

Guidelines of Testing and Work Safety

< Work Safety >

Operation&Safety WG 2024.3.15

Please put safety first not only during the competition, but also during daily activities.

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1. Loading / Unloading

- Wear protective equipment.
e.g. gloves, safety shoes, helmet
- NEVER put your hands inside the wheels (to prevent the wheels from spinning and causing fractures or cuts), when lifting the vehicle.

Refer also to the Operation Guide for loading/unloading.

<https://youtu.be/O1cU0HlaMLI>

(Japanese lang. only)



NEVER put your hands
inside the wheels

2. Pit Set Up

*The information below is for a test run.
The Pit Area and Technical Inspection Area will use Hall F (indoor) of Aichi Sky Expo.
Please do not bring tents.

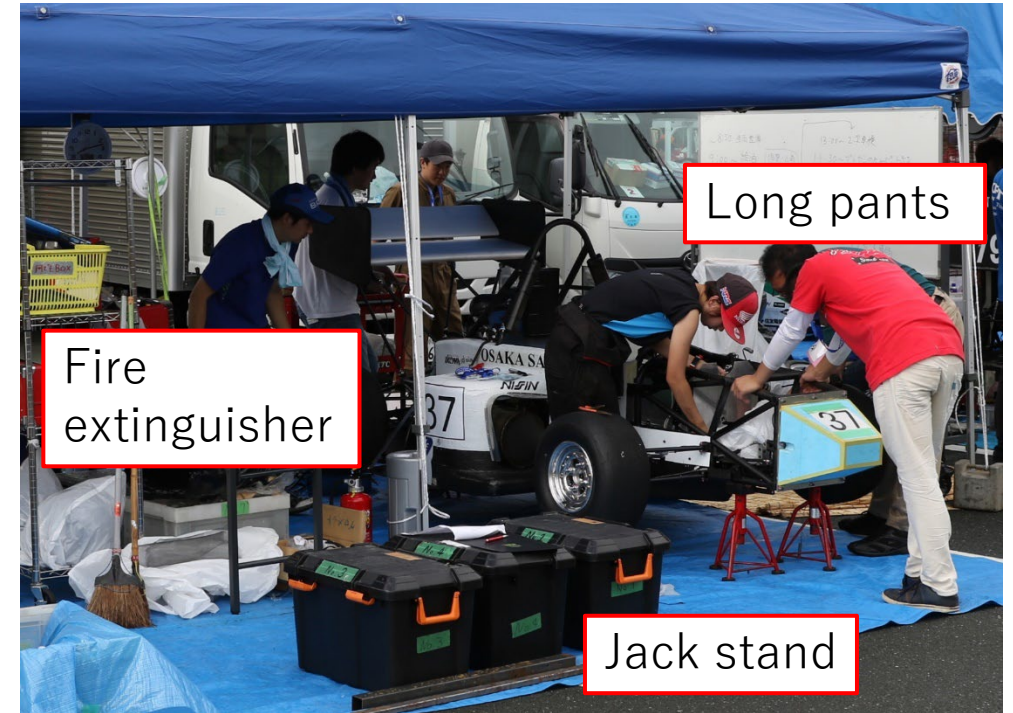
When setting up a tent,

- Wear protective equipment.
e.g. gloves, safety shoes
- Place weights at each legs(min. 18kg each)
- Watch your fingers.
- Use heavy duty tent.



3. Repairing the vehicle at the pit (*The pit area for the Competition is located indoors.)

- Wear protective equipment.
e.g. long pants, gloves, safety glasses
 - One extinguisher must readily be available in the team's paddock area.
 - Use an adequate jack stands when lifting the vehicle.
 - Be careful if you do hot works (anything generating a spark like grinding, cutting)
- In the competition, hot works in your pit is prohibited. There will be a dedicated space for hot works and welding.



3. Repairing the vehicle at the pit

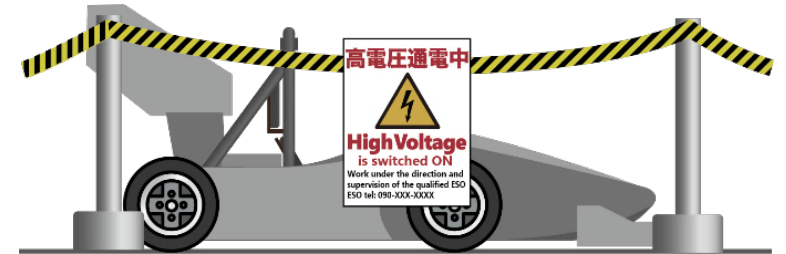
【 EV Only 】

About Car.

- TSAL=Check “No signal” or “Green signal”
- Check that voltage between “HV+” and “HV-” is less than 60V
- **It is strongly recommended to disconnect the HVD** except when turning on the TS.
- **The removed HVD will be managed by ESO.**

About TS

- Separate the work area to prevent unauthorized personnel from entering (Fig on the right)
- Display a warning message during high voltage work (Fig on the right)
- **ESO attends all operations**
- Work done with TS OFF
 - Turn off TSMS and **ESO will manage the extracted TSMS**
 - Check that TS voltage is 0V(Check that there is no residual voltage in the smoothing capacitor in the inverter.)
- Work performed with TS ON (failure analysis, adjustment, etc.)
 - You must use insulated tools
 - You must wear safety glasses and insulated gloves
- ACC work can not be done in the pits during the competition (Repairs in EV repair workshops are permitted)



4. Preparation for Dynamic Event / Engine Running

- Wear protective equipment.
e.g. long pants, gloves, safety shoes
- Fire extinguishers must be close by the vehicle and readily accessible at all times.

【EV only】

- **ESO must be accompanied**
- Carry insulated gloves and a multi meter
(with a protective tip)

With Driver in the car

- Put the stopper to the tires touching the ground.
- The driver must wear full safety equipment.

Without Driver in the car

- Put the stopper to the tires touching the ground.
- The drive wheels are minimum 100mm off the ground.
- The vehicle is supported on jack stands. A quick jack is prohibited.



5. Vehicle Movement

- The Driver must have full control of steering and braking.
- Push at a normal walking pace.
- One person walking beside the vehicle.
- Two people push the vehicle with Push Bar.
- Vehicles with wings must have two team members, one walking on each side of the vehicle when the vehicle is being pushed.
- Fire extinguishers must be close by the vehicle and readily accessible at all times.
- Call out to attract attention.

【EV only】

- **ESO must be accompanied**
- **Remove the TSMS from the car and let ESO manage it**
- When members move the vehicle, they must always **disconnect the HVD and attach a dummy connector.**
- **The extracted HVD will be managed by ESO.**
- (Except when staff move the vehicle to the side of the course during a red flag stop during a dynamic competition.
- Carry insulated gloves and a multi meter (with a protective tip)

Refer also to the Safety Operation Procedures Guide.

<https://youtu.be/fdVxs14qKGM>

(Japanese lang. only)



6. Battery charging

【 EV Only 】

- During the competition, ACC must be charged at charging stations.
- **ESO must be accompanied**
- When removing the ACC from the EV vehicle and moving or charging it on a cart, the ACC must be fixed to the cart.
- Have a fire extinguisher ready when moving or charging the ACC.
- If a fire breaks out inside the ACC, it is difficult to extinguish it with a fire extinguisher.
- **In case of a fire, protect yourself first and escape immediately.**
- During the competition, the following sign will be posted at the charging station. Please use this as a reference when teams recharge outside of competition.

火災に関する注意

火災が発生時には落ち着いて行動し、オフィシャルに通知してください。すぐに行動する必要がある場合は、下記の情報に基づき、最も安全な行動を取ってください。

Accumulator Containerの異臭 / 異音 / 発火に気づいたら

- すみやかに充電器の電源を切ってください
- 大声でオフィシャルを呼んでください

充電中には

- ACCは充電用ハンドカートに乗せること
- 消火器を準備すること
- 充電手順の知識を持つメンバーが少なくとも1人は残ること

FIRE SAFETY NOTICE

IN THE EVENT OF FIRE, STAY CALM. NOTIFY THE OFFICIALS. IF YOU MUST TAKE IMMEDIATE ACTION, USE YOUR JUDGEMENT AS TO THE SAFEST COURSE OF ACTION, GUIDED BY THE FOLLOWING INFORMATION:

If The Odor/Noise/Fire is from The Accumulator Container

- TURN OFF CHARGER IMMEDIATELY
- Call Officials LOUDLY

During charge chage

- The ACC(s) should be on the hand cart for charging
- Prepare Fire Extinglisher(s)
- At least one team member who has knowledge of the charging process must stay

