## **Bristol LED / Incandescent Flasher Combination**

After the conversation about flashers and LED's and positive earth for the Bristol 400, this is my recommendation as it works easily.

- If you are going to use a separate LED lamp(s) for front flashers (as I have done) make certain that the case of the lamp is plastic, as we don't want the case to form an earth. Most modern LED lamps have a plastic body in any case, and the ones I used had a chromed plastic surround. With such a lamp, it will then have twin wires from it, one positive which must be wired to earth, and one negative which must be wired to the appropriate turn indicator switch terminal.
- The lamps I chose are truck side lamps which direct high intensity light in almost 180 degree arc and also about 5 degrees up and down from horizontal which suits the arrangements of the 400 below bumper irons admirably. The light direction is excellent and two such lamps cover 180 degrees readily giving other motorists ample and unequivocal notice of your intentions.
- LED lamps are polarised and it is imperative that the positive lead receives positive voltage and negative lead negative, otherwise it will be cactus.
- The Flasher Can to operate a combination of LED lamp(s) and incandescent lamps (say 21W tail lamp globe) needs to be one which operates mainly for the 21W globe not an electronic one made just for the LEDs, but the one made for 21W globes, then it will do both the LED and the 21W.
- It should be noted that the older mechanical type flasher Can such as the original Lucas Can would work with the combination of lamp types.
- Do not choose a solely electronic Flasher Can as it will not work with a combination of LEDs and incandescent, but a semi mechanical Can such as the Tridon HD13. This Can will work on either positive earth or negative earth systems.
- Connections From the HD13 Flasher Can are as follows for positive earth systems: Terminal X to the negative battery terminal, Terminal L to the direction indicator switch (which will distribute negative battery to either left or right lamps).

- The Tridon HD13 Can makes quite a noticeable tick with each flash and it is recommended that a tridon flasher base be attached to the cabin side of the firewall. A convenient location would be directly behind the speedo where it would be readily accessible (through the speedo aperture if it needs to be serviced, and relatively close to the direction indicator switch.
- Because the truck side lamps Narva 93302C (<a href="http://www.narva.com.au/products/browse/model-33-2">http://www.narva.com.au/products/browse/model-33-2</a>) have excellent spread of light over an arc, I have mounted mine by rivetting a pair of flat steel brackets (12 x 3) onto the outside bumper irons so that the top of the lamp is partially behind the bottom of the bumper, but reveals the lower part of the lamp which gives a more than adequate signal in daylight, and night.

Please ask for any clarification, if required. Let me have any comments, also can provide photos if needed.

Philip Leahy

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