

Luke's Cheap n' Nasty DIY Halogen Lights™

You will need-

-The cheapest and nastiest 14.4v rechargeable drill and light set you can find. If you can get the right deal this should supply you with two NiCad batteries and a charger for your light. The set I used was a "DIGITOR" Drill Pack I picked up from Tandy Electronics for \$34.95 AUD.

For your hard earned dollars you get:

- ❑ Two 14.4V rechargeable Nicad Batteries
- ❑ One Mains charger
- ❑ One cheap plastic Drill
- ❑ One cheaper and plasticier torch unit
- ❑ Assorted crappy drills and driving bits



-A pack of Epoxy Putty (\$2-\$10 at most hardware stores)

This is great for making mounts for the lights & sealing everything up. It's strong, insulating, and heat resistant, & really messy to work with!



-Electrical connector brick, the smaller the better (\$1 Tandy Electronics)

-Two ply wire flex of your choice, not too thick though. A soldering iron would be handy as well

-Mini 12v 10watt halogen light (\$3 from Bunnings Hardware)

You can get these from most garden supply or hardware stores; they have a pretty tight lighting angle & are only 20mm across. They are the smallest & lightest halogen I've found on my budget.



What to do-

1. Put the batteries on to charge- yes, go on, do it now! They are cheap so they take bloody ages!
2. Butcher the plastic torch unit, these are crap anyway. Use a hammer if you like- just cause it feels good!! This should supply you a switch to turn your light on and off and a nice little battery clip to connect your flex to the drill batteries.
3. Strip the insulation from two of the connector brick units. Clamp one of the little metal units to each prong of the light. Strip the ends of the flex & clamp into the free ends of the connector units.
4. Mix up a small quantity of epoxy putty and encase the metal connectors and a small length of flex. Make sure you get a good quantity of epoxy between the connector units to prevent any short circuits. Be sure to leave the front

screws free of epoxy so you can change bulbs later. This is the point you can also connect a mounting bracket of your choice. I chose a basic handlebar mount but I have also mounted similar lights to polystyrene plugs that simply wedge into one of the air vents of your helmet. This is a simple and crude way of mounting a helmet light, no ties, no Velcro, no slipping etc Plus it's great if you're a weight weenie! By the time you've finished getting the epoxy putty goop off your hands you should have something vaguely resembling this.



5. Next solder the other ends of the flex to your switch and battery clip. I encased all this in a little epoxy putty as well, just to keep everything out of the way, but not really neat....-



6. Plug in a battery & go have a ride



The finished article:

I have included a plug on the light end of this unit- just cause it was lying around



Only 10w, but plenty of light to burn.

Notes:

Yes I know these aren't the neatest or the best home made lights out there, but read the title! There's plenty of room to play round with them, plugs, switches, battery config etc. So here are some points of interest

- ❑ You get about 45mins of usable light off one battery, depending on bulbs. Lucky you get two in the pack- you know you have to head home when you change batteries!
- ❑ Nicad cluster batteries only reach their full potential power after about 5 recharge cycles. So things should improve a little as they go.
- ❑ If you don't value the use of the drill the batteries are easily reconfigured to fit in a water bottle as they are made up of individual nicads
- ❑ Go for a 14.4v drill over a 12v as it gives you better light from a 12v bulb with only a minor sacrifice in bulb life
- ❑ Don't run your nicads dead flat!! Any nicad battery cluster doesn't like this cause it reverses the current through some of the cells & will rapidly kill your battery
- ❑ I haven't had any overheating issues with the bulb so far & its very close to the plastic on my helmet, I think the airflow helps a lot

Happy trails