

# TRACTION L 15 DOOR OPEN WARNING LIGHT

by Peter Stringer

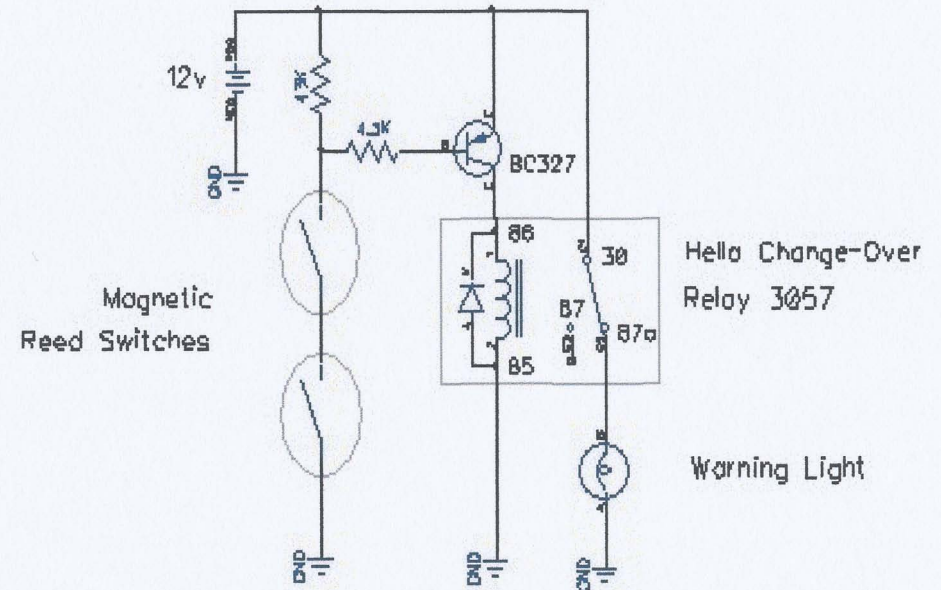
About a year ago I had what you might call an alarming moment when due to my inattention I failed to close the front passenger door properly on my traction. I had just got my speed up to about 70-80 kph when a large truck passed me in the opposite lane, the air vortex when it hit me caused the passenger to fling open. I got the fright of my life and for a moment had visions of a mangled door hanging off the body of the car. I hit the brakes which then had the fortunate consequence of swinging the door closed so at least I knew I still had a functioning door albeit with a slightly damaged door stopper and a small crease on the door skin caused by the door stopper arm as it was over extended. Not wanting to have this episode repeated in the future I decided I had to design some sort of warning system to let me know that all the doors were closed properly.

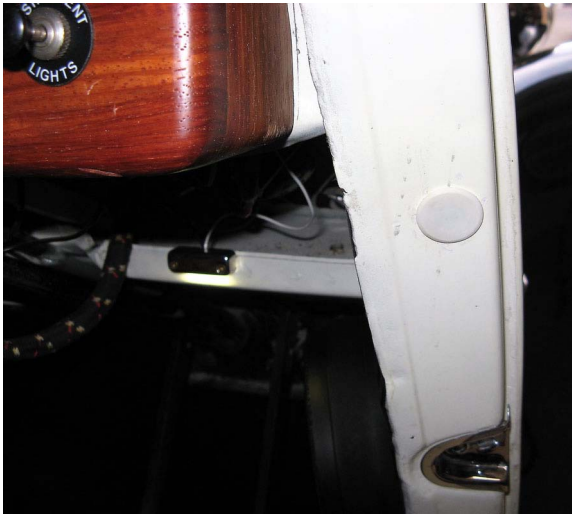


So this is what I decided to do. I would fit a switch to each door and connect them all in series to a Change over relay which would power a warning light such that the light is on while the relay is not activated. To activate the relay all the door switches must be closed which is when the light goes out. Simple enough I thought so off to find the parts to do the job. For the warning light I chose Red, and the relay was a Hella change over relay 3057. For the door switches I decided to use magnetic Reed switches which could be mounted on the latch side of the door frames rather than a mechanical push switch. This was because I wanted something that was not too noticeable and in a position where I could get the most sensitive response between a door closed partially on the first latch tooth and a door closed fully on the second latch tooth. The reed switches I sourced from Jaycar, see photo .

The circuit was so basic I thought not much could go wrong so I installed the relay and switches, applied the power (red light on) closed all the doors, red light off, good, opened a door, red light still off, not good. Hmm, a close look at the reed switches showed hot melt glue oozing out, not supposed to happen. It turned out I had fused all the reed switches as the current drain to work the relay was too high for them. What to do! I needed a lower current draining switch to power the relay. A Google search produced a simple transistorised circuit that consisted of two resistors and one transistor for a cost of about 70cents. See circuit diagram. After a few wrong connections I finally got circuit working and installed, I even got one boot handle in the switch line. Success at last the red light goes out when all the doors are closed and on when any one is opened just one latch. The system was road tested over a distance of approximately 3000 Klms during Oztraction this year and has worked well.

## Door open Warning Light Circuit





Peter Stringer