



# World Time Attack Challenge

TECHNICAL REGULATIONS FOR PRO AM CLASS VEHICLES

Version 1

2023

# TECHNICAL REGULATIONS - 2023

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## GENERAL REGULATIONS

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If you have any questions, please contact [technical@worldtimeattack.com](mailto:technical@worldtimeattack.com) and allow up to 14 days for a response.

The regulations of the World Time Attack Challenge (WTAC) are designed to ensure the highest level of safety. Each driver and vehicle must comply with all written and oral directions of the event promoters and/or event officials. Failure to comply may result in immediate exclusion from the event, with no refund of entry fees.

### 1. PREAMBLE

- 1.1 Each vehicle must remain in compliance with all provisions of the regulations contained herein and relevant CAMS regulations at all times during the event. Vehicles may be checked for compliance at any time throughout the event, refusal to comply will result in a penalty up to exclusion in conjunction with the Stewards.
- 1.2 Any aspect relating to the construction, modification and/or preparation of each vehicle that is not specifically authorised in these regulations or the relevant CAMS regulations is not permitted.

### 2. VEHICLES

- (a) Each vehicle must be a recognised model from a vehicle manufacturer (see definitions).
- (b) A vehicle defined as an Open Wheel vehicle, Clubman, Kit Car or centre-steered vehicle are NOT permitted, as determined by the event promoter.
- (c) Each vehicle must have only four (4) wheels with the steering acting on the front wheels only unless rear wheel steering is originally fitted, in which case the original system may remain.
- (d) Each vehicle may only contain one conventional internal combustion engine, save for a Pro Class vehicle which may be fitted with a KERS or electric power type device.
- (e) Each vehicle must comply with the WTAC Safety Regulations.

### 3. COMPETITIONS

#### THE EVENT WILL COMPRISE FOUR COMPETITIONS:

#### 3.1 Clubsprint:

- (a) Designed to be the entry level class for WTAC with modification restrictions and tyre limits to contain costs.
- (b) Professional drivers as determined by the event promoter are not permitted in Clubsprint.
- (c) A Supercar as determined by the vehicle list within these regulations is not permitted.
- (d) Each Clubsprint vehicle must use the Yokohama Advan Neova AD08R or A052 tyre.

#### 3.2 Open:

- (a) Further freedoms allowed beyond Clubsprint, whilst retaining some restrictions.
- (b) Each Driver must be nominated on the entry form and may not drive more than two vehicles within the Open class.

- (c) Each Open vehicle must use the Advan A050 Control tyre.

### **3.3 Pro Am:**

- (a) This class is for the owners of Pro or Open vehicles who want to compete without the presence of professional drivers as determined by the event promoter.
- (b) All regulations are as per the Pro Class with the exception of the driver rule. Entry is only by application.

### **3.4 Pro:**

- (a) The highest level of Time Attack racing for professional teams. Additional freedoms are allowed beyond Open Class.
- (b) Pro is only by invitation, by application to the event promoter. Invitations will be at the sole discretion of the event promoter.
- (c) Each Driver must be nominated on the entry form and may not drive more than two vehicles within the Pro class.

## **4. VEHICLE SIGNS**

- (a) Each compulsory event sponsor and event promotor decal, including numbers, as supplied by the event promoter must be placed on the vehicle as per instructions provided, by the event promoter. A vehicle found to be on track without each compulsory decal may be excluded from results.
- (b) Other than the event tyre supplier, no signage or livery of any tyre company larger than 500mm long by 200mm high and no more than four individual signs per vehicle is to be displayed on any competing vehicle.

## **5. GRANDFATHER CLAUSE**

**In certain and restricted circumstances the event promoter may allow a vehicle of significant WTAC competition history to compete under the previous WTAC regulations. This will be at the sole discretion of the event promoter and any vehicle approved may be subject to a penalty as determined by the event promoter. This penalty may include the addition of weight over the minimum required, a tyre restriction or other penalty as determined and advised by the event promoter.**

## **SAFETY REGULATIONS**

### **1. DRIVER SAFETY APPAREL**

#### **1.1 As a minimum, each driver is required to wear the following which must be presented for inspection at pre-event scrutiny:**

- (a) a Helmet complying with the requirements for a National Speed Event in accordance with Schedule D of the CAMS Manual. If using a Frontal Head Restraint (FHR), such as a HANS® device, then the helmet must be compliant for use of a FHR;
- (b) footwear, socks and gloves each compliant with FIA 8856-2000 standard; and
- (c) in an open car, goggles or a visor with a lens material other than glass to a minimum of AS1609-1981 standard are mandatory.

### **2. APPAREL FOR WTAC PRO AM**

#### **2.1 For WTAC Pro Class, in addition to Article 1 Driver Safety Apparel, as a minimum each driver shall be required to wear the following which must be presented for inspection at pre-event scrutiny:**

- (a) a one piece driving suit complying with, as a minimum, FIA 1986 standard;
- (b) underwear complying with FIA 8856-2000;
- (c) a balaclava complying with FIA 8856-2000 must be worn;
- (d) A Frontal Head Restraint, such as a HANS® device of which each element of the device must comply with FIA 8858-2002 or 8858-2010 standard.

**2.2 The following is highly recommended for Pro Class:**

- (a) The use of apparel of a higher standard is highly recommended.

**3. VEHICLE SAFETY**

**Each vehicle must comply, as a minimum, with Schedule A and B of the CAMS Manual. The following is also required for WTAC Pro Class:**

- (a) a minimum of one (1) hand held fire extinguisher, with a minimum capacity of 900g, compliant with Schedule H of the CAMS Manual.
- (b) A convertible type vehicle must be equipped with a hard top or a roll cage that complies with CAMS regulations, and/or meets the approval of the Chief Scrutineer.
- (c) a single brake light, mid mounted, which must operate when the brake is applied and must be easily and externally visible at the rear of the car;
- (d) fitted with a minimum of two functional rear vision mirrors.
- (e) a rear vision camera system may be used in place of rear vision mirrors. Each rear view camera system must be approved by the Chief Scrutineer.
- (f) a minimum of a five (5) or six (6) point Safety Harness in compliance with the Schedule I of the CAMS Manual.
- (g) a motor sport seat compliant with FIA standard 8855-1999, as a minimum.
- (h) an on-board and plumbed in fire extinguisher system (fire bomb) of a minimum of 2.4litre capacity and recommended to comply with the FIA requirements.
- (i) a battery isolation (master) switch, which effectively isolates all electrical circuits from the battery and stops the engine. There must be second switch, or a remote means of operating the main switch, from the vicinity of the base of the A pillar on the driver side, and clearly marked in compliance with the CAMS Manual.

**4. ROLLOVER PROTECTION**

- (a) Rollover protection is compulsory and must be of a minimum of a CAMS Type 3 Safety Cage construction that complies with CAMS regulations, and/or meets the approval of the Chief Scrutineer.

**5. PRE EVENT SCRUTINY REQUIREMENTS**

**5.1 Each vehicle must present for scrutiny in a clean, tidy and ready to start condition. Scrutiny must be completed before the vehicle shall be permitted to take part in the competition or an on-track activity.**

**5.2 Each vehicle that holds a CAMS Logbook must present the log book at scrutiny.**

**5.3 Following Scrutiny each vehicle will be fitted with a sticker confirming that the vehicle has passed scrutineering prior to it being able to compete.**

**5.4 The event promoter will be the sole judge of eligibility for each vehicle in each WTAC class, in conjunction with the Chief Scrutineer.**

**5.5 The following details further requirements for each vehicle, in accordance with the CAMS Manual:**

- (a) ensure all loose objects are removed from the vehicle;
- (b) have each battery firmly clamped and the battery location identified by a blue triangle;
- (c) be fitted with two separate fastening systems on any bonnet or other panel where the leading edge can be raised;
- (d) be fitted with a visible towing point (capable of accepting a 40mm OD cylindrical test object) fitted forward of the front axle and rearward of the rear axle and capable of towing the automobile on a sealed surface with its wheels locked. Where a tow point is obscured, each tow point shall be marked with the word "TOW" of a contrasting colour marking the location of each tow point;
- (e) have fitted an adhesive cover to any forward facing glass components, save for the windscreen;
- (f) have the engine compartment sealed completely from the cockpit;

- (g) be constructed to minimize the entry of foreign matter into the driving compartment from the road or road wheels;
- (h) have any propeller shaft and/or universal joint, if passing through the cockpit, fitted in a fixed casing;
- (i) be fitted with a device or devices that shall protect any longitudinal propeller shaft from striking the ground in the event of a component failure;
- (j) have any driving chain effectively guarded;
- (k) have any container within the cockpit which can hold more than 500mL of hot liquid (other than a series heater core) enclosed in a sealed compartment isolating it from the cockpit;
- (l) have each fuel tank vented externally to the bodywork;
- (m) be fitted with a bulkhead constructed from a flame - and liquid-proof material. This bulkhead shall effectively seal the cockpit from any fuel tank, fuel system pumps/collectors or refuelling system. If the material is constructed from polycarbonate it shall be a minimum of 6mm thick.;
- (n) if fitted with any crankcase breather discharging to the atmosphere, each breather be vented into a catch tank of minimum capacity of two litres for engines up to a swept volume of 2000cc or three litres for over a swept volume of 2000cc;
- (o) if fitted with any engine radiator coolant vent discharging to the atmosphere, each coolant vent be vented to a catch tank of a minimum capacity of one litre;
- (p) each window or windscreen fitted made from a material which is clear or, if tinted compliant with Australian Standards AS2080;
- (q) if fitted with rigid brake pipes have such pipes made of steel bundy tubing or equivalent. The installation must be such to protect the pipes against vibration and damage;
- (r) if fitted with any camera/video recorder attached to the vehicle it must be securely mounted and approved by the Chief Scrutineer. Suction cup mounts will not be permitted to be fitted to the external surfaces of the vehicle without the addition of a secondary tether secured to the vehicle;
- (s) be fitted with a return mechanism which, in the event of any throttle linkage failure, will close each throttle;
- (t) be fitted with a driver-operable reverse gear;
- (u) be fitted with a steering wheel not incorporating any wood, unless such is the original component of the vehicle.

## **6. DURING EVENT SCRUTINY**

**Each vehicle may be required, at the request of a scrutineer, to undergo any further check or inspection at any time during the event;**

- (a) any vehicle found to be leaking oil or fluids whilst competing will be suspended from the event until the Chief Scrutineer / Clerk of the Course is satisfied that action has been taken to rectify the leak;
- (b) any vehicle involved in any on track incident, including fluid leaks, component failure or any form of accident must have the vehicle checked and cleared by the Chief Scrutineer before it will be allowed to continue to compete in the event. Failure to do so may result in exclusion from the event;
- (c) should there be a further reoccurrence of any on track incident whilst competing then that vehicle will be deemed in breach of the regulations and may be applied a further penalty that may include exclusion from the event.
- (d) each tyre for use must be marked and recorded for each vehicle before use in the WTAC competition by the appointed tyre scrutineer.

## PERMITTED VEHICLE MODIFICATIONS

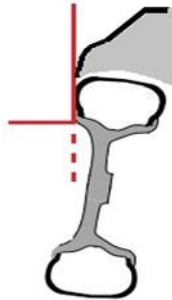
**All vehicles must be presented as originally manufactured (see definitions) apart from the freedoms allowed in these regulations.**

### FURTHER NOTE:

Any vehicle that does not meet the regulations, requirements or definitions listed will need to be considered on a case-by-case basis. If your vehicle does not have shock towers, frame rails, or any other items listed or you are unclear (for example a vehicle which came equipped with push rod suspension) you must submit your vehicle modifications for approval prior to the event. Any approval granted will be at the discretion of the event promoter.

### 1. BODY

- (a) Each wheel and tyre must be fitted so that the upper part of the tyre, down to the flange over the wheel hub centre must be within the perimeter of the automobile when viewed vertically from above, see Drawing 1



Drawing 1.

- (b) Alternative materials are permitted for removable panels however all bodies must follow the same shape and retain the original look and style of the vehicle. It is permitted to replace the external sheet metal with an alternate material which may include the permitted increase to the total vehicle width and length.
- (c) All internal sheet metal must remain as originally fitted except where it is permitted to be modified or removed in these regulations.
- (d) Front and rear bars may be modified to incorporate aero components. The front bar must not extend further than 150mm forward and the rear bar no further than 100mm rearward than the OEM bodywork of the vehicle.
- (e) Total Vehicle width in front view (measured at its widest point, excluding mirrors and front winglets/canards) must not exceed 350mm wider than the OEM vehicle bodywork.
- (f) Headlights may be removed but must be replaced with suitable decals in the original location.
- (g) Windscreen may be replaced with Lexan but must remain in the OEM position and comply with the OEM dimensions.
- (h) OEM tail lights must be retained in original position and must be visible from rear (cannot be decals). The addition of a single working brake light may be fitted as a minimum if original lights are inoperable.
- (i) The original B pillar must be retained however it may be moved only to improve driver access.

## 2. CHASSIS

- (a) Each vehicle must retain the original firewall.
- (b) Modifications can be made to the firewall for transmission clearance, wiring or roll cage and pedal box, however the resulting firewall must:
  - (i) resemble the original;
  - (ii) continue to be structural;
  - (iii) create a seal between the forward area and the cockpit; and
  - (iv) only use a replacement material that must be of the same thickness as the original firewall and of a similar material (e.g., steel for steel, aluminium for aluminium).
- (c) Original shock absorber (i.e. Macpherson Strut) towers must be retained in the front of the vehicle only.
- (d) No fully tubular construction or composite monocoques are permitted.
- (e) The rear most part of the engine block must be no more than 51mm rearward of the most forward point of the mainly vertical firewall. If the vehicle is rear engine, the front most part of the engine block must be no more than 51mm forward of the most rear point of the mainly vertical firewall.
- (f) The firewall may be modified for clearance of the engine but must remain in the original position.
- (g) Composite/ Carbon fibre materials may be used only in non-structural components unless originally fitted.
- (h) Forward retention of the original chassis:
  - (i) OEM frame rails (see definitions) and front shock towers must be retained from the upper portion of the shock towers and back. Modifications are allowed solely for the addition or relocation of suspension pickup geometry and safety cage fitment
- (i) Rear retention of the OEM chassis:
  - (i) OEM floor pan and frame rails must be retained from the firewall to the forward most point of the rear wheel arch. Allowance for removal material for fitment of fuel or fluid tanks and associated fittings is permitted
- (j) Modifications are allowed only as needed for exhaust, driveshaft clearance, mounting of roll cage, seat or other safety items. Under no circumstances can any portion of the frame rails or floor pan be removed or modified from the rear of the driver's seat forward to the firewall except as required for exhaust clearance, transmission clearance, tail-shaft clearance or the detailed addition of bushes or brackets in mounting under surfaces.
- (k) Wheel arch "tubbing" or removal of material is permitted front and rear for the sole purpose of bump clearance for tyres or cooling system ducting forward of the front shock towers.
- (l) Allowance for removal of material for fitment of fuel or fluid tanks, associated fittings and exhaust is permitted in the rear section of the vehicle.
- (m) Rear floor maybe modified to accommodate rear differential in vehicles that were originally front wheel drive vehicles.

## 3. MINIMUM VEHICLE WEIGHTS

**Minimum weight will be deemed to include all liquid tanks at normal levels and with a maximum of 5 litres of fuel. All weights are without driver.**

Minimum weight for Pro Class will be determined by the manufacturer's original specifications for the lightest version of that particular model of vehicle, minus 20%. E.g. Mitsubishi Lancer Evo 9 not merely Mitsubishi Lancer. Vehicles with original weight exceeding 1500kg will not apply the 20% rule but will have a minimum allowed competition weight of 1200kg.

#### 4. AERODYNAMIC AIDS

4.1 Strength and method of aero component fastening will be checked thoroughly at scrutineering and if found to be unsuitable the vehicle will not be permitted to start until improvements are made to meet approval of the Chief Scrutineer.

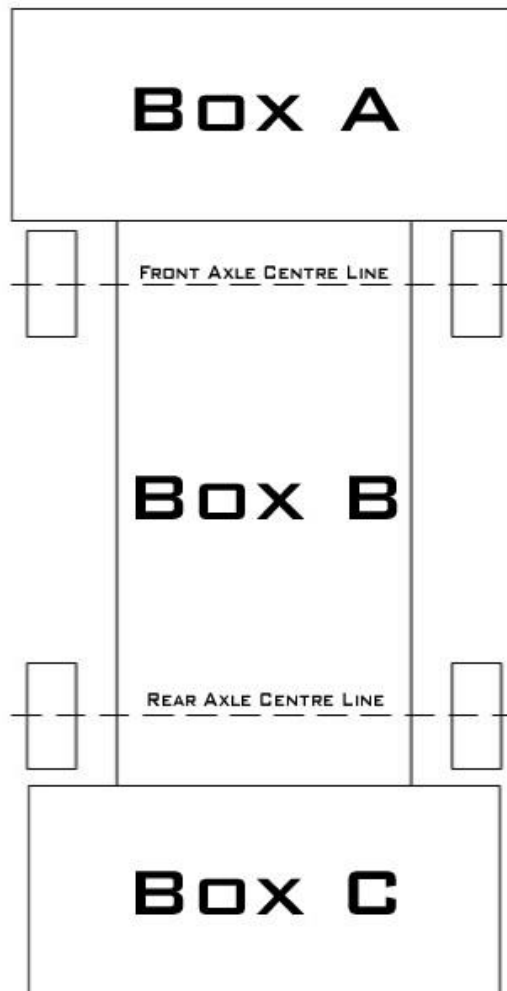
4.2 Active aero including any hydraulically or electronically actuated or movable components are not permitted in any class.

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

#### 4.4 The following is permitted for Pro Class:

- (a) Flat floors are permitted in Pro class. The flat floor is not permitted to be part of the structural monocoque. Mechanical force is not permitted to be used with the design of the floor.
- (b) Each aerodynamic aid must fit within the outline detailed in Drawing 2, and:
  - (i) Box A: Any aerodynamic aid forward of the front wheels must be no more than a maximum of 300mm forward and a maximum of 475mm wider each side than the OEM bodywork. It must be no higher than the highest point of the OEM bonnet.
  - (ii) Box B: Any aerodynamic aid in the area of the side skirt, between the front and rear wheel, is not permitted to be wider than the maximum permitted vehicle width as per Section 1.e.
  - (iii) Box C: Any aerodynamic aid rearward of the rear wheels must be no more than a maximum of 300mm rearward and a maximum of 150mm wider each side than the OEM bodywork. It must be no higher than a maximum of 250mm above the highest point of the OEM roof.

Drawing 2.





## **5. ENGINE**

**5.1 All vehicles must use a Commercial Fuel, E85 or Unleaded Racing Fuel in accordance with Schedule G of the CAMS Manual.**

**5.2 Engine changes during the event are permitted subject to the approval of the Chief Scrutineer.**

**5.3 The Mazda 26B four rotor is considered a production engine by the promoter.**

### **5.4 For Pro Class:**

- (a) Engine modifications are free save for the engine must be based on a production engine from a recognised vehicle manufacturer.
- (b) The crankshaft centre line may be lowered. The engine positioning and mounts being free provided that its relationship to the firewall is not exceeded as in Section 2 Chassis.
- (c) The use of a turbocharger or supercharger is allowed.

## **6. COOLING SYSTEM**

- (a) Each cooling system hose and clamping system may be replaced with an alternate hose, pipe and/or clamping system.
- (b) Cooling systems and their locations are free provided they are contained within the bodywork.
- (c) A turbocharger/supercharger intercooler and mounting is free provided it is contained within the bodywork.
- (d) Oil cooling is free provided each cooler is fitted within the bodywork.
- (e) Additional ducting for cooling systems is free provided it is contained within the bodywork. Each duct fitted must respect the modifications permitted elsewhere in these regulations in regards to the removal of material from the chassis.
- (f) Modification to facilitate the fitment of cooling systems must respect the modifications permitted elsewhere in the regulations in regards to the removal of material from the chassis.
- (g) Ducting is permitted to be fitted externally to the bodywork provided it is contained within the permitted maximum dimensions of the bodywork.

## **7. FUEL SYSTEM**

**7.1 All fuel systems must comply with all safety regulations required in these regulations.**

- (a) Fuel System is free.
- (b) The OEM fuel tank may be replaced with a replacement tank. The replacement tank must comply with Motorsport Australia Tank of Free Design or FIA Fuel Cell requirements.
- (c) Fuel tank/system must be sealed from the cockpit.

## **8. ELECTRICAL SYSTEM**

- (a) Electrical System is free.

## **9. NITROUS OXIDE**

**Nitrous Oxide is permitted on all vehicles in Pro Class.**

**The following details the requirements to use Nitrous Oxide. Any vehicle that does not meet these requirements will need to seek approval from WTAC PRIOR to the Event for any variation.**

**Competitors are reminded of the dangers associated with the incorrect use of nitrous oxide. It is highly recommended that systems are sourced in complete form, from a recognised manufacturer. The following regulations apply;**

- (a) **Nitrous Lines:** Must be outside of cockpit for the driver, except where the bottle is mounted in the driver's compartment, in which case the line must be plumbed outside the compartment as near as possible to the bottle outlet. Where lines pass converter or flywheel area, they must be encased in

3mm (1/8 inch) minimum thickness steel tubing. High pressure rated hose of minimum 1500 psi is required, and a sintered bronze filter, fit for purpose, must be fitted in the gas supply line.

- (b) **Bottle Mounting:** Bottles must be mounted outside of the engine compartment. Any bottle located in the driver's compartment must be mounted with metal brackets secured to a structural point of the vehicle, and a relief valve, vented outside the driver's compartment, to the atmosphere. Bottles must be upright or semi upright. Inverted bottles not permitted. Bottles must be equipped with on/off taps. Bottle shut-offs requiring special keys are not acceptable. Bottles used must be purpose built for use with nitrous oxide. Electric devices used for raising the temperature of nitrous oxide bottles must be produced for that purpose by an industry manufacturer, and may not be modified in any way.
- (c) **Switching:** Both solenoids must operate from a common switch and the system must be capable of being switched off by three means: (1) when the throttle is closed; (2) by a special arming switch that provides power to the solenoids; (3) through the normal ignition switch.
- (d) **Markers:** All vehicles using Nitrous Oxide must display special markers located on the outside of the vehicle, in the area where the supply bottle is located and adjacent to the vehicles WTAC competition No. on the side of the vehicle The marker shall be a yellow diamond with 125mm sides, with N<sup>2</sup>O printed in black letters.



- (e) **Warning Light:** A prominent blue warning light, located on the dashboard of the vehicle and visible through the windscreen, must indicate when the system is armed.

## 10. EXHAUST

### 10.1 The complete exhaust system for Pro may be modified or replaced in accordance with the following:

- (a) For rearward facing exhaust the outlet(s) shall be between 75mm and 600mm above the ground and within 100mm longitudinally of the rear of the bodywork. If the exhaust is directed sideways the outlet(s) must be located rearward of the midpoint of the wheelbase and shall not project beyond the maximum width of the vehicles bodywork or terminate more than 50mm inwards of the coachwork. A side exit exhaust must exit in a direction away from the centreline of the vehicle.

## 11. TRANSMISSION, DIFFERENTIAL AND DRIVELINE

- (a) Clutches and flywheel are free.
- (b) Gearbox and differential may be replaced by another of free design.
- (c) Internal components of transmission and differential are free.
- (d) The bell housing is free.
- (e) Gearbox and differential oil coolers are permitted.
- (f) Automatic transmissions if provided as an option by the manufacturer for that model are permitted.
- (g) Driveline is free save for 4WD which may be converted to 2WD. An original 2WD vehicle cannot be converted to 4WD.
- (h) Mounting points are free.
- (i) Paddle shifting mechanisms are permitted.
- (j) Transmission tunnel modifications necessary to allow the fitment of a transmission are permitted.
- (k) Replacement tail shafts are permitted.

## 12. SUSPENSION

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

12.2 Minimum ride height for Pro is 50mm: Each fully sprung part of the vehicle, except for the exhaust system, must be at least the specified height above the ground when measured at any point within the wheelbase, this includes all side skirts, splitters, bodywork etc. The vehicle ride height will be measured without the driver and tyre pressures at a minimum of 20psi.

12.3 For Pro Class:

- (a) Springs and Dampers may be replaced however the maximum number of springs and dampers is six per vehicle.
- (b) Suspension is free.

## 13. BRAKES

13.1 With the exception of computer controlled diagonal or transverse braking systems, which are not permitted in any class unless originally fitted, the complete braking system is free.

## 14. TYRES

14.1 Tyre restrictions will apply to all competition classes as follows:

- (a) Each tyre must be marked by the organisers at scrutineering.
- (b) The use of any tyre softening chemical or treatment on tyres is strictly prohibited and will result in immediate exclusion from the event
- (c) Random tyre checking will be conducted throughout the event, failure to comply will result in a penalty up to exclusion.
- (d) Tyre sizes are defined by width(mm) and height(mm)

14.2 Tyres for Pro AmClass:

### PRO AND PRO AM CLASSES WILL NO LONGER BE USING A CONTROL TYRE.

- (a) no modification to a tyre is permitted, save for the reduction of tread depth. Tread wear indicators as provided by the tyre manufacturer shall be the definitive indicator of tread depth. Each tyre must have tread in excess of the wear indicator save on the shoulder where localised wear may occur.
- (b) Competitors must provide full details of the tyres they will be using at the event to WTAC technical at least 14 days prior to the event for approval.
- (c) The onus is on the competitor to ensure the and suitability of the tyre for the application. The competitor maybe required to provide evidence of suitability.

14.3 Tyre Size Restriction for Pro and Pro Am Classes

- (a) Tyre size will be determined by the actual race weight of the vehicle.
- (b) Tyre width will be defined by the actual tread width with a +3mm allowance.
- (c) Any vehicle falling into these weight categories, the following tyre size restrictions will apply:

Weight	Tread Width	Height
Up to 950kg	290	650
951 to 1050kg	290	685
1051 to 1350kg	310	685
Over 1351kg	340	710

#### 14.4 TYRE FITMENT ON PREVIOUSLY ENTERED VEHICLES

For the sole purpose of facilitating fitment of the largest tyre that is permitted in 14.3 without conducting extensive body and suspension modifications it will be permitted to:

- a) Install a flat strip of material to the wheel arch which shall extend out in width no more than 30mm from the bodywork to cover the top of the tyre when viewed from above so as to comply with section 1. (a). of the regulations.
- b) The strip shall cover the top 120 degrees of the tyre when viewed from the side and be no more than 3mm in thickness.
- c) The installed strip shall not incorporate any aerodynamic features.
- d) Each competitor must submit their designs to WTAC Technical for approval.

#### 15. WHEELS

- (a) Each wheel is free and size is unrestricted but must be suited to the tyre size used.
- (b) A maximum of one metallic spacer may be used behind each wheel. Consideration must be given to wheel stud length when fitting spacers.

#### 16. INTERIOR

Interior is free save for the following exceptions:

- (a) Local modification to the interior for fitment of a roll cage is allowed.
- (b) Door trims of free material and design must be fitted.
- (c) Window nets may be fitted and are highly recommended.
- (d) Driving position may be moved rearwards, but not beyond the rear foot well.
- (e) Each vehicle must retain a full length dashboard.

#### 17. DEFINITIONS

- (a) **Alternative Materials** - Materials of suitable and acceptable strength and construction for use in motor vehicle parts and panels.
- (b) **Bodywork** - Refers to the exterior body of a motor vehicle as the entirely suspended part of the motor vehicle licked by the airstream.
- (c) **CAMS** - Confederation of Australian Motor Sport
- (d) **CAMS Manual** - 2017 CAMS Manual of Motor Sport
- (e) **Chassis Rail** – Box section part of the vehicle floor structure that extends from the front of the vehicle to rear section.
- (f) **Dashboard** - A dashboard (also called dash, instrument panel, or fascia) is a control panel placed in front of the driver in a vehicle, housing instrumentation and controls for operation of the vehicle.
- (g) **Drive Types:**
  - (i) **4WD:** Four wheel drive, includes all wheel drive, any vehicle that has drive to both the front and rear wheels.
  - (ii) **RWD:** Rear wheel drive, any vehicle with drive only to the rear wheels.
  - (iii) **FWD:** Front wheel drive, any vehicle with drive only to the front wheels.
- (h) **Engine Control Module** – Any electronic device that controls engine operation.
- (i) **Firewall** - A firewall is a fire proof barrier that separates the engine from the driver and passengers.
- (j) **Frame Rails** - Two primary boxed sections running fore to aft on the vehicle.
- (k) **OEM** - Original Equipment Manufacture - is the original manufacture of the vehicle and/or any component which is the one originally fitted when manufactured.
- (l) **Recognised Model** - A model which the organisers, at their sole discretion, recognise as a model of vehicle produced by a manufacturer to a given specification.

- (m) **Standard Specification** - As originally supplied from the manufacturer, including allowable production tolerances.
- (n) **Shock Towers** - The original manufacturer upper mounting points for the suspension shock absorber (i.e. Macpherson Strut)
- (o) **Sub Frame** - A structural component of a vehicle that uses an additional separate structure to carry certain components, such as the engine, drivetrain, or suspension. The sub frame is bolted to the original integral monocoque, chassis or frame rails of the vehicle and may be equipped with rubber bushings to dampen vibration.
- (p) **Suspension Pick-Up Point** - A bracket, lug or similar mechanical component attached to, or integral with, the fully sprung part of a vehicle, to which is attached a partially unsprung suspension component, and about which such suspension component moves through an arc or solid angle consequential to normal suspension travel.
- (q) **Suspension Upright and Hub:**
  - (i) **Upright** – the component that carries the hub and is connected directly to the suspension/steering control arms. The upright may carry brake components or other components as necessary.
  - (ii) **Hub** – the component which directly attaches to the wheel and is carried by the upright, via a bearing assembly. The hub, and bearing/s, may be integral to the upright or fixed to the upright and may carry the drive to the wheel.
- (r) **Vehicle** - A land vehicle propelled by its own means, running on at least four wheels not aligned, which are designed to be in contact with the ground. The steering must be controlled by at least two of the wheels, and the propulsion by at least two of the wheels.
- (s) **WTAC** - World Time Attack Challenge