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BoP – an Introduction: Version 10

APS provides racing for Prototype vehicles and seeks to accommodate all vehicles perceived to be racing Prototypes, irrespective of Automobile Classification or type.

A current vehicle Log Book as issued by Motorsport Australia is a requirement.

Vehicles may be of a range of makes, models, specification, and may have never before raced, or may have previously raced or be currently racing in another class or category.

Individual vehicles are encouraged to be modified so as to improve performance both before and during its participation in the Series, and such modifications may include variations in setup and components, such as changes to improve aero downforce, weight, engines, chassis, suspension, and brakes.

What is Balance of Performance?

Balance of Performance (BoP) is the “balancing” (increasing or reducing the lap times) of the performance of individual vehicles relative to other competing vehicles by simple “handicapping” methods that require a change to the **power or weight of the vehicle, or both.**

BoP is based on racing outcomes, and BoP is used to achieve both interesting and competitive racing by means of creating similar lap times for very dissimilar vehicles.

BoP is used rather than the common practice of forcing vehicles to be as identical as possible, which only creates identical performance characteristics that results in processions of vehicles and uninteresting racing that needs to be “spiced up” with pit stops and other such contrivances.

When participating in Motorsport Australia Championship Events, the Australian Prototype Series (**APS**) is the Category Manager (**CM**) of the Series (**the Series**). The APS may also provide other such competition Events where the application of BoP may or may not be required, or may be varied.

BoP is regulated by MOTORSPORT AUSTRALIA (MA).

BoP is nominated by the Competitor and controlled by the Category Manager (CM) of the Series.

The degree of BoP as applied will be based on competition Outcomes and the Rules.

The Intention of APS is to:

- Promote competitor participation and spectator interest by encouraging a wide diversity of vehicle types.
- Encourage Competitors to maintain and continuously develop their vehicles to improve performance at lowest cost.
- Promote differentiation in speed, cornering, acceleration, and braking characteristics that encourage overtaking yet culminate in similar lap times.

Marketing

- BoP is marketed as an integral part of the Series and allows the nomination and acceptance of a wide variety of cars where participants can achieve performance Outcomes similar to other competitors.
- BoP as applied is not intended to obscure excellence, but rather to represent high Achievement.
- The Series intend that the Form and Degree of BoP as imposed should be recognised as being earned by the Competitor based on the excellence of outcomes as achieved.
- BoP will be published on the APS web site, promoted by Stickers as provided to competitors for application to vehicles, and communicated to Race Commentators and Media so that they can make suitably informed comment during racing and on race results.

Performance Control and Control Methods:

The Series runs 3 Classes. Class 1 is not Prescriptive as to vehicle specification regarding vehicle eligibility. With Classes 2 and 3, where Specification is identified in separate Sporting Regulation by vehicle type, and nominated by APS in APS Sporting Regs, then such specification is to apply.

The Series invites competitors to consult with the CM about how BoP may affect their vehicle, and to submit details of their vehicle so that APS may assess what performance parity measures may be required, if any. APS expect that the majority of vehicles as entered in APS events will not require to have BoP applied. Only those cars that have the potential to reliably finish in the top 5 of any competitive session such as in Qualifying and a Race are likely have BoP applied.

The forms of control of BoP have been carefully chosen to be simple in application, easy to measure, easy for the competitor to manage during the intervals between competitive sessions, easy to remove, and be cost-effective for the competitor.

The Competitor will nominate their own preferred forms of BoP using the Bop Nomination Forms.

The forms of control of BoP that can be Nominated by the Competitor are:

- 1) Engine forced air induction Restriction: Boost Pressure Restriction (BPR)
- 2) Throttle Opening Restriction (TPR)
- 3) Minimum Race Weight using ballast (MRW)
- 4) Maximum Engine RPM (MER)

The Competitor will nominate their preferred forms of BoP using the BoP Nomination Form.

Additionally, APS may require the Competitor to maintain the Finishing Race Weight (FRW) within a specified weight range.

Control Devices and Measurement Devices

BoP controls must be able to be monitored for compliance by the CM and MA. The Competitor will provide the appropriate control device to be utilised, and will specify the measurement methods.

The CM may assess vehicles for compliance at any time during an Event, and may require competitors to present their vehicles after any competitive session for compliance verification purposes.

The Competitor shall either provide the measurement devices that will be utilised to check compliance (eg: utilise the nominated Boost Monitor), or ensure that an appropriate device is available.

Increments of BoP

Varying Increments of BoP will result in performance outcomes, with the aim of modifying relative lap times.

Where appropriate, the CM will require variation of Increments. For example, the CM will require Incremental variations by amounts such as 10kg of weight, or 0.1 BAR of boost pressure.

BOP application Range

For all forms of BoP, safety is a priority. Should a concern exist (for example: chassis integrity at maximum weight where ballast is carried), the competitor may be asked to seek manufacturer or engineering compliance advice. For practical implementation, for BoP as nominated by the competitor, the competitor may be required to also nominate the range over which the BoP shall apply. The Competitor may elect to, at any time, apply to vary such levels.

BoP Creation According to Simulation and Predicted Performance.

Prior to the commencement of a vehicle in the series, the CM may, based on known or predicted performance capabilities, impose a certain level of BoP.

BoP: Controlled according to Rules, and Calculated according to a Formula

APS BoP is transparently Reactive to individual performance outcomes, with the degree of performance restriction as awarded based on Lap Times and according to defined processes and rules.

BoP Rules: BoP Rules set the basis by which BoP decisions are made, including those factors that affect performance outcomes during racing such as lap times and finishing position; and under various circumstances, such as incidents, accidents, and wet weather.

BoP Formula: BoP outcomes are determined according to Formula as based on the Rules. The formulae are used to calculate the degree of BoP required to be applied, or varied.

For more comprehensive information, refer to: "APS - BOP for Performance Parity and Control V*" and "APS - BOP Rules V*".