
BriSCA F2 Technical Bulletin 11th June 2014

A number of technical issues have arisen in the early part of the 2014 season, either through inspection of cars at meetings, or by drivers seeking clarification of specific rules. Following consultation with drivers, car constructors and promoters, BriSCA F2 have produced the following rule clarifications and technical statements that apply with IMMEDIATE EFFECT.

It should be noted that there are NO rule changes within this information.

The points noted are:

- Responses to questions posed
 - Reminders of existing rules where illegal practices have been observed
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Technical Contacts

- Drivers are welcome to seek clarification on technical matters using the following contact information (which can also be found at the front of the 2014 rule book):
 - **Chief Technical Officer – Dave Coventry**
Tel: 07793 836456
Email: mildenhallstadium@hotmail.co.uk
 - **Chief Technical Consultant – Adrian Blackwell**
Email: briscaf2tech@outlook.com
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Proposed Changes

- Drivers are welcome to submit proposed changes to rules where the opportunity of a safety enhancement, cost reduction, parts-supply improvement, competitive levelling, or general benefit to the sport is identified.
 - However, drivers are specifically reminded of the general note at the start of the technical rules section of the rulebook which states:
 - Prior approval **MUST** be sought and received for any changes to the current published rules or to allow the use of any non-standard or modified parts. Requests **MUST** be submitted to BriSCA F2 and will be considered for the following year's rulebook. Such parts or changes must **NOT** be implemented until approval has been granted as appropriate.
 - Drivers must **NOT** fit unapproved parts, or components that do not meet the current technical rules, whether they believe they have a case for them or not. A process for approval exists and should be followed by all drivers.
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Axle Link Bars – Use of Bushes

Further to the statement published on 17th April 2014, a review has been conducted on the use of rubber or polyurethane bushes in the mounting of 4-link and/or anti-tramp bars for the rear axle.

After consideration it is confirmed that the use of rubber or polyurethane bushes in the mounting of rear axle 4-link and/or anti-tramp bars IS PERMITTED.

Drivers are reminded of rule 215.6.2, which states:

- 215.6.2 All rear axle link and anti-tramp bars MUST be of solid fixed-length construction, such that their length cannot change/be changed under load during racing (i.e. NO springs, damping or telescopic devices).

Helper Springs

Drivers are reminded of the following rules:

- 213.2.1 A MAXIMUM of one coil spring per wheel/corner is permitted.
213.2.2 A MAXIMUM of four coil springs per car is permitted.

The use of additional “helper” springs (for any purpose) is therefore NOT PERMITTED under the current rules.

Differential Casing Modification

A question has been asked, via the BriSCA F2 Chief Technical Consultant, regarding the legality of the practice of cutting out or grinding down the strengthening webbing on the outside of rear axle differential housings/casings.

The practice of cutting out or grinding down the strengthening webbing on the outside of rear axle differential housings/casings IS PERMITTED, however, drivers must be aware of the safety/strength implications of such actions.

Differential Component Material

A question has been asked, via the BriSCA F2 Chief Technical Consultant, regarding the legality of non-ferrous components within the internals of a limited-slip differential.

Rules regarding differentials state:

- 219.1.1 Gearbox casings and differential housings MUST be made of a ferrous material.
219.4.1 Differentials may be un-locked, locked, or of the limited-slip design.
219.4.2 Only original specification standard production differential ratios may be used in the ratio range from 3.5:1 to 4.44:1. For example, the Volvo 3.73:1, BMC 3.90:1, and Ford 4.125:1 are all permitted within this rule, as are other standard ratios (within the above range) produced by these and other car manufacturers.

The choice of materials in the design and manufacture of limited-slip differential components is the responsibility of manufacturers, based on cost, performance and durability, and thus may result in non-ferrous components being employed.

Rule 219.1.1 states that only the differential housing must be of a ferrous material. The use of non-ferrous components within the internals of a differential IS PERMITTED.

Bodywork – Engine Covers

A few cases of cars having holes drilled or cut in engine covers/bonnets have been observed in the early part of the season.

Rule 203.5.7 states:

- 203.5.7 The engine bonnet/cover MUST be constructed of a MINIMUM of 51% metal by external surface area. It MUST fully enclose the engine compartment, and be securely fitted. The use of non-metal composite material sections, e.g. a rocker-cover bulge, within the construction of the bonnet/cover is permitted, subject to the overall 51% metal rule of the entire removable section.

In addition to the protection of the engine and aesthetic presentation, the engine cover (and thus the written rule) is designed to help contain components, fluids, and/or possible fire within the engine bay. The use of a grille at the front (whether it be mesh or an alternate design) to allow the ingress of air to aid cooling is a long-time accepted practice, as is the protrusion of the air filter through a hole cut as close to the filter/carburettor body as possible.

The drilling/cutting of additional holes in the engine cover/bonnet (other than for a front grille or fitting round the air-filter), or cutting excessively large holes around the air-filter and/or exhaust pipes, is NOT PERMITTED (in accordance with the statement in the existing rule - "It MUST fully enclose the engine compartment").

Roll-cages

It is pleasing to note that the vast majority of drivers have implemented the 2014 roll-cage changes (material dimensions, and number of "down-bars") to a high standard.

A small number of cars that did not conform to the specifications have been observed, and again it is pleasing to note that the drivers in question have made subsequent modifications to the satisfaction of scrutineers.

There remain a few specific interpretations/implementations of the original and/or changed rules that are subject to further investigation and assessment on safety grounds.

Three particular rules to note are as follows:

- 203.3.1 The car **MUST** have an integral 6-pillar roll-cage, welded to the main chassis rails, to protect the driver.
- 203.3.4 Two additional pillars (pillars 5 & 6) **MUST** also connect the main chassis rails to the roll hoop(s) above the driver's head (one pillar on each side of the car).
- 203.3.8 The top and bottom sections of the middle pillars must **NOT** be offset from each other where they intersect any side or other protection bars.

Key points are the requirement for roll-cage pillars to be welded to the **main chassis rails**, the use of the term **pillar** (defining a support structure), and the requirement that middle pillar sections are **not offset**.

Drivers/car constructors must therefore ensure that:

- (i) **The middle pillars of roll-cages are welded directly to the main chassis rails and NOT on to any other suspension mounting, bars, or chassis components**
- (ii) **Middle pillars form a continuous supporting structure from the roof bars/roll hoops to the main chassis rails**
- (iii) **The correct number of additional down-bars are installed**

Bumper Chains

Drivers are reminded of rule 204.11 with regard to secondary fixings for bolt-on bumpers:

- 204.11 Bolt-on bumpers **MUST** have a **MINIMUM** of **TWO** secondary fixings to prevent the bumper leaving the car should the mounting bolts break in an impact. Each secondary fixing **MUST** comprise of a steel chain made of **MINIMUM** 8mm thick diameter links, with ends joined together by a **MINIMUM** 8mm thick diameter steel shackle encompassing a threaded securing mechanism. The use of nuts, bolts and washers to join the ends of the chain is **NOT** permitted. Each secondary fixing chain **MUST** be wrapped around **BOTH** the chassis and suitable section of the bumper.

A number of drivers have been cited in the first half of the season for using chain less than the minimum 8mm thickness specification, and/or using nuts and bolts to join the ends of the chain.

This is an important safety rule and scrutineers will be asked to pay particular attention to its implementation.

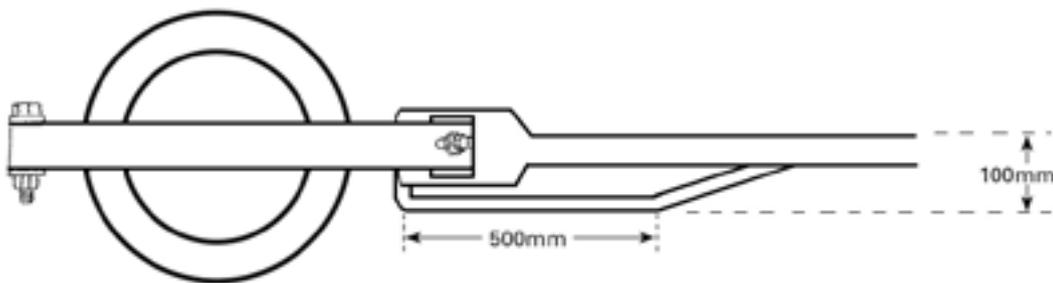
Drivers MUST ensure that all detachable bumper chains meet the 8mm specification, and are joined together by minimum 8mm thick diameter steel shackles encompassing a threaded securing mechanism.

Nerf-Rail Length/Depth

A number of drivers have presented cars for scrutineering with nerf rails that do not meet the minimum length/depth standards laid out in rule 205.8 and illustrated in Technical Diagram 02.

Rule 205.8 states:

- 205.8 Nerf-rails MUST be at least a MINIMUM depth of 100mm from the rearmost point of the outer edge of the rail forwards for a MINIMUM length of 500mm. This measurement does NOT include any angled section joining the lower section of the rail to the outer edge of the main nerf rail. This rule is illustrated in Technical Diagram 02.



The original incorrect nerf-rail diagram (rulebooks up to 2012) was corrected 18 months ago (2013 and 2014 rulebooks) so there is no excuse for drivers not to present a car for inspection that meets the required specification.

Rear Axle Mounting

A number of rear axle mounting contraventions have been observed in the early part of the season. Particular examples include, but are not limited to:

- More than the 6-maximum permitted mounting holes on each side of the chassis (Rule 215.5.4)
- The use of removable nuts & bolts to “seal” off additional mounting holes (Rule 215.5.8)
- The use of non-permanent tack-welded washers to “seal” off additional mounting holes (Rule 215.5.8)
- The use of interchangeable plates containing the mounting holes (Rule 215.5.10)
- Multiple mounting holes requiring different length link bars (Rule 215.5.10)

Drivers should pay particular attention to rule sections 215.4 and 215.5 and ensure that there is no doubt regarding their particular rear axle mounting configuration.

Bumper Faces

Some drivers have raised concerns regarding particular designs of rear bumpers and the method of mounting rear wheel-guards.

Bumper rules state:

- 204.2 Both bumpers **MUST** be constructed with a flat face surface 100mm (4in) deep.
- 204.5 Wheel-guard mount plates on the rear bumper may extend beyond the 1676mm (66in) **MAXIMUM** width; however they **MUST** be constructed so as to only protrude forward from the rear bumper and **NOT** create any additional face area to that permitted above.

A number of cases have been observed where additional material has been added to the rear bumper, increasing both the depth, and the face area (in some cases by up to 50% more), a practice specifically prohibited in the above rules.

BriSCA F2 will consult with drivers and car constructors regarding requirements for, and methods of, mounting rear wheel-guards. The aim of this is to produce guidelines/diagrams for drivers/car constructors on acceptable practices for adapting the end(s) of the rear bumper. In the meantime, drivers and car constructors should ensure that any construction, modification, or repair is carried out in accordance with these rules.

One-Way Fuel Tank Breather Valves

Rule 222.2.3 states:

- 222.2.3 The fuel tank **MUST** have a breather pipe that prevents spillage in case of inversion. A one-way valve **MUST** be fitted in the breather pipe to prevent fuel spillage.

A number of occurrences of drivers modifying one-way valves have been detected, in some cases resulting in the spillage of fuel.

The one-way valve is a safety component and must NOT be modified or tampered-with under any circumstances. Any driver found to be using a one-way valve that has been modified, adapted, or tampered with, will be liable to disciplinary action resulting in a racing ban.

Other Observed Infractions

A number of other technical specification infractions have been observed in the opening months of the season, specifically:

- Wing heights Inadequate clearance from the roof
- Roof colours Incorrect grading colours or missing Superstar lights
- Prop hoops 2nd hoop not fitted where required for shortened tailhousings
- Floor plates Insufficient length to overlap with front edge of seat
- Foot side plates Insufficient length to overlap with front edge of seat
- Battery terminals Exposed terminals presenting a safety issue
- Axle Offset Race win disqualifications due to axle offset

All drivers are reminded that, as per the General Notes at the start of the technical section of the rulebook:

“It is the driver’s responsibility to present a legal car at all times (including scrutineering, practise, and racing). This is stressed especially for such simple checks as front wishbone lengths, bumper heights, track width, and rear axle alignment.”