# SUPERMIATA

**Allowed upgrades for S1 from S2**
If not otherwise specified, all allowable modifications from S2 are also allowed in S1


**Updates highlighted in red**.

**Supermiata prep guidelines:**
*If you don't see it listed here, it's not legal. Feel free to contact Speed Ventures or Supermiata for clarification.*

**1. Safety**

All Supermiata drivers are required to wear and use the minimum required safety gear at all times. Nets up, visors down, gloves on, etc. during all HPDE, warm up, practice, qualifying sessions. This applies to non-Supermiata events as well.

All cars must an SFI rated center net and 2+ nozzle onboard fire suppression system.

**2. Vehicle**

Minimum weight remains 2300 lbs., measured with driver in impound, post-race.

**3. Engine**

The intent of the Supermiata S1 engine rules and power cap are to allow 100% OEM, unmodified BP05/BP4W/BP6D long blocks to remain competitive in Supermiata races. The max WHP (power), max WTQ (Torque) and Power Area values are all easily achieved with the aforementioned OEM long blocks. Aftermarket and modified internal engine parts are allowed only to improve reliability and cross-compatibility with other racing classes. All engines must be tuned to meet SPM power output restrictions and dyno graphs submitted in order to be eligible for championship points.

Any competitor may be disqualified, docked points or excluded from racing if their car is found to be outside of SPM power restrictions or minimum weight.

**1**. Update/backdate, mix and match of any 90-05 USDM Miata engine components allowed. Intake manifold may be ported and emissions equipment modified or deleted. Non USDM "square top" intake manifold allowed.
**2.** Specified turbo hardware consists of Trackspeed Engineering exhaust manifold, downpipe and Borg Warner EFR6258 turbo .64 A/R.
a) Manifold, downpipe and turbine housing may be coated or wrapped.
**3**. Power: Maximum allowable power and torque figures are to be measured at the wheels on a Dynojet 248 or 288 with onboard weather station active. All cars must comply with Power Area regardless of peak power.
a) 220 horsepower, 220 torque maximums.
**4**. Power area maximum: 865. WHP is to be limited to a maximum “power area” as follows: Add WHP readings at 5500,6000,6500,7000rpm. Total value must not exceed 865
**5**. Maximum rev limiter setting: 7000rpm. Exception: WSIR and ACS are allowed 7400 rpm rev limit.

**6**. ECU must use Megasquirt software. ECU hardware is free provided it only runs Megasquirt software. Competitors may use alternate ECU only if functioning laptop able to connect, read and modify ECU calibration is provided to race marshals upon request at all events. ECU may only have one map loaded at any time during practice, qualifying or races. No external switches, bluetooth or wifi hardware capable of altering ECU calibration allowed. Race marshals, at their discretion, may seal ECU at any time.
**7**. Intake piping: Material is free. All intake piping must be forward of the turbo CHRA (center housing)
**8**. Intercooler: Only one may be used. Intercooler must be air to air type. Size unrestricted. Must be located ahead of forward most part of valve cover. Intake piping may be wrapped, painted or coated.
**9**. OEM MAF/AFM may be modified or removed
**10**. Entire exhaust system is free but must exit behind rear axle centerline
**12**. Cooling system modification is open. Radiator must be located within 12" of OEM location. This allows lowering, raising or tilting to improve cooling.
**13**. Any single throttle body allowed provided it is no larger than 64mm. OEM throttle plate and shaft may be modified to improve strength or reliability.
**14**. Allowed fuels: E85, unleaded gasoline up to 100 octane.
**15**. Headers and exhaust may be coated with thermal insulation coating, wrap or paint.
**16**. Ignition system free
**17**. Wiring harness may be lightened and simplified
**18**. Emissions equipment, miscellaneous brackets and equipment in engine bay may be removed to lighten car provided min weight and power cap are observed
**19**. Launch control and traction control not allowed
**20**. Front bumper support structure of chassis between frame rails may be removed or replaced to aid cooling.
**21**. B pillar shrouds may be added. Shrouds must project into the cockpit and can extend no more than 8" from outer surface of roof.
**22.** A pillar external Gurney flaps may be added. Flaps may extend no more than 1" and can only be attached to the A pillar.

**4. Suspension/Drivetrain**

**1**. Front brakes:
a) If not OEM, front caliper may be Wilwood. Dynalite, Dynapro, Powerlite or Superlite, 4 or 6 piston calipers allowed.
b) May use any rotor up to 12" diameter and 1.1" width
c) Non-ferrous rotors not allowed
**2**. Coilovers with a maximum of 1 damping adjustment allowed. No remote reservoirs.
**3**. Spring rates free
**4**. Spec tire is 245/40/15 Maxxis RC-1. Wheels are open but must be VIA approved, one piece, cast aluminum. No forged or multi piece wheels allowed.
**3**. Diff mount material is open.
**4**. Any one-piece sway bars allowed
**5**. End links free provided they attach in OEM locations
**6**. Any polymer suspension bushings allowed. No full metal bushings or spherical bearings allowed. Percentage of polymer to metal may be changed.
**7**. Eccentric offset control arm bushings or extended lower ball joints for camber correction allowed
**8.** Brakes may be updated/backdated in any combination of 90-05 components. Pads free. Brake ducts free
**9**. Final drive ratio must be 3.9 (OEM ratio)

(3.9 offers the best performance with S1 torque curve and is recommended.)
**10**. OEM optional Torsen or Tochigi-Fuji differential allowed. No aftermarket diffs allowed.
**11**. OEM Miata 5 speed or 6 speed transmission only. Non-OEM transmissions not allowed
**12**. Rain tires: Any 200tw or higher 205/50/15, 225/45/15 or 245/40/15 allowed. Race will be declared "Wet Race" no later than 30 minutes prior to start. Protocol is entire track is wet, no dry line, 100% cloud cover and rain forecast to be declared a Wet Race.
**13**. Differential and transmission cooler may be added
**14**. Fuel cell may be added provided it is located entirely within OEM fuel tank compartment
**15**. Front & rear hub assemblies may be modified or replaced provide they retain OEM wheel location.
**16**. Twin disc clutches and flywheels may be installed. Clutch discs must be no less than 184mm (7.25") in outside diameter.

**5. Body - Aero**

**1**. Vertical front air dam allowed. Air dam must originate no higher than the forward most point of OEM bumper skin. Air dam may extend laterally to shroud the front tires when pointed straight ahead, but no wider. Air dam allowed 5° tolerance from vertical.

**2.** Splitter
a) Material, free.
b) Splitter may extend no more than 4" from air dam vertical surface.
c) Splitter may not be wider than nor extend past ends of air dam.
d) Splitter must be within 3° of horizontal, measured from corrected ground plane
e) Lower most point of splitter forward of air dam plane must be no less than 3.5" above ground plane with vehicle is at rest.
f) Splitter must support 100 lbs vertical load applied at any point within 20" of car centerline
g) Splitter must have no curvature in any direction except plan view (from top looking down)
**3.** Under tray may extend from front axle centerline to air dam. Under tray must be flat, have no more than 3° angle and have no curvature.
**4**. Rear wing:
a) Must have mounts that originate from rear half of trunk lid.
b) Mounts may go through trunk lid and attach to frame rails inside trunk.
c) Foil (not including end plates) must be located entirely within a virtual "box" as follows: Forward limit is midpoint of trunk lid measured on centerline of car. Rear limit is 6" behind the rearmost point of the rear bumper. Upper limit is the highest point of the roof. Lower limit is a plane 7" below the highest point of the roof.
d) Foil must be 2D, single element. No 3D foils allowed. No multiple element foils allowed
e) Foil can be no wider than 64" including end plates. No broader chord than 10.5". Camber limited to no more than 1" as measured with straight edge across chord to lowest point.
f) End plates must be no greater than 11" tall or 14" wide. No greater than 154" square inches total.
g) Uprights must attach to underside of foil. No "Swan" neck mounts.
5. Front fenders may be modified as follows: Up to 120 square inches of surface area, behind the axle centerline, may be modified or removed. Resultant edges must be finished and smooth in appearance. No rough or bare metal edges must be visible.
6. "A" pillars may have up to 1/2" flaps added. Flaps can only be added in same plane as A pillar and can extend from bottom to top of A pillar. Flap may extend inward or outward. Flap must not interfere with driver ingress /egress.

7. "B" pillars may have up to 4" flap/spoiler added. Flap can only be added in same plane as B pillar (hard top) and can extend from bottom to top of B pillar. Flap may extend inward only. Flap must not interfere with driver ingress /egress.
8. Rear window may be vented. Vents must be circular and no larger than 3" diameter. No more than 12 holes may be added. Vent holes may be placed in any location on the window.
9. Chassis may be fully seam welded
10. No limit to cage attachment points. FIA style cages recommended but not mandatory.
11. Cage extensions to front shock towers may be added
12. External holes in bodywork for cooling may be added forward of the leading edge of the doors and base of windshield. Holes must be no larger than 200 square inches combined. Holes must not provide any significant or measureable down force.