

Errata and Current Status

GLV BOB rev. 4.4

- R1 should be removed. Send the CTRL signal directly to Pin 1 of U3.
- R11 should be a 10k resistor
- Pin 6 of Connector J5 should carry MReset_B. This has been corrected on the board with a fly wire, and has been adjusted in the KiCAD files of later revisions.
- Several of the chips on the board should have decoupling capacitors. GLV BOB rev. 5.0 and above have corrected this issue
- There are 3 connectors on the GLV board to SCADA's Raspberry Pi. GLV BOB rev 5.1 was designed to house the Pi directly on the BOB and route all signals through one connector. It also provides additional components that allow the GLV to convert CAN signals to SPI, which can be sent directly to the Pi without need for a Pi HAT.
- The 2019 team had a large voltage drop (~2V) present in the low voltage systems that they were unable to fix. While the 2020 team was able to make some small improvements, the voltage drop is still present.
- The AMS Fault logic present on the board may not be sufficient. The 2020 team decided to have the new Dashboard PCB handle the AMS Fault detection by monitoring an AMS heartbeat signal supplied by SCADA, but progress was halted after Lafayette closed due to COVID-19.
- The 4.4 board has a spot for a CAN terminating resistor which it should not have, on the current board this has been corrected with solder. The terminating resistor is present on GLV BOB rev 5.1 after reorganizing the CAN layout with the SCADA team.
- Pins 7&8 of this chip (U2) are switched, on the board this has been corrected with fly wires and has been adjusted in the KiCAD files of later revisions.
- The Molex Megafit connectors the GLV board uses do not have a removal tool. This makes it very difficult to adjust/make cables. Changing the type of connector used is highly recommended.

TSI Board rev. 4

- Safety Loop LED needs redesign to avoid eating up current.
- Low voltage internal safety_loop (U24) pull-up should be 3.3 V instead of 5 V, to avoid burning out the microprocessor.

(picture of TSI board with fly wires)

Figure 22.

- Explanation of fly wires currently on TSI board:
 1. R55 to R11: Fixing errata 2.
 2. (wait for photo): Fixing broken traces.

CarMan Enclosure

- The wiring in the relays needs to be completely redone.
- Cables W1 and W3 need to be changed or remade so that the cables carrying GND and BATT+ are 12 AWG
- 2 connector holes on the CarMan enclosure are not used. One of these is J10 for CAN to the driver's display, Figure out which one to use and close the other
- The enclosure should be changed so that the 10A and 15A breakers have their reset buttons on the outside of the enclosure
- If you move the AMS fault detection to the Dashboard then the current DIN rail set up, W5, W6, and W48 can be simplified.
- The ground for the Cooling relay and J12 should come from DIN rail
- Consider changing what is currently nuts and bolts to press fit
- About TSI and the current holder for the 10A and 15A fuses only have 3 out of 4 mounting holes drilled in the right place
- There are still no mounting for SCADA
- Give Alicia her table back