



WHELEN AEROSPACE TECHNOLOGIES

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Installation Guide/ICA:
 Aviation model(s) OR660R2G, OR660R2R
 P/N 01-0790877-31, 01-0790877-32
 Orion 660 - Red
 Wingtip Position/AntiCollision Lighthouse

TSO-C30c TYPE I, II & III APPROVED
 TSO-C96a CLASS I APPROVED

The conditions and tests required for TSO approval of this article are minimum performance standards. Those installing this article either on or within a specific type or class of aircraft must determine that the aircraft installation conditions are within the TSO standards which include any accepted integrated non-TSO functions. TSO articles and any accepted integrated non-TSO function(s) must have separate approval for installation in an aircraft. The article may be installed only according to 14 CFR part 43 or the applicable airworthiness requirements.

WARNING: This product can expose you to chemicals including Methylene Chloride which is known to the State of California to cause cancer, and Bisphenol A, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SPECIFICATIONS:

Nominal Operational Voltage: 28VDC
 (Operational from 22-32VDC)
Input Current:
 Position Lights 0.25 Amps
 AntiCollision Light (Avg.) 0.243 Amps
 AntiCollision Light (Pulse) 1.3 Amps @ 250ms
 Flashrate 45 ± 5 FPM

EQUIPMENT LIMITATIONS:

An approved lighting system consists of two lights, one located on each wingtip. Model OR6602R() is a wingtip position and anticollision light. The assembly should be mounted as far outboard on the aircraft as practical. The baseplate must be mounted parallel to the vertical and horizontal centerlines of the aircraft to project the patterns properly. Model OR6602R() exceeds the TSO-C96a Class I anticollision photometric requirements from 0 to 180 degrees around the horizontal plane.

Certain types of installations may require additional testing.

AIRWORTHINESS LIMITATIONS:

The Airworthiness Limitations section is FAA approved and specifies inspections and other maintenance required under §43.16 and §91.403 of the Federal Aviation Regulations, unless an alternative program has been approved.

No airworthiness limitations are associated with the installation of the LED position/ anticollision light.

CONTINUED AIRWORTHINESS:

The forward position light is designed with Green or Red LED's. The tail position light is designed with 2 White LEDs. The anticollision light is designed with 18 Red LED's. If any one LED fails, the unit must be repaired or replaced. Inspect the lens, replace if there is excessive scratching, pitting, discoloration or cracking. For additional lens maintenance detail see SAE ARP5637.

Safety Precautions: To reduce eye strain, use an optical filter such as dark glasses or a blue covering dome during LED inspection.

PERIODIC INSPECTIONS:

An annual inspection shall be performed unless the OEM specifies a shorter interval.

Light replacement is recommended after 30,000 service hours to ensure photometric compliance with TSO-C30c and TSO-96a.

INSTALLATION PROCEDURES:

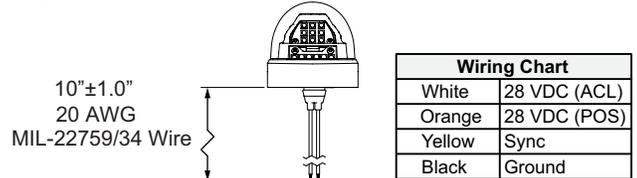
The following information provides guidelines for the installation of the light. Please refer to the OEM manual for your aircraft for specific removal and installation instructions.

1. Choose the appropriate light assembly.
2. Using the mounting detail information provided, prepare the aircraft for means to secure the light assembly.
3. Carefully remove the 7/16" phillips head screw and lens retainer. Remove the lens from the light assembly by lifting the rear of the lens approximately 1/2". Now slide the lens rearward approximately 1/4" and lift upwards to remove. **CAUTION! To avoid potential damage, do not touch the LEDs with either fingers or sharp objects.** Remove the 3 Phillips head screws securing the baseplate to the light assembly. Remove baseplate.
4. Using the appropriate hardware install the baseplate directly to the aircraft.
5. Route the wires through the opening in the baseplate. Connect the light inputs according to the chart shown. Connect the power lead to an appropriately sized breaker. Connections to be according to FAA approved methods.

Note: SYNC is a low-power, bi-directional control signal. Connecting to the synchronize signal of any WAT LED anticollision assembly to another WAT anticollision assembly will cause the lights to flash at the same time. If Synchronization is not necessary, the connection may be left open.

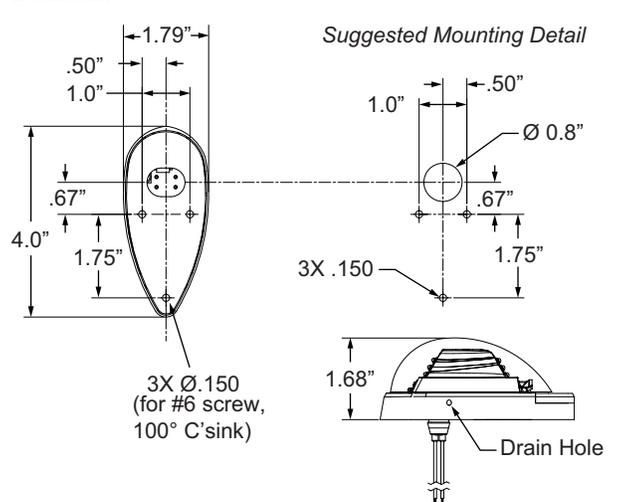
6. Re-install the light assembly on to the baseplate and ensure that all leads are clear of any obstructions and secured as required. Note that proper orientation is achieved with the drain hole down.
7. Install lens in the reverse order as removal and return the lens retainer to its installed location. **Note: Visually confirm that the lens and retainer are fully and properly seated.** Re-insert 7/16" phillips head screw and tighten firmly.
8. When necessary, seal the light to the aircraft. Apply sealant around the perimeter of the base. Do not cover the drain hole.
9. Check all avionics systems for interference from this installation.
10. Perform operational check for return to service in accordance with FAR § 91.407 or applicable regulations.
11. If required, update aircraft records utilizing FAA Field Approval (Form 337) or equivalent.

WIRING:



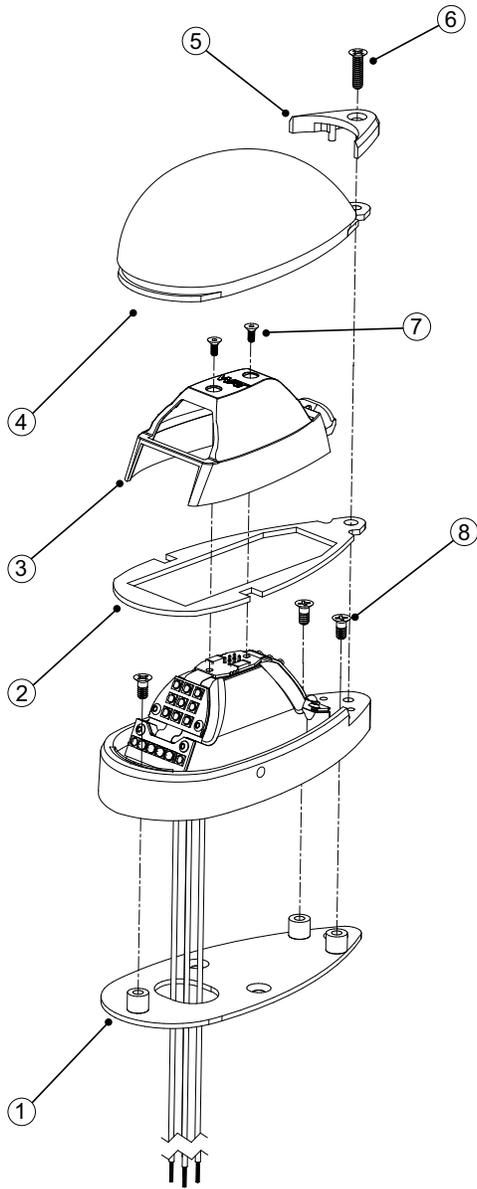
Note: Connect light only to aircraft wiring. Connecting to a high voltage power supply will damage the unit and void the warranty.

MOUNTING:



Aviation

Parts List:



Qty.	Item	Part Numbers	Description
1	1	07-551089-100	Mounting Adapter
1	2	38-0231382-01	Gasket, Lens, Black, Model 90725
1	3	68-5972221-01	Reflector, Base OR660 - Red
1	4	01-0251094-01	Lens, Assembly, 1" Gasket
1	5	19-151088-000	Lens, Retainer, Model 90725
1	6	MS24693-C5	Screw, #4-40 x 7/16"
2	7	14-012A26-03P	Screw, 1-72 x 3/16" FH 82 DEG
3	8	MS24693-C2	Screw, #4-40 x 1/4"

Environmental Qualifications: RTCA / DO-160		
Conditions	Section	Category
Temperature and Altitude ⁽¹⁾	4.0	F2
Temperature Variation	5.0	S2
Humidity	6.0	C
Operational Shocks and Crash Safety	7.0	A ⁽²⁾
Vibration	8.0	R, Curves E & E1 U2, Curves F & F1
Explosive Atmosphere	9.0	H
Waterproofness	10.0	S
Fluids Susceptibility	11.0	F ⁽⁴⁾
Sand and Dust	12.0	S
Fungus Resistance	13.0	F
Salt Fog	14.0	S
Magnetic Effect	15.0	Z
Power Input	16.0	ZXX ⁽³⁾
Voltage Spike	17.0	A
Audio Frequency Conducted Susceptibility	18.0	Z
Induced Signal Susceptibility	19.0	ZC
Radio Frequency Susceptibility	20.0	R/R
Emissions of Radio Frequency Energy	21.0	H
Lightning Induced Transient Susceptibility	22.0	A3C3L3
Lightening Direct Effects	23.0	1A1A/1B1B
Icing	24.0	A
Electrostatic Discharge	25.0	A
Fire, Flammability	26.0	C

Category X, No test performed.

1) No test performed on Category 4.5.5 In-Flight Loss of Cooling Test, 4.6.2 Decompression Test and 4.6.3 Overpressure Test

2) Plus Crash Safety, section 7.3.1 (impulse test only)

3) Category Z for Abnormal Surge

4) Fluids - Solvents and Cleaning (MIL-PRF-85570 Type II), De-Icing (Ethylene Glycol, Propylene Glycol)

Note: Categories are available for listed models. Additional qualifications may be available.