



## **BTRDA RALLY FIRST - TECHNICAL REGULATIONS 2018**

### **INTRODUCTION**

**BTRDA Rally First** is open to any **2-wheel drive Production Car** with a **normally aspirated petrol engine**, or a diesel engine [which may be turbocharged], up to a maximum engine capacity of 2,000cc that is or has been available for public sale in the UK. Cars that were originally 4-wheel drive are only permitted if they are permanently modified to 2-wheel drive.

Within **BTRDA Rally First** there will be three classes: -

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|--------------------|---|
| <b>Class RF1.4</b> | for cars with an engine capacity up to and including 1400cc             |
| <b>Class RF1.6</b> | for cars with an engine capacity over 1400cc up to and including 1600cc |
| <b>Class RF2.0</b> | for cars with an engine capacity over 1600cc up to and including 2000cc |

**Cars that comply with FIA Appendix J Article 260 (R1A & R1B) and first registered after 1<sup>st</sup> Jan 2005 are permitted in BTRDA Rally First** subject to the completion of a Rally First Vehicle Declaration Form.

- R1A cars will run in class RF1.4 and R1B cars will run in class RF1.6
- The minimum weight for a R1A car is **980kg** and for a R1B car is **1030kg** or as specified in homologation papers where they apply.
- Where a car is FIA homologated in R1A or R1B, valid homologation papers must be carried in the car and available for inspection by the Series or Event Scrutineers.
- It is **NOT** permitted to 'mix and match' the requirements of FIA Appendix J Article 260 and the BTRDA Rally First Technical Regulations.

**All vehicles must comply with the MSA Regulations - [J] Vehicles, [K] Safety and [R] Special Stage Rallying.**

### **DOCUMENTATION**

In addition to the MSA Competition Car Log Book (CCLB) a **BTRDA Rally First** Vehicle Declaration Form (VDF) must be completed listing the make / model / age / specification / modifications of the car. This must be submitted to the BTRDA Co-ordinator or Championship Scrutineer before any points can be scored. Any subsequent changes to the vehicle must be recorded and the form re-submitted. BTRDA reserves the right to refuse any vehicle if it is considered unsuitable (see Appendix 1) or to grant appropriate waivers to disabled competitors.

### **VEHICLE REQUIREMENTS**

#### **1 General:**

[1.1] **Except where specifically permitted in these regulations, or where necessary to comply with MSA competition vehicle regulations, the vehicle must be unmodified** and no component (including engine, engine management system and transmission parts) may be removed, physically modified or exchanged for a non-standard part. All parts should be available or have been available in the UK for the model and year of the vehicle, as declared on the BTRDA Rally First Vehicle Declaration Form.

[1.2] Where these regulations specify the use of standard or original equipment parts, a competitor may use a Standard Pattern Part. Standard Part and Standard Pattern Part are as defined in MSA Yearbook (Section B)

[1.3] Parts may be repaired, but only using the procedures and processes specified in the vehicle manufacturer's workshop manual.

#### **2 Body Shell:**

[2.1] It is permitted to use a body shell or panels that were originally from a different designation of the same vehicle model; e.g. it is permitted to use a shell or panels originally from a 1.0 Corsa C to build a 1.4 Corsa C.

[2.2] The body shell (including doors, bonnet, boot and tailgate) must retain the original manufacturer's material, minimum thickness, shape, structure, and outline. It is not permitted to lighten the vehicle shell by removing any structural parts. However, the removal of surplus brackets is permitted.

[2.3] The body shell of the car may be strengthened including suspension mounting and roll cage areas. Plating, (which must follow the original body shape and be in contact with the standard part), stitch and seam welding, gussets, 'bolt on' and 'weld on' braces are all permitted.

[2.4] Strengthening rear suspension mounting points and turrets by the positioning of the roll-over safety bar backstays is permitted.

[2.5] The inner lips of wheel arches may be folded in to keep them away from the tyres.

[2.6] The fitting of any under body guards and protection is permitted.

[2.7] The route of brake and fuel pipes may be altered, subject to compliance with MSA Yearbook regulations.

[2.8] A roof mounted vent / vent pod may be fitted.

### **3 Exterior:**

[3.1] Original equipment airfoils, spoilers, wings, wheel arch extensions and body style devices may be retained. A competitor must be able to show that any such device appears in the car manufacturer's UK accessory catalogue for that range of cars. It is not permitted to fit a device for one model range, to a car from a different model range or to a different make of car.

[3.2] Bonnet, boot lid/hatch fastenings are free. The bonnet and boot lid/hatch may have their normal locks disabled, but must be held positively closed by pins, clips or straps which are externally operable.

[3.3] In the interests of safety, doors should remain unlocked during competitive sections. Cars fitted with self-locking doors may be modified to permit this.

[3.4] All glass areas must remain and the replacement by other materials is not permitted except to comply with MSA Technical Regulations.

[3.5] Standard wing mirror pods must be retained but the choice of mirror in them is free.

[3.6] Detachable under body shields, engine compartment trays (but not heat shields) and wheel arch liners may be removed.

### **4 Interior:**

[4.1] Rear seats (and the rear safety belts, so long as the rear seats are removed), floor coverings, roof linings, rear parcel shelf, detachable boot compartment covers, sound deadening material, audio units (and their wiring if it is not an integral part of the original wiring loom) may be removed or replaced.

[4.2] Safety airbags may be disabled by the removal of their fuses or removed completely. If they are removed the hole created must be filled or covered.

[4.3] The steering wheel is free subject to compliance with MSA regulations.

[4.4] Electric window winding mechanisms may be replaced by the manufacturer's manual window winding mechanisms and vice versa, but the door windows must remain operable.

[4.5] Additional instruments and equipment are permitted, but the standard instruments for the car must be retained in their normal position and housings. The gear knob is free.

[4.6] Door trim must be retained, and additional door padding may be added. However, where safety door bars (part of the ROPS) impinge on the door trim then a suitable alternative door trim / door cards will be accepted.

### **5 Weight:**

[5.1] The minimum weight must be 700kg for class RF1.4, 770kg for class RF1.6, 850kg for class RF2.0, or the FIA homologated weight if the vehicle is currently FIA homologated.

[5.2] The checking of vehicle weights will be as set out in FIA Appendix J.

### **6 Engine:**

[6.1] The engine must be a standard production engine for that make and model of car including the complete induction and engine management system. Rotary engines are not permitted.

[6.2] Re-boring for the purposes of re-lining the engine block **to the original cylinder capacity** is allowed.

[6.3] Internal baffles may be fitted to the sump and the sump oil pick-up pipe may be modified.

[6.4] The standard exhaust manifold must be retained but the exhaust system beyond the manifold is free.

[6.5] Where the vehicle is required by law to be fitted with a catalytic converter then a functioning catalytic converter must be included in the exhaust system. The catalytic converter may be located anywhere in the exhaust system. Note the MSA Yearbook requirement that an exhaust catalytic converter must be fitted to all petrol engine cars manufactured after 31/12/1999.

[6.6] It is permitted to divert the Crankcase Breather to a separate catch tank but this must not allow any oil / waste products to leak. NB: Must comply with R48.2.9

### **7 Engine Ancillary Equipment:**

[7.1] Cosmetic detachable engine covers (but not heat shields) and bonnet sound proofing material may be removed.

[7.2] Air filter(s) and associated trunking are free but must be fitted. All incoming air must go through a proprietary air filter, i.e. no by-pass systems. Open Ram Pipes are not permitted.

[7.3] Oil coolers may be fitted or relocated.

[7.4] The standard fuel pump or fuel filter may be relocated.

[7.5] Additional engine restraining arms / steady bars may be fitted.

[7.6] Stiffer engine mounting bushes may be fitted.

[7.7] It is permitted to disable or disconnect the Exhaust Gas Recycling (ERG) Valve where fitted but it must not be removed.

[7.8] It is permitted to disable or disconnect Cold Start equipment (secondary air injection) where fitted but it must not be removed

[7.9] The ECU must be the standard part for the make and model of the car. This ECU may be adjusted to achieve optimum engine performance but the fitting of additional or 'piggy back' ECU's is not permitted.

## **8 Transmission:**

- [8.1] Standard gearboxes and differentials must be used with original gears and ratios. It is not permitted to substitute gear ratios / final drives from another model.
- [8.2] Sequential gear change kits and non-original straight cut gears are not permitted
- [8.3] The standard gear change lever and mounting must be retained but the gear change linkage external to the gearbox is free.
- [8.4] Stiffer gearbox mounting bushes may be fitted.
- [8.5] The clutch drive plate may be changed for an up-rated standard pattern part which must be an identical diameter.

[8.6] **The use of limited-slip, locked, locking or torque-biasing differentials are not permitted.** If a car is fitted with such a differential it must be replaced or disabled. The method of disablement must be confirmed and approved by a *BTRDA Rally First* Scrutineer and listed on the VDF. An ATB type differential is not permitted. A roller test on one of the driven wheels (carried out under the supervision of a BTRDA Scrutineer) may be used to test the presence of a limited slip differential. No car should be able to drive off the roller.

## **9 Suspension:**

- [9.1] The original manufacturer's suspension 'system' must be maintained. Components can be exchanged or up-rated but they must use the standard mounting points.
- [9.2] Mechanically adjustable shock absorbers are allowed but remote reservoir suspension is not permitted unless fitted as original equipment.
- [9.3] Springs, torsion bars and bump stops are free, but they must fit the standard mounting points. Spring spacers and adjustable height spring pans are permitted.
- [9.4] Anti-roll bars, if fitted as standard, are free.
- [9.5] Harder suspension bush material is permitted but non-elastic bushes, rose joints or similar metallic joints are prohibited unless fitted as standard.
- [9.6] Suspension turret struts / braces are permitted.
- [9.7] Suspension strut top mountings with non-adjustable uniball joints are permitted.

## **10 Wheels:**

- [10.1] Wheels are free so long as the wheel/tyre combination fits in the standard wheel arch and comply with R.48.5.3
- [10.2] Wheel trims (including air impellers or extractors) must be removed.
- [10.3] All cars must be fitted with mud flaps in accordance with R.48.1.12.
- [10.4] Wheel bolts may be replaced with studs and nuts of the same size and vice versa.

## **11 Tyres:**

- [11.1] Tyres are free but must comply with MSA Yearbook regulations and Tyre List 6 where appropriate, and be legal for use on the public highway.
- [11.2] Hand cutting or any other modification or the use of chemicals to alter the properties of the tyre is not permitted.

## **12 Brakes:**

- [12.1] Brake pad and shoe lining materials are free but must be the same dimensions as the original linings.
- [12.2] Brake hoses must be standard, standard pattern or of a higher specification.
- [12.3] ABS if fitted may be disabled and / or removed.
- [12.4] It is permitted to fit proprietary brake proportioning valves. If proprietary valves are fitted, it is then permitted to remove the standard brake proportioning valve.
- [12.5] It is permitted to modify the handbrake lever in order to alter the length or angle of the lever and also to provide a 'fly-off' mechanism. A mechanical means of positively 'locking on' the handbrake must be retained which complies with 'UK Construction and Use Regulations'. A hydraulic or electronic handbrake is not permitted unless fitted as standard.

## **13 Electrics:**

- [13.1] The battery type and size is free. The location must be standard but additional securing straps may be fitted.

## **14 Fuel:**

- [14.1] The vehicle must use fuel that conforms to the MSA definition of Pump Fuel. (MSA Yearbook - Terminology) Additives are NOT permitted unless specified in the MSA definition of Pump Fuel. No other fuels are permitted.

## **COMPLIANCE**

*BTRDA* Rally Series officials, championship eligibility scrutineers or event scrutineers check compliance with these regulations by any means at any time. Any costs arising from compliance checks will be the responsibility of the competitor.

Competitors are requested to make provision for Scrutineers wire seals to be applied. Every engine/gearbox should have available predrilled 1/16" diameter holes in accessible locations to ensure they can be effectively sealed.

(a) Sump ⇨ cross drilled holes through retaining screws, bolts or studs

(b) Head ⇨ cross drilled holes through two adjoining head bolt / studs or rocker / cam cover bolts or studs.

(c) Gearbox ⇨ end plate bolts or screws or any gear access plate bolts or screws.

If no wire sealing holes are available for the Scrutineer, then it may be checked forthwith.

The Championship Scrutineer may seal or mark components and assemblies for conformity checking. Any seals or marks applied may only be removed with the Scrutineers written permission.

## **APPROVED PARTS AND MODIFICATIONS:**

Requests may be made for the use of other parts or modifications if a standard part is demonstrably unreliable in competition conditions. The new part or modification may only be used on the basis of written permission from the *BTRDA* Rally First Co-ordinator. Permission will not be given if the new part or modification is anticipated to give a performance advantage. Please contact the *BTRDA* officials before undertaking a modification if you have any doubts.

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