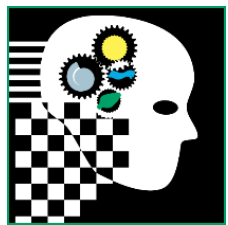
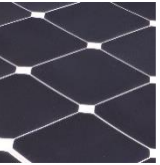


SOLAR CAR CONFERENCE | MARCH 20-22, 2015 | UNIVERSITY OF MICHIGAN



SAFETY

MAR 20, 2015



ELECTRIC SHOCK PREVENTION / REACTION

Use only proper insulated tools

Use proper protective equipment

Only allow 'qualified individuals' to work on your battery packs

Remind yourself that high voltage can kill you

Always keep your high voltage safeguards in place

In case of an electrical shock, call 911 first!

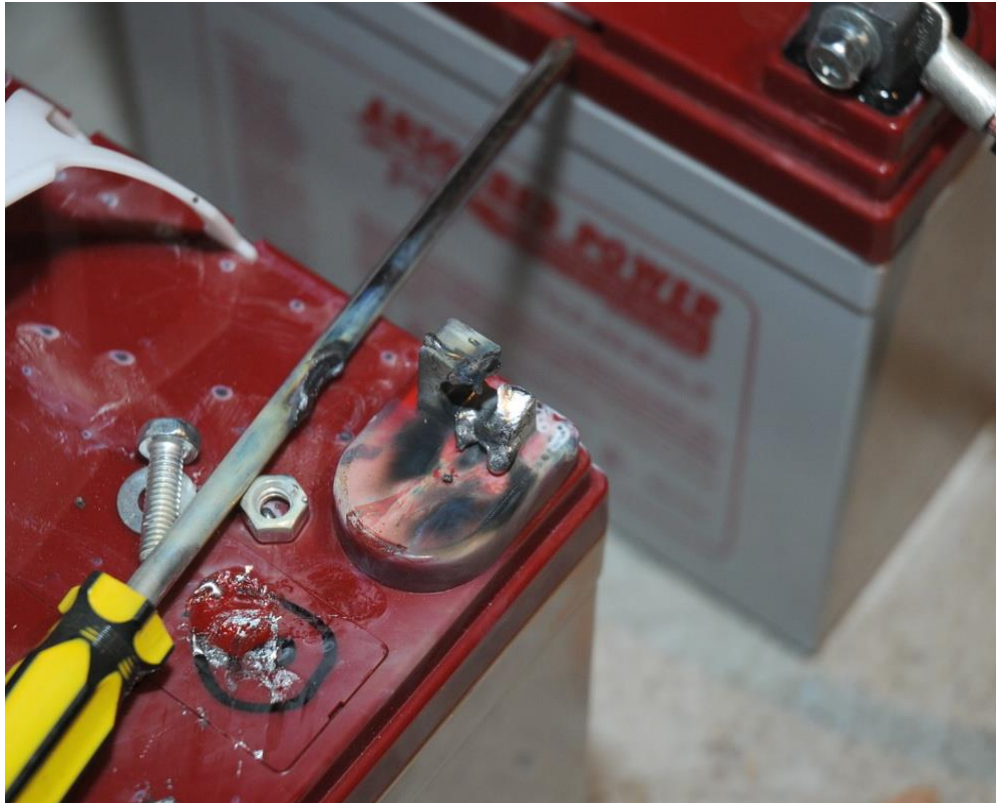
Don't become part of the circuit

Have a plan of what to do in case of a shock



OTHER ELECTRICAL SAFETY CONCERNS

Danger: Take measures to never short you battery pack



Wear glasses when working on your pack.

OTHER ELECTRICAL SAFETY CONCERNS

Don't do things that could damage your battery pack

- Only charge batteries while attended
- Avoid improper charging or discharging
- Avoid battery thermal abuse
- Don't short circuit the pack
- Keep things clean, neat and secure in your pack
- Terminate all wire or cable ends with HST or tape





OTHER ELECTRICAL SAFETY CONCERNS

Personal Protective Equipment

- Safety glasses, cotton clothing, no jewelry, specifically metal jewelry
- Performing potentially more hazardous Tasks? Use face shield and rubber gloves & Jumpsuit
- Wear electrically insulated gloves whenever handling the system or circuitry over 50V with protective surface to resist abrasion

OTHER ELECTRICAL SAFETY CONCERNS

How to deal with a battery fire

- The common ABC fire extinguisher is acceptable for use on Lithium-Ion battery fires
- The BC & D extinguisher is acceptable
- Sand or an equivalent is required
- Only attempt to extinguish the fire if it can be put out by a hand held fire extinguisher, otherwise get help



ON-ROAD SAFETY

Traveling

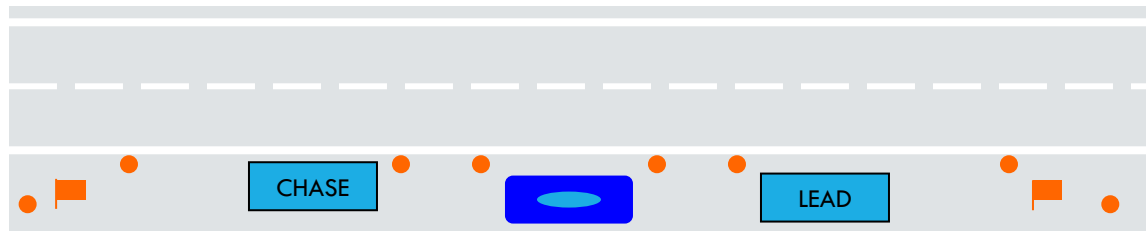
- Make sure all drivers (solar car and others) get sleep
- Require front passengers to stay awake
- Practice driving vehicles (especially solar car, truck & trailer, & 15-pass vans)
- Give yourself a buffer on travel time and budget

Equipment

- Cones, flags, safety vests, amber lights, fire extinguisher, battery spill kit, first aid kit, etc...
- Safety Officer trained in first aid & CPR (...or better yet, your whole team!)

Roadside Operations

- Make sure the crew knows their assignments
- Practice variations: on shoulder, in lane, on a hill, one-lane road, etc



TEAM PERSPECTIVE

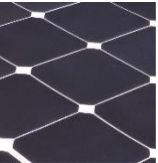


TEAM PERSPECTIVE



TEAM PERSPECTIVE





TEAM PERSPECTIVE



TEAM PERSPECTIVE



TEAM PERSPECTIVE



TEAM PERSPECTIVE



TEAM PERSPECTIVE



TEAM PERSPECTIVE



TEAM PERSPECTIVE



TEAM PERSPECTIVE

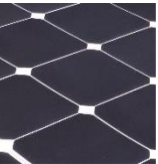


TEAM PERSPECTIVE



TEAM PERSPECTIVE

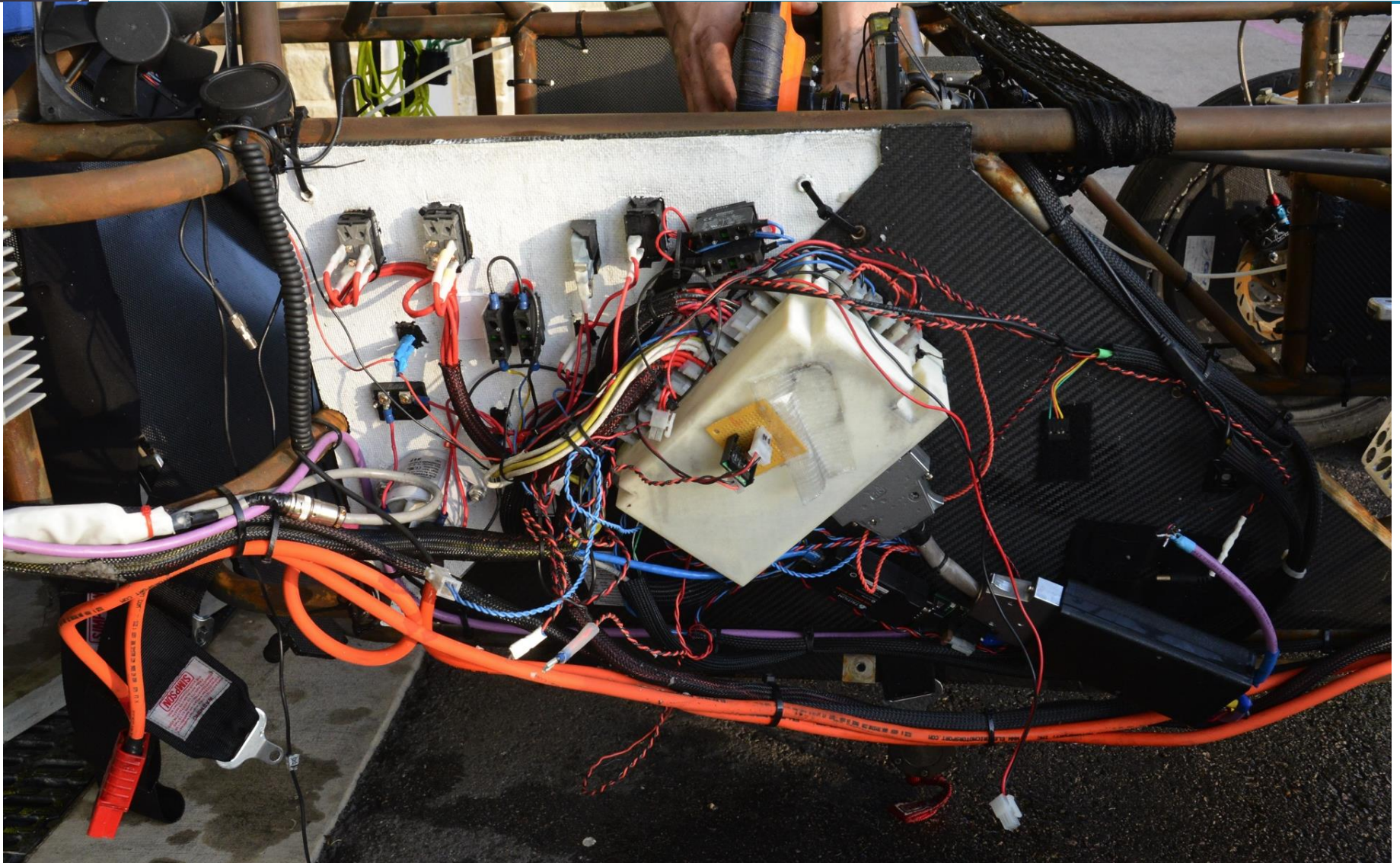




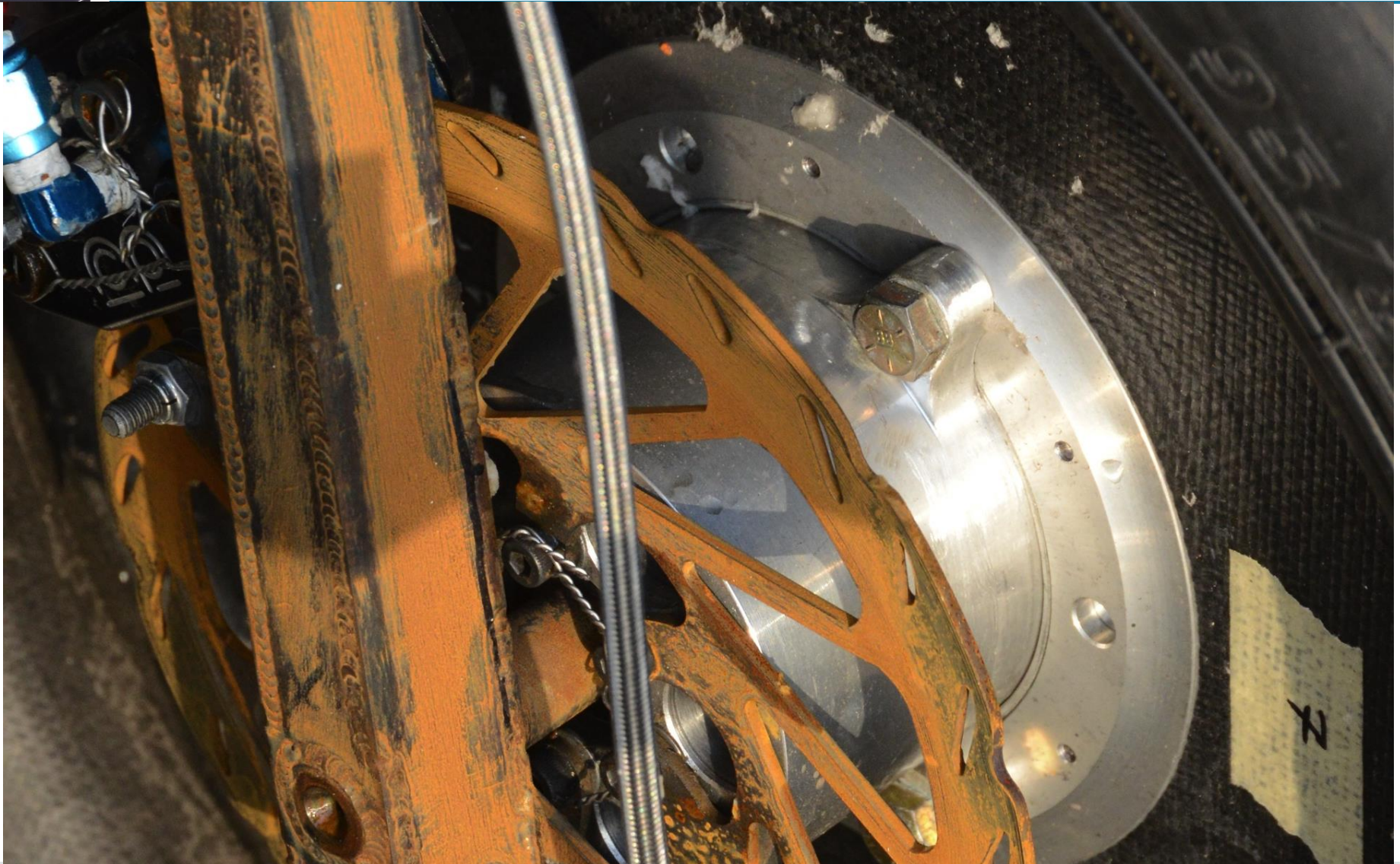
TEAM PERSPECTIVE



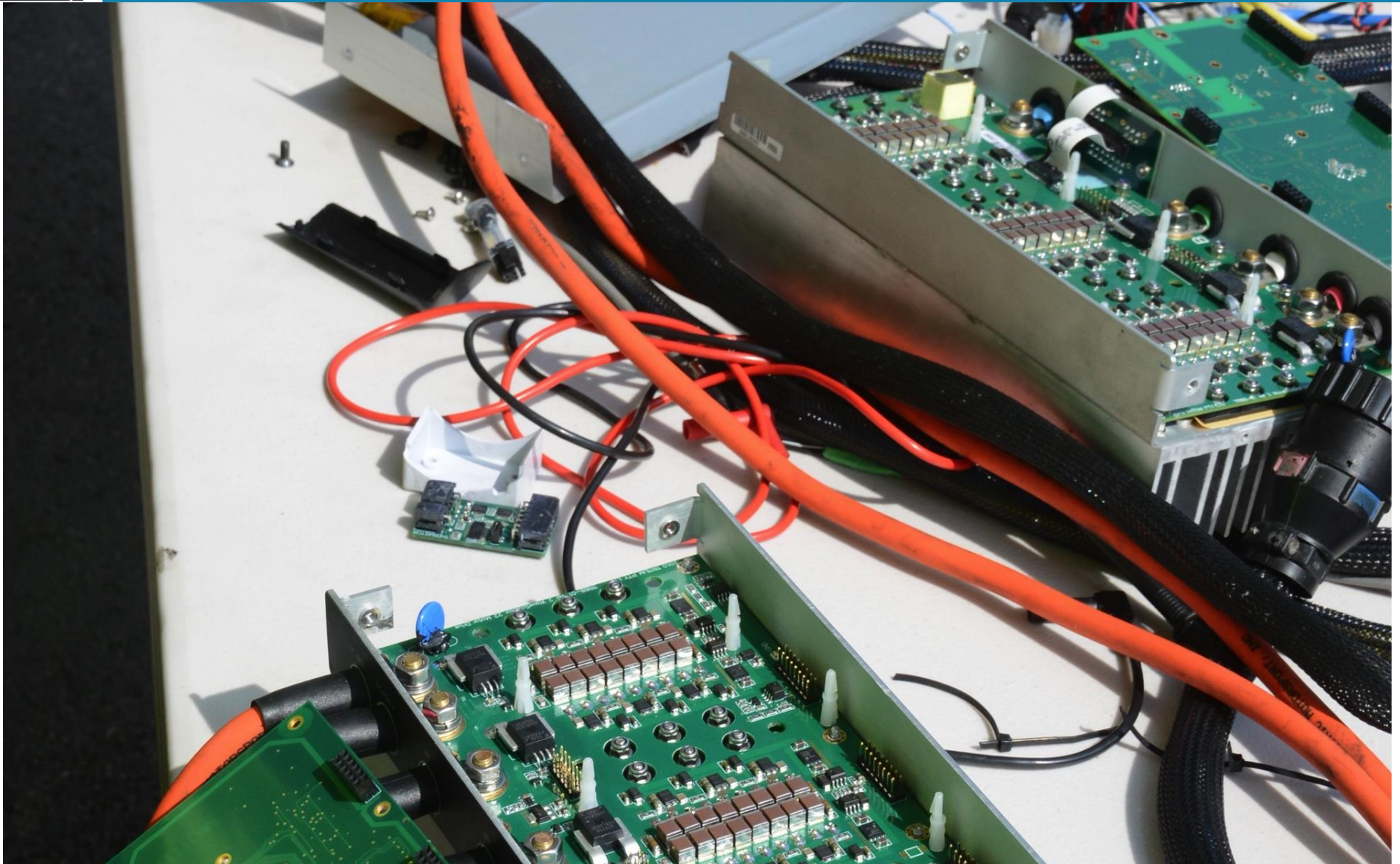
TEAM PERSPECTIVE



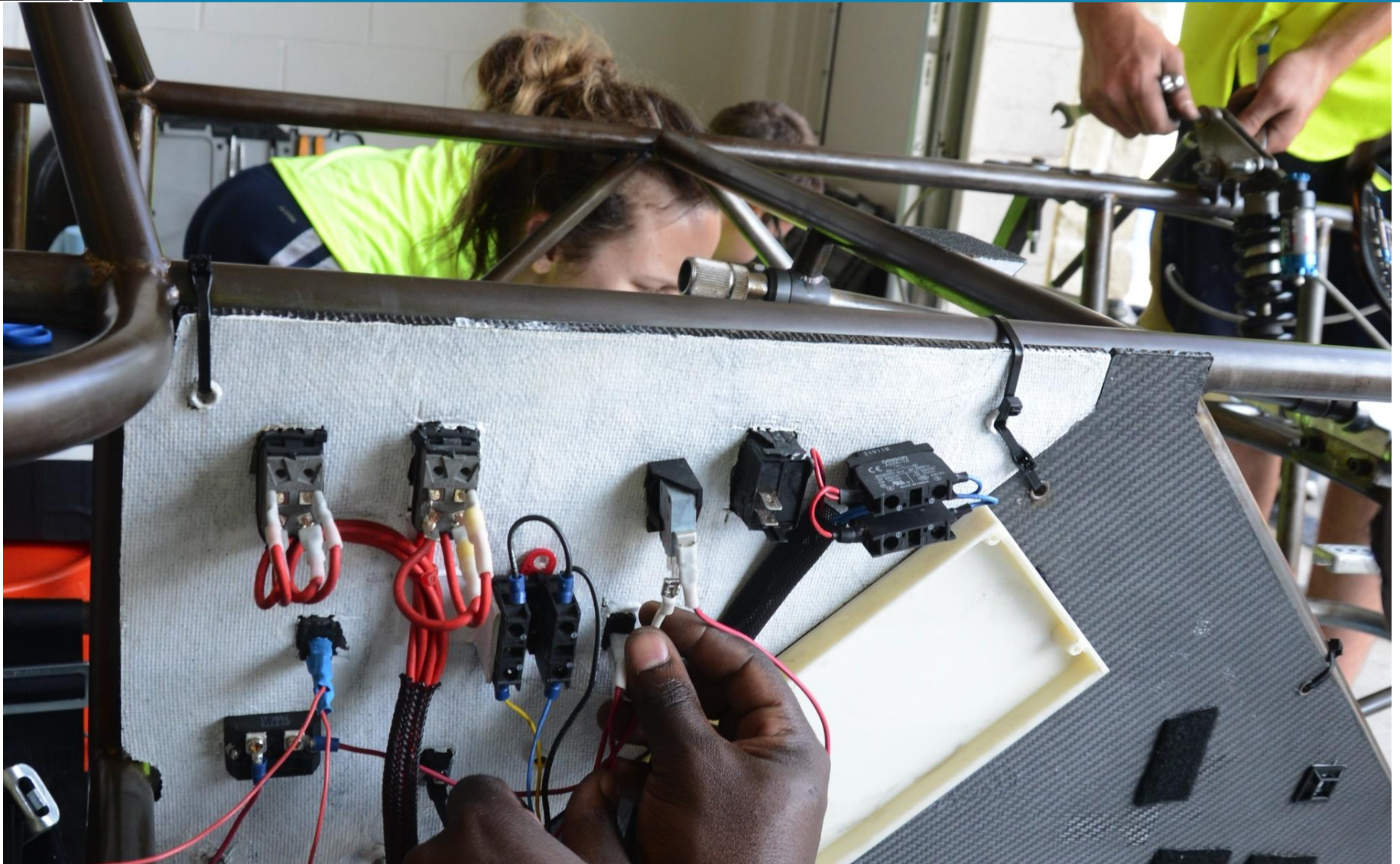
TEAM PERSPECTIVE



TEAM PERSPECTIVE



TEAM PERSPECTIVE



TEAM PERSPECTIVE



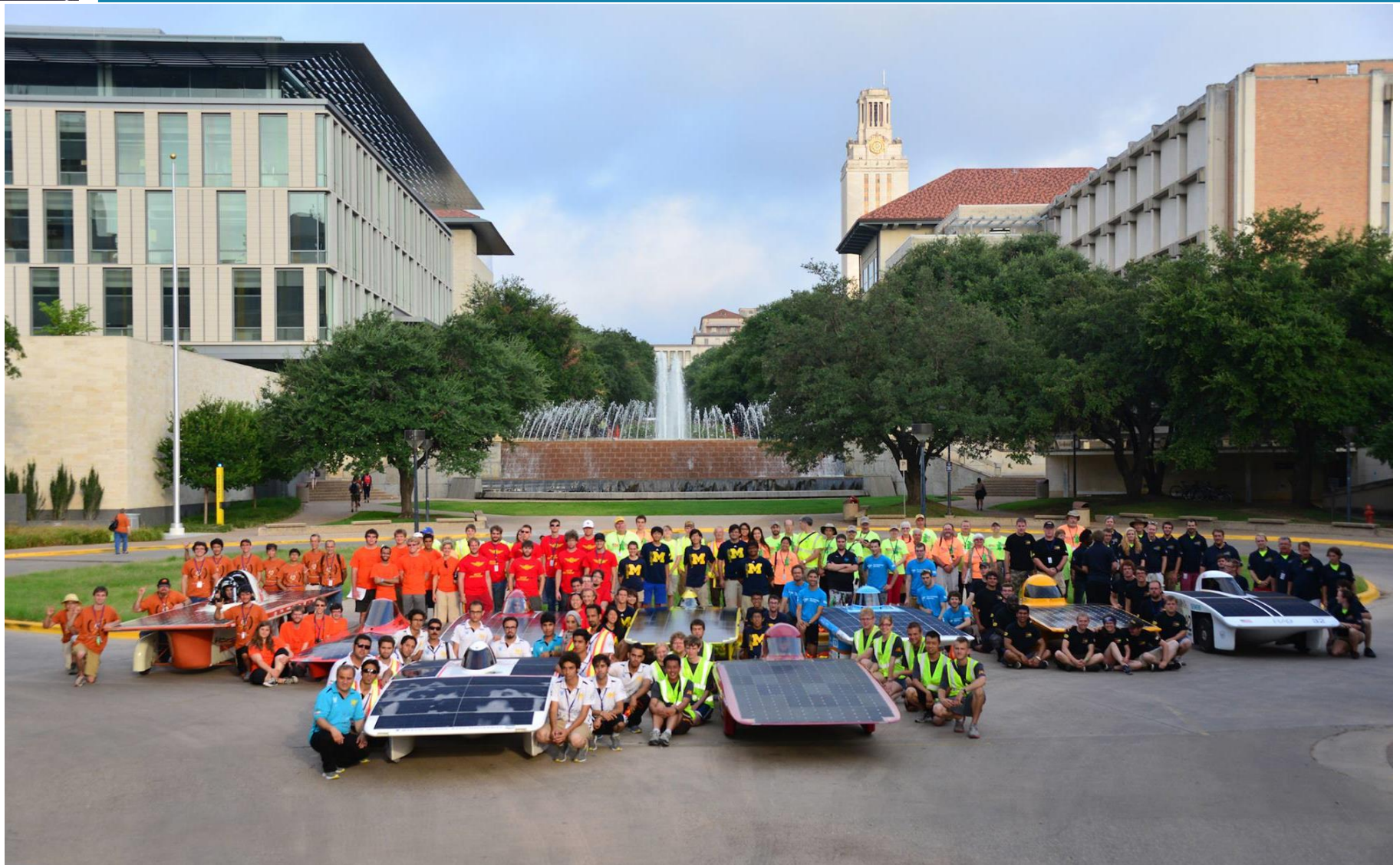
TEAM PERSPECTIVE



TEAM PERSPECTIVE



TEAM PERSPECTIVE



TEAM PERSPECTIVE



TEAM PERSPECTIVE



TEAM PERSPECTIVE



TEAM PERSPECTIVE

