



## Be Safe - Be Seen

Adrian Whiteman, April 2019

In today's motoring world I notice that an arm signal for 'right turn' or 'stop' is often cheerily replied to with a friendly wave. Today's average motorist has most likely never seen hand signals before, and probably can't locate the relevant page in the Road Code either. That becomes a worry when you are actually making that right turn!

One should move with the reality of the times I guess – at least as far as indicators go.

Herein lies a conflict as I like my cars to be as 'original' as I can get them while installing easy to see 'blinkers'. This means I do not like the large unsightly 'modern' appendages passed off as aftermarket indicator lights and switches that many 'classic car' parts suppliers cheerfully purvey. While I like to be seen I don't like to 'see' either, if you follow.

Here is how I approached the challenge for my 1924 Cowley.

### Some notes before starting:

When choosing indicator lights (or lamps as our UK members may know them) it is important to select a light with 'E' and 'DOT' approvals. This is marked (moulded) on the lights in many cases. These automotive standards for the EU and the US are often looked for at MoT time, and in any case, the more compliant you are the better I think.

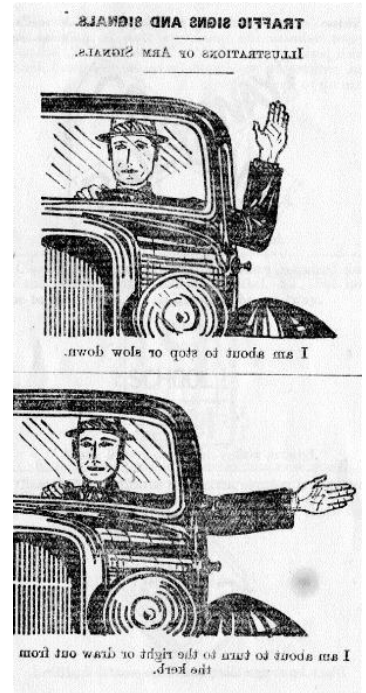
I chose 12 volt LED lights as they are bright and durable, plus they draw little current, so they don't need heavy duty wiring. I chose the smallest size feasible (too small and they can't be seen while too large detracts from the car.)

When deciding where to position the lights it pays to check your local vehicle regulations. Minimum distances from the ground, from the front/rear and from the sides may be specified. National standards are not all the same.

Whatever lights you select and wherever you position them, remember that the purpose is for OTHER road users to SEE clearly and easily.

### Components:

Lights: My lights were sourced from that very useful Chinese website "Aliexpress", mainly because they had a great choice, great prices and free shipping to New Zealand. While I like to buy local wherever possible, the lamp choice and massive price difference drew me off to China this time. My lights have a 'smoked' finish which helps the appearance not to be too obvious.



*The indicator lights neatly installed under the headlight buckets.*

**Wiring:** I used a 24V dual core garden light wire for the lights. This is more than capable of handling the 12V low amperage LEDs while being discreet and easily run in tight spaces (more about that later). A heavier duty cable is used for the power and earth wires to the terminal block (see diagram). This is important as I intend to install an electric horn and accessories that will have a greater amperage draw than the LED lights.

**'Flasher':** I chose a generic 12V flasher unit, however, you must choose a 'LED' compatible unit or your LED indicators won't flash! (It is possible to use a standard flasher unit if you add a resistor in the wiring, but this struck me as 'too many parts', hence my choice of a compatible unit).

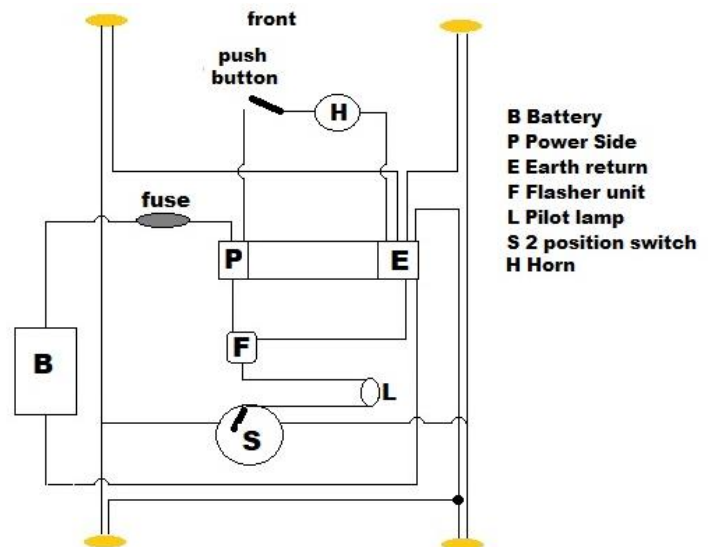


**Switch:** Choice is fairly much up to you. Selection should be governed by where you intend to mount the switch (clearance and appearance) as well as how you wish to use it. My choice is a 240V 'on-off-on' unit more commonly used in electrical switch board installations. The fact that it is 240V while my system is 12V poses no issues – it will never be overloaded!

**Pilot light:** A very important part of the system! Mainly because I like to be reminded that I need to turn the indicator off when I have turned! I chose a generic LED orange lamp that would fit under the dash and be bright but not obvious when not in use. Green is another popular colour to use.

**Fuse Holder:** I installed my indicators on a new separate power circuit that does not interface with the car's standard electrics. As such, I like to have a separate fuse in the circuit – just in case. This approach avoids disturbing the old wiring and switches, and most importantly in the case of the Cowley, it means I didn't have to try and fit things in behind the dash board.

**Wiring diagram:** A very important part of the installation! My schematic shows the main connections. It will look different in the car ☺. The actual diagram you use may be dependent on the flasher unit type you select. The supplier should provide a simple installation diagram, if not in the box, then on their website.



### Driver Comfort:

I wanted the switch to be in easy reach without stretching, comfortable to use and importantly to keep the 'visuals' of the dash as original as possible. My decision was to mount the switch on the floor! I also had to locate the terminal block somewhere (for all four light wires, power feed, pilot light, the switch, the fuse and the flasher unit).



My solution is a box made of oak mounted just in front of the driver's seat against the right side of the body. This box also has room for my electric horn button, fitting everything in one place and it clears the foot boards so they can be removed when required with no problem. The switch and button can be easily reached with my right hand.

The pilot light was fitted to a metal bracket hanging just below the dash board next to the steering column. It is clearly visible when driving, but not obvious to a casual observer.

A major (for me) benefit is that the dashboard is left 100% original and I avoided unsightly wires and appendages dangling off the steering column too.

### Indicator Lights Installation:

Front: Metal brackets were fabricated to hold the LED lamps just under each headlight bucket. These are fitted to one bucket bolt while the wire tails were run through the hole in the bottom of the bucket into the bucket shell (after being sealed in a length of heat shrink tube first). The 'tails to wire' wire joint is easily accessed in the bucket if required. The dual core wire was run from the new switch box to each lamp bucket under the aluminium side plates then under and up the headlamp stanchions – just as for the headlamp wire.

Rear: Brackets were fabricated from 3/4 inch square tube. These were fixed to a spring hanger bolt then reach backwards to be clearly seen past the rear mud guards. On my first attempt the length was too short so that the lights could only be seen from dead behind – not good I am sure you will agree! The tails were joined to the wiring which was led through the square tubes, then back under the body to the switch box, neatly clipped to the driver side chassis rail. This is where the dual wire came into its own threading about discreetly.

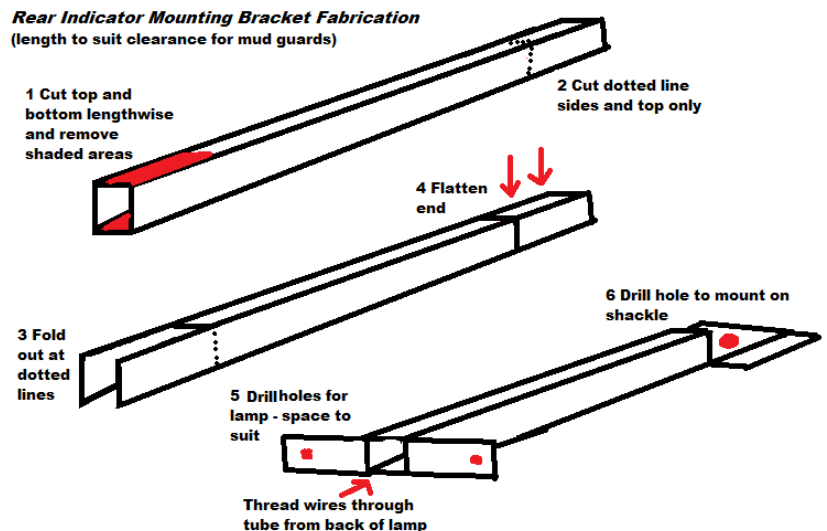
All brackets were painted gloss black to match the mud guards/ chassis. The result is clearly seen (when going) but still discreet.

### The Fuse

A 10 amp fuse was installed in a generic holder on the power side of the terminal block. This wire leads directly from the battery. As a note, I also ran the earth wire from all lights back to the terminal block and then ran a dedicated earth wire to the battery, ensuring that there would be no faulty earth connections in the system. The power wire from the battery through the fuse to the terminal block and the earth wire from the terminal block back to the other side of the battery use heavier gauge wire to cope with the potential amperage draw of the horn and other accessories that may appear from time to time 😊.



**Rear Indicator Mounting Bracket Fabrication**  
(length to suit clearance for mud guards)



## The Result

I am very pleased with the result: it is discreet, it did not require any modification to the dash and is easy to use. It is easy to reach both the horn button and the indicator switch without stretching. Also, the position of the indicator switch can be easily felt without needing to look: if it is straight ahead it is off, if it is 'left or right' then it is on – 'left' or 'right'! Most importantly the indicator lights can be clearly seen by the feared 'OTHERS' on the road ;-)

What would I do differently? Perhaps I would make the switch box a little larger. While all components fit inside, a little more room would not go amiss.

Does it work? Well let me see: yes – no – yes – no - yes ... ☺