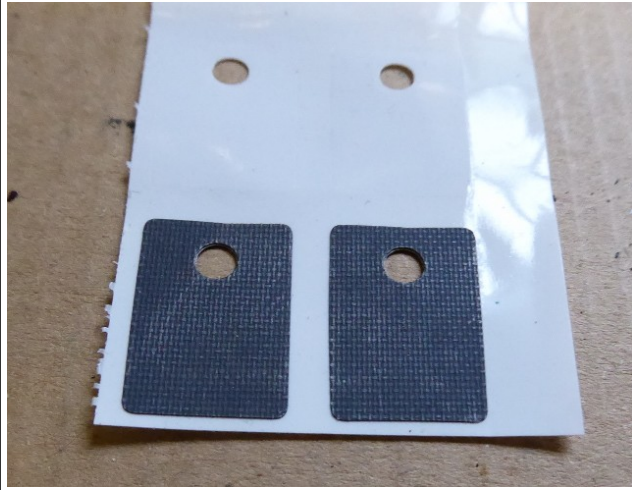


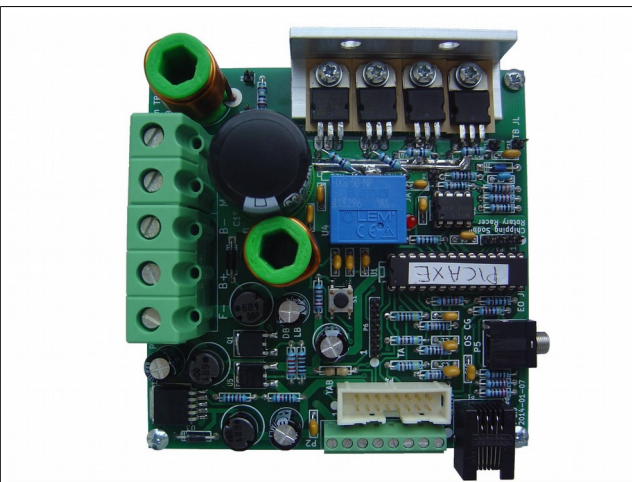
GpSpeed MOSFET Insulating Washer Issue

While investigating some issues with a schools GpSpeed controllers, it has come to my attention that there is an issue with the MOSFET insulating pads that some GpSpeed kits were shipped with. Some GpSpeeds have been shipped with white/beige coloured pads and some with black pads as shown below.



The white/beige pads are fine, but the black pads are not fully electrically insulating and can, if the screws are tightened hard (as they should be) cause the MOSFET's/heat-sink to heat up as current will flow through them. Also any burrs at all are likely to cause shorts from the MOSFET to the heat-sink.

If you have these black ones on your GpSpeed controller, I strongly recommend replacing the pads with RS stock number 707-3361 or 169-2177. If you like I can send some to you, just email me with you address and how many you need.



This picture shows a GpSpeed with the white/beige pads. This is fine.

To fix:

1. Unbolt all of the MOSFET's.
2. Gently lever the MOSFET's a mm or so above the bracket.
3. Pull the bracket out.
4. Clean off the old black pads. They are stuck on. A plastic scraper, like an old credit card, works well followed by some electrical cleaning fluid or spirit.

5. Make sure the MOSFET mount holes are de-burred and holes clear. Hand spinning a 6mm drill in the holes will clear off the burr and slightly chamfer the hole edges. A 3.5mm drill can be used to clean them out. Finish with fine memory cloth or sandpaper and clean with a rag and spirit including the holes.
6. Refit the bracket with the new pads underneath and bolt in the MOSFET's using the bolts and bushes.
7. The bracket should be isolated from the MOSFET tabs and the bolts, check with an Ohm meter.
8. The MOSFET's bolts should be reasonably tight. It is worth re-tightening them after they have had time to settle.

Sorry for the hassle.

Terry