

Lighting Up Time

Sam George swaps his original awning light for security and peace of mind...and then fits a second awning light on the caravan
Time Half a day **Time** Difficulty 3/10

YOU WILL NEED Appropriate screwdrivers, W4 mastic tape and silicone mastic, gimlet, electric or hand drill, pilot drill, 6mm drill, 12v DC on/off switch; 12v DC illuminated switch; 12v cable, terminal blocks, 3M scotchloks and Superglue.

COST Ultra PIR (passive infra-red) security awning light, around £35. Ultra switched awning light,

around £12. Allow around £20 for the switches and other items.

TOP TIP Use Superglue that comes with a brush in the container cap.

WARNING This project involves some 12v electrical work. If you have any doubts about your capabilities, seek expert help. Before commencing work, disconnect the caravan's 12 volt electrical system.



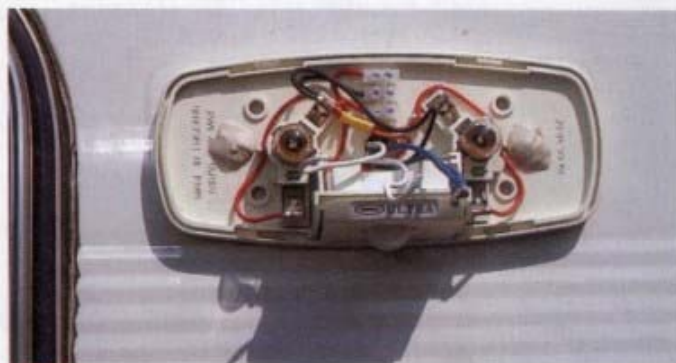
1 The two lights come with gaskets, so it isn't necessary to use mastic to prevent water ingress. I decided to fit an on/off switch to isolate the PIR awning light in the event of the battery's power becoming drained and when charging facilities might not be available. The illuminated switch overrides the PIR when we want the light on permanently. The light reminds us to switch off before going to bed, so we don't wake up to a flat battery!



2 The first job is to remove the original awning light. When doing so, make sure you know which cable(s) are positive and which negative.



3 It's almost certain that you won't be able to use the original screw holes to secure the PIR light. Although the gasket will probably cover them, I believe in a belt and braces approach and so squirted mastic into the holes.



4 Having fitted the new light, apply mastic tape over the screw heads, again as additional protection. The light has a terminal block with three tubes. The upper one is for the power supply to the PIR; the middle one is the return; and the third – lowest – is used for the power supply, which overrides the PIR when you want the light on all the time.



5 First of all, check that there are no obstructions inside the caravan where the switches are to be fitted. Dealing with the illuminated switch first, drill a pilot hole through from the outside; one of the spare fixing holes in the light's backplate is ideal. Open the hole up to 6mm. Inside the caravan, use the template which comes with the switch as the guide for cutting the wallboard and insulation.



6 Use a short length of cable (red) to connect the output terminal of the switch to the input terminal of the neon light. A second cable (black) is connected to the output (return) terminal of the neon light. Lastly, a third cable is connected to the input – live – terminal of the switch. Both cables are then fed through the wall to the outside where the return cable is connected to the middle tube of the awning light's terminal block.



7 The on/off switch should now be fitted adjacent to the illuminated switch. Next, the caravan's 12v positive cable(s) are connected to a length of cable which, in turn, goes to the input terminal of the on/off switch. A second cable then connects the output terminal of the switch to the top tube of the awning light terminal block. To complete the wiring, the input cable to the illuminated switch is connected via a scotchlok to the output cable of the on/off switch.



8 Having made sure that both switches are in the 'off' position, turn on the van's 12v supply. Now switch the on/off switch to 'on'. The PIR instructions state that if you are checking the PIR in daylight, you should be able to see it flashing. When I fitted the light the sun was so bright I wasn't able to carry out this check, so I used a test light to confirm that power was reaching the correct terminal. With both switches 'on', the bulbs should light. They should go out when the illuminated switch is turned off. Finally, squirt mastic into the cable entry holes.



9 Turn off the caravan's 12v supply before commencing work on the services light on the offside. Having selected a suitable position, place the light in position, making sure you will be able to easily reach the switch. Mark the position where you intend drilling the cable hole into the van. Before drilling through however, go inside the caravan and check that there aren't any obstructions, or other problems. In my case the hole was inside a roof locker. As before, drill a pilot hole first and then open it up to 6mm diameter.



10 Having fitted the gasket, screw the light in position and cap the screw heads with mastic tape. You will notice that although the light has a triple terminal block, only the upper and middle tubes are used, the upper one being the supply to the switch and the middle one being the return.



11 Rather than use two separate cables, I opted for a length of 3 amp mains lighting cable because it had a white outer sheath, which I felt would be less obtrusive. Having connected the brown lead to the live terminal on the light and the blue to the return, I fed the cable through the hole into the caravan and routed it to the reading light on the underside of the forward roof locker. I used Superglue to secure the cable in position.



12 Having unscrewed the reading light, I was able to scotchlok the brown cable to the cable feeding the light's on/off switch, and the blue to the return.

13 As with the PIR light, squirt mastic into the cable entry hole before refitting the lens. Now, if you have to get water late at night you'll be able to see what you're doing. Similarly, the light also give you some illumination if you ever have to empty and recharge the cassette toilet in the night! 