

***FRESH AERO EasyBrow
Plug-In Battery Operated LED
Eyebrow Light For Most Aircraft***



User Manual



Where Imagination Meets Innovation

Fresh Aero FlightLights EasyBrow Plug-In Battery Operated Eyebrow LED Light For Most Aircraft

Thank you for purchasing the **Fresh Aero EasyBrow Plug-in Battery Operated Eyebrow LED Light for Most Aircraft**. We're confident you will be pleased with this latest innovation in aircraft instrument panel lighting.

If you fly your aircraft at night, you know that the original instrument panel lighting can leave a lot to be desired. The EasyBrow eyebrow light is the perfect solution!

Our standard EasyBrow LED Light System consists of a 31 inch, 48 LED light bar only 2 mm thick. and uses a 2.2 ampere rechargeable battery to power the system. If you need a different length, we can provide it - up to 40 inches, at no additional cost. The battery can be placed in under the pilot's seat (or any convenient location) and is charged from a power receptacle or hardwired into the aircraft electrical system on homebuilts.

Note: These lights are designed for panels with overhanging eye brows, We do fabricate custom "overhangs". If you need one, please contact us. We are a custom shop and can probably fabricate just what you need.

Innovative Features Include

- State of the art LED solid state lighting in red, green & blue
- Illuminates entire instrument panel with bright and clean light. No halos, hot spots or weak spots – just beautiful even light. The EasyBrow accentuates the needles and indices on the gauges and makes reading the instruments a joy and these lights will not diminish night vision.
- Very long life cycle. LEDs , when used correctly, have a life span of at least 50,000 hours!
- Many times brighter than traditional panel lighting and about 1/10 the power consumption
- Unlike traditional eyebrow panel lights, the EasyBrow lights run extremely cool with no heat build-up.
- All components have a UL flame retardant rating of at least HB 94
- They are fully controllable using the existing panel rheostat -- from dim to full bright.
- Simple installation. Just mount the light strip on the overhang of the eye brow with the attached 3M tape, stick the control box on the pilot's side panel and plug it in.
- Vibration proof design. Aircraft vibration will not be a factor
- Available for both 12 and 24 volt Grumman aircraft

Fresh Aero FlightLights EasyBrow Plug-In Battery Operated Eyebrow LED Light For Most Aircraft

Study and save this manual



Read this entire manual before using the Fresh Aero EasyBrow Light System. 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 EasyBrow Light General Safety Warnings and Precautions

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

- Do not alter or modify the EasyBrow Light in any way.
- Do not tamper with internal components. These lights use internal components that match the specific LED light configuration. There are no user replacement parts.
- Handle lights carefully. Do not drop. LEDs are static sensitive so be sure to use proper grounding procedures when handling these lights.
- When installing the EasyBrow Light, locate the aircraft on a level surface and chock aircraft tires to prevent movement.
- The EasyBrow light is designed for most aircraft with with overhanging eye brows 12 volt or 24 volt electrical systems. We are a custom shop and do fabricate custom “overhangs” for most aircraft. Please contact us for more information.
- Never use the EasyBrow light or any other single cockpit/cabin/panel 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 EasyBrow light and must be supplied by the person or persons using this product.

If you have questions regarding the installation or operation of the EasyBrow Light System, 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.

Fresh Aero FlightLights EasyBrow Plug-In Battery Operated Eyebrow LED Light For Most Aircraft

Other Legal Notices

The 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.

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.

Copyright 2009-15

Fresh Aero Aviation reserves all rights to this manual including the right to alter the features of this product and contents of this publication without obligation or advance notice.

The Fresh Aero EasyBrow Plug-In Battery Operated Eyebrow Light for Grumman AA-1 & 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.

Fresh Aero FlightLights EasyBrow Plug-In Battery Operated Eyebrow LED Light For Most Aircraft

Installing the Fresh Aero EasyBrow Eyebrow Lighting System



Read and understand all the proceeding safety precautions and warnings before installing the EasyBrow Light System.

FAA Approval Information: If you install the EasyBrow Light in a certified aircraft, you may need at least a FAA field approval to be completely legal and airworthy. Please see the last page for more information.

- Locate aircraft on a level surface and chock aircraft tires to prevent movement.
- Clean the bottom of the eye brow surface thoroughly with a non-oil based cleaner like “Fantastic”, “409” or denatured alcohol. Dry surface well.
- With the wire leads on the pilots side, mount the LED light strip on the bottom of your eye brow overhang with the attached 3M tape. Mount the strip parallel to the eye brow and as far away from the instrument panel as possible. Use the following procedure.

Remove the tape backing from EasyBrow strip in small sections – starting at the center and working to the ends and gently press the EasyBrow strip onto the eye brow, taking care not to apply direct pressure to the actual LEDs. Be sure to start from the center of the strip (look for the red dot).

Note: Use proper “static sensitive” grounding procedures when handling LEDs

- Use an instant bond adhesive like “Super Glue” to bond the shrink wrap tubing at the wired end of the strip to the eye brow. (This step applies only if you’re mounting the EasyBrow Light without the protective clear covering)
- Locate the control box and wiring harnesses and remove protective backing from back of the control box. Mount the box to the pilot’s side panel (or your desired location). Be sure to mount the box with the labels “right side up”.

Note: the adhesive is very tacky, so be sure you’re satisfied with the location and levelness before you “stick” the box in place.

- Route the wires from the top of the box along the upper side panel and into the lower eye brow. You can use sections of the included “carpet tape” to secure the wires for a neat and tidy look.

Continued

Fresh Aero FlightLights EasyBrow Plug-In Battery Operated Eyebrow LED Light For Most Aircraft

Installing the Fresh Aero EasyBrow Eyebrow Lighting System - *Continued*

- Plug the LED light strip wire connector at the end of the control box wire leads you previously routed into the connector on the wire leads at the LED light strip (The connectors are polarized and will fit only one way).

Mounting the Battery

- Locate the battery and battery wire leads at the bottom of the control box and plug the connectors at the end of the leads onto the spades on the battery. ***Very Important - be sure to connect the leads with the correct polarity. The connector with the red sleeve mates with the red coded spade on the battery and the black sleeved connector mates with the black coded spade on the battery.***

Caution: LED s do not tolerate reverse polarity and will self-destruct if polarity is reversed for longer than a few seconds. This will void your warranty. Be sure your battery is connected with the correct polarity.

- Mount the battery in your desired location. You can route the wiring behind a side panel or under carpeting for a neat installation. Use sections of the included “carpet tape” to secure the wire leads.
- Locate the power plug wire leads at the bottom of the control box and route these leads to a power receptacle. These leads can be routed under the carpet or behind the instrument panel and secured using sections of the “carpet tape” or the included wire ties.

Caution: Be sure the secure the battery and above wiring using FAA approved procedures. Do not locate the battery or wiring where it will interfere with aircraft controls and operation. You don't need loose untidy wiring or a battery sliding around on the cockpit floor.

■ Operating The EasyBrow Light

Just plug the power plug into your power receptacle and flip the control box side switch up to turn on the lights. The rotary knob on the box controls and brightness. Flip the side switch down to turn off the lights and charge the battery. That's all there is to it.

The battery will charge properly when you're flying in the daytime with the switch in the down position. Just be sure to turn the aircraft master switch off when you're finished flying for the day.

Continued

Fresh Aero FlightLights EasyBrow Plug-In Battery Operated Eyebrow LED Light For Most Aircraft

Operating The EasyBrow Light - *continued*

Except for a major improvement in the quality of panel light, nothing changes! The battery should power your EasyBrow Lights for 15+ hours before needing a recharge and if you ever lost aircraft electrical power while flying at night, you'll have the peace of mind that your panel will stay lit.

A Few Words on FAA Approval

We consider the EasyBrow Light Systems to be a major improvement in aircraft cockpit and cabin lighting. Intrinsic safety and easy installation with absolutely no modification to the airframe or electrical system make the EasyBrow Light a superior panel lighting solution for your 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 EasyBrow 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 very minor "add-on" that would be approved using the field approval process (337 form). Some district offices consider the battery operated EasyBrow Lights a "non-issue" because there is no permanent connection to the aircraft.

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

To amplify on our warranty, if you are unable to get these lights 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 Aviation, 1142 Roseland Drive, Columbia, TN 38401-7700
Phone: 931-381-6092 888-581-4952 931-215-8801
Email: info@freshaero.com www.freshaero.com