

14 COURTESY LIGHTS

COURTESY LIGHT CONFIGURATIONS

Starting with the TR6, Triumph TRs begin to appear with what are known as “courtesy” lights. For the ‘69 model, these lights consisted of a trunk light, a glove box light, and a transmission tunnel mounted interior light, as shown in **figure 1**, top right.

For the ‘70- ‘71 models, a light was added to the ignition switch, to help you find the keyhole in the dark, along with a buzzer to remind you to take your key with you when you leave the car. See **figure 2**, bottom right, for details.

For the ‘72 model, a seat belt warning system was installed, which included a dash mounted warning light. Through the use of a diode, the ignition key warning buzzer also served as an audible warning that the belts weren’t properly fastened. This function is discussed in chapter 24, Seat Belt Interlocks. Otherwise, the courtesy lights for this year is identical to the previous years, as shown in **figure 2**, bottom right.

For the ‘73 model, the tunnel light was replaced with a footwell mounted light, attached to the underside of the dash where it would shine into the passenger footwell. The remainder of the circuit, including the seat belt portion, remained much the same as for the ‘72 model. See **figure 3**, next page, for details.

The ‘74 - ‘76 courtesy lights remained the same as the ‘73, except for the ignition warning buzzer. The seat belt circuit was extensively revised, and the seat belt buzzer served double duty as the ignition key warning buzzer. See **figure 4** for details of the courtesy lights, and chapter 24 for the seat belt circuit.

SWITCHES

With the exception of the ignition key lamp (and the buzzer) on the ‘70 - ‘72 models, all of the courtesy lights are ground switched, that is, power is applied at all times, but the connection to ground is turned on and off to operate the lights. With the exception of the manual switches for the transmission tunnel or the footwell lights, all of the switches are of the momentary type. The tunnel or footwell light switches are SPST, maintained switches. The driver’s door switch on the ‘70 - ‘76 models is a DPST switch, with two normally closed contact sets (one for the courtesy lights and one for the seat belt system), while the ignition key switch is a normally open type. The remainder of the switches are SPST, normally closed. See chapter 9, Switches, Relays, and Solenoids for more

information about these switch types.

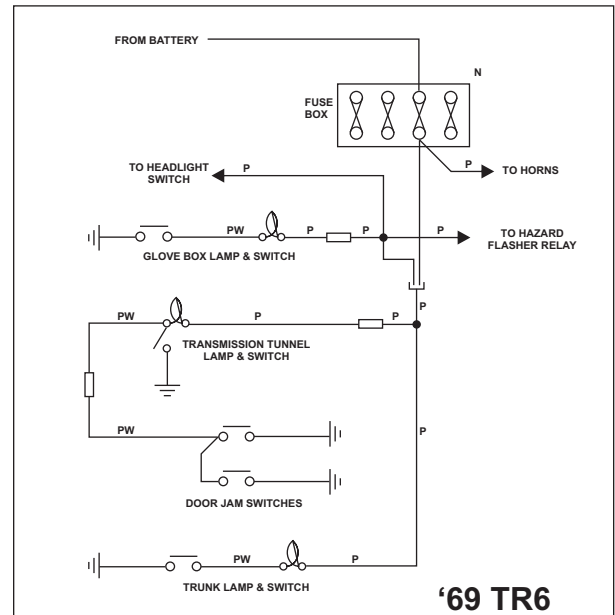


FIGURE 1

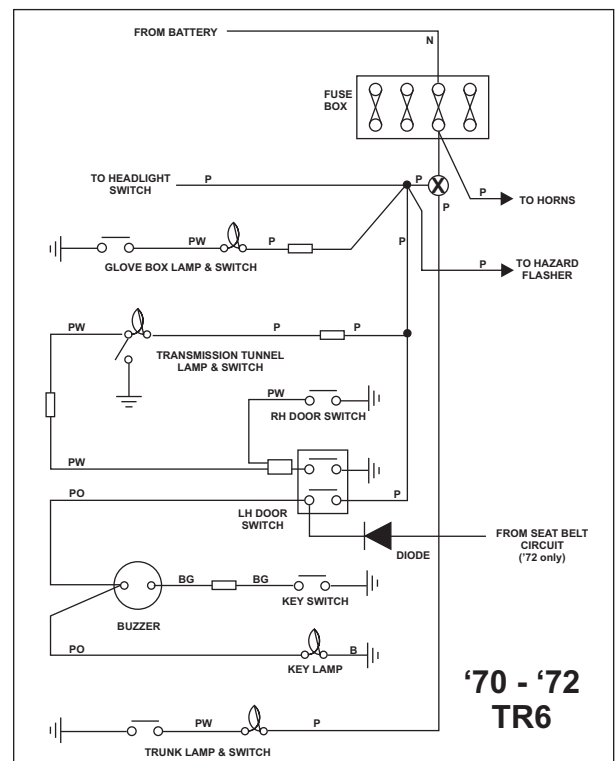


FIGURE 2

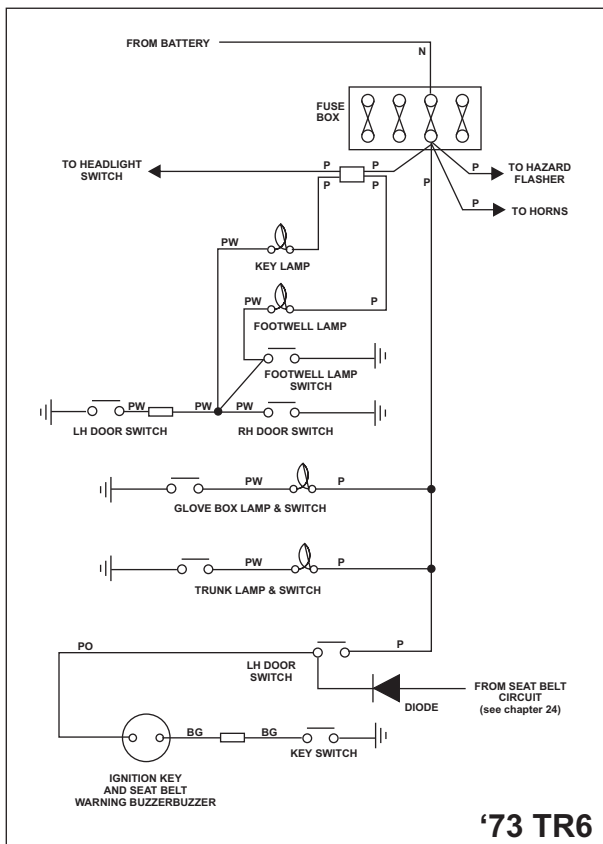


FIGURE 3

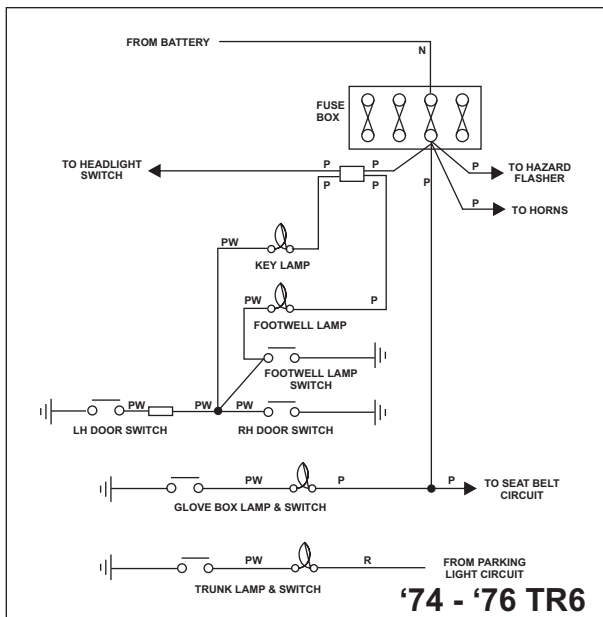


FIGURE 4

CIRCUIT OPERATION

'69 TR6: As might be expected, this earliest TR6 is the simplest. All of the lamps receive power from the "purple" fuse, which is hot all the time. When either door

is opened, the spring loaded momentary switch mounted in the door jam closes, grounding the tunnel light, which is then illuminated. A similar arrangement exists for the glove box door and the trunk lid. The glove box switch is mounted in the upper right hand side of the box, and the switch for the trunk light is mounted on the support bracket for the gas tank, operated by the RH trunk lid hinge. The trunk switch can be seen by looking into the hinge slot cut out of the fiber board at the back of the trunk. The transmission tunnel light also has a slide switch to allow manual operation of the light with the doors closed.

'70 -'71: For these model years Triumph added an ignition switch light, ignition key warning buzzer, and a key operated switch, as shown in **figure 2**, previous page. When the key is inserted into the ignition lock, one side of the buzzer is grounded. Unlike all the other courtesy lights, the ignition lock illumination light is always grounded. Neither the ignition light nor the buzzer receive power until the driver's door is opened. When the driver's door is opened, the DPST switch contacts close. One side of the switch operates the transmission tunnel lamp just as in the '69 model, while the other side switches power from the "purple" fuse to the buzzer and the ignition light. The key light, being grounded, will now light. The buzzer will also sound if the ignition key is inserted into the ignition lock.

The ignition light/buzzer circuit is a nifty little design. As long as you hold the driver's door open, the ignition lock will be lighted to help you find the keyhole, and if you open the driver's door with the key still in the lock, the buzzer will sound to remind you to remove it.

'72: The courtesy light setup remained the same for '70 - '71, but a seat belt warning system was added, which utilized the same ignition key buzzer (and key light) for the seat belt warning. If the seat belt interlock system is not satisfied, power is fed from that system to one side of the driver's door switch, powering the buzzer and the key light just the same as if the door were open. However, as only one side of the door switch is used to switch power, the other side being a ground side switch, only the buzzer and the key light operate. The transmission tunnel light will not be operated by the seat belt interlock system. For more details on the seat belt interlock system, refer to chapter 24.

'73: this model year retained the seat belt interface of the previous years, but the courtesy light circuit was changed to be the almost same as the '74 - '76 models (the trunk light circuit remained the same as before). Refer to the sections above for the seat belt interface, and the section below for the remainder of the courtesy light operation.

'74 - '76: interestingly, with two minor exceptions and the replacement of the transmission tunnel light and switch with the a footwell light and dash support mounted switch, the courtesy light circuits for these years revert

back to the same operation as the '69 - '71 models. One of the exceptions is the trunk light. The operation and switch location is the same, but the power source is now from the parking light circuit, fed from the "red" fuse. The trunk light will now only operate if you have the headlight switch on, either in the park position or the full headlights-on position. The other exception is the operation of the ignition key light. Unlike the previous models, the key light now comes on any time the footwell light is on. Both lights are on if either door is open or the switch is operated. This manual switch is a pull on - push off, maintained switch, and is mounted on the center dash support.

TROUBLESHOOTING

A) All except key light and buzzer,

With the exception of the trunk light on the '74 - '76 models, the courtesy lights get their power from the "purple" fuse, which also supplies power to the headlight "flash to pass" switch, the hazard flasher, and the horns. If *ANY* of these other items work, you have power to the "purple" fuse. If *NONE* of these items work, then you need to refer to the chapter 23, Power Distribution, and resolve the power issue before proceeding. If you have power, then you can proceed with the troubleshooting steps. Likewise, the trunk light ('74 - '76) gets its power from the "red" fuse, which also feeds the parking lights, marker lights, license plate lights, and the gauge illumination lamps. If *NONE* of these items work, refer to chapter 16, Headlights, before proceeding.

Step 1). The most common problem by far with these lights are the momentary switches (see typical example in **photos 1** and **2**, right). These switches do not have the wiping action of most other switches, so the contacts are not self cleaning, and can develop a thin film of corrosion over time. Therefore, it follows that this should be the first place to look for problems. With the exception of the key light and buzzer in the '70 - '73 models, all lights are grounded to operate, and the grounding wires are all purple/white. Using a short test lead with an alligator clip on one end, fasten the alligator clip to a good ground and touch the other end of the test lead to the purple/white wire at the switch. If the light works when you do this, the switch is either bad or not making a good ground connection to the body. I don't recommend removing the purple/white wires from the switch for testing, as they may be damaged in the process. Over time, with corrosion buildup, the bullet connectors on these wires have become one with the switch sockets, and can be quite difficult to remove. Only after you've determined that the switch is bad should you remove the wires, and you may have to replace the bullet connectors after you do.

Step 2). If grounding the purple/white wires doesn't cause the light to operate, then you will need to test for voltage on the purple (or red) wire feeding the light, measured with a voltmeter or test lamp at the light socket

connection. If you have 12 volts here, the bulb or the bulb socket is bad. Proceed to step 3. If you don't have voltage here, there is a break or a bad connection in the purple (or red) wires somewhere, and will need to be fixed. Using your test lamp, follow the purple (red) wire from the bulb socket back to the fuse, until you reach the point where you do have voltage. Use the diagrams on the previous page as a guide for your voltage tests. When you reach the point where you have voltage at one place, but not the next, you know your break is at that point. Refer to chapter 3, Bad Grounds and Connections, for more information on tracing wiring.

Step 3). Remove the bulb and test it, using your test leads. If the bulb is OK, then you need to repair the socket. Often, there is a lot of corrosion, usually on the contact pad in the bottom of the socket connected to the purple wire, which will need to be cleaned. A pencil eraser works well for the contact pad, while steel wool is a good choice if there is corrosion on the sides of the socket.

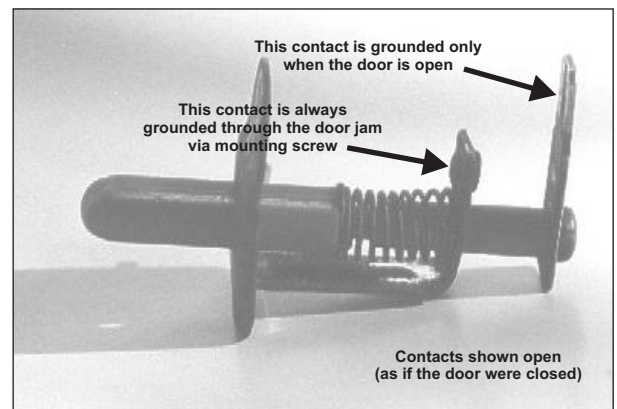


PHOTO 1

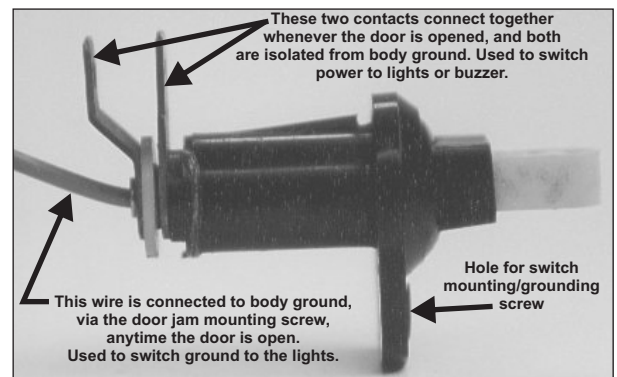


PHOTO 2

B) Key light and buzzer.

Unlike the other courtesy lights, the key light has its power switched, rather than ground. The warning buzzer is even odder yet, in that it has both the power and ground switched. These differences call for a slightly different approach to trouble shooting.

Step 1). What are the symptoms (with the driver's door open, of course)?

- i) The key light works, but not the buzzer? Go to step 2.
- ii) The buzzer works but not the light? Go to step 3.
- iii) Neither one works? Go to step 4

Step 2). If the key light works, then you know you have power through the door switch to the buzzer and the light, so there is no need to check for that. Find the black/green wire from the ignition key wiring, and locate the bullet connector in this wire. Using your test lead with the alligator clip, connect the alligator clip to a good ground and touch the other end to the black/green wire at the connector. If the buzzer now works, you have a bad switch or ground connection in the switch, or the black/green wire connection to the switch is bad. If not, the buzzer is probably bad. Remove the buzzer from the car, and, using test leads, connect the buzzer directly to the battery or a power supply/battery charger. If the buzzer still doesn't buzz, it is defective and should be replaced.

Step 3). As before, if the buzzer works, you know you have power to the buzzer, and should also have power to the light. Using your voltmeter or test lamp, check for power on the purple/orange wire at the key light. If you have power here, go to step 6. If not, there is a break in the P/O wire from the buzzer, or the P/O wire to the light is not making a good connection to the terminal on the buzzer. Replace or repair as needed.

Step 4). If neither item works, the most likely problem is a bad door switch. Using your voltmeter or test lamp, check for power on both the purple and the purple/orange wire at the door switch.

If you don't have power on the purple wire, there is a break or bad connection in the purple wire from the fuse. Repair or replace as needed.

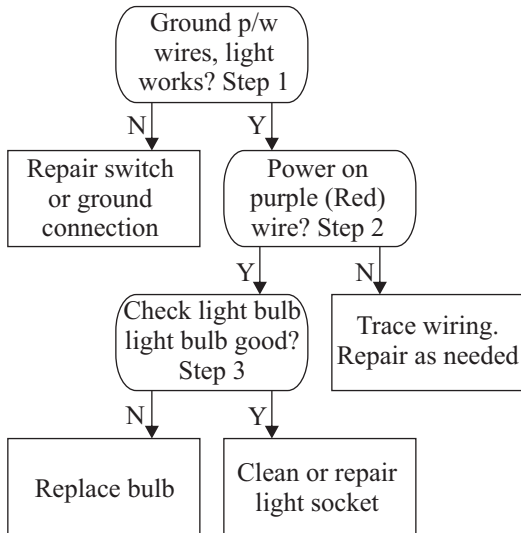
If you have power on the purple wire, but not on the P/O, the switch is bad and needed to be replaced or repaired.

If you have power on both wires, the purple and the P/O, move your meter or test lead to the buzzer terminal with the P/O wires on it and check for voltage there. If there is no voltage, repair or replace the P/O wiring. If you do have voltage, then you really had two problems to begin with, problems 1 and 2 above. Follow the procedures for both of these problems.

Step 6). Remove the bulb and test it, using your test leads. If the bulb is OK, then you need to repair the socket. Often, there is a lot of corrosion, usually on the contact pad in the bottom of the socket connected to the purple wire, which will need to be cleaned. A pencil eraser works well for the contact pad, while steel wool is a good choice if there is corrosion on the sides of the socket.

TROUBLESHOOTING FLOW DIAGRAMS

ALL, EXCEPT KEY LIGHT AND BUZZER



KEY LIGHT AND BUZZER

