

Features

- Small 1.8 mm LEDs - greater ability to fit more cars.
- Shallow profile LEDs for tight fit applications.
- No PC board for easier fit.
- Long lasting "lights on" when deslotted.
- Simple, light assembly.

Tools Required

1. Soldering iron. Low wattage, pencil type recommended.
2. Silicone seal or hot glue.
3. 3/32" and/or 5/64" drill bit – optional depending on application.
4. Pin vice, for use with drill bit – optional depending on application.
5. Black permanent marker or flat black enamel model paint – optional.
6. Needle-nose pliers or bench vise.

Dos & Don'ts

1. Do check your track voltage under load to ensure that you aren't supplying more than 12 Volts dc to the lane.
2. Don't run the car in reverse, or, in other words, don't reverse the polarity to the light kit. The light kit is not designed to handle a reverse polarity situation – that would make them slightly bigger, more complex for me to make, and more expensive for slot racers to buy. If you like to sand your tires by running the car backwards, unplug the light kit before doing so.
3. Don't over-bend the LED lead wires. They will bend in one direction once and then take a bit of adjusting but they will not tolerate repeated back and forth bending.

Instructions

Placement

Begin by figuring out your LED placement in the car. Generally if there are two sets of headlights the normal "low beams" will be the outside pair of lights, unless, historically, the car was set up opposite to this. The use of which set of headlights may also be dictated by the ease of access to them.

Headlights

Decide if you wish to drill through your headlight lenses or if you want to just drill through the body and leave the lenses as is. This will depend on how the lights are configured for your particular car. Usually if there are lens covers you will want to drill through the lenses, and if there are only lenses on the car then you will want to leave them whole and intact.

It is always easiest to drill from the outside to the inside of the body so you do not miss the center of the headlight. If you can't get access to the headlight lens from the outside (because of a light cover) then you will have to figure out some means to locate the center of the lens from the inside. A strong light source shining through the body from the outside can help. Mark the location with a marker.

Depending on your decisions, either remove or leave the lens in place, and begin carefully drilling 5/64" (for 1.8mm LEDs) or 3/32" (for shallow profile LEDs) holes through the body or body and lens. Use a pin vice or just the drill bit itself – don't use a power driver or drill. This way you are forced to be careful and hopefully not ruin your body. Only remove a small amount of plastic at a time. You may wish to practice on an old junked body if you have one lying around.

Tail-lights/Brake Lights

For tail lights (running lights) I like to leave the lens covers whole. Again you will need to decide on your particular vehicle what would be best. In most cases drilling the body works best.

Locate the running and brake lights and carefully drill from the inside removing a small amount of plastic at a time, stopping to check your depth every few revolutions. You don't have to clear a perfect round hole through to the lens, just have enough of a hole for the light to shine through – maybe about 1/16".

If the hole is not deep enough you can file the LEDs down a bit but be careful not to hit the "element" part of the LED or it will ruin it. Dry fit the LEDs in the holes to check for fit.

Bending

At some point you may need to bend the wires behind the LEDs so that the wires are out of the way of anything like wheels, gears or other bodywork. To do this gently clamp the LED in a vice with the wires pointing vertically up. Using the pad of your thumb carefully push the lead wires over until they are at about 90 degrees. Check Figures 6 and 7 to see how the lead wires were bent to create clearance.

Wiring

Test the complete setup by attaching a power supply of 10 to 12 Volts dc to the main wires. The polarity of the positive is identified with a tag. If everything is working fine leave the power attached for about one minute and then disconnect the circuit. The LEDs should remain lit for quite some time. If they immediately go out then the capacitor is malfunctioning. Return the kit for a replacement – see Contact Information on the last page.

BlackOut!

Using a black permanent marker or some flat black enamel model paint, colour the sides and bottom of each LED to prevent light leakage. This step is optional but it is easy to do and will improve the look of your car especially when running under dusk or dark conditions by minimizing the leakage of light from around the LED through the body of the car. That just doesn't happen with real cars so why should it with your slot car?

Mounting

When you are certain that the lights are all working satisfactorily perform one more dry fit in your car. Work at getting the loose wires into convenient places where they will not get caught, bind on any moving parts and generally stay out of the way.

For clearance around tires it will be necessary to bend the wires as close to the LEDs as possible. Hold the LED by the wire leads just under the base using a pair of needle nose pliers and gently bend the LED over to about 90 degrees. Test fit the LED and bend the wires so that they lay as close to the body as possible without getting in the way of anything. See Figure 7.

Place the LED into its' proper place and squirt a dab of silicone into the area between the wires and the body as close to the LED as possible without getting the LED covered in silicone. By ensuring that the silicone is worked in and around the two wires the silicone will act as an insulator to prevent the wires from short-circuiting. You can use hot glue instead of silicone.

If you have used silicone let the whole assembly dry overnight before you run the car.

The Car



Figure 4a. Headlights aglow! Through-holes used.

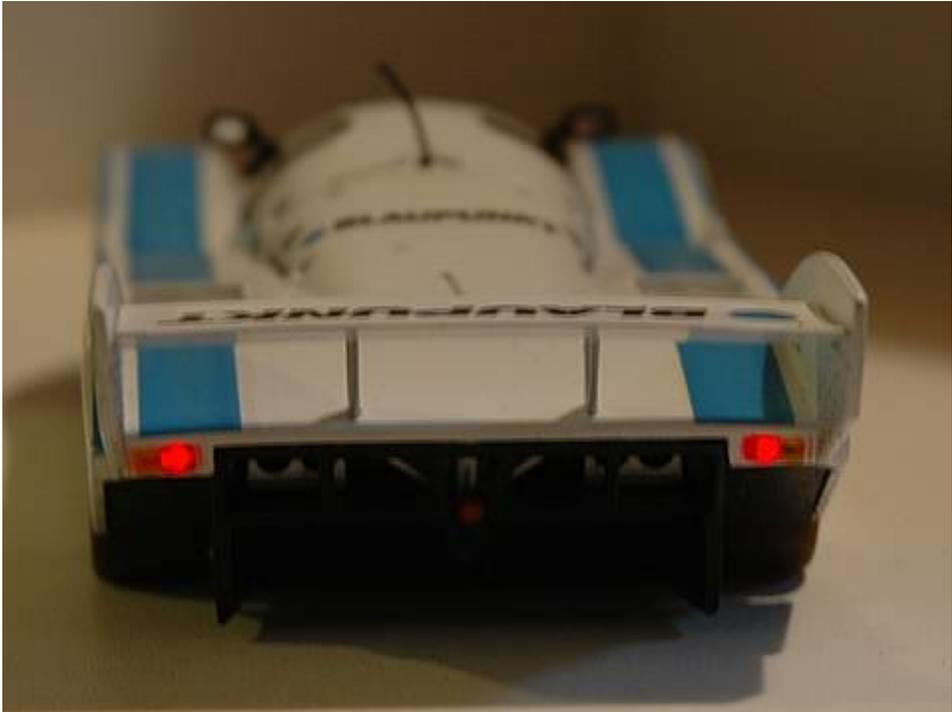


Figure 4b. Tail lights aglow. Only small "divot" holes used on the inside.

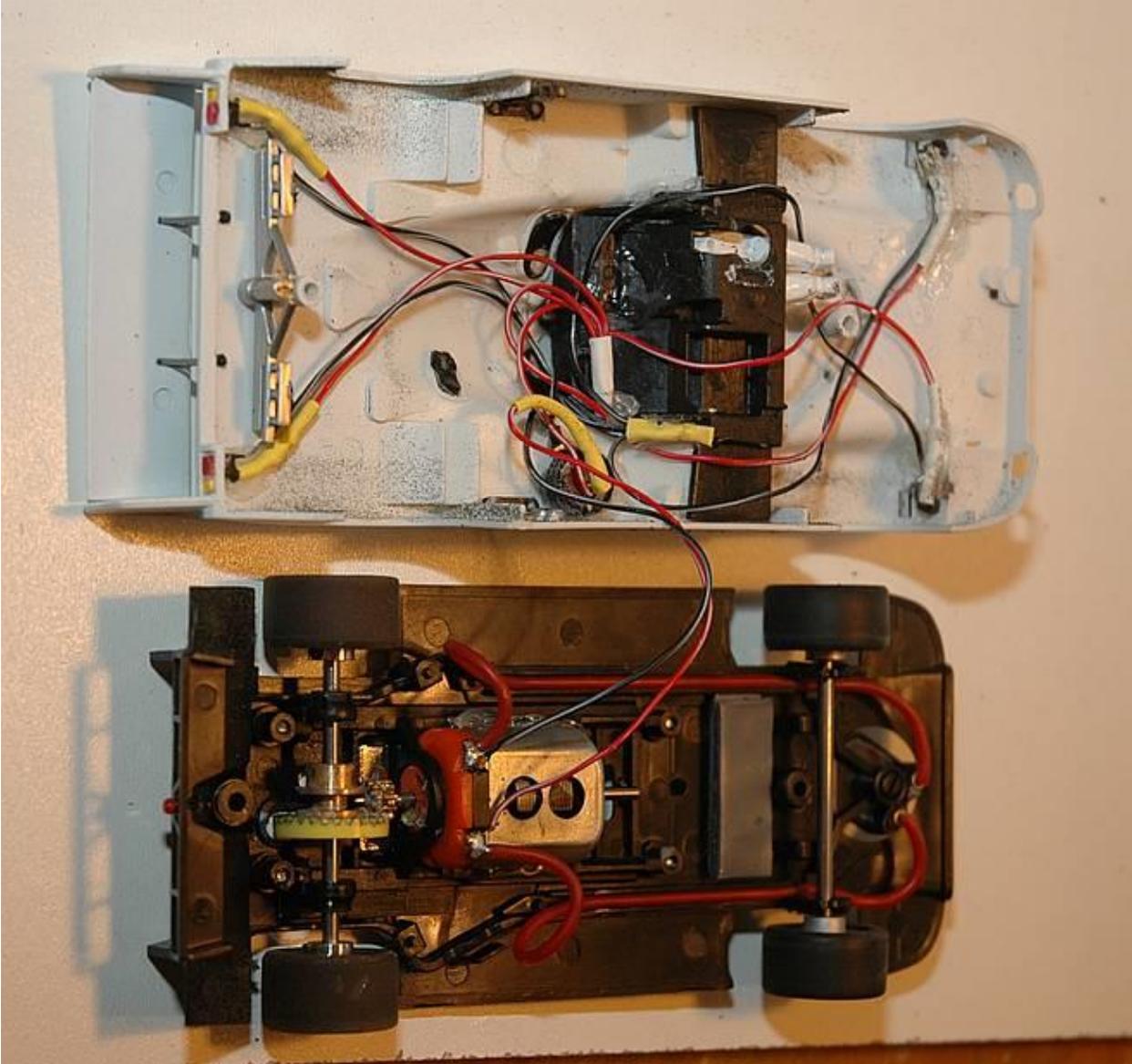


Figure 5. Under the hood. Complete assembly.

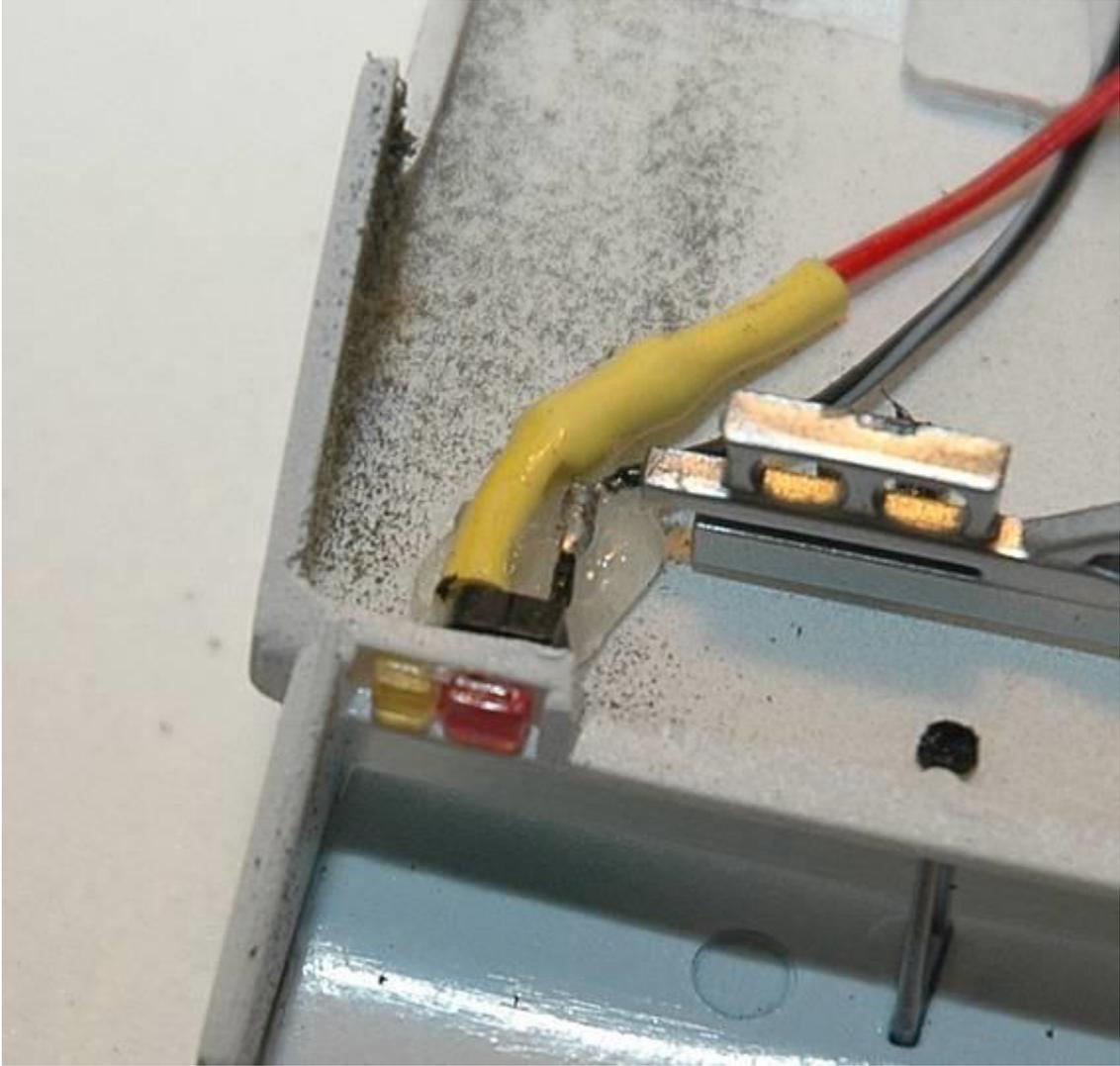


Figure 6. Tail light detail, complete with tire dust.



Figure 7. Headlight detail.

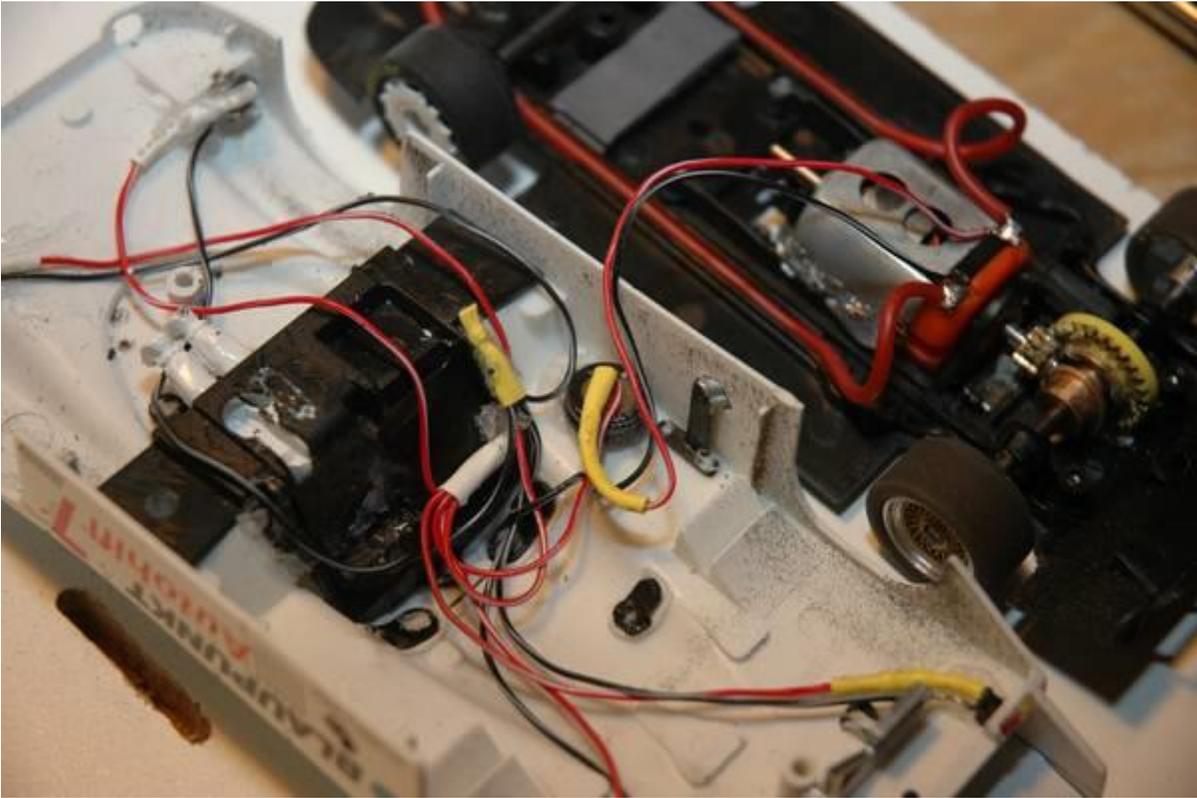


Figure 8. Detail showing capacitor and wire ends held in place with silicone.

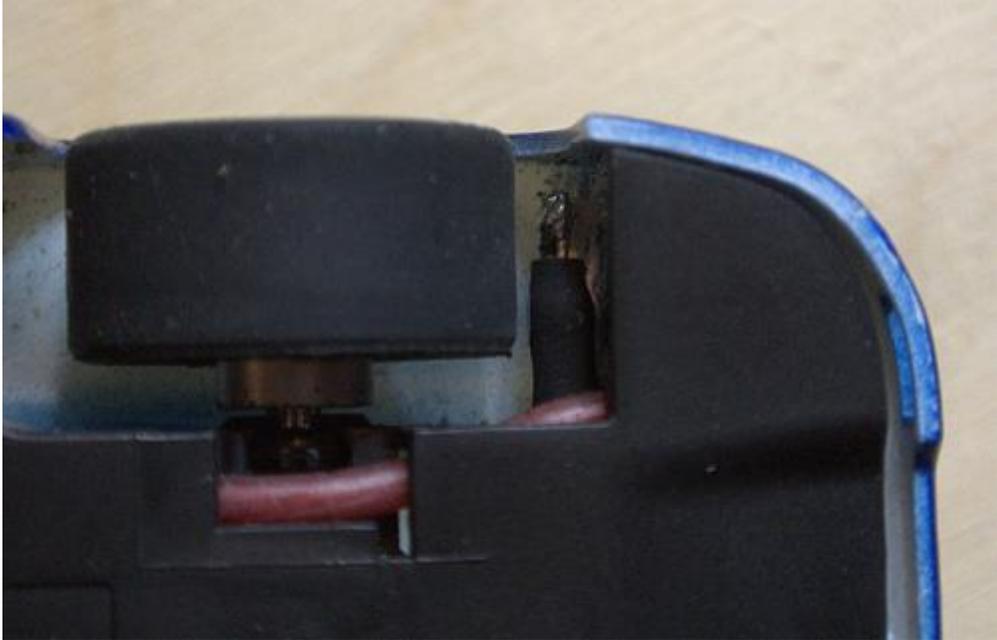


Figure 9. Shallow profile headlight LED mounted in Slot.it Porsche 962 IMSA.



Figure 10. Shallow profile headlight LED mounted in Slot.it Porsche 962 IMSA.

Contact Information

Please contact peteslightkits@gmail.com for any questions and product support.

Revision History

- V 1.4 Added verbiage and figures regarding shallow profile LEDs. Added Dos & Don'ts section.
- V 1.3 Revised for retail release; added contact information, removed assembly references.
- V 1.2 Added section on bending wires (for clearance) without damaging LEDs.
- V 1.1 Review, minor updates.
- V 1.0 Initial version for assembled kits.