

Service Bulletin 5-22-18A – Rev L TIU Mod Change - Diode

Purpose: To add a bi-directional zener diode between pins 1 and 2 on the signal transformers (4 per TIU) to reduce the possibility of TVS damage from the track. The old mod provided protection from transient voltage but did not completely protect it. The new mod installs higher voltage handling diodes that get installed on the underside of the TIU at the signal transformer.

Fail Condition: The fail condition you will notice with the old mod is a degraded or total loss of transmit DCS signal to the engine giving you Check Track or No Engine On Track error message when adding or running PS2 or PS3 engines.

Affected Units: All Rev L TIU's

NOTE: This mod supersedes the previous mod made on Rev L TIU's for the same issue. The mod date on that was 10-11-12. The original mod MUST BE removed prior to installing the new mod

Required Items:

- <https://www.digikey.com/product-detail/en/littelfuse-inc/SA5.0CA/SA5.0CALFCT-ND/407682> (4 per TIU). MTH does not currently stock this component
- TIU
- Soldering Station
- Blue Loktite #242 or equivalent
- Pliers or 7mm nutdriver

Old Mod Removal Instructions (Photo on Page 3):

1. Remove the top enclosure by removing the six screws from the bottom
2. Loosen all 16 nuts holding the banana jacks to the bottom enclosure
3. Remove the TIU from the bottom enclosure
4. Remove the four modification diodes from the locations shown on the PCB drawing on the next page
5. Ensure no other components were removed or de-soldered in the process

New Mod Installation Instructions (Photo on Page 4):

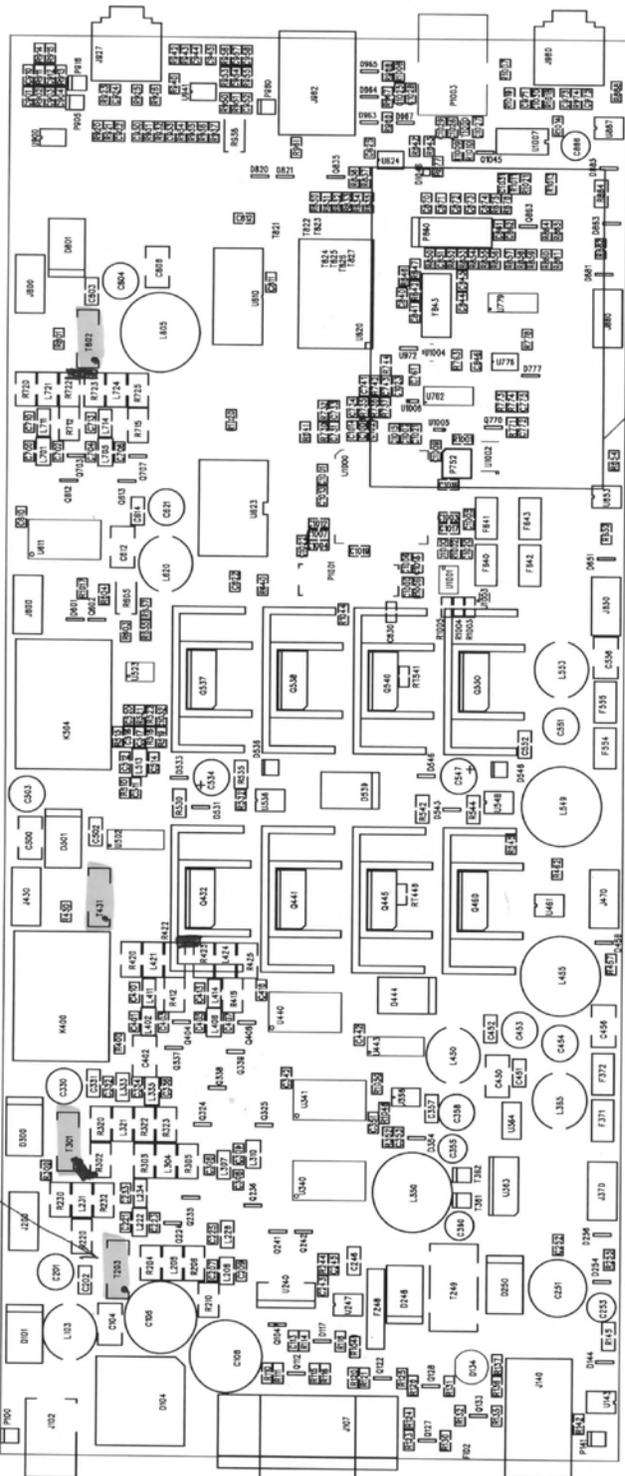
1. There are 4 locations on the TIU where you will need to solder in the above Bi-directional zener diode. They are shown on the picture on the following page
2. You are placing that across pin 1 and 2 of the signal transformer (please refer to the picture on the following page)
3. Repeat this for each TIU
4. Set the TIU back into the bottom enclosure, slide the banana jacks over the tabs in the bottom enclosure
5. Finger tighten all 16 nuts

6. Ensure the banana jacks are fully seated and tighten the nuts with a pair pliers or a 7mm nutdriver
7. Apply a drop or two of Loctite to the thread/nut joint to prevent the nut from backing out
8. Re-install the top enclosure and secure it to the bottom enclosure with the six screws. DO NOT over tighten the screws as damage to the posts will occur

You will want to check the TIU's signal at each output by performing a Track Signal Test on a known good engine.

END

for T 203
on the backside of
board piece mod
between pins 1 & 2



Outline of RF module

SEITZ AND ASSOCIATES 503/617-0808
CLIENT: TRACKRL
DATE: 06/17/2010 LAYER: ASSEMBLY DRAWING

