

HORIZON HYDROGEN GRAND PRIX SINGAPORE, ENERGISED BY CHEVRON

2023/2024 OFFICIAL RULEBOOK FOR H2GP PRO NATIONAL LEVEL

Version: 10 January 2024



ENERGISED BY





Horizon Hydrogen Grand Prix Singapore, energised by Chevron 2023/2024 Official Rulebook for H2GP PRO National Level

CHALLENGE BOOKLET CHANGE LOG

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1. General Information

1.1. Horizon Hydrogen Grand Prix Singapore

Horizon Hydrogen Grand Prix (H2GP) by Horizon Educational is an education programme for high school students that focuses on renewable energy, particularly hydrogen fuel cells. Its highlight is a radio-controlled (RC) car race in which teams design, engineer and race hydrogen-powered cars. The programme includes an educational curriculum in which students learn about clean energy and receive hands-on guidance on technical skills. H2GP has been running globally since 2015 with the participation of more than 20 countries worldwide.

The event will provide opportunities for students in Singapore to gain experience in hydrogen technology and employable skills in science and engineering.

2024 marks the inaugural year that H2GP will be run as a school-based programme in Singapore. The national race will take place in August 2024, with the winners attending the H2GP World Final in USA in September 2024.

Registration for the competition will be via this <u>link</u>. Competition registration opens from **11 Jan to 29 Feb 2024.**

Note: Teams are encouraged to register early for a better chance to secure your spot in the programme.

2. Teams and Rules Hierarchy

2.1. Team Definition

Each team will have a minimum of 4 members and up to 5 members.

This programme is open for the following age groups:

- Secondary: students 13-17 years old (in season 2024: born years 2008-2011)
- Tertiary: students 16-17 years old (in season 2024: born years 2007-2008)

Students from the same team need to be from the same school. Only 20 teams from MOE schools are eligible for the sponsorship.

A maximum of 2 teams per school are allowed to be registered and selected for the race.

2.2. General Rules and Conditions

- H2GP PRO aims to promote student-oriented racing. Any unruly, violent or unsportsmanlike conduct will therefore not be tolerated.
- Teams judged by the Race Officials or Race Director to be in violation of the spirit of this rule will be disqualified and be required to leave the race area.
- H2GP PRO is an international series of student competition races, that distinguish three different tiers: qualifiers national world.
- This booklet served as the ruling booklet for the national level of the H2GP PRO in Singapore.
- The race time length for the H2GP PRO national level is 4 hours.
- The maximum teams allowed on one racetrack is limited to 20. This rule applies to all race tiers. In case of more teams, the race event should include additional races.
- During a season, H2GPSG may publish additional Question & Answers (Q&As) that can clarify, extend, or re-define rules in game and general rule documents. Teams should read these Q&As before the competition.
- Clarification of all rules and conditions can made with the local Race Director prior to the event or anytime at: horizon_hydrogen_grand_prix@science.edu.sg

3. Competition Rules

H2GP PRO is an international series of student competition races. In order to secure fair condition across our growing community, the following format has been established:

National Flags

- Subject to the rules in this rulebook in full extent.
- The execution of the H2GP event is the full responsibility of the regional Race manager.
- Recharging of batteries on an external charger during the race is not permitted.
- Teams must qualify within the energy regulations in order to receive an invitation to the World Finals.
- Recharging of Hydrostiks is not permitted.
- Teams are required to submit a technical report prior to the race.
- Teams are required to submit a video on the race day.
- Teams are required to conduct an oral presentation on the race day.

4. Award Categories

| Category | Description | Award | Criterion |
|------------|---------------------------------------|-----------------------|---|
| Endurance | Award is dedicated to the team | 1 st place | The total number of laps after |
| | that finishes the race with the | 2 nd place | the race. |
| | most laps. | 3 rd place | |
| Energy | Award is dedicated to the team | 1 st place | The total number of laps |
| | with the lowest Hydrostik use per | | divided by the number of |
| | laps driven. I.e. team, that finishes | | used Hydrostiks |
| | the race with the most laps and | | |
| | lowest difference in used mAh. | | |
| Design | Award is dedicated to the team | 1 st place | The best score from expert |
| | whose body and overall design | | jury: |
| | was chosen by the jury as the best. | | - 80% overall look |
| | | | - 20% own fabricated body |
| | | | |
| Innovation | Award is dedicated to the team | 1 st place | The best score from expert |
| | that used modifications or | | jury: |
| | innovative features found by the | | - 80% oral presentation |
| | jury to be the most advanced. | | 20% technical report* |
| Promo | Award is dedicated to the team | 1 st place | The best score from expert |
| | whose oral presentation was | | jury: |
| | chosen by the jury as the most | | - 80% oral presentation |
| | engaging and well explained | | - 20% video** |

| Pit Stop | Award is dedicated to the best organised team. i.e. the team with the best time and collaboration during a fuel change . Each team will have 2 attempts during the race to demonstrate a pitstop and be judged. | 1 st place | The quickest cooperating team during time-controlled fuel change. |
|----------------|--|-----------------------|---|
| Team Spirit | Team Captains will have one vote to award to another team recognising them for their teamwork, spirit and best collaboration. Votes will be made during the race with the race director. | 1 st place | The most votes from team captains. |

*Technical report in the maximum range of 3 A4 pages including pictures. Submitted electronically on 31st July 2024, 2359. The organising team will provide the submissions details in a later date.

**Video in the maximum length of 60 seconds in a .mp4 format. Can be submitted on the day of the race for evaluation by an expert jury. Teams are required to bring their presentation devices to showcase the video.

5. Vehicle Competition Classes

Vehicle Classes

In the H2GPSg competition, team will race in the H2 Stock Class category.

H2 Stock Class

This racing class includes cars that are powered by hydrogen and batteries. These teams have access to the same amount of Hydrostiks and batteries as previous years. Starting in 2023/24, teams in the H2 Stock Class are eligible to become both the H2 Stock Champion in the national tier races, and Stock Class World Champion.

6. Vehicle Design Rules

6.1 General

- During the whole race, all vehicles must comply with the dimensional requirements contained in this rulebook. Any failure of this requirement during the race will result in a time penalty.
- All vehicles must use H-Cell 2.0 and Hydrostiks/Hydrostiks PRO. Other types of fuel cells and Hydrogen storage are not permitted.
- Modification or customisiation of H-Cell 2.0 is allowed, but it will void the warranty. It is recommended to consulted with the Race Director before making modifications.
- Modification or use of own fuel cell controller is allowed, but it will void the warranty of H-Cell 2.0. It is recommended to be first consulted with the Technical Director.
- It is the team's responsibility to provide details about the customisation of H-cell 2.0, if modifications were made during technical inspection.
- All vehicle parts, batteries, Hydrostiks, and the H-Cell 2.0 must be securely mounted
- Telemetry is allowed.
- The use of electronic gyroscopes is not allowed.
- Hazardous bumpers, nerf bars, chassis extensions or other objects protruding from the vehicle are not allowed.
- The provided chassis can be used but is not required. Teams may customise, build or use any chassis that meets the dimensional requirements.
- Having multiple complete chassis at the racing venue is strictly forbidden. Each team can bring spare parts for their chassis. All vehicle parts except for the chassis plate can be replaced without supervision during the race. The race chassis plate will be marked by the Race director upon the initial technical inspection.
- In the event that the chassis plate needs to be replaced during the race, it must be completed only under technical staff supervision and the old chassis plate must be handed over to the technical team until the completion of the event.
- The car must be in a safe condition to participate in the race to prevent any safety issues.

6.2 Dimensional Parameters

During a technical inspection, the car will be checked as one whole piece. All parameters must remain unchanged throughout the race.

List of allowed dimensional parameters is given in **millimeters or grams** in the following table:

| Dimension | Minimum | Maximum |
|--------------------------|---------|---------|
| Vehicle Length | 360 | 470 |
| Vehicle Width | 180 | 220 |
| Vehicle Height | - | 170 |
| Wheelbase | 230 | 270 |
| Vehicle Weight (g) | 1200 | 2000 |
| Chassis Ground Clearance | 4 | - |
| Front Wheel Diameter | 60 | 66 |
| Front Wheel Width | 20 | 30 |
| Rear Wheel Diameter | 60 | 66 |
| Rear Wheel Width | 20 | 55 |

- All car dimensions are measured with the car body.
- Car weight is measured as the weight of a ready-to-race car without fuel. i.e. excluding Hydrostik(s) and battery.
- Dimensions of the wheels are measured including tires (natural wear of the tire can be tolerated after the race).

6.3 Body

- Sharp or otherwise dangerous features on a body are not permitted.
- All vehicles must have a readily removable body. The body and chassis must always be securely joined while the vehicle is on the track. Rubber bands or zipties are not allowed for this purpose.
- Multiple bodies are not permitted. All vehicles must finish the race with the
- same body they started with.
- If a body comes off of a vehicle during a race, the vehicle must be taken off of the track and the body properly replaced before the car may re-enter the race.
- A body can be made of Lexan, plastic or any durable material and formed by 3D printing, injection molding or vacuum forming. Bodies must meet all dimensional requirements. (Bodies not using Lexan or Plastic must be approved by the race director prior to the race)
- Hard bodies made out of materials such as wood and metal are not permitted.

- Cutting holes in the body is only allowed for the wheel wells, antenna and body posts. Any other holes (e.g. for air ventilation) cannot exceed a total area of 10cm2, and must be covered by mesh or grid.
- The body must keep space for the number stickers (W 50mm, H 60mm) distributed by the Race Director. Up to three strickers can be used during the race, one on the left and on the right side of the body, and one on the front windscreen or roof.

6.4 Bumpers

- Front bumpers are required. They must be shock absorbing and non-metallic, with no sharp edges. For safety, rigid bumpers such as fiberglass and composites are not permitted.
- Front bumpers must be at least 1/8" (3mm) thick. Bumpers may not extend past the frame of the body, or beyond the outer edge of the tires.
- Rear bumpers are allowed and must be made of shock absorbing material with rounded edges. They may not extend to the side beyond the outer edges of the tires and may not extend beyond the rearmost part of the body.

6.5 Radio

- Radio control systems are limited to 2.4GHz DSM/DSS Systems.
- Transmitters are limited to the manufacturer's recommended voltage. External transmitter battery packs are not permitted.

6.6 Motor

- Brushed or brushless motors are allowed.
- There is no limitation to motor turns, but 17.5t, 21.5t, or 25.5t motors are recommended. Other motors are also allowed but must be cleared with Race Director.

6.7 Wings & Spoilers

Wings are aerodynamic devices attached to vehicles to increase downforce and traction when a vehicle is traveling at speed.

For the purposes of these rulebook, a spoiler is a flat plate attached to a body or to the trailing edge of a wing.

- Wings or spoilers can not extend beyond the width and height of the body (i.e. wings or spoilers can not be wider or taller than the car).
- Wings must be mounted to the rear of the car using at least 2 screws, bodyclips or otherwise be integrated into the body design.

6.8 Wheels & Tires

Driven wheels are not specified. It is up to the students' decision whether their vehicle will be rear/front 2WD or 4WD.

- Rubber or/and Foam tires are allowed
- The use of any tire treatment product for increasing the traction is prohibited.

Rubber: A tire molded using rubber or similar synthetic material. Tires may be smooth or treaded.

Foam: A tire composed solely of foam rubber. Tires may be bonded to the wheel.

7. Allowed Energy Limits

7.1 Energy Limits

The teams are allowed to use energy stored only in batteries and Hydrostiks. The maximum allowed energy per each racing class is defined below, with regards to the race tier:

| | | Maximum Allowed Energy | | |
|------------------------------|-------------|------------------------|------------|--|
| Race Tier | Race Length | Batteries* | Hydrostiks | |
| Qualifier | 2 hrs | 52** / 30 Wh | 10 | |
| (available if there are more | | | | |
| than 20 teams) | | | | |
| National | 4 hrs | 78** / 55 Wh | 18 | |

*Watt Hour is calculated by Nominal Voltage multiplied by the Battery Capacity

Wh = V x Ah,

example: 55 Wh corresponds to 2S 7200 mAh or 2x 2S 3600 mAh LiPo/LiHV battery

**This limit applies only to NiMH batteries. Use of the NiMH batteries is limited to the batteries provided by the program: 6-cell, 7.2V, 3600 mAh batteries.

7.2 Hydrostiks

- Each team must bring charged Hydrostik cartridges to the race, and hand them over to the Race Director during the technical inspection before the race.
- Any modifications of Hydrostiks are not permitted. Modifications are allowed to the holders and tubing only.
- Each team must use the Hydrostiks provided by the H2GP PRO organisers for the event and any events related to the race week.
- If the Race Director provides Hydrostiks, all teams are obliged to use them.
- Recharging of Hydrostiks and batteries on an external charger during the race is strictly prohibited and will lead to the team being disqualified.
- Charging batteries on your car with the race Hydrostiks is permitted using the H-Cell 2.0 mounted on your vehicle only.

7.3 Batteries

- Each team must use batteries in the form:
 - a) Nickel-Metal Hydride (NiMH)
 - b) Lithium Polymer (LiPo/LiHV)
 - c) Lithium Iron Phosphate (LiFePo)
 - d) Lithium-ion (Li-Ion)

- Other types of batteries are not allowed. Teams must use only one selected battery class throughout the race.
- Total energy stored in batteries (in Wh) cannot exceed (0,1% tolerance).
- All batteries must be charged prior to inspection.
- Any battery found to be overcharged will not be tolerated:
 - NiHM nominal voltage is 1.2V/per cell; max charge is 1.43V
 - LiPo nominal voltage is 3.7V/per cell; max charge is 4.2V
 - LiHV nominal voltage is 3.8V/per cell; max charge is 4.35V
 - LiFe nominal voltage is 3.3V/per cell; max charge is 3.6V
 - Li-Ion nominal voltage is 3.7V/per cell; max charge is 4.2V
- Recharging batteries during the race with an external source is strictly prohibited and will lead to the team being disqualified.
- All "practice" or other batteries not used for the race will be collected by the race personnel for the duration of the race.
- All batteries must have a hardcase protective cover. When using Li-Ion batteries, the car must be equipped with a battery holder case. Only a combination of single-cell batteries or commercially available multipacks are allowed. Soldering multiple Li-Ion batteries is not permitted.
- All batteries must have original stickers and clearly visible information about battery type and capacity. Any battery that is suspected of being tampered with in any way will be confiscated at any time by the race director.
- If any team has intentionally tried to switch stickers or disguise a higher capacity battery, that team will be disqualified immediately from all aspects of the H2GPSG competition, including disqualification from awards.

8. Race Day Rules

8.1 Day Schedule

All H2GP PRO races will follow the same day format. However the exact day schedule may differ from race to race. Final day schedule will be announced by the Race director or organiser at least one month prior the event.

| Prior to the race | |
|---|---------------|
| Teams registration | 15 minutes |
| Driver's practice/Open track | 30 minutes |
| Technical check, battery and Hydrostik collection | 60 minutes |
| Drivers Information meeting | 10 minutes |
| During the race | |
| Loop check (if required) | 5 minutes |
| Race | 3 - 4 hours |
| Technical check | 1 – 3 minutes |
| After the race | |
| Technical check | 15 minutes |
| Posting of unofficial results and appeals | 15 minutes |
| Award ceremony | 30 minutes |

8.2 Teams Registration

- All teams must first approach to the Race director/registration desk when entering the venue. Teams will receive all information about the day schedule, allocated team space, etc.
- Teams must identify the team captain at check in.

8.3 Practice

- All teams must wait until the track is officially open for practice. All teams will have a sufficient amount of time for the practice and final preparation of the car.
- Driving outside of the track or on a closed track is strictly prohibited.

8.4 Technical Check

- All vehicles must pass technical check prior to and after every race. Any vehicle found to be illegal during a pre-race check will not be allowed to race until all violations are corrected. Vehicles found to be illegal during a post-race check will be disqualified.
- All teams must submit charged batteries and Hydrostiks at the pre-race technical check.
- Technical check includes but is not limited to checking the vehicle's height, length and width. No other parts of the car other than the tires may be at less than the minimum ground clearance for a specific class.
- There is no tolerance above any maximum specification for all dimensions.

- All vehicles must have the correct number, assigned to them by the Race Director, attached in a visible spot on the body, preferably on the roof.
- The designated Official, Technical Inspectors, Track Marshals and the Race Director have the right to subject any vehicle to mechanical or visual inspection (including photographing) or impound at any time. It is the Team's responsibility to tear down a vehicle for inspection if required to do so. Failure to abide by this rule will lead to disqualification.

8.5 Loop Check

• Race Director will call for loop check 5 minutes before Race Start (unless it has been done during technical check) in order of seeding. Failure to complete loopcheck when called will result in a penalty. Once cars enter the loop check no work may be completed on the car unless a loop check fails.

8.6 During The Race

All teams are allowed to have 5 students in total and 1 team leader per team. The roles of the students and race personnel is described below.

Teacher/Team Leader

Only students are allowed to work on the car. Students may consult with their teacher(s) during the race, but teachers are not allowed in the pit area or to work on the car. No teachers or coaches are permitted in the pit area during a race. Coaches found in the Pits during the race will result in disqualification of the team.

Team Captain

Team captains will be the communicator between race management and teams. Team captains are the only ones who will address the Race Director and other Race Managers. Team captains are the only team members allowed to address the timing and scoring staff. No other team members, coaches or parents are permitted to question, challenge or appeal with the race staff. Team captains are responsible for ensuring their car arrives on time for loop check. Team captains are required to attend the team meeting prior to the race along with their drivers.

Team Captains will be responsible for yellow and red cards. Only team captains can make an appeal at the end of the race.

Mechanic

Servicing and maintenance of vehicles are permitted in the team's pit area only. Any repair or amendment to the vehicle on the track is strictly prohibited. Vehicles must be taken off the track entirely for any work or energy changes.

Team Spotter

Each team will have a dedicated spotter along the side of the track. Only the spotter is allowed to walk on the track when the car needs assistance during the race (e.g. after collision). If the Race Director provides Track Marshals, the Team Spotter is not allowed on the track.

Driver

The driver is not allowed to interfere with their team's vehicle by any means while they are driving. Only team members /mechanics are permitted to interfere with the vehicle. Every team is advised to have at least 2 drivers who can alternate during the race.

Technical Assistant

Technical assistants will be available for teams. The technical assistant will not be allowed to work on the car (unless that person deems it necessary).

Track Marshal

Marshals are authorised to give a warning to the driver/team before an official penalty from the Race Director. Track Marshalls may be provided by the Race Director and are responsible for assisting crashed cars. EVERY TEAM will be assigned a Track Marshall time and coaches or a parent volunteer can complete this assignment.

Radio Communication

Radio communication is allowed between driver, mechanics and the team leader. We encourage all the teams to learn how to work independently and use the help of the teacher only when using the red cards instead of any other communication during the race.

- Radio communication can only be used by the driver and their pit crew while the driver is in the drivers' area.
- A single ear piece or one sided headset that is not audible to others and does not reduce the ability to hear the Race Director's calls must be used.
- Any 2.4 GHz radio equipment is not allowed.

Red Card/Yellow Card

Team Captains can pull a Red Card for teacher/coach support at one time during a race. The red card will allow for 5 minutes of coach support. Coaches may not touch the car or work on the car during this time. All red card support must be completed in the technical work zone and under supervision of a race management delegate. The use of the red card is limited to single use only.

Yellow cards can be pulled by the team captain at any time for technical support from the Horizon H2GP Technical team. All yellow card work must be completed in the technical work zone. The use of the yellow card is unlimited throughout the race.

8.7 Event Zone Rules

All H2GP PRO events will be physically divided into different zones based on their use. The actual layout of the event can differ at each race, but the rules for individual zones will remain unchanged.

The general rules in each of them are summarised below:

Race Zone

Only track marshals are allowed to enter the track. Vehicles are obliged to exit/enter the track in the dedicated area (pit-lane).

Pit lane can only be entered for pit stops or penalties given by the Race director. Pit lane cannot be used to drive through.

Any modification or addition of own devices to the racetrack is prohibited and will be penalised accordingly.

Drivers' Zone

If the venue allows, there will be a designated Drivers' Zone that all drivers are obliged to use. If no driver zone exists, drivers must be in their team zone.

Only one driver is allowed in the Drivers' Zone at a time. Drivers can change during the race anytime they need/want.

Team Zone

Zone dedicated to the student teams only. Each team will a have designated pit area, in which students are obliged to fix their vehicles. Students need to stay in the area dedicated to their team. No electricity is allowed in the team zone.

Each team must work independently in their dedicated team area - pit stop. Multiple teams cannot share, combine or merge their pit-stops together.

Tech Zone

Students are obliged to pass the tech inspection and change their batteries and Hydrostiks here. Electricity and shared power tools are allowed in the tech zone.

The tech table(s) for work on the car may be provided by the Race Director. This is also the table where coaches are permitted to instruct, but not perform work, during a red card.

A table will be provided in this zone for all Energy exchanges (i.e. batteries and Hydrostiks). Energy changes cannot be made in any other location.

8.8 Flags

Green Flag/National Flag

• The green or national flag indicates the beginning of the race.

Checkered

• Displayed at the start/finish line to indicate that the race is officially finished.

Yellow Flag

- Danger on the track. All drivers must slow down their vehicles.
- No passing is allowed under a Yellow Flag.

Black Flag – Team Issues

- When a team is given the Black Flag, it means that the driver must pull their vehicle off the track immediately into the pit-lane.
- Any vehicle that loses its body or that cannot be controlled properly due to radio problems, has extensive race damage or missing parts will be black-flagged.
- A black flag ruling may be used at any time for unsportsmanlike conduct or abusive language to other drivers or race officials.
- Failure to comply with any of these rules, not limited to items covered in this section, may result in penalty or disqualification by the Race Director
- The first uses of Black flag will result in a Team warning. Each team can receive 3 warnings throughout the race.
- After 3 warnings, the next 3 uses of Black flag will result in a 1st grade time penalty of 3 minutes each.

- The following 2 uses of Black flags will result in a 2nd grade time penalty of 15 minutes each.
- If a team collects more than 3 warnings, 3 1st grade penalties and 2 2nd grade penalties. The team is disqualified for the rest of the race.

Black and White Flag – Driver Issues

- A black and white flag will be given to a driver whose driving, vehicle operation or performance constitutes a hazard to the other vehicles in the race. This includes insufficient skills to compete in the race, unsportsmanlike driving, intentional hitting of other vehicles, short coursing, intentional blocking when being overtaken, illegal or improper vehicle numbers and other such acts.
- The first uses of black and white flag will result in a Driver's warning. Each driver can receive 5 warnings throughout the race.
- After 5 warnings, the next 5 uses of black and white flag will result in a 1st grade time penalty of 30 seconds each.
- The following 3 uses of black and white flags will result in a 2nd grade time penalty of 60 seconds each.
- If a driver collects more than 5 warnings, 5 1st grade penalties and 3 2nd grade penalties. The driver is disqualified for the rest of the race.

Penalties

- Race Director may assess "stop and go" penalties, with or without delay to an act of rules violation. During a "stop and go" penalty, the vehicle must enter the pit lane and stop at the designated area until the Race Director permits the car to continue in the race.
- Failure to comply with any H2GP PRO rules, not limited to those items covered in this section, may result in a penalty being assessed by the Race Director.
- The Race Director will distinguish two different groups of penalties: driver penalty given to a driver violating the rules, and team penalty given in the event that any other member or whole team violated the rules.
- The Race Director will distinguish three different grades of penalties according to the seriousness of the rules violation.
- The Race Director at their own discretion may provide a warning prior to giving the first penalty.
- The Race Director can address the penalty automatically without a warning in case of a severe or intentional accident (deliberate hit from behind of the vehicle, hitting of standing vehicle from any direction, etc.).
- Repeated violations lead to a higher graded penalty.
- The "stop and go" penalty system during the race is shown below:

| Penalty | Driver | Team |
|-----------|------------|------------|
| 1st GRADE | 30 seconds | 3 minutes |
| 2nd GRADE | 60 seconds | 15 minutes |
| 3rd GRADE | Driver DQ* | Team DQ |

*repeated penalisation of the driver will lead to driver DQ, which is administered with one team penalty

Penalty Log

• Organisers will maintain a copy of the Penalty Log during the race and can be reviewed by the Team Captain.

Examples of Driver Penalties

- Corner cutting is any deliberate or accidental maneuver that shortens the length of the course for a vehicle traveling around the track.
- Improper re-entry is any maneuver that adversely affects the ability of other drivers in the race to safely operate their vehicles.
- The vehicle re-entering the racing surface, from a point other than the pit lane.
- Driving in the opposite direction to the racing direction during the race.
- Disturbing and any other interfering behavior to other drivers in drivers' area.
- Failure to stop and allowing the other car to restart when a driver has caused a crash.

EXAMPLES OF TEAM PENALTIES

- Any technical violation during a technical inspection during the race.
- Any unmarked batteries or Hydrostiks in the pit stop area.
- Presence of a teacher or any other adult in the pit stop area, unless there is technical assistance allowed by the Race Director, will result in immediate Disqualification.
- Repairing or servicing a vehicle in the pit lane or on the track.
- Disobeying the Race Director's instructions.
- Deliberately modifying, changing, blocking, or otherwise interfering with the racetrack.
- Ignoring the black flag.

Disqualification

- Any of the following actions on the part of a driver or member of their team will result in mandatory disqualification from the event.
- Collecting 3 2nd grade team penalties
- Subjecting a Race Officials to improper language or other demeaning actions.
- Subjecting other contestants to improper language, other demeaning actions or unsportsmanlike behavior.

- Repeated deliberate bumping or blocking.
- Not submitting the vehicle for technical inspection prior to, during and after the race.
- Failure to abide by charging specifications with LiPo batteries (i.e. overcharging).

Sporstmanship

- Great sportsmanship starts with respect for yourself, your team, the opponent and the decisions of the race officials. Great fans are enthusiastic for their team and sportsmanlike with their behavior towards the opponent and the decision of the race officials.
- Stopping for the opponent when causing them to crash or spin out during an attempt to pass. Once they restart, you may continue the race as well.
- Supporting other teams when they are working on their cars.
- Cheering for clear and clean racing and passes

This document has been developed as a part of H2GP SERIES.

Unauthorised distribution of this document without the consent of the organisers is prohibited.