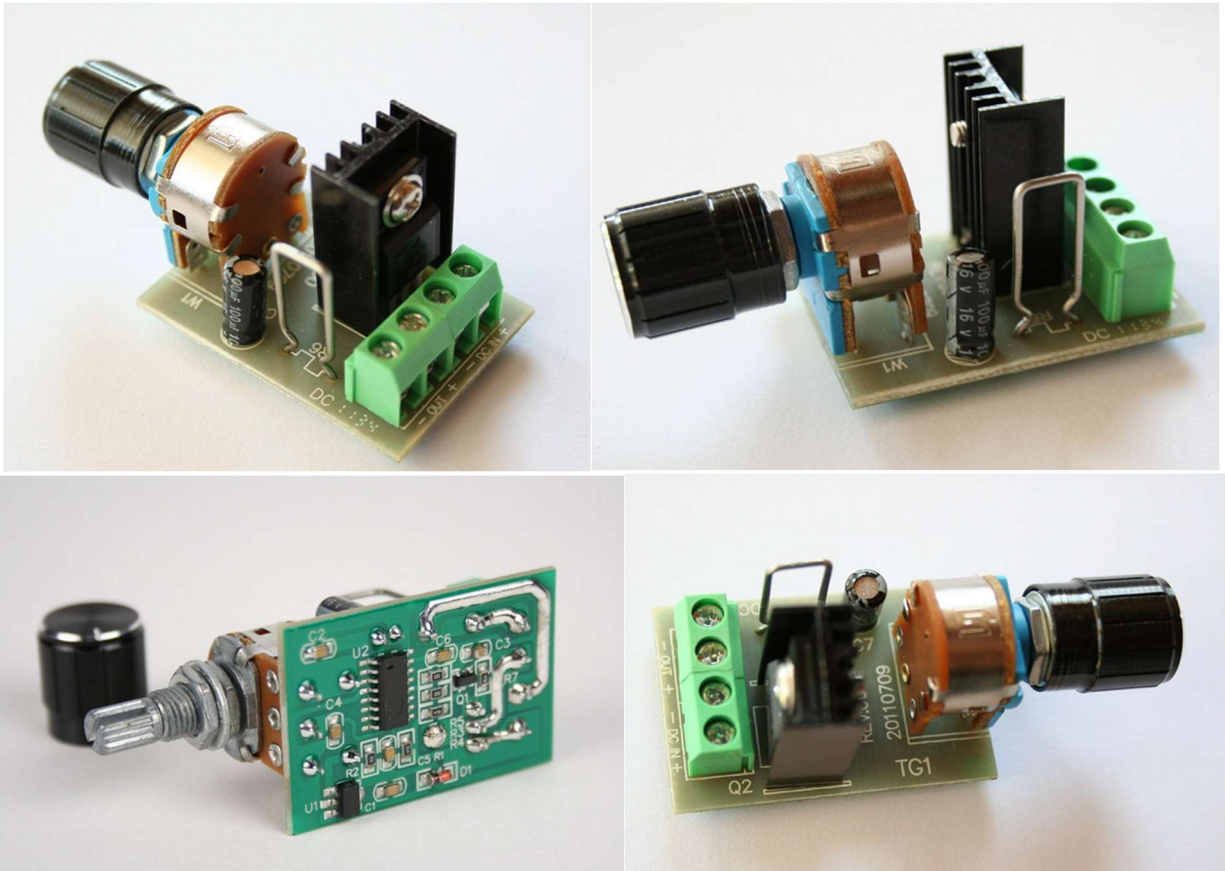


LED Instrument lights upgrade, 1973 Datsun 240Z

By Larry Danner, original owner of a 1973 Datsun 240Z.

Wanting “better” instrument lighting, I opted to convert to LEDs using the set advertised by the fine folks at [Datsun Garage](#); however, when I asked about dimming I was informed that “they are not dimmable”. Well, at least not with the stock rheostat that is.

Some research on the Internet (there are times when I do appreciate Google ...), I discovered a device called a “Pulse Wave Modulation Dimmer” that is designed specifically to dim 12V LED lights. Although there are several versions available from various sources, I opted for the one sold by PILOTLIGHTS (<https://www.pilotlights.net/>), and the module that is available is the “12VDimmer01-7A”.



Clearly, this is NOT a “Plug and Play” conversion. Having a fairly long history of electronic / electrical endeavors (I built a Heathkit “shortwave” receiver – telling my age here – at 15) and, after reviewing the Factory Service Manual (paper copy I purchased from the dealer in 1974), I put some thought in to how to incorporate the device into the wiring harness.

NOTE: Access to make this modification is by way of removing the radio and HVAC control panel (which involves disconnecting the HVAC air box control cables from the actuation points on the airbox; there are 2 on the driver side and 2 on the passenger side for my 1973 240Z; I can’t speak to a 260Z or 280Z and am totally clueless on later Z Cars – even though I have owned an 86 300ZX and my wife drives a 92 300ZX ...).

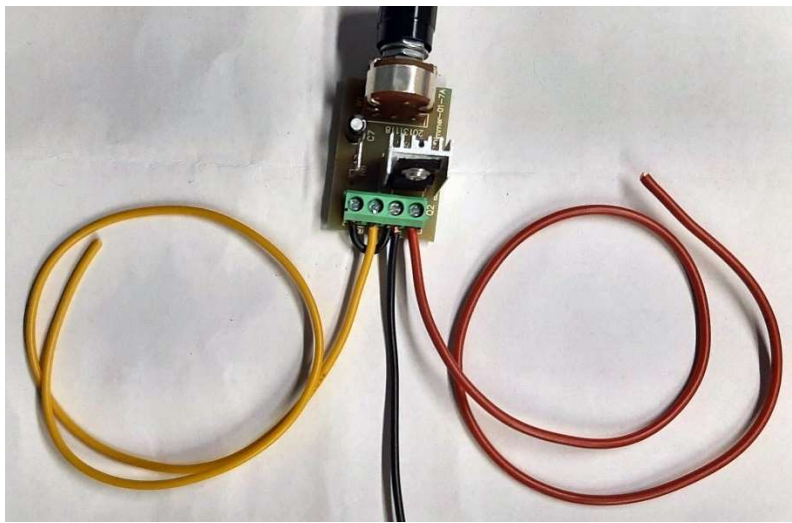
The first step, after reviewing the documentation for the module (included at the bottom of this dissertation ...) was to collect the necessary wiring items that would allow me to interface with the existing vehicle harness:



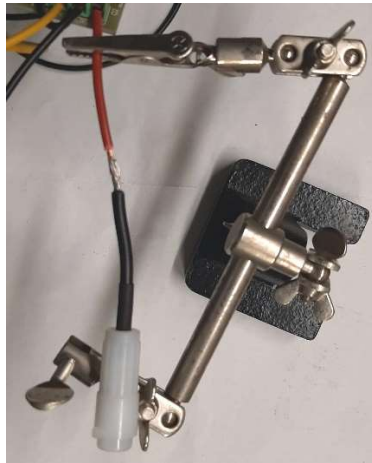
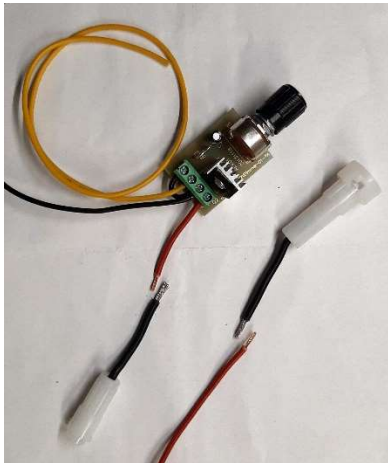
The “U” shaped wire section in the red box above is a “jumper” that goes between the two negative connections on the module. This was a result of confirming with the vendor that the “chassis” ground was an acceptable connection for the output side of the module thereby being compatible with the single wire dash light configuration. Here the module with the jumper and ground wire attached:



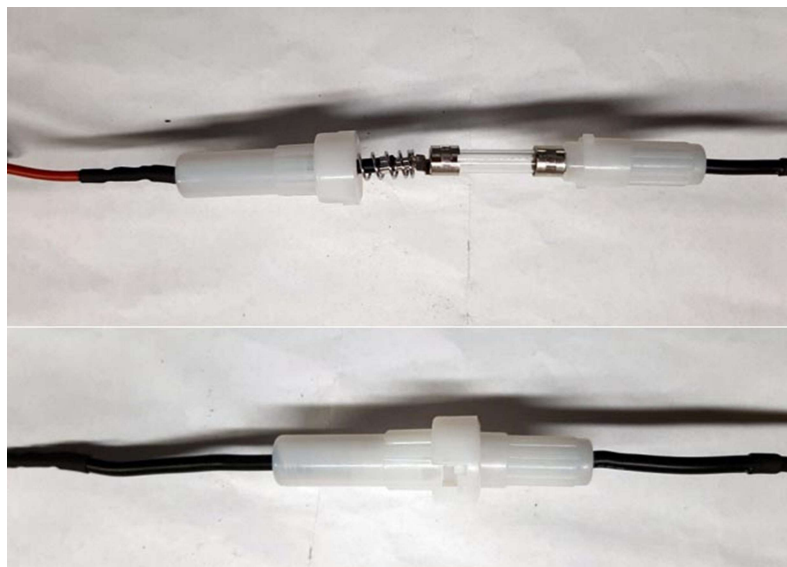
Next, I added the +12-volt supply wire (red) and the “adjustable illumination” feed wire (yellow) to the module:



The instructions specify a fuse must be incorporated into the +12-volt supply and I incorporated an inline fuse assembly; all my wiring modifications are done by way of soldering and heat shrink tubing:



Here is the 2-amp fuse going in:

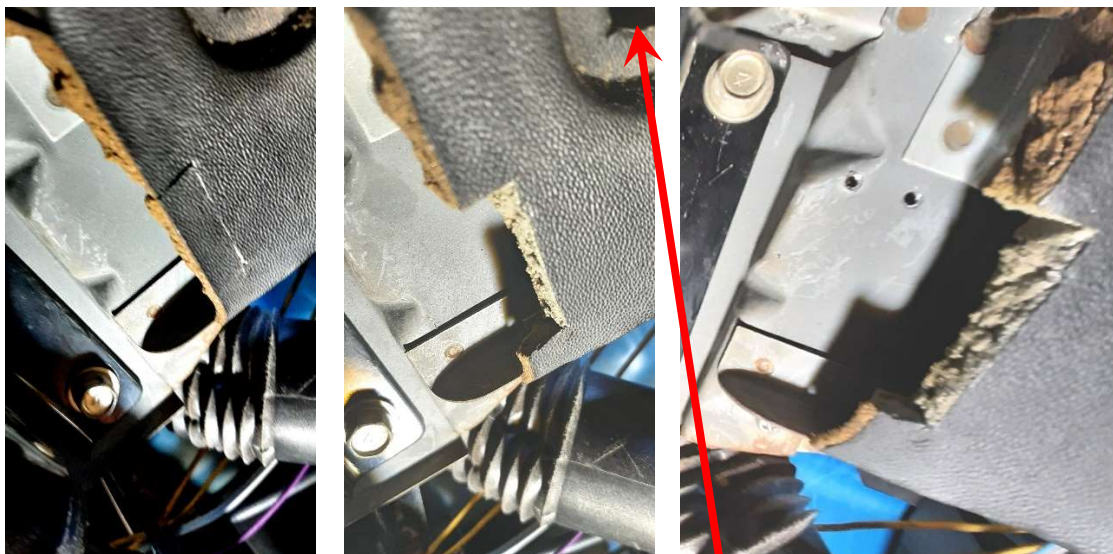



The next step was deciding how to mount the device in the car; looking under the dash in the area of the original dimmer rheostat, I formulated a plan. For that I formed a bracket with some aircraft grade (I am building a 2-seat airplane ...) aluminum (sheet metal would work just as well) in kind of a “Z”

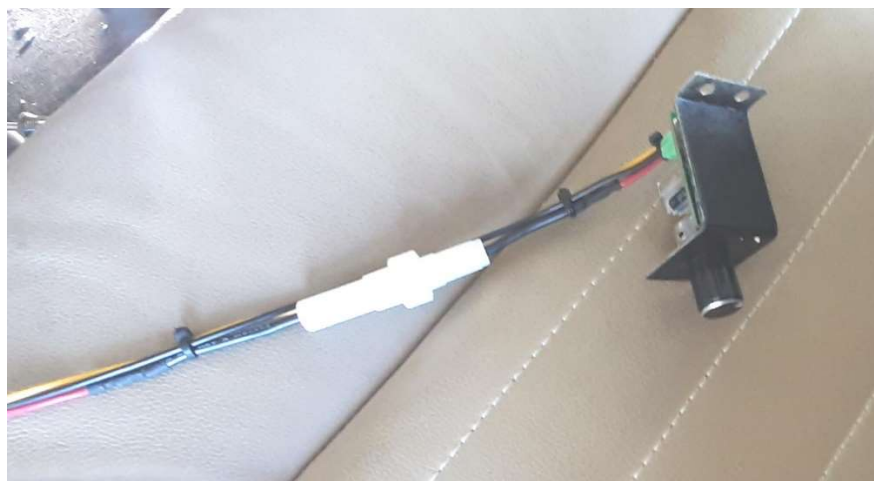
configuration and added a piece of clear plastic to the metal surface facing the circuits on the module then “test fitted” the module to the bracket making sure the module does NOT extend past the end of the bracket:



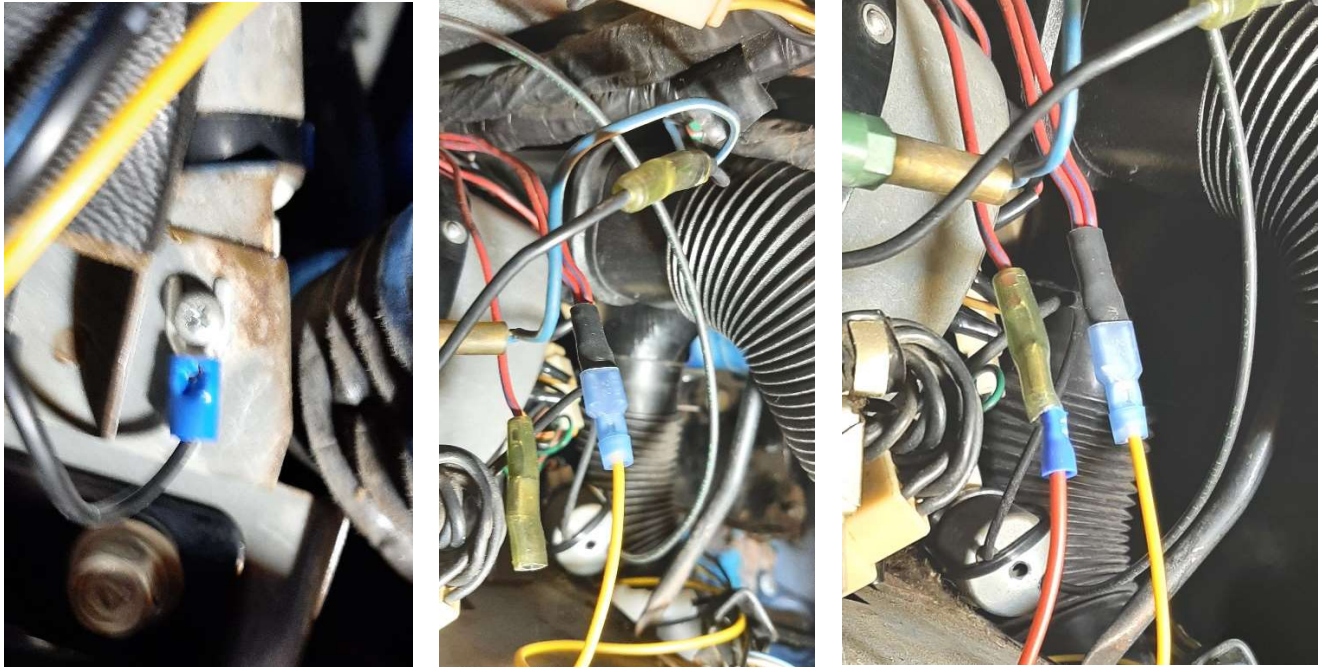
Next, came the “how to install” thoughts. Holding the bracket and module assembly up to the area near the factory rheostat location revealed some of the dashboard material would have to be removed to allow mounting the assembly by way of two screws; the added holes can be seen in the third image:



For reference, the original dimmer knob was located here:  Wanting to make the installation as “invisible” as possible, I painted the surface of the bracket that faces the driver position black then mounted it using the two screws that formerly held the factory rheostat!



Next comes attaching the wires from the module to the chassis and the vehicle harness. I discovered a convenient ground wire point using the screw that holds the light source for the cigarette lighter and emergency flasher switch (1st picture). I then routed the yellow illumination dimmer feed to the location of the factory harness (this is the connection with two wires – red with a blue stripe - and a male connector), trimmed the length of the yellow wire, attached a female connector then plugged it in to the factory harness (2nd picture). Finally, I routed the red 12 volt supply wire to the same area where the factory harness has a single red wire with blue stripe and a female connector, trimmed the red wire length, attached a male connector and attached to the factory harness (3rd picture).



With all the connections made, I turned the lights on to the Parking Light position and noted the instruments were, in fact illuminated (once I rotated the dimmer knob on and to the maximum illumination position). Rotating the knob reduces and increases the illumination exactly as intended. Starting the engine did increase the illumination slightly as the alternator came on. I note the minimum illumination I could set seemed slightly brighter than that provided by the somewhat brighter bulbs I installed a few years ago, and the “full bright” position is a wonderful improvement!

I took some videos of the illumination being adjusted as well.