

LUPINE®

LIGHTING SYSTEMS



BETTY UPGRADE

**Betty Upgrade Kit, Art. No. 669.
Yellow LED board, 1750 lumens, 7x 16° lens array,
Allen key, assembly instructions**

Make sure your working surroundings are well-lit and reasonably quiet before you start upgrading your Betty.

Step 1:

Make sure that your Betty is not connected to the battery. Open the lamp by turning the cap anti-clockwise. The cap may be stuck fast to the casing; try to twist it off the housing without bending the cap.



Step 2:



Undo all six inner-hex bolts with the Allen key and carefully draw them out of the housing. Pick the loose-lying lens off and place it onto your work surface so as to prevent confusing it with the new lens.

The two lenses are very difficult to distinguish from one another.

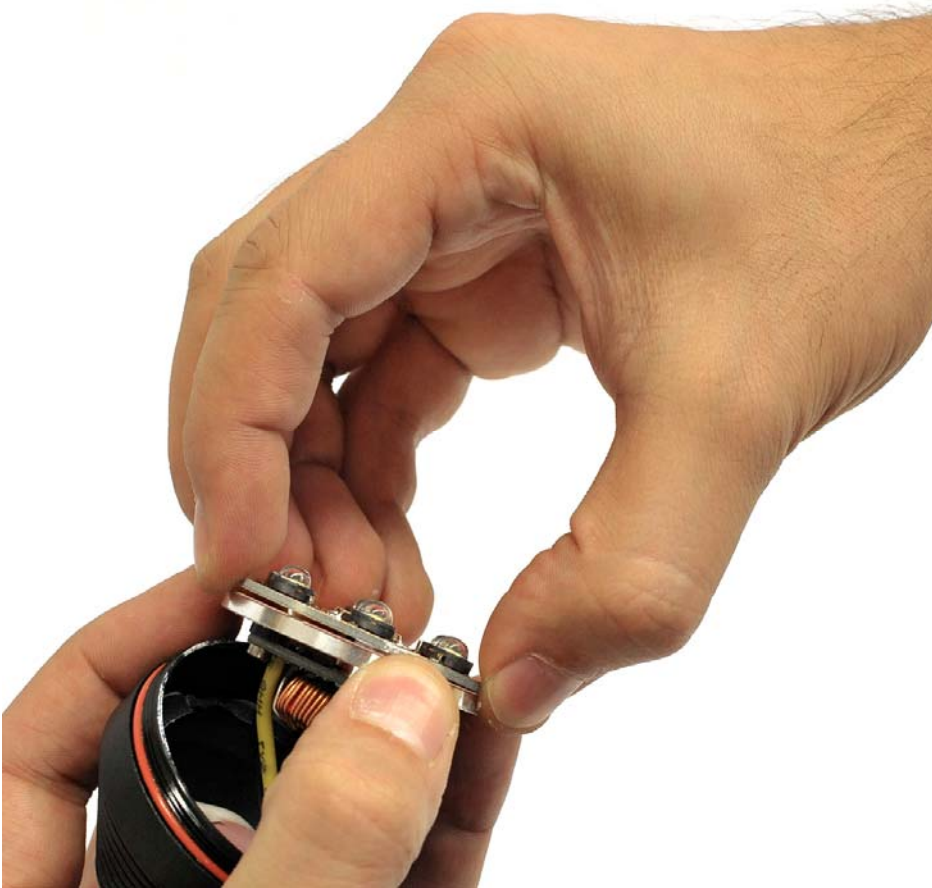
Step 3:

Please use the Allen key as shown in the picture to remove the LED board. A gentle pull, and the LED board and its holding plate will come free from the casing. Remove the red LED circuit board. Sometimes, the LED circuit board will remain stuck to the pink heat-conducting film; if it does, please follow the next step as well.



Step 4:

If the LED board stuck to the pink heat-conducting film, please remove as shown.



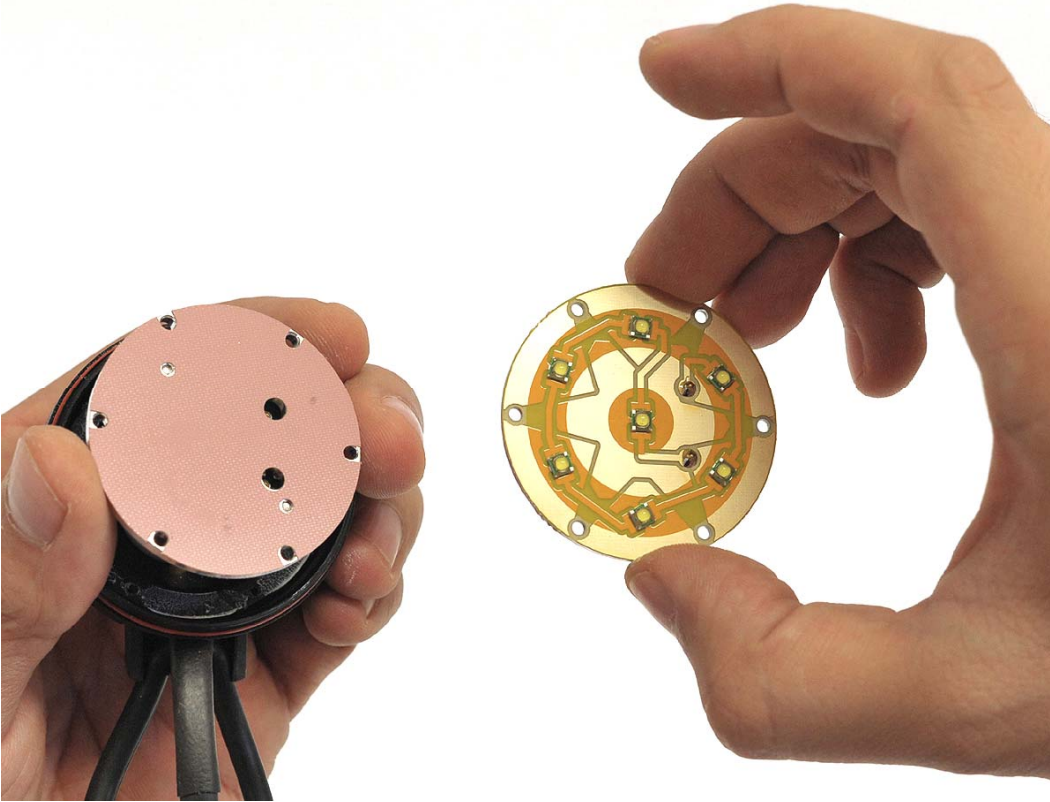
Step 5:



NOTE: Avoid touching the LEDs as you remove the new LED circuit board from the packaging. Soiling will reduce the lighting power of the LED; you will need to remove it using compressed air only. Only touch the quadruple lens at the edge. Fingerprints inside the lens will be very difficult to remove.

Step 6:

NOTE: Make sure you fit the new LED circuit board the right way onto the holding plate. The contact pins are asymmetrically arranged, so it's nearly impossible to fit the LED circuit board on incorrectly. Line the six holding pins up to the corresponding holes to avoid improper mounting.



Step 7:

To insert the two gold contact pins into the contacts safely, you will need to guide the board gently into the contact sleeves as shown in the picture. Carefully move the board around on the plate until



the two pins effortlessly slip into the contacts. **NOTE: be patient** – force will bend the pins, which will then be impossible to insert into the contacts. If you should unexpectedly bend one of the pins, use a pliers to straighten it out again – the pins will bend without breaking. Always make sure you avoid touching the LED surfaces. The six holes on the yellow board should be roughly aligned to the holes in the holding plate once you have finished inserting the gold contact pins.

Make sure that the six holes on the board, the pink heat-conducting film and the supporting plate are in alignment over the threaded holes in the housing, or you will not be able to mount the lens, or insert and tighten the bolts into the holes in the housing through all of the components. You may need to turn the yellow board by a few degrees to reach alignment.

Step 8:

Insert the six inner hex bolts into their respective holes. Gently move and jiggle them backwards and forwards until they find their way through to the holes in the housing.



Step 9:

The whole unit should now lie completely on the inner edge without you tightening the bolts. Gently turn the unit to and fro to check that everything is positioned correctly.



Step 10:

Only tighten the bolts now. **Remember to tighten the bolts in diagonal sequence as you would when changing a car wheel.** First, only gently tighten the bolts. After the lens has reached the right position for fit, tighten the bolts hand-tight in diagonal sequence. If you use the Allen key as shown in the picture, you will not over-tighten the bolts.

After tightening, check the lens and the whole inside of the casing for dust or soiling; usually, a gentle blow of air will get rid of it.



Step 11:

Now screw the cap back on. Make sure you avoid cross-threading – the cap should easily and smoothly turn onto the housing; if not, immediately screw it back off and try again. Remember that the fine thread will not take impatience lightly. Now completely tighten the cap; you should not be able to see any gap between the cap and the housing. Check that the light works, and your upgrade is completed – and your Wilma is ready to face new challenges.



Step 12:

NOTE: Your light will not consume more power after the upgrade, and times between recharges will not change – but you will find that your Betty shines far more brightly than before.



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