



# SOLAR CAR DRIVER TRAINING RECOMMENDATIONS

## TRAINING PROGRAM

Ideally, before arriving at the qualifier every driver would have ten hours or more of driving experience in a situation similar to what they will encounter during the race. Even if you cannot reach that goal, it is important for your team to develop a method for training your drivers and to set performance goals. This is something for which each team has to take individual responsibility. Just as the event cannot monitor every weld or composite lay-up that a team does, we cannot monitor every test drive.

Solar vehicles are different from regular vehicles in that they have substantially different controls, field of vision, and feedback characteristics. We recommend that every team train all drivers in a gradual and controlled manner. This means that a driver will begin learning to handle the vehicle in a very controlled setting (such as a large closed parking lot or track) and progress to more challenging situations as she/he gains experience. As training progresses, the driver (and all team members in the caravan) should practice handling the following situations:

- Blow-outs and run flats, especially of the single rear wheel on a three wheel vehicle
- Loss of power
- Primary brake failure (partial and complete)
- Passing and merging protocols
- Road hazard avoidance
- Moving to shoulder from operational speed
- Caravan communication and protocols for possible emergencies
- Emergency stop and egress

## CHECKLISTS

Prior to any driving, the vehicle should always be given a safety check and the driver should have properly functioning safety equipment. We recommend that written safety checklists be completed for several items. This helps people to remember all of the details that need to be inspected. If they actually have to check a system off on a page, they are more likely to perform the check than if they simply give a verbal "OK". Here are some suggestions for where to begin:

*Make sure each item is functioning and properly installed. Include space to list who is performing the checks and any specific notes.*

**Solar Car Mechanical:** wheels, tires, braking, steering, body panel, suspension, chassis.

**Solar Car Electrical:** batteries, battery protection system, motor, array, power switch, 12-volt system.

**Solar Car Driver:** rested, alert, has previous experience level for current testing, helmet, seatbelt, water, radio communication, horn, turn signals, brake lights, driver displays.

**Support Vehicles:** first aid kit, battery spill kit, flashing amber lights, safety vests, cones, tools, radio communications, turn signals, brakes, tires, rested/alert/trained drivers.

## DRIVER/VEHICLE LOG

A method for documenting driver training helps to keep track of the progress. Some teams have specific logs for each driver and others have a vehicle log that also includes driver information. Whatever the system, we recommend that the faculty advisor or other school representative review and sign-off on the logs.

**Log Fields:** date, time, location, weather, total miles, driver, crew, a description of road type/terrain/traffic, a description of any incidents and lessons learned.