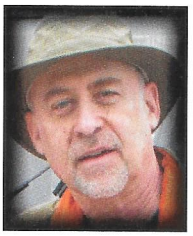
TECH AND TOOLBOX

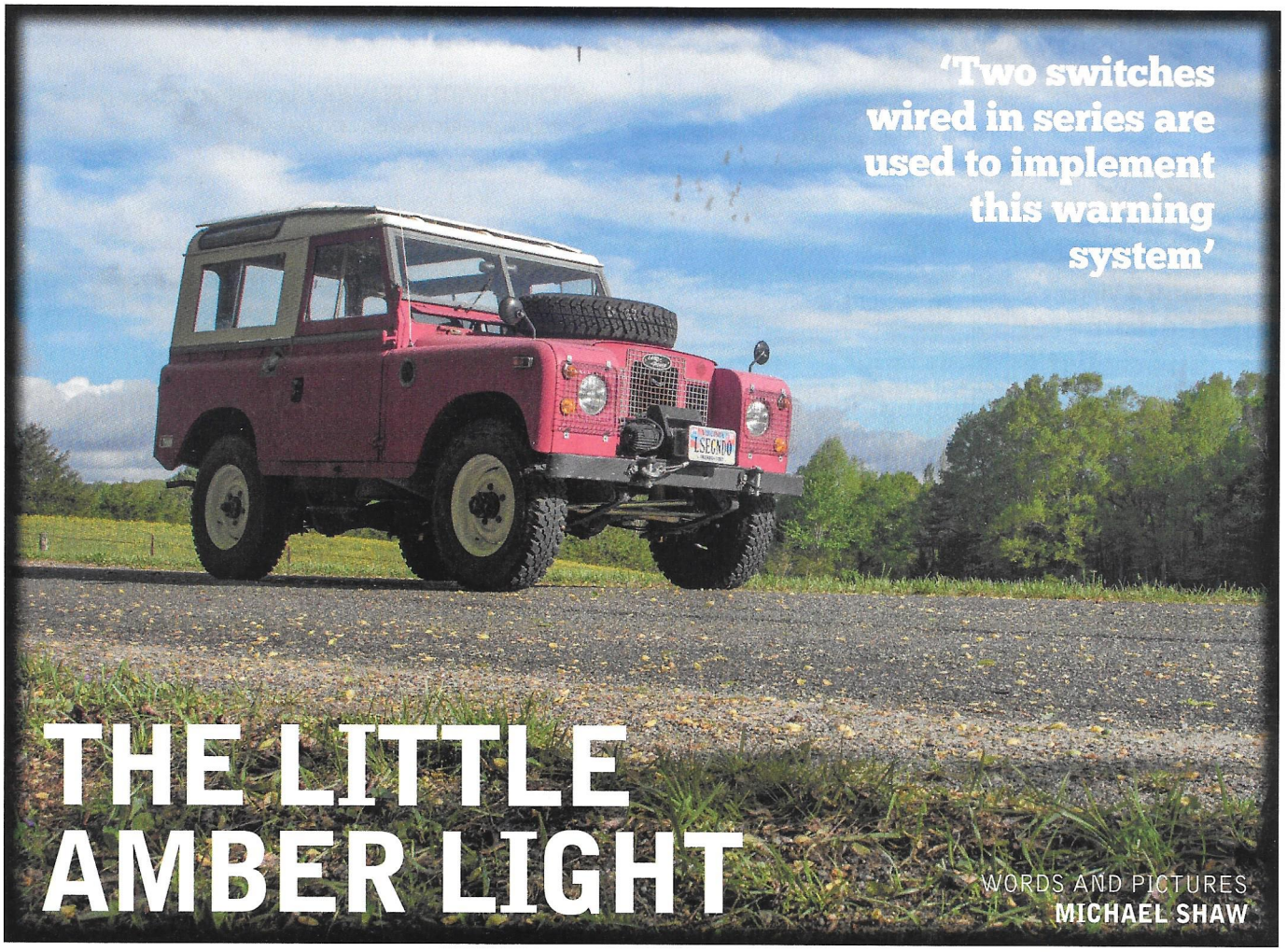
DIFFICULTY RATING:

TIME ALLOWED: N/A

COST: N/A



SERIES IIA PROJECT



'Two switches wired in series are used to implement this warning system'

THE LITTLE AMBER LIGHT

WORDS AND PICTURES
MICHAEL SHAW

Michael Shaw fits a new choke warning light to his Series IIA

These mild temperatures, I have trouble starting my Series IIA Land Rover, probably due to the usual reasons - a cold battery, or perhaps the thick viscosity of my summer oil.

So I start Elsa every day with a morning warm-up because if I miss a day, the truck might not start at all. It was during this routine that I noticed my amber cold start warning light never came on, even with the engine hot and the choke cable pulled out.

The amber light should be off until the engine warms up, at which point the light illuminates. Also called the choke warning light, it tells you that the engine is warm and you must push the choke cable back in to turn off the light.

If you inadvertently leave the choke cable pulled out too long, you will run the mixture too rich. The engine will run hot and this might result in fouled spark plugs and valve damage. You can test the light by pulling out the choke cable while the engine is warmed up. The amber light should come on.

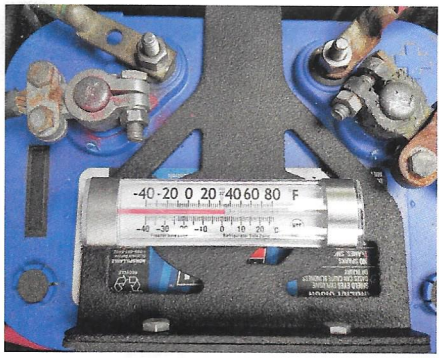
Two switches wired in series are used to implement this warning system. The first switch, called an otter switch, is in the engine block and has a thermal sensor which turns on the amber light when the engine warms up. The second switch is on the choke cable itself and turns the amber light off when the cable knob is pushed back in.

To diagnose my amber light always being off, I opened the metal dash and followed blue-white wire from the bulb. It ran straight to the cable switch which was connected, surprisingly, to the heater cable.

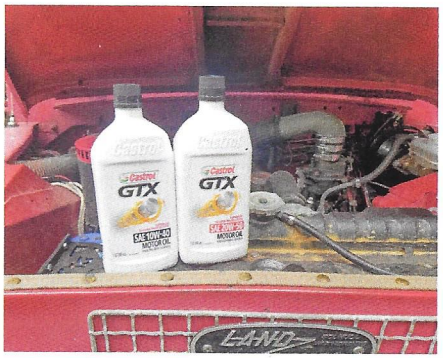
That explained why my light never worked. I tried to move the switch to my choke cable, but my plain cable is not designed to accommodate a switch. I'll have to attach this cable switch to the correct choke cable (599336) which I ordered from John Craddock in the UK.

Next, I ran a test lead from the bulb directly to the otter switch and as soon as the engine warmed up, the amber light came on as it should. This allowed a temporary fix, so I added a manual switch to the dashboard. Wired in series with the otter switch, it reminds me to push in the choke cable. I simply flip this switch on when pulling out the choke cable at tick-over. When the amber light illuminates, I push in the choke cable and flip off the switch.

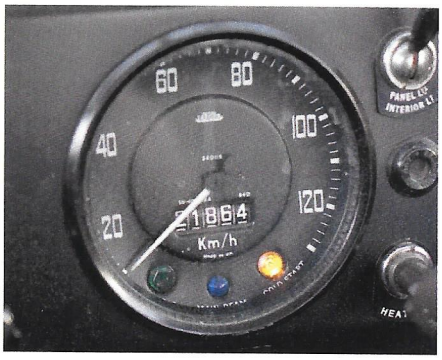
The installation of my new choke cable and attachment of the cable switch will be covered in another article, but in the meantime, my temporary switch on the dash will get me through another winter of cold starts.



1. A cold battery can result in difficulty in starting



2. Winter oil 10-40 (left) and summer oil 20-50 (right). Using more viscous summer oil in the winter can slow engine tick over

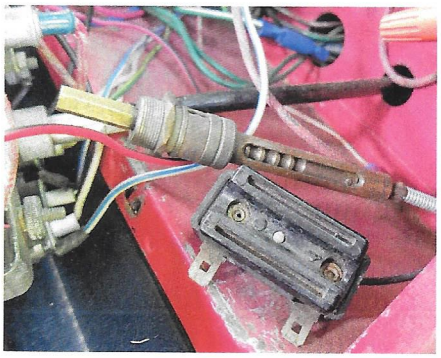


3. Amber cold start warning light always on, even when choke cable is pushed in

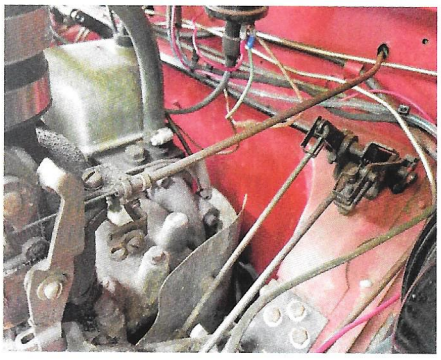
4. The cold start 'otter switch' in the front end of the engine block is easily identified because of its triangular shape (503587 or 545010)

5. A new otter switch and gasket (not used in this repair). The switch remains off until the engine is warmed up

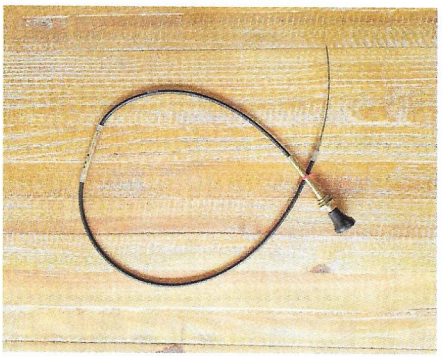
6. White wire from ignition switch powers the cold start warning light. The blue-white wire runs to the choke warning switch on the cable



7. Cable switch disconnected from the heater cable. Note the ridged section to activate the white button in the centre of the switch



8. My choke cable is a simple smooth style which goes directly to the carb with no capability to activate a switch



9. Correct choke cable from John Craddock has a special section (L) to trigger the switch on or off.

10. White button in the centre of the switch (R) fits in the corresponding hole in the cable mid-section (L)

11. Both marked COLD START, temporary choke warning switch installed on the dash. The switch serves as a substitute for a proper cable switch

12. Choke cable pulled out and manual choke light switch down in the ON position. When amber light illuminates, the switch will be turned off and cable pushed in