag synchronization. For the LX model lights, existing wire and switches and breakers will be utilized. For the HX 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 to **Please read through all instruction steps before performing light system installation.**
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.
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.
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.
5. **WARNING:** On all aircraft that are being modified it is IMPORTANT to check the size of the power supply wire to the landing lights. Confirm that wire of sufficient wire gauge is installed for the wire length:
12 Volts: 16GA for up to 25 feet, 18GA for up to 20 feet, 20 GA for up to 12 feet.
24 Volts: 16GA for up to 100 feet, 18GA for up to 80 feet, 20GA for up to 50 feet.
If the aircraft power supply wire is undersize it MUST be removed and a new wire installed in its place. Reference: AC43.13-1B Paragraph 11-66(d) and Figure 11-2.
6. REMOVAL:
 - a. Prepare the aircraft for maintenance: Make sure all switches are in the OFF/NORMAL position, disconnect the aircraft battery(s), disconnect power from the aircraft, attach maintenance warning tags, pull landing/taxi light circuit breakers.
 - b. Reference airframe manufacturers current maintenance manual to remove any light covers to gain access to lamp assembly(s) and bracket(s).
 - c. Disconnect connection to positive aircraft power.
 - d. Disconnect ground from aircraft power.

- e. Remove existing lamp(s) from brackets, mark and retain hardware.
 - f. Record weight of removed lamps.
7. INSTALLATION:
- a. Reference airframe manufacturer's current maintenance manual and install LED light(s) in brackets using retained hardware.
 - b. 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 page 3. Note that the LX 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.
 - c. 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.
 - d. Placard switches appropriately.
 - e. Power up aircraft and verify proper operation of LED light(s), in both pulsing and steady functions (as appropriate to the installation)
 - f. Using the appropriate aircraft maintenance manual, verify that the light angle has not changed, and is oriented & aimed in accordance with manufacturer's instructions.
 - g. Perform EMI test to verify there is no interference caused by light installation, sweep VHF frequencies between 108.00MHz and 137.0MHz to test for interference by turning the lights on and off at each frequency. In the event that the lights cause interference, the aircraft may not be a candidate for installation of the LED bulbs, or may require the use of shielded wire to eliminate the interference. Please contact AeroLEDs LLC for assistance in the event of interference.
 - h. Reinstall any light cover(s) removed to gain access to lamp assembly(ies) and bracket(s).
 - i. Fill out and submit appropriate form 337 for work accomplished, and enter appropriate logbook entry detailing work.
 - j. Perform an operational check of the landing/taxi light(s) in accordance with 14CFR 91.407 (b) and/or (c) to determine that the installed landing/taxi light(s) provide enough light for night operations in accordance with 14CFR 23.1383.
 - k. Weight & balance change from standard position light assemblies to LED landing light assemblies is considered negligible. However, if additional power supplies or pulse function controllers were removed at this time, the weight & balance is to reflect those changes, and actual weight and locations are to be used for calculating changes.

Figure 1

Wiring Diagram for single LED SunSpot landing light

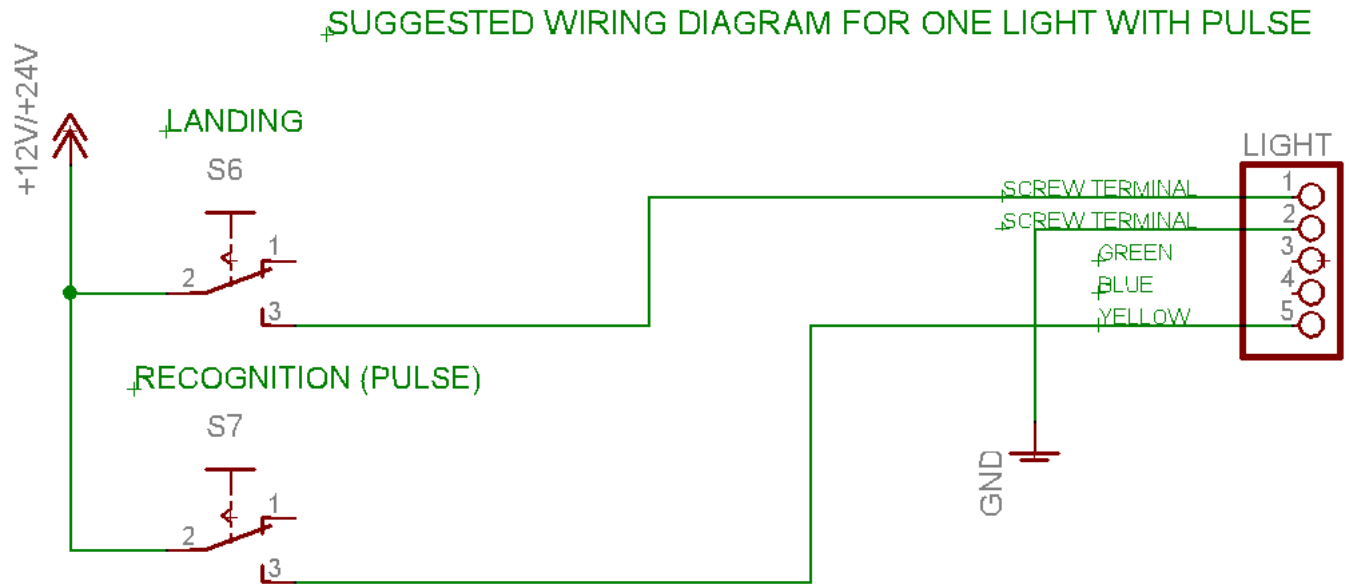


Figure 2

Wiring Diagram for single LED SunSpot light without pulse

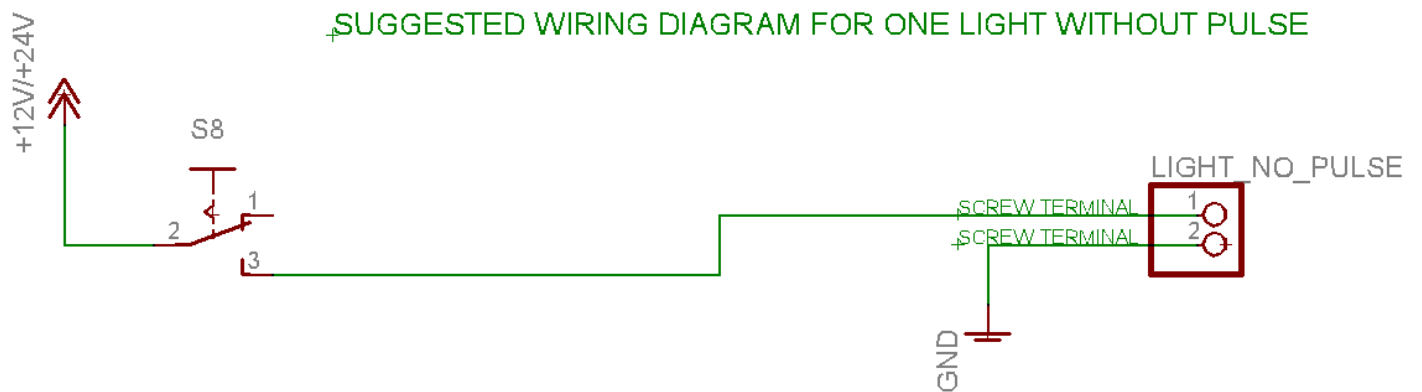


Figure 3

Wiring Diagram for dual LED SunSpot lights

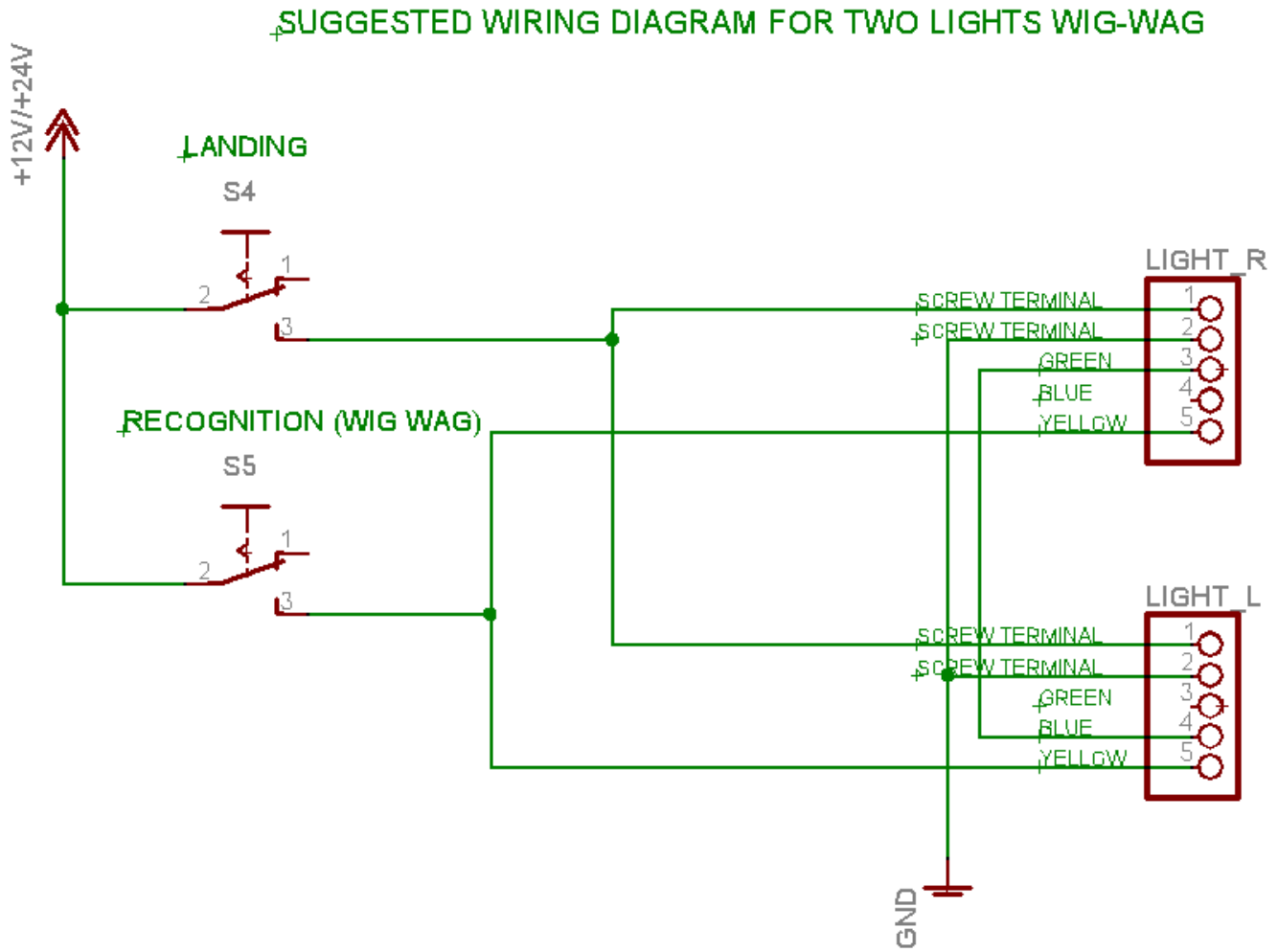
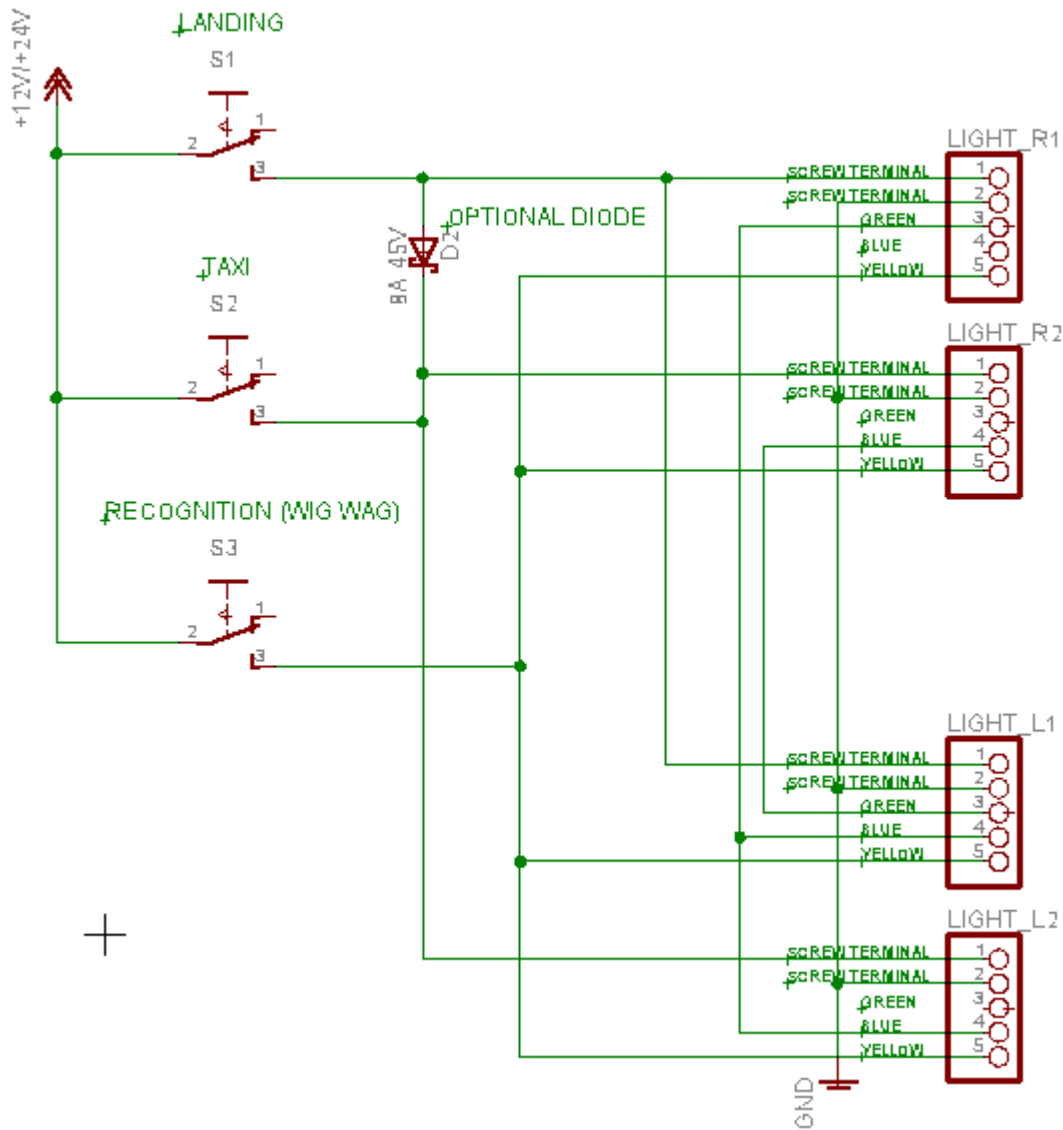


Figure 4

Wiring Diagram for four LED SunSpot lights

SUGGESTED WIRING DIAGRAM FOR FOUR LIGHTS WIG-WAG



DO-160E Section	Compliance Level
4	F2
5	F2
6	C
8	U
9	H
10	S
11	F
12	D
13	F
14	S
15	A
16	Z
17	A
18	Z
19	ZC
20	RR
21	H
22	A2E2

INSTALLATION INSTRUCTIONS REVISION RECORD SHEET

Revision Number	Effective Date	Inserted By	Page Numbers Revised
IR	12/09/2010	Dean Wilkinson	All
A	04/12/2011	Dean Wilkinson	All
B	06/29/2011	Dean Wilkinson	2, 4
C	12/06/2012	Dean Wilkinson	All
D	7/25/2013	Dean Wilkinson	1 (limitations)
E	1/28/2015	Dean Wilkinson	All
F	1/29/2015	Dean Wilkinson	All