

### DIY smoked lights

This is a basic idea of how to get yourself smoked Hella/Bosch lights for a very little amount of money (around a fiver), and around a weekend of messing about. My lights are Bosch units with a projector type main beam from a '92 cab, I think that some, if not all, older BMW's (i.e. pre facelift) have slightly different driving lights that are not the projector type. I cannot tell you if this will work on them. My '87 325 Sport is an American version that has fully sealed beams, alas American sealed beam type cannot be converted. The picture below shows the rear of my lights.



The first thing I must stress is if you want the finished results to look good you will have to take your time over it. If you start it on a Sunday afternoon you will balls it up if you need the car for work first thing Monday. Your first attempt (and hopefully your last) will take you around 6-8 hours and a night for paint drying. I am usually not the most patient of people and my handicraft skills are pretty poor although mechanically I am good, so if I can do it, so

can you.

### **Tools and equipment**

You will need a basic tool set, mainly consisting of screwdrivers. You will need a hot air gun of around 5kW, I used a Makita you can see the type in the pictures. You will need a hot glue gun. You will need some tin snips or if you can find one, a Dremel (or any very high speed drill with a cutting disk). You will need some 1 or 2 mm Aluminium, steel or tin sheet. You will need some Epoxy glue and some high temp silicone (I used gasket silicone happy to 600°). And finally a tin or two of heatproof black spray paint.

### **Lenses off**

The first step is to remove the headlight assemblies from your car. Remove the two light surround grills, disconnect the three supply wires, then remove the three screws and remove each light unit. I won't go into detail as if this bit stumps you stop now and forget it! Once the light units are in your hands pull off the metal ring around the circumference of each light. Then remove the driving light projector unit by removing the three screws at the back. Remove the main beam rear assembly and bulb. I personally did not remove the individual light units from the holder and got on fine, its up to you. The picture below shows the headlight units fully disassembled as far as I went.



Safety, the next bit is potentially dangerous so use some common sense! As your mum says its all fun till someone loses an eye, or if you are the type to accidentally (or otherwise) burn your mum's / girlfriend's / someone else's girlfriend / someone else's mum's house down then be careful. Protect your eyes, wear gloves and think before leaving the heat gun on the settee while you go to make a cup of tea. Right that's my sensible bit (and disclaimer!) so onwards.

The idea next is to heat up the glue that bonds the glass lens to the plastic driving light and the metal high beam light. Use the hot air gun to heat the lens for around 10 mins. I have heard some people put their lights in the oven facing the grill to heat them up, that's your choice but to do that you may have to disassemble the lights further. Any comments I would be glad to hear them, but I like my way. Once you have heated the glass and glue for 10 mins or so get two small flat screwdrivers and slowly and carefully use them to prise the lens off. The main beam has glass tabs you can get behind with the screw driver, the idea is to work at it for a bit, then apply heat for a few more minutes, and work at it again. Don't rush, it is unlikely you will get the lens off first heat cycle, rushing it will result in a broken lens and a trip to the scrappies, yes I did it. The driving light has a plastic backing and I prised mine off from the bottom of the light, where it will be less visible, I managed to melt and break a small amount of the light surround first time but it will be hidden by the metal ring when you re-assemble them anyway so not to worry. Trick seems to be keep the heat gun moving aimed at the lens/glue area so you don't melt the plastic holder. Again I stress work at it for a while then heat again repeating until it comes off. Here is the silly part, my first attempt had me finally prise

the lens off and as it fell from the holder is went to catch it with my hand, and as it was at around 1000000° of course I dropped it and broke it, hence the gloves, and eye glasses.



### Smoking the driving light

If you get to this stage the rest is real easy. The driving light has a slivered piece of plastic (yours may have a smiley cut out but mine doesn't) this is held in with the same glue, use the gun carefully to warm it up and pull it off. Then simply spray 'em black! I personally painted the whole reflector, but as I was also fitting angel eyes at the time I was removing the side lights. You may want to keep the side lights and in this case you may want to tape off the side light reflector area. Best bet if you are unsure is to tape it off first, spray it and test it, you can always spray it black later if unsatisfied. Personally I would spray it all black and sod the side lights but check for MOT requirements. Heat proof paint will stop it cracking and I used a glossy finish, but think a matt finish may have looked better, can't help you, so up to you, again comments welcome. The picture below shows my reflectors painted black! Remember follow spray can instructions, clean and dry the reflector, hold can 12-13inches away, sweeping motions, and lots of thin coats leave to dry between coats. Practice on a coke bottle or bit of wood first if you cannot spray paint, get it right and it will look good. Get it wrong and you will be disappointed.



**Smoking the main (high) beam**

This bit is a little more tricky and even involves cutting and sticking! The idea is to make the interior of the light

appear black but still allowing the mirror to direct 100% of the light forward toward the road and rabbits. The driving light uses a projector system thus the reflector you have painted black has little effect, but the high beam uses a bulb, concentrated and directed by a mirrored reflector, thus it's reflector cannot be sprayed black. Those of you who have already done so (as you are confused which is high beam and driving lights) can also go down to the scrappies as you have f\*@%ed your main beam and now need a new one! The trick is to fool happy passers by (and non-E30zoners) into seeing a black reflector, this clever trick accomplished by inserting what I call a thingy. The thingy is a black piece of plastic or metal shaped in a 3D cross that sits in your main beam reflector, perpendicular to the angle of the mirror, and splitting the reflector into four quarters (What????). The thingy (well the mirror really) reflects its black colour around the reflector bowl and hey presto it appears black from certain angles! Its extremely hard to explain this shape so look at the pictures to the right.



I could not buy one of these thingies so I made one myself. Sorry no pattern as I stuck it together before I had

chance (mine also modified to accept angel eyes). I experimented with cardboard and scissors until I found the shape of the reflector bowl, I then used a piece of 2mm galvanised steel sheet and cut the shapes out with the tin snips and finished with a high speed cutting drill (a Dremel). It will take a bit of messing around but what to do! Once you are happy with the shape of your thingy glue it together with epoxy glue and leave to set. Then spray it black. Again take your time spraying and the results will pay off. I sprayed my thingies, let them dry, then popped 'em in the oven for an hour at 70-80° and baked them to fully harden the paint.

For those with pre-face lift, non-projector, lights you could probably repeat this process for the driving lights as I think they use a similar bulb and mirrored reflector system. Let me (or others really) know.

### **The final assembly bit**

I really hope you have got this far with your eyes, house in tact, and a lovely black pair of hot thingies. Now stick the driving light reflector back into the holder and secure it with a drop of hot glue. Next take some heat proof silicone (or silicone 'gasket in a tube' good to 600°) and stick your thingy into its final position inside the high beam reflector. I stuck mine at 45° to the road because of my angel eyes, but note that the real things are parallel to the road, try a mock up and play around before sticking it in its final position. A tip is to glue the underneath so it will not be visible from the top where, unless you run people over frequently, no one should see the glue.

Now clean the reflectors (and glass lenses too) and stick the glass lenses back onto their backings using a hot glue gun. Make sure they are the right way up and that the driving light lens is not on the main beam backing. I would suggest several mock ups before final assembly, I couldn't resist mocking it up at each stage to see how wicked they looked! Do the same. I would also clean the halogen bulbs with a tissue and cleaning alcohol as your greasy mitts would have probably touched them, which will cause hot spots and burnt out bulbs.

It is possible to re-use the old glue by simply heating it back up with the heat gun and pushing the lenses back on. Personally I don't like this idea as I am sure it will compromise the weather proofing of the lens, as I live in sunny Bahrain and drive a cab they never get wet, but for the majority of you who are in U.K. this will be an issue. It seems a waste of time to do a good job then skimp on the little things. Most garages will have one so go and ask if you can borrow, if you don't, then expect water inside your lights and blown bulbs in winter.

### **The final touch**

These ideas are optional but I think they make a difference. The metal rings that were around the lights you took off in step one are now probably lost somewhere deep in your dark garage, those rings on mine were scratched and had lost their finish, so I sprayed them black too. These rings will be exposed to the elements so the spray job will have to be better than what you did on your thingies, you will have to prep the ring with something like emery paper so the paint can bond to the metal, prime it in red, then spray them black with at least 5 coats, sanding down imperfections with wet 800-1000 grade sand paper, once dried I baked them in the oven with the thingies, and finally a clear lacquer top coat or two and back in the oven for an hour. Failure to paint these properly will result in stone chips etc, as those who painted their kidneys black with one coat will vouch for!

For those who want to be extra picky I then sprayed the rims of my high beam light black too as it seemed to help a

little. This was an alternative to cros' idea of using black glue to re-stick the lens.



Then I coloured the shield inside the driving light projector unit black too, I painted a piece of galvanised steel and glued it to the shield facing out toward the magnifying glass, rather than try to spray it. It shows a little as you can see from the picture below left is coloured right is not.



**And the final assembly**



That's it!

Now stick the light units all back together in reverse order as Haines would say, and back into your shiny Lachs Silver BMW 335ti, or rusty brown 316, test they work, and get out on the street. Girls will gasp as you drive by, as will most guys, children will point and grannies will turn their backs in disgust at the black gaping holes you have created on the front of your BMW. Enjoy it for the week until you realise that just because you have modified your car it does not necessarily mean compete strangers will notice that it wasn't like that last Friday! You can however be smug to know that you did it yourself, it didn't cost the earth and, if you as an E30 nut like them, chances are so will the others. (Don't like to mention it but those with those funny E34 barges can also do the above as their lights are the same design, but I reckon it is exclusively an E30 fashion.)



Trust me when I say the pictures do them very little justice, real life looks much better, now check them with my angel eyes turned on, they look amazing at night!!

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