

LKM and Mustard Relay Fix

Symptoms:

Headlights randomly turning off (even while driving)
Rear lights being reported out in dash computer when they aren't

Items needed

Soldering gun/iron
Solder
Solder sucker (optional)

Location of items

The fuse box is located on the driver side just in front of the windshield.



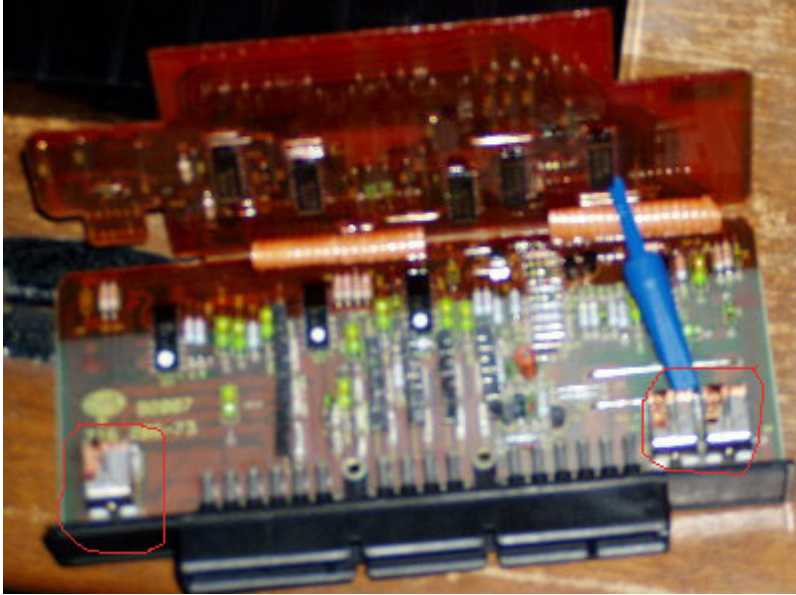
The LKM module is located in the fuse box.
The mustard relay is located in the fuse box.



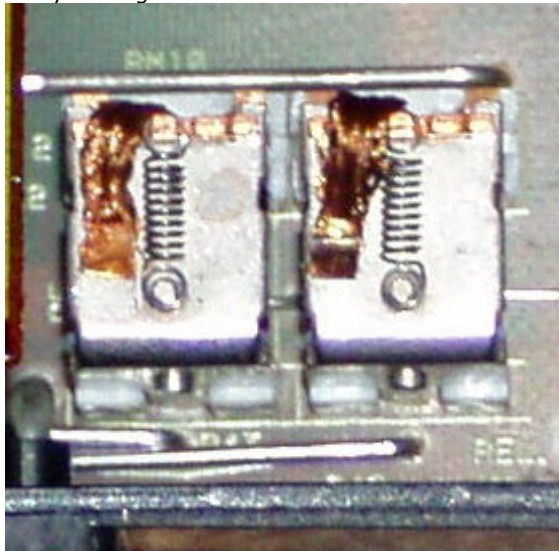
How to repair

Locate the LKM and Mustard Relay in the fuse box and pull them out. To take the LKM apart, you need to pull back the 4 tabs holding it in its "shell". I used some pliers to pull it out while I used a screwdriver to pull the tabs back. Be careful, the LKM is static sensitive so ground yourself before and while touching it! Near the connector you will see either 3 or 4 silver cube like objects (circled in photo below). These are the defective relays. One for high, low, fog, and something else that I haven't figured out since I don't have 4 in

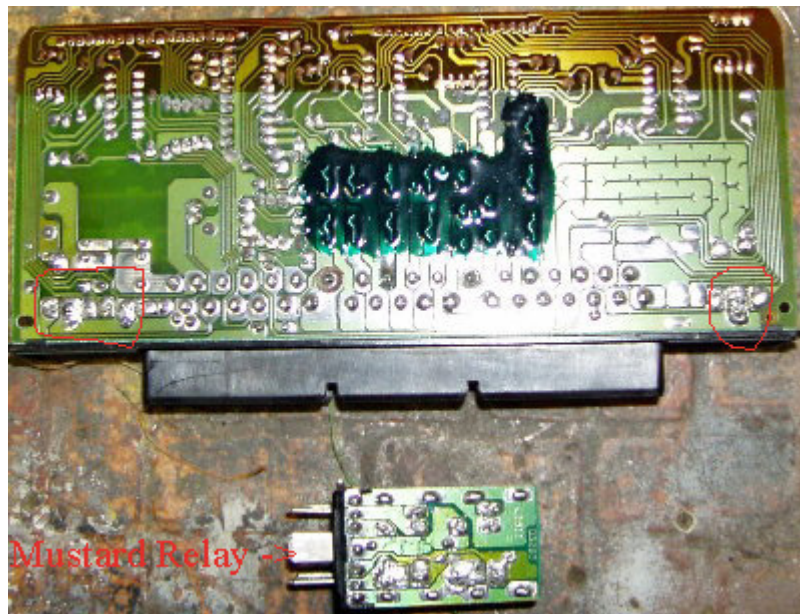
my E32. Basically you need to re-solder these as the solder has degraded.



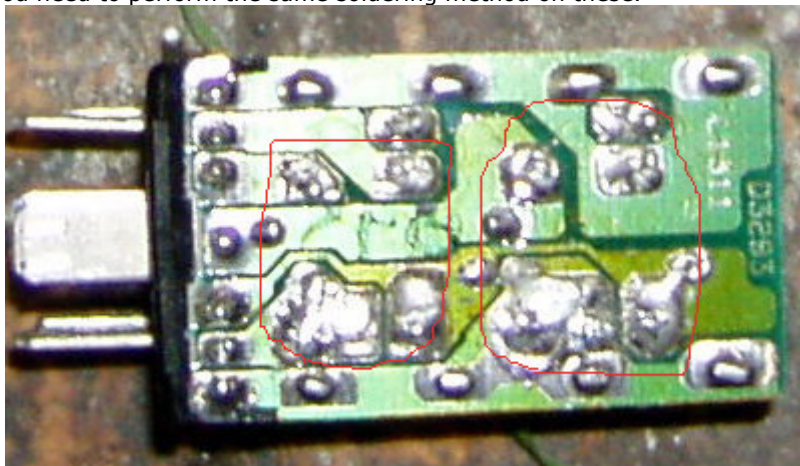
Closeup of 2 relays on right:



I have heard reports of limited success by just softening the existing solder and letting it harden, but I recommend replacing the solder for all 3 (or 4) relays.



Reassemble the LKM opposite the way you took it apart.
 The Mustard relay is not static sensitive, and I used a small screwdriver to get it apart. There are tabs on each side holding it in. It was a bit tricky, and make sure you watch how it comes out so you can align it the same when you put it back in.
 Inside the mustard relay is two relays, like the ones for the headlights.
 You need to perform the same soldering method on these.



Now replace the relays and test your headlights. They should all work properly, and you should not get any more tail light out messages unless they are really out!