

Future Direction for 4WD NZ Rally Championship and 4WD rallying in New Zealand

Super 4WD Rally Cars

Motorsport NZ with the support of the Rally Commission, having received the detailed work of the Rally Technical Working Group together with other relevant information, confirm the future direction of the 4WD NZ Rally Championship for 2015 and beyond as follows.

Note: Existing 2WD categories (FIA R1, R2, R3/ Open 2WD/ Historic) will continue unchanged.

That the NZ Rally Championship 4WD class be categorised in two divisions:

Category 1 Cars compliant with the Technical Regulations (outlined below) for Super 4WD Rally Cars – Group NZ (name to be confirmed)

Cars respecting their FIA Homologation for GpN, S2000, R4, R5 (R5 to be confirmed subject to performance equity) and Regional Homologation by another ASN, in all respects excluding Fuel Type & Electronic Engine Management Control System.

Category 2 Cars complying with Schedule “A” and the Performance Parity Schedule detailed below.

Championship Structure

That all competitors registered for the Championship be eligible to score points towards the title of NZ Rally Champion until at least the end of the 2016 season. That consideration will be given to awarding the MNZ Gold Star Award to the Category 1 winner only when sufficient competitors are contesting this class, likely to be 2016 at the earliest.

Technical Outline – Super 4WD Rally Car – Group NZ

The following represents the technical outline of Super 4WD Rally Cars as developed by the Technical Working Group formed for this purpose. The detailed Technical Regulations are currently being drafted by the Technical Department and will be made available as soon as possible. Sufficient detail exists for competitors to start construction of cars compliant with these regulations at present. Two cars have been constructed to date and two more are the subject to feasibility studies. Competitors are required to contact the Technical Department, for further information, in the first instance and prior to starting construction. Alternately contact David Loughlin, commission member, for more detail.

The background and methodology behind these regulations is detailed in the discussion document – Future of 4WD Rallying in the NZ Championship - September 2013, which can be found on the MNZ website. The key points are summarised here:

- Our 4WD fleet is aging rapidly. No new cars have been added to the fleet for several years.
- It is essential that new cars are added to the fleet regularly

- The FIA replacement for the successful GPN class is not considered an affordable option for the majority of NZ competitors. The current open class formula – adopted as an interim position – is not sustainable
- A new formula is required that primarily fits the needs of NZ rally competitors while also being able to meet FIA regional homologation guidelines.
- Homologation by Motorsport NZ (National Homologation) is highly desirable and encouraged as it enables homologated cars (once accepted by the FIA) to compete in the Asia Pacific Region.
- This formula should become the premier level of the NZ Rally Championship with performance parity adjustments to ensure the existing fleet and new cars can compete equally, providing competitors with varying levels of entry to the sport.
- Various construction paths and specification levels are encouraged with the higher specification cars having more control components and FIA Regional Homologation

BODYSHELL

- To be built from a current model production body (not space frame or scratch built)
- Construction to take place in NZ. Initially at least, nominated fabricators be authorised to carry out the fabrication and location of critical suspension points, sub frames, suspension and steering components.
- Suspension Tower locations and Sub frame mounting locations to be dimensionally controlled. Fabrication Jig recommended.
- Safety Cage to FIA App J 253 compliance. Cage design controlled by colour coded drawing detailing dimensions and material specifications
- Body Kit – Fibreglass only (or as per series production bumper material) includes: F&R bumpers, front guards, rear flares, rear spoiler, bonnet vents. Maximum dimensions controlled.
- Dashboard – OE dash panel to be retained. Fitment of WOF compliant instrumentation authorised and free as to make/model.
- Heater – Required but free as to make/model/location
- Windows – Laminated screen with polycarbonate side (min 3mm) and rear (min 4.5mm) material authorised
- Fuel Tank Location to be immediately behind the main roll hoop. Tank to be FT3 spec. Make free.
- Underbody protection – free as to design and material provided no aerodynamic elements incorporated.

SUSPENSION/STEERING

- Suspension Sub Frames – controlled and professionally manufactured. North South and East West options for front to accommodate engine configuration. Rear to be single design with alternate brackets for rear differential options.
- Suspension Arms – controlled and professionally manufactured

- Suspension Uprights – controlled and professionally manufactured. Universal corner fitment by design.(Final design under development)
- Steering Components – controlled and professionally manufactured Steering Rack – controlled. Subaru STI rack with custom modifications is current option. Further options being investigated currently with a preference for an off-the-shelf product.
- Anti-Roll Bars – if used shall be fitted to the unmodified Control Sub Frames as designed.
- Hubs – series production unit. EVO X is suitable and cost effective
- Dampers – mechanical telescopic hydraulic with ferrous casing. Max length controlled. Manufacturer free. Spherical top mount authorised. Dimension controlled by unmodified top mount dimensions.
- Optionally series production uprights, hubs and brakes could be used as lower cost option for lower specification cars. (This option would not be considered for homologation)

ENGINE & TRANSMISSION

- Engine to be from the same family as the body shell to which it is fitted
- North South and East West locations are authorised
- Maximum capacity 2000cc nominal uncorrected.
- Engine Block and Cylinder head to be series production units – no billet construction
- Internal components free
- Turbocharger free – Restrictor to be as per capacity specification
- Engine Management System – Free as to make and type
- Wiring – scratch built wiring harness will be required
- Sump – wet or dry systems are authorised
- Transmission – Free as to make and type. May be Sequential. Maximum 6 forward gears. Only mechanical gear selection mechanisms are authorised. No electro/hydraulic or pneumatic shifter aids are permitted.
- Final Drive units – either Subaru or Mitsubishi series production units initially. Alternatives will be considered if/when they become available.
- Front Differential – mechanical plate or Torsen
- Rear Differential – mechanical plate or Torsen
- Centre Differential – Mechanical plate with mechanical locking mechanism. Handbrake controlled hydraulic unlocking mechanism authorised and optional. Fully locked with no release mechanism optional.
- Drive Shafts/Prop Shafts – Custom Drive shafts/Prop Shafts free as to make and design. Material to be steel. Source free.
- Wheels – Dimensionally controlled to 15x7(max) ET25 for gravel. Production aluminium wheels. Make free.

BRAKES

- Callipers to be either steel or aluminium, maximum 4 pistons also either steel or aluminium.
- Rotor to be ferrous with alloy hat. Alternative one piece ferrous rotor is authorised. Maximum diameter uncontrolled, limited by 15" wheel dimensions

- Make free
- Pedal Box – free
- Handbrake – free
- No Water cooling
- No ABS

Performance Parity Schedule – effective from the start of 2015

This performance parity proposal is considered an initial starting point that will undoubtedly require some adjustment as more definitive data becomes available as to the relative effectiveness of the parity formula detailed herein. Competitors are advised that adjustments will be made as appropriate. It is proposed that a reasonable lead time for implementing any adjustments will be given.

Important Notes:

Competitors are advised that consideration will be given during 2014 to extend this parity schedule to cars competing in all rally events – not just the NZRC.

Performance Parity Specifications - NZRC 4WD			
	Engine Size	Restrictor	Weight
Super 4WD Rally Car - Group NZ	up to 1600	n/a	1230
	1601-2000	34mm	1300
	over 2000	n/a	n/a
Active Centre Diff Models - Subaru V7 on and Evo 7 on	up to 1600	n/a	n/a
	1601-1800	34mm	1260
	1801-2000	34mm	1350
	over 2000	33mm	1350
Non Active Diff Models up to V6 Sub and Evo up to Evo6	up to 1600	n/a	1200
	1601-1800	n/a	1230
	1801-2000	36mm	1260
	over 2000	36mm	1300
Naturally Aspirated 4WD	Up to 3400		1260
	Over 3400		1300
Pre 1992 4WD Turbo	1801-2000	36mm	1230
	Over 2001	36mm	1270
	No change =		
	R5 weight =		