



## Mounting Instruction

Dear customer,

the electronic position light, TL-NG is a highly innovative product which contributes to a safer airspace.

The new LED technology allows a very brilliant, white light with using approx. 10% of the input power when compared to conventional navigation lights. They are cast in a high-optical plastic making the TL-NG absolutely impervious to water, vibrations and other environmental influences. The efficiency of the output is much higher than with conventional electric light bulbs. The heat produced by the TL-NG is very low and thus will not reach a level that will damage itself. However, as with all our light systems, to avoid overheating the heat balance is controlled electronically.

This tail light for aircraft (NON-TSO'd) is designed to be mounted at the tail unit or at the rudder, provided a shaped cone is present (as is present for the standard Grimes type incandescent light).

Please adhere to the following instructions for a professional mounting of the TL-NG. The illumination angle is equivalent to the required angle of 140° as prescribed for general aviation.

### Required materials and tools

4-wire cord, according to the length of fuselage (5-8 meters / 16' - 26') Teflon installation cable.

Tube coloured silicone,

2 screws / bolts, approx. 4 mm x 30 - 35-mm / UNC 8 x 1.18" - 1.37" length,

soldering iron, electronic solder,

shrink hose (enclosed).

### Recommendations

#### Cable (wiring)

We recommend a flexible and twisted quadruple core Teflon installation cable with a cross section of two 0.25mm<sup>2</sup> (AWG23) for the "Sync"-wire resp. positive (+) Tail-Light, and two 0.75mm<sup>2</sup> (AWG19) for Flash (red) and negative (- blue).

#### Adhesion

We recommend standard silicone in a tube. It is available in do-it-yourself markets. The adhesion is strong and in case of a dismantling you only need a sharp knife. We strongly advise against using other kinds of adhesion, like polyester or epoxy resin.

#### Mounting

Use metal countersunk screws / bolts (4 mm x 30 - 35 mm) to fix the light and a thin layer of silicone to paste it. By the use of silicone twisting of the TL-NG is prevented and a sealing against dirt and water is performed.

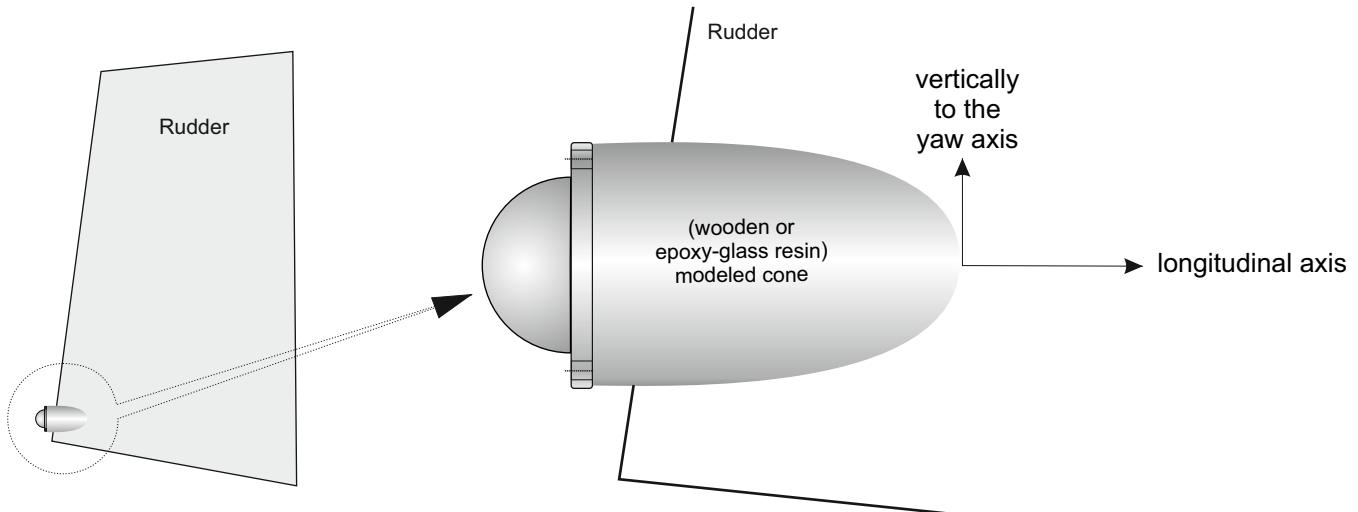
**Use only non-corrosive screws / bolts!**

#### Installation Position

The TL-NG must be mounted parallel to the longitudinal axis and vertically to the yaw axis of the aircraft. (see illustration 1)

#### Example of mounting position

#### Illustration 1



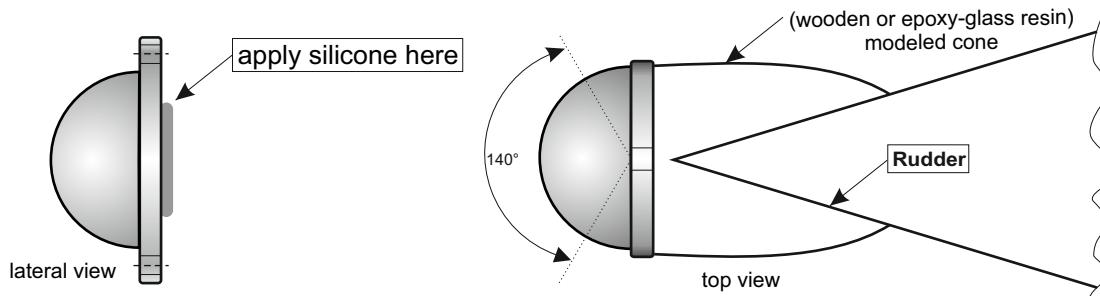
## Pasting

Apply only as much silicone as required to paste the TL-NG to the mounting surface (see illustration 2).

After fixing the Tail Light to the required position, slightly tighten the screws. Moisten your finger with dishwashing liquid and clean off any excess silicone. A smooth transition can be molded between the rudder / fin and the TL-NG.

Silicone needs time to cure. The best results are achieved at a temperature of 20° deg. Celsius (68° deg. Fahrenheit). Just follow the handling instructions of the silicone. The final firmness (stability) will be reached after a few days.

**Illustration 2**



## Electric power supply / cable connection to the aircraft on-board power system (12 Volts DC)

The best connection is to solder the joint and then protecting the joint with the included heat shrink tubing. Only use solder for electronic soldering. Never use solder paste or soldering liquid. They contain acids which cause corrosion!

### Important notes:

Install the cables carefully inside the rudder and/or the fuselage. Connect the cables professionally to the aircraft electrical system (**RED = positive**, **BLUE = negative**) and to a fuse protection/ circuit breaker.

When the **thick white** cable gets connected with the red (positive) cable, the light switches from ACL (flash-mode) to continuous mode. The **thin white** cable integrates the light to our 'intelligent Synchronization'. Luster terminals are not suitable to connect cables. There is a good selection of suitable crimp connections in various shops.

Fasten all wires securely to prevent them from chafing.

The TL-NG is provided with an internal overload protection. In case of over voltage the protector switches off the TL-NG. After reset or voltage drop the light is again fully functional. The integrated overload protection is activated at any voltage above 18 Volts. (If the voltage returns below 18 Volts, the TL-NG will be functioning again).

### Servicing / Maintenance

In order to protect the light from weather influences apply a fresh coat of high-quality car wax from time to time. Should the light be scratched, use a good polish to refurbish the damages. In case of slightly deeper scratches use wet sandpaper with very fine granulation (800-1000) and carefully polish again. Do not use aggressive chemicals like gasoline or solvent.

### For day to day cleaning use soap water!

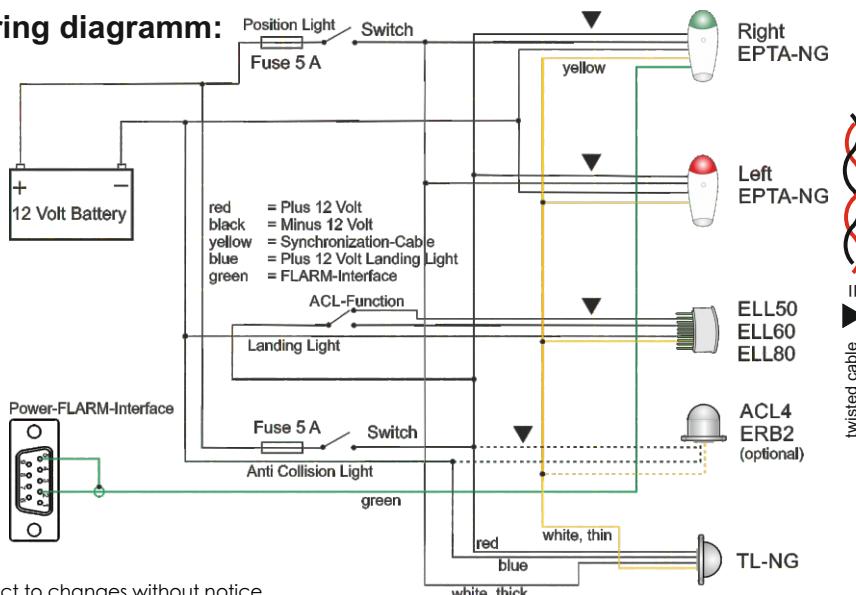
Some insect removers and detergents can make the epoxy based surface brittle. Use only aircraft certified products.

### If the aircraft can not hangared, please cover the lamps in order to prevent surface ageing!

### Technical data:

Color	: Bright white light
Operating Voltage	: 10 - 17 Volts DC, typical: 12.8 – 13.4 Volts (on-board power supply)
Wattage	: approx. 5 Watts (1 Amp. Peak Current by Flash)
Dimensions	: 52.6 x 42 x 21.5 mm / 2.07 x 1.65 x 0.85 Inch (L x W x H)
Drill wholes	: 4.5 mm
Weight	: approx. 28 Grams with cables
Warranty	: 5.000 operating hours or 3 years from date of purchase - depending on what occurs first.

### Wiring diagramm:



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