



## **BTRDA<sup>®</sup> RALLY FIRST - TECHNICAL REGULATIONS 2012**

### **INTRODUCTION**

**BTRDA<sup>®</sup> 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 1,400cc. Cars that were originally 4 wheel drive are only permitted if they are permanently modified to 2 wheel drive.

Within **BTRDA<sup>®</sup> Rally First** there will be two classes:-

**Class RF1.0 / F1000** for cars with an engine capacity up to and including 1000cc.

**Class RF1.4** for cars with an engine capacity up to and including 1400cc

Cars that comply with the 2012 F1000 Forest Challenge Technical Regulations will be eligible for Class RF1.0 / F1000 subject to the completion of a **BTRDA<sup>®</sup> Rally First** Vehicle Declaration Form.

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<sup>®</sup> 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 Rally First 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<sup>®</sup>** reserves the right to refuse any vehicle if it is considered unsuitable.

### **VEHICLE REQUIREMENTS**

#### **1 General:**

[1.1] Except where specifically permitted in these 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 standard and 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 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 and outline.

[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.

#### **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 device fitted 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.

[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, 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.

[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 conflict with the door trim, a suitable alternative door trim will be accepted.

#### **5 Weight:**

[5.1] The minimum weight will be 840kg for cars up to 1400cc, 720kg for cars up to 1000cc or the FIA homologated weight if the vehicle is currently 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] The maximum engine capacity is 1400cc, or 1000cc if entered in the F1000/RF1000 Class.

[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.

#### **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 cover and drive plate may be changed for an up-rated standard pattern part.

[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 the BTRDA<sup>®</sup> Rally First Scrutineer and listed on the VDF. Specifically an ATB differential is not permitted.

A roller test on one of the driven wheels (carried out under the supervision of the BTRDA Scrutineer) may be used to test the presence of a limited slip differential. No car should be able to drive off a set of rollers.

#### **9 Suspension:**

[9.1] The original manufacturer's suspension system must be maintained. Components can be exchanged or up-rated but 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 spacers of any type, are forbidden unless fitted as standard.

[10.3] Wheel trims (including air impellers or extractors) must be removed.

[10.4] All cars must be fitted with mud flaps in accordance with R:48.1.12.

[10.5] 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 must 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.

*The BTRDA reserve the right to introduce item [11.3] subject to providing 30 days notice to competitors via a championship bulletin.*

*[11.3] Each car is limited to a maximum of 6 tyres per event which may be marked by the Championship Scrutineer at pre event Scrutineering.*

## **12 Brakes:**

[12.1] Brake pad and shoe lining materials are free.

[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 or replace 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 'Construction and Use Regulations'. A hydraulic 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)

## **15 Older Vehicles:**

Vehicles based on a model that ceased production before 1<sup>st</sup> Jan 1998 are permitted the following variation: -

[15.1] Re-boring for the purposes of re-lining the engine to the original capacity is allowed.

## **COMPLIANCE**

*BTRDA<sup>®</sup> Rally First* officials may 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 the engine or gearbox 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 Scrutineer's 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<sup>®</sup> 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<sup>®</sup> officials before undertaking a modification if you have any doubts.