TALES OF WIPER MOTORS AND PERIOD SWITCHES.

Some of you may have wanted to use period looking pull on / push off switches on you NG dashboards but have been unable to find a suitable switch that would turn the wipers on, but also make the wiper motor park circuit live to return them to the original starting position. After some experimentation, I came up with the electrical circuit as shown in Fig. 1 to make a single position switch activate the wipers and then park them in the correct position.

It uses a simple pull on / push off switch and a good quality headlamp change over (dip / full beam) relay as shown to activate the wipers and return them to the park position when not in use. This activated the first wiper motor speed which was satisfactory on most occasions when driving, the second speed was not used in this arrangement. However, I could not see any reason that the second speed could not be used if the correct two position switch was used.

Some time later, I was looking through my box of assorted vehicle electrical items searching for three switches to make a voltage regulation set for my electro plating kit, when I happened to pick up and inspect several Lucas heater motor switches of the two speed pull / pull / push off type. This made me wonder if I could restore correct operation to the wiper motor circuit and park without the need for a relay in the circuit? I also found my original MGB wiper motor switch. Turning the various switches over I was surprised to find that the cases and terminals were identical. Did this mean that the internal components are the same irrespective of the operating toggle? Carefully stripping both types of switch down, I found that the internal contacts were exactly the same in each switch. Although they were used for different purposes, the switch tops could be transposed to provide the pull /pull / push switch required to operate the TA wipers correctly. Using my spare MGB wiper motor, a test circuit was made up with the correct Lucas colour coded cable and plug onto the motor. A temporary 15 amp fuse was employed in this test circuit. Before connecting to a 12 volt battery, the converted switch was tested with an AVO meter which indicated that it would require connecting up as indicated in Fig 2 rather than as given in the wiring diagram provided by the Haynes workshop manual. I always use the 1970 - 73 diagram to work from. (Incidentally, this is the circuit diagram that the NG SVA wiring loom is based upon with extra circuits added as required). Once tested, the circuit was found to work as intended and transferred to the car the following day after the wiper motor was serviced for good measure. The wiper system now works as Mr. BMC intended with two speeds and park, but operated by a pull /pull / push switch.

Note: I am sure other Lucas light or wiper switches from 1950's to 1960's could be converted, but I only worked with those mentioned above. For example some of these older switches are pull / turn / pull / push.

<u>Some hints and tips for electrical projects and adding extra circuits if required to your NG.</u>

Refer to the MGB wiring diagram within the Haynes manual and use correct Lucas colour code cable when changing or adding a new circuit.

Consider how the routing through the car is going to be achieved. KISS (Keep it simple stupid)

If possible make up and test the circuit or loom on the bench before final fitting.

Use the correct crimping tool for the connectors or use soldered connections.

Insulate connectors and any joints with heat shrink tubing.

Always fit a fuse before testing the circuit, it saves burnt fingers!

In areas such as behind the dashboard or fuse box, assemble the loom with cable ties rather than tape as this will allow you to make changes if required at a later date and fault finding easier.

Ensure that the loom or other electrical components will not rub or chaff other components, chassis or body.

A particular consideration for vehicles with glass fibre bodies:

Always make sure that you have adequate earth returns on a car with a glass fibre body. Use good electrical earth points to the chassis and loom that will not corrode or loosen. Failure to provide adequate earths may cause the electrical system to take the line of least resistance, this may be the choke cable. Not good!

I had this happen a short distance from home on the way to the National Rally one year when the terminal on the main earth cable to the engine broke. The choke cable became so hot that it it smoked. Fortunately, I was able to pull off the road and kill the electrics with the battery isolation switch and make a temporary repair with which to drive home. A permanent repair was made with new terminals and cable which saw me heading back to the Rally within the hour!

Always use a battery isolation switch which is accessible to the driver, but do not use it to turn off the car when running.

By following these simple rules, you will build out problems in the future.

Writing this short piece reminds me of my first car. The designers only provided one fuse for the whole car and that was for the direction indicator circuit. This was not particularly desirable, but it did make fault finding very easy, you just switched on and waited to see where the loom let the smoke out!

Thanks go to our hard working editor, Jeff Stretch for making a better job of the wiring diagrams than I did!

Dave Woolgar - Christmas 1994.

FIG. 1

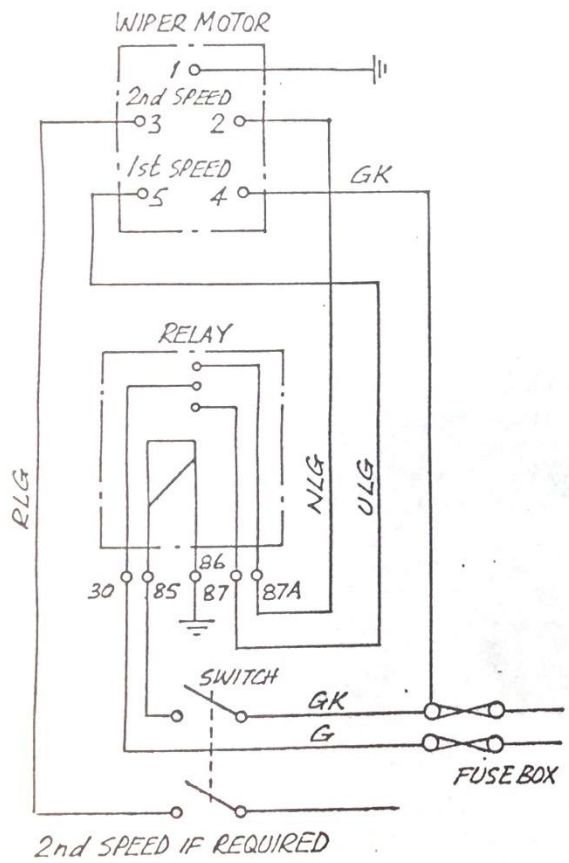

FIG. 2