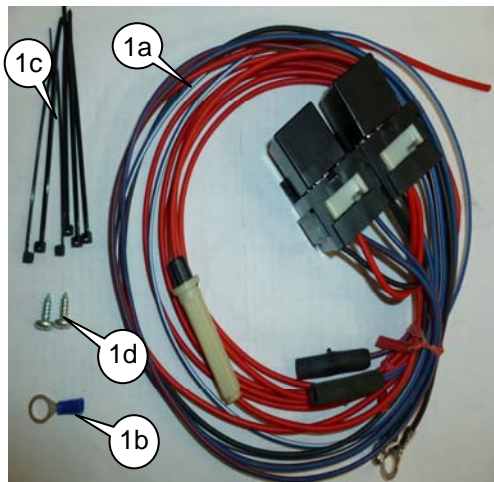


1 **Supplemental Information & Instructions**
2 **for**
3 **117-515 Relay & Wiring Kit, Headlights**
4 **Suitable for All British Cars, Especially Beneficial for**
5 **Vehicles with Halogen or other High-Output Headlights**

6 **Contents of Kit**



Does your headlight switch get hot ?
Are your headlights **as bright as they could be ?**

This kit

- Adds a fuse to the headlamp wiring
- Reduces switch temperature by up to 44%
- Reduce the loss of headlamp brightness due to voltage drop from 38% to 9%.*

* Rick Astley, *MGB Electrical Systems*

Ref	Part#	Description	Qty
1a	117-516	Relays with wires, Raw	1
1b	772-852	Ring Terminal, 5/16"	1
1c	051-016	Cable tie, 4"	6
1d	323-705	Screw, 10 x 1/2	2

23 **Why do I need a relay kit?**

24 *The headlights in our cars are wired directly, meaning all the electric current powering the lights goes*
25 *through the lighting switch and a relatively long run of wiring. This is significant because the headlights*
26 *make up one of the highest loads in the entire electrical system. The voltage drop through the wires and*
27 *switch is significant, and the headlights are not as bright as they could be as a result. Modern cars use*
28 *relays in the headlight circuit to minimize the voltage drop. Any British car can benefit from adding*
29 *headlamp relays. The headlights will be significantly brighter, and the useful life of the lighting switch will*
30 *be extended considerably. Relays are especially beneficial (and strongly recommended) if you have fitted*
31 *halogen headlamps, which typically have a 60W high beam and a 55W low beam. This is a significant*
32 *increase over the stock sealed beams that are generally 50W high beam and 40W low beam. According*
33 *to Rick Astley, author of MGB Electrical Systems, after fitting halogen headlights, "the current drawn from*
34 *the two headlamps rises by 20% and heating in the switches by 44%. On the MGB tested, lamp*
35 *brightness loss due to voltage drop decreased from 38% to 9% by simply adding relays. By using both*
36 *relays and halogen headlamps brightness more than doubled over the conventional system."*

37 **You will need the following tools**

- 38 -Wire cutters
39 -Drill and screwdriver
40 -Socket set
41 -Connector Crimping tool
42

43 **This is a universal kit - there are many ways to install the relays and**
44 **run the wires. Our instructions outline one way to do the installation.**

45 **Instructions**

47 1. DISCONNECT THE BATTERY BEFORE WORKING
49 ON THE ELECTRICAL SYSTEM

51
53
55 2. Choose the location to install the relays in the engine
57 compartment near the headlight harness, making sure
59 the relays can be installed from that location. It is also
61 wise to confirm that there is enough wire to reach the
63 existing headlight wiring harness.

65
67
69
71 3. Remove the actual relays from the assembly. Use the
73 plastic relay holder as a guide to mark the hole locations.

74
75
76
77 4. Drill the holes and use the included screws to fasten the
78 relay holders into place. Once they are secure, reinstall the
79 relays.

80
81
82
83 5. Now it is time to hook up the wiring. The ground wire can be
84 soldered or attached to an existing ground cable using the
85 supplied ring terminal (most cars have a grounded bolt on the
86 top side of the steering rack, see Fig 2).

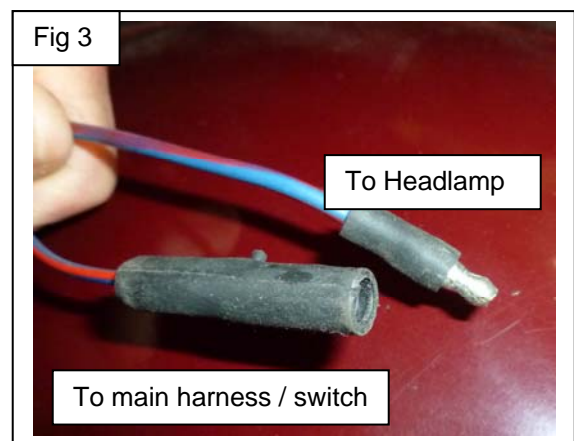
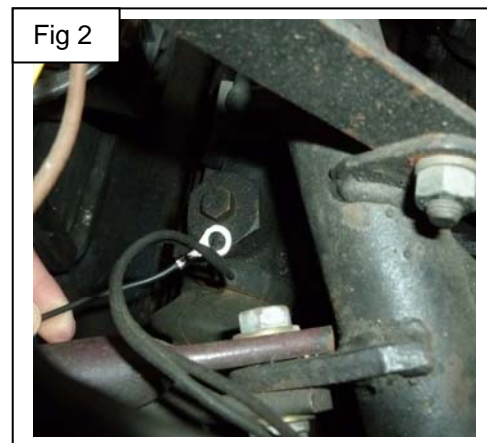
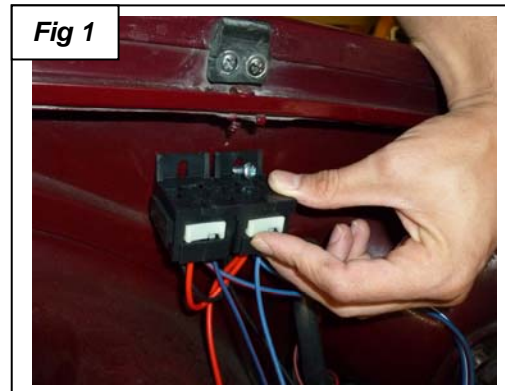
87
88
89
90
91 6. The blue/white and blue/red wires are connected to the
92 regular wiring harness. The wire from the light switch (on the
93 main harness) connects to the wire with female bullet
94 adaptor. The wire from the headlamps connects to the wire
95 with the male bullet connector which is the larger wire.

96
97 Note: The factory wire going to the low beams and the factory
98 wire going to the high beams each split so they can feed both
99 sides of the car. You need to connect the leads (with the male
100 bullet connectors from the relays) upstream from the split.
101 Otherwise, only one side of the car will light.

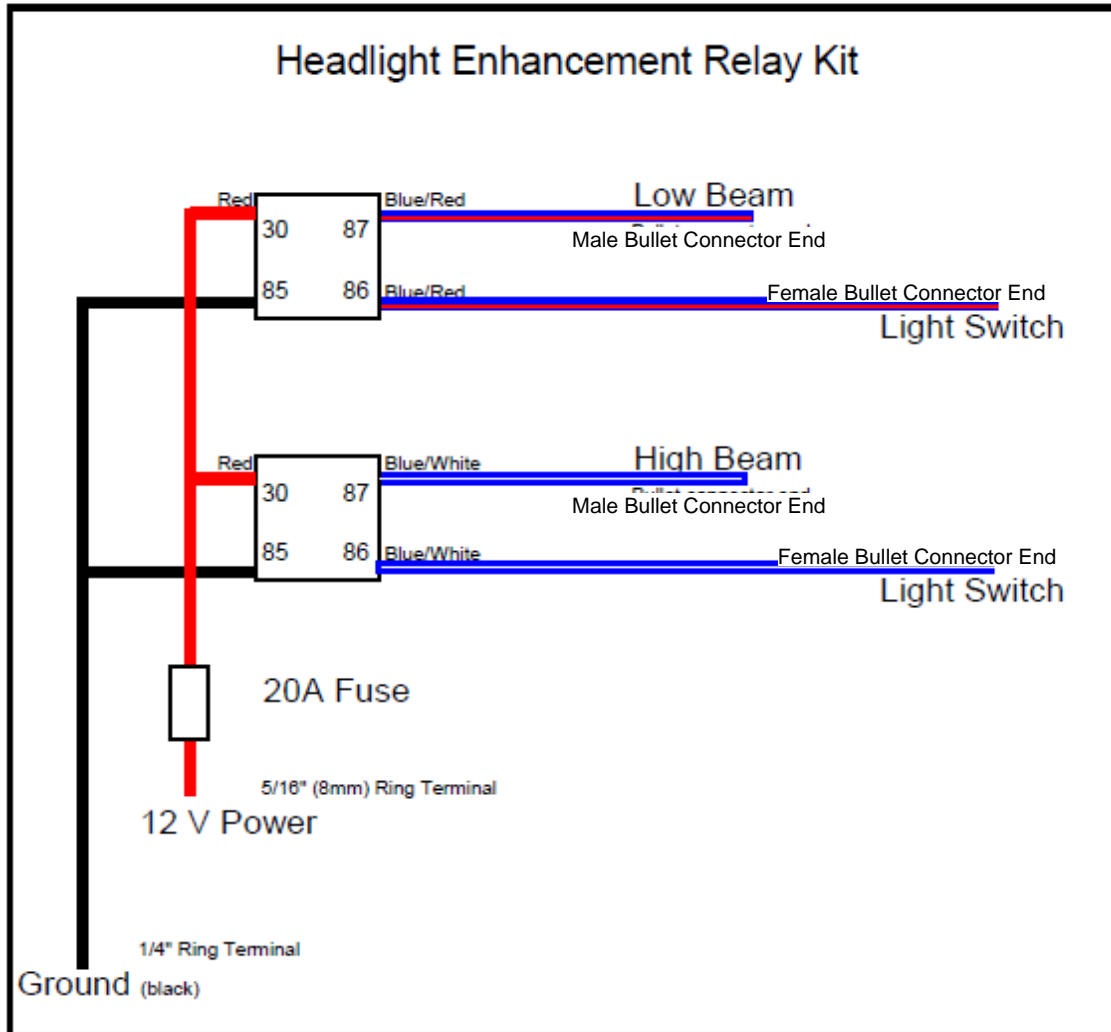
102
103 7. The long red wire is for the power to the headlamps. We
104 suggest wiring this to the starter solenoid using the supplied
105 ring terminal. This will provide direct battery power to the
106 headlamps when they are turned on. When you have found your power source, cut the wire to length and
107 crimp or solder on the appropriate connector.

108
109 8. Confirm that all your connections are secure and sealed. There should be no exposed connectors.

110
111 9. Re-connect the battery and test the headlamps. There will be a small click from the activating relay
112 when you switch on the lights. If everything works correctly, proceed to the next step.
113



- 114 10. Clean up the wiring using the supplied cable ties or electrical tape.
115
116 11. Get out and enjoy your British Sports Car without worrying about staying out until dark- enjoy your
117 newfound freedom from the Prince of Darkness!
118



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123
124

Although every effort has been made to ensure the accuracy and clarity of this information, any suggestions that you may have that will improve the information (especially detailed installation notes) are welcome. Please use the simple email form on the **“Contact Us”** page on the Moss website: <http://www.mossmotors.com/AboutMoss/ContactUs.aspx> If you prefer, you may call our Technical Services Department at 805-681-3411. So many people call us for help that we are often not able to answer the calls as fast as we'd like, and you may be asked to leave a message. We apologize in advance for the inconvenience. We will get back to you within 2 business days.



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