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FITTING HEADLAMP RELAYS

Some time ago a member said to me how hard is it to fit relays to my MG lights? It's not that hard to do, so lets see if I can tell you how do this job on your MGB/GT.

The current consumed by headlamps makes them one of the highest consumption loads in the car, and vulnerable to high voltage drop that can cause very significant reduction in brightness. To minimize voltage loss, almost every modern car uses relays to switch the headlamps and avoid the need to route their full current through the lighting switches. MGBs can benefit from adding headlamp relays, too. Not only will the lamps be significantly brighter, but the lighting switch life will be greatly extended. This modification is especially recommended when halogen headlamps are fitted as, not only will it derive maximum benefit from their use, but since most manufacturers supply them at 60/55W power rating, as against the original lamp rating of 50/40W, the current drawn from the two headlamps rises by 20% and heating in the switches by 44%. On the MGB tested lamp brightness loss due to voltage drop decreased from 38% to 9% by simply adding relays. By using both relays and halogen headlamps, brightness more than doubled compared to the conventional system.

INSTALLING THE RELAYS

1. A new power feed must be provided for the power-in line to both relays. This is best taken from where Brown wires are connected to the starter solenoid because it both provides a very good low loss supply and has minimal effect on any other system *(we do not start our MGs with the lights on)****. It is recommended that the power feeds be individually fused at 10amps as the power line will be live at all times. Use 14AWG (205mm²) wire or larger.***

2. Both the Blue/Red dip beam and Blue/White full beam wires must be cut at a convenient position where it is intended to put the relays Ry1 & Ry2. A good position is close to the bonnet stay fixing and above the wiring harness from which the Blue/White & Blue/Red wires lives. In order to be able to pull through sufficient length of wire that can be worded with and cut, terminated and connected to the relays, it may be more convenient to put them closer to the front of the MG where the harness can be more easily unwrapped and more free length of wire is available.

3. In operation, the dip switch, which is supplied from the lighting switch, provides power to the coils via terminal 86, the earth return being terminal 85. Once energized, the relays switch power to either the full or dip beam headlamp filaments by taking power in to terminal 30 and switching it to terminal 87. Again, these two connections can be reversed if convenient.
Test your lights, Job done.