



H2R Challenge Miata Class

Rules 3.0 - 12/20/2024

The "SPIRIT" of this H2R Challenge is as follows:

A wheel-to-wheel racing event, similar to those of larger sanctioning bodies, except:

- Friendly competition, encouraging camaraderie and skill improvement, open to Harris Hill Raceway Members only.
- Designed to be kept as inexpensive as possible.
- Machines that are as equal in performance capabilities as possible.

The "SPIRIT" of the H2R Challenge Miata Class is as follows:

The original intent of the series was for members to take \$500 - \$1500 100% OEM 1989-1993 1.6L Miatas with over 100,000 miles on the drive train and outfit them with safety equipment specified in the H2R Challenge General Rules.

The reality is that most of the cars in the series now are former Spec Miatas from SCCA or NASA series. In order to keep the H2R Challenge competitive and affordable for everyone, please pay close attention to the rules outlined below, as they will likely involve removing some aftermarket items and replacing them with OEM or equivalent parts.

Drivers whose cars do not meet the OEM or performance rules MAY be allowed to race in limited circumstances but will not be scored or earn points for the event or series.

If any questions arise from the interpretation of these rules, or during an event, the SPIRIT of the rule will be the guideline for the final decision by the race committee.

Expense Mantra:

- Racing costs money.
- Spec Miata costs a lot more.

- This event costs a lot less.
- Used parts are extremely affordable and easy to find.

When asked to make changes to your car or safety gear to comply with these event rules, please refer to the racing expense mantra. If the costs of this event offend your sensibilities or exceed your budget, then racing this event is not for you.

This is an OEM stock production based class.

All parts of the car must be OEM stock as equipped on the greater majority of 1989–1993 1.6L production Mazda Miatas.

NO changes, additions, removals or modifications are allowed unless specifically addressed in the rules.

NO “Mazda Speed” replacement parts are accepted unless specifically mentioned. If the rules do not specifically say you can do it, you are not allowed do it.

*If you cannot determine the difference between a safety and performance rule, consult a race steward BEFORE making the purchase, change or modification.

H2R Challenge Competition Rules

Please refer to the 2025 H2R Challenge Competition Rules for additional requirements regarding car cabin safety, fire suppression, additional safety measures, drivers equipment and communications. It is your responsibility to ensure that all requires found in this document are fully implemented in your car as well as your equipment.

H2R Allowed performance changes to the car:

Suspension:

- Shocks- The shocks must be OEM 1989-1993 Mazda Miata or KYB OE replacements shocks with fixed collar locations, and non-serviceable (non-rebuildable!). Available at a discount from Danny Benzer at Roger Beasley Mazda Central.
- Springs- The springs must be OEM 1989-1993 Mazda Miata or Racing Beat springs (which can be purchased though Danny Benzer at Roger Beasley Mazda Central). If you choose to use OEM springs, you may cut them so that your car meets minimum ride height.
- All suspension mounting points must be OEM.
- Rubber/Silicone/urethane/similar (NOT solid) replacement bushings for suspension components are open.
- The factory bump stops may be replaced with 5X Racing Sport Bump Stops, available at 5xrac-ing.com, SKU: 5XRNA46/36
- The factory sway bars and links may be replaced; specification is open.

Brakes:

- Brake pads must be 1989 -1993 Mazda Miata spec, but the brand/manufacturer is open. Racing compounds are permitted and encouraged.
- Brake rotors must be OEM 1989 -1993 Mazda Miata spec, but the brand/manufacturer is open.
- Brake fluid, engine oil, transmission oil, rear diff oil is open. -Stainless brake lines at the calipers are permitted.
Parking brake removal is open.

Powertrain and Exhaust:

- Engine must be an OEM Mazda Miata 1.6L production engine US version (89-93) and Japanese Domestic Market – JDM (89-'00). NB, JDM engines do not have the same cam timing pick up and will require minor modification to fit stock US OEM wiring harness.
- Fuel must be “pump” fuel, 93 octane or less. -Octane boost is not permitted.
- Minor repair and/or replacement parts for the engine and drivetrain may be aftermarket parts. The parts must be the same specification as OEM 1989 - 1993 Mazda Miata, with no performance enhancement or appearance change. (Examples are water pump, timing belt, seals, gaskets, hoses, filters). Major parts such as the crankshaft, block, head, cams must be OEM 1989 - 1993 Mazda Miata. If there is ANY question on this, consult a race steward FIRST.
- Engine coolant is open.
- The exhaust must be OEM 1989-1993 Mazda Miata from the “test pipe” back. Exhaust manifolds are open but must retain the OEM mounting points and lambda sensor port. The muffler must be either stock OEM or equivalent to OEM (same dimension of exhaust pipe and location of muffler). No aftermarket “performance” exhaust is allowed. OEM equivalent options are available at rockauto.com..
- The Catalytic converter must be either removed and replaced with a “test pipe” or cored out. This is for fire safety. The “test pipe” may be welded in, but may not exceed the length of the OEM catalytic converter by more than 6 inches total.
- **ECU:** The engine computer may be updated with an aftermarket unit (such as Link, Megasquirt, EasyEFI), which can be relocated inside the vehicle to shield from heat and fluids. Additional sensors, such as a wideband lambda sensor, air temperature sensor, MAP, etc., may be added to optimize the performance of the ECU. NOTE: Any vehicle with this modification must be tested on the H2R dyno and tuned to meet a torque curve averaging no more than 95 ft lb between 3500 and 6500 rpm and a peak horsepower of 100 hp (1% variance allowed on three dyno pass average). Max rpms cannot exceed the stock 7200rpm. Only one verified map is allowed; map switching is not allowed.
- If the airbox is removed, the car must be equipped with a catch can with at least 1/2 liter capacity filtered venting.

- Catch can must be located in the engine bay. Aftermarket cone filters may be used, but must be located in the engine bay. No ram-air like setup is allowed.
- **Throttle Position Sensor:** TPS may be changed to accommodate an aftermarket ECU; but location must remain the same, and stock throttle body must be used (at this time).
- **Wiring:** In an effort to improve reliability, an updated/custom wiring fuse and relay box and are allowed to replace the aging loom. Wiring for systems not used in the series (headlights, indicators, emission monitoring, etc.) may be deleted.
- Wipers, brake lights, O2 sensor must remain; but the latter may be replaced with a wideband sensor.
- **Fuel Pressure Regulator:** Aftermarket adjustable fuel pressure regulator are allowed, however fuel rail must remain stock.

Post-Race Dynos in Impound. After selected races, several of the finishing cars may be selected to be tested on the dyno. There will be no post-race “practice” dyno runs. Each Driver is responsible for making sure their car is at or below the maximum HP and torque average. 100 HP and a torque curve averaging no more than 95 ft lb between 3500 and 6500 rpm, as measured on the H2R track dyno, are the maximums allowed for cars in either H2R Challenge Miata Class. Those cars above the maximum will be disqualified.

*See the General Competition Rules for full description of the Impound process.

Transmission and Drivetrain:

- The differential, open or limited slip, are open but must be compatible with either a 1.6 or 1.8 car OEM rear end. Welding a brace on the passenger side of the housing is allowed.
- **Differential ratios: The only legal gear ratios are 4.30:1 and 4.10:1**
- The clutch pressure plate must be OEM or OEM spec.
- The clutch disc is open.
- Flywheel OEM. No lightweight or machined to be lighter allowed.

Wheels and Tires:

- **The 2025 tire spec is the Hankook Ventus RS4 195/50R15. No other tire is permitted.**
- Wheels are open and must be compatible with the tire specified above. Fenders may have the inner edges bent upward to clear the tires but the outer shape of the fenders may not be altered for clearance. Use the correct wheel offset. Wheel spacers are not allowed. Wheels must not be lighter than 13 lbs each.

- **Wheel width limit to 7.5"**

- Track Width max 57.5" front and rear. Front to rear may be different but not exceed spec.
- A "race" alignment adjustment is permitted and encouraged. Front and rear wheel camber may not exceed 2.75 degrees negative. Replacement bushings to achieve camber within spec is permitted, however; no other modifications (mounting points) are allowed. Cars will be checked without driver in the car.

Body, etc:

- Power steering and A/C system removal is open and recommended.
- Front headlamps must be removed
- An OEM or fiberglass replacement hard top is optional, but must be attached at all 4 OEM points. If a hard top is installed, the convertible top and frame **MUST** be removed from the car.
- Fiberglass hoods are allowed as long as they are properly secured with at least 4 mounting points.
- The folding convertible top **MUST** be removed from the car and OEM or aftermarket hard top securely fastened.
- Metal removal from the interior for the purposes of safety is acceptable (eg, roll cage clearance for rear shoulder belt mount), but must done at a minimum. When in doubt, consult a race steward **BEFORE YOU CUT!!!**
- Shift knobs, pedals, gauges and other driver "comfort" items are open.
- Fender liners, mud flaps may be removed.
- The **absolute** minimum weight of the car and driver is 2300lbs, post race. A maximum of 100lbs of ballast may be added to achieve minimum weight. All ballast must be **securely and safely** attached to the passenger side floorboard. After selected races, some or all of the competitors may be weighed. There will be no post-race "practice" weights. Each Driver is responsible to make sure their car is at or above the minimum weight. Those cars below minimum weight will be disqualified.
- Scales will be made available on specific days (notification by email) to allow drivers to be at proper weight. All weights must be secured with a minimum of ½" diameter Grade 8 or Better bolts washers and lock nuts.
- Subframe braces may be updated to stock 1997 configuration utilizing the MAZDASPEED Motorsports Development Spec Miata kit. 2001-2005 (VVT) model years must remove the additional intermediate underbody/floorpan attached bracing (Mazda part number N067-56-G11A Base plate & part number N067-56-H10A cross member).
- The Mazdaspeed motor mount, part NAY1-39-040 is allowed.

Aftermarket parts: When part updates are needed, because of reliability, supply or obsolescence, testing of parts from alternative, updated sources with direction and approval from the H2R may be used in sanctioned events. Such updates would only be effective when or if finalized by H2R, and published in the updated guide.