Sports Car Club of America (SCCA), Washington DC Region (WDCR),

Mid Atlantic Road Racing Series (MARRS)

2009 SSM Car Preparation Specification

A. PURPOSE AND INTENT

Showroom Spec Miata (SSM) was conceived as an entry-level Regional class with emphasis on simplicity, equality and low cost.

SSM vehicles shall conform to SCCA GCR Section 9, Automobiles, and Section 9.1.7, Showroom Stock, with the exception of the following restrictions or specifically allowed modifications. These rules are not intended as guidelines or suggestions and they will be vigorously enforced.

The Showroom Spec Miata (SSM) class is intended to provide the membership with the opportunity to compete in a production-based car with limited modifications, suitable for racing competition.

The rules are intentionally designed to be more open than the Showroom Stock class but more restrictive than the Spec Miata Class.

The vehicle identification number (VIN) shall correspond with the model-year automobile classified. VIN plates or stampings shall remain in place. There must be a minimum of two (2) VIN plates or stampings that correspond with the model year automobile classified.

B. CLASSIFIED CARS AND WEIGHTS

1990 - 1993 Miata 1600 cc @ 2275 lbs. with driver

1994 - 1997 Miata 1800 cc @ 2400 lbs. with driver

C. AUTHORIZED MODIFICATIONS

The following items represent the only modifications and safety items permitted and/or required on Showroom Spec Miata automobiles other than safety items as required in the current GCR. No permitted component/modification shall additionally perform a prohibited function. No updating or backdating of cars, models, specifications, and/or components thereof shall be permitted except as specifically authorized.

A Mazda Factory Service Manual for the specific make, model, and year of automobile is required to be in the possession of each entrant. The manual is intended to aid a Scrutineer in identifying parts and the configuration of the automobile.

Overhaul procedures that in the slightest way would increase performance are not to be utilized, for example, porting. Blueprinting and balancing are inconsistent with the philosophy of this class and are not permitted.

The application and/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, transmission, differential, internal or external surfaces of the exhaust manifold or downtube, is prohibited.

All adjustments shall be at the manufacturer's specification and/or within the manufacturer's specified tolerances except as permitted within these rules.

Stock replacement parts may be obtained from sources other than the manufacturer provided they are the exact equivalent of the original parts. The intent of this rule is to allow the competitor to obtain parts from standard industry outlets, e.g., auto parts distributors, rather than from the manufacturer. It is not intended to allow parts that do not meet all dimensional and material specifications of new parts from the manufacturer. Note that OEM “replacement” is not necessarily the same as OEM “equivalent”.

1. Engine Modifications

a - Induction System

1 - All air entering the intake tract shall pass through the fuel injection air inlet.

2 - 1600 cc cars must use the stock air box. An OEM style filter element must be present.

2a - 1600 cc cars may open and adjust, but not modify, the OEM airflow meter.

3 - 1800 cc cars must use the stock air box. An OEM style filter element must be present.

4 - 1800 cc cars shall use an air restrictor. The throttle restrictor shall be placed between the throttle body and plenum. All intake air shall pass through the restrictor plate. Restrictor plates must be the proper size as listed below, cannot be modified and must be from MAZDASPEED Motorsports Development or SCCA Enterprises. The restrictor plate opening must be centered in the throttle body opening.

1994 through 1997 1800 cc SSM must use a 45 mm. throttle restrictor MAZDASPEED part # 0000-06-9945 or SCCA Enterprises part # SMRP-45.

b - Fluid hoses and clamps, oil filters, fuel filters, and belts (fan, alternator, etc.) may be substituted with others of equivalent OEM specifications.

c - Fuel System

1 - Unleaded fuel filler trap door and restrictor plate in filler neck may be removed.

2 - Refer to current GCR for permitted fuel specifications and for the required fuel sample acquisition port.

3 – The current GCR Section is further restricted for SSM to limit fuel to a maximum of 94 octane. Fuel must be from a commercially mass marketed supplier (e.g. Sunoco, Exxon, Mobil) or independent mass marketer (e.g. Sheetz). Limited use race fuels are not permitted. Pump fuel may be purchased at the track (e.g. Sunoco at Summit Point).

d - Ignition/Electrical System

1 - Ignition timing is limited to a maximum of 16 degrees BTDC and a minimum of 10 degrees BTDC.

2 - Batteries may be replaced with those of an alternate manufacturer provided they are of similar amp-hour capacity, size, and weight and are fitted in the standard location. Additional battery hold-down devices may be used, and are strongly recommended.

3 - Master cut-off switch may be used and recommended. Installation per current GCR.

4 - Spark plugs are restricted to the NGK BKR6E-11 (Mazda part number BP03-18-110).

5 – Ignition wires are restricted to stock NGK(Mazda part number 0000-18-121A), or Taylor (Mazda part number 0000-10-5301). All ignition wires are grandfathered through Jan 1, 2010.

e - Exhaust System

1 - Catalytic converter may be removed and replaced with the following parts:

1600 Catalytic converter replacement pipe part # 0000-06-5423
1800 Catalytic converter replacement pipe part # 0000-06-5424

All other exhaust components will remain OEM stock with the exception of item 2 below.

2 - Mazdaspeed Motorsports spec exhaust part # 0000-06-54253 is required.

3 - Original exhaust system heat shields may be removed.

f. Clutch System and Flywheel: All cars shall use either the stock OEM pressure plate for the appropriate model year, or the ACT pressure plate (Mazdaspeed part #0000-0205401-SS (1.6L cars) or 0000-0205404-AC (1.8L cars). The unmodified pressure plate shall be bolted directly to the appropriate stock, unmodified flywheel. The 94 model year may utilize the flywheel from the 95-05 model years. Any clutch disk may be used.

1 - The OEM flywheel may be resurfaced, but the minimum flywheel weight (including the pilot bearing) is 17.6lbs for the 1.6L and 17.1 lbs for the 1.8L.

g. Any lubricant may be used. Oil additives are unrestricted.

h. Camshafts shall comply with the Official Spec Miata Camshaft Data as supplied by the SCCA Tech Department.

2. Cooling System

a - Any radiator may be used, provided it is mounted in the original location, maintains the same plane as the original core and requires no body or structure modifications to install. New openings created by fitting an alternate radiator must be blocked and may not be used for the purpose of ducting air to the engine.

1 - The stock cooling fan(s) must be maintained.

2 - The aftermarket radiator shall be modified, if necessary, to mount the stock OEM cooling fan in the original mounting location(s).

b - Thermostats may be modified, removed, or replaced.

c - All cars may install the Upper Radiator Seal, part # NA75-50-OK7A.

d - A radiator screen of one-fourth (1/4) inch minimum mesh may be added in front of the radiator and contained within the bodywork.

e - The factory air conditioning systems may be removed. Items that serve a dual purpose, such as the alternator/air conditioning compressor bracket, may not be substituted.

f - Engine coolant fluid, coolant/heater hoses and clamps may be substituted. Heater core may be bypassed, but it may not be modified or removed. Heater water control valve(s) may be added or substituted.

3. Transmission/Final Drive

a - Transmission and final drive ratios must remain stock for the year of car.

b - 1990 to 1993 (1600 cc) Miata may use the stock, unmodified viscous limited slip differential or the MAZDASPEED Motorsports Development limited slip differential, part # QN10-64-A00 (previously TOY1-27-200 & 0000-02- 5501).

c - 1994 and newer cars may use the stock Torsen limited slip differential for the appropriate year model.

d – Transmissions with part numbers superceding those of the 90-93 transmission may be used.

e - The 90-93 Miatas may convert to the 99-05 differential housing and the 4.3 differential gear ratio from the 99-05 model years. This conversion includes the driveshaft and half-shafts. The original 90-93 model rear suspension uprights must be retained.

4. Chassis

Suspension modifications are limited to the addition of the MAZDASPEED Motorsports Development "Spec Miata kit" and those modifications detailed in this area.

a - MAZDASPEED Motorsports Development Spec Miata kit.

1990-93 1.6 DOHC K-SPEC-M5-SUSP

1994-97 1.8 DOHC K-SPEC-M5-SUS8

The following is a breakdown of components supplied within these kits. All parts numbers are MAZDASPEED Motorsports Development parts numbers. No substitution of parts is allowed. The kits must be used in their entirety.

1 - Shocks

Front Bilstein part # 0000-04-5225-BL

Rear Bilstein part # 0000-04-5226-BL

2 - Springs

Front Eibach ERS 700 lbs/6" part # 0000-04-9700-06

Rear Eibach ERS 325 lbs/7" part # 0000-04-9325-07

3 - Coil-Over kit

Front/Rear part # 0000-04-5402AW

The originally supplied Mazdaspeed coil-over kit Part # 0000-04-5402 manufactured by Ground Control is grandfathered.

4 - Anti-Roll Bars

1600 cc: Eibach kit – part # 0000-04-5302-EB Front 24mm Adjustable Rear, 15mm Adjustable

1800 cc: Eibach kit – part # 0000-04-5303-EB Front 27mm non-Adjustable Rear 15mm Adjustable

b - All cars shall use the unmodified Mazdaspeed bump stop part # 0000-04-5993AW. Cars built with the original procedure of welding a 63.5 mm centering ring to the outside diameter of 58 mm are grandfathered if the logbook was issued prior to 01/01/2003.

c - Sub-frame braces may be updated to stock 1997 configuration utilizing the MAZDASPEED Motorsports Development Spec Miata kit.

d - Anti-roll bar links may be replaced and may be adjustable, but the attachment points must remain stock. The control arms and specified anti-roll bar may not be modified. One end of the sway bar(s) may be disconnected as a suspension tuning aid. The bar must remain in place and be solidly attached to the suspension on one end.

e - Suspension alignments - caster and toe are unrestricted within the limits of the unmodified factory adjustments. Minimum ride height is unrestricted.

Camber: Front: Maximum 2 degrees negative

Rear: Maximum 2.5 degrees negative

f - No relocation or reinforcement of any suspension component or mounting points is permitted.

g - Hardware items (nuts & bolts) may be replaced by similar items performing the same fastening function(s).

h - Manual or power steering racks may be used. Power steering racks may be converted to manual by removing all power steering components.

i - Towing eyes per current GCR Section are required. Stock towing eyes may be modified or replaced.

j - Hubcaps and wheel trim shall be removed.

k - All chassis/structural/electrical 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 rules, no reinforcement, i.e., seam welding, material addition, etc., is permitted.

5. Brakes

a - Backing plates and dirt shields may be removed.

b - Brake lines may be replaced with steel lines or teflon lined metal braided hose.

c - Cars with antilock braking systems must have the system disabled or removed as specified in current GCR.

d - Parking brake mechanisms and actuating components may be removed.

e - Brake pads and brake fluid are unrestricted

6. Wheels/Tires

All wheels must be used in matched sets of 4 and may be used within the following limitations:

a - Required rim diameter is fifteen (15) inches by seven (7) inches width.

b - Minimum weight of wheel shall be 13 lbs. Spacers are permitted providing the end result offset is either 30mm or 25mm. All four wheels must have identical offset.

c - All wheels must be one-piece metal castings (not multi-piece wheels, bolted, riveted or welded together).

d - After market wheel studs are permitted.

e - The spec tire is the Toyo R888 205-50-15, shaved or unshaved. The Toyo RA-1 may be used until 7-1-09, but only tires with a manufacturer’s date prior to 9-1-08 may be used.

f - Tire tread (that portion of the tire that contacts the ground under static conditions) shall not protrude beyond the fender opening when viewed from the top perpendicular to the ground. To determine compliance, the vehicle should be rolled through a powdered

substance, as raced with driver, in order to indicate the tire tread contact patch under static conditions.

7. Body/Structure

a - Fenders and wheel openings shall remain unmodified. It is permitted to roll under or flatten any interior lip on the wheel opening for tire clearance. Non-metallic inner fender liners may be removed.

b - Body repair shall be performed using every reasonable effort to maintain stock body contours. Any body repair modification having as its purpose increased clearance is prohibited. Cars shall meet the requirements of current GCR Section, Vehicle Preparation, at all times.

c - No air dams, wings, or spoilers are allowed other than the "R" package Miata chin spoiler provided it is mounted in the OEM location.

d - Windshield Clips/Rear Window Straps per current GCR Section are permitted and recommended.

e - Convertible tops and attaching hardware shall be completely removed. Cars may compete with the Mazda factory detachable hard top or Snug Top in place (latches shall be replaced with positive fasteners), but it is not mandatory. When no top is used, driver shall wear arm restraints, and the cage must meet the helmet clearance rule.

f - Body side moldings, rocker panel moldings, and wheel opening trim pieces may be removed.

g - The plastic trim on the hood may be removed.

h - Hood and trunk clips are permitted. Stock hood latches and trunk latches may be disabled or removed.

i - Ducting may be added to provide fresh air to the driver compartment. This ducting shall be located in the driver and/or passenger vent window area with no modifications to the bodywork.

j - To improve driver exit through the window area, the driver vent window and vertical vent window support may be removed as a pair. If removed, ducting may be in the passenger side vent window only.

k - Radio antennas may be removed. Antennas for two-way radios may be added.

8. Driver/Passenger Compartment/Trunk

a - The driver's seat shall be replaced with a one-piece bucket-type race seat. All seat mountings shall be reinforced. Factory seat tracks/brackets may be modified, reinforced, and/or removed to facilitate replacement mountings provided they perform no other function. The OEM passenger seat must be removed, but a replacement seat meeting the specifications of the driver seat may be substituted.

b - Any steering wheel, except wood rimmed types, and its required mounting modifications may be used. Any shift knob may be used.

c - Gauges and instruments, including data systems, may be added, replaced, or removed. They may be installed in the original instrument(s) location using a mounting plate(s), or any other location using a secure method of attachment. The vehicle's "Check Engine" light shall remain functional. Other than modifications made to mount instruments and provide for roll cage installation, the remainder of the dashboard or panel shall remain intact.

d - Any interior or exterior mirrors may be used.

e - Carpets, center consoles, cargo bins, seat belts, floor mat, radio system, headliners, dome lights, grab handles, sun visors and their insulating and attaching materials may be removed. Other than to provide for the installation of required safety equipment or other authorized modifications, no other driver/passenger compartment alterations or gutting are permitted.

f - The driver/passenger side door window glass, window operating mechanism, and inside door latch/lock operating mechanism may be removed and the inner door structural panel may be modified, but not removed. The stock side impact beam and the outside door latch/lock operating mechanism shall not be removed or modified.

g - Two way radios may be used.

h - Spare wheels and tires, jacks and tools shall be removed from the cargo/trunk area. Spare tire covers and trunk mats and/or trunk carpeting shall be removed.

i - Modifications may be made to the foot pedals to improve the comfort and accessibility to the driver. Dead pedal/foot rest and heel stop may be added.

j - If ballast is required to meet the required weight it shall be added as follows:

1 - All ballast shall be securely mounted on the passenger floor.

2 - Each segment of ballast shall be fastened with a minimum of two (2) one-half (1/2) inch bolts and positive lock nuts of SAE Grade 5 or better and shall utilize large diameter, load distributing washers.

3 - Holes may be drilled in the passenger floorpan for the purposes of mounting the ballast and the floorpan may be reinforced for that purpose only.

k - All cars shall run with both front door windows fully open (down).

9. Safety

a - Roll cages shall meet all requirements of current GCR Section for Showroom Stock cage configuration, tubing size, and material. Regardless of car weight, all Showroom Spec Miata autos may be constructed to the requirements for a <2200 pound car.

b - Steering lock mechanisms must be removed. See current GCR Section.

c - An electrical master ("kill") switch is optional but suggested. See current GCR Section.

d - Installation of a fire extinguisher or fire system is required. See current GCR.

e - Glass headlights shall be taped. Rear brake lights may be taped with transparent tape. Turn signals, front parking lights, backup lamps, and side marker lights may be taped.

f - Air bag systems shall be disarmed and all airbag components may be removed.

g - In any automobile where allowed removal of seat belts, upholstery, etc., creates an opening between the driver/passenger compartment and an exposed gas tank, or part thereof, including the filler tube, a metal bulkhead which completely fills such opening shall be installed. See current GCR.