

North American MINI Challenge

2006 Regulations

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1. Introduction

- 1.1. These regulations govern North American MINI Challenge racing events held throughout North America.
- 1.2. The North American MINI Challenge is a competitive, fun, safe, focused on road racing with limited modifications and specified required components. The series showcases the driver's skills and the specified required components manufacturers, distributors, and dealers.
- 1.3. Only modifications specifically authorized are allowed; and competitive adjustments are not allowed.

2. Sanctioning Body

The National Auto Sport Association (NASA) sanctions MINI Challenge competitions. All events are governed by these Regulations, applicable addendums, as well as those found in the latest version of the *NASA Club Codes and Regulations (CCR)*. All decisions made by the series administration are final, except under certain conditions, as specified by the CCR.

3. Classification

- 3.1. North American MINI Challenge has two classes; one for the MINI Cooper and one for the MINI Cooper S.

4. Series Championship

- 4.1.1. The provisions of the NASA CCR Section 22.0 shall apply.

5. General Rules

5.1. Driver Eligibility

- 5.1.1. A driver shall possess a valid NASA Provisional or Competition License.

5.2. Eligible Vehicles

- 5.2.1. MINI Cooper and MINI Cooper S models manufactured by BMW are eligible to participate.
 - 5.2.1.1. Convertibles and cars equipped with CVT transmissions are not eligible.

5.3. Vehicle Numbers, Class Identification, Decals

- 5.3.1. Each car shall display easily readable numbers on each side and the front (hood) and rear of the vehicle, of significant size and color differentiation from the body color so as to be clearly seen by timing and scoring officials.
- 5.3.2. Side numbers shall be a minimum of 7 inches high with a 1-1/2 to 2 inch stroke.
- 5.3.3. Hood and rear numbers shall be a minimum of 5 inches tall.

- 5.3.4. In addition, class identification shall be displayed near the side numbers a minimum of three inches high. Class identification shall be C for the MINI Cooper and CS for the MINI Cooper S.
- 5.3.5. The last name of the driver(s) may be placed in block print white letters two (2) inches tall centered on each rear quarter panel window and on the lower passenger side front windshield.
- 5.3.6. A series identification banner, five (5) inches tall and the width of the windshield may be on the upper edge of the windshield.
- 5.3.7. Four NASA decals are required (one on each side, nose and tail).
- 5.3.8. Four "Toyo Tires" (2"x18" size) decals are required (one on each side, nose and tail).
- 5.3.9. Series officials may require series and sponsor identification (decals) in specific size, contrast and placement to be displayed on cars before being allowed to participate in an event.

5.4. Appearance

- 5.4.1. Cars may be painted any color(s).
- 5.4.2. Cars shall be neat and clean, and shall not be dirty externally or in the engine or passenger compartments.
- 5.4.3. Cars shall not show bodywork damage, and shall not be presented for competition totally or partially in primer.

5.5. Repairs

- 5.5.1. All chassis/structural repairs, if performed, shall be in concurrence with factory procedures, specifications, and dimensions. Unless specifically authorized by the manufacturer for repair or allowed by these regulations, no reinforcement, i.e. seam welding, material addition, etc. is permitted.
- 5.5.2. Body repair shall be performed using every reasonable effort to maintain stock body contours, lips, etc.

5.6. Fuel

- 5.6.1. Permitted fuel is gasoline, of any octane, leaded or unleaded.
- 5.6.2. Performance enhancing fuel additives are prohibited.

5.7. In Car Adjustments

- 5.7.1. No car is permitted any cockpit adjustable system or component, except as specifically allowed in the preparation rules.

5.8. Rule Compliance

- 5.8.1. These are not guidelines, they are rules and if not specifically authorized in these rules additional modifications are not allowed.
- 5.8.2. Performance items found in non-compliance will be subject to harsh penalties.
- 5.8.3. At first offense, there will be a disqualification of the current race, a disqualification from the previous two races, and a loss of Championship points from those two races.

- 5.8.4. At second offense, there will be a loss of half of the season points, a two-race suspension, and disqualification from the current race.
- 5.8.5. At third offense, there will be a loss of all season Championship points, a four-race suspension, a mandatory order to return all prizes, prize money, and trophies, and a disqualification of the current race.
- 5.8.6. The fourth offense will result in a disqualification of the current race and permanent ejection from the series.
- 5.8.7. Non-performance items found in non-compliance, that do not compromise safety, i.e. non-functioning headlight, will be noted in the car's logbook and must be remedied before the next event. The car will be allowed to participate in the event at the discretion of the technical inspector.

6. Safety Equipment

6.1. Safety Requirements

- 6.1.1. All vehicles and drivers shall conform to NASA's Club Codes and Regulations (CCR). If in conflict, these regulations supercede the CCR.

6.2. Tow Eyes

- 6.2.1. Tow eyes or straps, front and rear, are required.

6.3. Roll Cages

- 6.3.1. All roll cage requirements in the CCR shall be met, except for the following:
- 6.3.2. Only bolt in roll cages with six mounting points are allowed.
- 6.3.3. An additional door bar may be added to the bolt in cage structure.
- 6.3.4. Door panels may not be altered for installation of door bars.

6.4. Window Tinting

- 6.4.1. Tinted REAR windows are specifically disallowed in all classes, and non-OEM tinting is discouraged in all windows. OEM window tinting is allowed.

6.5. Airbags and Steering Wheels

- 6.5.1. Airbags shall be disconnected or defused during on track sessions in all classes and may be removed. It is the driver's responsibility to reactivate or reinstall the airbag / system(s) before the car can be driven on public highways, in compliance with federal laws.
- 6.5.2. Non-stock (except wood rim) steering wheels are allowed.

6.6. Floor mats

- 6.6.1. Floor mats shall be removed.

6.7. Lugnuts

- 6.7.1. Use of wheel studs to replace lug bolts is allowed, and highly recommended.

6.8. Oil lines

6.8.1. All oil lines on the pressure side of the oil pump shall be thread-on connections equal to or better than the factory, (i.e. NO slip-on oil lines to coolers, gauges, etc).

6.9. Catch tank

6.9.1. A catch tank for radiator overflow and oil breather (if vented into the atmosphere) is mandatory.

6.10. Engine Coolant

6.10.1. Use of an ethylene glycol (coolant) is prohibited. Substitute coolants (e.g. "Water Wetter") are highly encouraged for all competitors.

6.11. Steer Wheel Locks

6.11.1. Steering wheel locks may be disabled.

7. Definitions and Application of the Regulations

7.1. "Shall" is mandatory, "may not" is prohibitive, and "may" is permissive. If there is a conflict between the Regulations and the CCR, the Regulations supercede the CCR. If an item is not addressed in the Regulations then the item is controlled by the CCR.

7.2. If the Regulations do not specifically permit a modification, it may not be made.

7.3. "Original" means "stock for the chassis, model and year of the car."

7.4. "Substituted" means that original OEM equivalent items may be used.

7.5. "Replaced" means that the item may be replaced with items meeting or exceeding OEM specifications.

7.6. "Modified" means that the item may be replaced, machined, welded, or removed.

7.7. The interpretation and application of the North American MINI Challenge Regulations by NASA officials is final and binding. In order to promote the sport of automobile competition, to achieve prompt finality in competition results, and in consideration of the numerous benefits to them, all members, including competitors and officials, expressly agree that:

7.7.1. Determinations by NASA officials shall not be subject to litigation, and they may not initiate or maintain litigation of any kind against NASA or anyone acting on behalf of NASA to reverse or modify such determinations, or seek to recover damages or other relief allegedly incurred or required as a result of such determination.

7.7.2. If a driver, entrant, crew member, guest, or official initiates or maintains litigation in violation of this provision, that person agrees to indemnify and reimburse NASA for all costs of such litigation, including travel expenses, court costs, witness and filing fees, and reasonable attorneys' fees.

7.7.3. All drivers agree to abide by all applicable rules.

7.7.4. All drivers agree that their likeness may be used by NASA in any manner for promotional benefit. Furthermore, all drivers agree that no residuals or payments of any type will become due to them for use of their likenesses.

8. Specifications

8.1. General

- 8.1.1. All cars in this category shall compete with full road equipment, except as allowed by these regulations. The car should be street legal, capable of being registered for street use when presented for competition, and capable of being driven to and from the event.

8.2. Weight

- 8.2.1. All cars shall meet or exceed the minimum weight specified in Appendix A. Weight is measured without driver. The cars may be weighed at any time during the event. A car found to be underweight after a qualifying session shall start at the back of the grid for the race. A car found to be underweight after a race session shall be disqualified from the race results and a notation shall be made on the current event page of the car's logbook. The car shall be weighed at the next event, and shall meet minimum weight requirements before being allowed to compete.

8.3. Modifications

8.3.1. Engine

8.3.1.1. Induction System

- 8.3.1.1.1. Air filter elements may be replaced.
- 8.3.1.1.2. Air cleaner assemblies may be modified, removed, or replaced.
 - 8.3.1.1.2.1. Air intake hoses, tubes, pipes, resonators, intake mufflers, housing, etc., located ahead of the air metering/measuring device (i.e. air flow meter, mass air sensor) may be replaced.
- 8.3.1.1.3. Cooper S Model
 - 8.3.1.1.3.1. Installation of a 15% reduction supercharger drive pulley is permitted.

8.3.1.2. Component Modification

- 8.3.1.2.1. Machining for balancing purposes only is not allowed.
- 8.3.1.2.2. Pistons may be replaced, provided they meet factory replacement specification and match factory dome, dish, valve relief configuration, ring geometry, weight, wrist pin height; compression must meet factory replacement specifications.
- 8.3.1.2.3. Rings may be substituted.
- 8.3.1.2.4. Bearings may be substituted.
- 8.3.1.2.5. Valve guides may be substituted.
- 8.3.1.2.6. No engine component may be modified in any manner not specifically permitted or authorized by the Factory Service Manual or Factory Technical Bulletins.

8.3.1.2.7. Overhaul procedures which in any way may increase performance beyond factory specifications that are not specifically authorized by these regulations are prohibited, (e.g. porting/polishing, etc).

8.3.1.3. Fuel System

8.3.1.3.1. Fuel filters may be substituted.

8.3.1.3.2. Fuel lines may be replaced.

8.3.1.3.3. Fuel lines that pass through the driver/passenger compartment shall be metal or metal braided and securely fastened.

8.3.1.4. Camshaft and Valve Gear

8.3.1.4.1. All valve sizes, seat dimensions and angles, etc., shall conform to factory specifications.

8.3.1.4.2. All cam dimensions, lift, duration, etc., shall conform to factory specifications.

8.3.1.5. Block

8.3.1.5.1. A maximum of .020 (.5mm) overbore is allowed.

8.3.1.5.2. Compression ratio may be changed only within the tolerances affected by resurfacing for trueness and within factory tolerances or as allowed by these regulations.

8.3.1.6. Oiling System

8.3.1.6.1. Engine oil may be substituted.

8.3.1.6.2. Engine oil filter may be substituted.

8.3.1.6.3. Oil pans, pan baffles, scrapers, windage trays, and oil pickups are unrestricted.

8.3.1.6.3.1. Dry sump systems are prohibited.

8.3.1.6.4. Oil coolers may be added or replaced, and their location within the bodywork is unrestricted so long as they are not mounted within the driver/passenger compartment.

8.3.1.6.5. Oil lines may be replaced.

8.3.1.7. Engine Management System

8.3.1.7.1. The engine management computer or ECU programming may be altered.

8.3.1.7.1.1. The original (or its exact replacement) ECU must be in place and utilized.

8.3.1.8. Other Engine Related Items

8.3.1.8.1. Engine belts may be substituted.

8.3.1.8.2. Hardware items (bolts, nuts, etc.) may be replaced with similar items performing the same fastening function.

- 8.3.1.8.3. Head gasket(s) may be replaced with any gasket(s) having the same or greater compression thickness as stock.
- 8.3.1.8.4. Other engine gaskets are unrestricted.
- 8.3.1.8.5. The application or use of any painting, coating, plating, or impregnating substance (i.e. anti-friction, thermal barrier, oil shedding coatings, chrome, anodizing, etc.) to any internal engine surface, including intake manifolds, is prohibited.
- 8.3.1.8.6. Motor mount bushings may be replaced.

8.3.2. Ignition/Starter/Electrical Systems

- 8.3.2.1. Spark plugs and spark plug wires may be replaced.
- 8.3.2.2. Batteries may be substituted.

8.3.3. Exhaust System

- 8.3.3.1. Any part of the exhaust system beginning with and including, the catalytic converter may be replaced, unless a replacement system is specified in these regulations, provided:
 - 8.3.3.1.1. Replacement system retains original configuration, (e.g. single or dual, etc).
 - 8.3.3.1.2. The system exits from beneath the body in the same approximate location(s) as the original system.
- 8.3.3.2. The catalytic converter must be functional.
- 8.3.3.3. Original exhaust system heat shields may be removed provided any plastic fuel tank is shielded.

8.3.4. Cooling Systems

8.3.4.1. Radiators

- 8.3.4.1.1. Thermostats may be modified, removed, or replaced.
- 8.3.4.1.2. Water hoses may be replaced.

8.3.4.2. Air Conditioners

- 8.3.4.2.1. Air conditioning drive belts may be removed.

8.3.5. Steering

- 8.3.5.1. Steering components may be substituted.
- 8.3.5.2. Power steering hoses may be replaced.
- 8.3.5.3. Heat shielding may be installed around the power steering pump.
- 8.3.5.4. Steering rack bushing may be replaced.

8.3.6. Suspension

- 8.3.6.1. Any adjustable camber or camber/caster plate is allowed, unless specified in these regulations.

- 8.3.6.2. Use of eccentric/offset bushings at the control arm pivot points or at the strut-to-bearing-carrier joint is permitted.
- 8.3.6.3. Shock absorbers shall be original, unless specified in these regulations.
- 8.3.6.4. MacPherson struts and inserts shall be original, unless specified in these regulations.
- 8.3.6.5. Any suspension setting (toe, caster, camber) not requiring machining or modification to factory parts is allowed.
- 8.3.6.6. Spring rates shall be original, unless specified in these regulations.
- 8.3.6.7. Sway bars shall be original, unless specified in these regulations.
- 8.3.6.8. Suspension bushings may be replaced with non-metallic material only.
- 8.3.6.9. Any bolt-in strut or shock tower brace is permitted, unless specified in these regulations.
- 8.3.6.10. Additional welding of sway bar pick-up points and trailing arm pick-up points for reinforcement is permitted.
- 8.3.6.11. Solid rear upper shock mounts are permitted.
- 8.3.6.12. Adjustable rear upper and lower control arms are permitted.

8.3.7. Tires and Wheels

- 8.3.7.1. Tread shall have adequate rubber to ensure safely completing the full track session.
- 8.3.7.2. Track may be +/- 10mm from factory specification.
- 8.3.7.3. Wheel bearings may be substituted.
- 8.3.7.4. Wheel bearing lubricant may be substituted.
- 8.3.7.5. Wheel spacers are permitted.
- 8.3.7.6. Wheels shall weigh a minimum of thirteen (13) pounds.
- 8.3.7.7. Cooper Model
 - 8.3.7.7.1. Tires shall be DOT approved, 205/50/15, any brand, unless specified in these regulations.
 - 8.3.7.7.2. Wheels shall be 15 by 7, any brand, unless specified in these regulations.
- 8.3.7.8. Cooper S Model
 - 8.3.7.8.1. Tires shall be DOT approved, P205/40/17, any brand, unless specified in these regulations.
 - 8.3.7.8.2. Wheels shall be 17 by 7, any brand, unless specified in these regulations.

8.3.8. Brakes

- 8.3.8.1. The make and material of brake pads may be replaced, unless specified in these regulations.
- 8.3.8.2. Cross drilling, grooving, and slotting of rotors is permitted.
- 8.3.8.3. Rotors may be cryogenically treated.

- 8.3.8.4. Removal of dust shields (backing plates) is permitted.
- 8.3.8.5. Brake fluid is free.
- 8.3.8.6. Flexible rubber brake lines may be replaced with Teflon lined, metal braided hoses.
- 8.3.8.7. Cooper Model
 - 8.3.8.7.1. Brake rotors may be replaced, provided they are the same width and diameter as original, unless specified in these regulations.
 - 8.3.8.7.2. Brake calipers must remain stock, unless specified in these regulations.
- 8.3.8.8. Cooper S Model
 - 8.3.8.8.1. Front brake rotors may be upgraded to a maximum diameter of 328mm and 28mm width, unless specified in these regulations.
 - 8.3.8.8.2. Front brake calipers may be upgraded to a four piston caliper (two per side), unless specified in these regulations.
 - 8.3.8.8.3. Rear brake rotors may be replaced, provided they are the same width and diameter as original, unless specified in these regulations.
 - 8.3.8.8.4. Rear brake calipers must remain stock, unless specified in these regulations.

8.3.9. Differential

- 8.3.9.1. Differential lubricant may be substituted.
- 8.3.9.2. *Cooper S.*
 - 8.3.9.2.1. *Factory or aftermarket limited slip differentials may be used.*
 - 8.3.9.2.2. *Differential gear ratio must remain stock.*

8.3.10. Transmission/Flywheel Assembly

- 8.3.10.1. Transmission shall be original, no alterations or substitutions allowed.
- 8.3.10.2. Transmission lubricant may be replaced.
- 8.3.10.3. Modification to, or replacement of, the shifter mechanism is permitted.
- 8.3.10.4. Shift knobs may be replaced.
- 8.3.10.5. Any clutch disc and pressure plate of original diameter may be used provided that they bolt directly to an unmodified flywheel.
- 8.3.10.6. Balancing of the flywheel/clutch/pressure plate assembly is permitted.
- 8.3.10.7. Transmission mount bushing material may be replaced.

8.3.11. Body/Chassis/Interior

- 8.3.11.1. Driver's seat shall be replaced with a seat suitable for competition, unless specified in these regulations.
- 8.3.11.2. Passenger seat may be removed or replaced with a seat similar to that of the driver.
- 8.3.11.3. Factory seat tracks may be removed, reinforced or modified to facilitate replacement seat mounting.

- 8.3.11.4. Rear passenger seat back and cushion may be removed.
- 8.3.11.5. Factory seat belts may be removed.
- 8.3.11.6. Passenger restraints must be installed if there is a passenger seat.
- 8.3.11.7. Ballast is not permitted
- 8.3.11.8. Modifications to the underside of the vehicle for the purpose of improving aerodynamics are not allowed.
- 8.3.11.9. Fender and wheel openings shall remain unmodified.
 - 8.3.11.9.1. It is permitted to roll under or flatten any interior lip on a wheel opening for tire clearance.
- 8.3.11.10. Spare tire, tools, and other 'loose' items may be removed.
- 8.3.11.11. Screening of one-fourth (1/4) inch minimum mesh may be added over all openings in the front of the vehicle, contained entirely with the bodywork of the vehicle.
- 8.3.11.12. Water temperature, oil temperature, fuel pressure, oil pressure, exhaust temperature and mixture gauges are permitted, but shall be securely mounted and may perform no secondary function.
- 8.3.11.13. Interior mirror(s) may be replaced with multi-panel type mirror, so long as they do not extend beyond the confines of the interior of the vehicle.
- 8.3.11.14. Two-way radios may be used.
- 8.3.11.15. Antenna for two-way radio may be added.
- 8.3.11.16. On board timing receivers are permitted.
- 8.3.11.17. Hood and trunk pins, clips, or positive action external latches are permitted.
- 8.3.11.18. Other than to provide for the installation of the required safety equipment or other authorized modifications, no other interior alterations are permitted.
- 8.3.11.19. The fog light panels may be removed and venting to the brakes installed.

9. Specified Components

9.1. Tires

- 9.1.1. TOYO Proxy RA-1's.

9.2. Cooper Model

9.2.1. Springs

- 9.2.1.1. H-Sport (19800) sport coil springs

9.2.2. Sway Bars

- 9.2.2.1. H-Sport (22800F) 27mm adjustable front bar
- 9.2.2.2. H-Sport (22810R) 25.5mm adjustable rear bar

9.3. Cooper S Model

9.3.1. Struts/Shocks/Springs

- 9.3.1.1. Bilstein PSS9 Mini Cooper Coil-Over Kit.
- 9.3.1.2. Part #: GM5-A068-H1

9.3.2. Sway Bars

- 9.3.2.1. H-Sport (22800F) 27mm adjustable front bar
- 9.3.2.2. H-Sport (22810R) 25.5mm adjustable rear bar.

10. Appendix A

Model	Production Years		Factory BHP	Factory Weight	Minimum Weight
Mini Cooper	2002	2006	115	2524	2374
Mini Cooper S	2002	2004	163	2678	2528
Mini Cooper S	2005	2006	168	2678	2528

Note: Minimum weight is measured without driver.