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Art. 13(d)(iii), 13(h), 13(i), 13(j)	01/01/2025	01/01/2025
Appendix 10	01/01/2025	01/01/2025

A capitalised and italicised word in this document is defined in the FIA International Sporting Code (Code) or the National Competition Rules (NCR), including their Appendices.

Any HEADING is for reference only and has no regulatory effect.

Recognised Association: SuperMini Challenge Inc www.supermini.au

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1. PREAMBLE

These regulations apply to each SuperMini Challenge *Automobile* when entered as a SuperMini in a competition.

MODIFICATIONS PERMITTED OR OBLIGATORY:

- (a) Unless authorised by these regulations, each *Automobile* must remain unmodified, in compliance with these regulations and identical in every respect to the standard production model as supplied by the original *Automobile* manufacturer.
- (b) Any modification or tuning practice not permitted by these regulations is forbidden. A worn or damaged component must be replaced only by a standard production component which is compliant with these regulations.
- (c) The use of carbon fibre or carbon/Kevlar® composite, ceramic material or titanium alloy, is not permitted unless such component/material was fitted/used as a standard part by the manufacturer, or unless permitted in these regulations (where expressly permitted or used in Unlimited Class). Replacement racing seats are excluded from this regulation.
- (d) Each reference to a Schedule within these regulations means a Schedule of the Technical Appendix in the *Motorsport Australia Manual*. Each *Automobile* must comply with each relevant Schedule.
- (e) Unless specified otherwise in these regulations the tolerances for machining, finishing and weighing of engine components will be in accordance with *Motorsport Australia Manual*; Technical Appendix – Definitions Technical.
- (f) These regulations should be read in conjunction with the 3E SuperMini Challenge Technical Guide which contains additional information and advice on measuring, checking, sealing and lists some of the eligible products that may comply with these regulations.

DEFINITIONS

Engine Bay

The engine bay of the *Automobile* is defined as being the area in front of the firewall, behind the radiator support panel, above the bottom of the radiator support panel, and below the closed bonnet and between the inner guards.

Commercially available product

A commercially available product is one which is or was produced in commercial quantities and is sold new to be owned outright to any person without ongoing charges for its use (i.e. not rented or leased). The product must currently be available or have been available and in stock as this complete product at this price for a minimum of one year. The product must be or have been stocked by an Australian supplier and be able to be purchased outright by any person within Australia at the same commercial price.

Commercial price

The new commercial price of a product is the total price of a product in Australian Dollars, including the full cost of the product, any required taxes and any other charges to a purchaser in exchange for the complete working product. This price must include all possible options, and features, both hardware and software required or available for use in this system, whether in use or not. Any optional hardware that is physically separate from the base device is not included in the commercial price unless it is to be used. If the optional hardware it is to be used, then the total commercial price must also include the price of the optional device, wiring, sensors and all other parts of that option in the total commercial price. The price must be for the product when sold brand new.

Wet Cell Battery

An electrolyte filled wet cell lead Acid battery which can be either serviceable or maintenance free.

AGM Battery

A sealed lead acid battery manufactured using Absorbed Glass Matt construction.

GEL Battery

A sealed lead acid battery with suspended electrolyte and a silica additive.

Lithium Battery

A commercially available lithium ion 12V automotive battery.

Free

means that the original part, as well as its function(s), may be removed or replaced with a new part, on condition that the new part has no additional function relative to the original part.

2. CLASSES

UNLIMITED CLASS

- (a) Any 2wd BMW Mini is eligible

COOPER CLASS

- (a) Eligible Minis are BMW Mini R50 & R53 produced from 2001 through 2006 Mini Cooper or Mini Cooper S.

3. ELIGIBILITY

- (a) Any BMW Mini is eligible as per section 2 Classes dependant on the class the competitor has entered.
- (b) A scrutineer or an appointed SuperMini Challenge Technical Delegate may:
 - (i) Check the eligibility of an *Automobile* or of a *Competitor* at any time during the Event.
 - (ii) Require an *Automobile* to be dismantled by the Competitor to make sure that the conditions of eligibility or conformity are fully satisfied.
 - (iii) Require a *Competitor* to supply them with such parts or samples as they may deem necessary.
 - (iv) Require a *Competitor* to replace a "controlled item" (for example an ECU, Damper etc) with one provided by an appointed SuperMini Challenge Technical Delegate, at any time during a race meeting.
 - (v) Require a *Competitor* to deliver an *Automobile* or component to a specific location for compliance testing within a specified timeframe after an event.

4. IN CAR VIDEO

It is mandatory that each vehicle must have a minimum of one operating video camera with video recorded to an SD or Micro SD card. This camera must be forward facing providing a clear and unhindered view of anything forward, of the vehicle, and must include vision of driver's steering inputs. The angle must be as close to horizontal as is possible. The Executive Committee can help with camera setup. Upon request by the DSO or a member of the management committee, after a race the entrant must provide the video immediately to the DSO and/or management committee. Should the entrant refuse or be unable to comply,

then penalties may be applied to the entrant. (This could include Rear of Grid for the following race.)

The camera mount system should generally comply with Australian Motorsport camera Technical document. Suction mounts for cameras are not permitted either inside or outside of the car. SMC retain all copyright on all images/video's submitted for investigation; written permission from the SMC committee is required before any images (moving or still), that have been submitted for investigation, are made available to the public arena. (Also see Social Media guidelines.)

A competitor waives all rights to protest against another competitor, and will be assumed to be in error if video footage is not provided as per the above.

By competing in the SuperMini Challenge, competitors give SuperMini Challenge Inc, its assigns, successors, licensees, legal representatives, employees and agents (SMC) the irrevocable right to use names/photographs/images/audio recordings/video recordings and likeness in all forms and manner ("Images") for the purposes of advertising, media publicity, publication, general display or for any other SMC purposes in whole or in part, including but not limited to publication on internet web sites, broadcasts and any other publications as released to or by SMC ("Publication").

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5. LIVERY

SuperMini Challenge will make available the front windscreen banner and any other current years sponsors logos. These banners are compulsory for every car and cannot be replaced by other banners even if the car has full livery. There may also be a requirement to fit small sponsor stickers on other locations on the car. The tech committee will advise on this at the beginning of each race season.

Each SMC member is supplied with one front windscreen banner at the start of each race season. Replacement banners may incur a cost to the competitor. SuperMini Challenge door numbers may also be purchased for the vehicle should the competitor wish.

Each competing vehicle will display a category designation letter decal 150mmx150mm (U for Unlimited and C for Cooper Class) below the car race number on the windscreen.

6. COMPONENTS

Any component of any Australian specification Mini Cooper or Mini Cooper S model may be used unless otherwise specified in these regulations.

A list of replacement components, that may comply with these regulations, can be found in the 3M SuperMini Challenge Technical Guide.

6.1 REPLACEMENT OF COMPONENTS

Where these regulations permit the replacement of a component, that replacement component is free, unless the replacement component is otherwise restricted by these regulations.

6.2 NON-GENUINE PARTS

There is no restriction on the use and source of supply for all fasteners, coolant thermostat, indicator assembly, headlight assembly, belts, gaskets, seals, flexible hoses, liquid carrying coolant pipes, mechanical cables, bearings, clamps, spark plugs and spark plug leads, Coil, filters, batteries and battery cables, globes and LEDs, fuses and electro mechanical relays and windscreen glass provided no modification is made to facilitate the fitment of the replacement part, and on condition that the new part has no additional function relative to the original part.

7. ENGINE

COOPER CLASS

7.1.1 GENERAL

- (a) The engine must be the W10B16 or the W11B16 as per R50 or R53 BMW Minis delivered in Australia between 2002 and 2006
- (b) With the exception of approved aftermarket components as shown in article 3 all engine components must be original BMW Mini Components.

- (c) Only the following engine reconditioning procedures are permitted within the limits of these regulations, mechanical specifications and compliant with FIA Homologation Forms A5554 and N5554.
 - (i) Cylinder Boring
 - (ii) Cylinder Honing
 - (iii) Decking and Facing
 - (iv) Line Boring
 - (v) Line Honing
 - (vi) Conrod Resizing
 - (vii) Thread Repair
 - (viii) Replacement of Welsh and Gallery plugs
 - (ix) Cleaning, other than any cleaning process that may remove or modify any original material.
 - (x) Bead blasting or similar process and angle machining are not permitted.
 - (xi) Crankshaft journal grinding
 - (xii) Crankshaft journal finishing
 - (xiii) Valve seat machining
 - (xiv) Cylinder Head Porting
- (d) The location and number of engine mounts must remain. The location, position and orientation of the engine and the attachment of the mount/s to the engine and body/crossmember must remain standard.
- (e) Engine mounting bushes are free.
- (f) Airconditioning and heating systems are allowed to be removed.
- (g) The fitment of an engine crankcase catch can discharging to atmosphere, compliant with schedule B is permitted. Hoses connecting the engine to the catch can must be a maximum inside diameter of 13mm. These hoses must only be connected to the engine via the original engine breather connections. The PCV valve internal components may be removed.
- (h) An aftermarket Harmonic Balancer may be fitted with a maximum of 4% overdrive.
- (i) Diverter valve is free
- (j) Serpentine belts and tensioners are free subject to the tensioner and belt system being 6PK as per the factory belt and the system being commercially available in Australia.

7.1.2 CYLINDER BLOCK/ CRANK / RODS / PISTONS

- 7.1.2.1.1 Factory blocks and cylinder heads must be used. The cylinder bore may be increased over the standard dimension by a maximum of 1.0mm.
- 7.1.2.1.2 Pistons are free, provided they achieve a compression ratio of no greater than 8.5:1 Forged pistons are permitted.
- 7.1.2.1.3 Conrods are free as long as they are standard length.
- 7.1.2.1.4 The crankshaft must remain standard except that localised spot machining of the outer (i.e., larger) circumference of the counterweights, or the outer face of the inner (i.e. smaller) circumference of the big end surfaces may be undertaken only to achieve balance and performance balancing procedures that involve lightening, smoothing, or polishing of original castings over more than small, localised areas is not permitted. Stroke must remain as per factory.
- 7.1.2.1.5 It is permitted to remove a maximum of 0.5mm of material from any crankshaft bearing journal.
- 7.1.2.1.6 Other machining or finishing of the crankshaft is not permitted.
- 7.1.2.1.7 Crankshaft stroke must remain standard
- 7.1.2.1.8 It is permitted to replace each piston ring provided:
- 7.1.2.1.9 the number of compression rings must be 1 per groove (total 2) and one oil ring assembly (3 piece oil ring)
- 7.1.2.1.10 the area of the piston ring which is in contact with the cylinder wall is not less than that of the standard ring. Gas ported rings or pistons are not permitted.

7.1.3 CYLINDER HEAD / CAMSHAFT / VALVES

7.1.3.1 The camshaft is free.

7.1.3.2 The gasket face of the cylinder head and of the block may be machined by parallel machining only, other than listed below. No modifications, machining, addition or removal of material from the cylinder head is permitted.

7.1.3.3 It is permitted to regrind the valve seats, including over cuts and undercuts, the purpose of which is to obtain the desired valve seat width. The top cut of the valve seat is limited to a maximum overall diameter of 27.0mm for exhaust and maximum overall diameter of 32.0mm for the inlet valve seats.

(h) 7.1.3.4 Valve seat inserts may be replaced but must be no larger than the original OE inserts or their .012" and .024" oversize variants and must be fitted in the original locations.

(i) Valve springs are free.

(j) The replacement of components with componentry from other BMW Mini models or with replacements machined from billet materials is not permitted.

7.2 LUBRICATION SYSTEM:

7.2.1 An engine oil cooler is permitted.

7.2.2 Baffling of the sump is permitted provided that any baffle is completely enclosed within the removable portion of the engine sump.

7.2.3 An aftermarket oil coolant system may be used in place of the original factory system, and the original system removed

7.2.4 The oil pickup may be modified

7.3 COOLING SYSTEM:

7.3.1 An aftermarket pattern radiator may be substituted for the OEM radiator using the factory location and mounting system. The plastic radiator support panel may be substituted for a metal support using the original mounting points on the chassis rail.

7.3.2 The electric fan is to remain as per the factory fitted item.

7.3.3 The operation of the fan may be controlled by a manual switch or thermostatically.

7.3.4 Each cooling system hose is free.

7.3.5 An electric water pump may be fitted in place of the mechanical water pump, and the mechanical pump removed.

7.3.6 An aftermarket coolant expansion tank may be fitted in place of the factory plastic tank.

7.3.7 A screen may be fitted in front of the radiator.

7.4 FLYWHEEL AND CLUTCH:

7.4.1 The Flywheel and Clutch are free

7.5 INDUCTION

7.5.1 The air filter system is free upstream of the throttle body.

7.5.2 No liquids or gas can be injected into the intake tract, or sprayed onto the intercooler to reduce intake temperatures.

7.5.3 The factory throttle body or a replacement Bosch Throttle Body (part 0 280 750 151) must be used, and the intake system remain unmodified as per factory from the intake of throttle body to the outlet flange of the intake manifold at the cylinder head face, save for the adaptor if a replacement Bosch Motorsport Throttle Body is used. A maximum of a 10mm adaptor plate may be used to adapt the Bosch Throttle Body to the factory intake manifold.

7.5.4 The induction system must be supplied only with ambient air.

7.5.5 The factory supercharger must remain unmodified and as per factory other than a reduction supercharger pulley may be fitted with no more than 17% of overdrive.

7.5.6 An aftermarket pattern intercooler that is fitted in the original factory location is permitted

7.5.7 The entire induction system must be fully contained within the engine bay.

7.6 EXHAUST:

The exhaust system is free other than:

7.6.1 The exhaust must exit only from the rear of the *Automobile*

7.6.2 Factory heat shielding to the fuel tank must be retained.

UNLIMITED CLASS

Unlimited class vehicles are permitted to use any engine configuration as originally fitted to a BMW Mini Cooper as delivered in Australia. For the avoidance of doubt, this includes R53, R56 and F56 model numbers and their variants. All other engine and exhaust configurations are free.

8 FUEL SYSTEM AND FUEL COOPER CLASS

- (a) Fuel must be Pump Fuel compliant with Schedule G of the Manual.
- (b) The original fuel tank must be maintained in the original location but may be modified by the installation of safety foam. Protection for the fuel tank may be added only in the area of the tank.
- (c) The fuel pump may be replaced by a pattern fuel pump replacement.
- (d) The fuel system other than the replacement fuel pump must be as per factory.
- (e) Aftermarket fuel injectors are allowed.
- (f) The carbon canister may be retained in its entirety or removed. If it is removed, the fuel tank must be vented safely external to the cockpit and incorporate a vent system with a gravity activated roll-over valve.

UNLIMITED CLASS

Any fuel as per schedule G is permitted

9 TRANSMISSION COOPER CLASS

- (a) The original gear selector mechanism may be modified to reduce free travel in the mechanism. Any modification to the selector mechanism must not alter the pattern of gear selection.
- (b) An aftermarket "Shortshifter" or gear shift mechanism may replace the factory gear shifter.
- (c) The gear shift mechanism must retain the factory shift cables.
- (d) Gearbox must remain as per the factory installed item in the R53 Cooper S mini.
- (e) Limited slip or locked differentials are permitted.
- (f) It is permitted to fit pattern aftermarket driveshafts.

UNLIMITED CLASS

The transmission and drivetrain are free other than the vehicle must remain front wheel drive. 4wd systems are not permitted.

10 CHASSIS

- (a) Each *Automobile* must be fitted with a safety cage compliant with Schedule J of the Manual.

11 WHEELS AND TYRES

COOPER CLASS

- (a) Wheels are free, provided that:
 - (i) each wheel must be of one-piece construction.
 - (ii) The maximum wheel diameter and wheel width must be 17" X 7.5".
 - (iii) Each wheel on the *Automobile* must be the same width, diameter and offset.
- (b) The control tyre is the Rubbercraft SP-01R 225/45R17.
- (c) Tyre buffing is not permitted.
- (d) Prior to practice or racing, each tyre must have a tread depth in excess of 1.5mm, save on the shoulder or up to one localised flat spot where localised wear may occur (see Diagram 2). The tyre shoulder is the area of tread finishing 40mm from a perpendicular line from the outer sidewall (balloon) of the tyre.
- (e) Regrooving or chemical treatment of a tyre is not permitted.
- (f) A wheel spacer of maximum thickness 15.0mm, compliant with Schedule E of the *Manual* – Technical Appendix is permitted at each wheel.

- (i) Extended wheel studs must be fitted if using wheel spacers, the maximum length must be 90 mm. The entire stud and wheel nut must not protrude past the outer face of the rim
 - (ii) Each wheel nut must be of a ferrous material and the outer end is not permitted to be enclosed.
- (g) The tyre and wheel, down to the flange over the wheel hub centre must be within the perimeter of the *Automobile* when viewed vertically from above (see diagram 1).

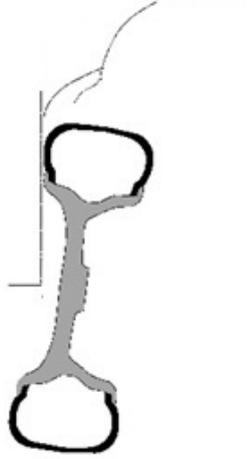


Diagram 1

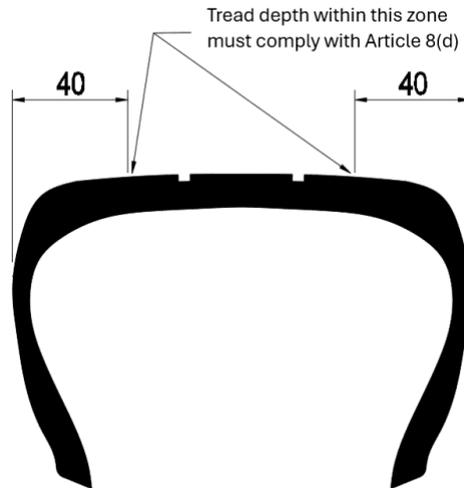


Diagram 2

UNLIMITED CLASS

- (a) Wheels are free, provided that:
 - (i) The maximum wheel diameter and wheel width must be 17" X 9.0".
- (b) The control tyres are RubberCraft RC001 220/620-R17 and RubberCraft RC001 240/610-R17

12 STEERING

COOPER CLASS

- (a) The steering rack must be a standard BMW Mini power steering rack
- (b) The steering wheel must not contain any wood. It is permitted to add a steering wheel boss, incorporating a quick release mechanism.
- (c) The power steering pump and accessories must remain as per factory.

UNLIMITED CLASS

Unlimited

13 BRAKES

COOPER CLASS

- (a) Brake calipers and rotors are free. Maximum of 4 piston front calipers to be installed
- (b) Brake friction material is free.
- (c) Rear brake calipers must remain OEM from factory. Rear pads are free. Rear discs must remain OEM size
- (d) Brake hoses are free.
- (e) The factory ABS system must be disabled. The ABS actuator can remain.
- (f) The factory master cylinder and booster must remain as per factory.
- (g) The parking brake mechanism may be removed.
- (h) The installation of brake pad knock off springs is permitted.
- (i) Brake proportioning valves are not permitted
- (j) Brake pressure sensors are not permitted
- (k) Brake Cooling
 - (i) It is permitted to remove a blanking plate or cover or a fog light assembly and associated

hardware located in the lower section of the standard front bumper bar, for the sole purpose of providing additional cooling air to the front brakes.

- (ii) It is permitted to fit a single duct to the braking system of each front wheel, solely to direct ambient air from the existing unmodified opening in the standard front bumper bar to each front brake rotor. Each brake duct must be wholly contained within the external shape of the standard bodywork and must not be visible when viewed from the front of the *Automobile* (except through an opening in the front of the duct). The front disc brake backing plates may be modified for the purpose of an attachment of a brake duct or removed in their entirety
- (iii) Each brake duct must not exceed 80mm inside diameter except for the brake duct fitting within 150mm of the external surface of the standard front bumper bar; and within 80mm of the brake rotor.

UNLIMITED CLASS

Brakes and systems are free. ABS systems are free

14 SUSPENSION

COOPER CLASS

The factory suspension components must be used other than where noted below.

- (a) Aftermarket adjustable shock absorbers may be used.
- (b) Each original bush used at a suspension pivot point may be replaced only by another of elastomeric material (for a definition of Elastomer and Elastomeric Bushing see “Definitions – Technical” in the Motorsport Australia Manual).
- (c) Adjustable or fixed aftermarket Front suspension camber plates may be used, and it is permitted to removed fixed metal on the tower to allow for this.
- (d) Rear control arms can be replaced with the R56 Aluminium version.
- (e) Uprights, hubs, front control arms, rear arms (except toe arms) must be OEM. Subframes to be mounted in factory location without any modification from factory other than listed in “f” below
- (f) Front control arm bolts for the Rear Castor Bush Mounts and the Front Inner Ball Joint are difficult to remove without removal of the driveshaft and lowering of the entire front subframe as they are installed from the factory from the top of the subframe into tapped holes. It is permitted to drill out the subframe tapped holes to permit the installation of bolts and nuts from beneath the subframe. Holes must be concentric and of xxmm dia. Bolts to be grade 8.8 minimum. We recommend using grade 12.9 socket head cap screw with a suitable locking nut (M14 x 130mm long for Rear Castor Bush Mounts and M12 x 75mm for Front Inner and lockwire. This is for ease of serviceability only
- (g) **Maximum track of Cooper Class cars is 1750mm**
- (h) Aftermarket antiroll bars are permitted with the following conditions.
 - (i) Any replacement must use only the original mounting points on both the chassis and control arm.
 - (ii) Adjustable antiroll bars are not permitted.
 - (iii) It is permitted to disconnect one front and one rear antiroll bar link.

- (i) A strut brace may be fitted between the front suspension towers provided it only links the strut towers. The rear suspension towers may be braced by the safety cage and/or an additional strut brace.

UNLIMITED CLASS

Unlimited class suspension is free.

15 ELECTRICAL EQUIPMENT

COOPER CLASS

15.1 GENERAL

15.1.1 The Cooper Class cars will have a control ECU installed, manufactured by LINK ECU. The model of ECU will be the G4X Plugin (SKU 209-4000) and will be installed in the original factory ECU location. SuperMini Challenge firmware will be provided by the category manager upon request. ECU can be supplied by the Control ECU supplier listed in appendix A. The ECU will be restricted to transmitting CAN Data only and will not be permitted to receive CAN Data. The category manager will install firmware to ensure compliance with these rules at the commencement of each event. Tuning is free provided the control firmware for the SuperMini Challenge is installed

15.1.2 Ignition coils, igniters and triggers must be compliant with original equipment specifications.

15.1.3 Spark plugs and high tension leads are free.

15.1.4 Cooper Class Cars will have a maximum RPM limit of 7000 rpm. A handicap system will be employed by the Category Manager and is detailed separately below.

15.1.4.1 Each *Automobile* must be fitted with a rain light centrally mounted on the rear hatch/boot immediately above the rear registration/number plate recess.

15.1.5 The vehicle Battery may remain in the factory location or be relocated into the cockpit of the vehicle provided: A suitable isolator must be fitted.

15.1.5.1 The battery must be securely mounted to the floor of the vehicle in the vehicle cockpit, The mounting is subject to the approval of race scrutineer(s) or category Eligibility Officer(s).

15.1.5.2 The Battery type is either a AGM or GEL Type battery.

15.1.5.3 The positive terminal of the battery must be insulated to prevent short circuiting.

15.1.6 The factory wiring harness may be replaced with an aftermarket harness.

15.2 TELEMETRY/DATA LOGGING/CAMERAS

15.2.1 Data logging is only permitted as per below:

15.2.1.1 A standalone Lap Timer Unit that uses a trackside beacon.

15.2.1.2 A standalone GPS Lap Timer System.

15.2.1.3 A smartphone with a Lap Timer Application. The phone must be solidly mounted in a mount approved by the scrutineers of the meeting.

15.2.2 The use of a single video camera / video recording system in an approved solid mount attached to vehicle Safety Cage Structure is permitted on the condition that it is a commercially available product.

15.2.3 The use of a data logging system that interfaces with the vehicle ECU or connects to an OBD port is permitted.

UNLIMITED CLASS

16 BODY, COACHWORK AND COCKPIT

COOPER CLASS

(a) All coachwork must remain standard. A rear wing may be fitted provided it is:

- (i) a standard BMW R53 Mini wing, or
- (ii) a TDI01 Wing ; or

- (iii) RSIC6 wing
- (iv) identical to either of the above
- (b) It is permitted to modify the wheel arch by folding the lip against the inside of the wheel arch/trimming the metal to allow for tyre clearance to the metal bodywork at the wheel arches.
 - (i) The panel must retain the original shape, profile and width.
 - (ii) It is permitted to remove the plastic inner guard liners.
 - (iii) Aftermarket wheel arches are permitted
- (c) It is permitted to remove any plastic shroud / undertray fitted under the body of the *Automobile* that is licked by the airflow. No additional solid or flexible underbody panels or trays are to be fitted.
- (d) The front and rear bumper bar must remain unmodified save for the fitment of front and rear tow points.
 - (i) The metal reinforcements behind front and rear bumper covers must be retained.
 - (ii) Addition of solid or flexible elements below or behind the bumper covers is not permitted.
 - (iii) Lightweight stays to support lower corners of bumpers when plastic inner guards are removed are permitted. The rear bumper must remain in its original shape, form and position and must not be manipulated to gain any aerodynamic or other advantage.
 - (iv) An additional support, behind the headlight and or indicator, with its only function to retain the front indicator is permitted.
- (e) It is mandatory to remove the rear window wiper motor assembly. The resulting hole must be covered.
- (f) Soundproofing material of bitumen or fabric fitted to the underside of the bonnet and engine bay or hanging panels that is not visible from the outside may be removed.
- (g) Exterior side mouldings may be removed, and the resultant holes may be sealed with a suitable covering.
- (h) The original rear bumper fog light may be fitted or removed. If removed the resultant rear bumper fog light aperture must be covered with solid material.
- (i) Only the original rear tow point is permitted. It is permitted to add a suitable strap or D shackle to the original rear tow point. It is not permitted to modify the rear bumper for the rear tow point.
- (j) Bonnet sealing rubber may be removed.
- (k) Original bonnet latches must be removed. Bonnet may have vents installed to air in reduction of engine bay temperature, however ducting toward or to air intakes or intercoolers is prohibited. Factory bonnet scoop may only ventilate the intercooler as per the factory installation. Bonnet scoop can be carbon fibre.
- (l) Holes may be drilled for fasteners of the minimum necessary dimensions. Additional holes to increase ventilation to the radiator or oil coolers mounted in the front bar area are not permitted
- (m) No fixed metal may be removed from the car unless required for safe installation of the roll cage or suspension components. however unused bolt on brackets may be removed
- (n)

13.2 WINDOWS

- (d) The original glazing material of each window must be retained, unless otherwise permitted in these regulations.
- (e) Sun roof may be removed but the hole must be covered safely and securely with either aluminum, steel or FRP per the CAMS manual
- (f) Both windscreen wipers must be functional

13.3 INTERIOR

- (a) The following components may be removed from the cockpit:
 - (i) internal plastic trim and glove box;
 - (ii) roof padding and lining;
 - (iii) carpets and insulating material, including soundproofing material bonded to interior panels;
 - (iv) front passenger and rear seats;

- (v) radio, speakers, console and associated wiring. It not permitted to fit a non-standard console.
 - (vi) restraint systems and supplementary restraint systems; and
 - (vii) boot lining including linings and parcel shelf in the boot space of hatchback versions, spare wheel and wheel changing equipment.
- (b) It is permitted to remove or modify the components associated with the vehicle heating or air conditioning system.
- (c) Airbags must be removed.
- (d) Factory pedal assembly must remain
- (e) Original door trim and Quarter panel trim may be replaced by substitute solid material.
- (f) Dashboard must remain in factory location but may be modified for minimum clearance as required to fit roll cage
- (g) The only additional components which are permitted in the cockpit are:
- (i) safety equipment and structures;
 - (ii) Electrical switches or dials;
 - (iii) driver cooling system;
 - (iv) driver drink system;
 - (v) ballast, if required, must be located in the confines of the driver's cockpit, be clearly visible, be accessible by Scrutineers and be in compliance with the Motorsport Australia Manual – Technical Appendix requirements for Ballast and Ballast Retention.
 - (vi) Radio system for two-way communication between the driver and their team or receive only from Race control. No car-to-car communication is permitted; and
 - (vii) electrical equipment as defined in section 12;
 - (viii) It is permitted to fit a drivers footwell floorplate.
 - (ix) It is permitted to fit a knee guard to the driver's side of the gearshift control area, as per appendix 8.
- (h) None of the above items may be installed in a manner which will actually or potentially hinder the driver's vision, hinder the ability for the driver to extricate from the *Automobile* or affect the engine power or influence the steering, transmission, brakes, or roadholding of the *Automobile* in a direct or indirect manner. Each of the items must be suitably secured.

- (i) Each control must retain its standard function although it is permitted to adapt each control to affect its use and accessibility.
- (j) Pedal settings may be modified provided the original mounting points to the body remain unchanged.
- (k) To facilitate the installation of a replacement driver's seat, the original seat tracks and brackets may be reinforced and/or removed.

UNLIMITED CLASS

Unlimited class vehicles must comply with the 3D sport Sedan regulations as per the Motorsport Australia manual, subject to the amendments below;

- (a) All cars in the Unlimited Class must remain floorpan cars as defined in the Sport Sedan Group 3D regulations
- (b) Engine must remain within the original engine bay and may not be set back any further than the firewall
- (c) Unlimited class vehicles originally homologated as a BMW Challenge Car by the FIA may run the original wing which is higher than the roofline of the car.
- (d) Unlimited Class vehicles are permitted to modify the external silhouette of the bodywork up to 250mm forward of the factory silhouette to allow for one piece front clips. Splitters will remain within the 3D Sport Sedan regulations of 100mm projection from the modified silhouette.

17 WEIGHT

COOPER CLASS

- (a) The minimum racing weight is 1225kg with driver.
- (b) Additional weight where required will be mounted safely to the passenger footwell per the Motorsport Australia clause found here: https://motorsport.org.au/docs/default-source/manual/general-requirements/2021/schedule-a-and-b.pdf?sfvrsn=b961daaf_2

UNLIMITED CLASS

Unlimited Class vehicles have no minimum weight

18 MISCELLANEOUS

- (a) A lap timing device (Dorian or similar) must be positioned under the left front foot well (refer images below)

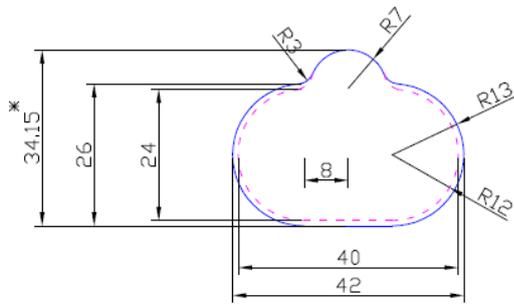
Inside Left Foot-well

Left under Foot-well

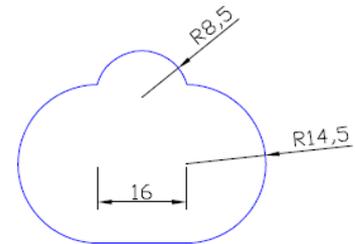
Cylinder bore	76.1mm maximum
Stroke	83.5mm maximum
Cylinder block height	257.7mm minimum
Block tolerance (Limit for correction of cylinder block upper face distortion)	0.25mm
Crankshaft weight (Single counterweight "Black-top" version) with tone wheel	11.2kg minimum
Crankshaft weight (Double counterweight "Silver-top" version) with tone wheel	12.0kg minimum
Piston protrusion	+0.05 (+/- 0.15mm)
Piston material	Aluminium alloy (Cast)
Piston height from gudgeon pin centre to piston crown	30.5mm (+/- 0.1mm)
Piston rings – number (includes oil control ring/s)	3
Combined weight of conrod, fasteners, w/o bearings, piston, pin and rings	792.2g minimum
Cylinder head combustion chamber volume	37.00cc minimum
Cylinder head	No angle milling permitted
Inlet valve seat insert – throat diameter	25.0mm maximum
Exhaust valve seat insert - throat diameter	22.5mm maximum
Inlet valve diameter	28.2mm maximum
Exhaust valve diameter	25.0mm maximum
Valve stem - diameter	6.0mm
Valve spring installed height	35.0mm
Inlet port (tolerance -2%, +4%)	Drawing 1
Inlet manifold (tolerance -2%, +4%)	Drawing 2
Inlet manifold throat	No match porting
Exhaust port (tolerance -2%, +4%)	Drawing 3
Exhaust manifold (tolerance -2%, +4%)	Drawing 4
Exhaust manifold Outlet (tolerance -2%, +4%)	2 x 41mm
Inlet Camshaft lobe dimension (Drawing 5)	(A) 35.90mm to 36.10mm (B) 43.32mm max
Inlet Valve lift	7.20mm (+/- 0.06 mm)
Exhaust Camshaft lobe dimension (Drawing 5)	(A) 35.90mm to 36.10mm (B) 43.90mm
Exhaust Valve lift	7.8mm (+/- 0.06 mm)
Throttle body internal diameter	48.0mm (+/- 0.25mm)
Flywheel thickness	29.0mm minimum
Flywheel weight	6.2kg minimum
Gearbox and final drive ratios	Table 1
Effective Outer track - measured at Racing Weight at the widest point of the outside of the tyres set at 2.0 +/-0.1bar	Front = 1720mm maximum Rear = 1710mm maximum
Wheelbase	2400mm (+/- 20mm)
Body width – Front	1630mm (+/- 15mm)
Body width – Rear	1620mm (+/- 15mm)
antiroll bar diameter - Front	22.0mm maximum
antiroll bar diameter - Rear	18.0mm maximum
Combined Flywheel and Clutch Assembly weight	9.8kg minimum
Radiator height excluding cap	453mm (+/- 15mm)
Radiator Width minimum	610mm
Radiator Width maximum	685mm

Appendix 1 – Specifications Block prefix G4FK DOHC

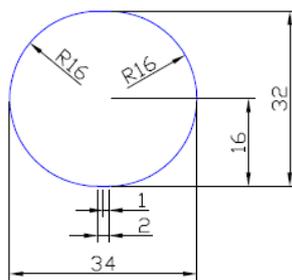
Appendix 2 – Dimensions / Ratios



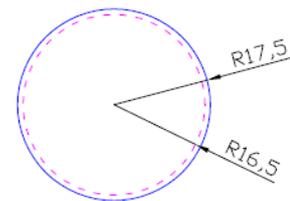
INLET PORT DIMENSIONS



INLET MANIFOLD DIMENSIONS



EXHAUST PORT DIMENSIONS



EXHAUST MANIFOLD DIMENSIONS

Table 1 Gearbox Ratios

	Number of teeth	Ratio	Synchro
1	<u>13/47</u>	<u>3.615</u>	<u>Yes</u>
2	<u>19/39</u>	<u>2.053</u>	<u>Yes</u>
3	<u>27/37</u>	<u>1.370</u>	<u>Yes</u>
4	<u>32/33</u>	<u>1.031</u>	<u>Yes</u>
5	<u>37/31</u>	<u>0.838</u>	<u>Yes</u>
R	<u>12/29/39</u>	<u>3.250</u>	—
F/Drive	—	<u>3.842</u>	<u>DOHC</u>

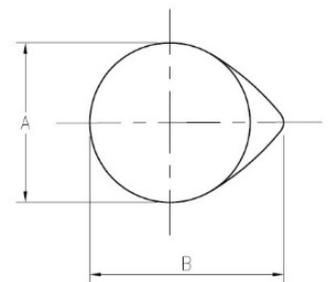
Drawing 5 Camshaft Dimensions

INLET

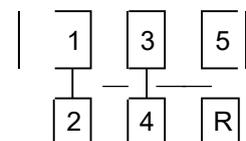
A = 35.90mm to 36.10mm
 B = 43.32mm Maximum
 B minus A = Maximum 7.26mm

EXHAUST

A = 35.90mm to 36.10mm
 B = 43.90mm Maximum
 B minus A = Maximum 7.86mm



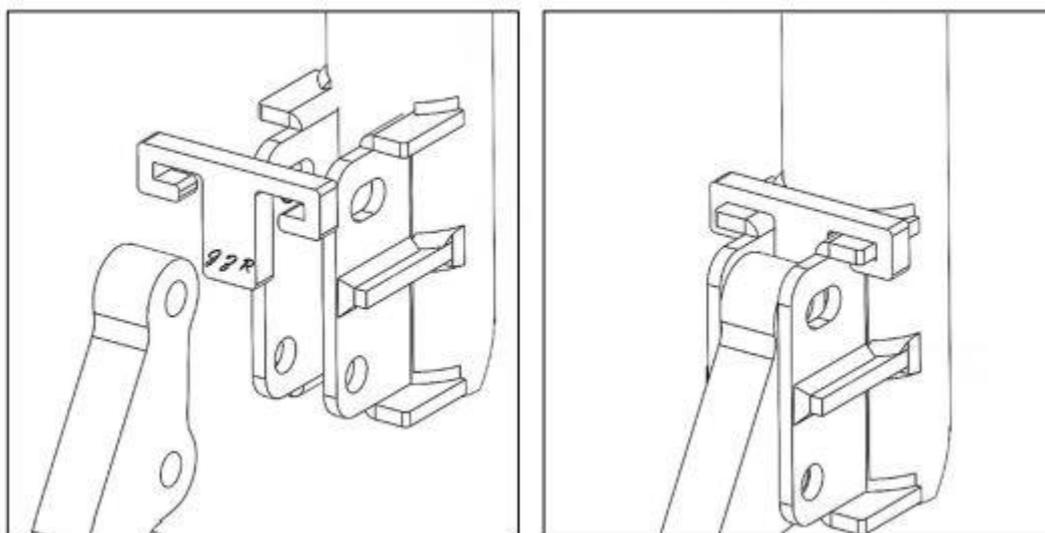
Gear change pattern



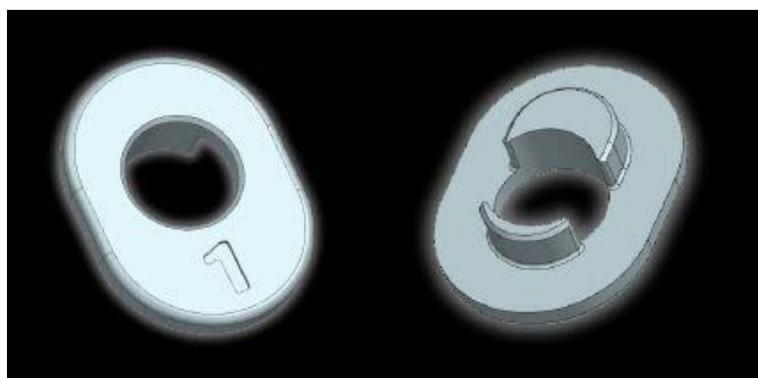
Appendix 3 - Suspension

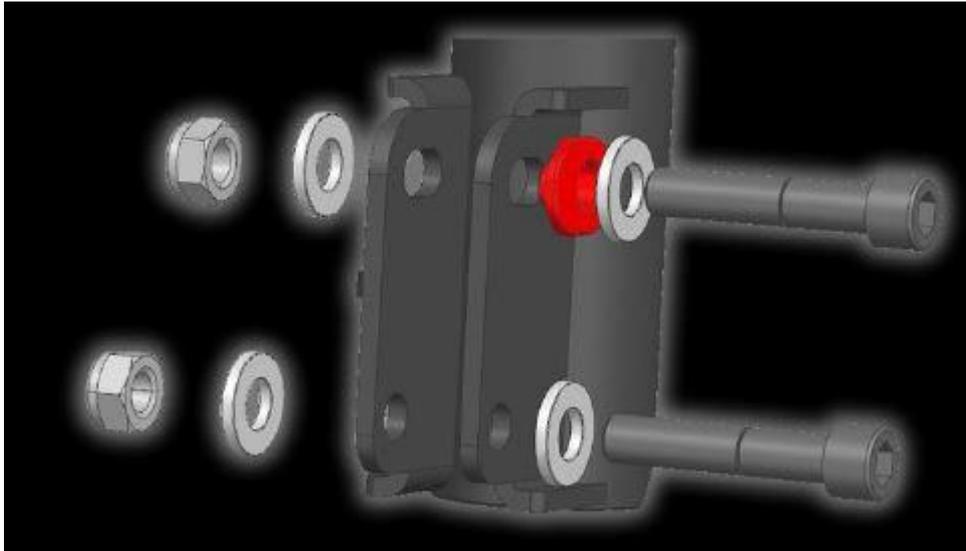
Control Suspension Package: The SS-CERA- SUSPENSION PACKAGE Camber

stops sample:



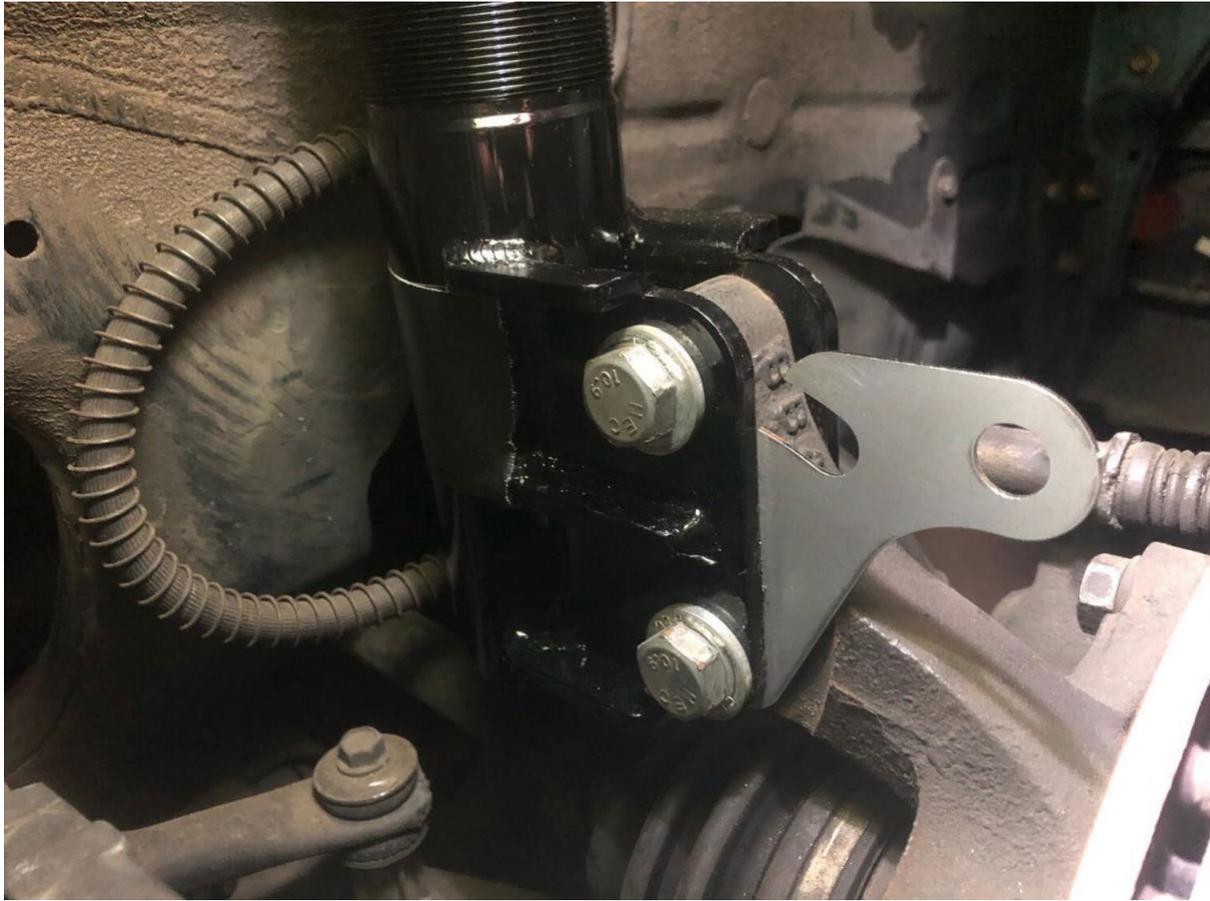
Positive locking camber washer sample:





Shims Sample





Appendix 4 – Brake Circuit

Photo 2

Photo3



Appendix 5 - Sealers

Approved component sealers (to be approved by each SuperMini Challenge State Association)

QLD	Shane Beikoff	0418 722 156	SA	Fred Severin	0418 850 826
NSW	Pat Rhodes Ken McCauley	0428 631 950 0407 916 562		Henry Madden	0431 738 686
VIC	Laurie Griffin	0407 946 944	WA	Tony Lerace	0418 917 710
	Bob Buck	0418 374 447		Mike Holdcroft	0458 998 395
	Phillip Buggee	0417 307 189	TAS	Graham Smedley	0408 312 924

Appendix 6 - Chassis

Chassis strengthening location.

Appendix 7 – Engine bearing cap

Centre main bearing cap strengthening plate

Appendix 8 – Knee guard

Knee Guards must not exceed a height of 220mm and 600mm in length

Appendix 9 – Cylinder Head

Cylinder Head Valve Throat Machining

Maximum Depth

Inlet valve throat: 11.5mm

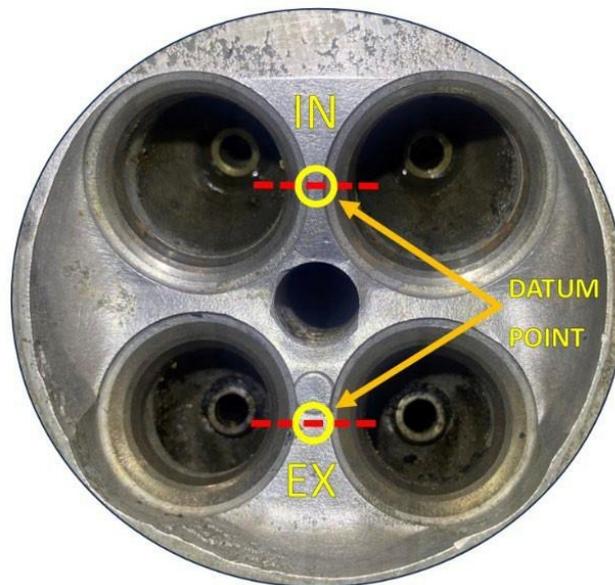
Exhaust valve throat: 13.5mm

The tolerances applied in Motorsport Australia Manual; Technical Appendix – Definitions Technical are not applicable to cylinder head valve throat machining.

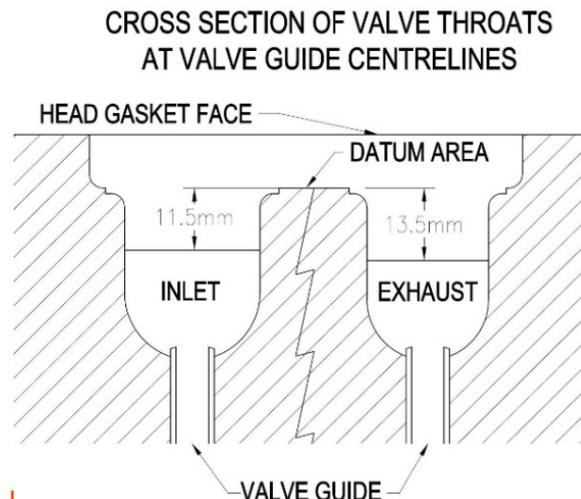
Datum Area

The datum area to measure the maximum depth of the machined cylinder head valve throat is determined as the narrowest point of the original casting combustion chamber (excluding any casting mark/irregularity) between the inlet (IN) valves and the exhaust (EX) valves.

Datum area diagram – cylinder head combustion chamber:



Valve throat cross section diagram:



Appendix 10 – Rear bumper lower mounting point

Distance from centre of original factory lower bumper mounting hole position, for both both left and right sides, to the closest radius edge of the adjacent chassis rail is $285\text{mm} \pm 5\text{mm}$

