

2025



HOBART CITY HS (NEW TOWN CAMPUS)

**TASMANIAN MODEL
SOLAR CHALLENGE
CAR EVENT GUIDE**

SUNDAY NOVEMBER 9 • 8:30AM-3:00PM

EVENT DATE AND LOCATION

Race day for the **2025 Tasmanian Model Solar Car Challenge** will be held on **Sunday Nov 9th** at the **New Town Campus of Hobart City High School** (6 Midwood St, New Town). Free parking will be available on campus or along surrounding streets. All racing takes place around the back of the school on the northern sports ground. For a basic layout of the event please see the attached map at the end of this guide.

Please note that this is only for the car competition. The solar boat event is being held at a later date.

Although a competition for students, the event will be open to a public audience and welcomes along family members, sponsors, media news crews and other interested spectators from the wider community.

All persons choosing to attend the event will acknowledge and give consent to the possibility of being photographed or filmed by the TMSC or any other individuals for news, marketing or promotional purposes.

ENTRY FORMS

The Solar Car Challenge is open to any child studying up to Yr 12 in Tasmania. Entry is free but teams must have entered by no later than Wednesday November 5th to be included in this year's start list. Entry forms are available for download at:

www.tassolarchallenge.org/register/

Please complete and return to the email provided on the form.

TIMETABLE

Teams should aim to have arrived at the event by 8:30am. The day begins with teams needing to sign in and have their entries scrutineered. Official racing will commence as soon as all vehicles have been passed and given a race number. Only cars that have received a number sticker will be permitted on any tracks for testing. An approximate schedule for the day can be found below:

8:00am - Sign-in and scrutineering for early arrivals

8:30am - Official sign-in and scrutineering begins

10:00am - Race briefing and round robins begin

12:30pm - Lunch break

1pm - Knockout rounds begin

2:30pm - Finals

3:00pm - Award presentations

Times may vary somewhat depending on final entry numbers, weather conditions and the racing format. An effort will however be made to have all racing completed by 3:00pm. The event will conclude shortly after with an awards presentation.

SCRUTINEERING, PING PONG BALLS, MANIKINS AND BALLAST

All entries will need to be scrutineered to ensure compliance with the 2025 regulations. Teams of non-complying cars will be given an opportunity to fix any issues or otherwise be ineligible to participate in later knockout rounds and finals.

Scrutineers will provide a set of 20x ping pong balls and a manikin driver for teams to demonstrate that they can be fit into their car. These will not need to be carried when racing.

Teams with an electronics controller (Automax, Picaxe, etc) must provide their own 200g weight when passing through scrutineering. This can be made up of a steel block, slotted weights that have been taped together, a resealable bag of nuts and bolts, etc.

SOLAR PANEL WEIGHT AND POWER TESTING

Teams will have the option of racing with either their own solar panel or one assigned to them by the TMSC at scrutineering. This will then remain their panel for the duration of the competition.

Teams choosing to provide their own solar panel must ensure this weighs 240 +/- 10g either on its own or combined with one additional piece of ballast. These will be power tested on a lightbox and calibrated to 5.5W at standard test conditions (1000 W/m² irradiance, 1.5 air mass, 25°C).

Custom panels may use any type of connector but teams must provide Scrutineers with a means to attach a set of crocodile clips for measuring the power output.

ENGINEERING KNOWLEDGE

It's important to not just design and build something that works but also have an understanding of the engineering principles at play. As such, teams will be handed a short questionnaire when passing through scrutineering. This will aim to test the depth of student understanding and consist of several questions based around the car and solar energy. Teams wishing to be eligible for an engineering knowledge award will need to hand their answers back to organisers before the end of the competition.

TRACK TYPE, RACING FORMAT AND CAR CHECKS

The car competition will be held across 2 types of track, a large 100m dual-lane figure-8 and a smaller single-lane oval. Races on the figure-8 track will see 2 cars compete side by side over a single lap with the winner being the first to cross the finish line. Races on the oval track will consist of 2 cars starting on opposite sides and travelling around in the same direction. Here, the first car to catch the opponent or complete a set number of laps will be declared the winner.

All cars will initially participate in a series of round robin races against different opponents. The number of race wins and times from these heats will then be taken into account when seeding the cars for the final knockout competition.

The winner of every race will be checked to make sure the right weight has been carried. If incorrect, the win will automatically go to the opposing car.

RACE SCHEDULE AND FORFEITS

Earlier rounds will run according to a printed race schedule. Schools will be given a run sheet to follow and there may also be a copy attached to a public noticeboard. Teams will be responsible for keeping track of their upcoming races and need to be at the starting area 2-3 races ahead of time. Final PA reminders will be made for any cars that haven't shown up in a timely manner.

Each team will initially have approximately 15-20 minutes between races. This time is for making modifications or repairs to their vehicle and preparing for the next race. Students may also like to take this opportunity to complete the knowledge questionnaire or support their fellow teams.

Teams not ready to race without notifying event officials of a valid reason will automatically forfeit that particular race. Plenty of time is given to prepare between races and students wanting to make last-minute modifications will need to bring the necessary tools with them to the starting area.

OWN WIRING, MAXIMISER AND BALLAST

Each car must have its own wiring, maximiser/electronics board (if the team has chosen to use one) and ballast. These items cannot be shared across multiple entries.

AWARDS

Awards will be presented to the top 4 placegetters and several other discretionary category winners on the day. Major awards go to the winner of the final knockout event, the fastest lap of the day as well as the top primary school entry. Top teams and several wildcards will be selected to compete at the national finals which are this year being held on December 6 & 7 in Melbourne.

LUNCH

A short intermission from racing will take place between the end of the round robins and the start of the knockout competition. This has been scheduled for approximately 12:30pm and we'll do our best to continue on with the knockout draw as quickly as possible.

Tracks will be open to teams for testing during the lunch break.

A sausage sizzle or food truck may be available but this has yet to be confirmed. Participants are otherwise asked to supply their own lunch and snacks. Those looking for additional refreshments can find a takeaway store a short walk away on New Town Rd (near Bromby St) or New Town Shopping Plaza is 1-2 minutes away by car. Teams intending on leaving the venue at any point are advised to keep some members behind so racing can continue should they take a bit longer to return.

AMENITIES

School toilets can be accessed by heading west up along the main building. A nearby common room, umbrellas and several marquees will provide some shaded work areas for teams making adjustments to their cars. It's an outdoor event and recommended that participants bring along their own drink bottle, hat, sunscreen and some warm clothes to cater for Tasmania's variable weather.

SCHOOL MARQUEES AND TOOLS

Schools with their own marquee and trestle tables used for sports carnivals, outdoor events, etc. are asked to bring these along to provide extra shelter for their teams out on the sportsground. Please seek out a TMSC volunteer on arrival to find out where these can be set up so as to avoid driving any pegs into the ground's irrigation system.

Teams are expected to bring along their own basic hand tools and spare parts for making car adjustments or repairs (screwdrivers, spanners, pliers, etc). Power tools such as soldering irons, hot glue guns, drills, grinders, etc. are permitted but must only be used in a designated mains power area. Only hand tools and battery-powered equipment will be allowed out on the ground.

Users of any powered equipment will be required to wear adequate eye and ear protection at all times and ensure no damage is done to any of the tables they're supplied with.

ADVERSE WEATHER AND BACKUP DATE

Model solar cars run in virtually any weather, even in the rain, so don't bank on a perfectly clear and sunny day of racing. This being said, the event will be rescheduled if the weather forecast predicts heavy rain and/or strong winds. Teams are advised to closely monitor their emails and the TMSC website/facebook page for any news of a cancellation. A decision on this will be made no later than on the morning of the day prior to the event (Saturday 8th November).

A backup day of **Sunday November 16th** (one week later) has been put in place should the original date not be possible.

SOME OTHER INFORMATION

The oval track has slightly tighter corners but races will all run in an anti-clockwise direction. Teams racing on this track will be permitted to make changes to improve the cornering stability of their car (adjust solar panel or ballast placement, etc).

Finish times will vary according to how far a team progresses through the knockout event after lunch. Those eliminated in earlier rounds may be done before 1:30pm while finalists will race through to the end.

Teams are permitted to cool down their solar panel with water ice but a replacement panel will not be allowed should any problems arise from this. Cooling sprays or dry ice (solidified CO₂) are prohibited.

Track officials will determine the winner of each race. If a team believes they've been mistreated or lost due to an unfair incident then they must report this immediately after their race. TMSC personnel will work together to resolve the issue and return a final decision asap.

Please remember that this is a student competition. Some teacher and parent assistance is permitted in earlier rounds but students are expected to be largely self-sufficient by the time finals get underway.

For further information of any kind please contact the TMSC at tassolarchallenge@gmail.com or visit the website/facebook page at www.tassolarchallenge.org and www.facebook.com/tassolarchallenge

Emergency
evacuation point

Car tracks and
marquees

Toilets
(enter here)

Kintora Shotokan Karate

Parking

New

New Town Rivulet

Cycleway

