Retrofitting a Duckworks HID landing light in a Zodiac CH601XL

Introduction

This document describes how to replace a standard Zenith landing light (100W Incandescent lamp) with a Duckworks HID lamp and reflector.
(Our thanks to Lance Gingell for providing an outline with pics for this doc)

Why Do This?

Many of these aircraft have a limited alternator output (20A nominal).
A single 100W lamp:

- uses 8A which leaves little power available when the lamp is in use (and precludes using both lamps at once)
- does put out decent light
- can have a limited useful life

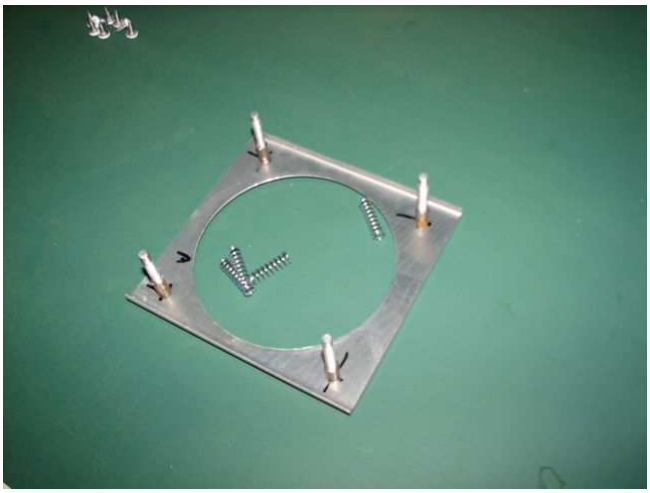
Our 35W Low Cost HID PAR-36 Combo:

- is an easy retrofit that will reduce power usage from 8A to 3.2A (making the lamp more usable – in fact – 2 of the 35W lamps use less power than a single 100W)
- provides significantly more light output
- lasts longer than the TBO on your engine

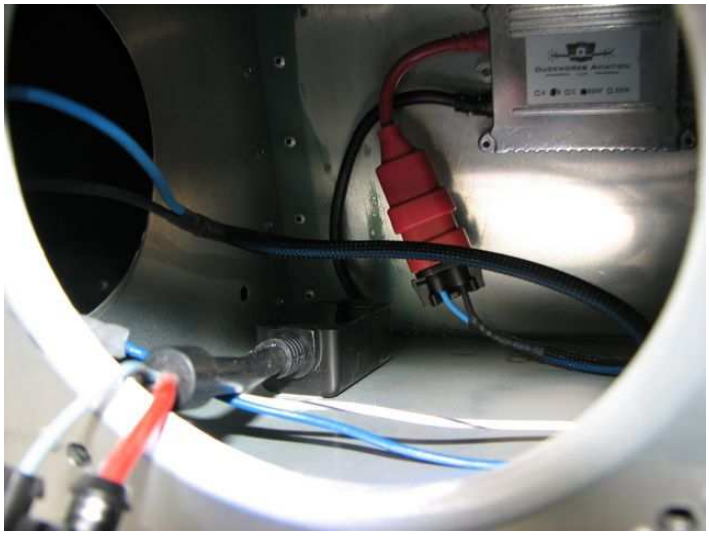
Directions

Remove the landing light lens from the wing leading edge and unscrew and remove the frame around the landing light.

Now remove the landing light. Take care not to lose the springs!



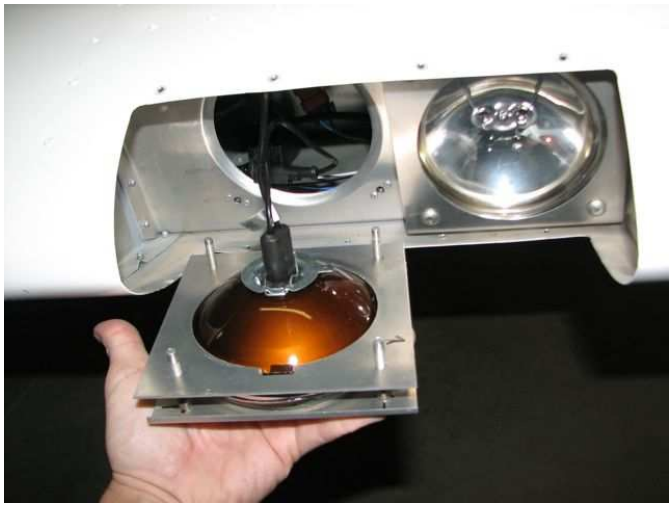
Remove the connections from the old light.



Connect the landing light wires to the HID module (Red or Blue is Pos, Black is Neg). Stick the module to the wing spar extension with a double sided pad.

The smaller black module can be bonded to the bottom wing skin in a similar way, or wire-tied to the nearest Rib.

Finally, put the HID bulb in the reflector and put it in the leading edge. Screw the frame/springs back in and adjust the light beam. Now fit the leading edge lens back into place.



This comparison shows an incandescent 100W taxi light vs the HID 35W landing light.

Note that we would recommend aiming the beam higher and farther out in front of the plane.