

Installing the **LED COMBO** strobe light system

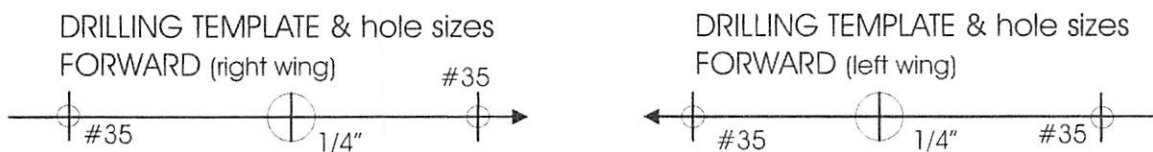
The **LED COMBO** is an all LED strobe and position light system. It should only be used with a 12 volt DC source and must NOT be connected directly to the lighting coil (AC alternator) of your engine.

As with any electrical device a fuse should be connected in the line that powers it. This system draws an average current of less than one (1) Amp. So, it is recommended that no larger than a 3 Amp fuse be installed in the line supplying the power to either one or two switches. These switches will supply +12 volts DC to the LED CONTROLLER allowing separate operation of the strobe and navigation lights. #1 switch connects to the RED wire and #2 switch to the ORANGE wire on the LED Controller. If only one switch is used for both functions you will have to connect it to both the red and orange wires. This will turn on both the strobes and navigation lights at the same time. The BLACK wire is -12 volt Ground.

The LED CONTROLLER does just what its name implies, it controls the power to the heads mounted on the wing tips. It supplies the heads with a junction point for synchronizing and selecting one of the 7 flash patterns of the LED STROBES. It also allows for a separate power source to the navigation red, green and white LEDs.

The **LED COMBO STREAMLINE** heads are mounted to the wing tips. BEFORE DRILLING HOLES make sure they will not effect the strength of the airframe and use the drilling template from these instructions. Be sure to put RED on the LEFT wing & GREEN on the RIGHT wing. The wires on the head are connected to the three conductor wire with the splices supplied. Be careful to match the colors of the wire. Step the splices (see diagram) so they will feed through the 1/4 inch hole. The next step is to route the wire from the heads to the controller. The standard wire is 22 ga. stranded with 3 conductors. It normally comes 25 ft. long and the plugs will be supplied but not attached. Operation of the system will not be affected by a long or a short wire, so suit yourself on wire length. If you look close at the 3 pin nylon plug it has a keyed line next to pin #1 this is the red wire, #2 is the center and is the black wire leaving #3 to the green wire. Refer to drawing on the back of this sheet.

There are seven (7) different settable strobe flash patterns. To change the pattern, with power to both strobe and navigation LEDs turned ON, touch the magnet to TOP LOWER LEFT CORNER of the Controller. After you have selected the pattern you like best, put the magnet away and go fly.



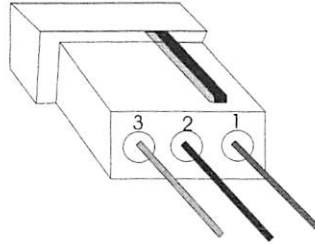
WARRANTY

KUNTZLEMAN ELECTRONICS warrants this **LED COMBO** strobe system for one year from date of purchase against any defects that are due to faulty materials or workmanship. Please return complete unit, transportation prepaid, to Kuntzleman Electronics, NOT YOUR DEALER, for free replacement or repair at our option. This warranty does not apply to failure caused by accident or improper installation.

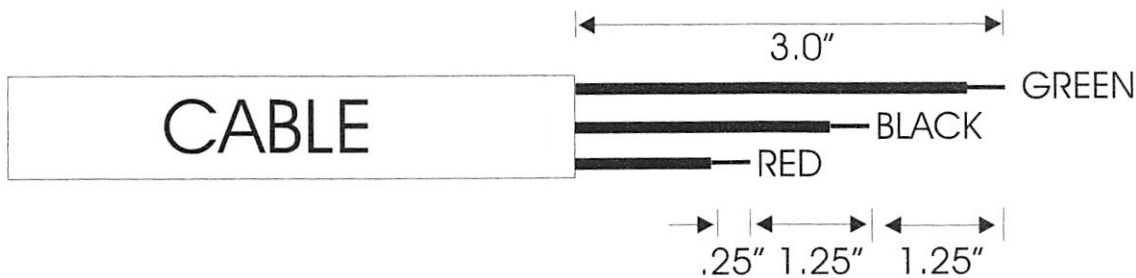
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INSTALLING THE PLUG & STREAMLINED LENS

After connecting the pins to the wires and BEFORE inserting the pins into the nylon plug housing, slip one large and one small piece of heat shrink tubing on the cable. It may be necessary to stretch the larger tubing slightly, so it will fit the plug. This is easily done by slipping it over a pair of diagonal wire cutters and opening up the cutters thus stretching the tubing. Then insert and lock the pins into the nylon piece. #1 RED, #2 BLACK, #3 GREEN. Next slip the large piece of tubing over the nylon plug and apply some heat so that it will shrink up tight. Keep the small piece away from the heat. After the first piece cools slip the smaller piece over the tail that the heat created on the other piece. Now heat shrink the second piece.



Note: Here is a helpful hint for installing the lens and adapter plates. BEFORE GOING ANY FURTHER READ THE NOTE AT THE BOTTOM OF THIS PAGE. The radius of the plates are made to fit a 7/8" dia. tube. If your wing tip tube is larger the plates can be adjusted as follows. With a heat gun carefully warm both sides of the plate just to the point that makes it pliable. Place the plate in the desired mounting spot and hold it there until it cools enough to make it solid again. When completely cooled sand the other surface flat again by laying a piece of fine sandpaper on a flat surface and sanding down the plates. If mounting to a flat surface, don't use the adapters. Next, after the light fixture itself has been installed to the wing place the Lexan lens over the Base and 0 ring, inserting the trailing end first. Press it all the way down flush with the bottom of the base and install the two self tapping screws. DO NOT OVER TIGHTEN these screws.



STAGGER SPLICE

1. Carefully strip 3" of gray insulation.
2. Cut the BLACK wire 1.25" shorter than it is.
3. Cut the RED wire 2.5" shorter than it is.
4. Strip .25" of insulation from the end of each wire.
5. Match colors and crimp to the LED Combo head wires.

THIS NOTE IS VERY IMPORTANT

After using the template to drill the mounting holes, tap the threads into those holes by turning in the supplied #6 screws. This will make the final installation easier. Be careful working around the LEDs. We are not responsible for LEDs damaged during installation.