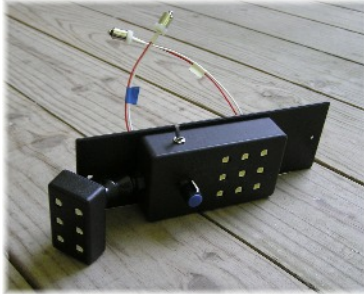


***FRESH AERO FlightLights
Grumman AA-5 Series
Easy Light***



Manual



Fresh Aero Aviation

Where Imagination Meets Innovation

Fresh Aero FlightLights

Easy Light Overhead Plug-In Lighting Unit

For Grumman AA-5 Series Aircraft

Thank you for purchasing the **Fresh Aero Easy Light Grumman AA-5 Series Overhead Plug-In Lighting Unit**. We're confident you will be pleased with this innovation in Grumman aircraft interior lighting.

If you fly your Grumman AA-5 series aircraft at night, you know that the original overhead cockpit/cabin lighting leaves a lot to be desired. This is the perfect solution! Just replace the original miniature incandescent light bulbs and outer panel with the Fresh Aero Easy Light in about 5 minutes.

Innovative Features Include

- State of the art LED solid state lighting in red, green, blue, white or any combination of colors
- Illuminates entire instrument panel with bright, clean, wide and even light. No halos, gaps or weak spots. Makes reading instruments, maps and other printed material a joy!
- Very long life cycle. LEDs, when used correctly, have an approximate life span of at least 80,000 hours. That's over 9 years of constant on.
- Many times brighter than the original Grumman overhead lighting with significantly less power consumption. A dimmer provides full range brightness control.
- A forward 6 LED articulating head for abundant instrument panel lighting and 9 downward facing LEDs to light up the entire cabin. The forward head is configured with switchable two color option.
- All components have a UL flame retardant rating of at least HB 94
- Simple installation. Just remove existing lighting panel (2 screws) & bulbs and replace with the Easy Light unit by plugging adaptors into bulb sockets and securing the unit with the same screws.
- Vibration proof design. Aircraft vibration will not be a factor.

Fresh Aero FlightLights Easy Light Overhead Plug-In Lighting Unit For Grumman AA-5 Series Aircraft

Study and save this manual



Read this entire manual before using the Fresh Aero Easy Light Unit. Make sure you understand the instructions and safety precautions in this manual. Keep this manual and your invoice in a safe place for future reference.

Fresh Aero Easy Light General Safety Warnings and Precautions

Warning: always adhere to the following safety precautions when using this product.

- Do not alter or modify the Easy Light unit in any way.
- Do not tamper with internal components. Light heads use internal components that match the specific LED light configuration. There are no user replacement parts.
- Handle unit carefully. Do not drop.
- When installing the Easy Light unit, locate the aircraft on a level surface and chock aircraft tires to prevent movement.
- The Easy Light unit is designed for Grumman AA-5 series aircraft with 12 or 24 vdc electrical systems. Do not modify or use in other aircraft. Contact Fresh Aero for modified units for other applications.
- Never use the Easy Light unit or any other single cockpit/cabin light as the only lighting source when flying at night. As with other aircraft systems, always have redundant lighting available for safe night operations.

Warning: The warnings, precautions and instructions discussed in this manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors that cannot be built into the Easy Light unit and must be supplied by the person or persons using this product.

If you have questions regarding the installation or operation of the Easy Light unit, or just need another manual, please call or write Fresh Aero at the at the contact numbers or e-mail address at the bottom of the next page. Manuals are also available on our web site in PDF format at www.freshaero.com.

Other Legal Notices

Fresh Aero Aviation makes no representations or warranties regarding any damages, injuries or benefit expected by using this unit lawfully, or any request from a third person, which are caused by the inappropriate use of this product.

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Disclaimer of Warranty

Fresh Aero Aviation makes no representations of warranties, either expressed or implied, by or concerning any content of these written materials and in no event shall be liable for any implied warranty for any consequential, incidental or indirect damages (including but not limited to damages for loss of business profits or business interruption) arising from the use or inability to use these written materials or equipment. No liability is assumed with respect to the use of the information contained in these written materials, or for damages resulting from the use of the information contained therein.

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The Fresh Aero Easy Light Overhead Plug-In Lighting Unit For Grumman AA-5 series Aircraft

3 year Limited Warranty

Fresh Aero Aviation makes every effort to provide high quality and durable products to the aviation community and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 3 years from the date of purchase. This warranty does not apply to damage due directly or indirectly to misuse, abuse, negligence or accidents; repairs or alterations outside our facilities; or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation defect or problem must be included with the product. If inspection verifies the defect, we will either repair or replace the product at our discretion or may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return the repaired or replaced product at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then the purchaser must bear the cost of returning the product.

This warranty gives you specific rights and you may also have other rights which vary from state to state.

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Fresh Aero FlightLights

Easy Light Overhead Plug-In Lighting Unit

For Grumman AA-5 Series Aircraft

Installing the Fresh Aero Easy Light Unit



Read and understand all the proceeding safety precautions and warnings before installing the Easy Light unit.

FAA Approval Information: If you install the Easy Light in your aircraft, you may need at least a FAA field approval to be completely legal and airworthy. Please See the next page for more information.

- Locate aircraft on a level surface and chock aircraft tires to prevent movement.
- Sit in the rear seat and remove the existing cockpit/cabin light outer cover from inside top of canopy by removing 2 attachment screws. Save screws and cover.
- Remove the 2 incandescent bulbs behind panel by reaching into front and rear openings and turning bulbs counterclockwise until they pop out. They are bayonet style bulbs and will require just a small twist.
- Install the Easy Light unit by holding the unit in one hand and “plugging” the forward and aft bulb adaptors and wires into the forward and aft bulb sockets using the following procedure.
- Align the “bayonet” lugs on the Easy Light aft wire adaptor (white flag on wires) with the mating slots in the aft bulb socket and “push & twist” the adaptor into place. Again, this will require very little turning. Confirm that adaptor is locked in socket by gently pulling on adaptor. If adaptor pops out, align and try again. “Plug” the Easy Light forward wire adaptor (blue flag on wires) into the forward socket using the above procedure. Look for an “F” on the forward end of the base to confirm the forward end of the base..
- When adaptors are securely fastened, push the wires into their respective openings in the canopy and mount base plate over openings in same location as previously removed outer panel. Use existing screws or the stainless steel screws included with the Easy Light to fasten base to canopy.

Note: Some mounting hole variation may exist on your Grumman as many assemblies on these aircraft were built by hand. If the mounting holes on your Easy Light base do not align with the holes on your aircraft, you may need to enlarge or elongate the Easy Light base mounting holes to align with the holes on your aircraft. The easiest way to do this is to use the outer cover you removed above as a template. Just enlarge the Easy Light base holes to match the holes in the removed cover. If the holes aren't even close, you can return the Easy Light and existing cover to Fresh Aero and we'll fabricate a new base with mounting holes to match your cover for 20 dollars including shipping.

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Easy Light Overhead Plug-In Lighting Unit For Grumman AA-5 Series Aircraft

Warning: Make sure wires do not kink or abrade on metal structure when pushing them into openings. Make sure wires are not caught or squeezed between base plate and canopy. Do not over tighten screws when mounting base plate to canopy.

Operating The Easy Light Unit

The 3 position dome light rocker switch operates the Easy Light unit in exactly the same way as your former overhead lighting. When rocker switch is pressed forward, the cockpit head will light. When the rocker is pressed to the rear, all lights will light.

Note: The Easy Light LEDs are optimized for maximum brightness at 13.8 volts dc, the standard bus voltage on the Grumman AA-5 Series aircraft with the engine running and alternator charging. The Easy Light will certainly work well with the engine off but the brightness will be slightly less than when the engine is running. The 24 volt Easy Light LEDs are optimized for maximum brightness at 28 volts dc

A Few Words on FAA Approval

We consider the Easy Light unit to be a major improvement in Grumman cockpit and cabin lighting. Intrinsic safety and easy installation with absolutely no modification to the airframe or electrical system make the Easy Light a superior lighting solution for your AA-5 series aircraft.

But even some minor modifications to certified aircraft need some type of FAA approval to be legally used in the aircraft.

If you install the Easy Light unit in your aircraft, you may need at least a FAA field approval to be completely legal and airworthy. The FAA people we have talked with consider the installation of this unit a minor “add-on” that would be approved using the field approval process (337 form). Some even consider this to be a non-issue. Other than the screws that hold the unit in place (in existing holes), it’s like plugging in your headset.

Please talk to your local FAA Flight Standards Office for more information.

To amplify on our warranty, if you are unable to get the Easy Light approved, just return the unit to us at Fresh Aero in the condition it was received (unused) within 6 months for a full refund less shipping.

Fresh Aero FlightLights Easy Light Overhead Plug-In Lighting Unit For Grumman AA-5 Series Aircraft

Fresh Aero Easy Light Technical Data Sheet

This data can be used to facilitate the FAA “337” form approval process for the Fresh Aero Easy Light.

The Easy Light is an overhead canopy dome/gooseneck LED lighting unit applicable to Grumman AA-5 series and other aircraft. This light uses two T3-1/4 bayonet adaptor plugs that replace the existing OEM type 1816 incandescent bulbs. No change in aircraft wiring or airframe is necessary. The unit just plugs into existing power receptacles and the application is similar to plug-in headsets and other power receptacle plug-in devices. There are no permanent connections to the aircraft. Power consumption is significantly less than the incandescent bulbs the unit replaces.

Additional FlightLights Easy Light Specifications:

Normal configuration is one forward 6 LED head and 9 downward facing dome LEDs.

Current draw at 14 VDC for forward head - 30 milliamperes (.030 amps)

Current draw at 14 VDC downward facing dome lights - 100 milliamperes (.100 amps)

Flammability rating:

All components meet or exceed FAA Sec. 23.853

Component box (111 x 61 x 26 mm) - UL 94V-O flammability rating

ABS textured base (217 x 70 x 2 mm) - meets FAA Sec 23.853 (v) (identical specification of plastic panels used in most aircraft).

All other components: non-flammable or self extinguishing.

All wiring is self extinguishing Mil-W22759/16 and meets FAA Sec. 23.1359.

Pilot Compartment View:

The Easy Light has been tested for glare issues per FAA Sec. 23.773 (a) and meets these requirements.

Pilot's view is sufficiently extensive, clear and undistorted for safe operation.

Note: The Easy Light is an overhead dome light but has been tested and complies with all parts of FAA Sec. 1381.

Fresh Aero FlightLights Easy Light Overhead Plug-In Lighting Unit For Grumman AA-5 Series Aircraft

Fresh Aero Easy Light Technical Data Sheet continued

Function and installation:

The Easy Light meets all parts of FAA Sec. 1301

Total weight: 4 oz.

A template of a submitted '337' form for the Easy Light is posted on our web site at www.freshaero.com. Look for it on the Easy Light detail page – in the right column.