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A capitalised and italicised word in this document is defined in the FIA International Sporting Code (Code), the National Competition Rules (NCR), including their Appendices or this document.

FUEL TANKS (STATE LEVEL AND ABOVE RACE EVENTS ONLY)

1. 1ST CATEGORY AUTOMOBILES

- (a) Each 1st Category *Automobile* with a fuel capacity in excess of 50 litres, must be equipped with a fuel tank/s either fitted with fuel tank foam, or fitted with a FIA safety fuel cell.
- (b) A tank filler and/or cap must not protrude beyond the coachwork. Each fuel filler must seal and prevent fuel leakage. Each air vent must be located at least 250mm to the rear of the cockpit.
- (c) Each 1st Category *Automobile* subject to a log book issued after 1 January 1977, and any *Automobile* in which the fuel tank is within 100mm of the outside surface of the *Automobile*, must incorporate a crushable structure to protect it from impact.

NOTE: the following specifications for the fuel tank crushable structure are recommended;

Minimum Thickness	1.5mm
Material	Aluminium Alloy
Minimum Tensile strength	215 MPa
Minimum elongation	5%

- (d) Each 1st Category *Automobile* which is the subject of a log book issued after 31 December 2017 must be fitted with an FIA safety fuel cell FT3-1999, FT3.5-1999 et FT5-1999 or must incorporate a free design fuel tank using regulations as listed in Article 4.

2. 2ND AND 3RD CATEGORY AUTOMOBILES

- (a) Each 2nd and 3rd Category *Automobile*, unless otherwise specified in the Group Regulations, may replace an original fuel tank/s with a FIA safety fuel cell or a free design fuel tank provided the fuel capacity does not exceed that specified below. Each *Automobile* competing in a *Circuit Race* scheduled to extend more than 30 minutes, which is not fitted with a FIA safety fuel cell, must have its fuel tank fitted with fuel tank foam.
- (b) From 1 January 1974, any *Automobile* not previously registered with *Motorsport Australia* or of a model for which a log book has not previously been issued, must be fitted with fuel tanks of capacity no greater than specified below.
- (c) Should dry-break quick refuel couplings be fitted then a *FIA* safety fuel cell is required save for a Series Production *Automobile* (below for exception). The fuel filling port must then be relocated so that:
 - (i) the original fuel port/s must be rendered inoperative;
 - (ii) the valve receiver mounting must be installed in the appropriate external panel in such a way as to prevent entry of fuel into the boot compartment in the event of spillage; and
 - (iii) a flexible connection between the valve receiver mounting and the top of the fuel tank is permitted.
- (d) Each 2nd and 3rd Category *Automobile* which is the subject of a log book issued after 31 December 2017 must be fitted with either:

- (i) the original fuel tank for the original *Automobile* in the original location using at least the original fuel tank mounts; or
- (ii) a FIA safety fuel cell FT3-1999, FT3.5-1999 et FT5-1999; or
- (iii) a fuel tank of free design using regulations as listed in Article 4.

NOTE: See Refuelling in Pit Lane, *Motorsport Australia Manual*; Circuit Race Appendix for further information regarding refuelling in pit lane.

- (e) Where dry-break quick refuel couplings are fitted to a Series Production *Automobile* in which the standard fuel tank/s are retained and are totally unmodified (including baffling, fitting of foam filling and any modification to the filler neck or venting system), any consequential increase in fuel capacity will be accepted provided that:
 - (i) the dry-break quick refuel coupling/s and venting components are fitted as close as practical to the fuel tank;
 - (ii) the inside diameter of the connecting tube between the dry-break quick refuel coupling and the original filler neck of the fuel tank is not greater than the outside diameter of the exit of the dry-break coupling/s; and
 - (iii) the filler and vent tubes between the fuel tank/s and dry-break quick refuel coupling/s are as short and as direct as practical.
- (f) Each 2nd and 3rd Category *Automobile* which is fitted with dry-break quick refuel couplings must have fitted:
 - (i) a vent system with a gravity activated roll-over valve;
 - (ii) a fill plate with one way valves to minimise fuel leakage.
- (g) Any installation of LP Gas to an *Automobile* must comply with the requirements of AS 1425. Each fuel tank/s may be made demountable utilising appropriate self-sealing connections on fuel hoses.
- (h) The maximum capacity of fuel tank fitted to an *Automobile* of 2nd, and 3rd Categories, except as provided above, is:

Up to 700cc	60 litres
701-1000cc	70 litres
1001-1400cc	80 litres
1401-1600cc	90 litres
1601-2000cc	100 litres
2001-2500cc	110 litres
Over 2500cc	120 litres

3. GENERAL

- (a) An *Automobile* which is subject to a log book issued after 1 January 1977 is not permitted to have a fuel tank forming part of the stressed structure of the *Automobile*.
- (b) Refer also to relevant technical regulations for the Group/category/class which may apply additional requirements.
- (c) Refuelling in Pit Lane, refer to *Motorsport Australia Manual*; Circuit Race Appendix.
- (d) Filling of fuel tanks must only be performed through one of these four methods:
 - (i) Through the original filler neck and cap fitted to that *Automobile* by the original *Automobile* manufacturer;
 - (ii) Through Dry-break quick refuel couplings (e.g. Siamese dry-break system);
 - (iii) Through a filler cap that is mounted directly on or within 100mm of the fuel tank; or
 - (iv) Through Dry-break fittings that are mounted either on the tank or remotely via a flexible hose.

- (e) Where a dry break coupling is used, a minimum of 50% of the length from the dry break coupling/s to the fuel tank must be made using flexible hoses.
- (f) Each removable filler cap must be mechanically retained (i.e. screw thread, mechanical latch, mechanical lock) when the fuel tank is in use (interference retention of the filler cap is not permitted)

4. FUEL TANK - FREE DESIGN

A fuel tank of free design must:

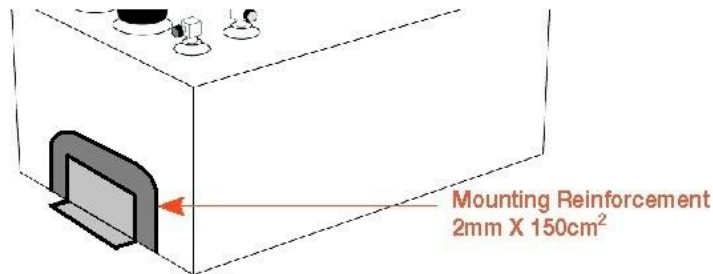
- (i) be constructed of steel, stainless steel, or 5005 aluminium, a minimum 2mm thickness. Specific category regulations may vary the material type and dimensions.

NOTE: a fuel tank constructed of a non-metallic material is not permitted as a fuel tank of free design.

The use of a non-metallic fuel tank of free design will not be permitted as of 1 January 2021.

- (ii) be mounted by a cradle and strap/s or, if fixed by mounting tabs, each tab must have a mounting reinforcement of a minimum 2mm x 150cm² with large radius corners welded to the tank; (Fig 1)

FIGURE 1



- (iii) contain fuel-resistant polyurethane foam baffling, conforming to mil spec mil-b-83054, sae-air-4170 or equivalent.
- (iv) Where rapid refuelling is expected, anti-static foam conforming to mil-spec MIL-F-87260 (USAF) must be fitted;
- (v) incorporate a vent system with a gravity activated roll-over valve;
- (vi) if the tank is remotely filled incorporate a fill plate with one way valves to minimise fuel leakage; and
- (vii) be internally inspected for safety foam deterioration every 2 years.

5. FUEL CELL INSPECTION

- (a) Each *Automobile* in an *International Competition* must comply with the *FIA Code*.
- (b) The following regulations apply from 1 January 2018 and only to an *Automobile* competing in an *Event* permitted by *Motorsport Australia*. A *FIA* safety fuel cell FT3, FT3.5 and FT5 must be inspected in compliance with the following requirements:
 - (i) Inspection of a fuel cell will become due on the *FIA* expiry date of 5 years after manufacture;
 - (ii) Inspection of a fuel cell must be carried out by a *Motorsport Australia* approved test facility every 2 years, refer Article 6;
 - (iii) Maximum life of a fuel cell will be 15 years from the date of manufacture;
 - (iv) A damaged fuel cell must not be repaired;
 - (v) Proof of inspection must be supplied to a scrutineer on request; and
 - (vi) Test details are to be recorded by *Motorsport Australia* in the Log Book change of details section.

NOTE: Group/category/class or event regulations may apply a higher standard for a fuel cell.

6. APPROVED FUEL CELL TEST FACILITIES

Australian Fuel Cells 14/4 Transport place Molendinar QLD 4214 (07) 5597 1533	Racer Industries 22-28 Lexton Road Box Hill VIC 3128 1300 722 374	Bond Roll Bars 3/6 Precision place Park road industrial estate Mcgrath's Hill NSW 2756 (02) 4587 9672
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NOTE: Test facilities may be added to this list on application to *Motorsport Australia*.



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