2019 BTRDA AUTOSPORT INTERNATIONAL CLUBMAN'S RALLYCROSS CHAMPIONSHIP
Appendix 3a
BMW MINI Technical Regulations

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 make a modification you should work on the principle that you cannot.

Class open to new MINI R50 & R53, Mini One or Mini Cooper Saloon (2000-2006 model only). All parts may be interchanged between R50 & R53 models with the exception of superchargers.

All cars must comply fully with the current MOTORSPORT UK Yearbook Regulations J and Technical regulations N6.1. to 6.14.3. and these supplementary regulations.

1. SAFETY

1.1 Roll over structure to N 6.12.1 as a minimum is mandatory. K1.6.1 Appendix 2 drawing 12 (g) or (h).
1.2 A fire extinguisher with a minimum capacity of 1.75 litres AFFF is the mandatory minimum. Refer to K 3.1.1 (Table 3, page 168), plus K 3.4. complete.
1.3 Front windscreen to be laminated glass or a minimum of 4 mm polycarbonate. An operative windscreen wiper/washer system is required. A rear screen and side windows are mandatory. Consideration **MUST** be given to driver's compartment ventilation for this purpose only, it is permitted to cut a maximum of 4 x 50 mm diameter holes in each rear side and or tailgate windows. A vented hole may also be added to the driver's window large enough to accept the driver's arm.
1.4 Seat Belts. Refer to K 2.1.complete (except K 2.1.1, 3 point not allowed) 4 point is mandatory minimum. Anchor points must not rely solely on the large washers supplied with many seat belts but **MUST** be reinforced over a suitable area to give the sufficient strength. The rear fixing of the seat belts must be fixed to the harness bar fitted to the roll cage.
1.5 A competition seat to conform with N6.13.6.
1.6 An ignition cut-off switch having positive on/off positions clearly marked, must be fitted in a position to be operable by the driver when normally seated. It must also isolate the fuel pump(s). A spark proof master cut-off switch must be fitted externally below the windscreen and be readily accessible whatever the attitude of the vehicle following an accident. The switch must be clearly marked with a red spark on a white edged blue triangle and On/Off positions clearly marked.
1.7 The front bulkhead **MUST** be effectively fire proofed, so as to seal off the drivers compartment from fire within the engine compartment. Tape is not considered acceptable. Refer J 5.2.2.
1.8 Window nets must be fitted on the driver's side of the vehicle.
1.9 Clothing and personal safety equipment as per Motorsport UK regulations N5.9 to N5.9.6 inclusive.

2. Body Work and General

2.1 The outward appearance of the car must remain unaltered. Body shell / chassis to be standard NEW Mini R50, R53, Mini One or Mini Cooper Saloon 2000-2006 model only. Removal of internal brackets and fixings for rear seat may be removed. The internal door steel may be removed.
2.1.1 Weight limits. The minimum weight for car and driver, full racing apparel: 1000kg
2.2 Fibreglass bonnet, front and rear bumpers may be used provided they are securely fixed and must be the same shape and size as standard fitments
2.3 Plastic inner wings may be removed.
2.4 All remaining body panels may be replaced by fibreglass but must retain original shape and dimensions.
2.5 The reinforcing of the standard suspension mounting points may **NOT** extend to more than a radius of 100mm from the centre of the suspension point, except for front strut braces (Ref 4.9). The crumple area of the left and right front chassis legs may be reinforced.
2.6 Glass sunroofs are not permitted. The sunroof aperture must be closed by a metal panel permanently fitted in place.
2.7 All lights must be removed and the apertures blanked off. Mesh may be used.
2.8 All interior trim must be removed, including floor covering, head linings, front & rear passenger seats, audio equipment, spare wheel, standard seat belts. Door / trim panels must also be removed and replaced with aluminium or fibreglass panels. Driver and passenger air bags maybe removed, however it is mandatory that the system be made inoperable. Heater system is optional.
2.9 All cars must be fitted with one internal rear view mirror of at least 50sq. cm securely mounted and positioned to give a clear view to the rear. The edges of the mirror must be protected by a suitable cover to reduce the possibility of injury in the event of an accident. External mirrors must be kept as standard.
2.10 All cars must be fitted with towing eyes front and rear which must not protrude beyond the limits of the body. Their position should be marked clearly in a contrasting colour other than black or white. (refer: - N.6.14.3)
2.11 The standard petrol tank must be retained and

in its original position. It is mandatory for the fuel tank to have a protective guard.
2.12 Door handles must be retained. Bonnet and rear tail gate must be fitted with additional catches /straps. The tail gate electric catch must be removed.
2.13 The exhaust is free but must exit at the rear of the vehicle and incorporate a catalytic converter.
2.14 An effective silencer must be fitted to the vehicle at all times in accordance with Section J, page148, appendix 1,chart 5.18, section F.
2.15 Choice of steering wheel is free.
2.16 The standard steering column must be retained and the steering locks must be rendered inoperative. It is permissible to remove the PAS unit.
2.17 The instruments are open to free choice. Dashboard may be removed to allow the fitment of the roll cage.
2.18 It is permitted to fit protective guards to the sump. Any guards may protect but **NOT** strengthen. These protections must be made from either aluminum alloy, steel or composite material and have minimum thickness of 4mm and 2mm for steel. The total weight of protections must be 20kg maximum (FIA279 appendix J page 7 3.2.5).
2.18a It is **NOT** permitted to reinforce the bumpers or their mountings.
2.19 Radiators must remain within the engine compartment. Electric fans and water pumps are permissible. It is permitted to modify or remove the radiator shield / cowl. If removed, the radiator must be retained by metal brackets. All pipes are free.
2.19a Only Mini/JCW/GP intercooler radiators from R53 model may be used.
2.20 Mud flaps are to be fitted behind all four wheels, extending to a minimum of 38mm either side of the tyre tread and to a maximum of 76mm above the ground.
2.21 Side skirts maybe replaced or modified, but the width must not exceed beyond the front and rear wing extensions when viewed from above and must not contain metal.
2.22 The rear wing assembly is optional but if fitted must be identical to the original BMW / JCW part.

3. ENGINE AND GEARBOX

The cylinder head, engine block and sump must remain STANDARD as supplied by BMW unless specifically permitted by these regulations
NOTE: Throughout this section, the words 'standard' and 'production' refer specifically to items manufactured by the BMW Group and OEM suppliers and no other manufacturer.
3.1 The engine and gearbox must be of the type originally fitted and be in the original position**.**
3.2 Head gasket is free. The original terrain must be visible in the inlet and exhaust ports and in combustion chambers.
3.3 A production crankshaft and standard con rods are mandatory, although balancing is permitted. Machining the crankshaft in any other way to reduce weight or any other benefit is not permitted. Polishing is not permitted. In all cases one con rod must be completely standard.
3.4 Pistons must be unmodified standard production or approved replacement pistons**.**
3.5 The cam MUST remain STANDARD.
3.6 Timing of the cam is to remain as standard.
3.7 The flywheel must be standard Mini/JCW item or a standard single mass replacement unit. Steel or Alloy competition flywheels are not permitted. The standard unit may not be lightened by machining and or drilling.
3.8 It is permitted to baffle the standard sump and modify the oil pick up pipe. Dry sumping is **NOT** allowed.
3.9 It is permitted to fit an oil cooler within the engine compartment.
3.10 Inlet manifolds are to be STANDARD.
3.11 It is permitted to remove/replace the original air filter with a performance filter or induction kit. All engine breather pipes that do not re-circulate must go to a breather catch tank. It is **NOT** permitted to modify the throttle mechanism, throttle body or throttle plate and must remain standard.
3.12 Spark plugs are open to free choice but leads and coil pack must remain STANDARD.
3.13 Superchargers, where permitted by these regulations, must be standard Mini/JCW units. All drive pulleys and the drive belts are free.
3.14 Fuel system is standard.
3.15 Turbo-chargers, injection of nitrous oxide or water are **NOT** permitted.
3.16 Fuel: Petrol as defined as 'Pump fuel' J 5.13.4. (Table on page 64).
3.17 Standard gearbox casing and all internals MUST be retained. 5 or 6 speed gearboxes are permitted. Gearbox ratios and final drive must be the same as originally supplied for the car. Gearboxes may be rebuilt with stronger bearings.
3.18 limited slip differentials are permitted.
3.19 The clutch is free as long as the same number of driven plates as used in the production item are retained. Friction material is free providing it is to the original configuration.
3.20 Water pumps are free but must remain within the engine compartment.
3.21 Standard drive shafts must be retained.
3.22 Short shift gear linkage is permitted.

4. SUSPENSION AND BRAKES

4.1 Standard brake system must be retained apart from modifications outlined in section 4.2 & 4.3. Brakes must be operative on all four wheels. Hand brakes must be operable and be of sufficient efficiency to hold the car on a slight gradient.
4.2 Standard BMW Mini pattern aftermarket ferrous discs may be used. Friction material is free. Brake hoses are free.
4.3 ABS braking is not permitted; therefore ABS braking is to be disabled or removed. It is permitted to fit pressure limiting/apportioning valves to the rear brakes.
4.4 The ride height may be altered.
4.5 Shock absorbers and springs are free. Remote canister dampers are not permitted. Rose type joints may be used in the shock absorbers top and

bottom mounts. Front, top mounting point may be modified/re-drilled.
4.6 Camber angle on front and rear wheels must not exceed 3 degrees negative.
4.7 Competition bushes are permitted. Rose joints are not permitted with the exception of as permitted at para 4.5
4.8 Pressed steel suspension arms may be strengthened.
4.9 Anti roll bars may be fitted, providing they are standard BMW parts.
4.10 The wheels are free but must retain same diameter, width and offset of standard Mini/JCW wheels. Wheel nuts must match the wheel used. Wheel spacers as per J5.8.2
4.11
The only tyres permitted are:
Toyo 195/55/15 R888
Toyo 195/55/15 R888R
Yokohama 190/580x15 82VA050
4.12 Front upper and lower strut braces are permitted and their design and material is free. Front control arm, rear carrier mounting bolts and the front sub frame bolts, may be replaced with nuts and bolts.
5. ELECTRICAL EQUIPMENT.
5.1 ECU must be as STANDARD, but the engine map is free**.**
5.2 All sensors, actuators and wiring originally fitted to the engine ECU must be operational and standard in all respects. The only exceptions to this are fitting: - battery masters switch: rev counter: cooling fan switch: electric water pump switch: shift light.
5.3 Body control unit may be bypassed or removed along with all related wiring.
5.4 Each car must be fitted with two RED brake lights, of the anti-crash type as used in fog, with a minimum of 21 Watt bulbs fitted. The lights should be clearly visible from behind when the foot brake is applied.
5.5 A 'poor visibility' light should be fitted. Refer K5 complete.
5.6 Both charging and starting circuits must be as standard and function efficiently.
5.7 A battery and self-starter must be fitted and in working order and not of a temporary nature. The battery may be located either next to the engine or in passenger compartment. The battery earth lead must be coloured yellow. Battery terminals **MUST** be covered with insulating material. Battery must be securely mounted to the vehicle. If mounted within the passenger compartment, battery must be fitted in a sealed nonconductive battery box
5.8 External circuit breaker must be fitted. Refer: - K 8.1, K 8.2, K 8.5.
5.9 The key microchip antenna must remain.
5.10 The EWS security module must be made easily accessible (security plate and fastenings removed)
5.11 Both standard fuse boxes must be used and in original location although redundant fuses may be removed.
5.12 Wheel sensors must be unplugged or removed.
6. ELIGIBILITY CHECKS.
All cars **MUST** have following studs, nuts and bolts drilled to enable seals to be affixed. Drillings must be of at least 3mm diameter. Failure to have the following drilled is deemed to be a breach of vehicle eligibility. *See appendix for drawings and photographs indicating the bolts to be drilled.*