

RALLY / ROAD

Methods of Measurement of Emitted Noise

Rally Cars

1. SOUND LEVEL METER

- (i) must comply with AS 37-1967;
- (ii) must be used on FAST dynamic characteristic;
- (iii) must be used on A weighting network;
- (iv) must be calibrated at six-monthly intervals.

2. TEST SITE

- (i) must be in the open air;
- (ii) must be substantially level and covered with concrete, asphalt or other similar hard material providing acoustic reflection;
- (iii) must consist of an area bounded by a rectangle having sides at least 3m from the outline of the vehicle under test;
- (iv) must contain no objects other than the vehicle and the sound level meter operator.

3. MICROPHONE POSITION

- (i) must be equal to the height of the geometric centre of the orifice of the exhaust outlet, but not less than 200mm above the ground;
- (ii) must be located 525mm (± 25 mm) from the geometric centre of the orifice at the exhaust outlet;
- (iii) must be at an angle of 45° ($\pm 10^\circ$) from the direction of travel of the vehicle at the side nearest the orifice of the exhaust outlet;

(Note: the 45° should be selected so as to achieve the greatest distance between the microphone and the vehicle.)

- (iv) for vehicles fitted with two or more exhaust outlets spaced more than 300mm apart or connected to separate silencers, each exhaust outlet shall be treated separately as if it were the only one.

4. MEASUREMENT METHOD

At normal operating temperature the engine shall be brought to:

4000 RPM for four-cylinder engines

3500 RPM for six-cylinder engines

3000 RPM for eight-cylinder engines

5000 RPM for rotary engines

as determined by the tachometer and stabilised at those limits for a sufficiently long period of time to allow a noise level measurement to be made.

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Rally Car Eligibility

Valid until 31 December, 2012

The following schedule specifies which categories and classes of vehicles may be used in different Australian rallies:

I. COMPETITION ELIGIBILITY PROVISIONS BY LEVEL

(a) National Level Competitions (ARC and Gravel)

FIA Group N which are either currently homologated, or for which the homologation expired less than four years ago.	Group G2 (ARC only)
FIA Super 2000 – Rallies ¹	SUV
FIA Group R	Showroom Rally Cars
FIA Super 1600	Historic and Classic Rally Cars
Production Rally Cars (PRC)	Club Rally Cars ²
Group N(P) Rally Cars	

Notes: ¹ or as recognised by the Australian Rally Commission.
² Eligible to enter, but not eligible for a CAMS-recognised Championship or Series.

(b) State Championship Competitions

As for National level events ³

Road-registered 4WD automobiles that comply with (i) the CAMS Off Road Production 4WD category regulations, or (ii) the regulations relating to Groups A0, A1 or A2 of the Cross Country Rally Technical Regulations (not eligible for State Championship points).

Note: ³ The eligibility of Classic Rally Cars for State Championships is subject to State Council approval. **Group G2 Rally Cars are not eligible to enter State Championship level competitions. No homologation time limit will apply to Group N.**

vehicles.

(c) Club And Multi-Club Level Competitions

Competition	Eligible Vehicles
(i) Events/competitions which are part of CAMS-recognised series and/or have any awards other than trophies:	As for State-level events, except that subject to State Council approval, Club Rally Cars shall may be eligible for CAMS-recognised Championships and Series.
(ii) Events/Competitions which are not part of a CAMS-recognised series and/or do not have awards other than trophies:	As for State-level events.
(iii) Introductory Rallies & Rallysprints which are not part of a CAMS-recognised series and/or do not have awards other than trophies:	Any vehicle which is road registered and complies with Club Rally Car regulations. Other vehicles may enter but shall not appear in the results or be eligible for awards unless approved by ARCom. Schedule R – General Requirements for All Rally Cars.

continued ...

(d) Tarmac Special Stage And Targa Rallies ⁴

Automobiles comply with the Tarmac Rally Technical Regulations	FIA Group R
FIA Group N	Historic and Classic Rally Cars
FIA Super 2000 – Rallies	Production Rally Cars (PRC)

Note: ⁴ Non-ARC

2. CAMS & FIA CLASS/GROUP EQUIVALENCIES

Where no specific class is provided for an FIA Group, a car complying with the FIA Group shall be included in PRC or Group N accordance with the following table:

CAMS	FIA ^{Note 1}	Includes FIA: ^{Note 2}
P6	n/a	
P5	2	<u>S2000-Rally</u> - 1.6 turbo engine with 30mm restrictor (restrictor size aligns with FIA Regional Rallies Championships Sporting Regulations) <u>S2000-Rally</u> - 2.0 atmospheric (naturally-aspirated) engine <u>Group R4</u> - Group N over 2000cc with additional modifications
	4	<u>Group RGT Cars</u>
P4	n/a	
P3	5	<u>Group A</u> - over 1600cc and up to 2000cc
		<u>Group R2C</u> - over 1600cc and up to 2000cc
		<u>Group R3C</u> - over 1600cc and up to 2000cc
		<u>Group R3T</u> - up to 1600cc / nominal
		<u>Group R3D</u> - up to 2000cc / nominal
P2	6	<u>Group A</u> - over 1400cc and up to 1600cc
		<u>Group R2B</u> - over 1400cc and up to 1600cc
		<u>Kit-car</u> - over 1400cc and up to 1600cc
P1	7	<u>Group A</u> - up to 1400cc
		<u>Kit-car</u> - up to 1400cc
<u>N4</u> ^{Note 3}	3	<u>Group N</u> - over 2000cc
N3	8	<u>Group N</u> - over 1600cc and up to 2000cc
N2	9	<u>Group N</u> - over 1400cc and up to 1600cc
		<u>Group R1B</u> - over 1400cc and up to 1600cc
N1	10	<u>Group N</u> - up to 1400cc
		<u>Group R1A</u> - up to 1400cc

Note 1: The FIA class numbers are sourced from the FIA 'Regional Rallies Championships Sporting Regulations'. 'WRC' and 'Class 1' are only applicable to WRC events.

Note 2: Some of the FIA groups/classes may overlap with PRC due to the FIA classes often allowing less modification than the equivalent PRC class. However, where a vehicle is not eligible for a CAMS group, the vehicle shall be presented in compliance with the relevant FIA regulations and homologation paper. Where provision does not exist for Group N classes, Group N vehicles shall be amalgamated with the closest PRC class.

Note 3: Group N(P) vehicles fitted with a 33mm restrictor shall be classified as Group N4.

3. GENERAL

Event Organisers, State Rally Advisory Panels and/or State Councils may make application to ARCom for specific dispensations.

Manufacturers wishing to enter rallies are required to seek authorisation from the Australian Rally Commission.

4. POLICY – RECOGNITION OF MODEL

For each CAMS rally car group, provided a car is presented in the correct specification for the model which has been entered in respect of any mechanical or cosmetic items required to be retained for that model under the relevant regulations (eg, engine, bumpers, lights, grill, dashboard), it shall be eligible to compete.

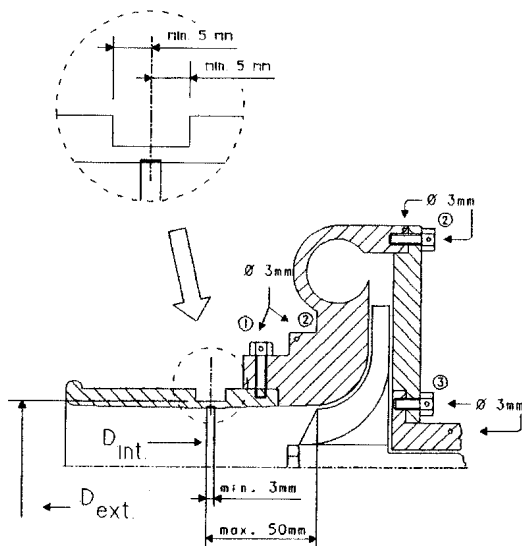
This may permit a car to be presented in a different specification to the one the manufacturer first produced for that particular bodyshell/chassis.

RALLY / ROAD

Supercharger Sealing Requirements

1. Each supercharged Group N, Group N (P), Group A and Production Rally Car (PRC) 4WD vehicles, whose homologated supercharger inlet size is 33mm or greater (22.6mm for vehicles fitted with two or more superchargers), and for all supercharged Production Rally Cars (PRC), whose supercharger inlet size is greater than 34mm (24mm for vehicles fitted with two or more superchargers), it will be compulsory to have a restrictor fitted as follows:
 - **Group N / Group N(P)** – in accordance with FIA Group N Regulations, Article 6.1 (b) Supercharged engines.
 - **Group A / PRC** – in accordance with FIA Group A Regulations, Article 5.8.1.3 (b), Supercharged engines.
2. These Regulations do not apply to two-wheel drive supercharged vehicles. However, competitors with 2WD supercharged vehicles must attend supercharged/turbo scrutiny and must be checked for inlet size against the homologation papers and have the compressor housing sealed to the bearing housing. For those competitors with non-homologated 2WD supercharged vehicles, components must be identical to the series part.
3. The supercharger restrictor will be measured and sealed in place prior to competition in any round of the Championship. All superchargers used on these cars during the event will be required to be measured and sealed prior to their use.
4. Competitors must present superchargers to the organisers in a condition to be sealed, ie, they must be wired and prepared for sealing with leadseals or a CAMS-approved alternative in a manner that will be easily seen when assembled on the car.

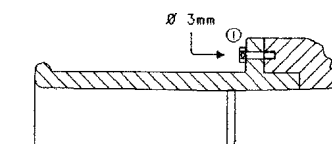
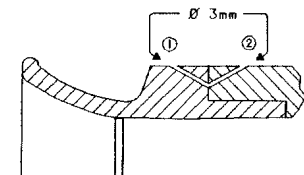
The restrictor must be sealed to the compressor housing, which (for turbochargers) in turn must be sealed to the bearing housing which in turn must be sealed to the exhaust housing. This can usually be effected by one wire and therefore one seal. The diagrams below may assist.



Drawing 254-4

- ① hole for restrictor or restrictor/compressor housing
- ② hole for compressor housing or housing/flange
- ③ hole for central housing or housing/flange

Other possibilities



RALLY / ROAD

Scrutineering – Road Events

Before participation in any Rally, cars will be examined by scrutineers, and the following items will be checked.

- | | | |
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| <ul style="list-style-type: none"><input type="checkbox"/> Licences:<ul style="list-style-type: none"><input type="checkbox"/> Competitor<input type="checkbox"/> Driver<input type="checkbox"/> Navigator/Co-driver<input type="checkbox"/> Front number plate<input type="checkbox"/> Bumper bar<input type="checkbox"/> Parking lamps<input type="checkbox"/> Head lamps:<ul style="list-style-type: none"><input type="checkbox"/> high<input type="checkbox"/> low<input type="checkbox"/> Additional lamps:<ul style="list-style-type: none"><input type="checkbox"/> mounting & switching<input type="checkbox"/> lampguards (safe & secure)<input type="checkbox"/> front turn indicators<input type="checkbox"/> bonnet secure<input type="checkbox"/> Tail lamps<input type="checkbox"/> Number plate lamp<input type="checkbox"/> Brake lamps<input type="checkbox"/> Reversing lamp:<ul style="list-style-type: none"><input type="checkbox"/> mounting<input type="checkbox"/> panel indicator<input type="checkbox"/> Rear turn indicators<input type="checkbox"/> Reflectors<input type="checkbox"/> Rear number plate | <ul style="list-style-type: none"><input type="checkbox"/> Boot secure<input type="checkbox"/> Bumper bar<input type="checkbox"/> Mud flaps<input type="checkbox"/> No excess body damage<input type="checkbox"/> Doors secure<input type="checkbox"/> Signs & numbers<input type="checkbox"/> Battery safe<input type="checkbox"/> No fluid leaks<input type="checkbox"/> Master cylinder & fluid level<input type="checkbox"/> Tow Rope – Shovel – Axe (not compulsory)<input type="checkbox"/> Steering components<input type="checkbox"/> Fuel tank/s vented<input type="checkbox"/> Brake hose condition & leaks<input type="checkbox"/> Brakes (pedal height & feel)<input type="checkbox"/> Hand brake<input type="checkbox"/> Windscreen vision<input type="checkbox"/> Windscreen wipers<input type="checkbox"/> Windscreen washers<input type="checkbox"/> Rear vision mirror<input type="checkbox"/> Steering wheel & play in steering mechanism<input type="checkbox"/> Seats & safety belts<input type="checkbox"/> Interior (safe)<input type="checkbox"/> Horn | <ul style="list-style-type: none"><input type="checkbox"/> Roll bar & padding<input type="checkbox"/> Wiring<input type="checkbox"/> Helmets (if applicable)<input type="checkbox"/> Fire extinguisher<input type="checkbox"/> First aid kit<input type="checkbox"/> Triangles<input type="checkbox"/> Wheel bearings<input type="checkbox"/> Front suspension<input type="checkbox"/> Ball joints<input type="checkbox"/> Shock absorbers<input type="checkbox"/> Springs or torsion bars<input type="checkbox"/> Rear suspension<input type="checkbox"/> Springs, bolts<input type="checkbox"/> Shock absorbers<input type="checkbox"/> Universal joints<input type="checkbox"/> Chassis/sub-frames<input type="checkbox"/> Sump guard/tank guard (if fitted)<input type="checkbox"/> Wheels – condition<input type="checkbox"/> Tyres<input type="checkbox"/> Exhaust system:<ul style="list-style-type: none"><input type="checkbox"/> mounting<input type="checkbox"/> no leaks<input type="checkbox"/> noise level |
|--|---|---|