



Thunder Sports Technical Rules

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Thunder Sports Technical Rules

1 Philosophy

a. Philosophy

The Thunder Sports Technical Rules provides the boundaries for highly modified vehicles that intend to compete in circuit racing events. Vehicles that have been built to comply with these rules must comply with all aspects of these rules. Vehicles that have been built to comply with the technical rules of other circuit racing series that do not comply with these technical rules but in the opinion of the Thunder Sports Pty Ltd management comply with Sections 3e and 7d, as well as have performance and design broadly compatible may be provided with an invitation (see Section 2b) to compete by Thunder Sports Pty Ltd management.

b. Enforcing of these rules

The Thunder Sports Cup management shall allocate an official to enforce these rules.

Random checks will be carried out on vehicles to confirm they comply with these rules. Any vehicle that does not comply will have to rectifying the non-compliance by the following Thunder Sports Cup round or be reviewed as an invited vehicle at the discretion of Thunder Sports Pty Ltd management.

c. Review of these rules

Thunder Sports Pty Ltd management is responsible for reviewing these rules and presenting to The Australian Auto Sports Alliance (AASA) any proposed changes to these rules.



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2 Eligibility

a. Base Vehicle

The Base Vehicle is or was available for sale worldwide, a Sedan, Coupe, Hatchback series production closed car, or Convertible where the Base Vehicle complies with Section 4c, or Two Wheel Drive (2WD) "Ute"/"Pick-Up" style commercial vehicle with a manufacturer Gross Vehicle Mass rating of less than 3,300kg and maximum length of less than 5,400mm. In all cases the reference points of the Base Vehicle's dimensions and silhouette will be the basic version of that vehicle, eg – use a Subaru Impreza GX and NOT a Subaru Impreza WRX STi. Four Wheel Drive (4WD) driveline transplants are only permitted where the Base Vehicle receiving the transplant is part of the same family of vehicles as the donor vehicle (eg. Mitsubishi Lancer GSR driveline transplanted into a Mitsubishi Lancer Coupe), and the resulting vehicle complies with Section 3a.

b. Invitational Entry

An Invitational Entry is an entry containing a base vehicle which does not comply with these regulations but which has been provided with an invitation to compete by the Thunder Sports Pty Ltd management.

3 The Vehicle

a. Construction

Each vehicle must have four wheels, of which only the front two are used for steering.

Two Wheel Drive (2WD) vehicles can be a development of the Base Vehicle's chassis including the removing and replacing of material compliant with Section 4b up to and including full prototype construction. A prototype construction vehicle is a vehicle whose whole chassis has been constructed using tubing or a bespoke monocoque tub to which the suspension, bodywork, aerodynamic devices and driveline is attached. It is permitted that the engine, gearbox and/or driveline mounting plates are stressed members for the suspension, bodywork, aerodynamic devices to be attached. The



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vehicle's engine must remain in the same general location as that of the Base Vehicle e.g. entirely forward of the midpoint of the wheelbase, or entirely rearward of the midpoint of the wheelbase, but forward of the rear axle, or entirely rearward of the rear axle.

Four Wheel Drive (4WD) are only permitted to be a development of the Base Vehicle chassis as follows;

The standard factory sheet metal must be retained in the following areas: roof frame, pillars, door sills, cockpit floor section, front and rear chassis rails up to suspension subframe mounting points, firewall, original shock absorber (i.e. Macpherson Strut) towers which must retain in their original position and function as the manufacturer of the Base Vehicle intended except where specific provision is made for modification of these items, as follows:

Modifications can be made to the firewall for transmission clearance, wiring or roll cage, however the resulting firewall must:

1. must remain in the Base Vehicle's original position
2. resemble the original
3. continue to be structural
4. create a seal between the engine bay area and the cockpit;
5. only use a replacement material manufactured from material of the same gauge and composition as the original part
6. the engine and driveline must retain the original configuration (eg. North-South or East-West)
7. An engine block that has been relocated from its standard factory position must be no more than 51mm beyond the mainly vertical firewall. The reference point for the mainly vertical firewall is the point furthest from the midpoint of the wheelbase.
8. Relieving the wheel wells to provide clearance for tyre and wheel assemblies
9. Drilling holes for the fitment of permitted accessories and components



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10. Removal of unused standard brackets

b. Safety Cage

All vehicles that have a Safety Cage that has been previously authorised or recognised by the AASA or sanctioning bodies other than AASA must as a minimum, comply with an AASA Class 2 Safety Cage regulations found here;

<https://aasa.com.au/wp-content/uploads/181024-01-AASA-Safety-Cage-Regulations-V1.1.pdf>

All new vehicles not yet authorised or recognised by the AASA or sanctioning bodies other than AASA must as a minimum, comply with an AASA Class 3 Safety Cage regulations found here; <https://aasa.com.au/wp-content/uploads/181024-01-AASA-Safety-Cage-Regulations-V1.1.pdf>

It is highly recommended that older cars be brought up the AASA Class 3 Safety Cage regulations found here; <https://aasa.com.au/wp-content/uploads/181024-01-AASA-Safety-Cage-Regulations-V1.1.pdf>

A 2WD prototype construction vehicle fitted with a rear mounted load bearing transaxle type transmission is permitted to utilise 'V' type backstay members mounted to the gearbox, providing the lower part of the 'V' centrelines are not more than 300mm apart.

For all vehicles, all retrofitted reinforcements and/or prototype construction chassis members above the lower edge of the side windows are regarded as forming part of the safety cage, and are subject to the requirements of AASA Safety Cage regulations found here; <https://aasa.com.au/wp-content/uploads/181024-01-AASA-Safety-Cage-Regulations-V1.1.pdf>

c. Wheelbase

The wheelbase as measured between vertical centrelines of the of the front and rear hubs must be within $\pm 100\text{mm}$ of that of the vertical centrelines of the Base Vehicle's front and rear hubs up to a maximum total difference per side of $\pm 100\text{mm}$.



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d. Clearance

The minimum ride height is 40mm above the ground with all tyres at a pressure of 1.7 bar (25 psi).

e. Racing Weight

The following are the minimum racing weights at the completion of a qualifying session or race for rear-wheel drive naturally aspirated vehicles and include the driver and all fluids.

up to 1600cc	730kg
1601 - 2000cc	780kg
2001 - 2500cc	800kg
2501 - 3550cc	900kg
3551 - 4500cc	975kg
4501 - 5100cc	1050kg
5101 +	1125kg

Note: Additional racing weight corrections to be applied for different engine and driveline configurations:

Subtract 50kg from the above weight for front wheel drive vehicles

Add 50kg to the above weight for 4WD vehicles

For each vehicle using a forced induction system: Add 75kg to the above weight for each vehicle between 4337cc and 6000cc corrected engine capacity (refer to Section 7d). Add 115 kg to the above weight for each vehicle above 6000cc corrected engine capacity (refer to Section 7d).

4 Bodywork

a. Body

The silhouette of the Base Vehicle's visible body panels must remain unmodified apart from the modifications permitted in these rules.



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b. Materials

All body panels may be replaced by panels manufactured from material of the same gauge and composition as the original part, or aluminium/aluminium alloy of a gauge not thinner than 1.2mm, or glass fibre and/or glass-reinforced plastic, carbon fibre and/or Kevlar composite materials of a gauge not thinner than 1.5mm.

The bonnet and boot lid may be replaced and incorporated into “one-piece clamshells” with surrounding panels. It is encouraged that the Base Vehicle’s bonnet and boot lid seams and panel joins be emphasised in the livery of the vehicle.

All external glass may be replaced with a rigid transparent material such as polycarbonate. The minimum material thickness for side windows and rear windscreen is 3mm. The minimum material thickness for the front windscreen is 6mm.

c. Roof

Up to two roof ducts with the sole purpose of allowing fresh air from outside the vehicle into the cabin area can be installed providing they are a NACA type, or broadly the same in shape and design, or same as the type used in rally cars.

Each Base Vehicle fitted with a sunroof shall have a permanent fixed replacement panel made from material that comply with Section 4b fitted into the sunroof opening

All convertible vehicles eligible to compete must be fitted with a full hardtop roof that is the same dimensions and silhouette and have the rear windscreen in the same position and dimensions as the factory optional hard top for that Base Vehicle and must be made from materials that comply with Section 4b.

d. Front and rear bumpers, facias, grills and panels

The rear bumper, fascia, or beaver panel must retain its original appearance and location and may be modified and/or replaced for clearance and/or the fitment of aerodynamic aids providing the material complies with Section 4b.



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The front bumper and grill must retain its original appearance and location and may be modified and/or replaced for clearance and/or the fitment of aerodynamic aids providing the material complies with Section 4b.

No part of the front or rear bumper shall be wider than the widest point of the modified mudguards and must fit within the dimensions listed in Section 4i.

e. Mudguards

Modified mudguards and extensions are permitted up to a maximum of 125mm wider per side than the widest point on the mudguards of the Base Vehicle and must be made of material that complies with Section 4b.

When viewed from above, the mudguards and/or extensions must cover the complete wheels to the horizontal centreline of the hubs with the wheels in the straight-ahead position.

The rear extremities of the front and rear mudguards and/or extensions shall as a minimum cover the complete wheels up to a vertical line from the trailing edge of the tyres when viewed from the side of the vehicle with the wheels in the straight-ahead position.

The front extremities of the front and rear mudguards and/or extensions shall as a minimum cover the complete wheels up to a vertical line ahead of the leading edge of the tyres and up to a horizontal line a maximum of 60mm above the horizontal centreline of the wheel hub when viewed from the side of the vehicle with the wheels in the straight-ahead position.

Louvered vents are permitted in the upper surface of the front and rear mudguard areas with the purpose of venting the mudguard. Where the Base Vehicle's bonnet covers the top of the mudguard area, any vent fitted to the bonnet with the purpose of venting the area above the tyres must be positioned the area described in this paragraph with panels or ducting down, separating the space directly below the vent from the engine bay, in order to be excluded from the area described in 4f.

Openings in rear of the mudguards and/or extensions between the rear most edge of the Base Vehicle's wheel arch opening and the area immediately behind are free providing the resulting mudguard and/or extension complies with all other items in Section 4b, 4d, 4e, 4g, 4h.



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f. Bonnet

Up to 3 bonnet vents with a maximum combined area of 3200cm² can be fitted. The maximum combined vent area includes any opening between the scuttle/plenum area and the trailing edge of the bonnet. If the bonnet vents are not louvered, they must be fitted with panels or ducting down to the water radiator/intercooler/oil coolers/fans so no other parts of the under bonnet can be seen.

A change to the shape of the bonnet is permitted providing it is to accommodate modified mechanical components that would otherwise interfere with the position of the Base Vehicle's bonnet, providing the change in shape of the bonnet does not exceed 100mm in height over the dimensions of the Base Vehicle's bonnet, and the length and width of the resultant change to the shape of the original bonnet is not in excess of the original bonnet dimensions. Any material used to change the shape of the bonnet must comply with Section 4b.

g. Doors

All ancillary equipment and mechanisms in the Base Vehicle's doors may be removed. Original door catches and hinges may be replaced or modified. Front doors that open must have a mechanism to open from both the outside and inside of the vehicle.

The front door/s may be fixed or cut horizontally along the full length of the door to a maximum height equal to the intersecting point of the roll cage tubes that form the side intrusion protection and must be hinged at the front. It is encouraged that the Base Vehicle's door handles, door seams and panel joints be emphasised in the livery of the vehicle. The gap between the opening upper section and the fixed lower section of the resultant modified door must be no more than 3mm. Fixed front doors must not be fitted with windows.

Rear doors may be fixed or made integral with the surrounding bodywork. Rear door windows (or rear side windows for a 2-door vehicle) can be replaced with material compliant with Section 4b. It is encouraged that the Base Vehicle's door handles, door seams and panel joints be emphasised in the livery of the vehicle.



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A maximum 10mm gap is permitted between any removable body panels or opening doors.

A driver's window net must be installed and attached to the roll cage and/or chassis and must meet AASA requirements <https://aasa.com.au/wp-content/uploads/Harnesses-Appendix-5-V0.5.pdf>

h. Pillars, rocker panels and side skirts

On prototype construction vehicle with all doors closed, the original shape and area of the A, B and C pillars, rocker panels and door glass frames of the Base Vehicle must be retained.

It is permitted to fit side skirts to the area between the trailing edge of the front mudguard and/or extension and the leading edge of the rear mudguard and/or extension and must be no wider than a straight line between the outer most edges of the mudguards and/or extensions. Each side skirts shall not exceed the front and rear mudguard and/or extension in height and must not extend below the lowest part of the floor. The vertical section of the side skirt can be designed as an aerodynamic aid (refer Section 6).

i. Floor

It is permitted to replace the floor or add an additional floor to the Base Vehicle of free design provided that the lower edge of the resultant floor is compliant with Section 3d and 6, extends no further forward than the leading edge of the front tyres, no further rearward than the centreline of the rear axle and complies with Section 4b. Any sealed floor below the engine must as a minimum have one 20mm diameter opening directly below the engine to let fluid escape.

j. Rear facing vents

It is permitted to vent pressure out of the cabin or engine bay of a rear/mid-engine Base Vehicle through the use of rear facing vents with a maximum combined surface area of 1,000cm² provided that the rear facing vents do not expose the vehicle's driveline and/or fuel system to the cabin, are mounted in the area rearward of the roof's trailing edge (excluding the rear tail lights), and



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any vent created in the rear windscreen must have an individual area no greater than 20cm² each.

5 Interior

All standard interior fittings, seats and/or trims may be removed. Any front door trim that is removed must be replaced with a flush-fitting rigid material compliant with Section 4b. Where front door windows are fitted, it is permitted to fit one NACA type duct per window. It is permitted to fit two NACA type ducts per rear side/rear door window.

A replacement driver's seat that complies with AASA regulations can be fitted and must be positioned either to the left or the right of the longitudinal centreline of the vehicle. The forward-facing shoulder area of the seat must be at least 75mm forward of the leading edge of the rear tyre.

6 Aerodynamic aids

Vehicles with aerodynamic aids found by the Chief Scrutineer to be unsafe or unsuitable will not be permitted to start until improvements are made to meet approval of the Chief Scrutineer.

Active aerodynamic aids including any hydraulically or electronically actuated components are not permitted.

All measurements have a tolerance of +/-3mm to allow for inaccuracy of hand measurement and thermal expansion.

This section is intended to be read with Section 4e, 4h and 4i. Each aerodynamic aid must fit within the following requirements and in the general areas detailed in Appendix A:

Box A: Any aerodynamic aid forward of the leading edge of the front tyres in the straight ahead position must not extend more than a maximum of 125mm beyond the extremities of the Base Vehicle's bodywork up to a maximum width no wider than the widest point of the Base Vehicle's bodywork/or modified mudguards and/or extensions (refer Section 4e), and must not interfere with or cover the area of the Base Vehicle's headlights. A full front



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under tray is permitted which must not extend further rearward than the centre line of the front axle.

Box B: Any aerodynamic aid (i.e. side skirt and floor) in between the front (Box A) and rear (Box C) areas must not extend further outwards than a maximum of 125mm per side beyond the extremities of the Base Vehicle's bodywork up to a maximum width no wider than the widest point of the Base Vehicle's bodywork/or modified mudguards and/or extensions (refer Section 4e).

Box C: Any aerodynamic aid (other than a rear wing and/or rear deck lid spoiler) rearward of the trailing edge of the rear tyres must not extend more than a maximum of 100mm beyond the extremities of the Base Vehicle's bodywork (up to a maximum width no wider than the widest point of the Base Vehicle's bodywork/or modified mudguards and/or extensions (refer Section 4e). In addition to the maximum dimensions above, a rear diffuser including its endplates fitted on the underside of the bodywork is permitted to extend to the leading edge of the rear tyres.

Further to the Box C requirements, a rear deck lid spoiler including any veins or endplates must not have any of its upper extremities more than 200mm above the Base Vehicle's bodywork where mounted and not exceed the width of the Base Vehicle's bodywork /or modified mudguards and/or extensions (refer Section 4e) where mounted.

Further to the Box C requirements, a rear wing including any veins, endplates and mounting legs is permitted to extend a maximum of 250mm above the highest point of the roof line of the Base Vehicle, 200mm rearward of the rear most extremity of the Base Vehicle's bodywork and must not extend further outwards than 50mm per side beyond the Base Vehicle's bodywork/or modified mudguards and/or extensions (refer Section 4e), and up to a maximum of 100mm per side beyond the extremities of the Base Vehicle's bodywork.

The maximum number of horizontal elements of any aerodynamic aid in Box C is two. (i.e. dual element wing, double diffuser, dual canards per side behind the trailing edge of the rear tyres).



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The vehicle can have a vent in the diffuser panel where it provides ventilation for the vehicle's various cooling system(s), providing no part of the cooling system and/or associated ducting sits below the diffuser panel.

Any exhaust systems that exists through the diffuser panel must comply with Section 7e of these rules.

7 Mechanical Components

a. Brakes

A modified version of the Base Vehicle's braking system can be used providing that no more than one brake rotor manufactured from ferrous material and two brake calliper per wheel is used.

Where a prototype braking system is used, it must be part of a dual circuit braking system that operates all four wheels and is required to still control two wheels on the same axle by the brake pedal in the event of a brake fluid leakage at any point in brake system. Working anti-lock braking systems shall not be permitted unless originally fitted to a Base Vehicle and its anti-locking function is unmodified (refer Section 9b). The design, construction and components of the braking system are otherwise free.

b. Suspension

'Active' suspension control, adjustment or ride height control is not permitted unless originally fitted to a Base Vehicle in unmodified form (refer Section 9b). The driver of the vehicle must not be able to personally carry out any suspension adjustment other than sway bar stiffness adjustment whilst in the driving seat with seatbelts on and ready to race. Each suspension component, mounting and adjustability is otherwise free.

c. Transmission

The transmission is defined as a 'manual' type transmission operated exclusively by the driver via a mechanical linkage, or electric/electrohydraulic driver-initiated signal (eg "paddle shift") with a maximum 7 forward gears unless a standard unmodified transmission in the Base Vehicle has more than 7 gears and is being used.



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Only one clutch assembly per vehicle. The clutch can only be controlled using a pedal actuated by the driver's left foot. The pedal must only be linked to the clutch mechanism either mechanically or hydraulically. Electronic clutch actuation systems are not allowed, except for allowances in Section 9b.

Four-wheel drive (4WD) is permitted for vehicle that are eligible under Section 3a. All 4 wheels of the vehicle must at all times be mechanically linked to the transmission.

The design, construction and components of the transmission and final drive are otherwise free.

d. Engines

The design, construction and components of the internal combustion engine are free of constraints except for the following:

Only a 4 stroke piston internal combustion engines or Mazda style rotary internal combustion engines are permitted. Only cylinder block or rotor housings up to a swept volume capacity limited to 7000cc from a standard production vehicle of which at least 2500 of the chosen engine were produced, or any internal combustion engine built specifically for racing and not available in a standard production vehicle with a swept volume capacity limited to 6000cc (eg Chevrolet SB2.2, Judd GV, Mazda 26B), or any other engine approved for use by Thunder Sports Pty Ltd management are permitted.

An aftermarket cylinder block/rotor housing can be used provided that the centrelines of the crankshaft and cylinder bores or the rotary eccentric shaft are in the same relative position as the original equipment block/rotor casing it is based on and the replacement cylinder block/rotor housing can utilise original equipment and/or manufactured internal engine parts.

A rotary internal combustion engine is acceptable up to a maximum of 4 rotors.

The engine block, material, rotor housing material, each cylinder head and all ancillary equipment material is free.

Only one internal combustion engine is permitted to be fitted to the car.



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Where a forced induction system is being used;

A maximum of 2 forced induction devices, not running in series can be used

For a vehicle that utilised both a hybrid engine system and a forced induction system, the maximum swept volume capacity of the internal combustion engine is 3500cc

For internal combustion engines with a swept volume capacity greater than 4000cc, a restricting orifice must be fitted to the inlet tract/s prior to the air entering the forced induction device/s so that all air used in the combustion process of the engine must pass through the orifice/s

The maximum diameter of the restricting orifice/s must be complied with at all temperatures

The maximum internal diameter of the restricting orifice/s must be 38mm each where two forced induction devices are being used, or 54mm where a single forced induction device is being used

The upstream extremity of the restriction must be situated a maximum of 50mm from the upstream extremity of the moving compressing media and be maintained for a distance of at least 3mm downstream

The area between the exhaust of the restricting orifice and the intake of the forced induction device must be perfectly sealed and free from any other tubes or inductions that may allow for more intake flow into the forced induction device

Where a hybrid engine system is being used;

1. A maximum of one electric engine can be used to provide drive
2. Maximum hybrid engine system voltage is 400 Volts
3. For 2WD vehicles, the electric engine providing drive must connect to the internal combustion engine and/or drive line before the vehicle's final drive and comply with Sections 3a and 10d.



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4. For 4WD vehicles, the electric engine providing drive must connect to the internal combustion engine and/or drive line before the vehicle's central differential and comply with Sections 3a and 10d.
5. Energy recovery systems are free
6. The swept volume capacity of an electric engine shall be calculated by multiplying the peak electric engine volts by peak electric engine amp draw and dividing by 100. i.e. Swept volume = $350V * 300A / 100 = 1050cc$
7. Maximum hybrid system corrected swept volume capacity shall not exceed 7000cc where a standard production vehicle engine is used, 6000cc where an internal combustion engine built specifically for racing is being used and 4000cc before forced induction system correction is applied, where a forced induction system is being used

To establish total corrected engine cc for minimum racing weights and air restrictor requirement:

A multiplying factor of 1.7 applies to the swept volume of the internal combustion engine (corrected for rotary engines) where a forced induction system is used to calculate the corrected swept volume capacity for minimum racing weight in Section 3e. (see examples given below)

Nissan RB26DETT = $2568cc \times 1.7 = 4366cc$ (figure to use for minimum racing weight)

Ford Barra Turbo = $3984cc \times 1.7 = 6773cc$ (figure to use for minimum racing weight)

A multiplying factor of 1.75 applies to the swept volume of rotary engines to calculate the corrected swept volume capacity for minimum racing weight in Section 3e

Mazda 13B = $1308cc \times 1.75 = 2289cc$ (figure to use for minimum racing weight)

Mazda 13B with Turbo = $1308cc \times 1.75 \times 1.7 = 3892cc$ (figure to be used for minimum racing weight)



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Where a hybrid engine system is being used, the swept volume of the internal combustion engine (corrected for rotary engines) is to be added to the calculated swept volume of the electric engine and then corrected with forced induction system correction (if applicable) to calculate the corrected swept volume capacity for minimum racing weight in Section 3e (see examples given below)

Chevrolet LS1 = 5665cc + 1050cc (350V * 300A /100) electric engine = 6715cc (figure to use for minimum racing weight)

Nissan VQ35DE with Turbo = (3498cc + 450cc (100V*450A/100) electric engine) * 1.7 = 6712cc (figure to use for minimum racing weight)

Mazda 13B = (1308cc x 1.75) + 1050cc (350V * 300A /100) electric engine = 3339cc (figure to use for minimum racing weight)

e. Exhaust

Exhaust outlets must direct exhaust gases horizontally or downward to the side or rear of the vehicle. The majority of the exhaust outlet must not be higher than the horizontal centreline of the lowest wheel hub. An exhaust that exits sideways must exit behind the front wheels a minimum of flush with the surrounding body work up to a maximum of 50mm beyond the maximum width of the surrounding bodywork up to a maximum of 125mm beyond the widest point on the unmodified mudguards of the Base Vehicle. An exhaust that exits rearwards must not protrude more than 20mm beyond the rearmost portion of the Base Vehicle's bodywork.

The design, construction and components of the exhaust system are otherwise free.

8 Wheels and Tyres

The maximum diameter of any wheel rim is to be 18 inches.

The maximum width of any complete wheel assembly for 2WD vehicles is 370mm, measured with at least 1.7 bar (25psi) of pressure in the tyre.

The maximum width of any complete wheel assembly for 4WD vehicles is 295mm, measured with at least 1.7 bar (25psi) of pressure in the tyre.



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Construction and components of the wheel and tyre are otherwise free.

9 Electrical components

a. Lighting

The original external shape and location of all front lighting and lights equipment of the Base Vehicle must be retained, however does not need to be functional. Where an original headlamp and/or signalling light is removed, a forward-facing vent with the original external shape and location can be installed, or decals of original size and location must be used

Brake lights must continue to operate and keep the original external shape and location of the Base Vehicle.

A rain light of at least 15 Watts (or LED equivalent) must be fitted not more than 100mm from the centreline at the rear of the car. The driver must be able to switch the rain light on whilst in the driving seat with seatbelts on and ready to race.

b. Electronic systems

The following vehicle dynamics electronic control systems are only permitted if originally fitted to a Base Vehicle in unmodified form;

Stability control

Suspension control

Damper adjustment

Antilock Braking System

Differential adjustment control

Ride height control

Rear wing adjustment

Gear selection

Clutch Control



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The following vehicle dynamics electronic control systems are permitted to all vehicles:

- Traction control
- Launch control) Electronic throttle actuation (fly by wire)
- Engine management
- Data logging
- Telemetry – car to pit only
- Paddle shift initiated gear change actuation

The following vehicle dynamics electronic control systems are **not** permitted:

- Differential action/adjustment/control of any type
- Suspension or Damper adjustment/control
- Clutch control of any type
- Antilock Braking Systems
- Stability system
- Ride height control
- Telemetry – pit to car

Electrical components and control systems and data logging systems are otherwise free.

c. Hybrid engine system power delivery

An EV sticker (dimensions specified by the AASA) must be fitted to the vehicles driver's side B- pillar at window level, the vehicles front windscreen on the side opposite the driver and rear windscreen on the same side as the driver,

Maximum Battery Pack Voltage is 400 Volts



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Battery Pack and must be securely fitted inside a Battery Box made of non-conductive material specified in Section 4b

A power distribution box incorporating fusible link must be installed, correctly connected and mounted inside the Battery Box

DC/DC Convertors and System Invertor must be installed inside a Converter/Invertor Box made of non-conductive material specified in Section 4b

Battery Box and Converter/Invertor Box may be ventilated with holes that a maximum 5mm diameter, with a minimum 5mm spacing between the circumference of each hole

10 Safety

a. Fuel and Fuel tanks

Only fuel as defined by AASA shall be used. Refer <http://aasa.com.au/wp-content/uploads/2017/06/80.1-AASA-Standing-Regulations-V2.4-June-2017.pdf>

An original fuel tank may be replaced.

Where a fuel tank has been mounted inside the cockpit area, it must have a 20mm diameter or larger drain hole in the floor below the tank.

In all fuel system designs, the cockpit area must be sealed from the entire fuel system by fluid and flameproof panels.

The design, construction and components of the fuel system are otherwise free.

b. Hybrid engine system Battery Box and Converter/Invertor Box

Battery Box and Converter/Invertor Box must be mounted so that no part of the box sides are within a 150mm horizontal line running perpendicular to the Base Vehicle's external bodywork



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Where the floor of the Battery Box and Converter/Inverter Box is exposed to the road surface, a metal skid plate in compliance with Section 4b must be fitted to the exterior floor of the Battery Box and Converter/Inverter Box

All Hybrid engine system cabling must be insulated from the metal surface of the vehicle, be substantially shrouded by gromets made from non-conductive material at any point the cabling passes through a metal surface, bulkhead or firewall and have additional padded shrouding made of non-conductive material in any area where there is a possibility of the cabling being crushed.

c. Fire Suppression systems

Refer to AASA requirements <https://aasa.com.au/wp-content/uploads/180627-01-Appendix-3-Extinguisher-Requirements-V0.2-1.pdf>

d. Scatter Shield

For a vehicle where the engine and transmission has been repositioned closer to the driver than the engine and transmission's position of the Base Vehicle, a scatter shield must be fitted.

The scatter shield must sit as close as possible to and must cover the whole flywheel/clutch housing that would face any part of the driver's body.

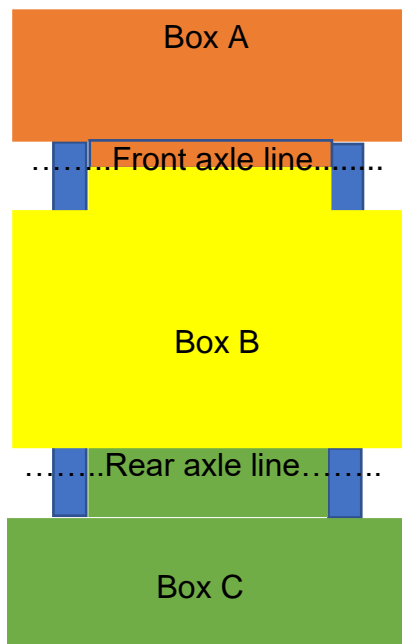
e. Safety Belts

A minimum Level 5 Occupant Restraint System to AASA regulations must be used. Refer to AASA requirements; <https://aasa.com.au/wp-content/uploads/Harnesses-Appendix-5-V0.5.pdf>



Thunder Sports Technical Rules

11 Appendix A





Thunder Sports Technical Rules

12 Version Control

Version	Date	Comments
V4		Draft sent to competitors
V5	April 2019	AASA approved Section 4c modified
V6	December 2019	Sections 2, 3, 7 modified
V7	June 2020	Sections 1, 2, 3, 4, 6, 7, 9, 10 modified