

TECHNICAL REGULATIONS

5.1 INTRODUCTION;

The following technical regulations are set out in accordance with the Motorsport UK specified format and it should be clearly understood that if the following texts do not clearly specify that you can do it, you should work on the principal that you cannot.

Where nothing is listed for a reference number and heading, the subject is 'free' within Motorsport UK regulations.

5.2 GENERAL DESCRIPTION

The Series is for competitors competing in the Mini Cooper class.

5.2.1 Eligibility, Only B50 (2002 – 2006 model year) Mini Cooper 1.6 Petrol (W10 are eligible providing they comply with these Technical Regulations.

Any B50 Mini One donor car may be converted to be eligible for the Championship, but it should be noted that the gearbox and engine ECU mapping will need to be converted to those of the 'Cooper' to fully comply.

5.3 SAFETY

All Motorsport UK. Section K safety criteria regulations apply as relevant. Particularly competitors should note; (the following are minimum requirements)

K1	Roll bar
K2	Seatbelts – 6-point
K3	Fire extinguisher
K5	Rear light
K6	Tank Fillers, Vents and Caps
K8	Circuit breaker
K9	Overalls
K10	Helmet
K11	Goggles or visor
K12	Propeller Shaft Restraint
K13	Head restraint
K14	Fuel Tank

Please note regulations in Section J and specifically J5.2.1

Also (Q)13.1.3(a) with reference to towing eyes.

In addition, competitors are reminded that Yearbook regulations Section J apply.

The wearing of the following FIA flame resistant racewear is mandatory for this series K14 i.e. gloves, balaclava, socks and shoes. The wearing of flame-resistant underwear is recommended.

RE-SCRUTINY: All vehicles reported involved in contact incidents during qualifying, races or practice must be re- presented to the Scrutineers before continuing in the races or practice.

5.4 GENERAL TECHNICAL REQUIREMENTS AND EXCEPTIONS

5.5 CHASSIS;

5.5.1 The chassis must remain to the original BMW Mini specification in construction and material. Reinforcing, removing or adding material to the chassis is not permitted unless otherwise specifically allowed in these regulations. Under body sealant must not be removed.

5.5.2 All original 'spot' welded seams attaching both front chassis legs to the bulkhead and both front suspension turrets may be 'stitch' welded, this is defined by approx. 25-30mm of weld, then 25-30mm of no welding, seam welding, continuous welding along the seam, is not permitted.

5.6 BODYWORK

5.6.1 The body must be standard in all respects and must not be modified unless stated. A Multi Point bolt in roll cage in accordance with MSUK Yearbook K1 drawing 6 is mandatory, with K.1.3.5 (B) side protection longitudinal members, these must be fitted at each side of the vehicle (see drawings K9 and K12).

A Safety Devices six-point bolt in roll cage with double door bars (Part No B023) is recommended. The fitment of the cage to the chassis of the car is to be bolted, not welded, and the cage must only contact the chassis at the six mounting points.

5.6.2 Mounting plates and brackets must be welded to the floor for "bolt in" roll cage fitment. All welding for these plates and brackets and the original seams may be "seam welded", continuously welded, within 200mm of the centre line of the corresponding "leg" of the roll cage. No welding permitted outside this 200mm limit.

No additional welding, mounting points or bars may be used. No chassis modification or stiffening is permitted except that derived from the fitting of the roll cage. Seam welding or the addition of spot welds to the shell is prohibited.

5.6.3 Flat bar or plates may be welded or bolted to the floor directly under the drivers' seat to provide secure seat mounting points.

below. Bodywork in whole or part may not be removed, modified or lightened.

Interior

5.6.4 The drivers and passengers air bag units, SRSA control unit and side impact sensors must be removed completely.

5.6.5 It is permitted for throttle, clutch and brake pedal extensions to be added to aid foot control provided this does not enhance performance.

5.6.6 Steering wheel: Free

5.6.7 The main dashboard must remain. However, it is permissible to remove the following:

Lower dashboard shelves/glovebox

In-car entertainment system and all speakers

Headlining, insulation, sound deadening and all carpets

Sun visors

All interior plastic trims

Rear windscreen wiper arm, and mechanism/motor assembly

All original seat belt mountings, front and rear

Any non-structural mounting brackets e.g. rear seat locking brackets, SRS, ECU mounting may be removed.

Rear parcel shelf,

Passenger front seat and rear seats.

Exterior

5.6.8 The bodywork/exterior must be standard in all respects except for amendments specified in these regulations

5.6.9 The bonnet must have catches removed and bonnet retaining pins and/or straps fitted. Retaining pins/straps must be fitted to the rear tailgate and the electric catch must be removed.

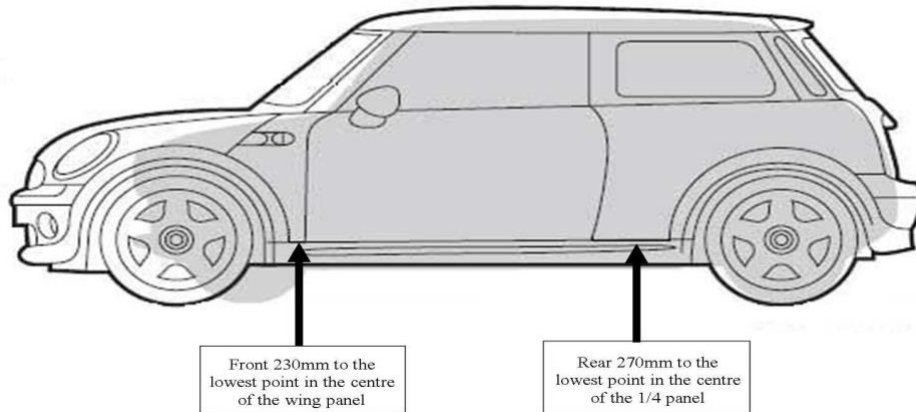
5.6.10 Under bonnet sound proofing may be removed.

Ride Height

5.6.11 The minimum ride height for all chassis will be

Front – 270mm Rear - 295mm.

With the driver normally seated. The organisers reserve the right to amend the minimum ride height dimensions during the season.



5.7 ENGINE

5.7.1 Only the standard W10 1.6 petrol engine as fitted to the 2001-2006 Mini Cooper may be used.

5.7.2 All engine components must remain as standard as supplied by BMW MINI and be 'as cast' and completely standard in every respect, except as permitted in these regulations.

5.7.3 It is permitted to skim a cylinder head and engine block. It is not permitted to skim a cylinder block by more than 0.1mm from standard.

The maximum compression ratio is 10.7 to 1. Pistons must remain standard.

5.7.4 No machining or polishing of any other part, including the combustion chamber, is permitted. All engine components must remain standard, and as supplied by BMW.

5.7.5 Engines may be sealed by the Championship Organisers or their nominated agents at any time during the season. Seals must not be broken under any circumstances. If seals are broken the engine will be ineligible unless a full inspection is carried out by the Organisers or their nominated agents. The inspection will be at the competitors; cost.

Additionally, seals may be fitted to engines at any time. It is strictly forbidden for a competitor or his agent to remove or tamper with the seals. Should these seals be damaged or removed for whatever reason except under the direction of the Eligibility Scrutineer the car must not be used in competition or in practice until the Eligibility Scrutineer has inspected the engine and refitted the correct seals.

5.7.6 The eligibility Scrutineer may require that the engine be removed and/or stripped for inspection and compared with standard parts held for this purpose or supplied by BMW. The cost of this and any subsequent rebuild will be borne by the competitor. All instances of broken seals will be logged and reported to the Clerk of the Course/Championship Organisers.

5.7.7 Only NGK spark plugs may be used. These must be NGK BKR 6 EQUIP or the BMW branded equivalent (BMS Part No 12129071003)

5.7.8 Air filter make is free. Only a foam air filter may be used, and no additional ducting is allowed before or after the filter.

5.7.9 Two sump bolts must be drilled for sealing. Failure to comply will be considered to be a breach of the regulations. Two rocker cover bolts must also be drilled, and two-timing cover bolts must be drilled for sealing two gear box bolts drilled for sealing before starting any events

5.7.10 Only R50 (2001 – 2006 Model Year) MINI Cooper 1.6 Petrol (W10 engine) fuel injectors may be used.

5.7.11 Only R50 (2001 – 2006 Model Year) MINI Cooper 1.6 Petrol (W10 engine) coil packs may be used.

5.7.12 The designated standard Mini Cooper Engine Control Unit (ECU) or any of its associated parts may not be modified in any way. It is not permitted to change the strength or form of any of the sensor signals to or from the ECU or ignition amplifier unit. All cars must have the mandatory Championship Control ECU software map installed; this software shall be regarded as the only map software permitted to be installed and used.

At any time of their choosing a Technical Representative and/or the Eligibility Scrutineer can check compliance with the control map software. At events ECU's may be swapped between cars or have ECU changed for a different control unit. ECU units may be MSUK marked and sealed.

All engine control sensors and actuators must be standard, connected and operational as originally designed for road use. The engine wiring harness from the ECU multiplug to all sensors and control functions must remain standard in all respects. With the only exception being for deletions or additions for the fitment of the following: - battery master switch, rev counter, shift light or cooling fan override switch. No aftermarket performance control boxes may be fitted.

An after-market oil pressure warning light may be fitted.

If the original car was fitted with air conditioning, the air conditioning pump and radiator may be removed and a shorter drive belt may be used.

Engine and gearbox rubber mounting bushings may be upgraded to a harder rubber or fitted with polyurethane bushes Powerflex PFF5-104BLK and PFF5-120BLK.

5.8 SUSPENSION

5.8.1 The standard suspension components and configuration as supplied by BMW MINI must remain unaltered except as specified below.

5.8.2 Rear upper damper isolator bush may be changed for a competition bush (Powerflex PFF5-115BLK) however the pick-up point and mounting plates must remain completely standard.

5.8.3 Negative wheel camber angles, measured with driver seated, must not exceed:

Front – 3 degrees negative Rear – 3 degrees negative

5.8.4 Front control arm rear carrier mounting bolts, inner ball joint mounting bolts and steering rack mounting bolts may be replaced with bolts and nuts.

5.8.5 The standard rear anti-roll bar must be fitted and be connected to the trailing arm drop link at both ends and be operational at all times.

5.8.6 The front anti-roll bar must remain standard in all aspects and must be connected to the damper mounted drop links at both ends and be operational at all times, it is permitted to replace the standard front anti-roll bar bushes with polyurethane bushes.

5.8.7 It is permitted to fit a front strut brace. This must only attach to the chassis at the strut top mounting holes, and no other point.

5.10 ELECTRICS;

5.10.1 Exterior lighting, working headlamps are optional and maybe replaced with full size aluminium or fibreglass blanking plates to the same dimension as the glass headlamp. These plates may not have additional holes in them and must be securely located. Working front sidelights are also optional, and maybe replaced with full size solid blanking plates made from aluminium or fibreglass, which must be securely located with no additional vents in them.

The rear lighting must be operative.

Cars must have 2 working rearward facing brake lights with bulbs of 21 watts minimum or FIA approved LED equivalent.

5.10.2 Rear fog light; must be fitted. This should be compliant with Motorsport UK regulation K5.

5.10.3 Batteries. A lightweight racing battery may be fitted.

5.10.4 The original battery box may be removed and all plastic scuttle panels on the bulkhead may be removed. If this is done, the battery must be securely located inside the car. Also, the air intake on the bulkhead for the heating and ventilation system must be covered by a flameproof material to conform to firewall safety regulations.

5.10.5 The alternator must remain standard, fitted and operational at all times

5.10.6 Front windscreen wipers must remain standard and both wiper blades must park in the position as intended by the manufacturer.

5.10.7 Data logging is permissible, provided the data is stored 'on board' during practice, qualifying or races, and not transmitted from the vehicle.

5.10.8 External circuit breakers must be fitted as per K8.

5.10.9 Any unnecessary wiring may be removed, but any additional wiring must not be connected to the engine or ECU wiring and must not be performance enhancing in any way.

5.10.10 The fuse for the automatic central locking must be removed.

5.11 BRAKES;

5.11.1 Prohibited modifications: The braking system must remain standard and fully operational in all respects.

5.11.2 It is permitted to use brake cooling ducting subject to it being fitted through the front panel taking air from the front fog light aperture in the front bumper. This ducting must not protrude beyond the bodywork and the internal diameter of the ducting must not exceed the diameters of the fog lamp apertures (53mm).

assembly, control unit or wheel speed sensors are permitted

5.11.3 The ABS system may be disabled if desired by removing the system fuse, but there shall be no facility for the ABS system to be activated or deactivated by the driver during practice, qualifying or races.

5.11.4 Brake callipers must remain as standard.

5.11.5 Front brake pad and material are free, but the friction area must not exceed that of the original BMW part (No 34116770332) The rear brake pad and material are free, but the friction area must not exceed that of the original BMW pad (No 34216762871)

5.11.6 Brake pipes may be replaced by braided brake hoses. Brake lines may be re-routed inside the car.

5.11.7 Brake fluid type and make are free.

5.12 WHEELS/STEERING;

5.12.1 Wheels: Permitted options: All four rims must be no more than a maximum 15" x 7" size. A standard wheel may be used, a part number will be advised by bulletin.

5.12.2 Tyres: The only tyres eligible are Toyo Tires 195/50/R15 PXR 888R

5.12.3 The minimum tread depth shall be 1.6 mm across the full width of each tyre at start of timed practice, qualifying or any race

5.12.4 The use of tyre heating/heat retention devices, tyre treatments and compounds are prohibited.

5.12.5 The organisers reserve the right to restrict the number of tyres used at each event and throughout the Championship.

5.13 WEIGHTS;

5.13.1 Minimum weight: - The minimum weight for the car and driver combined before, during or after practice, timed practice, qualifying or race must be no less than 1100 kilograms. Failure to meet this minimum weight will be considered an offence under these regulations.

Ballast: – Any ballast carried must be securely fixed as per J 5.15 and be capable of being sealed (J5.15.3), location of ballast as per J5.15.4 in (passenger location).

5.14 FUEL TANK/FUEL;

5.14.1 Fuel. Pump fuel only to be used. All fuel to be compliant with Motorsport UK regulation Section B, Pump Fuel (a) and Appendix 1..

5.14.2 Fuel Testing: - At the end of timed practice/qualifying or races, there must be at least 3 litres of fuel left in the tank of the competing car to made available to the scrutineers for analysis. Compliance with minimum weight for the car will be taken before the fuel is removed. Sampling: – It is permitted to fit a dry break coupling in the pressured fuel line to allow safe sampling/draining of the fuel tank providing it complies with all safety regulations.

5.15 SILENCING;

5.15.1 The upper exhaust system must retain the standard catalyser box and manifold assembly (BMW Part No 18407525272or 18407527819). The assembly must be complete from cylinder head mating surface to the centre section mating flange. No machining, polishing, reshaping or any other modifications are permitted to this assembly with the exception of replacing the flexi section with a weld-in 'like for like' replacement providing no performance advantage.

5.15.2 The upstream and downstream oxygen sensors (lambda sensors) must be standard (BMW Part No 11780872674, fitted correctly and fully functioning at all times.

5.15.3 Lower Exhaust System: – The exhaust system design, make and layout from the manifold assembly rear flange to the exit is free, but must have a silencer and comply with Motorsport UK regulations.

5.16 NUMBERS

5.16.1 Numbers must be displayed in accordance with Q.11.4 of the current Motorsport UK Yearbook

6 APPENDICES:

6.1 Race organising clubs and contacts;

500 MRCI office, Kirkistown Race Circuit, Rubane Rd., Cloughy, Kirkcubbin, Co. Down

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Published by the 500 MRCI Ltd. Kirkistown Mini Cooper Cup